TUESDAY

NEUROSCIENCE 2019

SESSION LISTING 434–616

1969–2019

SOCIETY *for* NEUROSCIENCE

CELEBRATING 50 YEARS

Information at a Glance

Neuroscience 2019 is in the North and South Buildings of McCormick Place.
Session information listed here is current as of August 26, 2019. See SfN.org for the most up-to-date annual meeting information.

IMPORTANT PHONE NUMBERS

Annual Meeting Headquarters Office
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McCormick Place: Hall A
Logistics: (312) 791-6800
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Donor and Volunteer Leadership Lounge
McCormick Place: Level 2.5 Lounge

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KEY TO POSTER FLOOR BY THEMES

The poster floor is in Hall A. Refer to the poster floor map at the end of this booklet.

Theme

A .....Development

B.....Neural Excitability, Synapses, and Glia

C .....Neurodegenerative Disorders and Injury

D .....Sensory Systems

E.....Motor Systems

F.....Integrative Physiology and Behavior

G.....Motivation and Emotion

H .....Cognition

I.....Techniques

J .....History, Education, and Society

Note:
Theme J Posters will be on display in Hall A beginning at 1 p.m. on Saturday, Oct. 19, and will remain posted until 5 p.m., Sunday, Oct. 20. One-hour presentations will occur either Saturday afternoon or Sunday morning.

CODE OF CONDUCT AT SfN EVENTS

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Cover Image:
After fibroblast growth factor receptor signaling is knocked down in radial glia that express green fluorescent protein (GFP) in developing mouse cerebral cortex, neurogenesis is accelerated and GFP-expressing neuronal daughter cells (green) begin expressing Tbr1, a neuronal marker (red). Cell nuclei are labeled with DAPI (blue). *Journal of Neuroscience* 26 October 2011, 31 (43) 15604-15617;

Courtesy with permission:
Brian G. Rash, H. David Lim, Joshua J. Breunig and Flora M. Vaccarino

Complete Session Listing

Tuesday AM

LECTURE *McCormick Place*

434. SPECIAL LECTURE- Flies and Alcohol: An Interplay of Nature and Nurture — CME

Tue. 9:00 AM - 10:10 AM — Hall B

Speaker: U. HEBERLEIN, *Howard Hughes Med. Institute, Janelia Res. Campus.*

Alcoholism is a major problem in medicine and society, yet few effective therapies are available for its treatment. This lecture will discuss the development and use of the fruit fly *Drosophila melanogaster* as a model system to identify genes, molecular pathways, and neural circuits that mediate the highly conserved behavioral responses to alcohol.

SYMPOSIUM *McCormick Place*

435. The Paraventricular Thalamus (PVT): Salience and Timing Orchestrator for Learning and Deciding — CME

Tue. 8:30 AM - 11:00 AM — Room: S100BC

Chair: S. BHATNAGAR, *University of Pennsylvania, Children's Hospital Philadelphia*
Co-Chair: T. Z. BARAM. *Univ. of California Irvine*

The goal of this symposium is to present novel perspectives on the established and emerging roles of the PVT in complex behaviors. There has been an explosion of interest in the PVT due to its recently described roles in orchestrating decisions and behaviors involving emotional salience. Evidence suggests that the PVT shapes behaviors by integrating information about the memory and salience of negative and positive experiences, functions highly germane to addiction and psychopathology.

8:30 **435.01** Introduction.

8:35 **435.02** Salience processing in the PVT. X. CHEN. *Stanford Univ.*

9:10 **435.03** Functionally distinct domains across the antero-posterior axis of the PVT. M. PENZO. *NIH.*

9:45 **435.04** PVT- a sensor of emotionally salient early-life experiences. T. Z. BARAM. *Univ. of California-Irvine.*

10:20 **435.05** Synaptic plasticity in the PVT underlies salience for stress experiences. S. BHATNAGAR. *Univ. Pennsylvania, Children's Hosp Philadelphia.*

10:55 **435.06** Closing Remarks.

SYMPOSIUM *McCormick Place*

436. Brain Somatic Mosaicism: Implications for Development and Disorders — CME

Tue. 8:30 AM - 11:00 AM — Room: S100A

Chair: F. M. VACCARINO, *Yale University*
Co-Chair: A. E. URBAN. *Stanford Univ.*

Cells of the human brain can contain differences in their individual genome sequences, manifesting as single-nucleotide variants (SNVs), mobile element insertions (MEIs), and large copy number variants (CNVs). This symposium will discuss the analysis of somatic mosaicism using advanced genome sequencing approaches, as well as how mosaic variants arise and spread across the brain and their frequencies, mechanisms, and relevance for development and disease.

8:30 **436.01** Introduction.

8:35 **436.02** Genomewide spectra of mutations in neurons revealed by cloning. K. BALDWIN. *Scripps Res. Inst.*

9:10 **436.03** Regulation and Function of Mobile Elements in the Brain. F. H. GAGE. *Salk Inst.*

9:45 **436.04** Somatic mutations in early human development. F. M. VACCARINO. *Yale Univ.*

10:20 **436.05** Somatic mutation and genomic diversity in the human cerebral cortex. C. A. WALSH. *Boston Children's Hosp.*

10:55 **436.06** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

437. Novel Mechanisms of Neuronal Alternative Splicing and Strategies to Correct Aberrant-Splicing — CME

Tue. 8:30 AM - 11:00 AM — Room: S102

Chair: E. J. LOPEZ SOTO, *Brown University*

Dynamic changes in alternative splicing support virtually every neuronal process, ranging from development and plasticity to complex behaviors and cognition, and is implicated in disease pathology. This minisymposium will focus on novel cell-specific mechanisms that regulate alternative splicing in neurons and how these findings inform promising new therapies to correct and control splicing defects.

8:30 **437.01** Introduction.

8:35 **437.02** Alternative splicing control of neuronal differentiation. S. ZHENG. *Univ. of California Riverside.*

8:55 **437.03** Pervasive neuronal isoform-level dysregulation in autism spectrum disorder, schizophrenia, and bipolar disorder. M. GANDAL. *Brain Research Institute, UCLA.*

9:15 **437.04** Cell-specific epigenetic modification of the CACNA1B gene in nociceptors controls calcium channel function in normal and neuropathic pain. E. J. LOPEZ SOTO. *Brown Univ.*

9:35 **437.05** Chromatin-mediated alternative splicing in reward pathophysiology. E. A. HELLER. *Univ. of Pennsylvania.*

Tues. AM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:55 **437.06** Activity-dependent neuronal microexons in EIF4G specialize the translational machinery to control higher-order cognitive functions. T. GONATOPOULOS-POURNATZIS. *Univ. of Toronto.*

10:15 **437.07** Novel insights from splicing regulation of spinal muscular atrophy gene. D. LUO. *Iowa State University.*

10:35 **437.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

438. Sensory Circuits for Vision and Smell: Integrating Molecular, Anatomical, and Functional Maps — CME

Tue. 8:30 AM - 11:00 AM —— Room: S105

Chair: A. FLEISCHMANN, *Brown University*
Co-Chair: A. T. SCHAEFER. *Francis Crick Inst.*

The past decade has witnessed major advances in the development of molecular, anatomical, and functional techniques for large scale brain mapping. However, integrating these complementary techniques has remained challenging. This minisymposium will demonstrate how novel approaches can be combined to bridge these gaps and systematically generate insight into the molecular and functional topology of sensory neural circuits.

8:30 **438.01** Introduction.

8:35 **438.02** Functional, three-dimensional spatial transcriptomics in the mammalian olfactory bulb. A. T. SCHAEFER. *Francis Crick Inst.*

8:55 **438.03** Functional organisation of neuronal circuits underlying visual processing. F. IACARUSO. *Francis Crick Inst.*

9:15 **438.04** Understanding functional feedforward-feedback long range loops in mammalian olfaction. D. ALBEANU. *Cold Spring Harbor Lab.*

9:35 **438.05** Spatial maps of molecularly defined subtypes of neurons using pciSeq. M. NILSSON. *Stockholm Univ.*

9:55 **438.06** Mapping cell-type specific connectivity in the mouse olfactory bulb with correlative electron microscopy. K. A. FULTON. *NIH.*

10:15 **438.07** What the lizard's brain tells the mammalian visual cortex. R. BELTRAMO. *Howard Hughes Med. Inst.*

10:35 **438.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

439. Beta Oscillations in Sensorimotor Function, Executive Action Control, and Working Memory — CME

Tue. 8:30 AM - 11:00 AM —— Room: S406A

Chair: R. SCHMIDT, *University of Sheffield*
Co-Chair: A. R. ARON. *UCSD*

Beta oscillations in cortical and basal ganglia networks remain mysterious, yet they are closely linked to network function and dysfunction. While beta is classically seen as representing an akinetic state, this minisymposium will highlight new insight into beta in the sensorimotor system and in cognitive control. Results across three species as well as from computational modelling, deep brain stimulation and electrophysiology that explain the mechanisms and function of beta and closed-loop methods in patients will be presented.

8:30 **439.01** Introduction.

8:35 **439.02** An inhibitory role of cortical beta in working memory control and clear out. M. LUNDQVIST. *Massachussetts Inst. of Technol.*

8:55 **439.03** Prefrontal beta as a signature of the stopping of action and thoughts. A. R. ARON. *Univ. of California San Diego.*

9:15 **439.04** The multiple beta bands of sensorimotor cortex. B. E. KILAVIK. *CNRS - Aix-Marseille Univ.*

9:35 **439.05** The role of sensorimotor beta oscillations in driving behavioral variability during motor learning. M. H. RUIZ. *Goldsmiths Univ. of London.*

9:55 **439.06** Beta oscillations in the basal ganglia during sensorimotor processing. R. SCHMIDT. *University of Sheffield.*

10:15 **439.07** Beta oscillations in the real world: chronic multisite invasive brain recording using wireless implanted devices in movement disorders. P. A. STARR. *Univ. of California San Francisco Dept. of Neurolog. Surgery.*

10:35 **439.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

440. Naturalistic Paradigms in Awake Monkeys: Bridging fMRI and Extra-Cellular Activities — CME

Tue. 8:30 AM - 11:00 AM —— Room: S406B

Chair: S. C. KWOK, *East China Normal University*
Co-Chair: B. E. RUSS. *Nathan S. Kline Inst. for Psychiatric Res.*

Naturalistic viewing paradigms have become increasingly popular, as they translate to the real world conditions that shaped brain evolution. Recent advances in non-human primate research allow for the monitoring of large numbers of neurons, and the collection of richer behavioral and neural data than ever before. This minisymposium will present evidence that naturalistic paradigms reveal neural specializations and interaction patterns in the brain that would be dormant otherwise.

8:30 **440.01** Introduction.

8:35 **440.02** Fallacious reconstruction of cinematic material reveals episodic retrospection and mnemonic rigidity in rhesus monkeys. S. C. KWOK. *East China Normal Univ.*

8:55 **440.03** Neural dynamics associated with the free viewing of naturalistic visual scenes. B. E. RUSS. *Nathan S. Kline Inst. For Psychiatric Res.*

9:15 **440.04** Neural Correlates of Social Engagement Elicited in Rhesus Monkey by Videos with Social Content. K. M. GOTHARD. *Univ. Arizona, Col. Med.*

9:35 **440.05** Comparing human and monkey neural circuits for processing naturalistic social scenes. J. SLIWA. *Inst. du Cerveau et de la Moelle epiniere.*

9:55 **440.06** Comparing functional networks elicited by natural scene viewing with networks artificially induced by optogenetic stimulation of visual cortex. M. ORTIZ-RIOS. *Newcastle Univ.*

10:15 **440.07** fMRI mapping of neural responses to naturalistic videos reveals enmeshed functional networks within primate face patches. S. PARK. *Natl. Inst. of Mental Hlth.*

10:35 **440.08** Closing Remarks.

• Indicated a real or perceived conflict of interest, see page 152 for details.
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BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLES
McCormick Place

441. Exoskeletons and Robotics for Neurorehabilitation — CME

Tue. 8:30 AM - 11:00 AM — Room: N230B

Organizer: A.M. SPUNGEN*, Icahn Sch. of Med. at Mount Sinai*

Speakers: S. AGRAWAL, N. HOGAN, C. WALSH.

This session will include a state-of-the-art overview of the use of robotics and exoskeletons in populations with neurological impairments. Specific presentations will include upper body robotic interventions for functional and neurological gains, robotic interventions for children with neurological impairments, and lower extremity exoskeletons for over ground ambulation. The lower extremity exoskeletal-assisted walking data will be presented from a randomized, controlled clinical trial.

LECTURE *McCormick Place*

442. SPECIAL LECTURE- Molecular Mechanisms Underlying Activity-Dependent Neural Circuit Development and Plasticity — CME

Tue. 10:30 AM - 11:40 AM — Hall B

Speaker: X. YU, *Inst. of Neuroscience, Chinese Acad. of Sci.*

The mammalian brain is highly plastic. Experience, both positive and negative, affects how neural circuits are wired, with long lasting effects on the well-being of the individual. This lecture will discuss the molecular mechanisms through which sensory experience and environmental factors affect neural circuit development and plasticity, focusing on plasticity mechanisms that may be unique to early development. The relevance of these mechanisms to developmental neurological disorders, especially autism spectrum disorders, will also be highlighted.

LECTURE *McCormick Place*

443. SPECIAL LECTURE- Leveraging Brain Rhythms as a Therapeutic Intervention for Neurodegenerative Diseases — CME

Tue. 12:00 PM - 1:10 PM — Hall B

Speaker: L. TSAI, *MIT.*

Gamma rhythms (30-80 Hz) are modulated during cognition, and impaired gamma rhythms have been associated with Alzheimer's disease (AD). But do they play a causal role? New evidence shows that non-invasive sensory stimulation of 40 Hz rhythm power and synchrony in AD mouse models reduces AD-like pathology and enhances cognitive function. Research is ongoing to understand the mechanisms underlying the beneficial effects of 40 Hz stimulation and to translate this intervention for human patients.

NANOSYMPOSIUM

444. Directing Pluripotent Stem Cell Differentiation

Theme A – Development

Tue. 8:00 AM – *McCormick Place, N427*

8:00 **444.01** Human pluripotent stem cell-derived retinal ganglion cells display extensive neurite outgrowth with target recognition. C. M. FLIGOR*; P. K. SHIELDS; K. B. VANDERWALL; J. S. MEYER. *IUPUI, Indiana Univ.*

8:15 **444.02** Single cell RNAseq analysis of human fetal retina and retinal organoids. A. SRIDHAR*; A. HOSHINO; L. DAI; A. HAUGHAN; A. CHITAZAN; K. ESCHENBACHER; T. A. REH. *Univ. of Washington, Univ. of Washington.*

8:30 **444.03** Using organoid models to study human cortical development. M. ANDREWS*; A. BHADURI; A. R. KRIEGSTEIN. *Univ. of California, San Francisco (UCSF), Univ. of California San Francisco, Univ. of California San Francisco.*

8:45 **444.04** Vascularization of cerebral organoids by incorporation of endothelial cells. J. LEASURE*; L. WANG; A. JAMBUSARIA; S. G. ONG; J. REHMAN. *Univ. of Illinois Chicago, Univ. of Illinois Chicago, Univ. of Illinois Chicago.*

9:00 **444.05** Accelerated production of human stem cell-derived neural progenitor cells for large-scale genetic screens and multiplexed transcriptomic analysis. M. F. WELLS*; M. R. SALICK; F. PICCIONI; E. J. HILL; J. M. MITCHELL; J. NEMESH; S. GHOSH; D. MEYER; C. MELLO; K. RAGHUNATHAN; D. HO; O. PIETILAINEN; R. NEHME; A. KAYKAS; S. MCCARROLL; K. EGGAN. *Broad Inst., Harvard Univ., Novartis Inst. For Biomed. Res., Broad Inst., Novartis Institutes for Biomed. Res., Harvard Med. Sch.*

9:15 **444.06** Controlled astrogliogenesis enables automated, high-throughput generation of astrocytes from human pluripotent stem cells. V. M. JOVANOVIC*; C. MALLEY; C. A. TRISTAN; P. ORMANOGLU; A. SIMEONOV; C. P. AUSTIN; I. SINGEC. *NIH.*

9:30 **444.07** ● Modelling the neurodegenerative disorder Huntington's disease by direct cellular reprogramming of adult human fibroblasts. R. L. MONK*; B. J. CONNOR. *The Univ. of Auckland.*

NANOSYMPOSIUM

445. Mechanisms of Epilepsy

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 8:00 AM – *McCormick Place, S403*

8:00 **445.01** Modulating promoter activity to treat intractable epilepsy. Y. QIU; G. COLASANTE; C. DI BERARDINO; L. MASSIMINO; J. CORNFORD; A. SNOWBALL; S. JONES; S. GIANNELLI; M. WESTON; A. LIEB; S. SCHORGE; D. KULLMANN; V. BROCCOLI; G. LIGNANI*. *UCL Inst. of Neurolgy, San Raffaele Inst., UCL Sch. of Pharm.*

8:15 **445.02** Anticonvulsant properties of HCN4 channel block. Q. KHAROUF*; M. PHILLIPS; L. BLEAKLEY; E. MORRISROE; J. OYRER; A. LUDWIG; L. JIN; J. NICOLAZZO; E. CERBAI; N. ROMANELLI; S. PETROU; C. A. REID. *Florey Inst. of Neurosci. and Mental Hlth., Univ. of Erlangen–Nuremberg, Monash Inst. of Pharmaceut. Sci., Univ. of Florence.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:30 **445.03** Low frequency corpus callosum stimulation suppresses cortical seizures more effectively than high frequency grey matter stimulation. N. H. COUTURIER*; D. M. DURAND. *Case Western Reserve Univ.*

8:45 **445.04** Cannabidiol prevents limbic and attenuates brainstem seizures, but do not modify anxiety-like behaviors, in a chronic protocol of epilepsy. W. L. LOPES*; R. A. DO VAL-DA SILVA; R. M. P. SILVA-JUNIOR; J. P. LEITE; N. GARCIA-CAIRASCO. *Univ. of São Paulo, Univ. of São Paulo.*

9:00 **445.05** ● Interneurons derived from human pluripotent stem cells resemble primary human cortical interneurons *in vitro* and post-transplant in the rodent brain. M. MASNAGHETTI*; J. LEEDY; S. MEHRABANI; J. SPATAZZA; L. C. FUENTEALBA; S. LEE-SERTORIO; M. BERSHTEYN; H. NETHERCOTT; S. KRIKS; C. A. PRIEST; C. R. NICHOLAS. *Neurona Therapeut.*

9:15 **445.06** ● Transplantation of human interneurons is effective in reducing focal and generalized seizures in two mouse models of temporal lobe epilepsy. S. C. BROEER*; M. B. PAREKH; L. C. FUENTEALBA; J. SPATAZZA; W. BLANKENBERGER; J. LEEDY; M. MASNAGHETTI; A. SPASOVA; H. NETHERCOTT; S. KRIKS; S. LEE; C. A. PRIEST; C. R. NICHOLAS. *Neurona Therapeutics, Inc.*

9:30 **445.07** ● Comparative behavior study using two models of temporal lobe epilepsy in an immunodeficient mouse strain. W. BLANKENBERGER; S. C. BROEER; M. B. PAREKH; L. C. FUENTEALBA; J. SPATAZZA; J. LEEDY; M. MASNAGHETTI; C. ABILAY; C. R. NICHOLAS; C. A. PRIEST*. *Neurona Therapeutics, Inc.*

9:45 **445.08** Transcranial direct current stimulation ameliorates status epilepticus in rats: From seizure severity, EEG, neuronal firing to epileptogenesis. Y. WU*; C. CHIANG; M. CHIEN; C. HUANG; K. HSU; D. M. DURAND. *Natl. Cheng Kung Univ. Hosp., Case Western Reserve Univ., Natl. Cheng Kung Univ., Case Western Res. Univ.*

NANOSYMPOSIUM

446. Tau Protein in Alzheimer's Disease and Other Dementia: Biochemistry and Cellular/Animal Models

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, S106*

8:00 **446.01** Tau regulates neuronal mitochondrial DNA replication and its suppression by amyloid-β oligomers: Implications for Alzheimer's disease. A. NORAMBUENA; X. SUN; N. SHIVANGE; G. S. BLOOM*. *Univ. of Virginia.*

8:15 **446.02** Sex differences in tau pathological development in mouse models of AD. K. J. TU; A. WEI; A. J. LAU; L. CHEN; T. LI*. *The Johns Hopkins Univ.*

8:30 **446.03** Aggregated tau and RNA-binding proteins in Alzheimer's disease: Musashi1 and Musashi2 in nuclear dysfunction. M. MONTALBANO*; S. A. MCALLEN; N. PUANGMALAI; U. SENGUPTA; N. N. BHATT; A. ELLSWORTH; R. KAYED. *Univ. of Texas Med. Br., Univ. of Texas Med. Br. At Galveston.*

8:45 **446.04** Tau and TDP-43 synergize *in vivo* to promote neurotoxicity and neurodegeneration in a *C. elegans* model of Alzheimer's disease. C. LATIMER; H. CURREY; T. BIRD; C. KEENE; B. KRAEMER; N. LIACHKO*. *Univ. of Washington, VA Puget Sound Hlth. Care Syst.*

9:00 **446.05** Pathological tau seeding and accumulation in a nonhuman primate model of Alzheimer's disease. D. BECKMAN*; K. DONIS-COX; S. E. DEMOYA; S. OTT; W. G. JANSSEN; S. MULLER; J. H. KORDOWER; V. M. LEE; J. Q. TROJANOWSKI; J. MORRISON. *UC Davis, Columbia Univ. Irving Med. Ctr., Icahn Sch. of Med. at Mount Sinai, Rush Univ. Med. Ctr., Univ. Pennsylvania Sch. Med.*

9:15 **446.06** Epigenetic age acceleration is associated with increased risk and distribution of tau pathology. C. T. MCMILLAN*; D. A. WOLK; F. B. JOHNSON; J. SCHNEIDER; D. BENNETT; P. L. DE JAGER; E. B. LEE. *Univ. of Pennsylvania, Univ. of Pennsyvlania, Rush Univ., Columbia Univ.*

9:30 **446.07** Assay based on Tau-RD-GFP FRET pairs does not represent templated assembly of PHFs. S. KANIYAPPAN; K. TEPPER; J. BIERNAT; R. R. CHANDUPATLA; S. HÜBSCHMANN; S. IRSEN; S. BICHER; C. KLATT; E. M. MANDELKOW; E. MANDELKOW*. *German Ctr. for Neurodegenerative Dis. (DZNE), CAESAR Res. Ctr.*

9:45 **446.08** Brain regional calcifications link with tauopathy in P301L tau mice. R. NI; Y. ZARB; Z. KOVACS; G. KUHN; R. MÜLLER; Y. YUNDUNG; R. NITSCH; L. KULIC; A. KELLER; J. KLOHS. *ETH Zurich & Univ. of Zurich, Universitätsspital Zurich, ETH Zurich & Univ. of Zurich, ETH Zurich, Univ. of Zurich.*

10:00 **446.09** A partial loss of function mutation of VCP is associated with vacuolar tauopathy. N. F. DARWICH; J. M. PHAN; E. SUH; M. GROSSMAN; L. MASSIMO; D. J. IRWIN; C. T. MCMILLAN; I. M. NASRALLAH; C. TORO; G. K. AGUIRRE; V. M. VAN DEERLIN; E. B. LEE*. *Univ. of Pennsylvania, Adult NIH Undiagnosed Dis. Program (UDP) Natl. Human Genome Res. Inst.*

10:15 **446.10** Greater relative white matter burden is a distinct feature of tauopathies in frontotemporal degeneration spectrum. L. GIANNINI; S. XIE; D. A. WOLK; E. B. LEE; M. GROSSMAN; J. Q. TROJANOWSKI; D. IRWIN*. *Univ. Med. Ctr. Groningen, Univ. of Groningen, The Netherlands, Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

10:30 **446.11** ● Treatment with a RIPK1 inhibitor rescues anxiety and cognitive behaviors, calcium dynamics, and reduces tau pathology by altering nitroxidative stress pathways in early-stage progression of a mouse model of frontotemporal dementia. S. A. KOREN*; S. E. MEIER; M. HAMM; R. A. CLOYD; A. WILSON; B. WEISS; M. BELL; S. D'ALTON; C. LANZILLOTTA; S. M. E. GALVIS; F. D. DOMENICO; D. POWELL; M. VANDSBURGER; J. CHEN; H. ZHU; J. F. ABISAMBRA. *Univ. of Florida, Univ. of Kentucky, Univ. of Florida, Sapienza Univ. of Rome, Univ. of Kentucky, Univ. of California, Berkeley, Univ. of Kentucky.*

10:45 **446.12** ● Neuronally expressed anti-tau scFvs and sdAbs prevent tauopathy-induced phenotypes in *Drosophila* models. I. S. MARCHAL; H. W. HUANG; S. KRISHNASWAMY; H. D. RYOO; E. M. SIGURDSSON*. *New York Univ. Sch. of Med., New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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11:00 **446.13** Active immunization with tau epitope in a mouse model of tauopathy induced strong antibody response together with improvement in short memory and tau pathology. A. JOLY AMADO*; H. DAVTYAN; K. SERRANEAU; P. JULES; K. ZAGORSKI; T. ANTONYAN; M. N. GORDON; D. H. CRIBBS; N. PETROVSKY; M. G. AGADJANYAN; A. GHOCHIKYAN; D. G. MORGAN. *Univ. of South Florida Col. of Med., The Inst. for Mol. Medicine, Univ. of California, Univ. of South Florida, The Inst. for Mol. Med., Michigan State Univ. GRRC, Univ. of California Irvine Dept. of Neurol., Flinders Med. Ctr., Michigan State Univ.*

NANOSYMPOSIUM

447. Alzheimer's Disease and Related Dementia: Therapeutic Strategies

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, S103*

8:00 **447.01** The effects of Riluzole treatment on glucose metabolism, insulin sensitivity, and cognition in male and female mouse models of normal aging and Alzheimer's disease. C. A. FINDLEY*; N. ESPERANT-HILAIRE; K. N. HASCUP; E. R. HASCUP. *Southern Illinois Univ. Sch. of Med.*

8:15 **447.02** Imperatorin ameliorates diabetes associated cognitive decline, modulates oxidative stress and acetylcholinesterase levels in mice. A. JUVEKAR*; A. CHOWDHURY; S. CHANDA; J. BATGIRE; S. PAI. *Inst. of Chem. Technol.*

8:30 **447.03** Diosgenin improves memory deficits in a mouse model of Alzheimer's disease by promoting axonal regrowth in the brain. X. YANG*; C. TOHDA. *Inst. of Natural Medicine, Univ. of Toyama.*

8:45 **447.04** Microtubule-stabilizing agents reduce aβ plaque burden and plaque-associated axonal dystrophy in 5XFAD mice. S. MAIMAITI; P. KOIVULA; K. OUKULOFF; Y. YAO; V. LEE; A. SMITH III; J. TROJANOWSKI; C. BALLATORE; K. R. BRUNDEN*. *Univ. of Pennsylvania Perelman Sch. of Med., UCSD, Univ. of Pennsylvania, Univ. of Pennsylvania Perelman Sch. of Medi.*

9:00 **447.05** ● Tapping the potential of herbal botanicals as treatment for Alzheimer's disease. K. V. KASTANENKA*; M. SOHN; S. CHOI; H. GO; B. J. BACSKAI. *Massachusetts Gen. Hospital, Harvard Med. Sch., Dong-A.*

9:15 **447.06** Protective effect of A_{11} gold nanoparticles against aggregation and toxicity mediated by β-amyloid: Potential implications for Alzheimer's disease. B. G. ANAND*; Q. WU; K. SHEJALE; S. AMIDIAN; H. WILLE; S. KAR. *Univ. of Alberta, Univ. of Alberta, Indian Inst. of Technol., Univ. of Alberta, Univ. of Alberta.*

9:30 **447.07** Memory impairments and synaptic failure in Tg19959 AD model mice are alleviated by eEF2K inhibitor A-484954. N. KASICA*; W. YANG; X. ZHOU; T. MA. *Wake Forest Univ.*

9:45 **447.08** Evidence for attenuation of BBB-dysfunction via calpain-cathepsin inhibition strategies relevant to TBI and ADRD. R. C. KNOPP*; A. JASTANIAH; O. DUBROVSKYI; S. H. LEE; L. M. TAI; G. R. J. THATCHER. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*

10:00 **447.09** ● Selection of a small molecule tau oligomer inhibitor for IND enabling studies. E. J. DAVIDOWITZ*; P. LOPEZ; H. JIMENEZ; L. ADRIEN; P. DAVIES; J. G. MOE. *Oligomerix, Inc., Feinstein Inst. for Med. Res.*

10:15 **447.10** PDDC: A novel neutral sphingomyelinase 2 inhibitor for the treatment of Alzheimer's disease. C. TALLON*; K. HOLLINGER; M. SALA; R. DASH; A. G. THOMAS; A. DATTA CHAUDHURI; A. KUMAR; L. E. LOVELL; Y. WU; R. RAIS; N. J. HAUGHEY; R. NENCKA; C. ROJAS; B. S. SLUSHER. *Johns Hopkins Univ., Acad. of Sci. of the Czech Republic, Johns Hopkins Univ. Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins, Johns Hopkins Drug Discovery.*

10:30 **447.11** Neurodegenerative mechanisms of AD maybe independent of pathological hallmarks. N. K. ROBAKIS*; M. A. RAHIM; Y. YOON; Z. SHAO; C. DIMOVASILI; A. GEORGAKOPOULOS. *Mount Sinai Hlth. Syst., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med., Mount Sinai Sch. of Med.*

10:45 **447.12** The effects of low dose THC as a treatment for APP/PS1 mice. Y. HONG; X. LIN; B. BROWN; X. LI; J. CAI; D. MORGAN; M. GORDON; C. CAO*. *Univ. of South Florida, Michigan State Univ.*

11:00 **447.13** Neuronal expression of NUsc1, a single-chain variable fragment antibody against abeta oligomers, protects synapses and rescues memory in Alzheimer's disease models. M. SELLES*; J. FORTUNA; M. CERCATO; A. BITENCOURT; A. SOUZA; H. JANICKOVA; J. DE SOUZA; S. ALVES-LEON; V. F. PRADO; M. A. PRADO; A. EPSTEIN; A. SALVETTI; A. S. SEBOLLELA; O. ARANCIO; W. L. KLEIN; F. DE FELICE; D. JERUSALINSKY; S. T. FERREIRA. *Federal Univ. of Rio de Janeiro, Univ. of Buenos Aires, Univ. of Sao Paulo, Univ. of Western Ontario, Clementino Fraga Filho Univ. Hosp., Univ. of Western Ontario/Robarts Res. Inst., Robarts Res. Institute/University of Western O, Univ. of Lyon, Univ. of Sao Paulo, Columbia Univ., Northwestern Univ., Fed. Univ. Rio de Janeiro.*

NANOSYMPOSIUM

448. Stroke I

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, N228*

8:00 **448.01** TLR2/CD36 signaling modulates the choroid plexus myeloid cell pool and impacts injury following neonatal stroke. A. RAYASAM*; J. FAUSTINO; Z. VEXLER. *Univ. of California - San Francisco.*

8:15 **448.02** Zinc accumulation in mitochondria promotes blood brain barrier disruption through Drp1 dependent mitochondria fission during cerebral ischemia. Z. QI*; K. LIU. *Xuanwu Hospital, Xicheng District, UNM.*

8:30 **448.03** Correlation of angiotensin II-induced NF-kB transcriptional activation and WNK-SPAK-NKCC1 cascade upregulation in mouse cortical neurons after ischemic stroke. M. H. BHUIYAN*; X. DENG; J. ZHANG; A. C. STRAUB; M. B. MINNIGH; B. J. MOLYNEAUX; S. M. POLOYAC; D. SUN. *Univ. of Pittsburgh, Univ. of Pittsburgh, Xiamen Univ., Univ. of Exeter Med. Sch., Univ. of Pittsburgh, Univ. of Pittsburgh, Veterans Affairs Pittsburgh Hlth. Care Syst.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:45 **448.04** Inhibition of serum/glucocorticoid-regulated kinase 1 affords neuroprotection against cardiac arrest-induced brain injury. M. S. GRAMES*; C. Y. WU; H. E. POSSOIT; G. A. CLEMONS; H. LIN; R. H. LEE. *LSU Hlth. Sci. Ctr. Shreveport, LSU Hlth. Sci. Ctr. Shreveport, LSU Hlth. Sci. Ctr. Shreveport.*

9:00 **448.05** Nadph oxidase drives formation of cofilin-actin rods during and after stroke. S. WON*; L. WU; J. WANG; J. R. BAMBURG; R. A. SWANSON. *UCSF and SFVAMC, Univ. of California, San Francisco, Colorado State Univ., U.C.S.F.*

9:15 **448.06** Decoding the cross-talk between grafted neural stem cells and host brain to predict the molecular mechanisms of stem cells-induced functional recovery after stroke. R. AZEVEDO-PEREIRA*; N. C. MANLEY; C. DONG; J. VU; J. BERRY; G. SUN; T. BLISS; G. K. STEINBERG. *Stanford Univ.*

9:30 **448.07** Mechanisms of ischemia/reperfusion-induced type I interferon signaling in microglia. A. MCDONOUGH*; C. LEE; R. ARNOLD; R. V. LEE; J. R. WEINSTEIN. *Univ. of Washington, Univ. Washington.*

9:45 **448.08** Resveratrol tretment reduces ischemic brain damage in reproductively senescent female rats. A. P. RAVAL; C. FURONES; W. ZHAO; K. DAVE; M. A. PEREZ-PINZON*. *Univ. of Miami, Univ. of Miami, Univ. of Miami, Univ. Miami Sch. Med., Univ. of Miami Sch. of Med.*

10:00 **448.09** Peripherally impaired proteostasis aggravates ischemic stroke-caused neuronal injury in mice. Y. LIU*; K. SUBEDI; B. PAN; X. WANG; H. WANG. *Univ. of South Dakota.*

10:15 **448.10** Post-ischemic CaMKIIα ubiquitination reversibly inhibits CaMKII activity at the post-synaptic density by impairing CaMKIIα binding to ATP, calmodulin and substrates. C. POON; A. KAHL; I. BLANCO; V. PALFINI; R. RODNEY-SANDY; C. IADECOLA; K. HOCHRAINER*. *Weill Cornell Med.*

10:30 **448.11** Disruption of membrane trafficking leads to brain ischemia-reperfusion injury. D. YUAN; C. M. LOKE; C. LIU; B. R. HU*. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

10:45 **448.12** Pharmacological calcium/calmodulin-dependent kinase (CaMKII) inhibition protects against Purkinje cell damage following CA/CPR in mice. N. CHALMERS; J. YONCHEK; K. BAYER; P. S. HERSON; N. QUILLINAN*. *Univ. of Colorado, AMC, Univ. of Colorado Denver, UC Denver.*

11:00 **448.13** Post-translational modifications of alpha-synuclein play a role in ischemic brain damage. T. KIM*; S. L. MEHTA; A. K. CHOKKALLA; R. VEMUGANTI. *Univ. of Wisconsin Madison.*

11:15 **448.14** NAD^+ precursor prevents post-ischemic increase in mitochondrial reactive oxygen species production via modulation of mitochondrial protein acetylation. T. KRISTIAN*; N. KLIMOVA; A. FEARNOW; A. LONG. *Univ. of Maryland Sch. of Med., VAMHCS.*

NANOSYMPOSIUM

449. Spinal Cord Injury: Models, Mechanisms, and Therapeutic Strategies

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, N227*

8:00 **449.01** Magnetic resonance imaging quantification of hemorrhage predicts acute motor function after cervical spinal cord injury in the rat. S. LEE*; N. WILKINS; S. N. KURPAD; B. D. SCHMIT; M. D. BUDDE. *Med. Col. of Wisconsin, Marquette Univ. Dept. of Biomed. Engin.*

8:15 **449.02** Spinal contusion injury-induced ejaculatory dysfunction is reduced by intrathecal infusions of gastrin releasing peptide in male rats. S. GAIKWAD*; N. KOZYREV; L. M. COOLEN. *Univ. of Mississippi Med. Ctr., Robarts Res. Inst., Kent State Univ.*

8:30 **449.03** Cellular basis of dectin-1/Clec7a mediated axon regeneration. L. D. HUFFMAN*; R. PASSINO; P. DUNCKER; B. SEGAL; R. GIGER. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

8:45 **449.04** Grafted human embryonic stem cell derived astroglia can repair the injured spinal cord. Y. LIU*; Y. SUN; P. JIANG; W. DENG. *Soochow Univ., Rutgers Univ., Univ. of California, Davis.*

9:00 **449.05** A novel electromagnatic-neurobiologic interface for functional animation of dormant motor nerve roots in spinal cord injury via neuromodulation. J. SHAH*; A. AL-GHARAIBEH; R. SMITH. *Insight Inst. of Neurosurg. and Neurosci., Insight Inst. of Neurosurg. and Neuroscinece, Univ. of Michigan-Flint, Michigan State Univ.*

9:15 **449.06** New myokine-mediated improvement of motor function and muscle atrophy in chronic spinal cord injury. C. TOHDA*; A. KODANI; T. KIKUCHI. *Inst. of Natural Medicine, Univ. of Toyama.*

9:30 **449.07** ● Cigarette smoke dose-dependently exacerbates clinical symptoms and pathology in a mouse model of multiple sclerosis. K. KOSHIBU*; J. HO; W. XIA; A. KONDYLIS; L. GARCIA; K. LUETTICH; B. PHILLIPS; J. HOENG; M. PEITSCH. *PMI R&D, Philip Morris Products S.A., PMI R&D, Philip Morris Intl. Res. Labs. Pte. Ltd.*

9:45 **449.08** Inhibiting central sTNF during chronic spinal cord injury improves antiviral immunity. D. M. NORDEN*; J. JIANG; J. RICARD; V. BRACCHI-RICARD; V. J. TOM; J. R. BETHEA. *Drexel Univ., Drexel Univ. Col. of Med.*

NANOSYMPOSIUM

450. Cerebellum Circuits and Functions

Theme E – Motor Systems

Tue. 8:00 AM – *McCormick Place, N426*

8:00 **450.01** Investigating the synaptic and circuit mechanisms of essential tremor using a novel mouse model. M. ZHOU*; M. D. MELIN; W. XU; T. C. SUDHOF. *Stanford Univ., UT Southwestern.*

8:15 **450.02** Functional connectivity reveals large-scale network dysfunction in essential tremor. A. E. MORRIS*; S. A. NORRIS; J. W. MINK; J. S. PERLMUTTER. *Univ. of Rochester Med. Ctr., Washington Univ. Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:30 **450.03** Cerebellar rTMS modulates the performance of procedural learning task: A TMS-MRS study. Y. LIEN*; S. LIN; C. LIN; L. CHANG. *Natl. Yang-Ming Univ.*

8:45 **450.04** Evolving cerebellar neural representations during learning of an evidence-accumulation decision-making task. M. OOSTLAND*; B. DEVERETT; S. S. WANG. *Princeton Univ.*

9:00 **450.05** Evaluating pattern separation in the cerebellar granule cell layer. E. FLEMING*; C. HULL. *Duke Univ.*

9:15 **450.06** Purkinje cells regulate motor coordination in developing zebrafish. D. E. EHRLICH*; D. SCHOPPIK. *NYU Langone Med. Ctr., New York Univ.*

9:30 **450.07** Identifying functional compartments in the developing cerebellum: Calcium and voltage imaging in zebrafish. K. HIYOSHI; N. FUKUDA; K. OKUMURA; K. YAMSU; S. TSUDA*. *Saitama Univ.*

NANOSYMPOSIUM

451. Stress and Trauma: Adaptive Mechanisms

Theme F – Integrative Physiology and Behavior

Tue. 8:00 AM – *McCormick Place, S404*

8:00 **451.01** Stress, pain, and hyperactive limbic response in individuals with trauma. D. SEO*; R. DOUGLAS; C. LARKIN; S. HWANG; C. LACADIE; R. SINHA. *Yale Sch. of Med., Yale Sch. of Med.*

8:15 **451.02** Transcriptomic changes in the dorsal hippocampus underlying avoidance behavior in a predator urine exposure model of PTSD. D. P. KELLEY*; D. SINGH; L. ALBRECHET-SOUZA; N. W. GILPIN; J. FRANCIS. *Louisiana State Univ., Louisiana State Univ. Hlth. Sci. Ctr.*

8:30 **451.03** Microbiota transfer therapy reverses the effects of early life stress on hippocampal neurogenesis, HPA axis and metabolic risk in rats. N. LAJUD*; R. RUIZ GONZÁLEZ; D. L. DIAZ; E. PINEDA; A. ROQUE. *Inst. Mexicano del Seguro Social, Inst. Mexicano del Seguro Social.*

8:45 **451.04** ▲ A GABAergic neurocircuit that regulates glucose levels as part of the stress response. X. JIA*; S. TAO; F. XU; Z. LU; L. WANG. *Shenzhen Inst. of Advanced Technology, Chines, Wuhan Inst. of Physics and Mathematics, Ctr. for Excellence in Brain Sci.*

9:00 **451.05** Lamina-specific microglia phenotypes are associated with synaptic deficits in the prefrontal cortex following chronic stress. J. L. BOLLINGER; S. C. WOODBURN; E. S. WOHLEB*. *Univ. of Cincinnati Col. of Med.*

9:15 **451.06** Chronic stress promotes sex-specific alterations in microglia and astrocyte function that are associated with synaptic deficits and behavioral consequences. S. C. WOODBURN*; M. HORCHAR; J. L. BOLLINGER; E. S. WOHLEB. *Univ. of Cincinnati Col. of Med.*

9:30 **451.07** Sensitive period for epigenetic consequences of early attachment on immune genes. C. R. LEWIS*; H. A. SOWARDS; L. D. DOANE; K. LEMERY-CHALFANT; M. J. HUENTELMAN. *Translational Genomics Res. Inst., Arizona State Univ., Arizona State Univ., The Translational Genomics Res. Inst.*

9:45 **451.08** Maternal separation and *in utero* stress induces inflammation and microglia activation in the hippocampus of male and female rats. A. J. B. BETZ*; K. S. JONES; K. CONNOLLY; T. ZARIN; S. JACQUELINE; G. BURMAN; J. MIRRA; L. TELISKA; M. MIRRIONE. *Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ.*

NANOSYMPOSIUM

452. Homeostatic Circuits, Feeding, and Energy Balance

Theme F – Integrative Physiology and Behavior

Tue. 8:00 AM – *McCormick Place, S505*

8:00 **452.01** Vagal tone changes associated with stomach distention and chronic diet. M. A. SCHIEFER*. *Malcom Randall VA Med. Ctr.*

8:15 **452.02** Fibroblast growth factor 19 in the dorsal vagal complex alters excitability of dorsal vagal motor neurons and lowers blood glucose concentration. J. B. WEAN*; B. N. SMITH. *Univ. of Kentucky, Univ. of Kentucky.*

8:30 **452.03** The dorsal raphe nucleus: A novel therapeutic entity for energy balance disorders. M. SCHNEEBERGER PANE*; L. PAROLARI; T. DAS BANERJEE; V. M. BHAVE; P. WANG; E. ENGEL; K. PELLEGRINO; C. J. CHOI; B. PATEL; T. TOPILKO; X. YU; P. COHEN; N. RENIER; A. R. NECTOW; J. M. FRIEDMAN. *The Rockefeller Univ., Princeton Univ., ICM.*

8:45 **452.04** Melanocortin 3 receptor engages AgRP circuitry to regulate feeding and anxiety. P. SWEENEY*; M. BEDENBAUGH; R. B. SIMERLY; P. GRIECO; R. D. CONE. *Univ. of Michigan, Vanderbilt Univ., Vanderbilt Univ., Univ. of Naples Federico II.*

9:00 **452.05** Interrogating the role of AgRP neurons in the pathogenesis of activity-based anorexia. A. K. SUTTON*; M. J. KRASHES. *NIH.*

9:15 **452.06** Exposure to maternal high-fat diet during lactation impairs the organization and activity of GLP-1 innervation to the paraventricular nucleus of the hypothalamus. D. SRISAI*; J. E. BIDDINGER; M. M. SCOTT; R. B. SIMERLY. *Vanderbilt Univ., Univ. of Virginia.*

9:30 **452.07** Hypothalamic glucagon like peptide regulates food intake. J. LIU*; K. M. CONDE; Z. XU; J. PHANSALKAR; M. M. SCOTT; Z. PANG. *Univ. of Sci. and Technol. of China, Rutgers Univ., Rutgers Univ., Univ. of Virginia, Rutgers Univ.*

NANOSYMPOSIUM

453. Effects of Cocaine Use

Theme G – Motivation and Emotion

Tue. 8:00 AM – *McCormick Place, S401*

8:00 **453.01** Drug seeking motivation in tree shrews after cocaine abstinence enhanced by dopamine D1 receptor mediated upregulation of Cav1.2 in the nucleus accumbens. F. SHEN*; Y. DUAN; Y. MENG; W. DU; J. ZHANG; J. LIANG; Y. LI; M. LI; N. SUI. *Inst. of Psychology, CAS, Inst. of Psychology,UCAS, Univ. of Nebraska-Lincoln.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:15 **453.02** ● Nucleus accumbens neuronal ensembles in cue-induced reward seeking. A. BOBADILLA*; E. DERESCHEWITZ; M. D. SCOFIELD; J. A. HEINSBROEK; P. W. KALIVAS. *Med. Univ. of South Carolina, Med. Univ. of South Carolina, Univ. of Colorado Denver - Anschutz Med. Campus.*

8:30 **453.03** Longitudinal assessments of incubation of cue-induced drug craving in cocaine-addicted individuals. M. A. PARVAZ*; R. A. RABIN; P. MALAKER; A. KALAJ; A. WAGNER; N. ALIA-KLEIN; R. Z. GOLDSTEIN. *Icahn Sch. of Med. at Mount Sinai.*

8:45 **453.04** Incubation of cocaine craving coincides with changes in dopamine terminal neurotransmission. I. P. ALONSO*; K. G. BRYANT; R. A. ESPAÑA. *Drexel Univ. Col. of Med.*

9:00 **453.05** Integrins and focal adhesion kinase as a signaling pathway for MMP-9 induction of transient synaptic plasticity in cocaine relapse. C. GARCIA-KELLER*; D. NEUHOFER; M. D. SCOFIELD; A. BOBADILLA; C. MONFORTON; S. VARANASI; M. REEVES; P. W. KALIVAS. *Med. Univ. of South Carolina, MUSC, Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. S Carolina.*

9:15 **453.06** Changes in parvalbumin interneurons within the medial prefrontal cortex after a cocaine memory reactivation in rats following removal of perineuronal nets. A. E. GONZALEZ*; E. T. JORGENSEN; J. H. HARKNESS; A. DEAN; S. A. AICHER; D. M. HEGARTY; T. E. BROWN; B. A. SORG. *Washington State Univ., Univ. of Wyoming, Washington State University, Vancouver, Washington State Univ. - Vancouver, Oregon Hlth. & Sci. Univ., OHSU, Univ. of Wyoming, Washington State Univ.*

9:30 **453.07** Epigenetic priming underlies transcriptional disruption linked to cocaine relapse. P. MEWS*; H. KRONMAN; A. RAMAKRISHNAN; S. SIDOLI; A. A. REYES; B. GARCIA; L. SHEN; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Perelman Sch. of Med. Univ. of Pennsylvania.*

9:45 **453.08** Neuron subtype specific role of methylated DNA cytosine dioxygenase TET1 in cocaine addiction. H. XU*; G. KAPLAN; R. HEDINGER; J. FENG. *Florida State Univ.*

10:00 **453.09** The non-coding RNA miR1 plays a cell-type specific role in molecular and behavioral adaptations to cocaine. B. FORGET; A. GODINO; E. MARTIN GARCIA; L. DOMINGO-RODRIGUEZ, Jr; P. POIRIER; V. KAPPES; P. VANHOUTTE; R. MALDONADO; J. CABOCHE*. *1-Neurosciences Paris Seine, Sorbonne Universités, CNRS UMR8246/INSERM UMRS1130, Icahn Sch. of Med. at Mount Sinai, Univ. Pompeu Fabra (UPF).*

10:15 **453.10** Dopamine receptor 3 signaling in the ventral pallidum drives persistent changes in neuronal activity and drug-seeking behavior following cocaine self-administration. H. PRIBIAG*; S. SHIN; E. WANG; P. HONMA; V. LILASCHAROEN; B. LIM. *UCSD*.

10:30 **453.11** Dopamine and glutamate receptor heteromers: Modulation and roles in cocaine-evoked adaptations. A. NJIVA ANDRY*; E. SAINT JOUR; R. WALLE; Y. ZHU; J. BARIK; P. TRIFILIEFF; J. A. JAVITCH; J. CABOCHE; P. VANHOUTTE. *Sorbonne Univ., INRA, Columbia Univ., Inst. De Pharmacologie Moléculaire & Cellulaire, Columbia Univ., Unité Neurosciences Paris Seine INSERM/UMR-S 1130;.*

10:45 **453.12** Cocaine actions on cortico-striatal circuitry: A focus on cholinergic interneurons. M. E. AUTHEMENT*; J. SHIN; V. A. ALVAREZ. *Natl. Inst. on Alcohol Abuse and Alcoholism.*

NANOSYMPOSIUM

454. Medial Temporal Lobe in Learning and Memory During Development

Theme H – Cognition

Tue. 8:00 AM – *McCormick Place, S405*

8:00 **454.01** Longitudinal changes in hippocampal subfield volume predict improvements in memory ability during early to mid-childhood. K. L. CANADA*; F. GENG; T. RIGGINS. *Univ. of Maryland, Zhejiang University, Xixi Campus.*

8:15 **454.02** Neural mechanisms of episodic memory and the influence of schooling - A longitudinal study. S. NOLDEN*; G. BROD; Y. SHING. *Goethe-University Frankfurt am Main, Leibniz Inst. for Res. and Information in Educ. (DIPF).*

8:30 **454.03** The relationship between age, retrieval-related hippocampal activity, and cortical reinstatement. P. F. HILL*; M. D. RUGG. *Univ. of Texas at Dallas.*

8:45 **454.04** Neural correlates of self-referential memory encoding in development. R. LAWRENCE; J. CHENG; M. EUSTACHE; P. OURAND; X. J. CHAI*. *Johns Hopkins Univ.*

9:00 **454.05** Medial temporal and frontotemporal theta rhythms predict subsequent memory in the developing brain. E. JOHNSON*; Q. YIN; L. TANG; E. ASANO; N. OFEN. *Univ. of California, Berkeley, Wayne State Univ., Children's Hosp. Michigan, Wayne State Univ.*

9:15 **454.06** Network analysis of memory and attention networks in the brain. M. BOTDORF*; F. GENG; T. RIGGINS. *Univ. of Maryland, Col. Park, Zhejiang Univ., Univ. of Maryland.*

9:30 **454.07** Income-related differences in reward anticipation-mediated memory enhancement in children. L. MEINE*; A. KERESZTES; L. RAFFINGTON; C. HEIM; Y. SHING. *Johannes Gutenberg-Universität Mainz, Hungarian Acad. of Sci., Max Planck Inst. for Human Develop., Eotvos Lorand Univ., Univ. of Texas at Austin, Charité-University Medicine, Med. Ctr., Pennsylvania State Univ., Goethe Univ. Frankfurt.*

9:45 **454.08** Direct brain recordings reveal the involvement of the occipital cortex in memory formation in children. Q. YIN*; E. L. JOHNSON; L. TANG; K. I. AUGUSTE; R. T. KNIGHT; E. ASANO; N. OFEN. *Wayne State Univ., Univ. of California, Univ. of California, UCSF Benioff Children's Hosp., Children's Hosp. of Michigan, Weizmann Inst. of Sci.*

10:00 **454.09** Longitudinal changes of hippocampal subfields predict memory improvements at the transition into adolescence. E. JOHNSON; Y. FANDAKOVA; J. LEE; S. G. GHETTI*. *Univ. for California, Dav.*

NANOSYMPOSIUM

455. Working Memory: Mechanisms I

Theme H – Cognition

Tue. 8:00 AM – *McCormick Place, S104*

8:00 **455.01** Temporal manipulation of memory reactivations in humans. J. LI*; Q. HUANG; H. LUO. *Peking Univ.*

8:15 **455.02** Tracking the item in focus of attention in working memory through pupillometry. N. ZOKAEI*; A. BOARD; S. G. MANOHAR; A. NOBRE. *Univ. of Oxford, Dept. of Exptl. Psychology.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:30 **455.03** Localized attentional-modulation of prefrontal cortex activity in response to implicitly-presented emotional stimuli. H. SONG*; S. LEE. *Korea Advanced Inst. of Sci. and Technol.*

8:45 **455.04** Rotational remapping as a candidate mechanism for priority-based recoding in visual working memory: Empirical and computational evidence. Q. WAN*; Y. CAI; J. SAMAHA; T. T. ROGERS; B. R. POSTLE. *Univ. of Wisconsin-Madison, Beijing Normal Univ., Univ. of California, Santa Cruz.*

9:00 **455.05** Concurrent fluctuations of attention and working memory. M. T. DEBETTENCOURT*; P. A. KEENE; E. AWH; E. K. VOGEL. *Univ. of Chicago.*

9:15 **455.06** Prioritized visual spatial working memory representations are maintained more precisely and with lower uncertainty. T. C. SPRAGUE*; H. LI; A. H. YOO; M. RAHMATI; G. E. HALLENBECK; W. J. MA; C. E. CURTIS. *New York Univ., Univ. of California, Santa Barbara, New York Univ.*

9:30 **455.07** Structural-functional relationships in prefrontal cortex for working memory. J. A. MILLER*; D. J. LURIE; K. WEINER; M. D'ESPOSITO. *UC Berkeley, UC Berkeley.*

9:45 **455.08** Neonatal brain volume moderates the association between maternal sensitivity and working memory in toddlerhood. S. NOLVI; J. RASMUSSEN; A. GRAHAM; J. H. GILMORE; M. A. STYNER; D. A. FAIR*; S. ENTRINGER; P. WADHWA; C. BUSS. *Charite Univ. of Med. Berlin, Univ. of California, Irvine, Oregon Hlth. & Sci. Univ., Univ. of North Carolina at Chapel Hill Dept. of Psychiatry, Univ. of North Carolina At Chapel Hill, Oregon Hlth. Sci. Univ., Development, Health, and Dis. Res. Program, Departments of Pediatrics, Psychiatry and Human Behavior, Obstetrics and Gynecology, and Epidemiology, Univ. of California, Irvine, Sch. of Medicine, Irvine, CA, USA, Charité Univ. Med. Berlin.*

10:00 **455.09** Dynamical multiplexing of information during dual task performance in monkey prefrontal cortex. D. F. WASMUHT*; K. WATANABE; T. SUZUKI; M. G. STOKES. *Oxford Univ., Osaka Univ., Natl. Inst. of Information and Communications Technol.*

NANOSYMPOSIUM

456. Human Brain Mapping and Imaging in Health and Diseases

Theme I – Techniques

Tue. 8:00 AM – *McCormick Place, S402*

8:00 **456.01** Thinking outside the box: A new role for hippocampal subfields in boundary extension. A. N. WILLIAMS*; M. POSTANS; C. J. HODGETTS; S. KUSMIA; R. LISSAMAN; D. HUCKER; J. ALLEN; A. D. LAWRENCE; K. S. GRAHAM. *Cardiff Univ., Univ. of Bristol.*

8:15 **456.02** Entorhinal cortex subfield volumes are differentially related to CSF AD biomarkers and memory in older adults without dementia. L. YEUNG*; C. HALE; B. LAST; B. RIZVI; H. ANDREWS; R. P. SLOAN; L. S. HONIG; S. A. SMALL; A. M. BRICKMAN. *Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr.*

8:30 **456.03** Mnemonic prediction errors bias hippocampal states. O. BEIN*; K. D. DUNCAN; L. DAVACHI. *NYU, Univ. of Toronto, Columbia Univ.*

8:45 **456.04** Age differences in hippocampal glutamate modulation during object-location encoding: Evidence from proton functional magnetic resonance spectroscopy (1H fMRS). C. ANAND*; R. HOMAYOUNI; Q. YU; S. RAMESH; D. KHATIB; C. DAHLE; J. A. STANLEY; N. RAZ. *Wayne State Univ., Wayne State Univ., Wayne State Univ.*

9:00 **456.05** Impact of early estrogen deprivation on sleep, memory and hippocampal volume in middle-aged women. N. GERVAIS*; G. NICOLL; E. BAKER-SULLIVAN; C. LAUZON; L. MENDOZA; A. ALMEY; L. GRAVELSINS; A. BROWN; A. DUCHESNE; R. K. OLSEN; C. L. GRADY; G. EINSTEIN. *Univ. of Toronto, Univ. of Northern British Columbia, Rotman Res. Inst., Baycrest Ctr. Geriatric Care.*

9:15 **456.06** Automated measurement of medial temporal lobe subregion cortical thickness using minimum line integrals. D. KOTHAPALLI*; M. A. TUBI; S. I. THOMOPOULOS; I. AGANJ; M. D. SWEENEY; X. WANG; L. S. SCHNEIDER; E. B. JOE; J. M. RINGMAN; H. N. YASSINE; M. G. HARRINGTON; B. V. ZLOKOVIC; A. W. TOGA; H. C. CHUI; P. M. THOMPSON; M. N. BRASKIE. *Imaging Genet. Center, Mark and Mary Stevens Neuroimaging & Informatics Institute, Keck Sch. of Med. of the Univ. of Southern California, Martinos Ctr. for Biomed. Imaging, Dept. of Radiology, Massachusetts Gen. Hospital, Harvard Med. Sch., Zilkha Neurogenetic Institute, Keck Sch. of Medicine, Univ. of Southern California, Dept. of Neurology, Keck Sch. of Med. at Univ. of Southern California, Dept. of Psychiatry and the Behavioral Sciences, Keck Sch. of Med. at Univ. of Southern California, Dept. of Medicine, Keck Sch. of Med. at the Univ. of Southern California, Huntington Med. Res. Inst., Dept. of Physiol. and Neuroscience, Keck Sch. of Med. at the Univ. of Southern California, Lab. of Neuro Imaging, Stevens Neuroimaging and Informatics Institute, Keck Sch. of Medicine, Univ. of Southern California.*

9:30 **456.07** Test re-test reliability of hippocampal subfield volume measures in developing sample: Implications for longitudinal developmental studies. Q. YU*; R. HOMAYOUNI; S. RAMESH; N. OFEN. *Inst. of Gerontology.*

9:45 **456.08** Hair cortisol concentrations are associated with hippocampal subregional volumes in early middle childhood. Y. SHING*; A. KERESZTES; L. RAFFINGTON; C. M. HEIM. *Goethe Univ. Frankfurt, Max Planck Inst. for Human Develop., Hungarian Acad. of Sci., Eötvös Loránd Univ., Univ. of Texas at Austin, Charité – Universitätsmedizin Berlin, Pennsylvania State Univ.*

10:00 **456.09** Functional dynamics for successful recollection via pattern completion in medial temporal lobe and retrosplenial cortex. X. GRANDE*; D. BERRON; E. DUZEL. *German Ctr. for Neurodegenerative Dis. DZNE, Otto-von-Guericke Univ. Magdeburg, Lund Univ., Univ. Col. London.*

10:15 **456.10** ● Comparing the impact of T1- and T2-weighted acquisition on automated hippocampal subfield volume estimates. A. BUSSY*; E. PLITMAN; S. A. BEDFORD; A. SALACIAK; S. FARZIN; S. TULLO; M. BELAND; G. A. DEVENYI; M. CHAKRAVARTY. *McGill Univ., Douglas Mental Hlth. Univ. Inst., McGill Univ., McGill Univ.*

10:30 **456.11** Longitudinal examination of associations between young children's pattern separation abilities and hippocampal subfield volumes. T. RIGGINS*; K. L. CANADA. *Univ. of Maryland.*

10:45 **456.12** The role of hippocampal subfield volume and fornix microstructure in episodic memory across the lifespan. C. M. FOSTER*; K. M. KENNEDY; D. A. HOAGEY; K. M. RODRIGUE. *Ctr. For Vital Longevity | UT Dallas.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 **456.13** Hippocampal subfields group progress update: Harmonization of a protocol for segmenting human hippocampal subfields on MRI. V. A. CARR*; D. BERRON; A. M. DAUGHERTY; R. K. OLSEN; L. WISSE; K. M. AMUNTS; J. C. AUGUSTINACK; A. BAKKER; A. R. BENDER; M. BOCCARDI; M. BOCCHETTA; M. CHAKRAVARTY; G. CHETELAT; R. DE FLORES; J. DEKRAKER; S. DING; R. INSAUSTI; O. KEDO; S. MUELLER; N. OFEN; D. J. PALOMBO; N. RAZ; C. E. STARK; L. WANG; P. YUSHKEVICH; Q. YU; R. LA JOIE. *San Jose State Univ., Otto-von-Guericke Univ., Wayne State Univ., Rotman Res. Inst., Univ. of Pennsylvania, Res. Ctr. Juelich, Massachusetts Gen. Hosp., Johns Hopkins Univ., Michigan State Univ., Univ. of Geneva, Univ. Col. London, Douglas Mental Hlth. Univ. Inst., Inserm EPHE UCBN U1077, Univ. of Pennsylvania, Western University, Brain and Mind Inst., Allen Inst. For Brain Sci., Univ. of Castilla-La Mancha - Q13680009E, Res. Ctr. Jülich, Univ. of California San Francisco, Wayne State Univ., Univ. of British Columbia, Univ. of California Irvine, Northwestern Univ. Feinberg Sch. of Med., Univ. of Pennsylvania, Inst. of Gerontology, Univ. of California San Francisco.*

11:15 **456.14** Quantitative mapping of calcium binding protein expressing inhibitory interneurons in human visual cortex. R. N. KOOIJMANS; E. UPSCHULTE; T. DICKSCHEID; K. ZILLES; K. M. AMUNTS; P. R. ROELFSEMA*. *Netherlands Inst. for Neurosci., Res. Ctr. Jülich.*

POSTER

457. Mechanisms of Cell Fate

Theme A – Development

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 A1 **457.01** ▲ Cyclic AMP dependent protein kinase regulation of Nato3 induction of dopamine neuron gene expression. M. OKROS; M. FRANTZESKAKIS; P. CHOWDHARY; M. K. DELANO-TAYLOR*. *Grand Valley State Univ.*

9:00 A2 **457.02** Gene regulatory interactions governing cranial neural crest cell differentiation along neurogenic and chondrogenic lineages. M. R. REPLOGLE*; A. RAU; P. L. AUER; A. J. UDVADIA. *Univ. of Wisconsin - Milwaukee, Inst. Natl. de la Recherche Agronomique, Univ. of Wisconsin - Milwaukee.*

10:00 A3 **457.03** Single-cell transcriptomics reveals early emergence of cortical interneuron diversity in the mouse embryo. D. MI*; Z. LI; L. LIM; M. LI; M. MOISSIDIS; Y. YANG; T. GAO; D. PRICE; T. PRATT; N. SESTAN; O. MARIN. *King's Col. London, Yale Univ., Univ. of Edinburgh.*

11:00 A4 **457.04** Transcriptomically defined neuronal subtype specification in the type-II neuroblast lineages of *Drosophila melanogaster.* N. S. MICHKI*; Y. LI; K. SANJASAZ; C. LEE; D. CAI. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

8:00 A5 **457.05** Notch signaling in the cerebellar granule cell development. T. ADACHI; S. MIYASHITA; M. YAMASHITA; R. D. SHIRAISHI; M. M. SHIMODA; T. OWA; M. HOSHINO. *Natl. Ctr. of Neurol. and Psychiatry, Waseda Univ., Grad. Sch. of Med. and Dent. Sci.*

9:00 A6 **457.06** Differential regulation of neocortical and hippocampal astrogliogenesis by neogenin. D. SUN*; W. XIONG. *Case Western Reserve Univ.*

10:00 A7 **457.07** Neurogenesis of retinal ganglion cells in the pigmented and albino retina. N. SLAVI*; R. L. OAKS-LEAF; S. KHALID; C. MASON. *Columbia Univ.*

11:00 A8 **457.08** Single cell transcriptomics resolves intermediate glial progenitors and uncovers pivotal determinants of cell fate and gliomagenesis. J. WANG*; J. WANG; Q. WENG; D. HE; Z. CHENG; F. ZHANG; S. S. POTTER; G. YU; Q. R. LU. *Cincinnati Children's Hosp. Med. Ctr., Zhejiang Univ., Virginia Polytechnic Inst. and State Univ.*

8:00 A9 **457.09** Temporal, regional, and functional intersection of microglia, precursor cells, and vasculature in developing cerebral cortex. E. PENNA; S. C. NOCTOR*. *UC Davis.*

9:00 A10 **457.10** RNAi inhibition of KAT II during postnatal development alters cell generation in the subventricular zone and oliodendrogenesis in the corpus callosum. S. M. CLARK*; T. MOU; A. LANIYAN; R. CHANDRA; L. H. TONELLI. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

10:00 A11 **457.11** Integration of single cell transcriptomes and chromatin profiles to detect regulatory elements critical to interneuron development. C. RHODES*; D. LEE; Y. ZHANG; T. PETROS. *NIH.*

11:00 A12 **457.12** Mapping gene regulatory networks generating cell diversity in the embryonic basal ganglia. A. N. RUBIN*; L. SU-FEHER; S. N. SILBERBERG; K. J. LIM; H. TIAN; A. S. NORD; J. L. R. RUBENSTEIN. *Univ. of California San Francisco, Univ. of California, Davis.*

8:00 A13 **457.13** Identification of transcribed enhancers critical for cerebellar development. M. RAMIREZ*; R. ROBERT; J. T. YEUNG; F. CONSORTIUM; D. GOLDOWITZ. *Univ. of British Columbia, Univ. of Rennes 1, Univ. of British Columbia, RIKEN, Ctr. for Mol. Med. & Ther.*

9:00 A14 **457.14** Critical roles of ARHGAP36 as a signal transduction mediator of Shh pathway in lateral motor columnar specification. H. NAM; S. JEON; S. LEE; S. LEE*. *Seoul Natl. Univ., Oregon Hlth. and Sci. Univ.*

10:00 A15 **457.15** ▲ Behavioral and thalamic repercussions following the reduction of primary visual area size by cortical Emx2 deletion. C. SCHAFFER*; O. AJAYI; D. DELBRUNE; A. SHASTRI; S. AKHIDENOR; A. B. ZEMBRZYCKI; A. M. STOCKER. *Minnesota State Univ. Moorhead, Sanford Burnham Prebys Med. Discovery Inst.*

11:00 A16 **457.16** Diversity and embryonic origin of septal neurons: Analysis of developmental trajectories. M. TURRERO GARCIA*; S. HRVATIN; C. WEINREB; A. KLEIN; C. C. HARWELL. *Harvard Med. Sch., Harvard Med. Sch.*

8:00 A17 **457.17** ▲ Identification of Emx2 targets in early corticogenesis utilizing a proteomics approach. A. MOHAMMED*; H. MORIN; A. SANYANG; J. VELAZQUEZ; M. TIGGES; A. M. STOCKER. *Minnesota State Univ. Moorhead, Minnesota State Univ. Moorhead.*

9:00 A18 **457.18** Temporal transcription factors interact with chromatin remodelling complexes to regulate competence transitions during neural development. S. SHAH; C. JOLICOEUR; T. DANG; P. MATTAR*; M. CAYOUETTE*. *OHRI, IRCM.*

10:00 A19 **457.19** The role of E-proteins Tcf3 and Tcf12 in ventral telencephalon development. M. J. TALLEY*; D. NARDINI; L. EHRMAN; R. R. WACLAW. *Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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* Indicates abstract's submitting author

11:00 A20 **457.20** Comprehensive single-cell RNA-seq analysis of murine retinal development identifies NFI factors as regulators of mitotic exit and late-born cell specification. B. S. CLARK*; G. STEIN-O'BRIEN*; F. SHIAU; G. H. CANNON; E. DAVIS-MARCISAK; T. SHERMAN; C. SANTIAGO; T. V. HOANG; F. RAJAII; R. E. JAMES-ESPOSITO; R. GRONOSTAJSKI; E. J. FERTIG; L. A. GOFF*; S. BLACKSHAW. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Washington Univ., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Univ. at Buffalo, Johns Hopkins Univ, Sch. Med.*

8:00 A21 **457.21** DNA methylome identify differentiation potential of NS/PCs during brain development. T. SANOSAKA*; T. IMAMURA; K. NAKASHIMA. *Kieo Univ. Sch. of Med., Kyushu Univ.*

9:00 A22 **457.22** Molecularly dissociable roles of chromatin remodeling in cortical development. J. M. KEIL; A. QALIEH; M. M. LAM; L. SHI; K. Y. KWAN*. *Univ. of Michigan.*

10:00 A23 **457.23** Chromatin remodeling and non-cell-autonomous regulation of cortical connectivity. D. J. DOYLE*; A. QALIEH; M. M. S. LAM; K. Y. KWAN. *Univ. of Michigan.*

POSTER

458. Autism: Physiology, Systems, and Behavior

Theme A – Development

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 A24 **458.01** Successful prediction of scan task and individual identity, but not ASD status, from functional connectomes in an extensively and densely sampled multiband fMRI dataset. L. BYRGE*; D. P. KENNEDY. *Indiana Univ.*

9:00 A25 **458.02** ▲ Amygdala volume and social impairment in youth with autism spectrum disorders. Y. KIM*; M. C. DUGGINS; J. DAVIS; K. PAULSON; C. DEMOPOULOS; B. KOPALD; K. DEPLONTY; J. D. LEWINE. *The Mind Res. Network.*

10:00 A26 **458.03** Microbiota transplant intervention shows promising results in some children with autism spectrum disorder (ASD). H. B. WALKER*; T. MIDTVEDT. *Biomed Clin., Karolinska Institutet.*

11:00 A27 **458.04** ● Term or preterm cesarean section delivery transiently alters but does not lead to long-term detrimental consequences in mice. M. CHIESA; B. RIFFAULT; H. RABIEI; D. C. FERRARI*; Y. BEN-ARI. *Neurochlore, Ben-Ari Inst. of Neuroarcheology (IBEN).*

8:00 A28 **458.05** Sensorimotor issues and core clinical symptoms in autism spectrum disorder (ASD). S. BRIDWELL; G. GABRIELLI; J. BARTOLOTTI*; M. W. MOSCONI. *Univ. of Kansas, Northwestern Univ.*

9:00 A29 **458.06** Gastrointestinal symptomatology is associated with amygdalar reactivity to negative facial affect in autism spectrum disorder. C. RIECKEN*; D. SCALES; J. P. HEGARTY II; R. M. ZAMZOW; D. Q. BEVERSDORF; B. FERGUSON. *Univ. of Missouri Thompson Ctr. For Autism, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri Columbia.*

10:00 A30 **458.07** ▲ Associations between resting-state EEG alpha-band power and atypical sensory processing and social communication impairments in children with autism spectrum disorder. S. PIERCE*; G. KADLASKAR; B. KEEHN. *Purdue Univ.*

11:00 A31 **458.08** Differential utilization of visual and proprioceptive information for postural control stability in individuals with autism spectrum disorder (ASD). Z. WANG*; J. CHEN; E. IN; W. MCKINNEY; Z. LI; M. MOSCONI. *Univ. of Florida, Univ. of Kansas.*

8:00 A32 **458.09** A possible involvement of ca^{2+}-dependent activator protein for secretion 2 (CAPS2) in regulating release of the hypothalamic neuropeptide oxytocin that hs pivotal role in social behavior. S. FUJIMA*; R. YAMAGA; H. MINAMI; R. MANIWA; N. AMEMIYA; M. ABE; K. SAKIMURA; Y. SHINODA; Y. SANO; T. FURUICHI. *Tokyo Univ. of Sci., Cell. Neurobiol, Brain Res. Inst, Niigata Univ., Brain Res. Ins Niigata Univ., Tokyo Univ. of Pharm. and Life Sci.*

9:00 A33 **458.10** Measures of tonic and phasic activity of the locus coeruleus - norepinephrine system in children with autism spectrum disorder. B. KEEHN*; G. KADLASKAR; R. MCNALLY KEEHN. *Purdue Univ., Indiana Univ. Sch. of Med.*

10:00 A34 **458.11** Quantitative brain wide map of the oxytocin receptor in postnatally developing mouse brains. K. T. NEWMASTER*; Z. NOLAN; U. CHON; M. TABBAA; S. HIDEMA; K. NISHIMORI; E. A. HAMMOCK; Y. KIM. *Pennstate Col. of Med., Pennsylvania State Univ. Col. of Med., Florida State Univ., Grad. Sch. of Agr. Sciences/ Tohoku Un, Grad Sch. of Agric Sci, Tohoku Univ., Florida State Univ., Col. of Medicine, Penn State Univ.*

11:00 A35 **458.12** ▲ Reduced VTA Drd2 expression increases sociability in adult mice. A. KHASNAVIS; B. SULAMAN; B. ZUPAN*. *Vassar Col.*

8:00 A36 **458.13** Mapping neural correlates to biological motion in school-aged children with autism using high density diffuse optical tomography. A. M. SVOBODA*; M. L. SCHROEDER; A. T. EGGEBRECHT. *Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. Sch. of Med.*

9:00 A37 **458.14** Sub-groups of sensory connectivity profiles in autism and typical development. A. R. ZOLTOWSKI*; M. D. FAILLA; C. OKITONDO; L. E. MASH; S. DAVIS; B. HEFLIN; B. ROGERS; C. J. CASCIO. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ. Med. Ctr., San Diego State Univ., Florida Intl. Univ.*

10:00 A38 **458.15** Lateral and central nuclei volumes predict anxiety and depression scores in children with neurodevelopmental disorders. D. SEGUIN; J. CHEN; J. MARTINEZ-TRUJILLO; R. NICOLSON; E. G. DUERDEN*. *Western Univ.*

11:00 A39 **458.16** Behavioral deficits and rescue in the Protocadherin 10 (Pcdh10) mouse model relevant to autism. S. L. FERRI*; E. S. BRODKIN; T. ABEL. *Univ. of Iowa, Univ. of PA Sch. of Med.*

8:00 A40 **458.17** Sex specific involvement of indirect pathway medium spiny neurons in behavioral alteration of 16p11.2 hemi-deletion mouse model. J. KIM*; C. C. ANGELAKOS; J. F. LYNCH; S. L. FERRI; T. ABEL. *Univ. of Iowa, Univ. of Pennsylvania, Univ. of Iowa.*

9:00 A41 **458.18** Subconvulsive stimulation in early postnatal life produces sex-related differences in stereotypic behavior, mood, and the seizure threshold during the juvenile period. B. A. KAHEN*; J. VELISKOVA; L. VELISEK; L. K. FRIEDMAN. *New York Med. Col., New York Med. Col.*

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* Indicates abstract's submitting author

10:00 A42 **458.19** Postnatal subconvulsive activity selectively reduces NeuN antigenicity and polyphosphoinositide hydrolysis within limbic structures of juvenile rats. L. K. FRIEDMAN*; B. A. KAHEN; J. VELISKOVA; L. DI MENNA; F. NICOLETTI; L. VELISEK. *New York Med. Col., IRCCS Neuromed, Univ. Sapienza.*

11:00 A43 **458.20** A neuroanatomical basis linking perceptual inflexibility to cognitive rigidity in autism. T. WATANABE*; R. P. LAWSON; Y. S. E. WALLDÉN; G. E. REES. *RIKEN Ctr. for Brain Sci., UCL Inst. of Cognitive Neurosci., Univ. of Cambridge, UCL Wellcome Ctr. for Human Neuroimaging.*

8:00 A44 **458.21** Evidence of wide spread white matter compromise in children and adults with autism: A large scale diffusion imaging study using the ABIDE II repository. S. R. OTTO*; L. M. RAY; J. A. TRAVERS; I. BRUKETTA; M. L. MONTERO; J. J. HUTSLER; S. M. HAIGH. *Univ. of Nevada, Reno.*

9:00 A45 **458.22** Lack of replication of case-control differences in functional connectivity in ASD across multiple sites. Y. HE*; L. BYRGE; D. P. KENNEDY. *Indiana Univ.*

10:00 A46 **458.23** Maternal sleep disordered breathing during pregnancy induces behavioral and synaptic aberrations in the offspring: Potential implications for autism spectrum disorders. A. M. VANDERPLOW*; B. A. KERMATH; A. C. EWALD; S. M. JOHNSON; T. L. BAKER; J. J. WATTERS; M. CAHILL. *Univ. of Wisconsin - Madison.*

POSTER

459. Neural Mechanisms for Developmental Disorders I

Theme A – Development

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 A47 **459.01** Using human HPSC-derived cerebral organoid to model deficits of cortical neurogenesis in Down syndrome. X. TANG*; L. XU; Y. HONG; M. XU; Y. HU; Y. LIU. *Stem Cell and Neural Regeneration Inst., Sch. of Pharmacy, Nanjing Med. Univ.*

9:00 A48 **459.02** Discovery and characterization of novel selective NKCC1 inhibitors for down syndrome, autism and brain disorders with depolarizing GABAergic transmission. A. SAVARDI*; M. BORGOGNO; R. NARDUCCI; G. LA SALA; J. ORTEGA; M. SUMMA; R. BERTORELLI; A. ARMIROTTI; A. CONTESTABILE; M. DE VIVO; L. CANCEDDA. *Fondazione Inst. Italiano Di Tecnologia, Fondazione Inst. Italiano Di Tecnologia, Fondazione Inst. Italiano Di Tecnologia, Fondazione Inst. Italiano Di Tecnologia, Dulbecco Telethon Inst.*

10:00 A49 **459.03** Early pharmacological treatment with bumetanide rescues cognitive impairment and increased susceptibility to seizures in the Ts65Dn mouse model of Down syndrome. I. ZIOGAS*; M. PARRINI; A. CONTESTABILE; L. CANCEDDA. *Inst. Italiano Di Tecnologia, Univ. Degli Studi di Genova, Dulbecco Telethon Inst.*

11:00 A50 **459.04** Genetic reduction of eEF2K ameliorates memory deficits and synaptic failure in a mouse model of Down syndrome. X. WANG*; Q. YANG; T. MA. *Wake Forest Univ. Sch. of Med., WFU Hlth. Sci., Wake Forest Sch. of Med.*

8:00 A51 **459.05** Pharmacological modulation of intracellular chloride concentration restores GABA mediated inhibition in down syndrome neuronal networks. I. COLOMBI*; M. ALBERTI; M. CHIAPPALONE; A. CONTESTABILE; L. CANCEDDA. *Fondazione Inst. Italiano Di Tecnologia.*

9:00 A52 **459.06** Gene expression analysis of dorsal and ventral cortical progenitors from Down syndrome iPSC models. J. L. MARTINEZ*; C. L. SIROIS; Y. GIFFIN-RAO; A. BHATTACHARYYA. *Univ. of Wisconsin-Madison, Univ. of Wisconsin, Univ. of Wisconsin.*

10:00 A53 **459.07** Non-linear developmental overexpression of DYRK1A in the Down syndrome brain—A paradigm shift in gene dosage imbalance. L. E. HAWLEY*; R. ROPER; C. R. GOODLETT. *Indiana Univ. Purdue Univ. Indianapolis, Indiana Univ. Purdue Univ. Indianapolis.*

11:00 A54 **459.08** ▲ Investigating the abnormal expression of critical neurogenesis and gliogenesis control genes in trisomy 21 using iPSCs. D. J. QUIRICONI*; Y. TAO; S. ZHANG; A. BHATTACHARYYA. *Univ. of Wisconsin, Madison, Univ. of Wisconsin Madison, Univ. Of Wisconsin - Madison, Univ. of Wisconsin Madison Waisman Ctr.*

8:00 A55 **459.09** Systematic functional analysis of 21st chromosome genes using *C. elegans.* J. PIERCE*; S. M. SANCHEZ; S. NORDQUIST; S. R. SMITH. *Univ. of Texas at Austin.*

9:00 A56 **459.10** Activation of the integrated stress response underlies the behavioral and neurophysiological abnormalities in Down syndrome. P. ZHU*; S. KHATIWADA; Y. CUI; S. DOOLING; J. J. KIM; W. LI; P. WALTER; M. COSTA-MATTIOLI. *Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med., Univ. of California at San Francisco.*

10:00 A57 **459.11** RCAN1 overexpression and mitochondrial dysfunction. H. WONG*; J. LEVENGA; C. ARDIZZONE; C. HOEFFER. *Univ. of Colorado Boulder.*

11:00 A58 **459.12** Cerebellar Purkinje cells alterations in demented and non-demented subjects with Down syndrome. E. J. MUFSON*; J. C. MIGUEL; S. E. PEREZ. *Barrow Neurolog. Inst.*

8:00 A59 **459.13** Behavioral and electrophysiological assessments of the Ts65Dn mouse model of Down syndrome. D. B. VICTORINO*; J. J. SCOTT-MCKEAN; S. BAKER; C. A. SCORZA; A. C. S. COSTA. *Univ. Federal de Sao Paulo, Case Western Reserve Univ., Case Western Reserve Univ.*

9:00 A60 **459.14** ● On the implementation of computational psychiatry to study ADHD subtype differences. N. GING-JEHLI*; E. ARNOLD; R. RATCLIFF; R. DE BEUS; S. CONNOR; C. PANCHYSHYN; A. LINGEL. *The Ohio State Univ., Univ. of North Carolina Asheville.*

10:00 A61 **459.15** Increased left inferior fronto-striatal activation during error monitoring after fMRI neurofeedback of right inferior frontal cortex in ADHD. M. CRIAUD*; M. WULFF; A. A. ALEGRIA; G. BARKER; V. GIAMPIETRO; K. RUBIA. *Inst. of Psychiatry, Psychology & Neuroscience; King's Col. London.*

11:00 A62 **459.16** Foveal hypoplasia in a genetically engineered anole lizard. C. SABIN*; A. M. RASYS; B. M. MCKINNON; J. COLCLOUGH; H. KIM; D. MENKE; J. D. LAUDERDALE. *Univ. of Georgia, Univ. of Georgia, Univ. of Georgia, Univ. of Georiga.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 A63 **459.17** ▲ Elucidating the role of tyrosinase in fovea development using the Anolis sagrei lizard. B. M. MCKINNON*; A. M. RASYS; D. B. MENKE; J. D. LAUDERDALE. *Univ. of Georgia, Univ. of Georgia.*

9:00 A64 **459.18** Lactational ethanol exposure: Brain and behavioral development in a breastfeeding model. R. F. PEREZ*, Jr; K. E. CONNER; M. NABATANZI; K. J. HUFFMAN. *Univ. of California, Riverside, Univ. of California, Riverside.*

10:00 A65 **459.19** Embryonic gross anatomy in mouse model of FASD. K. E. CONNER*; K. J. HUFFMAN. *Univ. of California, Riverside, Univ. of California, Riverside.*

11:00 A66 **459.20** Multi-unit electrophysiological mapping of neocortex and behavior in a mouse model of FASD. R. T. BOTTOM*; K. E. CONNER; M. ENGLUND; C. R. PINEDA; C. S. BRESEE; M. NABATANZI; L. A. KRUBITZER; K. HUFFMAN. *Univ. of California, Riverside, Univ. of California, Davis, Univ. of California, Riverside.*

8:00 A67 **459.21** Type 3 metabotropic glutamate receptor (mGluR3) modulates postnatal microglia reactivity in a rat model of fetal growth restriction. M. ZINNI; J. PANSIOT; F. FAZIO; L. IACOVELLI; R. ORLANDO; D. VAIMAN; F. NICOLETTI; O. BAUD; J. MAIRESSE*. *Univ. Paris Diderot, Sorbonne Paris Cité, Neuromed I.R.C.C.S., Sapienza Univ. of Rome, Inst. Cochin, Children's Univ. Hosp. of Geneva, Sch. of Med. Univ. of Geneva.*

9:00 A68 **459.22** Structural and functional brain imaging in a rat model of fetal growth restriction. J. MAIRESSE; Y. VAN DE LOOIJ*; C. DEMENÉ; J. PANSIOT; M. ZINNI; S. V. SIZONENKO; M. TANTER; O. BAUD. *Sch. of Med. Univ. of Geneva, Univ. Paris Diderot, Sorbonne Paris Cité, Ecole Polytechnique Fédérale de Lausanne, Inst. Langevin, Children's Univ. Hosp. of Geneva.*

10:00 A69 **459.23** Distribution of neurofilament immunoreactive neurons (SMI-32) in the prefrontal cortex in Williams syndrome. B. HRVOJ MIHIC*; K. L. HANSON; C. H. LEW; D. N. CUEVAS; D. GREINER; K. SEMENDEFERI. *Univ. of California San Diego, UC San Diego, UC San Diego, Univ. California San Diego.*

11:00 A70 **459.24** Mutations of E3 ubiquitin ligase adaptor protein KLHL15 in X-linked intellectual disability. J. SONG*; R. MERRILL; R. KEPHART; Y. LIU; M. SHAW; R. CARROLL; A. GARDNER; L. JOLLY; F. MCKENZIE; J. GECZ; V. KALSCHEUER; S. STRACK. *Univ. of Iowa, Adelaide Med. Sch. and Robinson Res. Institute, The Univ. of Adelaide, Genet. Services of Western Australia, Women and Newborn Hlth. Service, King Edward Mem. Hosp., South Australian Hlth. and Med. Res. Inst., Max Planck Inst. for Mol. Genet.*

8:00 A71 **459.25** Characterization of a novel rat model of creatine transporter deficiency. M. WRIGHT*; K. POKSAY; A. TROTIER-FAURION; B. CASS; S. BROWN; K. JAYASHANKAR; M. ANDREWS; S. FYFFE-MARICICH. *Ultragenyx Pharmaceut.*

9:00 A72 **459.26** Longitudinal magnetic resonance spectroscopic (^{1}H and ^{31}P MRS) characterization of total and phosphorylated brain creatine in a novel creatine transporter deficient rat. K. LEHTIMÄKI*; B. SULLIVAN; K. JAYASHANKAR; M. ANDREWS; A. J. NURMI; S. FYFFE-MARICICH. *Charles River Discovery, Ultragenyx Pharmaceut. Inc.*

POSTER

460. Development: Sensory and Limbic Systems

Theme A – Development

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 A73 **460.01** Behavioural signatures of a developing neural code. L. AVITAN*; Z. PUJIC; J. MÖLTER; M. MCCULLOUGH; S. ZHU; B. SUN; A. MYHRE; G. J. GOODHILL. *Queensland Brain Inst.*

9:00 A74 **460.02** Gene network control of cortical neuronal circuit assembly. S. ZEPPILLI*; A. BOYREAU; A. FLEISCHMANN; A. CROMBACH. *Brown Univ., Col. de France, Inria.*

10:00 A75 **460.03** Characterization of novel starburst amacrine subtypes in zebrafish. Y. LI*; A. LEE; X. JIA; X. TANG; X. QIU; J. HE. *Inst. of Neuroscience, Chinese Acad. of Sci., Univ. of the Chinese Acad. of Sci.*

11:00 A76 **460.04** Deletion of melanopsin modulates the whole retina transcriptome during postnatal development. J. A. LUCAS*; S. FELDSTEIN; T. M. SCHMIDT. *Northwestern Univ.*

8:00 DP01/A77 **460.05** (Dynamic Poster) Origin and function of directionality in spontaneous retinal waves. X. GE*; A. GRIBIZIS; M. CRAIR. *Yale Univ.*

9:00 A78 **460.06** Cholinergic retinal waves are regulated by the dysbindin expression levels in developing retinal ganglion cells. T. CHENG*; M. LU; C. WANG. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ. and Academia Sinica.*

10:00 A79 **460.07** Neonatal neuronal activity of mouse visual structures in the absence of retinal drive. M. S. BERNARDEZ SARRIA*; N. D. FITZGERALD; M. C. CRAIR. *Yale Univ., Yale Univ.*

11:00 A80 **460.08** *In vivo* wide-field imaging of spontaneous and evoked activity in the developing mouse neocortex. T. GUILLAMON-VIVANCOS*; F. J. MARTINI; M. VALDEOLMILLOS; G. LOPEZ-BENDITO. *Inst. de Neurociencias de Alicante. CSIC-UMH, Inst. de Neurociencias de Alicante, Inst. De Neurociencias.*

8:00 A81 **460.09** Static and dynamic visual search in cerebral visual impairment using virtual reality and multi-modal neuroimaging paradigm. C. R. BENNETT*; E. S. BAILIN; C. M. BAUER; P. J. BEX; L. B. MERABET. *Massachusetts Eye and Ear Infirmary, Mass. Eye and Ear -- Harvard Med. Sch., Harvard Med. School, Massachusetts Eye and Ear, Northeastern Univ., MEEI- SERI Harvard Med. Sch.*

9:00 A82 **460.10** The role of calcium binding proteins in development of the inner ear. D. R. GIOVANNUCCI*; A. REFAAT; T. ABDELHAMID; A. MAKLAD. *Univ. of Toledo/ College of Med., Assiut Univ. Sch. of Med., Univ. of Toledo/ College of Med.*

10:00 A83 **460.11** Development of serotonergic fibers and and perineuronal nets in the mouse auditory system. K. VENABLE*; C. C. LEE. *LSU Vet Sch.*

11:00 A84 **460.12** Oxytocin modulates spontaneous activity patters in the developing sensory cortex. P. P. MALDONADO*; A. NUNO-PEREZ; J. KIRCHNER; E. A. HAMMOCK; J. GJORGJIEVA; C. LOHMANN. *Netherlands Inst. for Neurosci., Dept. of Fundamental Neuroscience, Fac. of Biol. and Medicine, Univ. of Lausanne, Max Planck Inst. for Brain Res., Florida State Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 A85 **460.13** SMAD4 mediated signaling is required for the precise formation of the vomeronasal somatosensory map to the accessory olfactory bulb. A. NAIK*; E. M. TAROC; R. KATREDDI; P. E. FORNI. *Univ. at Albany, Univ. at Albany Biol. Dept., Univ. of British Columbia, SUNY, Univ. at Albany.*

9:00 A86 **460.14** Sensory feedback from myoclonic twitches during active sleep continues to activate sensorimotor structures beyond early infancy. J. C. DOOLEY*; G. SOKOLOFF; M. S. BLUMBERG. *Univ. of Iowa, The Univ. of Iowa, Univ. of Iowa.*

10:00 B1 **460.15** Exploring the role of microglia and the perineuronal net as effectors of plasticity during barrel cortex development. A. C. BARRIENTOS; S. MROZIUK; A. LAHIJANI; J. C. BRUMBERG*. *The Grad. Ctr., Queens Col. , Cuny, Queens Col. and The Grad. Center, Cuny.*

11:00 B2 **460.16** ▲ Disruption of the vomeronasal organ alters mRNA levels of dopamine receptors and steroid-related genes in sexually differentiated brain regions. B. JACKSON*; A. SWIFT-GALLANT; M. BREEDLOVE; C. JORDAN. *Michigan State Univ., Mem. Univ. of Newfoundland.*

8:00 B3 **460.17** ▲ Role of Kiss1r in the cellular development of tongue of puberal Wistar rats. A. M. JACINTO*; A. MOLINA; B. PAIZ; V. ALATRISTE. *Ctr. De Investigación Y Estudios Superiores En E, BUAP.*

9:00 B4 **460.18** Inhibition of ventral tegmental area dopamine neurons rescues aberrant locomotor activity induced by prenatal cannabis exposure in male offspring. S. ARONI*; R. FRAU; M. MELIS; J. F. CHEER. *Univ. of Maryland, Sch. of Med., Univ. of Cagliari, Univ. of Cagliari, Univ. of Maryland Sch. of Med.*

10:00 B5 **460.19** Examining the effects of early life SSRI antidepressant exposure on hippocampal metabolism and morphology. K. A. UNROE*; M. E. GLOVER; E. A. SHUPE; C. R. MCCOY; S. M. CLINTON. *Virginia Tech., Virginia Tech.*

11:00 B6 **460.20** Multimodal identification of molecular layer neurons in the mouse hippocampal formation. M. ANSTÖTZ*; G. MACCAFERRI. *Northwestern Univ., Northwestern Univ.*

8:00 B7 **460.21** Foxp2 dependent formation of the social brain and sex specific function in social behaviors. L. WANG*; M. J. HERRERO; M. GOODRICH; T. SASAKI; C. LAZARSKI; Y. IMAMURA; A. PANIGRAHI; N. A. SMITH; K. HASHIMOTO-TORII; J. G. CORBIN. *Children's Natl. Med. Ctr., Children's Natl. Med. Ctr., Penn State Col. of Med.*

9:00 B8 **460.22** Establishment of a mouse model carrying mutant DDP1 gene. Y. HU*; P. SONG. *Nanfang Hosp.*

10:00 B9 **460.23** Dose dependent anxiogenic effect of levetiracetam during pregnancy on an epilepsy model in Wistar rats and its relationship with SV2A in hippocampus of the offspring. M. F. PINTO-GONZÁLEZ*; N. A. MOY-LÓPEZ; J. GUZMÁN-MUÑIZ; N. Y. CORTÉS-ÁLVAREZ; O. P. GONZÁLEZ-PÉREZ; J. L. COLLÁS-AGUILAR; C. M. GAITÁN-VAZQUEZ; M. FLORES-RAMIREZ. *Univ. of Colima, Univ. del Valle de Atemajac, Univ. de Colima.*

11:00 B10 **460.24** Early life exposure to the SSRI citalopram alters limbic expression of Brain-specific angiogenesis inhibitor 3 (Bai3) and associated ligands in a sex-dependent manner. E. A. SHUPE*; M. E. GLOVER; K. A. UNROE; S. M. CLINTON. *Virginia Tech., Virginia Tech.*

8:00 B11 **460.25** Small molecules to correct the alternative splicing of human mutant ELP1 transgene in mouse models of familial dysautonomia. X. ZHAO*; J. NARASIMHAN; A. DAKKA; V. GABBETA; S. JUNG; A. MOLLIN; N. ZHANG; J. WANG; S. ZHANG; E. MORINI; P. DIETRICH; M. SALANI; I. DRAGATSIS; S. A. SLAUGENHAUPT; G. KARP; N. A. NARYSHKIN; M. WEETALL. *PTC Therapeutics, Inc., Mass Gen. Res. Inst., Univ. of Tennessee.*

9:00 B12 **460.26** Defects in visual behavior and jaw morphology are associated with reduced growth and survival in Cabin1 knockout zebrafish. S. C. SARICH*; R. CRUZ; M. N. ISTIBAN; W. MAHMOUD; H. MARTINEZ RAMIREZ; H. N. WATERS; J. E. EXLINE; J. MATHIAPARANAM; B. A. LINK; M. A. WOLMAN; A. J. UDVADIA. *Univ. of Wisconsin Milwaukee, Univ. of Wisconsin, Med. Col. of Wisconsin.*

10:00 B13 **460.27** ▲ Developing a modifier screen for novel regulators of the hippo tumor suppressor pathway in *Drosophila.* W. R. MEARA*; J. RISTER. *Univ. of Massachusetts Boston.*

11:00 B14 **460.28** Alterations in patterns of gene expression in the Brazilian short-tailed opossum (Monodelphis domsetica) due to early loss of vision. M. ENGLUND*; R. T. BOTTOM; R. F. PEREZ, JR; K. J. HUFFMAN; D. S. STOLZENBERG; L. A. KRUBITZER. *Univ. of California Davis, Univ. of California, Riverside, Univ. of California, Riverside, UC Davis.*

8:00 B15 **460.29** ErbB2 signaling drives cochlear supporting cell and GER cell proliferation *in vitro* and hearing improvement after noise *in vivo.* J. ZHANG*; L. SHAH; J. LIU; K. S. HENRY; P. WHITE. *Univ. of Rochester, Univ. of Rochester, Univ. of Rochester.*

POSTER

461. Amino Acid Transport and Signaling

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 B16 **461.01** Kappa-opioid receptor regulated dopamine clearance is linked to dopamine transporter phosphorylation. S. RAMAMOORTHY*; D. RAGU VARMAN; A. E. MORITZ; R. HORTON; M. VITELA; L. C. DAWS; J. D. FOSTER; L. D. JAYANTHI; R. A. VAUGHAN; T. SHIPPENBERG. *Virginia Commonwealth Univ., Univ. of North Dakota Sch. of Med. and Hlth. Sci., Univ. of Texas HSC at San Antonio, Natl. Inst. on Drug Abuse/IRP.*

9:00 B17 **461.02** Dopamine transporter as a master regulator of functional connectivity and network topology of dopaminergic and GABAergic networks. D. R. MILLER*; D. T. GUENTHER; J. J. LEBOWITZ; A. J. REFOWICH; C. A. HANSEN; A. P. MAURER; H. KHOSHBOUEI. *Univ. of Florida, Univ. of Florida.*

10:00 B18 **461.03** Dopamine transporter expressing peripheral immune cells are increased in drug naïve Parkinson's disease patients. A. GOPINATH*; P. MACKIE; L. SAADATPOUR; A. DOTY; A. RAMIREZ-ZAMORA; W. J. STREIT; M. S. OKUN; H. KHOSHBOUEI. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 B19 **461.04** Exposure to ambient fine and ultrafine particles alters dopaminergic transmission *in vitro.* M. A. ANDRADE OLIVA*; Y. DEBRAY-GARCIA; J. ESCAMILLA-SANCHEZ; R. GONZALEZ-PANTOJA; M. URIBE-RAMIREZ; A. DE VIZCAYA-RUIZ; J. ARIAS-MONTANO. *Cinvestav-IPN, Cinvestav-IPN, Natl. Inst. of Resp. Dis. (INER), Cinvestav-IPN.*

8:00 B20 **461.05** Projection-specific diversity of dopamine neurons within the medial substantia nigra. N. HAMMER*; S. STOJANOVIC; N. FARASSAT; J. ROEPER. *Goethe Univ. Frankfurt.*

9:00 B21 **461.06** Distinct subthreshold activity of projection-specific dopamine neurons revealed by *in vivo* whole cell recording. K. OTOMO*; S. STOJANOVIC; N. FARASSAT; C. PALADINI; J. ROEPER. *Goethe Univ. Frankfurt, Max Planck Inst. for Brain Res., Univ. of Texas at San Antonio.*

10:00 B22 **461.07** Modeling the role of T-type calcium channels and their functional coupling to SK channels in projection-specific rebound properties of nigral dopamine neurons. C. J. KNOWLTON*; S. STOJANOVICH; J. ROEPER; C. C. CANAVIER. *Louisiana State Univ. Hlth. Sci. Ctr., Inst. of Neurophysiol.*

11:00 B23 **461.08** T-type calcium channels mediate fast rebound bursting in dorsolateral striatum projecting dopamine neurons in the lateral substantia nigra. S. STOJANOVIC*; K. OTOMO; C. J. KNOWLTON; J. SHIN; C. C. CANAVIER; S. LAMMEL; J. ROEPER. *Inst. of Neurophysiol., Dept. of Mol. and Cell Biol. and Helen Wills Neurosci. Institute, Univ. of California, LSU Hlth.*

8:00 B24 **461.09** Social interactions are dependent on Ntrk2 signaling in the dopaminergic neurons. M. SAHU*; Y. PAZOS-BOUBETTA; M. PALMISANO; V. VOIKAR; E. CASTREN. *Univ. of Helsinki, Lab. Animal Ctr.*

9:00 B25 **461.10** Aging increases microglia senescence in the midbrain. L. PHAN*; F. SHAERZADEH; J. LEBOWITZ; M. DACQUEL; A. BECHTLE; W. HACHMEISTER; D. R. MILLER; W. J. STREIT; T. C. FOSTER; A. KUMAR; H. KHOSHBOUEI. *Univ. of Florida.*

10:00 B26 **461.11** Involvement of astrocytes and volume regulated anion channels (VRACs) in the ethanol-induced increase of nucleus accumbens taurine in rats. L. ULENIUS*; K. ADEMAR; A. ANDRÉN; R. STOMBERG; L. ADERMARK; B. SÖDERPALM; M. ERICSON. *Univ. of Gothenburg, Sahlgrenska Univ. Hosp.*

11:00 B27 **461.12** Single cocaine exposure inhibits GABA uptake via dopamine D1-like receptors in frontal cortex in adolescent mice. R. C. KUBRUSLY; P. PANDOLFO; R. S. MARTINS; L. SOUZA; M. P. CARVALHO; V. P. MARTINS; M. SATHLER; D. FERREIRA*; M. D. PEREIRA; N. R. PECCINALLI; R. A. REIS; G. D. FERREIRA; A. C. MANHAES. *Fluminense Federal Univ., Fluminense Federal Univ., Colorado State Univ., Federal Univ. of Rio De Janeiro, Univ. of Sao Paulo, Federal Univ. of Rio de Janeiro, Federal Univ. of Rio De Janeiro, Rio de Janeiro State Univ.*

8:00 B28 **461.13** Repeated methamphetamine exposure alters the baseline firing activity of ventral tegmental area dopamine neurons. D. O. SAMBO*; M. LIN; J. LEBOWITZ; D. MILLER; H. KHOSHBOUEI. *Univ. of Florida, Univ. of Florida.*

9:00 B29 **461.14** Sensitive UHPLC analysis of GABA, glutamate, histamine and other amino acids for *in vivo* microdialysis studies. L. M. VAN HEERWAARDEN*; H. BROUWER; N. REINHOUD; M. EYSBERG. *Antec Scientific.*

10:00 B30 **461.15** Glycogen synthase kinase-3ß regulates the serotonin transporter function and trafficking in a phosphorylation-dependent manner. D. RAGU VARMAN*; L. D. JAYANTHI; S. RAMAMOORTHY. *Virginia Commonwealth Univ.*

11:00 B31 **461.16** Neurokinin 1 and noradrenergic interplay in stress-mediated affective disorders and psychostimulant abuse: Studies from amphetamine-insensitive norepinephrine transporter mutant mouse model. L. D. JAYANTHI*; J. J. WINDLE; P. MANNANGATTI; S. RAMAMOORTHY. *Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

8:00 B32 **461.17** Role of inhibitory interneuron in the locus coeruleus in startle and pre-pulse inhibition behavior in mouse. H. TSAI*; M. MIN; C. KUO; H. YAU; H. YANG. *Natl. Taiwan Univ., Chung-Shan Med. Univ.*

9:00 B33 **461.18** Investigating the localization and functional role of GABA receptors at neuromuscular synapses of the earthworm Lumbricus terrestris. M. J. ILGENFRITZ; K. M. SHERRY; D. N. GALA; W. L. COLEMAN*. *Bloomsburg Univ. of Pennsylvania.*

10:00 B34 **461.19** ▲ Modulation of anion channel gating by C-terminal domains in excitatory amino acid transporters. E. G. NEUREITER*; D. TORRES-SALAZAR; M. H. CHENG; A. M. KARA; A. D. GONZALEZ-SUAREZ; C. GLASSER; J. GARCIA-OLIVARES; I. BAHAR; S. G. AMARA. *NIH, Univ. of Pittsburgh.*

11:00 B35 **461.20** The effects of D-serine on tectal cell dendritic morphology and retinotopic map development. Z. CHORGHAY*; V. LI; A. SCHOHL; E. S. RUTHAZER. *McGill Univ., McGill Univ.*

8:00 B36 **461.21** Cysteine transporter compensation occurs in the brains of system x_c^- null mice. H. SOSNOKSI; M. M. MORGAN; S. J. HEWETT*. *Syracuse Univ.*

9:00 B37 **461.22** Characterization of a putative *Drosophila melanogaster* glycine transporter, and its specificity towards different amino acids. E. L. PADILLA*; A. B. LOPEZ; F. FRATEV; S. SIRIMULLA; M. MIRANDA-ARANGO. *Univ. of Texas at El Paso, Univ. of Texas At El Paso, Univ. of Texas at El Paso.*

POSTER

462. Potassium Channels and Non-Selective Cation Channels

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 B38 **462.01** Bidirectional control of neuronal activity using light-activated potassium channels. O. M. CONSTANTIN*; S. GAO; J. YU-STRZELCZYK; S. YANG; G. NAGEL; T. G. OERTNER; C. E. GEE. *Ctr. For Mol. Neurobio. Hamburg (ZMNH), Julius-von-Sachs-Institute for Biosci.*

9:00 B39 **462.02** Altered excitability in a mouse model of multiple sclerosis: Role of voltage gated potassium channels. L. FAZIO*; M. CERINA; V. NARAYANAN; T. BUDDE; S. G. MEUTH. *Univ. of Muenster, Univ. of Muenster.*

10:00 B40 **462.03** Ion channel mechanism of phenylephrine induced spontaneous firing in DRN 5-HT neurons. J. WANG*; Y. WANG; X. DU; H. ZHANG. *Dept. of Pharmacol., Hebei Med. Univ., Hebei Med. Univ., Hebei Med. Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 B41 **462.04** Dopamine D2 receptor-mediated modulation of rat retinal ganglion cell excitability. N. YIN*; Y. YANG; S. CHENG; H. WANG; Y. MIAO; F. LI; Z. WANG. *Inst. of Brain Science, State Key Lab. of Med. Neurobio. and MOE Frontiers Ctr. for Brain Science, Fudan Univ.*

8:00 B42 **462.05** Interaction between HCN and slack channels regulates mPFC pyramidal cell excitability and working memory function. L. EL-HASSAR*; D. DATTA; M. CHATTERJEE; A. F. ARNSTEN; L. K. KACZMAREK. *Yale Univ. Sch. of Med., Univ. de Nice Sophia Antipolis, Yale Univ. Sch. of Med.*

9:00 B43 **462.06** Increased surface P2X4 receptor expression regulates synaptic plasticity and behavior in P2X4 internalization-defective knock-in mice. K. S. PILCH*; E. BERTIN; T. DELUC; A. MARTINEZ; J. POUGNET; E. DOUDNIKOFF; A. ALLAIN; P. BERGMANN; M. RUSSEAU; E. TOULMÉ; E. BEZARD; F. KOCH-NOLTE; P. SÉGUÉLA; S. LÉVI; B. BONTEMPI; F. GEORGES; S. S. BERTRAND; O. NICOLE; E. BOUÉ-GRABOT. *Univ. of Bordeaux, McGill Univ., Univ. of Bordeaux, Univ. Med. Ctr. Hamburg-Eppendorf, Sorbonne Univ. - Inst. du Fer à Moulin.*

10:00 B44 **462.07** Insulin regulates P2x4 receptor function and promotes its rapid delivery to the cell surface. E. BERTIN; A. MARTINEZ; A. R. ASE; E. EISELT; P. A. SEGUELA; M. EMERIT; E. BOUE-GRABOT*. *Univ. de Bordeaux, Montreal Neurolog. Institute, McGill Univ., Univ. Paris Descartes.*

11:00 B45 **462.08** Identification of hyperforin binding site at TRPC6 channels. Y. EL HAMDAOUI*; K. FRIEDLAND. *Pharmacy/Biochemistry.*

8:00 B46 **462.09** TRPM2 regulates NPAS4 activity in the mouse hippocampal neurons. S. KO*; M. CHOI; H. SON. *Hanyang Biomed. Res. Inst., Hanyang Univ. Col. of Med.*

9:00 B47 **462.10** Cholinergic receptors activate TRPM4 in pyramidal cortical neurons at mice mPFC layer 2/3. E. LEIVA-SALCEDO*; D. RIQUELME. *Univ. de Santiago.*

10:00 B48 **462.11** NALCN channel is essential for pacemaking activity and burst discharges in substantia nigra dopamine neurons. S. HAHN*; M. PARK. *Sungkyunkwan Univ. Sch. Of Med.*

11:00 B49 **462.12** Prolonged bursting evoked by reactive oxygen species in *Aplysia* neuroendocrine cells. A. K. CHAUHAN*; N. S. MAGOSKI. *Queen's Univ.*

8:00 B50 **462.13** Mechanosensitivity of the bacterial voltage-gated sodium channel NaChBac. P. R. STREGE*; A. MAZZONE; C. ALCAINO; C. A. AHERN; G. FARRUGIA; A. BEYDER. *Mayo Clin., Univ. of Iowa.*

9:00 B51 **462.14** Aminoglycosides differentially modulate acid sensing ionic channels (ASIC) depending on subunit composition of the channel. E. SOTO*; A. ORTEGA-RAMÍREZ; R. FELIX; R. VEGA. *Benemerita Univ. Autonoma De Puebla, Benemerita Univ. Autonoma de Puebla, Cinvestav-IPN, Benemerita Univ. Autonoma De Puebla.*

POSTER

463. Synaptic Transmission: Modulation and Mechanisms II

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 B52 **463.01** Histological examination at A11 of rat. H. OZAWA*; T. YAMAGUCHI; S. HAMAGUCHI; S. YAMAGUCHI; S. UEDA. *Dokkyo Med. Univ., Dokkyo Med. Univ. Sch. of Med.*

9:00 B53 **463.02** The role of zinc in glycinergic synaptic transmission and hyperekpleixa. D. WU*; N. ZHOU. *China Med. University, Grad. Inst. of Biomed. Science, China Med. Univ.*

10:00 B54 **463.03** Dendritic localisation and exocytosis of NAAG in the rat hippocampus. K. NORDENGEN; C. MORLAND*; B. S. SLUSHER; V. GUNDERSEN. *Univ. of Oslo, Akershus Univ. Hosp., Univ. of Oslo, Johns Hopkins Drug Discovery, Oslo Univ. Hosp., Univ. of Oslo.*

11:00 B55 **463.04** Cell-type specific serotonergic modulation of the claustrum. K. L. L. WONG*; G. J. AUGUSTINE. *Nanyang Technological Univ.*

8:00 B56 **463.05** ▲ Neuronal cFOS activation in response to amphetamine and methamphetamine identified with whole brain clearing. T. P. WIGSTROM*; S. M. UNDERHILL; M. S. COLT; S. WILLIAMS AVRAM; T. USDIN; S. G. AMARA. *Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*

9:00 B57 **463.06** Methamphetamine sensitization facilitate inhibitory currents in pyramidal neurons from the medial prefrontal cortex. M. ARMENTA-RESÉNDIZ*; A. LAVIN. *MUSC, Med. Univ. South Carolina.*

10:00 B58 **463.07** Is it time to rename the neuropeptide processing enzyme Neurolysin (EC3.4.24.16)? K. D. PHILIBERT*; X. SHAO; M. J. GLUCKSMAN. *Rosalind Franklin Univ. of Med. and Sci., Chicago Med. School/ RFUMS.*

11:00 B59 **463.08** Sigma-1 receptor control of cocaine-induced endocannabinoid signaling via inhibition of extracellular vesicle release in the ventral tegmental area. D. I. DRYANOVSKI*; Y. NAKAMURA; T. SU; C. R. LUPICA. *Natl. Inst. On Drug Abuse, NIH, Hiroshima Univ., NIDA-IRP, NIH, NIH/NIDA-IRP.*

8:00 B60 **463.09** Extracellular vesicles promote bidirectional synaptic communication through CamKII. Y. W. WANG*; S. N. SMUKOWSKI; C. PIOCHON; E. BOMBA-WARCZAK; Q. HE; S. A. MARSHALL; E. T. BARTOM; A. SHILATIFARD; A. CONTRACTOR; J. N. SAVAS. *Northwestern Univ., Northwestern Univ., Northwestern Univ. Dept. of Physiol., Northwestern Univ. Dept. of Physiol.*

9:00 B61 **463.10** Extracellular matrix controls principal cell excitability and synaptic plasticity in the hippocampus. I. SONG; J. SINGH; A. WIRTH; D. MINGE; R. KAUSHIK; M. FERRER-FERRER; J. MITLÖHNER; A. ZEUG; C. HENNEBERGER; E. PONIMASKIN; R. FRISCHKNECHT; C. J. SEIDENBECHER; A. DITYATEV*. *German Ctr. for Neurodegenerative Dis. (DZNE), Leibniz Inst. for Neurobio., Hannover Med. Sch., Univ. of Bonn Med. Sch., FAU Erlangen-Nürnberg, Otto-von-Guericke Univ.*

10:00 B62 **463.11** The role of Itgβ3 in nucleus accumbens function. A. N. JAMESON*; A. CARNEIRO; D. G. MCMAHON; B. A. GRUETER. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 B63 **463.12** Acetylcholine differentially modulates cortical and thalamic input to the basolateral amygdala. S. C. TRYON*; J. X. BRATSCH-PRINCE; J. W. WARREN; G. C. JONES; M. A. WILSON; A. J. MCDONALD; D. D. MOTT. *Univ. of South Carolina Sch. of Med., Columbia VA Hlth. Care Syst.*

8:00 B64 **463.13** Ethanol modulation of inhibitory circuits in the basolateral amygdala. S. MUNSHI*; J. G. TASKER. *Tulane Univ.*

POSTER

464. Cellular Mechanisms of Oscillations

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 B65 **464.01** Astroglial role in synchronized persistent neuronal activities. R. KUMAR*; Y. HUANG; S. TZENG; C. CHAN. *Inst. of Physics, Academia Sinica, Inst. of Physics, Academia Sinica, Dept. of Life Sciences, Natl. Cheng Kung Univ.*

8:00 DP02/B66 **464.02** (Dynamic Poster) Persistence of neuronal representations through time and damage in the hippocampus. W. G. GONZALEZ*; H. ZHANG; A. HARUTYUNYAN; C. LOIS. *Caltech.*

10:00 B67 **464.03** Interneuronal control of early oscillatory activity in the olfactory bulb of neonatal mice. J. K. KOSTKA*; I. L. HANGANU-OPATZ. *Univ. Med. Ctr. Hamburg-Eppendorf.*

11:00 B68 **464.04** Cholinergic induced slow wave oscillation in the claustrum *in vitro.* T. J. BAL*; C. MONIER; G. OUANOUNOU. *Paris-Saclay Inst. of Neurosci. (NeuroPSI), CNRS/Paris-Sud University, UMR9197.*

8:00 B69 **464.05** Conditions for and detectability of extremely fast oscillations in neuronal activity. R. HELIN; S. ESSINK; H. BOS; E. HAGEN; M. HELIAS; J. SENK; T. TETZLAFF; S. J. VAN ALBADA; M. DIESMANN; S. GRÜN; H. E. PLESSER*. *Norwegian Univ. of Life Sci., Jülich Res. Ctr., Univ. of Pittsburgh, Univ. of Oslo.*

9:00 B70 **464.06** Hippocampal fast-spiking interneurons are functionally more vulnerable to acute hypoxia-ischemia and reperfusion in comparison with pyramidal cells. D. HEFTER*; P. GRUBE; A. DRAGUHN; M. BOTH. *Heidelberg Univ.*

10:00 B71 **464.07** The development of pyramidal neurons - interneurons interactions in the mouse prefrontal cortex. M. CHINI*; I. L. HANGANU-OPATZ. *Univ. Med. Ctr. Hamburg-Eppendorf.*

11:00 B72 **464.08** Specialized frontal cortical control over the anterior thalamic reticular nucleus. N. HÁDINGER*; E. BőSZ; G. VANTOMME; B. TÓTH; A. LÜTHI; L. ACSÁDY. *Inst. of Exptl. Medicine- Hungarian Acad. of Sci., Univ. of Lausanne, DNF, Univ. of Lausanne, Inst. Exp. Med. Hung Acad Sci.*

8:00 B73 **464.09** Temporal dynamics of alternating current stimulation. B. ASAMOAH*; A. KHATOUN; M. MC LAUGHLIN. *KU Leuven, KU Leuven.*

9:00 B74 **464.10** Scale-invariant neuronal activity in primary visual cortex of awake mice. E. CAPEK*; D. PLENZ. *Natl. Inst. of Mental Health, NIH.*

10:00 B75 **464.11** Integrated information generated by cortico-striatal-thalamic circuits correlates with level of consciousness. M. AFRASIABI*; M. J. REDINBAUGH; N. A. KAMBI; J. M. PHILLIPS; S. MOHANTA; A. RAZ; A. M. HAUN; Y. B. SAALMANN. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Rambam Hlth. Care Campus, Univ. of Wisconsin-Madison.*

11:00 B76 **464.12** Collective activity of ventral CA1 neuronal populations in awake mice. U. CHOCKANATHAN*; E. WARNER; K. PADMANABHAN. *Univ. of Rochester.*

8:00 B77 **464.13** Dendritic properties of parvalbumin interneurons enhance robustness of gamma oscillations. K. VERVAEKE*; H. HU; B. KRIENER. *Univ. of Oslo.*

9:00 B78 **464.14** ● Variability in response to electrical stimulation changes with brain state in humans. R. ZELMANN*; P. KAHALI; A. C. PAULK; B. CROCKER; L. A. SANTA CRUZ; F. TIAN; G. R. COSGROVE; Z. WILLIAMS; P. L. PURDON; S. S. CASH. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Brigham and Women's Hosp., Massachusetts Gen. Hosp.*

10:00 B79 **464.15** ● Functional disruption of intracranial EEG dynamics during subanesthetic ketamine-induced dissociative state. F. TIAN*; L. D. LEWIS; O. JOHNSON-AKEJU; D. W. ZHOU; R. A. PETERFREUND; E. N. ESKANDAR; S. S. CASH; E. N. BROWN; P. L. PURDON. *Massachusetts Gen. Hospital, Harvard Med. Sch., MIT, Boston Univ., MIT, Albert Einstein Col. of Med., Massachusetts Gen. Hospital, Harvard Med. Sch., MIT, MIT.*

11:00 B80 **464.16** Slow oscillatory activity across neocortex and hippocampus is at least partially coordinated by the thalamic nucleus reuniens. B. E. HAUER*; S. PAGLIARDINI; C. T. DICKSON. *Univ. of Alberta, Univ. of Alberta, Univ. of Alberta.*

8:00 B81 **464.17** ● Differences in thalamocortical synchronization during sleep and anesthesia-induced unconsciousness. J. B. BRISCOE*; J. HARROD; M. A. WILSON; P. L. PURDON; E. N. BROWN; F. J. FLORES. *Massachusetts Gen. Hosp., MIT.*

9:00 B82 **464.18** ● A tale of two alpha oscillations: Spatially coherent alpha dynamics during propofol-induced unconsciousness reflect functional organization of thalamocortical connections. P. KAHALI*; V. S. WEINER; D. W. ZHOU; E. P. STEPHEN; L. D. LEWIS; R. A. PETERFREUND; L. S. AGLIO; E. N. ESKANDAR; S. S. CASH; E. N. BROWN; P. L. PURDON. *MIT, MIT, MIT, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Mass Genl Hosp, MIT, Massachusetts Gen. Hosp.*

10:00 B83 **464.19** Identifying convergent components of unconscious brain state dynamics in sleep and anesthesia. R. WARD-FLANAGAN*; A. LO; M. SOBEY; C. T. DICKSON. *Univ. of Alberta.*

11:00 B84 **464.20** Phase coupling versus amplitude coupling; two associated but distinct modes of neural connectivity. P. MOSTAME*; A. BABAJANI-FEREMI; S. SADAGHIANI. *Univ. of Illinois at Urbana-Champaign, Beckman Inst. for Advanced Sci. and Technol., The Univ. of Tennessee Hlth. Sci. Ctr.*

8:00 B85 **464.21** Dynamical evolution of spatiotemporal patterns of cortical activity under different brain states. A. CAMASSA*; M. DASILVA; M. MATTIA; M. V. SANCHEZ-VIVES. *IDIBAPS (Institut D'Investigacions Biomediques August Pi I Sunyer), Inst. Superiore di Sanità, ICREA.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 B86 **464.22** Physiology of broadband high-frequency activity: Evidence from intracortical laminar recordings in human and nonhuman primates. C. E. SCHROEDER*; A. BARCZAK; Y. KAJIKAWA; I. TAL; A. Y. FALCHIER; S. HAEGENS; L. MELLONI; I. ULBERT; R. T. KNIGHT; M. LESZCZYNSKI. *Columbia Univ. Col. of Physicians and Surgeons, Nathan S. Kline Inst. For Psychiatric Res., Nathan Kline Inst., Nathan Kline Inst. For Psychiatric Res., Nathan Kline inst, Donders Inst. For Brain, Cognition & Behaviour, Max Planck For Empirical Aesthetics, Inst. for Cognitive Neurosci. and Psychology, Res. Ctr. for Natural Sciences, Hungarian Acad. of Sci., Univ. of California Berkeley, Columbia Univ.*

10:00 B87 **464.23** Excitatory and inhibitory regulation of cortical network complexity. A. BARBERO-CASTILLO; P. MATEOS-APARICIO; L. PEREZ-MENDEZ; S. CALDAS-MARTINEZ; M. V. SANCHEZ-VIVES*. *IDIBAPS, ICREA.*

POSTER

465. Cortical Oscillations I

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 B88 **465.01** Differential roles of three distinct pyramidal cell subpopulations during ongoing gamma oscillation in mouse hippocampal area CA3 *in vitro*. H. BALLEZA-TAPIA*; A. FISAHN. *Karolinska Institutet.*

9:00 B89 **465.02** Factors determining theta phase preference across CA1 sublayers. A. NAVAS-OLIVE*; M. VALERO; A. DE SALAS-QUIROGA; T. JURADO-PARRAS; E. CID; L. M. DE LA PRIDA. *Inst. Cajal - CSIC, NYU Neurosci. Inst., Univ. Complutense de Madrid.*

10:00 B90 **465.03** Phase-specific intra-cortical microstimulation in a brain-machine interface environment differentially modulates beta oscillations in motor cortex and affects behavior. O. PELES*; U. WERNER-REISS; H. BERGMAN; Z. ISRAEL; E. VAADIA. *Hebrew Univ., Hebrew Univ., Hadassah Univ. Hosp.*

11:00 B91 **465.04** ● Phase-dependent closed-loop modulation of neuronal oscillations. C. G. MCNAMARA*; M. ROTHWELL; A. SHAROTT. *Univ. of Oxford.*

8:00 B92 **465.05** ● Ketamine-induced impairment in hippocampal network gamma oscillation: Reversal by the mGlu2/3 receptor agonist LY379268. T. GAO*; H. CRUCES_ SOLIS; H. ROSENBROCK; N. SCHUELERT. *Boehringer Ingelheim Pharma GmbH & Co. KG.*

9:00 B93 **465.06** ● Pre-ictal limbic coherence outside of the seizure onset zone: Considerations for the selection of normal EEG in epilepsy patients. I. BALZEKAS*; V. KREMEN; P. NEJEDLY; G. A. WORRELL. *Mayo Clin.*

10:00 B94 **465.07** Differential effects of D-amphetamine on behavior and neurophysiology during dexmedetomidine vs. ketamine anesthesia in rats. R. KATO*; O. MALLARI; E. R. ZHANG; E. D. MELONAKOS; M. SIEGMANN; C. J. VAN DORT; O. AKEJU; K. SOLT. *Massachusetts Gen. Hosp., Univ. of Massachusetts Med. Sch., MIT, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp.*

11:00 B95 **465.08** Nasal respiration drives 80-130 Hz oscillations in the olfactory bulb of ketamine-xylazine anesthetised rats: Implications for the NMDA receptor hypofunction model of schizophrenia. W. SREDNIAWA*; J. WROBEL; M. WHITTINGTON; D. K. WOJCIK; M. J. HUNT. *Nencki Inst. of Exptl. Biol., Nencki Inst. of Exptl. Biol. PAS, Univ. of York, Nencki Inst.*

8:00 B96 **465.09** Dynamics of *in vivo* cortical network activity and local field potentials in a Huntington's disease mouse model. M. D. SEPERS*; J. P. MACKAY; E. KOCH; D. XIAO; T. H. MURPHY; L. A. RAYMOND. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia.*

9:00 B97 **465.10** ● High-gamma amplitude is coupled to low-gamma phase in sensorimotor cortical activity. M. W. SLUTZKY*; R. D. FLINT, III. *Northwestern Univ., Northwestern Univ.*

10:00 B98 **465.11** Functional connectivity of the cortico-thalamo-cortical circuit after interrupting spike and wave discharges with closed-loop stimulation in rats. F. SANTOS-VALENCIA*; E. URBINA-TREJO; S. ALMAZÁN-ALVARADO; A. RUBIO-LUVIANO; D. MARTÍNEZ-VARGAS. *Inst. Nacional De Psiquiatría Ramón De La Fuente Muñiz.*

11:00 B99 **465.12** State-dependent variability in hierarchical phase-amplitude coupling of neural oscillations. R. B. JOSHI*; D. C. KLORIG; H. P. ZAVERI; D. W. GODWIN. *Wake Forest Sch. of Med., Yale Univ.*

8:00 B100 **465.13** Local kainate receptor expression provokes synchronous network activity in hippocampal slices. T. KAARELA*; W. CHANG; T. KUKKO-LUKJANOV; S. E. LAURI; T. P. TAIRA. *Univ. of Helsinki, Univ. of Helsinki.*

9:00 B101 **465.14** Increased local field potential beta power in cerebral cortex of a model of Dup15q. M. VALLEJO*; D. TRAN; V. SARAVANAPANDIAN; J. FROHLICH; M. C. JUDSON; B. D. PHILPOT; S. S. JESTE; P. GOLSHANI. *UCLA Dept. of Neurol., UCLA Semel Inst. of Biobehavioral Sci., The Univ. of North Carolina at Chapel Hill, Univ. North Carolina, UCLA Semel Inst. of Biobehavioral Sci.*

10:00 B102 **465.15** Computational models and phantom validation of transcranial electrical stimulation techniques for deep brain targets. B. TESSLER*; S. E. FOX. *SUNY - Downstate Med. Ctr., State Univ. of New York Downstate Med. Ctr.*

11:00 C1 **465.16** Attentional modulation of V1 (inhibitory) circuits can mediate selective V1-V4 communication through coherence. C. KATSANEVAKI*; A. M. BASTOS; H. CAGNAN; C. A. BOSMAN; K. J. FRISTON; P. FRIES. *Ernst Strüngmann Inst. (ESI) For Neurosci. in Cooperation with Max Planck Society, Max Planck Inst. for Brain Res., The Picower Inst. for Learning and Memory, Massachusetts Inst. of Technol., Dept. of Brain and Cognitive Sciences, Massachusetts Inst. of Technol., Univ. of Oxford, John Radcliffe Hospital, Univ. of Oxford, Donders Inst. for Brain, Cognition, and Behaviour, Radboud Univ. Nijmegen, Swammerdam Inst. for Life Sciences, Ctr. for Neuroscience, Fac. of Science, Univ. of Amsterdam, Wellcome Trust Ctr. For Neuroimaging.*

8:00 C2 **465.17** ● Amplitude-modulated high-frequency electric field stimulation of gamma oscillations *in vitro*. Z. ESMAEILPOUR*; G. KRONBERG; L. C. PARRA; M. BIKSON. *City Col. of New York (CCNY), The City Col. of New York, City Col. of New York, City Col. of New York.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 C3 **465.18** Communication through coherence: Analysis of the optimal phase shift and the importance of waveform shape. E. NOZARI*; J. CORTES. *Univ. of California San Diego.*

10:00 C4 **465.19** Intrinsic gamma mechanisms differ in model lateral and basal amygdala networks. F. FENG*; D. HEADLEY; D. PARE; S. NAIR. *Univ. of Missouri-Columbia, Rutgers, The State Univ. of New Jersey.*

11:00 C5 **465.20** Alpha oscillations rhythmically modulate large-scale functional connectivity in the human cortex. J. I. CHAPETON*; R. HAQUE; J. H. WITTIG, JR; S. K. INATI; K. A. ZAGHLOUL. *NIH.*

8:00 C6 **465.21** Enhancing the synchronization of coupled gamma rhythms through intrinsic network heterogeneity. X. XU*; H. RIECKE. *Northwestern Univ.*

9:00 C7 **465.22** Dynamics in oscillatory waveform shape revealed by empirical mode decomposition. A. J. QUINN*; V. LOPES-DOS-SANTOS; W. LIANG; C. JUAN; J. YEH; N. HUANG; D. DUPRET; A. NOBRE; M. WOOLRICH. *Univ. of Oxford, Natl. Central Univ., FIO and Ctr. for Nonlinear Sci.*

10:00 C8 **465.23** Hierarchy of cortical population characteristic timescales inferred from field potentials. R. GAO*; B. VOYTEK. *Univ. of California San Diego Dept. of Cognitive Sci., Univ. of California San Diego.*

11:00 C9 **465.24** Assessing how periodic oscillation properties influence estimates of aperiodic neural activity. A. HOHIL*; R. GAO; B. VOYTEK. *Univ. of California at San Diego, Univ. of California San Diego Dept. of Cognitive Sci., Univ. of California San Diego Dept. of Cognitive Sci.*

8:00 C10 **465.25** Phase-amplitude coupling mediates sensory-motor integration in the macaque visual cortex. M. B. KHAMECHIAN; S. TREUE; M. ESGHAEI*; M. R. DALIRI. *Iran Univ. of Sci. and Technol., German Primate Ctr.*

9:00 C11 **465.26** Probabilistic characterization of Fast ripple parameters in a temporal lobe epilepsy model by Bayesian inference. M. A. NUÑEZ-OCHOA*; G. CHIPRÉS-TINAJERO; N. GONZÁLEZ-DOMÍNGUEZ; L. G. MEDINA-CEJA. *Univ. De Guadalajara.*

10:00 C12 **465.27** Exercise acutely increases the coupling between hippocampal and neocortical ripples in humans. A. RAMIREZ-CARDENAS; C. K. KOVACH; J. F. RAMIREZ-VILLEGAS; R. C. COLE; A. GROSSBACH; P. E. GANDER; H. KAWASAKI; J. D. GREENLEE; M. A. HOWARD, III; M. W. VOSS*. *Univ. of Iowa Hosp. and Clinics, Inst. of Sci. and Technol. Austria (IST Austria) Am Campus 1, 3400, Univ. of Iowa Hosp. and Clinics, Ohio State Univ., Univ. of Iowa.*

11:00 C13 **465.28** Dynamics of state transitions in local laminar circuits. N. KHARAS*; S. R. DEBES; A. R. ANDREI; V. DRAGOI. *Univ. of Texas at Houston Dept. of Neurobio. and Anat.*

POSTER

466. Memory Systems

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 C14 **466.01** Computational changes in the hippocampus and entorhinal cortex in TLE. W. P. CLAWSON*; P. P. QUILICHINI; C. BERNARD; D. BATTAGLIA. *Aix-Marseille Univ.*

9:00 C15 **466.02** Are there discrete gamma sub bands in hippocampal networks during spatial navigation? V. DOUCHAMPS*; S. FERTE; D. BATTAGLIA; R. GOUTAGNY. *Univ. of Strasbourg, INS, Univ. Aix-Marseille, CNRS UMR7364.*

10:00 C16 **466.03** Temporal network analysis of hippocampal computing hubs and state sequences. N. PEDRESCHI*; W. CLAWSON; C. BERNARD; P. P. QUILICHINI; A. BARRAT; D. BATTAGLIA. *Aix-Marseille University, INS, CPT, Univ. Aix-Marseille.*

11:00 C17 **466.04** The effect of subthreshold and threshold stimulation of the vagal nerve on hippocampal formation theta rhythm in anaesthetized rats. J. KONOPACKI*; A. BRONCEL; R. BOCIAN; P. KŁOS-WOJTCZAK. *Univ. of Lodz, Med. Technol. Ctr.*

8:00 C18 **466.05** Several distinct types of VIP-expressing GABAergic neurons reside in the stratum lacunosum moleculare of the mouse CA1 hippocampal region. B. MARINO*; L. TOPOLNIK. *Laval Univ.*

9:00 C19 **466.06** Gap junction are involved in modulation of hippocampal theta rhythm induced by vagal nerve stimulation in anesthetized rats. R. BOCIAN*; A. BRONCEL; P. KŁOS-WOJTCZAK; J. KONOPACKI. *Univ. of Lodz, Med. Technol. Ctr.*

10:00 C20 **466.07** Validation of spiking sorting methods with paired recordings from awake mice. L. M. F. KLAVER*; R. BULLINS; K. C. ARNDT; E. GILBERT; M. FRICKE; P. HANNA; J. J. JUN; D. F. ENGLISH. *Virginia Tech., Flatiron Inst.*

11:00 C21 **466.08** Dynamics of glutamatergic transmission onto CA1 neurons in awake mice. E. GILBERT*; K. C. ARNDT; L. M. KLAVER; R. BULLINS; M. FRICKE; P. HANNA; D. F. ENGLISH. *Virginia Tech., Virginia Tech.*

8:00 C22 **466.09** Mechanisms of ripple oscillations in cortical regions. K. C. ARNDT*; L. M. KLAVER; E. GILBERT; M. FRICKE; R. BULLINS; P. HANNA; S. A. MCKENZIE; D. F. ENGLISH. *Virginia Tech., NYUMC.*

9:00 C23 **466.10** First insight into the connectome of the octopus learning and memory system. F. BIDEL*; Y. MEIROVITCH; R. SCHALEK; X. LU; A. PELEG; T. FLASH; J. W. LICHTMAN; B. HOCHNER. *Hebrew Univ., Harvard Univ., Weizmann Inst. of Sci.*

POSTER

467. Epilepsy: Post-Seizure Mechanisms and Human Studies

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 C24 **467.01** Protease-activated receptor 1 rescues impaired synaptic plasticity and anxiety-related behavior but does not affect spatial learning deficit in juvenile rat after status epilepticus. O. ISAEVA*; M. SEMENIKHINA; R. BOHOVYK; M. FEDORIUK; O. NIKOLAIENKO; L. T. ALKURY; A. SAVOTCHENKO; O. KRISHTAL. *Bogomoletz Inst. of Physiol., Col. of Natural and Hlth. Sciences, Zayed Univ.*

9:00 C25 **467.02** Impact of seizure activity on apoptosis and epileptogenesis in a guinea pig model of mesial temporal lobe epilepsy. D. VILA VERDE*; A. CATTALINI; F. COLCIAGHI; M. DE CURTIS. *Fondazione Inst. Neurologico "Carlo Besta".*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 C26 **467.03** Circadian rhythmicity in vulnerability to seizure induced death. B. S. PURNELL*; G. F. BUCHANAN. *Univ. of Iowa, Univ. of Iowa.*

11:00 C27 **467.04** Stimulation of DRN serotonin neurons decreases PGES length and reduces seizure-induced mortality. A. N. PETRUCCI*; J. CHOU; K. VENCER; G. F. BUCHANAN. *Univ. of Iowa, Univ. of Iowa.*

8:00 C28 **467.05** Gabapentin treatment reduces status epilepticus-induced neocortical injury. M. B. PEREZ-RAMIREZ*; I. PARADA; R. MOEIN; D. A. PRINCE. *Stanford Univ., Stanford Univ., Stanford Hosp. and Clinics.*

9:00 C29 **467.06** Changes in the homeostatic roles of microglia induced by cannabidiol (CBD) in a translational model of epilepsy. T. R. VICTOR*; M. W. ELMES; D. G. DEUTSCH; S. E. TSIRKA. *Stony Brook Univ., Stony Brook Univ.*

10:00 C30 **467.07** Transcriptome investigation of the mechanisms involved in preconditioning induced by electrical stimulation of the perforant pathway in the rat. G. G. ZANETTI; E. V. DIAS; I. LOPES-CENDES; A. S. VIEIRA*. *Univ. Estadual de Campinas, State Univ. of Campinas - Unicamp, Univ. Estadual De Campinas.*

11:00 C31 **467.08** TrkB-Shc signaling protects against hippocampal injury following status epilepticus. Y. Z. HUANG; X. XIAO; K. KRISHNAMURTHY; J. O. MCNAMARA*. *Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*

8:00 C32 **467.09** The status of immune complement cascade activation in epilepsy. A. L. SOMMER; N. D. SCHARTZ; A. AROOR; A. L. BREWSTER*. *Purdue Univ., Purdue Univ.*

9:00 C33 **467.10** A role for microgliosis in the neuropathology of prolonged seizures. S. K. JOHNSON*; A. L. SOMMER; S. LAM; A. L. BREWSTER. *Purdue Univ.*

10:00 C34 **467.11** Inhibition of complement C3 activation attenuates pathological cognitive and synaptic changes in a rat model of status epilepticus. N. D. SCHARTZ*; A. L. BREWSTER. *Purdue Univ., Purdue Univ.*

11:00 C35 **467.12** Noise assisted memd based phase connectivity analysis to personalize closed-loop DBS therapy in epilepsy patients. S. FARAHMAND; T. SOBAYO*; D. J. MOGUL. *BioSig Technologies, Inc., Illinois Inst. of Technol.*

8:00 C36 **467.13** ▲ Examination of the association of bilateral language dominance with verbal learning/memory and language performance in patients with epilepsy. M. BERGER-NAGELE; M. KOLESSAR; K. C. BAILEY; T. O'NEILL; Z. F. YETKIN*. *UT Southwestern Med. Ctr., UT Southwestern Med. Ctr., UT Southwestern Med. Ctr.*

9:00 C37 **467.14** Alterations of resting state functional brain connectivity in the early period of epileptogenesis - An EEG-fMRI combined study. L. LI; L. HE; C. BOU KHALIL; H. YEH; J. STERN; N. G. HARRIS; R. STABA; J. ENGEL, Jr.; A. BRAGIN*. *Univ. of California Los Angeles, Zhejiang Univ. of Technol., Dept. Neurosurgery, UCLA, Univ. of California Los Angeles.*

10:00 C38 **467.15** Minimum spanning tree characteristics of refractory epilepsy patients. J. FIEL; E. M. MELO; R. NAVEGANTES; F. L. GOMES; A. PEREIRA*. *Federal Univ. of Pará, Ophir Loyola Hosp., Federal Univ. of Pará/Institute of Technol.*

11:00 C39 **467.16** Interictal epileptiform discharges shape large-scale intercortical communication. P. DAHAL*; N. GHANI; A. FLINKER; P. DUGAN; D. FRIEDMAN; W. DOYLE; O. DEVINSKY; D. KHODAGHOLY; J. GELINAS. *Columbia Univ., Columbia Univ. Med. Ctr., NYU Sch. of Med., New York Univ. Langone Med. Ctr.*

8:00 C40 **467.17** Fmri functional connectivity predicts brain regions of interictal epileptic discharges. J. SU*; H. KHOO; N. V. ELLENRIEDER; L. ZENG; D. HU; F. DUBEAU; J. GOTMAN. *Montreal Neurolog. Institute, McGill Univ., Natl. Univ. of Def. Technol., Osaka Univ. Grad. Sch. of Med.*

9:00 C41 **467.18** ▲ Activation of the instrinsic apoptotic pathway in the cerebellum of kindled rats. E. M. TADDEI LIZÁRRAGA*; C. R. OSORNIO; M. RUBIO; C. MENDOZA; C. TREJO; V. CUSTODIO; L. HERNANDEZ; E. GONZALEZ; C. PAZ. *Inst. Nacional de Neurología y Neurocirugía, Inst. Nacional de Neurología y Neurocirugía, Inst. Nacional de Neurología y Neurocirugía.*

10:00 C42 **467.19** Using Epileptogenicity Index to quantify the characteristics of the epileptic network in a diverse clinical dataset. G. SMITH*; W. C. STACEY. *Univ. of Michigan, Univ. of Michigan.*

POSTER

468. Role of Astrocyte Dysfunction in Disease States

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 C43 **468.01** Upregulation of Fstl1 and Ifitm3 in astrocytes mediate neurodevelopmental impairment induced by innate immune activation. T. NAGAI*; N. ITOH; S. YAMADA; K. YAMADA. *Nagoya Univ. Grad Sch. Med.*

9:00 C44 **468.02** Astrocyte Panx1 prevents status-induced social behavior deficits. A. CIBELLI; P. OBOT; J. VELISKOVA; L. VELISEK; E. SCEMES*. *Albert Einstein Col. of Med., New York Med. Col.*

10:00 C45 **468.03** ● Glioprotection by a synthetic metalloporphyrin superoxide dismutase mimetic. A. K. GHOSH*; V. R. RAO; P. KOULEN; E. B. STUBBS, Jr.; S. KAJA. *Loyola Univ. Chicago, Loyola Univ. Chicago, Loyola Univ. Chicago, Edward Hines Jr. VA Hosp., eyeNOS Inc., Univ. of Missouri - Kansas City Sch. of Med.*

11:00 C46 **468.04** Astrocyte dynamics at different stages of cuprizone treatment. L. G. FRANKLE*; J. SHELESTAK; R. CLEMENTS. *Kent State Univ.*

8:00 C47 **468.05** Glia-perineuronal net interaction in physiology and pathophysiology. B. P. TEWARI*; K. J. ENGEL; L. CHAUNSALI; A. WOO; I. KIMBROUGH; D. C. PATEL; H. SONTHEIMER. *Fralin Biomed. Res. Inst. at VTC, Virginia Tech., Fralin Biomed. Res. Inst. at VTC, Virginia Tech. Sch. of Neurosci.*

9:00 C48 **468.06** ▲ Astrocyte influence on GABA catabolism in an iPS cell model system. T. E. R. SCHNEIDER*; S. ROSAS; J. V. MCGIVERN. *Lakeland Univ., Lakeland Univ.*

10:00 C49 **468.07** Investigating the role of glia astrocytes in Parkinson's disease by using a computational model of astrocytes. Z. SAJEDINIA*; S. HELIE. *Purdue Univ., Purdue Univ.*

11:00 C50 **468.08** Fibrinogen chains intrinsic to the brain. E. V. GOLANOV*; M. A. SHARPE; A. S. REGNIER-GOLANOV; G. J. DEL ZOPPO; D. S. BASKIN; G. W. BRITZ. *Houston Methodist Hosp., Univ. of Washington.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 C51 **468.09** Telencephalic astrocytes display no regional heterogeneities in stress responses and do not forfeit their neuroprotective roles after surviving intense oxidative stress. T. N. BHATIA*; D. B. PANT; J. N. WEILNAU; E. A. ECKHOFF; R. N. GONGAWARE; T. DO; D. F. HUTCHISON; A. M. GLEIXNER; R. K. LEAK. *Duquesne Univ.*

9:00 C52 **468.10** Reactive astrocyte heterogeneity after stroke: Identifying region-specific targets for neural repair. A. J. GLEICHMAN*; R. KAWAGUCHI; M. V. SOFRONIEW; G. COPPOLA; S. CARMICHAEL. *UCLA Sch. Med.*

10:00 C53 **468.11** Roles of neural aryl hydrocarbon receptor in glutamate homeostasis and neuropsychiatric disturbance in chronic kidney disease mouse model. Y. HUANG*; C. LU; H. LIN; P. HSU; D. TARNG; Y. LEE. *Dept. and Inst. of Physiology, Natl. Yang-Ming Univ., Taipei Tzu Chi Hosp., Brain Res. Center, Natl. Yang-Ming Univ., Inst. of Clin. Medicine, Natl. Yang-Ming Univ., Div. of Nephrology, Dept. of Med. and Immunol. Res. Centre, Taipei Veterans Gen. Hosp.*

11:00 C54 **468.12** Sex differentiated connectivity, behavior (memory and anxiety), and pathology associated with astrocyte specific expression of cytoplasmic TDP-43. C. M. KHALID-JANNEY*; D. CARTER; C. SULLIVAN; T. WHITE; K. WILSON; I. SERRANO; L. GUZMAN; M. CAREY; S. A. DAVIS; M. A. GITCHO. *Delaware State Univ., St. Michael's Col.*

8:00 C55 **468.13** Organochlorines and brain homeostasis: Polychlorinated biphenyls as astrocytic stressors. M. S. MCCANN*; H. R. FERNANDEZ; S. FLOWERS; K. A. MAGUIRE-ZEISS. *Georgetown Univ. Med. Ctr., Georgetown Univ. Med. Ctr., Georgetown Univ. Med. Ctr.*

9:00 C56 **468.14** ● Investigation of the effect of varying cocaine dosage and RPEC transplantation on astroglial proliferation in cocaine self-administering rats. A. KIM*; M. P. SUBRAMANIAN; K. VENKITESWARAN; P. S. GRIGSON; T. SUBRAMANIAN. *Pennsylvania State Col. of Med.*

10:00 C57 **468.15** Effect of third-trimester of human gestation-equivalent ethanol exposure on hippocampal astrocyte extracellular matrix and DNA methyl transferases gene expression *in vivo.* M. GUIZZETTI*; J. G. HASHIMOTO; K. R. MCNEALY. *Oregon Hlth. and Sci. Univ. & Portland VA.*

11:00 C58 **468.16** ● Novel A3 adenosine receptor agonist prolongs survival of human traumatized astrocytes. I. WANNER; A. KAMALI; T. LISTON; L. TAJALLI; D. HOLSTEIN; J. D. LECHLEITER*. *Univ. of California Los Angeles, Astrocyte Pharmaceuticals Inc., UT Hlth. San Antonio, UT Hlth. San Antonio.*

8:00 C59 **468.17** Soluble oligomeric Aβ42 triggers degradation of the cerebrovascular basement membrane and disruption of the astrocyte-vascular interface. C. D. LIAO; A. STUBLEN; L. CHAUNSALI; H. SONTHEIMER; I. F. KIMBROUGH*. *Fralin Biomed. Res. Inst. at VTC, Virginia Tech. Sch. of Neurosci., Virginia Tech. Sch. of Neurosci., Virginia Tech.*

9:00 C60 **468.18** *In vivo* spatiotemporal dynamics of astrocytes activity following neural electrode implantation. S. P. SAVYA*; S. WELLMAN; J. R. ELES; T. D. KOZAI. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

10:00 C61 **468.19** Role of HIF-1α-lncRNA BACE1-antisense complex in HIV-1 Tat mediated induction of astrocytic amyloidogenesis. S. SIL*; G. HU; K. LIAO; S. CALLEN; S. BUCH. *Univ. of Nebraska Med. Ctr.*

11:00 C62 **468.20** Neuroimmune consequences of heroin withdrawal on stress enhanced fear learning. S. V. PAREKH*; J. E. PANICCIA; C. L. LEBONVILLE; D. LYSLE. *Univ. of North Carolina at Chapel Hill.*

8:00 C63 **468.21** Dexamethasone modifies expression of the five subtypes of dopamine receptors in C6 glioma cells. N. LÓPEZ-AMADOR*; F. PAZ-BERMUDEZ; A. ÁVALOS-FUENTES; A. NAVARRETE-ALONSO; P. VERGARA-ZUBILLAGA; J. SEGOVIA-VILA; B. FLORÁN-GARDUÑO. *Ctr. for Res. and Advanced Studies of the Natl. Polytechnic Inst.*

9:00 C64 **468.22** Morphine-mediated release of astrocyte-derived extracellular vesicle miR-23a induces loss of pericyte coverage at the blood-brain barrier: Implications for neuroinflammation. K. LIAO*; F. NIU; G. HU; S. SIL; S. BUCH. *Univ. of Nebraska Med. Ctr.*

10:00 C65 **468.23** Sex differences in the structural plasticity of nucleus accumbens astrocytes associated with the incubation of cocaine craving. R. KIM*; N. E. BROWN; A. TESTEN; E. A. WILLIAMS; K. J. REISSNER. *Univ. of North Carolina At Chapel Hill, Univ. of North Carolina at Chapel Hill.*

11:00 C66 **468.24** Branching plasticity of nucleus accumbens astrocytes following cocaine self-administration. A. TESTEN*; H. WANG; R. KIM; M. J. GASTINGER; K. J. REISSNER. *Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill, Bitplane.*

8:00 C67 **468.25** Cilostazol restores autophagy flux in bafilomycin A1-treated cultured cortical astrocytes by lysosomal reacidification: Roles of PKA, zinc and metallothionein 3. H. KIM*; B. SEO; J. CHOI; Y. YOON; J. KOH. *Asan Inst. For Life Sci., Asan Med. Ctr., Asan Med. Ctr.*

9:00 C68 **468.26** Cyclic AMP and PKA overcomes bafilomycin A1-induced lysosomal alkalinization in cortical astrocytes: A possible role of ATP4B, a potassium/hydrogen pump. H. LEE*; Y. YOON; J. KOH. *ASAN Med.Center, Asan Med. Ctr., Univ. Ulsan Col. Med.*

10:00 C69 **468.27** Synaptic alterations induced by amyloid-beta stimulated astrocytes are tau dependant. P. CISTERNAS*; X. TAYLOR; A. PERKINS; Y. YOU; P. MENDOZA; A. LEE-GOSSELIN. *Indiana Univ. Sch. of Med.*

11:00 C70 **468.28** ▲ Zinc dyshomeostasis contributes to inflammasome formation induced by LPS or OGD exposure in cortical cell culture. H. PARK*; Y. YOON; J. KOH. *Asan Inst. For Life Sci., Asan Med. Ctr., Univ. Ulsan Col. Med.*

8:00 C71 **468.29** Morphological plasticity of astrocytes in the ventral pallidum after heroin self-administration. A. KRUYER*; P. W. KALIVAS. *Med. Univ. of South Carolina.*

9:00 C72 **468.30** Induction and characterization of human A1 astrocytes. H. KOBAYASHI*; A. NABETANI; H. SUZUKI; W. SHIN; K. MAEDA; K. KAZETANI; T. WAKUI; J. HOSOKAWA; S. ENDOH-YAMAGAMI. *FUJIFILM Corp., FUJIFILM Corp.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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* Indicates abstract's submitting author

POSTER

469. Microglial Functions in Brain Development and Homeostasis

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 C73 **469.01** Microglia and their role in the pruning of gustatory nerves afferent terminal fields in the mouse NST. C. SUN*; F. KONG; D. L. HILL. *Univ. Virginia, Binzhou Med. Col.*

9:00 C74 **469.02** Differential phenotypic effects of hemin on murine and human microglial cell lines. V. BOINPELLY; A. ALEMIFAR; J. ZHOU; R. SHARMA; M. SHARMA; V. SINGH*. *Midwest Biomed. Res. Fndn., Kansas City VA Med. Ctr.*

10:00 C75 **469.03** Multiple morphometric assessment of the microglial cell population in the deafferented spinal trigeminal nucleus. N. GARCÍA-MAGRO; P. NEGREDO*; Y. MARTIN; C. AVENDANO. *Univ. Autónoma de Madrid, Francisco de Vitoria Univ. CIF – G80480197, Univ. Autonoma de Madrid, Fac. Medicina.*

8:00 DP03/C76 **469.04** (Dynamic Poster) Interactions between microglia and neurons in V1 visual cortex using 3D serial section electron microscopy. J. BUCHANAN*; A. A. BLECKERT; A. L. BODOR; D. J. BUMBARGER; F. COLLMAN; C. SCHNEIDER-MIZELL; M. M. TAKENO; T. MACRINA; S. DORKENWALD; N. L. TURNER; W. SILVERSMITH; K. LEE; J. WU; S. POPOVYCH; R. LU; N. KEMNITZ; E. FROUDARAKIS; J. REIMER; A. S. TOLIAS; H. SEUNG; R. C. REID; N. M. DA COSTA. *Allen Inst. For Brain Sci., Princeton Univ., Princeton Univ., Baylor Col. of Med.*

8:00 C77 **469.05** The atypical cadherin Fat3 is necessary for morphological remodeling in postnatal microglia. T. OKAJIMA*; I. KO; B. SATO; T. CHIBA; F. TSURUTA. *Univ. of Tsukuba, Univ. of Tsukuba.*

9:00 C78 **469.06** The role of PI3Kg signaling in microglial dynamics and experience-dependent synaptic plasticity. B. S. WHITELAW*; A. K. MAJEWSKA. *Univ. of Rochester, Univ. of Rochester Med. Ctr.*

10:00 C79 **469.07** ▲ Newly-born microglial motility and surveillance *in vivo*. J. B. ATLAS*; M. S. MENDES; M. MCCALL; A. K. MAJEWSKA. *Univ. of Rochester Med. Ctr., Univ. of Rochester.*

11:00 C80 **469.08** Intra-hippocampal depletion of microglia as a tool to examine the role of microglia in the ontogeny of learning and learning deficits produced by immune challenge. M. B. BIELICKI*; N. A. HAAS; J. M. SCHWARZ. *Univ. of Delaware.*

8:00 C81 **469.09** Transcriptional regulation of microglia development and function. V. SAHASRABUDDHE*; P. KA; H. GHOSH. *NCBS.*

9:00 C82 **469.10** The effects of anti-Alzheimer's drug donepezil on rodent microglial functions. Y. MIZOGUCHI*; A. MONJI. *Dept. Psychiatry, Fac. Medicine, Saga Univ.*

10:00 C83 **469.11** Epigenetic modulation of microglia modulates the proinflammatory cytokines expression *in vitro.* G. CRUZ*; L. MONTALVO MARTINEZ; L. FUENTES-MERA; A. CAMACHO. *Univ. Autónoma De Nuevo León, Autonomous Univ. of Nuevo León, Univ. Autonoma de Nuevo Leon, Univ. Autónoma De Nuevo León.*

11:00 C84 **469.12** A long non-coding RNA promotes anti-inflammatory microglial polarization and anti-viral defense. N. W. MATHY; K. M. DRESCHER; A. SHIBATA*. *Creighton Univ., Creighton Univ.*

8:00 C85 **469.13** Microglia: Local mRNA translation and synaptic homeostasis. M. VASEK*; Y. LIU; J. DEAJON-JACKSON; J. D. DOUGHERTY. *Washington Univ., Washington Univ. Sch. of Med.*

9:00 C86 **469.14** ● The effects of air pollution on microglia cell of the olfactory bulb. N. V. DOS SANTOS*; C. R. ARAUJO; L. T. JUSTO; S. M. O. SHINJO; C. D. S. DE ANDRÉ; P. H. SALDIVA; S. K. N. MARIE. *Univ. De São Paulo Med. Sch., Univ. De São Paulo Med. Sch., Univ. De São Paulo.*

10:00 C87 **469.15** ▲ Evaluation of GPCR function on glia in the regulation of inflammatory signaling. N. L. KOLCH*; A. M. SALAZAR; S. M. HERNANDEZ; J. W. KINNEY. *Univ. of Nevada Las Vegas.*

11:00 C88 **469.16** Characterization of a CRISPR-generated rat model containing eGFP-Iba1 for study of microglia. M. M. MCCARTHY*; J. W. VANRYZIN; K. E. KIGHT; E. L. REINL; A. E. MARQUARDT; S. E. ARAMBULA; S. E. ASHTON; K. T. DAVIS; L. A. PICKETT; A. HOLLEY. *Univ. of Maryland Sch. of Med., Univ. of Maryland Schoool of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

8:00 C89 **469.17** The fractalkine receptor regulates microglia-vascular interactions in the developing brain. E. MONDO*; A. G. KAUTZMAN; S. C. BECKER; S. L. LIRA; D. P. SCHAFER. *Univ. of Massachusetts Med. Sch., Icahn Sch. of Med.*

9:00 C90 **469.18** Microglial derived innate immune mechanisms governing neural excitability. P. A. FEINBERG*; S. C. BECKER; D. P. SCHAFER. *Univ. of Massachusetts Med. Sch.*

10:00 C91 **469.19** Sensory lesioning induces microglial synapse elimination via ADAM10 and fractalkine signaling. G. GUNNER*; L. CHEADLE; K. M. JOHNSON; P. AYATA; A. BADIMON; E. MONDO; A. M. NAGY; L. LIU; S. M. BEMILLER; K. KIM; S. A. LIRA; B. T. LAMB; A. R. TAPPER; R. M. RANSOHOFF; M. E. GREENBERG; A. SCHAEFER; D. P. SCHAFER. *Univ. of Massachusetts Med. Sch., Harvard Med. Sch., UMass Med. Sch., Icahn Sch. of Med. at Mount Sinai, Mount Sinai, MIT, IU Sch. of Med. Stark Neurosciences Res., Univ. of Illinois Col. of Med., Icahn Sch. of Med. at Mount Sinai, Indiana Univ., Univ. of Massachusetts Med. Sch., Third Rock Ventures, Harvard Med. Sch., Mount Sinai Sch. of Med.*

11:00 C92 **469.20** ▲ Microglia involvement in the development of the human fetal retina. K. M. ESCHENBACHER*; T. REH; A. SRIDHAR; L. TODD; A. HOSHINO. *Univ. of Washington.*

8:00 D1 **469.21** Micronuclei released from neurons regulate the microglial activity during brain development. S. YANO*; H. KUBOTANI; B. SATO; T. CHIBA; F. TSURUTA. *Univ. of Tsukuba, Univ. of Tsukuba.*

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* Indicates abstract's submitting author

POSTER

470. Brain Wellness and Aging: Mechanisms and Biomarkers

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 D2 **470.01** Vascular and neurogenic rejuvenation in aging mice by modulation of ASM. J. BAE*; S. HAN; J. LEE; K. PARK; I. JUNG; H. KIM; H. JIN. *Kyungpook Natl. Univ., Hanyang Univ., Kyungpook Natl. Univ.*

9:00 D3 **470.02** ▲ Impaired dynamic of high frequency EEG in insomnia and major depression disorder. J. J. JIANG*, Sr; H. CHANG; P. QIU. *Inst. of Neurosci.*

10:00 D4 **470.03** From a deep learning model back to the brain - Inferring morphological markers and their relation to aging. G. LEVAKOV*; G. ROSENTHAL; T. RIKLIN RAVIV; I. SHELEF; G. AVIDAN. *Ben Gurion Univ. of the Negev, Ben Gurion Univ. of the Negev, Ben Gurion Univ. of the Negev, Ben Gurion Univ. of the Negev.*

11:00 D5 **470.04** American ginseng extract amplifies the autophagic-lysosomal protein clearance pathway and prevents synaptic decline in the hippocampal explant model of age-related protein accumulations stress. M. FERNANDES DE ALMEIDA*; M. C. PAIT; K. M. RENTSCHELER; K. L. G. FARIZATTO; C. J. NORTON; D. N. UPADHYAY; L. D. HOLMES; J. TIAN; M. FUHRMAN; B. A. BAHR*. *Univ. of North Carolina - Pembroke, Univ. of North Carolina at Pembroke, USANA Heath Sci.*

8:00 D6 **470.05** ● Magnetic resonance diffusion tensor imaging reveals white matter degradation in aging mouse brain. M. ZHU*; C. AKIMANA; E. WANG; C. K. NG. *Univ. of Louisville, Univ. of Louisville.*

9:00 D7 **470.06** Aging-induced vascular damage of the mouse thalamus is associated with both motor and memory defects. Y. WANG*; E. TAYLOR; K. M. KANTAK; B. ZIKOPOULOS; F. SETA; N. HUANG; J. HAMILTON; K. MORGAN. *Boston Univ.*

10:00 D8 **470.07** ● ▲ Cerebrolysin treatment improves recognition memory and promotes an increase of BDNF and synaptophysin in an animal model of aging. L. AGUILAR HERNÁNDEZ*; A. DÍAZ; C. MORAN RAYA; G. FLORES. *Benemerita Univ. Autonoma de Puebla / Inst. de Fisiología, Puebla, Mexico, Benemerita Univ. Autonoma de Puebla / Facultad de Ciencias Químicas, Benemerita Univ. Autonoma de Puebla / Inst. de Ciencias, Benemerita Univ. Autonoma de Puebla / Inst. de Fisiología.*

11:00 D9 **470.08** A novel model to evaluate *Drosophila* cognitive status. C. YU*; I. CHEN; F. CHANG; C. KAO. *Natl. Chiao Tung Univ., Natl. Chiao Tung Univ., Natl. Chiao Tung Univ.*

8:00 D10 **470.09** The effect of lack of Annexin A1 on hypothalamic pituitary adrenal axis in a model of CORT-induced depressive like behaviour and the potential interaction with hippocampal memory. R. CRUPI*; A. PERITORE; E. GUGLIANDOLO; R. SIRACUSA; D. IMPELLIZZERI; R. FUSCO; M. CORDARO; R. D'AMICO; S. CUZZOCREA; R. DI PAOLA. *Univ. of Messina, Univ. of Messina.*

9:00 D11 **470.10** Longitudinal assessment of dynamic brain networks and cognition in healthy women. A. P. GEORGOPOULOS*; L. M. JAMES; S. DOLAN. *Univ. Minnesota, Minneapolis Hlth. Care Syst., Univ. of Minnesota.*

8:00 DP04/D12 **470.11** (Dynamic Poster) Multiphoton imaging reveals that a microglial response to microinjury is elevated in hippocampal white matter and inhibited by glucocorticoid. J. C. GANT; O. THIBAULT; E. M. BLALOCK*. *Univ. Kentucky Coll Med.*

11:00 D13 **470.12** The effect of cognitive function, subjective cognitive decline, and vascular risk on white matter hyperintensity change in older adults. Y. JUNG*; R. P. VIVIANO; J. S. DAMOISEAUX. *Wayne State Univ.*

8:00 D14 **470.13** Age-associated impairments in trace eyeblink conditioning occur earlier in the lifespan than previously suspected. R. WEST*; P. MAXHAM; L. THOMPSON. *Univ. of Texas at Dallas.*

9:00 D15 **470.14** Identification of cell type proportion changes in bulk brain expression profiles. O. MANCARCI*; L. TOKER; S. TRIPATHY; P. PAVLIDIS. *Univ. of British Columbia, Universty of Bergen, Univ. of Toronto, Univ. British Columbia.*

10:00 D16 **470.15** Neuroprotective effects of kinin B2 receptor in organotypic hippocampal cultures of middle aged mice. M. TORICELLI*; S. EVANGELISTA; L. OLIVEIRA; T. VIEL; H. BUCK. *Faculdade De Ciências Médicas Da Santa Casa De São, Univ. de São Paulo.*

11:00 D17 **470.16** ▲ An app a day keeps the doctor informed: Development of smart-device applications as early diagnostic tools to detect hippocampal pathology in adolescent binge drinkers. A. GALUSHA; A. M. PREUSS; P. A. BLANKENSHIP*. *Lewis Univ.*

POSTER

471. Alzheimer's Disease: APP/Abeta Animal Models

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 D18 **471.01** ● The effects of fragmentation of the daily sleep-wake rhythm on amyloid-beta levels and neuroinflammation in the 3X Tg-AD mouse model of Alzheimer's disease. M. J. DUNCAN*; E. ASKAROV; A. BAKER; L. BEECHEM; B. D. GILLIS; F. SALISBURY; L. E. GUERRIERO; B. F. O'HARA; A. D. BACHSTETTER; M. P. MURPHY. *Univ. of Kentucky Med. Sch., Univ. of Kentucky.*

9:00 D19 **471.02** Effects of chronic sleep restriction on amyloid beta and cognition in C57BL/6 mice. K. N. BRICE; C. W. HAGEN; J. L. PETERMAN; P. N. BRADEN; J. W. FIGG; M. J. CHUMLEY; G. W. BOEHM. *Texas Christian Univ., Texas Christian Univ.*

10:00 D20 **471.03** Selective activation of the thalamic reticular nucleus restores sleep patterns but does not affect epileptic activity in Alzheimer's disease mice. R. JAGIRDAR*; F. M. SEIBT; M. BEIERLEIN; J. CHIN. *Baylor Col. of Med., McGovern Med. Sch. at UTHealth.*

11:00 D21 **471.04** Seizure-induced ΔFosB binds target genes in both disease-dependent and independent manners. G. S. STEPHENS*; Y. ZHENG; C. FU; J. J. BOTTERILL; J. J. LAFRANCOIS; H. SCHARFMAN; Y. LIU; J. CHIN. *Baylor Col. of Med., The Nathan Kline Inst., New York Univ. Langone Med. Ctr., Univ. of Texas - McGovern Med. Sch.*

8:00 D22 **471.05** Increased excitability of somatostatin-containing cortical interneurons in presymptomatic AD mice. H. HU; A. AGMON*. *West virginia Univ. Sch. of Med., West Virginia Univ. Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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* Indicates abstract's submitting author

9:00 D23 **471.06** Effect of thyroid hormones on the behavior of 3xTg-AD mice (APPswe, PS1m146v, tauP301L) model of Alzheimer's disease. A. V. MAGLIONE*; B. P. P. DO NASCIMENTO; T. J. LEITE; F. B. LORENA; M. O. RIBEIRO; C. A. A. PENATTI; R. R. DA CONCEIÇÃO; M. A. SATO; J. S. DE SOUZA; G. GIANNOCCO. *Univ. Federal De Sao Paulo, Univ. Federal de São Paulo, Univ. Federal de São Paulo, Univ. Presbiteriana Mackenzie, Univ. Nove de Julho, Faculdade de Medicina do ABC.*

10:00 D24 **471.07** Evaluation of the integrity of the blood-brain barrier during the progression of Alzheimer's disease in the 3xTg-AD model. A. ISLAS*; M. BERNABE; P. GARCIA-DELATORRE. *Inst. Mexicano del Seguro Social, IMSS, IMSS-UIM Enfermedades Neurológicas.*

11:00 D25 **471.08** Impaired aβ clearance leads to vascular dysfunction in a transgenic model of Alzheimer's disease. H. ROSAS-HERNANDEZ*; E. CUEVAS; J. B. RAYMICK; B. ROBINSON; S. SARKAR. *Natl. Ctr. For Toxicological Res., NCTR-FDA, Natl. Ctr. for Toxicological Res., Natl. Ctr. For Toxicological Res., Natl. Ctr. For Toxicology/Usfda.*

8:00 D26 **471.09** Sudden intrabulbar amyloid beta increase simultaneously disrupts olfactory bulb oscillations and odor detection. R. H. SOTO*; K. ROJAS GARCIA; J. PEÑA ORTEGA. *Univ. Nacional Autónoma de México.*

9:00 D27 **471.10** Retinal manifestations in mouse model of Alzheimer's disease. J. ZHANG*; Y. SHEN. *Univ. of Sci. and Technol. of China.*

10:00 D28 **471.11** The effect of irrelevant visual experience on visual memory. S. INDULKAR; S. FOWLER; J. SUBRAMANIAN*. *Univ. of Kansas.*

11:00 D29 **471.12** Upregulation of MeCP2 level in red nucleus cause late-life depressive phenotypes. Y. CHOI*; J. RYU; H. KIM; H. IM. *Seoul Natl. Univ. Col. Med., Korea Inst. of Sci. & Technol.*

8:00 D30 **471.13** Age-related declines in short-term working memory, but not attention in APPswe/PS1dE9 transgenic mice. P. L. SOTO*; A. V. SAVONENKO; B. N. HARRIS. *Louisiana State Univ., Johns Hopkins Univ., Texas Tech. Univ.*

9:00 D31 **471.14** ● Automated cognitive testing in mouse models relevant to Alzheimer's disease. B. KOOPMANS*; M. E. SCHOENBERG; M. LOOS. *Sylics.*

10:00 D32 **471.15** Social interest in 5xFAD mice is influenced by genotype of social stimuli. F. KOSEL*; J. K. GLIKLICH; T. B. FRANKLIN. *Dalhousie Univ.*

11:00 D33 **471.16** Amyloid β oligomers suppress excitatory transmitter release via presynaptic depletion of phosphatidylinositol-4,5-bisphosphate. X. MA*; Y. HE; M. WEI; Y. ZHOU; Y. SHEN. *Zhejiang Univ.*

8:00 D34 **471.17** Neuronal calcium homeostasis in dorsal hippocampus in the HNE and 5xFAD mouse models of Alzheimer's disease across age. A. O. GHOWERI*; L. J. OUILLETTE; H. N. FRAZIER; A. ELHARRAM; K. L. ANDERSON; R. PARENT; J. C. GANT; B. BENNETT; G. G. MURPHY; O. THIBAULT. *Univ. of Kentucky, Univ. of Michigan, Queen's Univ., Univ. of Michigan, Queen's Univ., Univ. of Michigan.*

9:00 D35 **471.18** The histological and biochemical effects of A. bisporus (white button mushrooms) on human amyloid precursor protein (hAPP) transgenic mice. T. T. DIMOPOULOS*; K. M. CRAVEN; R. E. BARKEY; E. N. DOHERTY; C. M. HERNANDEZ; J. M. FLINN. *George Mason Univ.*

10:00 D36 **471.19** The amyloid plaque microenvironment. D. C. SOUDER*; I. A. DREISCHMEIER; S. L. WRIGHT; K. W. ELICEIRI; R. ANDERSON. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

11:00 D37 **471.20** ● Seeding of a fast-acting Abeta peptide accelerates plaque deposition and microgliosis in APP^{NL-G-F} mouse model with no impairment in learning and memory. S. G. LACOURSIERE*; M. H. MOHAJERANI; D. A. WESTAWAY; R. J. SUTHERLAND. *Canadian Ctr. For Behavioural Neurosci., Univ. of Alberta.*

8:00 D38 **471.21** Determining therapeutic amyloid beta reduction necessary for improved cognition in Alzheimer's mice. M. C. MAKER; J. PRAKASH; C. S. MITCHELL*. *Columbia Univ., Georgia Inst. of Technol.*

9:00 D39 **471.22** Disease progression characterization of a new model for Alzheimer's disease. X. CHENG*; L. ZHUANG; Z. XIONG. *Inst. of Neuroscience, Chinese Acad. of Sci., Inst. Neurosci.*

10:00 D40 **471.23** Signaling pathways involved in the differential stress response on Aβ levels in male and female mice. C. M. YUEDE; C. E. WALLACE; W. D. GARDINER; H. L. RIDENBARK; T. DAVIS; J. R. CIRRITO*. *Washington Univ., Washington Univ., Washington Univ., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington University, St. Louis.*

11:00 D41 **471.24** Myelination changes in hippocampal white matter during Alzheimer's pathogenesis and the electrophysiological consequences. M. L. RUSSO*; T. F. MUSIAL; G. D. AYALA; S. J. AHMAD; L. A. BEAN; D. A. NICHOLSON. *Rush Univ. Med. Ctr.*

8:00 D42 **471.25** Distinct gene expression patterns in the dentate gyrus of Alzheimer's disease mice with differential susceptibility to spontaneous seizures and memory loss. C. FU*; X. ZHANG; G. S. STEPHENS; Y. LIU; J. CHIN. *Baylor Col. of Med., Children's Hosp. of Philadelphia, Univ. of Texas Med. Sch.*

9:00 D43 **471.26** Role of Tip60 in the nuclear and cytoplasmic proteome of amyloid precursor protein-induced neurodegenerative condition. B. KARISETTY*; F. ELEFANT. *Drexel Univ., Drexel Univ.*

10:00 D44 **471.27** Selective TDP-43 expression in an aged APP/PSEN1 background. A. ANDERSON*; S. DAVIS; K. WILSON; M. GITCHO. *Delaware State Univ.*

11:00 D45 **471.28** Accelerated expression of amyloid-beta biomarkers and behavioral pathologies after moderate alcohol drinking in a humanized triple transgenic mouse model of Alzheimer's disease. J. L. HOFFMAN*; S. P. FACCIDOMO; S. M. TAYLOR; M. KIM; C. W. HODGE. *Univ. of North Carolina - Chapel Hill, Univ. North Carolina, Chapel Hill, Univ. North Carolina Chapel Hill.*

8:00 D46 **471.29** Target validation for Alzheimer's disease using multiplex RNAscope technology. K. T. KAYE*; N. RUDERISCH; J. PIRO; T. DELLOVADE. *Abbvie.*

9:00 E1 **471.30** Probing the role of exosomes derived from peripheral organs and tissues in the onset and progression of Alzheimer's disease. W. LAWRENCE*; D. F. ALZATE-CORREA; J. T. MOORE; C. L. RINK; N. HIGUITA-CASTRO; D. GALLEGO-PEREZ. *The Ohio State Univ., Ohio State Univ. Dept. of Pathology, Ohio State Univ., The Ohio State Univ. Wexner Med. Ctr., The Ohio State Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

472. Tau: Animal and Cellular Models I

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 E2 **472.01** ● Impact of tau pathology on cognition in transgenic htau and in C57BL/6J mice after bilateral hippocampal injection of AD-PHF seeds. M. LOOS*; R. CRESPO; J. VAN AMEIJDE; R. VAN KESTEREN; B. ZIERE; M. VERHAGE; A. B. SMIT; W. SCHEPER; A. APETRI; J. GOUSMIT. *Sylics (Synaptologics BV), Janssen Pharmaceut. Companies of Johnson and Johnson, Ctr. For Neurogenomics & Cognitive Research, VU Univ., CNCR, Vrije Univ. (VU) and VU Med. Cente, Harvard T.H. Chan Sch. of Publ. Hlth.*

9:00 E3 **472.02** ▲ The role of a new truncated tau species in pathological process of Alzheimer's disease. L. BUEE*; S. GUEDJDAL; M. DERISBOURG; S. EDDARKAOUI; F. VERMON; R. CAILLIEREZ; S. BEGARD; V. GOMEZ-MURCIA; E. FAIVRE; D. BLUM; M. HAMDANE. *Univ. Lille, Inserm, CHU Lille, UMR-S 1172 – Alzheimer & Tauopathies.*

10:00 E4 **472.03** Enhanced secretion of cleaved tau from cultured neuronal cells by amyloid-β overproduction. T. IKEUCHI*; T. ISHIGURO; K. KASUGA; Y. HIGUCHI; N. MEZAKI; T. MIURA; T. TOKUTAKE; O. ONODERA. *Niigata University, Brain Res. Inst., Niigata University, Brain Res. Institiute.*

11:00 E5 **472.04** The tau_{45-230} fragment induces morphological and functional changes in astrocytes associated with their activation in the context of Alzheimer's disease. A. B. FERREIRA*; C. PARKER. *Northwestern Univ.*

8:00 E6 **472.05** ● Characterization of synaptic function and behavior of a novel wild-type human tau knock-in mouse model, crossbred with 5xFAD mice. D. K. BALSCHUN*; S. BARENDRECHT; A. SCHREURS; V. SABANOV; S. GEISSLER; H. DEMUTH; S. SCHILLING; H. CYNIS. *Katholieke Univ. Leuven, Fraunhofer Inst. for Cell Therapy and Immunol.*

9:00 E7 **472.06** Exacerbation of tauopathy in a mouse model of Alzheimer's disease. B. ULM*; G. XU; S. FROMHOLT; J. HOWARD; D. BORCHELT; J. LEWIS. *Univ. of Florida, Ctr. for Translational Res. in Neurodegenerative Dis., McKnight Brain Inst.*

10:00 E8 **472.07** Tau induces neurodegeneration in Alzheimer's disease through the sequestration and inhibition of LSD1 function. D. J. KATZ*; A. K. ENGSTROM; A. C. WALKER; R. A. MOUDGAL; D. A. MYRICK; S. M. KYLE. *Emory Univ.*

11:00 E9 **472.08** Connections between the endoplasmic reticulum stress and tau phosphorylation in Alzheimer's disease models. V. BODART-SANTOS*; M. S. GOMES; A. F. BATISTA; B. B. NOVO; F. G. DE FELICE. *Federal Univ. of Rio de Janeiro, Federal Univ. of Rio de Janeiro, Queen's Univ.*

8:00 E10 **472.09** Development of a Tau seeding model in the P301S-PS19 transgenic mouse. G. DAS DORES*; A. HUGOT; M. GANDON; K. LLOPIS; L. ABJEAN; F. IOP; A. FRANÇOIS; R. BILLIRAS; P. MACHADO; N. RIBEIRO PALHA; F. PANAYI; R. JEGGO. *Inst. De Recherches Servier.*

9:00 E11 **472.10** ● Effect of Pyk2 gene on the spreading of human Alzheimer tau seeds in mouse brain. S. NIES*; C. HERBER; S. M. STRITTMATTER. *Yale Univ., Eberhard Karls Univ. of Tübingen.*

10:00 E12 **472.11** ● Characterization of Alzheimer brain-derived pathological forms of tau and application to anti-tau antibody discovery. H. PATEL*; N. VENKAT; J. WU; T. KWON; J. MANOS; K. TITTERTON; C. PREISS; H. WU; X. LANGLOIS; K. YANAMANDRA. *Abbvie.*

11:00 E13 **472.12** The effect of progranulin reduction on tau pathology and tau-associated deficits in a mouse model of tauopathy. H. TAKAHASHI*; Z. A. KLEIN; S. M. BHAGAT; T. IKEZU; S. M. STRITTMATTER. *Yale Univ., Boston Univ. Sch. of Med.*

8:00 E14 **472.13** The calcium-containing smooth endoplasmic reticulum is a focus of risk factors for early and late onset Alzheimer's disease. D. DATTA*; Y. M. MOROZOV; J. I. ARELLANO; M. WANG; C. VAN DYCK; A. F. ARNSTEN. *Yale Univ., Yale Univ. Sch. Med., Yale Univ., Yale Univ. Sch. of Med., Yale Univ., Yale Univ. Sch. Med.*

9:00 E15 **472.14** ▲ Evaluation of the axolotl as a novel model to study physiological response to neurodegenerative diseases. L. JAMES*; A. WALKER; T. POLVADORE; M. MADEN; J. LEWIS. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

10:00 E16 **472.15** Declines in behavior and cognition as tau is expressed at different times in the adult *drosophila melanogaster* brain. D. B. GONZALEZ*; D. D. LENT. *California State University, Fresno, CSU Fresno.*

11:00 E17 **472.16** ▲ Comparison of 11.7T *ex vivo* with 3T *in vivo* MRI signal intensity of the hippocampus of wild-type, Tau, and PSEN1 individual mice: A pilot study. A. SOTELO*; M. DIAMSE; N. HUANG; K. S. STEED; J. HAMILTON; J. WISCO. *Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Brigham Young Univ. and California Hlth. Sci. Univ., Boston Univ. Sch. of Med. and Brigham Young Univ.*

8:00 E18 **472.17** Neuronal N27A cell line expressing mutant tau YFP provides a model for Alzheimer's disease. C. R. FREED*; S. L. HAMMOND; W. ZHOU. *Univ. of Colorado, Univ. of Colorado, Univ. of Colorado Denver.*

9:00 E19 **472.18** ● Genetic ablation of the senescence mediator p16 attenuates tau-mediated neurodegeneration. C. F. MEYER*; S. I. GRAVES; T. J. BUSSIAN; B. L. SWENSON; D. J. BAKER. *Mayo Clin., Mayo Clin.*

POSTER

473. Alzheimer's Disease and Other Dementias: Therapeutic Strategies II

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 E20 **473.01** Lifespan magnetic resonance imaging of novel mouse models of Alzheimer's disease: Phenotyping and comparisons to healthy aging. A. JULLIENNE*; A. OBENAUS; J. LEE; E. J. BEHRINGER; M. AD CONSORTIUM. *Univ. of California, Irvine, Univ. of California, Irvine, Loma Linda Univ., Loma Linda Univ., Univ. of California, Irvine, Indiana Univ., Jackson Lab., Sage Bionetworks, Univ. of Pittsburg.*

9:00 E21 **473.02** Development and characterization of novel mouse models of late-onset Alzheimer's disease. M. SASNER*; D. GARCEAU; K. KOTREDES; A. OBLAK; C. INGRAHAM; D. SONI; H. WILLIAMS; A. REAGAN; A. UYAR; R. PANDEY; C. PREUSS; B. LOGSDON; P. R. TERRITO; G. CARTER; B. T. LAMB; G. R. HOWELL. *The Jackson Lab., Indiana Univ. Sch. of Med., Sage Bionetworks, Indiana Univ. Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 E22 **473.03** Characterization and deep phenotyping of the 5xfAD mouse model by MODEL-AD. S. FORNER*; M. AD CONSORTIUM. *Univ. of California Irvine, Indiana Univ., Univ. of Pittsburgh, Jackson Lab., Sage Bionetworks.*

11:00 E23 **473.04** Uncoupling of cerebral blood flow and glucose metabolism in APOE4, TREM2, and APOE4. TREM2 mice. P. B. LIN*; S. A. PERSOHN; A. A. BEDWELL; L. JIANG; K. M. ELDRIDGE; R. SPEEDY; K. KOTREDES; R. PANDEY; H. WILLIAMS; A. L. OBLAK; M. SASNER; G. R. HOWELL; G. W. CARTER; B. T. LAMB; P. R. TERRITO. *Stark Neurosciences Res. Inst., Indiana Univ. Sch. of Med., The Jackson Lab., Indiana Univ. Sch. of Med.*

8:00 E24 **473.05** Multi-phenotype comparison of an APOE4.Trem2*R47H mouse model and human late-onset Alzheimer's disease. G. W. CARTER*; R. S. PANDEY; K. P. KOTREDES; C. PREUSS; H. WILLIAMS; A. OBLAK; S. J. S. RIZZO; P. R. TERRITO; M. SASNER; G. R. HOWELL; B. T. LAMB. *The Jackson Lab., The Jackson Lab., Indiana Univ. Sch. of Med., Univ. of Pittsburg Sch. of Med., Indiana Univ. Sch. of Med., Jackson Lab., Stark Neurosciences Res. Inst.*

9:00 E25 **473.06** Modeling Trem2 variants in mice. A. L. OBLAK*; H. WILLIAMS; K. KOTREDES; M. SASNER; S. J. SUKOFF RIZZO; G. CARTER; G. R. HOWELL; C. PREUSS; A. UYAR; R. S. PANDY; C. INGRAHAM; D. SONI; V. JADHAV; A. P. TSAI; P. R. TERRITO; B. LOGSDON; B. T. LAMB. *Indiana Univ. Sch. of Med., The Jackson Lab., Univ. of Pittsburgh Sch. of Med., Jackson Lab., Indiana Univ. Sch. of Med., Sage Bionetworks, Stark Neurosciences Res. Inst.*

10:00 E26 **473.07** Comparative transcriptome analysis of MODEL-AD mouse models. G. BALDERRAMA-GUTIERREZ*; A. MORTAZAVI; M. AD CONSORTIUM. *Univ. of California At Irvine, Indiana Univ., Univ. of Pittsburgh, Jackson Lab., SAGE Bionetworks.*

11:00 E27 **473.08** Modulation of corticotropin releasing factor (CRF) in a CRND8 mouse model of Alzheimer's disease-like amyloidosis improves spatial navigation in the water maze test. C. G. JANUS*; G. GIRALDO; H. S. FUTCH; T. E. GOLDE. *Univ. of Florida.*

8:00 E28 **473.09** Perinatal choline supplementation normalizes spatial learning and memory deficits in the APP. PS1 Alzheimer's disease model mice. T. J. MELLOTT; E. M. BRUNS; K. N. CORDEIRO; N. WASIF; A. P. SANKAR; J. K. BLUSZTAJN*. *Boston Univ. Sch. of Med.*

9:00 E29 **473.10** Transcriptomic analysis of chronic levetiracetam treatment in aged 5XFAD mice: Relationship with pharmacokinetics and pharmacodynamics. S. J. SUKOFF RIZZO*; K. D. ONOS; K. KEEZER; L. HAYNES; H. WILLIAMS; S. K. QUINNEY; A. MASTERS; C. BIESDORF DE ALMEIDA; A. A. BEDWELL; J. A. MEYER; C. INGRAHAM; J. PETERS; S. A. PERSOHN; R. SPEEDY; L. FIGUEIREDO; K. ELDRIDGE; M. SASNER; A. OBLAK; B. T. LAMB; G. CARTER; P. R. TERRITO. *Univ. of Pittsburgh Sch. of Med., The Jackson Lab., The Jackson Lab., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*

10:00 E30 **473.11** ● Ubiquitin specific protease 13 regulates tau accumulation and clearance in models of Alzheimer's disease. X. LIU*; M. HEBRON; S. MULKI; C. WANG; E. LEKAH; D. FERRANTE; W. SHI; B. KURD-MISTO; C. MOUSSA. *Georgetown Univ. Med. Ctr.*

11:00 E31 **473.12** ● Gene therapy-based cell therapy for neural regeneration and repair. G. CHEN*; Z. WU; X. HOU; Z. GUO; Y. CHEN; J. YIN; N. MA; L. ZHANG. *Penn State Univ.*

8:00 E32 **473.13** Learning-induced transcription factor Egr1 as a candidate for gene therapy in Alzheimer's disease. S. UYANIKER*; B. HOBO; S. VAN DER SPEK; K. BOSSERS; F. DE WINTER; A. B. SMIT; H. W. KESSELS; J. VERHAAGEN. *Netherlands Inst. for Neuroscience, Royal Netherlands Acad. of Arts and Sci., Ctr. For Neurogenomics and Cognitive Research, Amsterdam Neuroscience, VU Univ. Amsterdam, Swammerdam Inst. for Life Sciences, Amsterdam Neuroscience, Univ. of Amsterdam.*

9:00 E33 **473.14** Analyzing sex-dependent differences in disease progression in mouse models of CLN3 and CLN8 Batten disease. B. L. MEYERINK*; Z. P. ZENNER; K. A. WHITE; T. B. JOHNSON; S. S. DAVIS; C. SWANSON; C. D. BOOTH; L. A. LANGIN; M. A. PRATT; K. J. TIMM; J. T. CAIN; J. M. WEIMER. *Sanford Res.*

10:00 E34 **473.15** Intrathecal scAAV9-CLN3 administration rescues pathological and behavioral deficits and prolongs survival in a preclinical model of Batten disease. M. A. PRATT*; T. B. JOHNSON; S. LIKHITE; J. T. CAIN; K. A. WHITE; D. TIMM; B. L. MEYERINK; S. DAVIS; R. H. PINEDA; C. DENNYS-RIVERS; K. C. MEYER; J. M. WEIMER. *Sanford Res., Sanford Res., Nationwide Children's Hosp., Univ. of Colorado Sch. of Med., Res. Inst. Nationwide Childrens Hosp., Sanford Res.*

POSTER

474. Molecular Mechanisms of Huntington's Disease

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 E35 **474.01** ● Genomic screening for the identification of putative molecular targets involved in HTT modulation in hESC. D. F. FISCHER*; M. ATALAR; L. VAN BEEK; L. BISHOP-CURREY; H. LI; Z. DAY; M. FOKKELMAN; A. ZUURMOND; J. DEGROOT; P. MITCHELL; J. GREENE; G. MCALLISTER; D. MACDONALD; C. DOMINGUEZ; T. F. VOGT; I. MUNOZ-SANJUAN; S. JANG. *Charles River, Rancho Biosci., CHDI Fndn.*

9:00 E36 **474.02** Rescue of BDNF/TrkB pathway in Huntington's disease models by a Huntingtin domain: P42. S. COULY*; A. CARLES; T. MAURICE; F. MASCHAT. *NIDA, INSERM UMR-S1198.*

10:00 E37 **474.03** Mutant Huntingtin does not acutely damage brain mitochondria. J. HAMILTON*; T. BRUSTOVETSKY; N. BRUSTOVETSKY. *Indiana Univ. Sch. of Med., Stark Neurosciences Res. Inst.*

11:00 E38 **474.04** Investigating the role of aging in Huntington disease pathogenesis. E. MACHIELA*; M. SCHMIDT; M. R. HAYDEN; V. B. MATTIS; A. SOUTHWELL. *Univ. of Central Florida, Univ. of British Columbia, Univ. of British Columbia, Cedars-Sinai.*

8:00 E39 **474.05** Sensitive mRNA expression quantification by ViewRNA for high-throughput screening in human Huntington's disease embryonic stem cells. M. VISSER; G. SERVANT; E. THATCHER; D. DUINSBERGEN; N. DE JONG; F. VERKAAR*; M. VROUWE; A. ZUURMOND; J. DEGROOT; D. F. FISCHER; P. MITCHELL; R. Z. CHEN; G. MCALLISTER; T. F. VOGT; C. DOMINGUEZ; I. MUNOZ-SANJUAN. *Charles River, Charles River, CHDI Mgmt., CHDI Mgmt.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 E40 **474.06** ● A phenotypic high throughput screen for Huntingtin lowering small molecules in Huntington's disease patient fibroblast cells. L. M. S. STANEK*; S. MUELLER; C. LAFON; A. ROTH; A. GRABBE; N. MICHAELSEN; A. SCHLUETER; M. VARBAN; S. EYQUEM; F. MARGUET; L. S. SHIHABUDDIN; R. GODEMANN. *Sanofi, Evotec, Evotec, Sanofi, Sanofi.*

10:00 E41 **474.07** Repeated optogenetic stimulation of corticostriatal pathway ameliorates Huntington's disease symptoms. S. FERNÁNDEZ-GARCÍA; S. CONDE-BERRIOZÁBAL; E. GARCÍA-GARCÍA; G. GARCÍA-DÍAZ BARRIGA; E. RODRÍGUEZ-URGELLÉS; J. LÓPEZ-GIL; G. SÒRIA; L. CAMPA; F. ARTIGAS; M. J. RODRÍGUEZ; J. ALBERCH; M. MASANA*. *Univ. of Barcelona, Inst. d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Ctr. de Investigación Biomédica en Red sobre Enfermedades Neurodegenerativas (CIBERNED), Ctr. de Investigación Biomédica en Red sobre Enfermedades Neurodegenerativas (CIBERNED), Inst. d'Investigacions Biomèdiques de Barcelona (IIBB-CSIC), Ctr. Investigación Biomédica en Red de Salud Mental (CIBERSAM).*

11:00 E42 **474.08** MicroRNA biogenesis deficits in Huntington's disease. S. PETRY*; I. ST-AMOUR; C. GOUPIL; S. S. HEBERT. *Laval Univ., Laval Univ.*

8:00 E43 **474.09** Potential role of the choroid plexus and cerebrospinal fluid secretion in Huntington's disease pathogenesis. I. I. SANCHEZ*; T. B. NGUYEN; W. ENGLAND; L. BYRNE; R. SPITALE; E. WILD; E. MONUKI; L. M. THOMPSON. *UC Irvine, Univ. Col. London.*

9:00 E44 **474.10** The DNAJ proteins DNAJA1 and DNAJB6 modulate polyglutamine aggregation. C. HANSEN*; C. R. GONZALEZ; S. LIN. *Lund Univ.*

10:00 F1 **474.11** Huntington's disease transcriptional dysregulation at single-cell resolution. M. E. CORTÉS-GUTIÉRREZ*; S. MALAIYA; J. P. CANTLE; S. R. LEGG; B. R. HERB; J. B. CARROLL; S. A. AMENT. *Univ. of Maryland, Sch. of Med., Western Washington Univ.*

11:00 F2 **474.12** Analysis of non-coding RNA expression in medium spiny neurons of Huntington's disease model mice. H. PARK*; H. MIYAZAKI; T. YAMANAKA; N. NUKINA. *Doshisha Univ. Grad. Sch. of Brain Sci.*

8:00 F3 **474.13** Altered vesicles dynamics in a Huntington's disease mouse model studied with 3D tracking of single synaptic vesicle in cortical neurons. S. CHEN*; X. QIN; H. PARK. *Hong Kong Univ. of Sci. and Technol., Hong Kong Univ. of Sci. and Technol.*

9:00 F4 **474.14** Targeted protein degradation of mutant Huntingtin aggregates: *In vitro* assays and tools to support development of mHTT targeting PROTACs. F. HERRMANN; B. BALDO; J. P. SCHUELKE; S. MUELLER; S. BLENCKE; M. HOTZE; K. WRONKA-SCHMIDT; K. SCHAEFER; P. JOHNSON; M. PRIME; R. FILIPPO; J. VILE; A. JARVIS; E. VAN DER KAM*; V. KHETARPAL; I. MUNOZ-SANJUAN; C. DOMINQUEZ; M. LEE; L. LIU; J. A. BARD. *Evotec SE, Evotec, Evotec Ltd, CHDI Management, Inc., CHDI Management, Inc.*

10:00 F5 **474.15** Development of translational imaging biomarkers of disease progression in a mouse model of Huntington's disease. L. RIGGALL*; E. DEMETRIOU; B. SIOW; G. P. BATES; X. GOLAY. *Univ. Col. London, Univ. Col. London, Univ. Col. London, Francis Crick Inst.*

11:00 F6 **474.16** Investigating the role of SRSF6 in incomplete splicing of Htt mRNA in Huntington's disease mice. M. A. MASON*; C. GOMEZ PAREDES; A. NEUEDER; A. S. PAPADOPOULOU; G. P. BATES. *UCL Queen Square Inst. of Neurol., Ulm Univ.*

8:00 F7 **474.17** Investigating the mechanisms of heat shock response impairment in Huntington's disease. C. GOMEZ-PAREDES*; M. A. MASON; A. S. PAPADOPOULOU; G. P. BATES. *Univ. Col. London.*

9:00 F8 **474.18** Huntingtin promotes cadmium neurotoxicity and neurodegeneration in striatal cells via altered metal transport, mitochondrial dysfunction, and protein kinase C delta dependent oxidative stress and apoptosis signaling mechanisms. G. KWAKYE*; M. THOMAS; W. CHEN; J. JIMENEZ; M. SAITO; M. MCILVIN. *Oberlin Col., Woods Hole Oceanographic Inst.*

10:00 F9 **474.19** Phosphoproteomic analysis of TrkB receptor activation with a novel monoclonal antibody agonist: Implications for the treatment of Huntington's disease. B. KRACHER; J. P. SCHUELKE; N. CARTY; B. HUSCHER; A. GAERTNER; G. BURSOVA; T. SCHWAGARUS; L. MICHOLT; H. VON DER KAMMER*; E. VAN DER KAM; J. A. BARD; J. ROSINSKI; I. MUNOZ-SANJUAN; V. BEAUMONT. *Evotec, Evotec SE, CHDI Management, Inc., CHDI Management, Inc.*

11:00 F10 **474.20** ● Structural neuroimaging and biofluid markers of treatment response in Huntington's disease: Preclinical evidence with the $p75^{NTR}$ ligand, LM11A-31. D. A. SIMMONS*; B. D. MILLS; J. KUAN; J. ZHOU; T. L. MCHUGH; C. AKERS; W. SYRIANI; M. ZEINEH; F. M. LONGO. *Stanford Univ., Stanford Univ.*

8:00 F11 **474.21** Huntington's disease screening platforms for mRNA HTT quantification: ViewRNA vs TaqMan qPCR. A. BARNARD; L. BISHOP-CURREY; E. THATCHER; N. MACABUAG; E. BUSH; M. ATALAR; M. VISSER; M. IOVINO; M. E. HERVA*; P. BRECCIA; D. TODD; D. FISCHER; P. MITCHELL; G. MCALLISTER; C. DOMINGUEZ; I. MUNOZ-SANJUAN. *Charles River, Charles River, CHDI Fndn.*

9:00 F12 **474.22** Comparison of ovine and bovine sources of GM1 ganglioside as a treatment for Huntington's disease in YAC128 mice model. S. KONERU*; B. KATHIRVELU; B. MACDONALD; D. ELDRED; M. RESK; N. FETTINGER; M. I. SANDSTROM; U. HOCHGESCHWENDER; P. MAITI; J. ROSSIGNOL; G. L. DUNBAR. *Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., St. Mary's of Michigan.*

10:00 F13 **474.23** Retinoic acid receptor beta protects striatopallidal medium spiny neurons from mitochondrial dysfunction and neurodegeneration. W. KREZEL*; M. CIANCIA; M. RATAJ; A. NIEWIADOMSKA-CIMICKA; V. BALDASSARRO; A. CHARLES; B. GENY. *Inst. de Génétique et de Biologie Moléculaire et Cellulaire (IGBMC), Univ. of Strasbourg.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

475. Motor-Neuron Disease: Therapeutics

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 F14 **475.01** Dental pulp stem cell secretome therapy in a mouse model of amyotrophic lateral sclerosis. J. WANG*; K. ZUZZIO; C. WALKER. *Indiana Univ., Richard L. Roudebush Veterans Affairs Med. Ctr.*

9:00 F15 **475.02** Morpholino oligomers ameliorate pathological phenotype in C9orf72 ALS iPSC-derived lines. G. P. COMI*; M. TAIANA; M. BERSANI; F. BIELLA; M. NIZZARDO; C. KIZILIRMAK; P. RINCHETTI; S. BARABINO; N. BRESOLIN; S. CORTI. *Univ. of Milan, Ospedale Maggiore Policlinico, Univ. of Milan-Bicocca.*

10:00 F16 **475.03** ● Development of neuronal cell line assays to assess the effects of small molecules on ALS-associated TDP-43 pathologies and toxicity. H. J. WOBST*; M. AIKIO; D. G. BROWN; N. J. BRANDON; S. J. MOSS. *AstraZeneca, Tufts Univ., Astrazeneca, Tufts Univ.*

11:00 F17 **475.04** ● Deconvolution of a high throughput phenotypic screen in yeast identifies modulators of C9orf72 toxicity. D. G. BROWN*; H. J. WOBST; C. BARDELLE; D. MURRAY; I. FEIERBERG; L. LEACH; K. MACK; R. CUPO; E. BARBIERI; A. D. GITLER; N. KRAMER; J. SHORTER; K. ABIRAMAN; S. MOSS; N. J. BRANDON. *AstraZeneca Pharmaceuticals, AstraZeneca Pharmaceuticals, AstraZeneca Pharmaceuticals, Perelman Sch. of Med. at The Univ. of Pennsylvania, Stanford Univ. Sch. of Med., Tufts Univ. Sch. of Med.*

8:00 F18 **475.05** ATXN2, a modifier of TDP43 pathology is a new therapeutic target for amyotrophic lateral sclerosis. Y. HU*; Y. WANG; U. LIM; A. FERNANDIS; J. EICHER; D. STONE; S. PARMENTIER-BATTEUR. *Merck, MSD international GmbH, Merck, Merck.*

9:00 F19 **475.06** ● Identification of novel hit compounds using a high-throughput phenotypic screen with SMA patient iPSC-derived motor neurons. M. L. HENDRICKSON*; P. GUYETT; J. KOUZNETSOVA; W. ZHENG; Z. DU. *BrainXell, Inc., NIH/NCATS.*

8:00 DP05/F20 **475.07** (Dynamic Poster) Findings in myotonic distrophy type I by difussion tensor imaging and voxel based morphometry. M. M. LOPEZ-TITLA*; L. BELTRAN-PARRAZAL; J. FERNANDEZ-RUIZ; J. MAGAÑA; C. HERNÁNDEZ; L. MARQUEZ; R. DIAZ. *Univ. Veracruzana, Univ. Veracruzana, Univ. Nacional Autonoma Mexico, Inst. Nacional de Rehabilitación, Inst. de Rehabilitación, Univ. Nacional Autonoma de Mexico.*

11:00 F21 **475.08** ● Amyotrophic lateral sclerosis drug discovery via high-throughput phenotypic screening using induced pluripotent stem cell-derived human motor neurons. P. GUYETT*; M. L. HENDRICKSON; J. KOUZNETSOVA; Z. DU. *BrainXell, Inc., NCATS.*

8:00 F22 **475.09** Effect of RAGE pharmacological inhibition in the progression of the disease in hSOD1^{G93A} ALS mouse model. L. LIU; S. GRAUZAM; K. M. KILLOY; M. R. VARGAS; M. PEHAR*. *Med. Univ. of South Carolina.*

9:00 F23 **475.10** A gene therapy approach to directly reprogram reactive astrocytes into functional motor neurons in SOD1^{G93A} ALS mouse model. M. PAN*; Y. LIU; A. REDILLA; C. KERSTETTER; G. CHEN. *Huck Inst. of Life Sci.*

10:00 F24 **475.11** Effect of inhibition of sodium/proton exchanger 5 (NHE5) on the alternative splicing of survival motor neuron 2 (SMN2). S. KANDA; E. MOULTON; M. E. R. BUTCHBACH*. *Univ. of Delaware, Nemours Biomed. Research/A. I. duPont Hosp. For Children, Thomas Jefferson Univ.*

11:00 F25 **475.12** Scalable cGMP compliant expansion of human fetal and iPSC derived neural progenitor cells. A. FULTON; A. LAPERLE; G. LAWLESS*; K. ROXAS; P. AVALOS; C. SVENDSEN. *Cedars Sinai Med. Ctr.*

8:00 F26 **475.13** iPSC derived neural progenitor cells genetically engineered to express GDNF can engraft and provide neuroprotection in the SOD1 ALS rat spinal cord. A. H. LAPERLE*; G. LAWLESS; A. FULTON; K. ROXAS; P. AAVLOS; V. J. GARCIA; C. N. SVENDSEN. *Cedars-Sinai Regenerative Med. Inst.*

9:00 F27 **475.14** ● Human neural progenitor cells secreting glial cell line-derived neurotrophic factor (CNS10-NPC-GDNF) for the treatment of amyotrophic lateral sclerosis (ALS) - Clinical trial update. P. AVALOS*; K. ROXAS; P. ALLRED; H. BABU; C. PATIL; J. P. JOHNSON; R. H. BALOH; C. N. SVENDSEN. *Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr.*

10:00 F28 **475.15** Applying human umbilical cord derived mesenchymal stem cells for the treatment of amyotrophic lateral sclerosis. T. MATSUDA; Y. BADAWI; K. SILVA; R. SODER; R. BAROHN; T. YOSHIDA; H. NISHIMUNE*. *Univ. of Kansas Sch. of Med., Univ. of Missouri Sch. of Med., Univ. of Kansas Sch. of Med., Univ. of Kansas Sch. of Med.*

11:00 F29 **475.16** Degeneration of ALS mouse neuromuscular junctions analyzed using super resolution microscopy and ameliorated using human mesenchymal stem cells. Y. BADAWI*; S. TUNGTUR; T. TANAKA; R. SODER; R. BAROHN; K. SHIGEMOTO; H. NISHIMUNE. *Univ. of Kansas Sch. of Med., Univ. of Kansas Sch. of Med., Midwest Stem Cell Therapy Ctr., Univ. of Kansas Sch. of Med., Tokyo Metropolitan Inst. of Gerontology.*

8:00 F30 **475.17** Peptide-directed selective knockdown of misfolded SOD1 as a therapy for amyotrophic lateral sclerosis. T. ZHOU*; T. GUAN; Y. WANG; H. MARZBAN; J. KONG. *Univ. of Manitoba, Univ. of British Columbia.*

9:00 F31 **475.18** Investigating Cx43 HC and GJ localization and function in amyotrophic lateral sclerosis. J. A. JOSEPH*; M. L. GALLARDO; A. A. ALMAD; A. POKHAREL; S. GROSS; A. TAGA; J. CONTRERAS; N. MARAGAKIS. *Johns Hopkins Univ. Sch. of Med., Rutgers Univ., Children's Hosp. of Philadelphia.*

10:00 F32 **475.19** Nicotinamide riboside modestly extends survival in ALS-linked mutant hSOD1^{G93A} mice. B. A. HARLAN; K. M. KILLOY; M. PEHAR; M. R. VARGAS*. *Med. Univ. of South Carolina.*

11:00 F33 **475.20** ● Aberrant assembly machine modulators: A novel approach to ALS diagnostics and therapeutics. S. SELVARAJAH*; S. YU; S. SAHU; K. RUAN; A. MOREIRA; D. GOLDSMITH; N. DEYARMAN; D. SOLAS; A. KITAYGORODSKYY; Y. AKINTUNDE; A. MACIEIK; Y. MARWIDI; C. MAIOS; A. LINGAPPA; H. SHI; V. ASUNDI; D. DEY; K. PAULVANNAN; S. TROßBACH; A. PARKER; K. STAATS; J. ICHIDA; T. E. LLOYD; L. OSTROW; K. MATLACK; C. KORTH; J. ROSENFELD; V. LINGAPPA. *Prosetta Biosci., Johns Hopkins Univ., Univ. of Montreal, Univ. of Southern California, 3University of Dusseldorf, Loma Linda Univ. Hlth.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 F34 **475.21** Raltegravir effectively reverses ERVK integrase-mediated pathology. D. L. DI CURZIO*; M. NADEAU; B. MEEK; M. GURM; R. DOUVILLE. *Richardson Col. for the Envrn. & Sci. Complex, Univ. of Winnipeg, Univ. of Manitoba.*

9:00 F35 **475.22** Beneficial effects of mesenchymal stem cell-derived exosomes and of exosome-shuttled microRNAs on the activated phenotype of mouse and human-derived astrocyte cell cultures in amyotrophic lateral sclerosis. G. B. BONANNO*; F. PROVENZANO; M. BALBI; S. NYBERG; L. FERRAIUOLO; C. MARINI; B. PARODI; D. GIUNTI; T. BONIFACINO; N. KERLERO DE ROSBO; C. USAI; M. MILANESE; A. UCCELLI; P. J. SHAW. *Univ. of Genova, Univ. of Genoa, IRCCS - San Martino Polyclinic Hosp., Univ. of Sheffield, Univ. of Genova, Natl. Res. Council (CNR).*

POSTER

476. Neuroprotective Mechanisms

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 F36 **476.01** ▲ Long-term voluntary physical exercise exerts neuroprotective effects and alleviates subsequent akinesia and gait disturbance in a rat model of Parkinson's disease. W. TSAI*; C. KUO; Y. CHEN; Y. HUANG; Y. HUANG; C. HSU; S. HSUEH; J. LAI; Y. CHIANG; C. CHANG; T. KAO; T. HSIEH. *Taipei Med. Univ., Natl. Taiwan Univ., Tri-Service Gen. Hospital/National Def. Medi, Chang Gung Mem. Hospital/Chang Gung Univ., Chang Gung Univ., Taipei City Hospital, Zhongxiao Br.*

9:00 F37 **476.02** Decelerating photoreceptor degeneration by the flavonoid luteolin in a mouse model of retinitis pigmentosa. A. LI*; X. LIU; F. LIU; J. HUANG; Y. XU. *Jinan Univ., American Intl. Sch. of Guangzhou.*

10:00 F38 **476.03** MSC derived extracellular vesicles reduce hypoxia ischaemia induced perinatal brain injury. C. SISA*; J. NAYLOR; M. HERRERA SANCHEZ; S. KHOLIA; S. BRUNO; M. DEREGIBUS; G. CAMUSSI; J. M. INAL; S. LANGE; M. HRISTOVA. *Univ. Col. London, Univ. of Turin, Univ. of Hertfordshire, Univ. of Westminster.*

11:00 F39 **476.04** Curcumin: Novel treatment in neonatal hypoxic-ischaemic brain injury. E. ROCHA FERREIRA*; C. SISA; S. BRIGHT; T. FAUTZ; M. HARRIS; I. CONTRERAS RIQUELME; C. AGWU; T. KURULDAY; D. HILL; S. LANGE; M. HRISTOVA. *Univ. Col. London, Univ. Col. London, Univ. of Westminster.*

8:00 F40 **476.05** Properdin a novel target for neuroprotection in neonatal hypoxic ischaemic brain injury. M. H. HRISTOVA*; C. SISA; Q. AGHA-SHAH; B. SANGHERA; A. CARNO; C. STOVER. *Univ. Col. London, Univ. Col. London, Univ. of Leicester.*

9:00 F41 **476.06** Soy isoflavone daidzein but not genistein protects Neuro2a cells from oxidative stress via AMPK and mitochondrial enhancement. S. ITO; K. NAGAI*. *Koshien Univ., Senri Kinran Univ.*

10:00 F42 **476.07** Gastrointestinal hormone-related neuroprotection induced by molecular hydrogen in Parkinson's disease model mice. M. NODA*; Y. UEMURA; T. NIIYAMA. *Grad. Sch. Pharm. Sci. Kyushu Univ.*

11:00 F43 **476.08** Inhibition of miRNA let7i enhance the progesterone-induced neuroprotection. S. KIM*; T. NGUYEN; M. SINGH. *Loyola Univ. Chicago Stritch Sch. of Med., Univ. of North Texas Hlth. Sci. Ctr.*

8:00 F44 **476.09** Germinated brown rice reduced glutamate-induced apoptotic cell death in mouse hippocampal HT22 cell line. E. M. OO*; C. TURBPAIBOON; L. KHOWAWISETSUT; P. UAWITHYA; V. CHAISUKSUNT; P. SOBHON; S. CHOMPOOPONG. *Fac. of Med. Siriraj Hosp., Fac. of Med. Siriraj Hosp., Fac. of Med. Siriraj Hosp., Fac. of Medicine, Chiang Mai Univ., Fac. of Sci.*

9:00 F45 **476.10** Inhibition of interleukin 6 signaling prevents paclitaxel-induced neuropathy in mice. W. BOEHMERLE*; P. HUEHNCHEN; M. ENDRES. *Charite Universitaetsmedizin Berlin, Charité-Universitätsmedizin.*

10:00 F46 **476.11** ● Small molecule inhibitors of SARM1 prevent axonal degeneration *in vitro* and *in vivo.* R. KRAUSS*; T. BOSANAC; T. M. ENGBER; R. DEVRAJ; R. HUGHES. *Disarm Therapeutics .*

11:00 G1 **476.12** A GLP1 receptor agonist ameliorates disease progression in mouse models of monogenic infantile neurodegenerative diseases. L. POUPON BEJUIT*; M. P. HUGUES; S. WHALER; A. A. RAHIM. *UCL Sch. of Pharm.*

8:00 G2 **476.13** High choline diet prevents cyclophosphamide- and doxorubicin-induced reductions in high affinity choline uptake in the striatum and hippocampus of C57Bl/6J and MMTV-PyVT mice and attenuates tumor growth. B. JOHNS; L. WECKER; R. M. PHILPOT*. *Univ. South Florida, Morsani Col. of Med.*

9:00 G3 **476.14** Erythropoietin induces neurogenesis gene expression and JAK/STAT signaling components 2h after application and reverts damage in hippocampal Ca1 cells. S. F. CORNELIO-MARTINEZ*. *Ctr. Universitario De Ciencias Biológicas Y Agro.*

10:00 G4 **476.15** NYX-2925, a novel NMDA receptor modulator, improves chronic pain and its affective state in rats with paclitaxel-induced neuropathy. N. GHOREISHI-HAACK*; J. S. BURGDORF; J. M. PRIEBE; J. D. AGUADO; A. M. LYNCH; M. BOWERS; C. N. CEARLEY; J. R. MOSKAL. *Aptinyx Inc.*

11:00 G5 **476.16** Pharmacological enhancement of integrated stress response ameliorates the proteotoxicity-mediated neuropathologies. J. RAJAMEENAKSHI SUNDARAM*; Y. WU; I. C. LEE; S. E. GEORGE; P. HO; M. TIO; S. SHENOLIKAR; E. TAN. *Natl. Neurosci. Inst., Duke-NUS Med. Sch., Duke-NUS Med. Sch.*

8:00 G6 **476.17** Can maraviroc, the antiretroviral agent used to treat HIV, block the development of opioid addiction? Evidence from multimodal MRI and behavioral testing in rats. S. IRIAH*; C. BORGES; U. SHALEV; X. CAI; D. MADULARU; P. P. KULKARNI; C. F. FERRIS. *Northeastern Univ., Concordia Univ., Northeastern Univ., McGill Univ., Northeastern Univ. Dept. of Psychology, Northeastern University, Ctr. for Translational NeuroImaging.*

9:00 G7 **476.18** ● Development of a human high throughput screening platform for simultaneous assessment of compound efficacy and safety for glioblastoma treatment. R. PADILLA; A. FANTON; C. ANDERSEN; O. GUICHERIT; C. CARROMEU; F. ZANELLA*. *StemoniX.*

10:00 G8 **476.19** Gintonin, a ginseng-derived exogenous lysophosphatidic acid receptor ligand, attenuates mutant Huntingtin toxicity. B. CHEON*; M. JANG; Y. CHANG; S. LEE; J. CHOI; I. CHO. *Kyung Hee Univ., Korea Inst. of Sci. and Technol. (KIST).*

11:00 G9 **476.20** At the forefront of mitochondrial dysregulation: Deoxygedunin imparts neuroprotection via mitophagy in retinal cells. A. MANGANI*; C. JOSEPH; M. MIRZAEI; V. GUPTA; S. GRAHAM. *Macquarie Univ., Macquarie Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 G10 **476.21** Systemic administration of a novel allosteric modulator, SRI-32743, alleviates HIV-1 Tat protein-potentiated cocaine rewarding effects in HIV-1 Tat transgenic mice. J. ZHU*; P. M. QUIZON; Y. Y. WANG; H. M. STACY; S. O. CIRINO; J. P. MCLAUGHLIN; S. ANANTHAN. *Col. of Pharmacy, Univ. of South Carolina, Univ. of South Carolina, Univ. of Florida, Univ. of Florida, Southern Res. Inst.*

9:00 G11 **476.22** Effects of dietary DHA on lipid peroxidation products in the brain and other body organs. G. Y. SUN*; M. K. APPENTENG; B. YANG; R. LI; T. WOO; B. M. KILLE; K. L. FRITSCHE; J. CUI; Z. GU; M. J. WILL; D. Q. BEVERSDORF; C. M. GREENLIEF. *Univ. Missouri, Univ. of Missouri, Univ. of Missouri-Columbia, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri, U of Missouri-Columbia Sch. of Med., Univ. of Missouri Columbia Sch. of Med., Univ. of Missouri Columbia Dept. of Psychological Sci., Univ. of Missouri Columbia, Univ. of Missouri Columbia.*

10:00 G12 **476.23** Mitigating postoperative neuroinflammation with presurgical choline-supplemented diet in male mice. S. V. MAURER*; C. KONG; N. TERRANDO; C. L. WILLIAMS. *Duke Univ., Duke Univ.*

11:00 G13 **476.24** Naked mole-rats, neuroprotection, and the endocannabinoid system: Upregulation of cannabinoid receptor 1 in naked mole-rats leads to increased control of neuroprotective characteristics during hypoxic and anoxic insult. B. M. BROWE*; T. J. PARK; J. R. LARSON. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago Dept. of Psychiatry.*

8:00 G14 **476.25** Epigenetic regulation of microglial function during neurodegeneration. J. SULLIVAN*; P. AYATA; S. VEUGELEN; S. AGRAWAL; A. BADIMON; A. SCHAEFER. *Icahn Sch. of Med. At Mount Sinai, Mount Sinai.*

9:00 G15 **476.26** Identification of mitochondrial enhancer as therapeutic option for Huntington's disease. D. HU*; M. THOMPSON; D. ADAMS; X. QI. *Case Western Reserve Univ., Case Western Reserve Univ., Case Western Reserve Univ.*

10:00 G16 **476.27** Single-cell transcriptomic characterization of neurons with selective resilience to axonal injury reveals targets for neuroprotection. N. M. TRAN*; A. JACOBI; K. SHEKHAR; I. E. WHITNEY; I. BENHAR; G. HONG; W. YAN; C. WANG; M. E. ARNOLD; C. M. LIEBER; A. REGEV; Z. HE; J. R. SANES. *Harvard Univ., Boston Children's Hospital, Harvard Med. Sch., Broad Inst. of MIT and Harvard, Harvard Univ., Stanford Univ., Harvard Univ., Boston Children's Hosp., Boston Children's Hospital, Harvard Med. Sch., Harvard Univ., Children's Hosp Boston.*

11:00 G17 **476.28** Single-cell transcriptomics identify intrinsic resilience of neuronal subtypes and distinguishes specific mediators for axon regeneration after injury. A. JACOBI*; N. M. TRAN; W. YAN; K. SHEKHAR; C. WANG; I. E. WHITNEY; M. E. ARNOLD; A. REGEV; Z. HE; J. R. SANES. *Boston Children's Hospital, Harvard Med. Sch., Harvard Univ., Broad Inst. of MIT and Harvard, Boston Children's Hospital, Harvard Med. Sch.*

POSTER

477. Neurotoxicity, Inflammation, and Neuroprotection: Microglia

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 G18 **477.01** Effects of nuclear receptor reverb on proinflammatory responses in cultured microglia. K. KODAMA; K. YOSHIKAWA; M. TAKEMURA; Y. NAKAMURA; K. NAKASHIMA; N. MORIOKA*. *Dept. Pharmacol., Grad. Sch. of Biomed & Health. Sci., Hiroshima Univ.*

9:00 G19 **477.02** Targeted complement inhibition at synapses prevents microglia-mediated synapse elimination in demyelinating disease. S. WERNEBURG*; J. JUNG; C. M. WILLIS; R. B. KUNJAMMA; S. HA; N. J. LUCIANO; G. GAO; S. J. CROCKER; B. POPKO; D. S. REICH; D. P. SCHAFER. *Univ. of Massachusetts Med. Sch., Univ. of Connecticut Sch. of Med., Univ. of Chicago, NIH, Univ. of Massachusetts Med. Sch.*

10:00 G20 **477.03** Receptor protein tyrosine phosphatase beta/zeta regulates microglial activation: Evidence for a neuroprotective response of microglia through upregulation of pleiotrophin, not midkine. G. HERRADON*; M. GABRIEL; R. FERNÁNDEZ-CALLE; A. RAMIREZ; J. M. ZAPICO; A. RAMOS; B. DE PASCUAL-TERESA; E. GRAMAGE. *Facultad de Farmacia. Univ. San Pablo CEU.*

11:00 G21 **477.04** Chronic high fat diet feeding suppresses microglia activation and anxiety induced by intermittent exposures to lipopolysaccharides. H. HUANG*; Y. KUO; P. CHEN; S. TZENG*. *Natl. Cheng Kung Univ., Natl. Cheng Kung Univ., Natl. Cheng Kung Univ., Natl. Cheng Kung Univ.*

8:00 G22 **477.05** Microglial responses to citrullinated self and non-self proteins. M. M. STANDIFORD*; E. M. GRUND; C. L. HOWE. *Mayo Clin. Grad. Sch. for Biomed. Sci., Mayo Clin.*

9:00 G23 **477.06** Comparative study among the anti-inflammatory supplementation on microglial cells. M. SAKAI*; H. TOMITA; Z. YU. *Grad. Sch. of Medicine, Tohoku Univ., Grad. Sch. of Medicine, Tohoku Univ., Intl. Res. Inst. of Disaster Sci. (IRIDeS), Tohoku Univ., Grad. Sch. of Medicine, Tohoku Univ.*

10:00 G24 **477.07** Investigating the functional significance of TSPO-NOX2 interaction in primary microglia. D. J. AZZAM; V. NUNES DE PAIVA; S. GUARIGLIA; T. R. GUILARTE*. *Florida Intl. Univ., New York State Inst. for Basic Res.*

11:00 G25 **477.08** Inhibition of fatty acid amide hydrolase suppresses inflammation in LPS-activated BV2 microglial cells. K. YAGYU*; M. TANAKA; S. SACKETT; Y. HIRATA; Y. ZHANG. *Uniformed Services Univ., Gifu Univ.*

8:00 G26 **477.09** Palmitate increases microglia-derived TNF-alpha levels and impairs hippocampal insulin signaling. H. M. MELO*; G. SEIXAS DA SILVA; B. C. DE MELO; J. T. S. FORTUNA; S. T. FERREIRA; F. G. DE FELICE. *Federal Univ. of Rio De Janeiro, Federal Inst. of Education, Sci. and Technol. of Rio de Janeiro.*

9:00 G27 **477.10** 7,8-dihydroxyflavone prevents 3-nitropropionic acid induces striatal toxicity by modulating the TrkB receptor and microglial activation pathway. S. A. AHMED*; M. KWATRA; B. GAWALI; S. PANDA; V. NAIDU. *NIPER-Guwahati.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 G28 **477.11** The NF-kB transcriptional factor modulates microglia activation. H. CHOI*; G. AHN; M. BAEK; K. JUNG; Y. CHAI. *Hanyang Univ., Hanyang Univ., Korea Convergence Technol. Campus of Korea Polytechnic II, Hanyang Univ.*

11:00 G29 **477.12** Exploring the mechanisms that govern microglia dynamics during photoreceptor cell death and regenerative neurogenesis in zebrafish. M. NAGASHIMA*; P. F. HITCHCOCK. *Univ. of Michigan, Univ. of Michigan Dept. of Ophthalmology and Visual Sci.*

8:00 G30 **477.13** Quantitative proteomics reveals docosahexaenoic acid-mediated neuroprotective effects in lipopolysaccharide-stimulated microglial cells. C. M. GREENLIEF*; B. YANG; R. LI; X. GENG; B. MOONEY; K. L. FRITSCHE; D. Q. BEVERSDORF; J. C. LEE; G. Y. SUN. *Univ. of Missouri Columbia, Univ. of Missouri-Columbia, Univ. of Missouri, Univ. of Illinois at Chicago, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri Columbia, Univ. of Illinois at Chicago, Univ. Missouri.*

9:00 G31 **477.14** ● Decoding the role of P2X7 in neuroinflammation. R. C. GRUBER*; L. WOODWORTH; J. GANS; J. CHAMBARD; K. SINGH; D. BANGARI; T. SAMAD; D. OFENGEIM. *Sanofi, Sanofi, Sanofi, Sanofi.*

10:00 G32 **477.15** ▲ Functionally engineered extracellular vesicles derived from mesenchymal stem-cells provide neuroprotection by attenuating microglia activation in retinal ischemia. R. PATEL*; B. MATHEW; S. RAVINDRAN; C. HUANG; M. CHENNAKESAVALU; L. GAMBOA ACHA; S. ROTH. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*

11:00 G33 **477.16** ▲ A focused transcriptome of aging-associated, immune-driven cognitive failure reveals distinct patterns hippocampal gene expression in aged vs. young rats following an acute immune challenge. L. DEFLITCH*; C. R. FITZGERALD; B. METENKO; N. TANAKA; S. L. PATTERSON; H. E. ANNI. *Temple Univ.*

8:00 G34 **477.17** ● Suppression of microglia mediated neuroinflammation by small molecule NFκB inhibitors. B. ASTRY; R. GRANT; K. BRADLEY*; K. BRUMBAUGH; J. RIVARD; M. CARLSON-HABEGGER; M. LARSON; J. KIRK; A. HUDACEK; G. WEGNER. *Bio-techne.*

9:00 G35 **477.18** Lipopolysaccharide or Il-1β microglial inflammasome activation bi-directionally alters morphine reward in a time-dependent manner sensitive to anti-inflammatory interventions. A. R. ALLEYNE*; T. J. CIRINO; S. O. EANS; H. M. STACY; P. ZHANG; S. STEVENS; B. LIU; J. P. MCLAUGHLIN. *Univ. of Florida, Albany Col.*

10:00 G36 **477.19** Role of microglia in immune mediated retinal ganglion cell protection and axon regeneration. R. PASSINO*; C. YOON; L. HUFFMAN; O. NELSON; B. SEGAL; R. GIGER. *Univ. of Michigan.*

11:00 G37 **477.20** Defective microglia-neuronal communication in mice expressing the human polymorphic variant CX3CR1$^{I249\text{-}M280}$ leads to the dysregulation of genes governing neurogenesis, myelination and microglial activation. K. A. CHURCH*; A. MENDIOLA; S. CARDONA; D. VANEGAS; S. LIRA; C. LIN; A. E. CARDONA. *Univ. of Texas at San Antonio, Univ. of California San Francisco, Ichan Sch. of Med. at Mount Sinai, The Univ. of Texas at San Antonio.*

8:00 G38 **477.21** Microglial specific depletion of TAK1 contributes to neuroprotection after murine cerebral ischemia. P. HABIB*; T. ZEYEN; A. REICH; J. B. SCHULZ. *Univ. Hosp. Aachen, RWTH Aachen Univ.*

9:00 G39 **477.22** Increased phagocytic activity of monocyte derived microglia-like cells in adrenoleukodystrophy associated with neuronal damage. Y. GONG*; V. KREOUZIS; F. EICHLER. *Massachusetts Gen. Hosp., MGH, Massachusetts Gen. Hosp. | Harvard Med. Sch.*

POSTER

478. Non-Pharmacological Approaches for Stroke Therapy and Recovery

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 G40 **478.01** ▲ The utility of vibrotactile cues as supplemental movement feedback varies across application site and individuals after stroke: A pilot study. A. THOMAS*; V. A. SHAH; G. BALLARDINI; T. STOECKMANN; M. CASADIO; J. R. MCGUIRE; R. A. SCHEIDT; L. A. MROTEK. *Marquette Univ. and Med. Col. of Wisconsin, Univ. of Genova, Marquette Univ., Med. Col. of Wisconsin, Feinberg Sch. of Medicine, Northwestern Univ., Natl. Sci. Fndn.*

9:00 G41 **478.02** Theta power is a longitudinal EEG spatial and spectral biomarker of spontaneous motor recovery after stroke. L. M. OSTROWSKI*; A. N. DUSANG; A. CLOUTIER; F. GIATSIDIS; S. S. CASH; L. R. HOCHBERG; D. J. LIN. *Dept. of VA Med. Ctr., Massachusetts Gen. Hosp., Brown Univ., Brown Univ., Massachusetts Gen. Hosp., Harvard Med. Sch.*

10:00 G42 **478.03** Cell therapy evaluation using the triple model image of stem cell labeled with multimodal nanoparticle in type two diabetic rats with stroke. M. P. NUCCI; J. V. M. FERREIRA; P. C. MACHADO; J. B. MAMANI; Y. O. PINTO; H. R. DA SILVA; F. A. DE OLIVEIRA; G. N. A. REGO; I. S. FILGUEIRAS; P. D. ESPINHA; L. E. B. DE SOUZA; D. M. C. FANTACINI; A. T. KONDO; D. T. COVAS; L. F. GAMARRA*. *Hosp. Israelita Albert Einstein, Faculdade de Medicina, Univ. de São Paulo, Univ. de São Paulo, Faculdade de Medicina de Ribeirão Preto, Univ. de São Paulo.*

11:00 G43 **478.04** Chemogenetics-mediated acute inhibition of excitatory neuronal activity improves stroke outcome. Y. WANG; F. GALEFFI; W. WANG; X. LI; H. SHENG; U. HOFFMANN; D. A. TURNER; W. YANG*. *Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*

8:00 G44 **478.05** ● Gait endurance improves after vagus nerve stimulation combined with upper limb rehabilitation in ischemic chronic stroke, a case series. A. VAN DE WINCKEL*; S. GONZALES; D. K. KLINE; C. N. PRUDENTE; T. BISSON; K. L. FROST; D. PIERCE; B. TARVER; N. D. ENGINEER; T. J. KIMBERLEY. *Univ. of Minnesota Twin Cities, Univ. of Minnesota Twin Cities, Massachusetts Gen. Hosp. Inst. for Hlth. Professions, MicroTransponder, Inc., Boston Scientific.*

9:00 H1 **478.06** Effect of EMG triggered electrical stimulation with blood flow restriction technique on hand function in stroke survivors - A randomized controlled study. N. CHOUDHARY*. *Government Physiotherapy Col. (Dr. S.N. Med. College).*

10:00 H2 **478.07** Improving recovery after ischemic stroke using a neuromuscular stimulation method-A rodent model. S. TSAI*; J. Y. WU; J. S. WU; R. C. HOFLER; V. HUSAK; S. T. TON; J. S. WALTER; G. L. KARTJE; R. P. NOCKELS. *Edward Hines Junior VA Hosp., Loyola Univ. Med. Ctr.*

Tues. AM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 H3 **478.08** Serum BDNF levels by BDNF genotype in stroke patients. W. CHANG*; K. KIM; A. LEE; H. KIM; Y. KIM. *Samsung Med. Center, Sungkyunkwan Univ. Sch. of Med.*

8:00 H4 **478.09** Augmented-reality-based paretic arm training improves reaching performance by altering functional brain networks in chronic stroke. P. SHIH*; A. VILLRINGER; B. SEHM. *Max Planck Inst. for Human Cognitive and Brain Sci., Univ. Hosp. Leipzig.*

9:00 H5 **478.10** Role of astrocyte-derived GDNF in neuronal protection and brain recovery after ischemic stroke. Z. ZHANG*; N. ZHANG; S. DING. *Univ. of Missouri-Columbia, Dalton Cardiovasc. Res. Ctr.*

10:00 H6 **478.11** Optimizing conditions for labeling bone marrow stem cell with multifunctional near-infrared dye-magnetic nanoparticles for cells homing and tracking analysis in global cerebral ischemic model. M. P. NUCCI*; I. S. FILGUEIRAS; J. V. M. FERREIRA; P. C. MACHADO; J. B. MAMANI; F. A. DE OLIVEIRA; G. N. A. REGO; P. ESPINHA; L. E. B. DE SOUZA; D. M. C. FANTACINI; A. T. KONDO; D. T. COVAS; L. F. GAMARRA. *Univ. of São Paulo, Hosp. Israelita Albert Einstein, Univesidade de São Paulo, Univ. de São Paulo.*

11:00 H7 **478.12** ● No evidence of functional peri-infarct circuit remapping in mouse somatosensory cortex after ischemic stroke. W. ZEIGER*; M. MAROSI; S. SAGGI; C. HE; C. PORTERA-CAILLIAU. *Univ. of California Los Angeles, Femtonics.*

8:00 H8 **478.13** Effects of environmental enrichment on the expression of presynaptic active zone proteins in the brain of hypoxic-ischemic encephalopathy. S. SONG*; S. PYO; H. OH; J. YU; Y. SHIN; A. BAEK; J. SEO; S. WI; B. NAM; E. CHO; S. JO; H. JEONGHYUN; J. CHOI; S. CHO. *Yonsei Univ. Col. of Med., Yonsei Univ., Yonsei Univ., Yonsei Univ., Yonsei Univ. Col. of Med., Chungnam Univ. Col. of Med.*

9:00 H9 **478.14** Could mirror therapy help train wrist and fingers flexors spasticity inhibition? A chronic stroke patient case study. A. BENGOETXEA*; N. IRASTORZA-LANDA; L. SANTISTEBAN; C. CHUECA; M. GARRUES-IRISARRI; A. SARASOLA-SANZ; A. GARZO; E. RAMOS; P. KHANNA; J. CARMENA; A. RAMOS-MURGUIALDAY; J. MCINTYRE. *Univ. Libre de Bruxelles, Biocruces Hlth. Res. Inst., Univ. of Tübingen, Univ. of Tübingen, IKERBASQUE, Basque Fndn. for Sci., UPV/EHU, Hosp. Universitario Donostia. Osakidetza (BIOEF), TECNALIA, TECNALIA, Hosp. Universitario Donostia. Osakidetza (BIOEF), Univ. of California, Univ. of California, Univ. of California, TECNALIA.*

10:00 H10 **478.15** BCI-controlled functional electrical stimulation and robotic glove assistance for upper limb motor rehabilitation in severely impaired chronic stroke patients within a longitudinal personalized trial: The avancer clinical trial approach. C. BIGONI; E. BEANATO; A. ESPINOSA; A. CREMA; M. COSCIA; M. J. WESSEL; G. SPIGONI; S. MICERA; T. L. LAABS*; N. BIRBAUMER; F. C. HUMMEL. *Ecole Polytechnic Federale de Lausanne, Wyss Ctr. for Bio and Neuroengineering, Univ. of Geneva Med. Sch.*

11:00 H11 **478.16** A novel gene therapy approach to treat hemorrhagic stroke in mouse striatum through direct astrocyte-to-neuron conversion technology. F. YANG*; Y. CHEN; X. HE; Z. LIU; G. CHEN. *The Pennsylvania State Univ., The Pennsylvania State Univ., The Pennsylvania State Univ.*

8:00 H12 **478.17** The intensity of vagus nerve stimulation determines efficacy in improving recovery or motor function after stroke. T. DANAPHONGSE*; D. PRUITT; M. LUTCHMAN; N. PATEL; P. REDDY; V. WANG; A. PARASHAR; M. KILGARD; S. HAYS. *The Univ. of Texas at Dallas.*

9:00 H13 **478.18** Effects of remote limb ischemic conditioning in conjunction with rehabilitation training after acute and chronic motor cortical infarcts in rats. B. R. BARKSDALE*; A. K. LEE; J. L. ROSOW; M. S. NICOT-CARTSONIS; D. F. MIRANDA-SOHRABJI; T. A. JONES. *Univ. of Texas at Austin, Univ. of Texas Med. Br., Univ. of Texas at Austin.*

10:00 H14 **478.19** Direct reprogramming of reactive astrocytes to mature neurons reduces Glia scare formation and enhances neuronal repair after ischemic stroke. M. Q. JIANG*; S. YU; L. WEI. *Emory Univ., Emory Univ.*

11:00 H15 **478.20** A novel approach for training eye hand coordination using tracking sensors with emerging user interface in chronic stroke survivors - A randomized controlled study. M. CHOUDHARY*; N. CHOUDHARY. *Shree IG Hosp. and Active Hlth. Ctr., Government Physiotherapy Col. (dr. S.N. Med.*

8:00 H16 **478.21** ▲ Differences in functional recovery and kinematic reach analysis after task specific and task non-specific rehabilitation in a mouse model of stroke. R. TOMAZIN; A. GOURLEY; E. STANKUTE; L. EBERT; A. L. KERR*. *Illinois Wesleyan Univ., Illinois Wesleyan Univ.*

9:00 H17 **478.22** ▲ Intermittent rehabilitative training is protective, but not functionally beneficial, following stroke in C57BL/6 mice. V. NEMCHEK*; E. M. HAAN; V. PAVLIK; A. L. KERR. *Illinois Wesleyan Univ., Illinois Wesleyan Univ.*

10:00 H18 **478.23** Serum levels of BDNF in subacute and chronic stage after stroke. K. KIM*; H. KIM; A. LEE; Y. KIM; W. CHANG. *Samsung Med. Center, Sungkyunkwan Univ. Sc, Samsung Med. Center, Sungkyunkwan Univ. Sch. of Med., Samsung Med. Ctr.*

POSTER

479. Traumatic Brain Injury: Mechanisms, Biomarkers, and Recovery

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 H19 **479.01** Effects of closed head injury on short term memory in rats. O. MARTÍNEZ GUZMAN*; M. CACERES-CHACON; M. RIVERA-LÓPEZ; R. Y. RAMOS-SÁNCHEZ; D. M. OJEDA; D. SIERRA-MERCADO. *Univ. of Puerto Rico Sch. of Med., Univ. of Puerto Rico Rio Piedras Campus.*

9:00 H20 **479.02** Release of adenosine triphosphate into the extracellular space in a rat model of mild traumatic brain injury. K. KAMIYA*; H. NEGISHI; Y. TAKAMINE; Y. FURUKAWA; M. KOBAYASHI; T. KUMAGAWA; K. SHIJO; N. MORO; T. MAEDA; A. YOSHINO. *Nihon Univ. Sch. of Med., Nihon Univ. Sch. of Med., Nihon Univ. Sch. of Med., Nihon Univ. Sch. of Med.*

10:00 H21 **479.03** ● Astrocyte injury defined biomarker associate with neuro-vascular unit compromise acutely after rat controlled cortical impact. I. B. WANNER*; H. ABDIRAHMAN; I. BONACORSI; V. PARRILLI; M. WALKER; N. HARRIS. *UCLA, UCLA, UCLA.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 H22 **479.04** Juvenile rat cognitive performance is preserved after diffuse traumatic brain injury with self-guided rehabilitation. J. B. ORTIZ*; L. LAW; D. R. GRIFFITHS; U. S. AFTAB; P. D. ADELSON; J. LIFSHITZ; R. K. ROWE. *Univ. of Arizona Col. of Medicine-Phoenix, Barrow Neurolog. Inst. at PCH, Univ. of Arizona Col. of Med. - Phoenix, Arizona State Univ., BARROW Neurolog. Inst. at Phoenix Children's Hosp., Univ. of Arizona/Phoenix Children's Hosp., Univ. of Arizona Col. of Med. Phoenix.*

8:00 H23 **479.05** Effects of chronic repetitive mild traumatic brain injury on intra-op and post-op weight gain in adult male Sprague Dawley rats. M. A. GRAHAM*; P. T. JUZANG; T. E. WHITE. *Atlanta VA Hlth. Care Syst., Morehouse Sch. of Med.*

9:00 H24 **479.06** Conditioned contextual freezing is a biomarker of axonal injury in a mouse model of blast-induced mild traumatic brain injury and can be used for drug characterization. C. WEISS; F. R. LENDACKI; J. C. PINA-CRESPO; P. H. RIGBY; G. GARCIA; J. L. DUCKWORTH; J. F. DISTERHOFT; A. M. WYRWICZ; J. SPIESS*. *Northwestern Univ. Med. Sch., Northshore Univ. Healthsystem, Sanford Burnham Prebys Med. Discovery Inst., L3 Applied Technologies, Uniformed Services Univ. of the Hlth. Sci., Cortrop Inc.*

10:00 H25 **479.07** ▲ Pramipexole counteracts the outcomes of traumatic brain injury in wistar rat on oxidative stress and behavioral dysfunction. M. SALMAN*; S. PARVEZ; H. TABASSUM. *Jamia Hamdard, Indian Council of Med. Res.*

11:00 H26 **479.08** Effects of assessment timing and rat strain on auditory processing and spatial learning after mild traumatic brain injury. S. W. THRELKELD*; E. MORALES CESTERO; D. LAFLAMME; A. B. BRADFORD; J. SZMYDYNGER-CHODOBSKI; A. CHODOBSKI. *Regis Col., Rhode Island Hosp.*

8:00 H27 **479.09** Focal brain lesion induced by ultraviolet irradiation in a rhesus monkey. M. NAKATA*; A. TAKEMURA; K. MATSUDA; S. YAMAMOTO. *AIST.*

9:00 H28 **479.10** ● Selective activation of central thalamic pathways facilitates behavioral performance in healthy non-human primates. A. JANSON*; J. L. BAKER; C. R. BUTSON. *Univ. of Utah, Univ. of Utah, Weill Cornell Med. Col., Univ. of Utah.*

10:00 H29 **479.11** Boston University concussion scale (BUCS). S. CHANCELLOR*; T. BELLIO; E. S. FRANZ; J. PIETRO; J. A. MONCASTER; O. MINAEVA; L. E. GOLDSTEIN. *Boston Univ., Boston Univ., Boston Univ.*

11:00 H30 **479.12** ● Variable changes in global brain connectivity resulting from traumatic brain injury. J. NAKUCI*; M. MCGUIRE; F. SCHWESER; D. POULSEN; S. E. MULDOON. *Univ. At Buffalo, Univ. at Buffalo, Univ. at Buffalo, Univ. at Buffalo, SUNY.*

8:00 H31 **479.13** Electrographic, behavioral and peripheral blood biomarkers of post-traumatic epileptogenesis. U. DEVARAJ*; A. BRAGIN; J. ENGEL, Jr. *Univ. of California, Brain Res. Inst., Neurobio. and Psychiatry and Biobehavioral Sci.*

9:00 H32 **479.14** *In vivo* spatiotemporal patterns of oligodendrocyte and myelin damage at the neural electrode interface. K. CHEN*; S. WELLMAN; F. CAMBI; J. R. ELES; T. D. KOZAI. *Univ. of Pittsburgh, Univ. of Pittsburgh and Carnegie Mellon Univ., Univ. of Pittsburgh, Veterans Admin. Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

10:00 H33 **479.15** Effects of mild traumatic brain injury on widespread cortical function. R. E. CARTER*; E. SCOTT; L. S. POPA; J. ARONSON; J. DOMINQUEZ; L. GHANBARI; S. B. KODANDARAMAIAH; S. CRAMER; T. J. EBNER. *Univ. of Minnesota, Univ. of Minnesota.*

11:00 H34 **479.16** ● The glymphatic function following repetitive mild traumatic brain injury: Risk for Parkinson's disease? X. CAI*; I. HARDING; J. QIAO; B. COLARUSSO; T. KNOX; P. P. KULKARNI; C. F. FERRIS. *Northeastern Univ., Ctr. of Translational NeuroImaging, Northeastern Univ., Northeastern Univ.*

8:00 H35 **479.17** Does treatment with sleep aids following TBI alter the development of post-traumatic epilepsy? P. V. RODRIGUES*; S. S. R. KONDURU; J. A. PFAMMATTER; M. V. JONES; R. K. MAGANTI. *Univ. of Wisconsin, Madison, Univ. of Wisconsin Madison, Univ. of Wisconsin Madison.*

9:00 H36 **479.18** Disruption of Sharp wave-Ripple and phase amplitude coupling across laminar hippocampal CA1 following traumatic brain injury. C. COTTONE*; K. G. GAGNON; C. D. ADAM; M. SERGISON; I. H. CHEN; A. V. ULYANOVA; J. A. WOLF. *Univ. of Pennsylvania.*

10:00 H37 **479.19** *In vivo* phage biopanning facilitates discovery of acute traumatic brain injury specific targeting peptides. B. I. MARTINEZ*; N. STEPHANOPOULOS; C. W. DIEHNELT; S. E. STABENFELDT. *Arizona State Univ.*

11:00 H38 **479.20** Sleep spindles and its role as a potential biomarker for the development of secondary epilepsy post traumatic brain injury. S. KONDURU*; J. PFAMMATTER; P. RODRIGUES; M. JONES; R. MAGANTI. *Univ. of Wisconsin - Madison.*

8:00 H39 **479.21** ▲ Characterization of dendritic spines, synaptophyisin and α-Synuclein in the orbitofrontal cortex tissue from suicide victims. A. J. VAZQUEZ HERNANDEZ*; A. A. ORDUÑA; L. ARROYO GARCÍA, SR; R. A. VAZQUEZ, SR; H. TENDILLA; S. DURAN; F. TAKAJASHI MEDINA; F. GARCIA-DOLORES; G. FLORES. *Inst. De Fisiologia - BUAP, Benemerita Univ. Autonoma De Puebla, Inst. Politecnico Nacional, Benemerita Univ. Autonoma de Puebla, Inst. De Fisiología, Benemérita Univ. Autónoma De Puebla, Inst. De Fisiologia - Benemerita Univ. Autonoma de Puebla, Inst. de Ciencias Forenses, Inst. De Ciencias Forenses, Univ. Autonoma de Puebla / Inst. de Fisiologia.*

9:00 H40 **479.22** *In vitro* simulated traumatic brain injury decreases tyrosine hydroxylase expression in human primary dopaminergic cells. M. A. RAMIREZ-LEE*, Sr; H. ROSAS-HERNANDEZ; S. M. LANTZ; E. CUEVAS; S. F. ALI; S. Z. IMAM. *Natl. Ctr. for Toxicological Res.*

10:00 H41 **479.23** The influence of the val66met polymorphism of the brain derived neurotrophic factor gene on pathology in an isogenic human *in vitro* model of neurotrauma. C. K. FRANZ; J. K. PHILLIPS; K. Y. COTTON; J. GRAFMAN; M. J. QUEZADA; J. D. FINAN*. *Shirley Ryan Abilitylab, Northshore Univ. Healthsystem, Kessler Fndn. Res. Ctr.*

11:00 H42 **479.24** The influence of mild traumatic brain injury on immune response and development of post-traumatic headache in healthy adults. J. A. SMITH; J. XIE; P. MALICKY; C. CAREY; J. M. SAXE; K. M. NAUGLE; F. A. WHITE*. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., IUPUI, St. Vincent's Hlth. Syst., Indiana Univ. Sch. of Med.*

Tues. AM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 H43 **479.25** The role of deficient pain modulatory systems in the development of subacute and chronic post-traumatic headaches following mild traumatic brain injury: An exploratory study. K. M. NAUGLE*; C. CAREY; J. HACKETT; J. SAXE; F. A. WHITE. *Indiana Univ. Purdue Univ. Indianapolis, St. Vincent Indianapolis Hosp., Indiana Univ. Sch. Med.*

9:00 H44 **479.26** Alpha modulation during rest and vigilance and autobiographical memory retrieval tasks in the human central thalamus. E. Y. CHOI*; J. L. BAKER; A. S. FOGARTY; D. T. AVANSINO; A. P. JANSON; B. K. RUTT; C. R. BUTSON; N. D. SCHIFF; J. M. HENDERSON. *Stanford Univ., Weill Cornell Med. Col., Stanford Hlth. Care, Univ. of Utah, Stanford Univ.*

10:00 H45 **479.27** Assessing biomarker potential and cytotoxicity of neuronal and astrocyte derived exosomes from individuals with mild traumatic brain injury. C. N. W. WINSTON*; R. A. RISSMAN; V. B. RISBROUGH. *UC San Diego, UCSD Sch. of Med., Univ. of California San Diego.*

POSTER

480. Traumatic Brain Injury: Mechanisms and Therapeutic Strategies

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 H46 **480.01** Upper alpha to theta ratio predicts duration of post traumatic amnesia following traumatic brain injury. M. L. VINAO-CARL*; N. GORGORAPTIS; D. J. SHARP. *Imperial Col. London.*

9:00 I1 **480.02** The impact of subconcussive head injuries on cognition-linked electrophysiological markers in contact sport athletes. N. M. RASO*; M. MAZUREK; S. BECKER; I. KINLEY; L. IAFRATE; C. PIRES. *McMaster Univ., McMaster Univ.*

10:00 I2 **480.03** Patterns of binocular horizontal and vertical saccade velocity abnormalities in mild TBI. J. H. ANDERSON*. *Minneapolis VA Hlth. Care Syst.*

11:00 I3 **480.04** Slow potentials of spreading depolarizations in clinical electrocorticography of traumatic brain injury: Measurement and modeling. T. WATANABE; J. A. HARTINGS*. *Vagalume, LLC, Univ. of Cincinnati.*

8:00 I4 **480.05** Large-scale receptor tyrosine kinase screening reveals dynamic signaling architecture; unveiling novel translational targets for therapy in blunt traumatic brain injury at acute time point. R. REHMAN*; M. MILLER; M. MULAW; A. CHANDRASEKAR; U. HASSAN; A. TAKEOKA; F. ROSELLI. *Ulm Universiy, Neuro-Electronics Res. Flanders (NERF), Ulm Universiy, Tech. Univ., German Resilience Ctr. (DRZ).*

9:00 I5 **480.06** Elevating microRNA-125b to treat traumatic brain injury via multiple target genes in rats. B. G. LYETH*; X. CHENG; Z. YE; B. LYU; T. OMUNGUYE-GEORGE; D. LIU. *UC Davis, UC Davis, Univ. of California, Davis, UC Davis.*

10:00 I6 **480.07** Ketogenic diet ameliorates cognitive impairment in a mouse model of TBI. M. HAR EVEN; V. RUBOVITCH; S. SCHREIBER; C. G. PICK*. *Tel Aviv Univ., Tel Aviv Med. Ctr.*

11:00 I7 **480.08** MiR-212-5p attenuates ferroptotic neuronal death after traumatic brain injury by targeting Ptgs2. X. XIAO*; L. ZHANG; S. CAO; Y. JIANG; H. YAN; W. LIANG; L. GAO. *Sichuan Univ., Sichuan Univ., Sichuan Univ.*

8:00 I8 **480.09** Low dose ionizing radiation promotes motor functional restoration in a mouse model of traumatic brain injury. C. H. E. MA*; N. P. B. AU; S. L. CHAN; K. N. YU. *City Univ. of Hong Kong, City Univ. of Hong Kong, City Univ. of Hong Kong.*

9:00 I9 **480.10** ▲ Expression of brain cortex CB_1 and CB_2 cannabinoid receptors in rats with traumatic brain injury treated with repetitive low frequency transcranial magnetic stimulation. S. GARCIA-RIOS; S. VALADEZ-IBARRA; M. MARTINEZ-VARGAS; L. NAVARRO; L. VERDUGO-DIAZ*. *Univ. Nacional Autonoma de Mexico, UNAM.*

10:00 I10 **480.11** ▲ Effect of high frequency transcranial magnetic stimulation on the expression of brain cortex CB_1 and CB_2 cannabinoid receptors of rats with traumatic brain injury. S. VALADEZ-IBARRA; S. GARCÍA-RIOS; L. VERDUGO-DIAZ; M. MARTÍNEZ-VARGAS; L. NAVARRO*. *Univ. Naional Autónoma de México, Univ. Nacional Autónoma de México, Univ. Nacional Autonoma Mexico, UNAM.*

11:00 I11 **480.12** Effects of the transient receptor potential cation channel 5 inhibitor on hippocampal neuronal death after traumatic brain injury. M. PARK*; B. CHOI; A. KHO; S. LEE; D. HONG; J. JEONG; B. KANG; D. KANG; S. SUH. *Hallym Univ.*

8:00 I12 **480.13** N-docosahexaenoylethanolamine (synaptamide) GPR110-dependently reduced gliosis and improved spatial memory deficit induced by mild repetitive traumatic brain injury. H. CHEN*; A. DESAI; H. KIM. *NIAAA/NIH.*

9:00 I13 **480.14** A potential experimental therapy for TBI-induced disabilities in a rodent model. P. K. BOSE*; J. HOU; S. TSUDA; R. NELSON; D. PLANT; K. RICHARDSON; I. ANWAR; J. GODIN; R. MARTIN; A. SADEESHKUMAR; V. BAEZ; T. S. YOUN; R. J. BERGERON; F. J. THOMPSON. *North Florida/South Georgia Veterans Hlth. Syst., Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

10:00 I14 **480.15** Induction of the NF-kB signaling pathway, proinflammatory cytokines, and pyroptosis in the sensorimotor cortex, central nucleus of amygdala and locus coeruleus following TBI in rats. S. TSUDA*; J. HOU; R. NELSON; A. SADEESHKUMAR; V. BAEZ; F. J. THOMPSON; P. BOSE. *North Florida/South Georgia Veterans Hlth. Syst., Univ. of Florida, Univ. of Florida, Univ. of Florida.*

11:00 I15 **480.16** The effects of intentional performance suppression on implicit sensorimotor adaptation. D. LANTAGNE*; L. A. MROTEK; J. B. HOELZLE; D. G. THOMAS; C. S. SMITH; A. J. GROVE; R. A. SCHEIDT. *Marquette Univ. and Med. Col. of Wisconsin, Marquette Univ., Med. Col. of Wisconsin, Marquette Univ., Northwestern Univ., Natl. Sci. Fndn.*

8:00 I16 **480.17** Growth differentiation factor 11 promotes survival of retinal ganglion cells *in vitro* and *in vivo.* H. YOO*; U. SHANMUGALINGAM; D. CHAN; M. LUI; P. SMITH. *Carleton Univ.*

9:00 I17 **480.18** ▲ Regulating neuronal growth with structurally-defined glycans. G. HARTMAN*; H. LUI; A. A. VASCONCELOS; V. POMIN; J. SHARP; N. M. ASHPOLE. *Univ. of Mississippi.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 I18 **480.19** Dynamic causal modelling of methylphenidate effects in traumatic brain injury. M. BALAET*. *Imperial Col. London.*

POSTER

481. Chronic Spinal Cord Injury

Theme C – Neurodegenerative Disorders and Injury

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 I19 **481.01** Lumbosacral spinal cord epidural stimulation reduces systemic inflammation in an individual with neurologically complete chronic SCI. O. BLOOM*; A. V. OVECHKIN; C. A. ANGELI; A. ARCESE; S. J. HARKEMA. *The Feinstein Inst. For Med. Res., Zucker Sch. of Med. at Hofstra Northwell, Univ. Louisville, Frazier Rehab Inst., Univ. Louisville, Frazier Rehab Inst, KSCIRC.*

9:00 I20 **481.02** Human spinal circuitry generates intentional individual joint flexion after clinically diagnosed motor complete spinal cord injury with subthreshold lumbosacral epidural stimulation. C. A. ANGELI*; E. REJC; C. FERREIRA; S. J. HARKEMA. *Frazier Rehab Inst., Univ. of Louisville.*

10:00 I21 **481.03** ● Effects of epidural stimulation on splanchnic blood flow during tilt induced hypotension in an individual with chronic spinal cord injury. J. D. GUEST*; A. V. OVECHKIN; B. LEGG DITTERLINE; J. FISHER; S. WADE; J. M. WECHT; S. J. HARKEMA. *Univ. of Miami Miller Sch. of Med., Univ. of Louisville, Univ. of Louisville, Univ. of Louisville, Icahn Sch. of Medicine, Mount Sinai, Univ. Louisville, Frazier Rehab Inst, KSCIRC.*

11:00 I22 **481.04** Human spinal networks identified in modulating cardiovascular function independent from other functions. G. F. FORREST*; S. KIRSHBLUM; W. JILL; B. LEGG DITTERLINE, PHD P; C. A. ANGELI; E. REJC; S. J. HARKEMA. *Kessler Fndn., Kessler Inst. for Rehabil., James J Peters Veterans Affairs Med. Center, Univ. of Louisville, Frazier Rehab Inst., Univ. of Louisville, Univ. Louisville, Frazier Rehab Inst, KSCIRC.*

8:00 I23 **481.05** Epidural stimulation of the lumbosacral cord to promote storage and stimulate voiding in urethane-anesthetized transected female rats. C. HUBSCHER*; R. HOEY; D. MEDINA AGUINAGA; F. KHALIFA; S. ZDUNOWSKI; A. EL-BAZ; S. HARKEMA. *Univ. Louisville Sch. Med., Univ. Louisville Speed Sch. Engin.*

9:00 I24 **481.06** Response of distal colon and rectum to epidural stimulation of the lumbosacral cord in Wistar rats under urethane anesthesia. R. F. HOEY*; D. MEDINA AGUINAGA; F. KHALIFA; S. ZDUNOWSKI; A. EL-BAZ; S. HARKEMA; C. HUBSCHER. *Univ. of Louisville Sch. of Med., Univ. of Louisville Speed Sch. Engin., Univ. of Louisville Sch. of Med.*

10:00 I25 **481.07** Effects of wide pulse width neuromuscular electrical stimulation and afferent feedback on activation pattern modulation in individuals with severe spinal cord injury. D. J. ARPIN*; B. UGILIWENEZA; G. F. FORREST; S. J. HARKEMA; E. REJC. *Univ. of Louisville, Kessler Fndn., Univ. Louisville, Frazier Rehab Inst, KSCIRC.*

11:00 I26 **481.08** The human spinal cord can concurrently learn standing and stepping after chronic motor complete spinal cord injury. E. REJC*; C. A. ANGELI; S. HARKEMA. *Univ. of Louisville, Frazier Rehab Inst.*

8:00 I27 **481.09** Neurophysiological markers and machine learning to support the selection of epidural stimulation parameters for standing rehabilitation in humans with chronic motor complete spinal cord injury. S. MESBAH*; T. PISOLKAR; C. A. ANGELI; S. J. HARKEMA; E. REJC. *Univ. of Louisville, Frazier Rehab Inst., Univ. Louisville, Frazier Rehab Inst, KSCIRC, Univ. of Louisville.*

9:00 I28 **481.10** Regulation of cardiovascular function with epidural stimulation maintains normative blood pressure responses to bladder distension in individuals with chronic spinal cord injury. S. C. ASLAN*; A. N. HERRITY; C. HUBSCHER; S. J. HARKEMA. *Univ. of Louisville, Univ. of Louisville, Univ. Louisville Sch. Med., Univ. Louisville, Frazier Rehab Inst, KSCIRC.*

10:00 I29 **481.11** Effects of epidural spinal cord stimulation on respiratory motor function in individuals with chronic spinal cord injury. A. V. OVECHKIN*; B. DITTERLINE; S. C. ASLAN; C. A. ANGELI; S. HARKEMA. *Univ. of Louisville, Frazier Rehab Inst.*

11:00 I30 **481.12** Improved cardiac and circulatory function after epidural stimulation of the lumbosacral spinal cord. B. DITTERLINE*; S. WADE; B. UGILIWENEZA; N. SINGAM; S. J. HARKEMA; M. STODDARD; G. A. HIRSCH. *Univ. of Louisville, Univ. of Louisville, Natl. Jewish Hlth.*

8:00 I31 **481.13** Subthreshold spinal cord epidural stimulation acutely restores voluntary movement control in individuals with motor complete spinal cord injuries. J. M. D'AMICO*; S. J. HARKEMA; E. REJC; C. ANGELI. *Univ. of Louisville, Frazier Rehab Inst.*

9:00 I32 **481.14** Correlation of radiographic spinal cord parameters with volitional movement after spinal cord epidural stimulation for chronic traumatic spinal cord injury. T. BALL*; C. ANGELI; E. REJC; S. MESBAH; S. HARKEMA; M. BOAKYE. *Univ. of Louisville.*

10:00 I33 **481.15** Documentation of clinical benefits of epidural stimulation and proposal of a new multidimensional outcome measure for individuals with spinal cord injury. S. KIRSHBLUM*; C. A. ANGELI; J. D. GUEST; G. F. FORREST; J. WECHT; N. Y. HAREL; O. BLOOM; A. V. OVECHKIN; E. REJC; S. J. HARKEMA. *Kessler Inst., Frazier Rehab Inst., Univ. of Miami Miller Sch. of Med., Kessler Fndn., Bronx VA, James J. Peters VA Med. Ctr., The Feinstein Inst. For Med. Res., Univ. Louisville, Univ. of Louisville, Univ. Louisville, Frazier Rehab Inst, KSCIRC.*

11:00 I34 **481.16** Lumbosacral spinal cord epidural stimulation acutely improved cerebral blood flow regulation during orthostatic stress after chronic human spinal cord injury. S. WANG*; J. M. WECHT; A. V. OVECHKIN; B. DITTERLINE; J. D. GUEST; G. F. FORREST; O. BLOOM; S. J. HARKEMA. *Univ. of Louisville, James J Peters VA Med. Ctr., Univ. of Miami Miller Sch. of Med., Kessler Fndn., The Feinstein Inst. For Med. Res., Frazier Rehab Inst.*

8:00 I35 **481.17** Expanding target range boundaries: A new measure to evaluate continuous blood pressure stability in individuals with chronic spinal cord injury. B. UGILIWENEZA*; S. MESBAH; A. N. HERRITY; S. C. ASLAN; S. WANG; S. J. HARKEMA. *Univ. of Louisville, Univ. of Louisvlle, Univ. of Louisville, Univ. of Louisville, Univ. of Louisville, Univ. Louisville, Frazier Rehab Inst, KSCIRC.*

Tues. AM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 I36 **481.18** Human spinal circuitry can integrate somatic-visceral functions with neuromodulation in individuals diagnosed with motor complete spinal cord injury. S. J. HARKEMA*; Y. GERASIMENKO; A. N. HERRITY; C. HUBSCHER; E. REJC; C. A. ANGELI. *Univ. of Louisville, Frazier Rehab Inst., Pavlov Inst., Univ. of Louisville, Univ. Louisville Sch. Med.*

10:00 I37 **481.19** Development of regenerative therapy for spinal cord injury in dogs. W. HANYU; N. FUJITA*; J. CHEN; T. TAKEDA; R. NISHIMURA. *The Univ. of Tokyo.*

11:00 I38 **481.20** Evaluation methods for translational research of spinal cord injury. M. SHINOZAKI*; N. NAGOSHI; J. HATA; K. NAKANISHI; F. RENAULT; O. TSUJI; M. NAKAMURA; H. OKANO. *Dept. of Physiology, Keio Univ. Sch. of Med., Keio Univ. Sch. of Med., Dept. of Physiology, Keio Univ., Keio Univ.*

8:00 I39 **481.21** Optimizing urinary continence with epidural stimulation after human spinal cord injury. A. N. HERRITY*; S. C. ASLAN; S. MESBAH; C. HUBSCHER; S. J. HARKEMA. *Univ. of Louisville, Univ. of Louisville.*

POSTER

482. Somatosensation: Descending Modulation of Pain

Theme D – Sensory Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 I40 **482.01** Contribution of hypothalamic A11 dopaminergic neurons to pain modulation in the dorsal horn of the spinal cord. M. PUOPOLO*; J. LAUZADIS; H. LIU; M. NERANTZINIS. *Stony Brook Med.*

9:00 I41 **482.02** Sex differences in the link between endogenous pain modulation, resilience, pain unpleasantness and salience. S. FIROUZIAN*; N. R. OSBORNE; J. C. CHENG; J. A. KIM; R. L. BOSMA; K. S. HEMINGTON; A. ROGACHOV; K. D. DAVIS. *Toronto Western Hospital, Univ. Hlth. Network, Univ. of Toronto, Univ. of Toronto.*

10:00 I42 **482.03** Loss of endogenous analgesia leads to delayed recovery from incisional pain in a rat model of chronic neuropathic pain. J. OHTA*; T. SUTO; T. HIROKI; H. OBATA. *Gunma Univ. Grad. Sch. of Med., Gunma Univ. Grad. Sch. of Med., Gunma Univ. Grad. Sch. of Med., Fukushima Med. Univ.*

11:00 I43 **482.04** Orofacial inflammation with stress induces hyperalgesia through down-regulation of 5-HT_2 receptors. Y. XUE*; S. WEI; P. WANG; E. LIU; R. TRAUB; D. CAO. *Xi'an Jiaotong Univ. Col. of Stomatology, Xi'an Jiaotong Univ. Hlth. Sci. Ctr., Univ. of Maryland Sch. of Dent.*

8:00 I44 **482.05** Valproate inhibits stress-induced somatic and visceral pain through up-regulation of 5-HT_{2C} receptor. G. XU; Y. XUE; S. WEI; J. LI*; R. TRAUB; M. WANG; D. CAO. *Xi'an Jiaotong Univ. Col. of Stomatology, Univ. of Maryland Sch. of Dent., First Affiliated Hosp. of Xi'an Jiaotong Univ.*

9:00 J1 **482.06** Descending serotonergic facilitation of latent pain sensitization is suppressed by μ-opioid receptor constitutive activity in the rostral ventromedial medulla. A. H. COOPER*; N. S. HEDDEN; B. K. TAYLOR. *Univ. of Pittsburgh.*

10:00 J2 **482.07** Age and sex effects on brain connectivity during diffuse noxious inhibitory control (DNIC) in rats. C. TRICOU*; J. T. DA SILVA; Y. ZHANG; D. A. SEMINOWICZ; J. Y. RO. *Univ. of Maryland, Sch. of Dent.*

11:00 J3 **482.08** Differential endogenous pain inhibition between male and female rats contribute to sex differences in development of temporomandibular joint osteoarthritis pain. V. E. EATON*; C. DALY; J. LEE; I. D. MENG; T. E. KING. *Univ. of New England, Nihon Univ. Sch. of Dent., Univ. of New England.*

8:00 J4 **482.09** ● Evaluation of descending endogenous pain-modulating system in daughters of patients with fibromyalgia. L. F. MEDEIROS*; R. MUNIZ; R. H. PALUDO; J. DUSSAN-SARRIA; W. CAUMO; A. SOUZA. *UFRGS - Univ. Federal Do Rio Grande Do Sul, Univ. La Salle.*

9:00 J5 **482.10** Cancer-induced bone pain: Peripheral and central mechanisms in the rodent models of the disease. M. W. KUCHARCZYK*; A. DICKENSON; S. MCMAHON; K. BANNISTER. *King's Col. London, Univ. Col. London.*

10:00 J6 **482.11** Characterization of the widespread sensitization in trigeminal nerve-mediated inflammatory pain model of rats. M. YAJIMA*; M. SUGIMOTO; Y. K. SUGIMURA; Y. TAKAHASHI; F. KATO. *Jikei Univ. Sch. of Med.*

11:00 J7 **482.12** Resting brain connectivity underlying conditioned pain modulation analgesia. E. P. MILLS*; A. M. YOUSSEF; P. M. MACEY; L. A. HENDERSON. *Univ. of Sydney, Univ. of California at Los Angeles.*

8:00 J8 **482.13** Descending control of the spinal lamina X neurons. V. KROTOV*; K. AGASHKOV; B. V. SAFRONOV; P. BELAN; N. VOITENKO. *Bogomoletz Inst. of Physiol., Bogomoletz Inst. of Physiol., IBMC 503828360, Kiev Academic Univ.*

9:00 J9 **482.14** PEBP detects incoming nociceptive information to enhance endogenous opioid tone from descending inputs. J. LAVIGNE*; C. KIM; K. A. EDWARDS; J. M. STREICHER. *Univ. of Arizona Col. of Med., Univ. of Arizona, Dartmouth Col., Univ. of Arizona.*

10:00 J10 **482.15** The neural basis of opioid-mediated conditioned analgesia in chronic neuropathic pain. C. CHO*; V. MICHAILIDIS; A. FATIMA; H. PARK; B. PRESSWALA; N. DZIEKONSKI; A. LEONETTI; L. J. MARTIN. *Univ. of Toronto.*

11:00 J11 **482.16** Local administration of a CB1 antagonist reveals endocannabinoid tone regulating pain-modulating neurons in the rostral ventromedial medulla. Y. ZHANG*; M. E. MARTENSON; M. M. HEINRICHER. *Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*

8:00 J12 **482.17** Functional and anatomical characterization of descending periaqueductal gray (PAG) projections and their role in pain modulation. J. G. GRAJALES-REYES*; V. K. SAMINENI; A. LEGARIA; C. E. PEDERSEN; M. R. BRUCHAS; R. W. GEREAU, IV. *Washington Univ. Sch. of Med., Univ. of Washington.*

9:00 J13 **482.18** Transcranial direct-current stimulation over the primary motor cortex reduces A-fibre mediated mechanical sensitivity in a severe area of capsaicin-induced secondary hyperalgesia. S. HUGHES*; G. WARD; P. H. STRUTTON. *Imperial Col. London.*

10:00 J14 **482.19** ▲ Changes in the balance of pro-versus anti-nociception during the development of capsaicin-induced secondary hyperalgesia in healthy volunteers. Y. RHO*; A. REDDY; S. HUGHES; P. STRUTTON. *Imperial Col. London.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 J15 **482.20** Attenuation of capsaicin-induced ongoing pain and secondary hyperalgesia by virtual reality stimulation is related to the activity within endogenous pain inhibitory pathways. S. HUGHES; H. ZHAO; E. AUVINET; P. H. STRUTTON*. *Imperial Col. London.*

8:00 J16 **482.21** Correlation between pain-related behaviors and synaptic transmission in amygdala CRF neurons in a neuropathic pain model. T. KIRITOSHI*; V. A. YAKHNITSA; V. NEUGEBAUER. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*

9:00 J17 **482.22** Optogenetic stimulation of amygdala CRF neurons modulates pain-related behaviors in a rodent model of neuropathic pain. V. NEUGEBAUER*; M. MAZZITELLI; V. A. YAKHNITSA. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*

10:00 J18 **482.23** Kappa opioid receptor blockade restores inhibition of amygdala CRF neurons in a functional pain model. M. HEIN*; G. JI; E. NAVRATILOVA; F. PORRECA; V. NEUGEBAUER. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Univ. of Arizona Col. of Med., Texas Tech. Univ. Hlth. Sci. Ctr.*

11:00 J19 **482.24** Kappa opioid receptors mediate hyperactivity of central amygdala neurons in a functional pain model. G. JI*; E. NAVRATILOVA; F. PORRECA; V. NEUGEBAUER. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Univ. of Arizona Col. of Med., Texas Tech. Univ. Hlth. Sci. Ctr.*

8:00 J20 **482.25** Group II metabotropic glutamate receptors modulate synaptic transmission in CRF-CeA neurons in an arthritic pain model. M. MAZZITELLI*; V. NEUGEBAUER. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*

9:00 J21 **482.26** Phenotypic differences in potassium (SK) channel dysfunction in the amygdala in a rat model of neuropathic pain. V. A. YAKHNITSA*; T. KIRITOSHI; V. NEUGEBAUER. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*

POSTER

483. Pain Models: Pharmacology

Theme D – Sensory Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 J22 **483.01** Columbianadin reduces oxaliplatin-induced neuropathic pain through an inhibition of L-type voltage-gated calcium currents in dorsal root ganglion neurons. X. SU*; B. WU; W. ZHANG; Y. JI; Q. WANG; Z. TAN*. *Indiana Univ., Heilongjiang Univ. of Chinese Med., Shanghai Univ., Guangdong Pharmaceut. Univ.*

9:00 J23 **483.02** Optimizing pharmacological targeting of AMPK for treatment of paclitaxel-induced peripheral neuropathy. K. E. INYANG*; T. MCDOUGAL; E. RAMIREZ; M. WILLIAMS; A. KAVELAARS; C. J. HEIJNEN; G. O. LAUMET; M. D. BURTON; G. O. DUSSOR; T. J. PRICE. *Univ. of Texas At Dallas, Univ. of Texas At Dallas, Univ. of Texas MD Anderson Cancer Ctr., Univ. of Texas M D Anderson Cancer Ctr., Univ. of Texas MD Anderson Cancer Ctr., Univ. of Texas At Dallas, UTD.*

10:00 J24 **483.03** ● Investigation of the plasma cytokine/chemokine profile of the chronic constriction injury rat model of neuropathic pain: Relevance to pharmacological reversal of allodynia. E. SOKOLOWSKA*; J. PRENDERVILLE; M. BIANCHI; A. THOMAS; A. FISHER; N. UPTON. *Transpharmation Ireland Ltd, Transpharmation Ltd.*

11:00 J25 **483.04** Sex-dependent antiallodynic effect of α_5GABA_A receptors and differences in α_5GABA_A receptors regulation in neuropathic rodents. Ú. FRANCO-ENZÁSTIGA*; A. B. SALINAS-ABARCA; R. GONZÁLEZ-BARRIOS; B. SÁNCHEZ-HERNÁNDEZ; P. BARRAGAN-IGLESIAS; G. GARCÍA; J. MURBARTIAN; T. J. PRICE; R. DELGADO-LEZAMA; V. GRANADOS-SOTO. *Cinvestav, Sede Sur, Inst. Nacional de Cancerología (INCan), Inst. Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, UTD, Cinvestav, Sede Sur, Cinvestav, IPN.*

8:00 J26 **483.05** ▲ Anti-allodynic effect of the combination tramadol and N-palmitoylethanolamide in rats with chronic constriction of the sciatic nerve. Y. BLANCO HERNANDEZ*; L. C. MENA VALDÉS; F. J. LÓPEZ MUÑOZ. *CINVESTAV.*

9:00 J27 **483.06** Inhibition of neuropathic pain via NPY Y1 receptor activation in the dorsal horn. T. S. NELSON*; D. F. S. SANTOS; K. E. MCCARSON; B. K. TAYLOR. *Univ. of Pittsburgh Sch. of Med., Univ. of Kansas Med. Ctr.*

10:00 J28 **483.07** Analgesic effects of a fish skin preparation on chemotherapy-induced neuropathic pain in rats. H. KIM*; S. HWANG; P. YANG; J. M. AL-HASSAN; S. ABDI. *The Univ. of Texas MD Anderson Cancer Ctr., The Univ. of Texas MD Anderson Cancer Ctr., Kuwait Univ.*

11:00 J29 **483.08** ● Effect of 5-HT7 receptor agonist on chronic pain associated co-morbid disorders in neuropathic rats. V. GOURA*; P. JAYARAJAN; A. KISHORE; R. ABRAHAM; A. VUYYURU; R. NIROGI. *Suven Life Sci. Ltd., Manipal Acad. of Higher Educ.*

8:00 J30 **483.09** ● ▲ Assessment of the efficacy of different pharmacological treatments in a model of partial meniscectomy-induced osteoarthritis in female rats. A. ZANON; V. MAFFRE; Y. DARBAKY; L. DIOP*. *ANS Biotech.*

9:00 J31 **483.10** ● Investigation of the temporal plasma cytokine/chemokine profile of the monosodium iodoacetate rat model of osteoarthritis: Relevance to pharmacological reversal of hyperalgesia. J. A. PRENDERVILLE*; E. SOKOLOWSKA; M. BIANCHI; A. L. THOMAS; C. MONTAGUT-BORDAS; A. S. FISHER; N. UPTON; A. H. DICKENSON. *Transpharmation Ireland Ltd, Transpharmation Ltd, Univ. Col. London, Univ. Col. London.*

10:00 J32 **483.11** Anti-inflammatory and anti-nociceptive activities of Montanoa tormentosa topical preparation in Wistar rats. I. E. JUAREZ-ROJOP*; G. E. VILLAR-JUAREZ, Jr; C. A. TOVILLA-ZARATE; D. E. AGUILAR-DOMINGUEZ; A. M. ZETINA-ESQUIVEL; J. C. DIAZ-ZAGOYAZ; J. L. BLE-CASTILLO; T. RAMON-FRIAS. *Univ. Juárez Autonoma De Tabasco, Univ. Anahuac Queretaro, Univ. Nacional Autonoma de Mexico.*

11:00 J33 **483.12** ▲ Antihyperalgesic and antiallodynic activities of the rosmarinus officinalis oil nanoemulsion in a fibromyalgia model in rats. A. HERNÁNDEZ LEÓN*; M. E. GONZÁLEZ-TRUJANO; J. C. TAVARES-CARVALHO; A. NAVARRETE. *Inst. Nacional de Psiquiatría Ramón de la Fuente Muñiz, Univ. Federal do Amapa, Univ. Nacional Autónoma de México.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 J34 **483.13** ▲ Potential analgesic-like effects of Tilia americana var. mexicana in an experimental animal model of fibromyalgia. Y. E. QUINTO-ORTIZ*; A. HERNANDEZ-LEON; L. D. PALOMINO-NAVARRETE; M. E. GONZALEZ-TRUJANO. *Natl. Inst. of Psychiatry "Ramón de la Fuen, Natl. Inst. of Psychiatry Ramón de la Fuente Muñiz, Natl. Autonomous Univ. of Mexico.*

9:00 J35 **483.14** Spinal dopaminergic receptors contribute to nociception in a rat model of fibromyalgia. Y. E. DE LA LUZ-CUELLAR*; F. MERCADO; V. GRANADOS-SOTO. *CINVESTAV Sede Sur, INPRFM.*

10:00 J36 **483.15** Protein kinase C-beta isoform as a mechanism promoting chronic pain in sickle cell disease. Y. HE*; Z. J. WANG. *Univ. of Illinois at Chicago, Univ. Illinois.*

11:00 J37 **483.16** Opioid-induced hyperalgesia by chronic administration of morphine is caused by serotonin in spinal dorsal horn and, in part, through the 5HT-3 receptor. Y. KAMIYA*; M. SASAKI; M. TANAKA; K. BAMBA; T. OHNISHI. *Niigata Univ. Hosp.*

8:00 J38 **483.17** The role of cannabinoids and terpenes in cannabis-mediated analgesia in rats. K. J. SUFKA*; H. M. HARRIS; M. A. ROUSSEAU; A. S. WANAS; M. M. RADWAN; S. CALDWELL; K. J. SUFKA*; M. A. ELSOHLY. *Univ. of Mississippi, Univ. of Mississippi, Univ. of Mississippi, Univ. of Mississippi.*

9:00 J39 **483.18** The marijuana-derived terpene β-Caryophyllene reverses mechanical allodynia and thermal hyperalgesia in a mouse model of neuropathic pain. J. L. WILKERSON*; J. S. FELIX; L. R. MCMAHON. *Univ. of Florida, Univ. of Florida.*

10:00 J40 **483.19** The role of spinal endocannabinoids in a rat model of oro-facial neuropathic pain. K. NAKAI*; A. NAKAE; Y. MINEGISHI; R. URABE; M. MIYAMAE; T. YANAGIDA; K. HOSOKAWA; T. KUBO. *Univ. of Fukui Hosp., Osaka Univ. Grad. Sch. of Frontier Biosci., Osaka Univ. Grad. Sch. of Med., Osaka Univ. Grad. Sch. of Med.*

11:00 J41 **483.20** ● High capacity *in vitro* disease modelling of chronic pain. P. KARILA*; C. NODIN; S. LARDELL; M. KARLSSON. *Cellectricon AB.*

8:00 J42 **483.21** Spinal calcitonin gene-related peptide promotes chronic pain plasticity and depolarizes dorsal horn chloride reversal potentials in female but not male mice. C. A. PAIGE*; I. P. FERNANDEZ; M. KUMEO; M. PAPALAMPROPOULOU-TSIRIDOU; L. LORENZO; G. L. MEJIA, JR; F. M. FERRINI; Y. DE KONINCK; G. DUSSOR; T. J. PRICE. *Univ. of Texas At Dallas, Laval Univ., Univ. of Turin, Laval Univ. / IUSMQ.*

9:00 J43 **483.22** HC-030031, TRPA1 antagonist, produced efficacy in AITC-induced pain despite low theoretical receptor occupancy. M. HAJOS; R. GILFILLAN; J. P. GILBERT; M. CHAMBERS; A. KÄRKKÄINEN; S. ROBJOHNS; E. LOWE; G. CLARK; S. WILLIAMS; S. MAIDMENT; D. MISZCZUK*. *Biogen, Charles River Discovery, Charles River Discovery.*

10:00 J44 **483.23** Antinociceptive profile of substituted phthalimides with aspartate enantiomers in rats. E. RAMIREZ-SAN JUAN*; C. CAMPOS-RODRIGUEZ; I. CUMBRES-VARGAS; A. PINEDA-PINEDA; R. M. AGUILAR-SANCHEZ; J. G. TRUJILLO-FERRARA. *Escuela Nacional De Ciencias Biologicas, Inst. Politecnico Nacional, Georgetown Univ., Escuela Superior de Medicina, Inst. Politecnico Nacional.*

11:00 J45 **483.24** Analgesic efficacy of highly selective and biologically stable neurotensin type 2 receptor (NTS2) analogs. M. VIVANCOS*; R. FANELLI; A. RENÉ; J. LONGPRÉ; F. CAVELIER; P. SARRET. *Univ. de Sherbrooke, Univ. de Montpellier.*

8:00 J46 **483.25** ● A transgenic model with humanized TRPA1 pore domain enables study of human-selective TRPA1 inhibitors in the rat. M. DOURADO; K. L. STARK; R. M. REESE; P. KARILA; S. LARDELL; K. ANDERSON; S. WARMING; D. H. HACKOS*. *Genentech Inc, Genentech, Inc., Genentech, Cellectricon AB, Genentech, Inc.*

9:00 K1 **483.26** Pharmacological effect of hydrogen sulfide on the hypersensitivity to pain in male Wistar rats with insulin resistance. J. H. BELTRÁN-ORNELAS*; D. CENTURIÓN; D. L. SILVA-VELASCO; A. SÁNCHEZ-LÓPEZ; F. J. LÓPEZ-MUÑOZ. *CINVESTAV.*

10:00 K2 **483.27** ▲ Evaluation of the antinociceptive effect of Ipomoea stans. O. A. JARAMILLO-MORALES*; C. A. MENDOZA-GÓMEZ; M. BAUTISTA-ÁVILA; C. VELÁZQUEZ-GONZÁLEZ; L. A. MORENO-ROCHA; M. SÁNCHEZ-ZAVALA; M. DE LA O-ARCINIEGA. *Área Académica de Farmacia y Enfermería, Inst. de Ciencias de la Salud, Univ. Autónoma del Estado de Hidalgo, Área Académica de Farmacia, Inst. de Ciencias de la Salud, Univ. Autónoma del Estado de Hidalgo, Univ. Autónoma Metropolitana, Unidad Xochimilco, Área Académica de Química, Inst. de Ciencias Básicas e Ingeniería, Univ. Autónoma del Estado de Hidalgo.*

POSTER

484. Somatosensation: Pain and Opioids

Theme D – Sensory Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 K3 **484.01** Differential effects of opioid versus alcohol dependence on pain avoidance behavior and regional endocannabinoid system deficiency. J. A. CUCINELLO*; M. E. BERNER; A. R. PAHNG; S. EDWARDS; K. N. EDWARDS. *LSU Hlth. Sci. Ctr., Loyola Univ.*

9:00 K4 **484.02** Different mechanisms mediate endogenous and exogenous opioid analgesia in inflammatory pain. Y. DOU*; X. ZHANG; M. ZHAO; Q. LI; A. LI; Y. SUN. *Inst. of Neurosci., Huazhong Univ. of Sci. and Technol.*

10:00 K5 **484.03** Effect of protein kinase C inhibition within the periaqueductal gray on morphine antinociceptive tolerance. A. RAM; E. N. BOBECK*. *Utah State Univ.*

11:00 K6 **484.04** Neuropeptide oxytocin enhances μ opioid receptor signaling as a positive allosteric modulator. Y. MEGURO*; K. MIYANO; S. HIRAYAMA; H. FUJII; Y. UETA; N. SATA; T. YADA; Y. UEZONO. *Jichi Med. Univ., Natl. Cancer Ctr. Res. Inst., Kitasato Univ., Univ. of Occup. and Envrn. Hlth., Kansai Electric Power Med. Res. Inst., Kobe Univ., Natl. Cancer Ctr.*

8:00 K7 **484.05** OPRM1 transfection reduces nociception and mortality in oral cancer mouse models. N. H. TU*; K. INOUE; H. WILLIAM; M. S. AHMAD; R. X. DANG; H. D. TRAN; D. H. KIM; E. DOWSE; I. KENTARO; S. YAMANO; B. L. SCHMIDT. *Bluestone Ctr. For Clin. Res.*

9:00 K8 **484.06** Daily intermittent fasting in mice enhances morphine induced anti-nociception while mitigating multiple side effects. D. I. DURON*; J. M. STREICHER. *Univ. of Arizona.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 K9 **484.07** Kappa opioid receptors mediate TRPA1 analgesia. E. SEMIZOGLOU*; C. GENTRY; S. BEVAN; D. A. ANDERSSON. *King's Col. London.*

11:00 K10 **484.08** A role for dopaminergic signaling in opioid resistance following spinal cord injury. H. M. RODGERS*; R. PATTON; J. YOW; S. LIM; S. CLEMENS; K. L. BREWER. *Brody Sch. of Medicine, East Carolina Univ.*

8:00 K11 **484.09** ● A_3 adenosine receptor activation prevents opioid-induced hyperalgesia and antinociceptive tolerance. T. M. DOYLE*; T. M. LARGENT-MILNES; E. ESPOSITO; V. STAIKOPOULOS; Z. CHEN; R. DALGARNO; M. MOUSSEAU; D. TOSH; S. CUZZOCREA; K. A. JACOBSON; T. TRANG; M. HUTCHINSON; G. J. BENNETT; T. VANDERAH; D. SALVEMINI. *St. Louis Univ., Univ. of Arizona, Univ. of Messina, Univ. of Adelaide, Univ. of Calgary, NIH, Univ. of San Diego.*

9:00 K12 **484.10** Effects of oxycodone on striatal direct and indirect pathway medium-sized spiny neurons in dorsal striatum. J. BARRY*; K. D. OIKONOMOU; E. DONZIS; S. CHOPRA; C. Y. YANG; P. GOLSHANI; C. J. EVANS; M. S. LEVINE; C. CEPEDA. *UCLA, UCLA Dept. of Neurol., UCLA.*

10:00 K13 **484.11** Acupuncture attenuates neuropathic pain and opioid tolerance in mice via orexin-initiated endocannabinoid signaling in the periaqueductal gray. M. LEE*; L. CHIOU. *Col. of Medicine, Natl. Taiwan Univ., Col. of Medicine, Natl. Taiwan Univ., China Med. Univ.*

11:00 K14 **484.12** Effect of hyperbaric oxygen (HBO_2) on withdrawal-induced hyperalgesia during spontaneous withdrawal in morphine-dependent mice. A. L. BREWER*; D. Y. SHIRACHI; R. M. QUOCK. *Washington State Univ., Univ. of the Pacific.*

8:00 K15 **484.13** Chinese herbal extract attenuates morphine tolerance and dependence. K. NUSEIR*; I. MARMOUZI; A. ALACHKAR; O. CIVELLI. *Jordan Univ. of Sci. and Technol., Univ. of California at Irvine, Univ. of California Irvine, Univ. of California Irvine.*

9:00 K16 **484.14** Upregulation of the μ-opioid receptor in response to naltrexone occurs via an endoplasmic reticulum exit site-dependent pathway. S. GRANT*; A. K. MUTHUSAMY; H. A. LESTER. *Caltech, Caltech.*

10:00 K17 **484.15** Positive allosteric modulation of cannabinoid type-1 receptors (CB1R) attenuates the anti-hyperalgesic effects of a mu opioid receptor (MOR) agonist in theperiaqueductal gray (PAG) of morphine-withdrawn rats. J. W. MIDDLETON*; U. DATTA; L. K. KELLEY; T. D. LOBELL; N. W. GILPIN. *LSU Hlth. Sci. Ctr., LSUHSC, LSU Hlth. Sci. Ctr., Louisiana State Univ. Hlth. Sci. Ctr.*

11:00 K18 **484.16** Chronic opioids and cannabinoids in models of chronic pain and pathologic bone fracture. A. L. THOMPSON*; H. CICCONE; D. MOHTY; A. SMITH; J. CONTRERAS; A. LANE; J. SORENSON; T. M. LARGENT-MILNES; T. W. VANDERAH. *Univ. of Arizona.*

8:00 K19 **484.17** Roles of Wnt signaling in physical dependence on morphine in mice. M. WU; Z. LI; L. LIANG; P. MA; D. LIU; F. RAO; X. SONG*. *Southern Univ. of Sci. and Technol., Peking Univ. Cancer Hosp. & Inst., Northwestern Univ., Peking Univ. Cancer Hosp. & Inst.*

9:00 K20 **484.18** ▲ The combination of morphine and haloperidol reduces allodynia and side effects of morphine in rats with neuropathic pain. L. C. MENA-VALDÉS*; Y. BLANCO-HERNÁNDEZ; A. MÉNDEZ-BERNAL; I. MARTÍNEZ-RACINE; J. V. ESPINOSA-JUÁREZ; F. J. LÓPEZ-MUÑOZ. *Cinvestav-Unidad Coapa, Fac. of Vet. Medicine, Natl. Autonomous Univ. of Mexico (FMVZ-UNAM).*

10:00 K21 **484.19** Spinal PGC-1a suppressed morphine tolerance through reducing oxidative stress. Y. KASHIWAGI; H. YI; K. TAKAHASHI; K. HAYASHI; S. LIU; T. IIDA; J. GU; T. KUNISAWA; S. HAO*. *Univ. of Miami, Asahikawa Med. Univ.*

11:00 K22 **484.20** Diverse cell types within the vlPAG exhibit opioid-induced GIRK currents. K. B. MCPHERSON*; K. L. SUCHLAND; S. L. INGRAM. *Oregon Hlth. & Sci. Univ.*

8:00 K23 **484.21** A suite of knockin mouse lines to resolve the functional organization of opioid receptors in neural circuits. W. M. MCCALLUM*; D. WANG; A. SHUSTER; D. J. BERG; S. LOW; G. SCHERRER. *Stanford Univ. Sch. of Med., Stanford Univ., Stanford Univ., Stanford Univ., Massachusettes Gen. Hosp., Stanford Univ.*

9:00 K24 **484.22** Architecture of opioid-mediated neuromodulation of sensory, motor, and respiratory brainstem circuits. N. F. HUG; N. MERCER LINDSAY*; W. M. MCCALLUM; G. SCHERRER. *Stanford Univ.*

10:00 K25 **484.23** PD1 modulates nociceptive synaptic transmission and mu opioid receptor signaling in the spinal cord dorsal horn. C. JIANG*; Z. WANG; M. MATSUDA; Q. HE; R. JI. *Duke Univ. Med. Ctr., Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*

11:00 K26 **484.24** Neuronal PD-1 (programmed cell death protein-1) is required for morphine analgesia and mu opioid receptor signaling. Z. WANG*; C. JIANG; M. MATSUDA; K. WANG; J. ZHAO; R. JI. *Duke Univ.*

POSTER

485. Touch: Transduction and Stimulus Encoding

Theme D – Sensory Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 K27 **485.01** Peripheral nerves are invoved in human skin elasticity. M. TSUTSUMI*; K. TAKAGAKI; S. NOMIYAMA; K. KAJIYA. *Shiseido Global Innovation Ctr.*

9:00 K28 **485.02** Human fingertip sensitivity to local coding variables of vibrotactile stimuli. A. BHATTACHARJEE; C. BRAUN; C. SCHWARZ*. *Univ. of Tuebingen.*

10:00 K29 **485.03** ▲ Characterizing the tactile sensitivity of the breasts. K. R. MCLELLAN*; K. H. LONG; A. K. SURESH; S. LINDAU; S. J. BENSMAIA. *Univ. of Chicago, Univ. of Chicago, Univ. of Chicago.*

11:00 K30 **485.04** Differential effects of potassium channel blockers on mechanical responses of three types of mechanoreceptors in whisker hair follicles of mice. M. SONEKATSU; A. YAMADA; J. LING; W. TANIGUCHI*; J. G. GU. *Univ. of Alabama at Birmingham, Wakayama Med. Univ.*

8:00 K31 **485.05** Impairment of slowly adapting type 1 mechanoreceptors in mice following vincristine treatment. M. S. SONEKATSU*; J. G. GU. *Univ. of Alabama at Birmingham.*

9:00 K32 **485.06** Integrin alpha1 beta1 increases mechanosensation and decreases cold perception in the mouse hind paw. J. MICAHUD; S. LEE; V. WAI; A. POZZI; L. BENT; A. L. CLARK*. *Univ. of Guelph, Vanderbilt Univ.*

10:00 K33 **485.07** The density of Meissner's corpuscles varies with anatomical location across the sole of the hind paw, but is not affected by integrin alpha1beta1. V. WAI*; L. ROBERTS; L. BENT; A. L. CLARK. *Univ. of Guelph.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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11:00 K34 **485.08** Dependence of texture-elicited skin vibrations on scanning speed. C. M. GREENSPON*; K. R. MCLELLAN; J. D. LIEBER; S. J. BENSMAIA. *Univ. of Chicago.*

8:00 K35 **485.09** Imaging the fingerpad deformations during vertical oscillations of a hand-held object. B. P. DELHAYE*; F. SCHILTZ; J. THONNARD; P. LEFEVRE. *Univ. Catholique de Louvain, Univ. Catholique de Louvain.*

9:00 K36 **485.10** ● Consistency and discrepancy between reported direction and trajectory: Layered mechanisms of tactile motion perception. S. KUROKI*. *NTT Communication Sci. Labs.*

10:00 K37 **485.11** Fine orientation processing in the tactile periphery. V. SUKUMAR*; E. HAY; A. PRUSZYNSKI. *Univ. of Western Ontario, Krembil Ctr. for Neuroinformatics, CAMH, Western Univ.*

11:00 K38 **485.12** Modeling tactile responses from the sole of the foot. R. KAZU*; N. KATIC; L. BENT; N. STRZALKOWSKI; S. RASPOPOVIC; H. P. SAAL. *Univ. of Sheffield, Univ. of Belgrade, Univ. Guelph, Univ. of Calgary, ETH Zürich, Univ. of Sheffield.*

8:00 K39 **485.13** Different cell groups encode stimulus intensity and direction in insect mechanosensory system. H. OGAWA*; K. TANAKA; M. SOMEYA; H. SHIDARA. *Hokkaido Univ., Hokkaido Univ., RIKEN CBS.*

9:00 K40 **485.14** A three-dimensional dynamical model of the rat vibrissal array. N. O. ZWEIFEL*; N. E. BUSH; I. ABRAHAM; T. D. MURPHEY; M. J. Z. HARTMANN. *Northwestern Univ.*

10:00 L1 **485.15** Simulating deformation of the whisker shaft within the follicle. Y. LUO*; J. W. RUDNICKI; M. J. HARTMANN. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*

11:00 L2 **485.16** Complex, three-dimensional whisker stimulation reveals functional tiling of both adaptation and stimulus encoding properties in whisker responsive trigeminal ganglion neurons. N. E. BUSH*; S. A. SOLLA; M. J. Z. HARTMANN. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Northwestern Univ.*

8:00 DP06/L3 **485.17** (Dynamic Poster) Using biomimetic robotic whiskers to simultaneously extract 3D contours and texture: An approach for modeling neural responses in the whisker-trigeminal system. Y. YI*; H. M. EMNETT; K. J. KLECZKA; M. J. Z. HARTMANN. *Northwestern Univ., Northwestern Univ.*

9:00 L4 **485.18** Coordination of head and whisker kinematics in rats during a three-dimensional tactile search task. A. RESULAJ*; K. J. KLECZKA; M. J. Z. HARTMANN. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*

10:00 L5 **485.19** Cerebral fNIRS hemodynamic response encodes the velocity of patterned tactile stimuli. M. HOZAN*; J. GREENWOOD; S. M. BARLOW. *Univ. of Nebraska-Lincoln, Univ. of Nebraska-Lincoln, Univ. of Nebraska-Lincoln.*

11:00 L6 **485.20** Does spike timing in somatosensory cortex code for vibratory frequency? T. CALLIER*; Q. HE; S. J. BENSMAIA. *Univ. of Chicago, Univ. of Chicago.*

8:00 L7 **485.21** Sensory and lick-related neuronal activity in mouse somatosensory cortex underlying recognition of elementary tactile sequences. M. R. BALE; M. BITZIDOU; E. GIUSTO; M. MARAVALL*. *Univ. of Sussex.*

9:00 L8 **485.22** Rapid sensory adaptation in the thalamocortical network of the mouse and the relative contribution of synaptic depression. N. C. WRIGHT*; P. Y. BORDEN; Y. LIEW; M. F. BOLUS; W. STOY; C. R. FOREST; G. B. STANLEY. *Georgia Inst. of Technol.*

POSTER

486. Touch: Cortical Encoding and Plasticity

Theme D – Sensory Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 L9 **486.01** Effects of transcranial direct current stimulation on tactile perception in musicians and non-musicians. L. DADASHEV; A. A. KARIM; B. GODDE*. *Jacobs Univ., Univ. Clin. of Psychiatry and Psychotherapy.*

9:00 L10 **486.02** Inter- and intrahemispheric resting-state functional connectivity alterations associated with upper limb somatosensory recovery early post stroke. N. DE BRUYN*; L. SAENEN; L. THIJS; E. CEULEMANS; S. MEYER; K. ALAERTS; G. VERHEYDEN. *KU Leuven-Neurorehabilitation Sci., Jessa Hopsital.*

10:00 L11 **486.03** Cortical map remodeling in the intact hemisphere and functional recovery after focal ischemic stroke to the primary somatosensory cortex. J. FACCHINI*; C. A. XERRI; N. CATZ; Y. ZENNOU-AZOGUI. *Aix-Marseille University, CNRS.*

11:00 L12 **486.04** Preserved individual finger representations in tetraplegia. S. KIKKERT*; M. VERLING; D. PFYFFER; P. FREUND; N. WENDEROTH. *ETH Zürich, Spinal Cord Injury Ctr. Balgrist, Univ. of Zürich.*

8:00 L13 **486.05** Somatosensory brain mapping. S. LEE*; M. LEE; J. KIM; S. PARK; J. AHN; S. YANG; S. YANG. *Incheon Natl. Univ., Yonsei Univ., City Univ. of Hong Kong, Incheon Natl. Univ.*

9:00 L14 **486.06** Assessing plasticity of somatotopy and receptive field specificity of digit representations in primary somatosensory cortex after injury. D. HULSEY*; J. K. MATHEW; M. P. KILGARD; S. A. HAYS. *Univ. of Texas at Dallas, Univ. of Texas At Dallas, Univ. of Texas At Dallas.*

10:00 L15 **486.07** Malleability of the cortical hand map following single digit nerve block. D. B. WESSELINK*; Z. SANDERS; H. DEMPSEY-JONES; A. THEMISTOCLEOUS; S. KIKKERT; J. DIEDRICHSEN; T. R. MAKIN. *UCL, Univ. of Oxford, ETH Zurich, Western Univ.*

11:00 L16 **486.08** Encoding and decoding bimanual vibration frequency information in human sensorimotor cortex. M. RAHMAN*; J. M. YAU. *Baylor Col. of Med.*

8:00 L17 **486.09** Intracortical microstimulation of bilateral human finger areas of S1 enabled by MRI, fMRI, and intra-operative ECoG mapping. M. S. FIFER*; T. M. THOMAS; R. W. NICKL; D. CANDREA; D. MCMULLEN; E. A. POHLMEYER; L. E. OSBORN; M. C. THOMPSON; M. A. ANAYA; S. J. BENSMAIA; W. SCHELLEKENS; N. F. RAMSEY; W. S. ANDERSON; B. A. WESTER; N. E. CRONE; P. A. CELNIK; G. L. CANTARERO; F. V. TENORE. *Johns Hopkins Applied Physics Lab., Johns Hopkins Univ., Johns Hopkins Univ., NIH, Johns Hopkins Univ. Applied Physics Lab., Johns Hopkins Univ., Univ. of Chicago, UMC Utrecht, Brain Ctr. Rudolf Magnus, Univ. of Utrecht, Johns Hopkins Univ., Johns Hopkins Univ.*

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9:00 L18 **486.10** Long-term stability of projected fields evoked via intracortical microstimulation in a human with chronically implanted electrodes. V. KARAPETYAN*; C. HUGHES; S. FLESHER; M. BONINGER; J. L. COLLINGER; R. A. GAUNT. *Univ. of Pittsburgh, Stanford Univ., Univ. of Pittsburgh.*

10:00 L19 **486.11** Neural responses in human primary somatosensory cortex to vibrotactile stimulation suggest more overlap in afferent representations of individual digits than sensory perceptions elicited by ICMS. T. M. THOMAS*; M. S. FIFER; D. N. CANDREA; D. P. MCMULLEN; R. W. NICKL; M. C. THOMPSON; E. A. POHLMEYER; M. ANAYA; G. L. CANTARERO; W. S. ANDERSON; F. V. TENORE; B. A. WESTER; P. A. CELNIK; N. E. CRONE. *Johns Hopkins Univ., Johns Hopkins Applied Physics Lab., NIMH, NIH, Johns Hopkins Univ., Johns Hopkins Applied Physics Lab., Johns Hopkins Hosp., Johns Hopkins Hosp.*

11:00 L20 **486.12** Dynamical coupling between primary somatosensory cortex and primary motor cortex during active grasping of a soft compliant object. H. G. CU*; W. TRUCCOLO; L. LYNCH; K. HUANG; D. BORTON; A. NURMIKKO. *Brown Univ., Brown Univ.*

8:00 L21 **486.13** Task-specific training to promote earlier cortical reactivation and hand use recovery in monkeys after incomplete dorsal column spinal cord injury. J. L. REED*; H. QI; J. H. KAAS. *Vanderbilt Univ.*

9:00 L22 **486.14** Morphometry, topology and structural plasticity in trigeminal nuclei of adult rats exposed to an enriched environment. Y. MARTIN*; C. AVENDANO; P. NEGREDO. *Francisco De Vitoria Univ. CIF – G80480197, Univ. Autonoma de Madrid, Fac. Medicina.*

10:00 L23 **486.15** VIP neurons receive less ipsi- but more contralateral cortical long-range input in the absence of cortical layers. G. HAFNER*; J. GUY; M. WITTE; E. M. CALLAWAY; J. F. STAIGER. *Inst. of Neuroanatomy, Salk Inst.*

11:00 L24 **486.16** Structural and functional seasonal plasticity in layer 4 of the adult somatosensory cortex. S. RAY*; M. LI; S. MUELLER; P. BOEHM-STURM; M. BRECHT; R. K. NAUMANN. *Weizmann Inst. of Sci., Humboldt University/BCCN, Chinese Acad. of Sciences, Shenzhen Inst. of Advanced Technol., Charité Universitätsmedizin.*

8:00 L25 **486.17** The organization of somatosensory cortex in prairie voles (Microtus ochrogaster): Do parental rearing styles impact the functional organization of somatosensory cortex? C. R. PINEDA; M. K. L. BALDWIN; L. A. KRUBITZER*. *Univ. of California, Davis, Univ. of California, Davis.*

9:00 L26 **486.18** Rewarded sensory experience persistently increases excitatory connectivity in superficial layers of somatosensory cortex. S. E. MYAL*; A. L. BARTH. *Carnegie Mellon Univ.*

10:00 L27 **486.19** Trunk cortex is a sensorimotor amalgam. F. P. PAUZIN*; B. NANDAKUMAR; G. H. BLUMENTHAL; K. A. MOXON. *UC Davis, Univ. Of California Davis.*

11:00 L28 **486.20** Responses of neurons in spinal trigeminal nucleus interpolaris (SpVi) to stimulation of the whiskers in different directions and at different speeds. T. J. ALSTON*; C. S. BREESE; K. J. KLECZKA; A. RESULAJ; M. J. Z. HARTMANN. *Northwestern, Univ. of California, Davis.*

8:00 L29 **486.21** Automated markerless tracking of the vibrissal array and 3D head pose of rodents during a search task. K. J. KLECZKA*; A. RESULAJ; M. J. Z. HARTMANN. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*

POSTER

487. Scenes and Space

Theme D – Sensory Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 L30 **487.01** Evidence for visual representation of numerosity in natural scenes. M. MELL*; G. ST-YVES; E. J. ALLEN; Y. WU; K. N. KAY; T. NASELARIS. *Med. Univ. of South Carolina, Univ. of Minnesota Twin Cities, Univ. of Minnesota Twin Cities, Univ. of Minnesota Twin Cities.*

9:00 L31 **487.02** The natural scenes dataset: Massive, high-quality whole-brain 7T fMRI measurements during visual perception and memory. E. J. ALLEN*; Y. WU; J. HUTCHINSON; T. NASELARIS; K. N. KAY. *Univ. of Minnesota, Univ. of Oregon, Med. Univ. of South Carolina, Univ. of Minnesota Twin Cities.*

10:00 L32 **487.03** Natural scene statistics of depth and motion pertinent to figure-ground segregation. X. HUANG; C. WANG; B. ARSENEAU; T. E. YERXA; E. A. COOPER*. *Univ. of Wisconsin – Madison, Univ. of California, Berkeley, Univ. of California, Berkeley.*

11:00 L33 **487.04** Neural representation of obstacles in a scene. Y. LEE*; S. PARK. *Yonsei Univ.*

8:00 L34 **487.05** Predictive models of neural activity in response to natural stimuli from large scale physiology. M. D. OLIVER; B. HU; D. MILLMAN; X. JIA; D. J. DENMAN; J. H. SIEGLE; S. R. OLSEN; S. E. DEVRIES; S. MIHALAS; M. A. BUICE*. *Allen Inst. for Brain Sci., Allen Inst. For Brain Sci., Allen Inst. For Brain Sci., Allen Inst.*

9:00 L35 **487.06** Sulcal depth is a marker for the development and evolution of scene selectivity in high-level visual cortex. K. S. WEINER*; V. S. NATU; M. J. ARCARO; M. A. BARNETT; J. GOMEZ; M. S. LIVINGSTONE; K. GRILL-SPECTOR. *Univ. of California, Berkeley, Univ. of Texas Southwestern Med. Ctr., Harvard Med. Sch., Univ. of Pennsylvania, Stanford Univ.*

10:00 L36 **487.07** Expanding visual feature spaces towards a general encoding model of scene perception. A. Y. WANG; M. J. TARR; L. WEHBE. *Carnegie Mellon Univ., Carnegie Mellon Univ., Carnegie Mellon Univ.*

11:00 L37 **487.08** ▲ How we recognize patterns on crumpled surfaces. P. GANGOPADHYAY; S. P. ARUN*. *Indian Inst. of Sci.*

8:00 L38 **487.09** Real-world physical distance drives human fMRI activation throughout the visual hierarchy. M. MALTSEVA*; D. J. QUINLAN; K. M. STUBBS; T. A. KONKLE; J. C. CULHAM. *Western Univ., Western Univ., Western Univ., Harvard Univ.*

9:00 L39 **487.10** Heterogeneous responses to 3D surface pose in macaque CIP. R. DOUDLAH*; T. CHANG; B. KIM; A. SUNKARA; A. ROSENBERG. *Univ. of Wisconsin-Madison, Stanford Univ. Sch. of Med.*

10:00 L40 **487.11** Clustered micro-organization of direction-selective cells in the primary visual cortex of common marmosets. H. ZENG; Z. SHEN*; M. POO. *Inst. of Neuroscience, SIBS, CAS, Inst. of Neuroscience, SIBS, CAS.*

Tues. AM

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* Indicates abstract's submitting author

11:00 L41 **487.12** Heterogeneous responses to 3D surface pose in macaque V3A. T. CHANG*; R. DOUDLAH; B. KIM; A. SUNKARA; A. ROSENBERG. *Univ. of Wisconsin-Madison, Stanford Univ. Sch. of Med.*

POSTER

488. Representations of Objects

Theme D – Sensory Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 L42 **488.01** Transformations of object representations across the human visual processing hierarchy. V. MOCZ*; M. VAZIRI PASHKAM; M. M. CHUN; Y. XU. *Yale Univ., Natl. Inst. of Mental Hlth.*

9:00 L43 **488.02** Modulation of visual responses in mouse superior colliculus in a figure-ground segregation task. J. L. CAZEMIER*; P. R. ROELFSEMA; J. A. HEIMEL. *Netherlands Inst. For Neurosci.*

10:00 L44 **488.03** Material perception in human and nonhuman primate subjects, compared by the similar discrimination task. M. ITO*; H. TAKEDA; K. FUSHIMI; T. MATSUBARA. *Tokyo Med. and Dent. Univ.*

11:00 L45 **488.04** A map of object space in primate inferotemporal cortex. P. BAO*; L. SHE; M. MCGILL; D. Y. TSAO. *Caltech.*

8:00 L46 **488.05** Response dynamics in primate V4 are modulated by perceptual dimensions of visual textures. T. KIM*; W. BAIR; A. K. PASUPATHY. *Univ. of Washington.*

9:00 M1 **488.06** Solid shape representation in biological and artificial vision. R. SRINATH*; Q. A. WANG; K. J. NIELSEN; C. E. CONNOR. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*

10:00 M2 **488.07** Short-term memory for border ownership in cortical area V4. T. P. FRANKEN*; J. H. REYNOLDS. *The Salk Inst. for Biol. Studies.*

11:00 M3 **488.08** Decoding representations of food images within the ventral visual stream. C. CORICELLI*; K. M. STUBBS; R. I. RUMIATI; J. C. CULHAM. *Intl. Sch. For Advanced Studies (SISSA), Brain and Mind Institute, Univ. of Western Ontario, ANVUR.*

8:00 M4 **488.09** Distributed representation of temporally persistent visual categories. L. Y. DEOUELL*; G. VISHNE; E. M. GERBER; R. T. KNIGHT. *The Hebrew Univ. of Jerusalem, Hebrew Univ. of Jerusalem, Hebrew Univ. of Jerusalem, Univ. of California Berkeley.*

9:00 M5 **488.10** Processing of movement-shape associations in inferior temporal cortex. D. BURK*; D. L. SHEINBERG. *Brown Univ.*

10:00 M6 **488.11** Pattern separation in ventral visual stream. K. M. FERKO*; A. BLUMENTHAL; D. PROKLOVA; C. B. MARTIN; T. BUSSEY; L. M. SAKSIDA; A. KHAN; S. KOHLER. *Western Univ., Univ. of Toronto, The Brain and Mind Institute, Western Univ., Univ. of Toronto, Univ. of Western Ontario, Western Univ., Univ. Western Ontario.*

11:00 M7 **488.12** Activation of high-level visual object representations by spatial frequency magnitude. M. ØVERVOLL*. *Uit - The Arctic Univ. of Tromso.*

8:00 M8 **488.13** Core visual object recognition behavior in common marmosets. S. L. BOKOR; A. J. E. KELL; Y. JEON; T. TOOSI; E. B. ISSA*. *Columbia Univ.*

9:00 M9 **488.14** Disentangling “what” and “where” visual information in neural network vision models. E. CHRISTENSEN*; J. ZYLBERBERG. *Univ. of Colorado, Univ. of Colorado Sch. of Med.*

10:00 M10 **488.15** Neural code of face memory in the macaque IT and perirhinal face patches. L. SHE*; M. K. BENNA; S. FUSI; D. Y. TSAO. *Caltech, Columbia Univ.*

11:00 M11 **488.16** Understanding the brain’s code for 3D objects via immersive virtual reality. E. KOCH*; B. HAGHI; D. Y. TSAO. *Caltech.*

8:00 M12 **488.17** Neural correlates of perceptual switches in binocular rivalry without active report. J. K. HESSE*; V. WADIA; U. RUTISHAUSER; D. Y. TSAO. *Caltech, Cedars-Sinai Med. Ctr.*

9:00 M13 **488.18** Probing the neural substrates of visual imagination in humans. V. WADIA*; J. K. HESSE; A. MAMELAK; U. RUTISHAUSER; D. Y. TSAO. *Caltech, Cedars-Sinai Med. Ctr.*

10:00 M14 **488.19** The code for occluded faces in IT cortex. Y. SHI*; D. Y. TSAO. *Caltech.*

11:00 M15 **488.20** Behavioral tools for studying object vision in the northern tree shrew. F. LANFRANCHI*; J. B. WEKSELBLATT; F. LUONGO; D. Y. TSAO. *CALTECH, Caltech, Caltech, Caltech.*

8:00 M16 **488.21** Spatial and time-frequency representations of glossy material properties in the monkey inferior temporal cortex. K. KAWASAKI*; H. MIKI; K. ANZAI; M. SAWAYAMA; T. MATSUO; T. SUZUKI; I. HASEGAWA; T. OKATANI. *Niigata Univ. Med. Sch., Niigata Univ. Fac. of Engin., NTT Communication Sci. Labs., Tokyo Metropolitan Neurolog. Hosp., Ctr. for Information and Neural Networks, Natl. Inst. of Information and Communications Technology., Tohoku Univ. Grad. Sch. of Information Sci.*

9:00 M17 **488.22** Curvature domains in V4 of macaque monkey. J. HU*; X. SONG; A. W. ROE. *Zhejiang Univ.*

10:00 M18 **488.23** Investigating ventral stream computations in the mesopallium and entopallium of the pigeon brain. W. J. CLARK*; B. S. PORTER; M. COLOMBO. *Univ. of Otago.*

11:00 M19 **488.24** Combined neural responses from different domain-specific regions successfully resolve ambiguous perception. M. ROSENKE*; N. DAVIDENKO; K. GRILL-SPECTOR; K. S. WEINER. *Stanford Univ., Univ. of California, Santa Cruz, Univ. of California, Berkeley.*

8:00 M20 **488.25** The role of low-level visual properties in rapid snake detection of human observers. T. KIM*; D. KWON; H. PARK; D. YI. *Yonsei Univ.*

9:00 M21 **488.26** Evidence that recurrent pathways between the prefrontal and inferior temporal cortex is critical during core object recognition. K. KAR*; J. J. DICARLO. *MIT, MIT.*

10:00 M22 **488.27** Comparing simple invariances in V4 to those in a deep neural network. W. BAIR*; A. W. BIGELOW; D. V. POPOVKINA; D. A. POSPISIL. *Univ. of Washington.*

11:00 M23 **488.28** Visualization of neural representations using generative adversarial networks. K. MALAKHOVA*. *Pavlov Inst. of Physiol.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract’s submitting author

POSTER

489. Faces and Bodies

Theme D – Sensory Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 M24 **489.01** Getting to know you - Multivariate pattern decoding of EEG data shows how identity representation is born in the human brain. G. KOVÁCS; G. AMBRUS; C. EICK; D. KAISER. *Friedrich-Schiller-University of Jena, Freie Univ. Berlin.*

9:00 M25 **489.02** Temporal dynamics of dorsal and ventral visual stream interaction during configural face processing. K. D. RANA*; A. C. DEL GIACCO; V. ZACHARIOU; L. G. UNGERLEIDER. *Natl. Inst. of Mental Hlth., Univ. of Kentucky.*

10:00 M26 **489.03** Beyond the uncanny valley: Naturalistic dynamic monkey head avatar elicits behavioral reactions comparable to videos of real monkeys. R. SIEBERT*; N. TAUBERT; S. SPADACENTA; P. W. DICKE; M. A. GIESE; P. THIER. *Hertie Inst. for Clin. Brain Research, Univ. of Tübingen, Grad. Sch. Neural and Behav. Sciences, IMPRS for Cogn. and Syst. Neurosc., Univ. of Tübingen, Hertie Inst. for Clin. Brain Research, Univ. of Tübingen.*

11:00 M27 **489.04** Changes of the variability of neuronal responses in the posterior superior temporal sulcus of monkeys complement rate-based information on social interactions. H. RAMEZANPOUR*; M. GÖRNER; P. THIER. *Hertie Inst. for Clin. Brain Research, Univ. of Tübingen.*

8:00 M28 **489.05** The neurons that mistook a hat for a face: Neuronal responses to visual clutter and ambiguity. M. J. ARCARO*; C. R. PONCE; M. S. LIVINGSTONE. *Univ. of Pennsylvania, Harvard Med. Sch., Washington Univ. At St. Louis.*

9:00 M29 **489.06** Electrical microstimulation establishes a causal role of the superior temporal gaze-following patch (GFP) in controlling gaze-following and its context dependent modulation. I. CHONG*; H. RAMEZANPOUR; P. THIER. *Hertie Inst. for Clin. Brain Res.*

10:00 M30 **489.07** Are face processed nonconsciously? Yes, but so are dartboards and alarm clocks: An EEG and b-CFS investigation of nonconscious perception. H. M. QUILLIAN; A. D. ENGELL*. *Kenyon Col., Yale Univ.*

11:00 M31 **489.08** Visualizing the evolving selectivity in macaque visual cortex using a generative adversarial network. P. F. SCHADE*; W. XIAO; T. S. HARTMANN; M. S. LIVINGSTONE. *Harvard Med. Sch., Harvard Univ.*

8:00 M32 **489.09** The nature of category selectivity in the ventral visual pathway. B. RITCHIE; J. BOSMANS; S. SUN; K. VERHAEGEN; A. ZEMAN; H. P. OP DE BEECK*. *KU Leuven.*

9:00 M33 **489.10** Anterior face patch neurons display characteristic tuning to specific facial parts. E. N. WAIDMANN*; K. W. KOYANO; J. J. HONG; B. E. RUSS; D. A. LEOPOLD. *Natl. Inst. of Mental Hlth., Nathan S. Kline Inst. For Psychiatric Res.*

10:00 M34 **489.11** Familiar face recognition as deviations from average faces. Z. SHEHZAD; G. MCCARTHY*. *Columbia Univ., Yale Univ.*

11:00 M35 **489.12** A relationship between autism quotient score and face viewing behavior in healthy adults. K. WEGNER-CLEMENS*; J. RENNIG; M. S. BEAUCHAMP. *Baylor Col. of Med.*

8:00 M36 **489.13** Whole brain fmri reveals the neural correlates of face pareidolia in monkeys. J. TAUBERT*; S. G. WARDLE; S. KUMAR; C. T. JAMES; E. KOELE; A. MESSINGER; L. G. UNGERLEIDER. *The Natl. Inst. of Mental Hlth., NIH, NIH, Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*

9:00 M37 **489.14** fMRI and MEG reveal the spatial organization and temporal dynamics of illusory face perception in the human brain. S. G. WARDLE*; J. TAUBERT; L. TEICHMANN; C. I. BAKER. *NIH, Macquarie Univ.*

10:00 M38 **489.15** Neuronal coding of dynamic partial shape views in the body selective patch of the anterior STS. A. BOGNÁR*; R. VOGELS. *KU Leuven.*

11:00 M39 **489.16** ● Effects of tactile stimulation on face and object perception of face transplant patients and controls. E. GÜLBETEKIN*; S. BAYRAKTAR; Ö. ÖZKAN; Ö. ÖZKAN; H. UYSAL; A. U. SENOL; Ö. COLAK; A. SAVKLIYILDIZ; D. KANTAR GOK. *Akdeniz Univ., Akdeniz Univ., Akdeniz Univ., Akdeniz Univ., Akdeniz Univ., Akdeniz Univ.*

8:00 M40 **489.17** Is the face schema innate? Evidence from learning faces in the congenital blind. L. T. L. LIKOVA*; M. MEI; K. MINEFF; S. NICHOLAS. *Smith-Kettlewell Eye Res. Inst.*

9:00 M41 **489.18** Intermediate visual features of primes bias trustworthiness ratings of neutral faces. A. C. DEL GIACCO*; K. D. RANA; X. YUE; M. GHANE; L. G. UNGERLEIDER. *Natl. Inst. of Mental Hlth.*

POSTER

490. Visual Learning, Memory, and Categorization

Theme D – Sensory Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 M42 **490.01** V4 local field potentials explain shape detection accuracy, precision, and learning. E. J. MOORE*; K. WEINER; G. GHOSE. *Univ. of Minnesota.*

9:00 M43 **490.02** ▲ Sparse deep predictive coding to model visual object recognition. V. BOUTIN*; A. FRANCIOSINI; F. RUFFIER; L. PERRINET. *Inst. Des Neurosciences De La Timone, Inst. des Sci. du Mouvement.*

10:00 M44 **490.03** Cortical feedback modulation of experience dependent oscillations in mouse primary visual cortex. Y. TANG*; A. CHUBYKIN. *Purdue Univ.*

11:00 N1 **490.04** Representations of image identity and image memorability are shaped by different mechanisms in inferotemporal cortex. V. MEHRPOUR; T. MEYER; N. C. RUST*. *Univ. of Pennsylvania.*

Tues. AM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 N2 **490.05** Searching for a training protocol to exploit residual visual function in low-vision patients: Six sessions of training improves performance in a complex task of facial emotion recognition using peripheral vision in normally sighted subjects. M. JURICIC-URZÚA*; E. LORCA-PONCE; S. MADARIAGA; D. ZENTENO; M. VILCHES; L. PRATO; K. PADILLA; J. VARAS; P. BUSTAMANTE; J. ARAYA; S. NAZAL; P. E. MALDONADO. *Lab. De Neurosistemas, Dept. de Neurociencias, Facultad de Medicina, Univ. de Chile, Dept. de Oftalmología, Facultad de Medicina, Univ. de Chile, Dept. de Terapia Ocupacional y Cs. de la Ocupación, Facultad de Medicina, Univ. de Chile, Servicio de Oftalmología, Hosp. Clínico Univ. de Chile, Dept. de Tecnología Médica, Facultad de Medicina, Univ. de Chile, Lab. De Neurosistemas, Dept. de Neurociencias, Facultad de Medicina, Univ. de Chile.*

9:00 N3 **490.06** Decoding memory-specific feedback signals from early visual areas. J. ORTIZ-TUDELA*; J. BERGMANN; M. BENNETT; L. MUCKLI; Y. SHING. *Goethe Univ., Univ. of Glasgow, Univ. of Glasgow.*

10:00 N4 **490.07** Temporal expectation in marmosets. T. DRAGOI*; H. SUGIHARA; M. HU; J. SHARMA; M. SUR. *MIT, MIT, MIT.*

11:00 N5 **490.08** Perceptual scaling improves eyewitness identification. S. G. GEPSHTEIN*; Y. WANG; F. HE; D. DIEP; T. D. ALBRIGHT. *The Salk Inst., Univ. of California.*

8:00 N6 **490.09** Visual perceptual learning in the ferret. E. L. DUNN-WEISS*; J. J. ROSS; K. J. NIELSEN. *Johns Hopkins Univ., Morgan State Univ.*

9:00 N7 **490.10** Representations of image memory and image memorability are largely non-overlapping in inferotemporal cortex. V. MEHRPOUR*; E. P. SIMONCELLI; N. C. RUST. *Univ. of Pennsylvania, New York Univ. / HHMI.*

10:00 N8 **490.11** Primary visual cortex integrates information across a wide range of time scales and can predict conditional and high-order sequential associations. S. KNUDSTRUP*; C. JENSEN; B. PRICE; J. GAVORNIK; R. SCHECTER. *Boston Univ.*

11:00 N9 **490.12** Unsigned reward prediction error signals in frontal eye field. M. R. SHTEYN*; C. R. OLSON. *Carnegie Mellon Univ., Univ. of Pittsburgh.*

8:00 N10 **490.13** Determination of correlation between eye movement parameters and academic performance of undergraduate senior students. H. ARGUNSAH BAYRAM; M. SAHINER; O. HATIPOGLU; M. B. BAYRAM*; L. ALTINTAS; T. SAHINER. *Acibadem Mehmet Ali Aydinlar Univ., Acibadem Mehmet Ali Aydinlar Univ., Mem. Hosp.*

9:00 N11 **490.14** Modulation of alpha ERD reflects the acquiring and the emerging structure of novel visual categories. J. FISER*; S. JELLINEK. *Central European Univ.*

10:00 N12 **490.15** Single cells in mouse medial prefrontal cortex represent learned rules for categorization. S. REINERT*; T. BONHOEFFER; M. HÜBENER; P. M. GOLTSTEIN. *Max-Planck-Institute of Neurobio.*

11:00 N13 **490.16** Learning of visual categories is associated with enhanced feature representations in a subset of mouse visual cortex areas. P. M. GOLTSTEIN*; S. REINERT; T. BONHOEFFER; M. HÜBENER. *Max Planck Inst. of Neurobio.*

8:00 N14 **490.17** ▲ The interaction of category representation and spatial frequency in the macaque inferotemporal cortex. B. KARAMI*; R. KOUSHKI; E. REZAYAT; F. SHAKERIAN; A. VAHABIE; M. A. DEHAQANI. *IPM-Institute For Res. In Fundamental Sci., Tarbiat Modares Univ., Univ. of Tehran.*

9:00 N15 **490.18** Noise correlations facilitate faster and more robust learning. M. R. NASSAR*. *Brown Univ.*

10:00 N16 **490.19** Altered excitatory and suppressive contributions to binocular contrast interactions in visual cortex in amblyopia. C. HOU*; S. NICHOLAS; P. VERGHESE. *The Smith-Kettlewell Eye Res. Inst.*

11:00 N17 **490.20** Quantifying transfer learning in mice across change detection tasks. I. MAGRANS DE ABRIL*; D. OLLERENSHAW; M. GARRETT; S. R. OLSEN; P. A. GROBLEWSKI; S. MIHALAS. *Allen Inst. for Brain Sci.*

8:00 N18 **490.21** Uncovering the mechanisms of short-term memory in a visual change detection task. B. HU*; J. SHANG; M. GARRETT; M. T. VALLEY; P. A. GROBLEWSKI; D. R. OLLERENSHAW; J. WATERS; C. KOCH; S. R. OLSEN; S. MIHALAS. *Allen Inst. for Brain Sci.*

9:00 N19 **490.22** Investigating the neural embodiment of prosthetic limbs and tools. H. R. SCHONE*; R. O. MAIMON MOR; C. I. BAKER; T. R. MAKIN. *NIH, Univ. Col. London, Univ. of Oxford.*

10:00 N20 **490.23** ● A brief intensive learning intervention affects resting state connectivity and neuropsychological test performance. G. M. ROSE*; A. C. JAGGER-RICKELS. *Southern Illinois Univ. Sch. of Med., Southern Illinois Univ.*

11:00 N21 **490.24** Causal evidence for expression of perceptual expectations in category-selective extrastriate regions. M. GANDOLFO; P. E. DOWNING*. *Bangor Univ.*

8:00 N22 **490.25** Functional changes in areas V1 and V4 during the course of perceptual learning. G. L. ASTORGA*; M. CHEN; Y. YAN; W. LI; C. D. GILBERT. *The Rockefeller Univ., Beijing Normal University, China.*

POSTER

491. Sensorimotor Transformation: Reach and Grasp

Theme D – Sensory Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 N23 **491.01** Grasping in a cluttered environment: Avoiding obstacles under memory guidance. H. H. ABBAS*; J. J. MAROTTA. *Univ. of Manitoba.*

9:00 N24 **491.02** ▲ Head motion optimizes binocular vision during head-unrestrained reaches. H. AL-TAHAN*; J. CRAWFORD. *York Univ., York Univ., York Univ., York Univ., York Univ.*

10:00 N25 **491.03** Effects of initial arm posture on reach endpoint variability. P. K. PHATARAPHRUK*; Q. RAHMAN; M. FRUCHTMAN; K. LAKSHMINARAYAN; C. A. BUNEO. *Arizona State Univ., Univ. of Arizona Col. of Med., Univ. of Michigan, Cleveland Clin. Fndn., Arizona State Univ.*

11:00 N26 **491.04** Brain-computer interface decoding during a sensory-critical task. S. SEKHAR*; E. R. OBY; N. T. MCCLAIN; A. P. BATISTA; P. J. LOUGHLIN. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

8:00 N27 **491.05** Hand orientation is influenced by gaze location and saccades in a visual memory-guided alignment task. G. N. LUABEYA*; X. YAN; J. D. CRAWFORD. *York Univ., York Univ., York Univ., York Univ., York Univ.*

9:00 N28 **491.06** Synthetic modeling of human visual motion analysis for generating quick ocular and manual responses. H. GOMI*; D. NAKAMURA. *NTT Communication Sci. Labs.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 N29 **491.07** Enhanced visual detection and visuomotor control in somatosensorily-impaired individuals. F. R. SARLEGNA*; A. RENAULT; F. MATONTI; J. COLE; R. C. MIALL. *CNRS and Aix-Marseille Univ., Aix-Marseille Univ. & CNRS, INT, Poole Hosp., Univ. of Birmingham.*

11:00 N30 **491.08** Invariant read-out of eye position from population codes with high-dimensional selectivity. J. R. MCFADYEN*; B. HEIDER; A. N. KARKHANIS; S. L. CLOHERTY; F. A. MUÑOZ; R. M. SIEGEL; A. P. MORRIS. *Monash Univ., Rutgers Univ.*

8:00 N31 **491.09** Prehensile synergies are robust to expectations of rapid upcoming movement changes. A. S. NAIK*; A. KULKARNI; S. AMBIKE. *Purdue Univ.*

9:00 N32 **491.10** Spatial extent of repetitive TMS-induced cortical plasticity in the primary motor cortex detected by resting-state fMRI. T. OSADA*; K. TAMURA; A. OGAWA; M. TANAKA; A. SUDA; Y. SHIMO; N. HATTORI; K. KAMAGATA; M. HORI; S. AOKI; T. SHIMIZU; H. ENOMOTO; R. HANAJIMA; Y. UGAWA; S. KONISHI. *Dept Neurophysiol, Juntendo Univ. Sch. Med., Dept Neurol, Juntendo Univ. Sch. Med., Dept Radiol, Juntendo Univ. Sch. Med., Dept Neurol, Tottori Univ. Sch. Med., Dept Neuro-Regenaration, Fukushima Med. Univ.*

10:00 N33 **491.11** The stability of the current motor state is influenced by expected movement: Do cognitive events during the inter-stimulus interval of choice reaction-time tasks have a motor counterpart? M. A. TILLMAN*; S. AMBIKE. *Purdue Univ., Purdue Univ.*

11:00 N34 **491.12** Stimulus onset synchrony and automatic modulation of motor response induced by a visual distractor. Y. ITAGUCHI*; D. YOSHIOKA; M. MIYAZAKI. *Shizuoka Univ., Shizuoka Univ.*

8:00 N35 **491.13** The hand synergies of simple finger and grasping movements are encoded by a common distributed low frequency cortical network. N. NATRAJ*; D. B. SILVERSMITH; E. F. CHANG; K. GANGULY. *Univ. of California, San Francisco, Univ. of California San Francisco, UCSF, UCSF.*

9:00 N36 **491.14** Feasibility of a protocol measuring force perception in young children using a play-based assessment in the natural environment. B. MOLININI*; L. ANDERSON; J. LEE; K. RAHIMIAN; S. C. DUSING; V. CHU. *Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

10:00 N37 **491.15** Hand movements are high dimensional. Y. YAN*; J. M. GOODMAN, JR; S. J. BENSMAIA. *Univ. of Chicago, Univ. of Chicago.*

11:00 N38 **491.16** Walking and texting: Neuromuscular control during smartphone manipulation. P. K. ACHARYA; A. W. VAN GEMMERT; S. A. WINGES*. *Louisiana State Univ., Univ. of Northern Colorado.*

8:00 N39 **491.17** Response to transport perturbation during reach-to-grasp in virtual environment. M. P. FURMANEK*; M. YAROSSI; M. MANGALAM; S. ANTHONY; S. MACIEL; L. F. SCHETTINO; S. V. ADAMOVICH; E. TUNIK. *Northeastern Univ., Acad. of Physical Educ., Lafayette Col., New Jersey Inst. of Technol.*

9:00 N40 **491.18** Finger force perception during pressing tasks, Comparison of force matching and psychophysical reports. C. J. CUADRA*; M. L. LATASH. *Pennsylvania State Univ., Pennsylvania State Univ.*

10:00 N41 **491.19** Skill learning with the left non-dominant hand is predicted by interhemispheric connections to right superior parietal lobule. B. A. PHILIP*; M. P. MCAVOY; S. H. FREY. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Univ. of Missouri.*

11:00 N42 **491.20** Moving objects upside-down: The robustness of dexterous manipulation. L. OPSOMER*; F. CREVECOEUR; J. THONNARD; J. MCINTYRE; P. LEFEVRE. *Univ. Catholique de Louvain, Univ. Paris Descartes.*

8:00 N43 **491.21** Artificial proximity sensation using transcutaneous electrical stimulation improves force control at telerobotic operations. Z. ZHAO; M. YEO*; S. RYU; H. PARK. *Texas A&M Univ., Texas A&M Univ.*

9:00 N44 **491.22** Sensorimotor rhythms during action observation are sensitive to experience but are not associated with skilled performance. K. A. FERCHO*; T. J. BOSCH; L. A. BAUGH. *Univ. of South Dakota, Univ. of South Dakota.*

10:00 N45 **491.23** Teleoperated robotic hand can tell size and softness of the object without vision, if force feedback from finger joints and tactile feedback from the fingertips are provided. S. MANOHARAN*; H. PARK. *Texas A&M Univ.*

POSTER

492. Human-Reaching Motor Learning

Theme E – Motor Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 N46 **492.01** ● That's not my hand: Attributing errors to external sources dampens predictive but not proprioceptive changes in hand position estimates. R. Q. GASTROCK*; S. MODCHALINGAM; C. M. VACHON; B. M. 'T HART; D. Y. HENRIQUES. *York Univ.*

9:00 O1 **492.02** ● Implicit components of learning and the two-rate model. J. E. RUTTLE*; B. M. 'T HART; D. Y. HENRIQUES. *York Univ., Ctr. for Vision Res., York Univ., Ctr. for Vision Res., York Univ.*

10:00 O2 **492.03** Proprioceptive recalibration generalizes relative to hand position. B. M. 'T HART*; J. E. RUTTLE; D. Y. HENRIQUES. *York Univ.*

11:00 O3 **492.04** ● Unbounded implicit motor adaptation. S. MODCHALINGAM*; M. CICCONE; B. M. 'T HART; D. Y. P. HENRIQUES. *York Univ., York Univ.*

8:00 O4 **492.05** Network effects of cerebellar non-invasive stimulation: An MEG study on dystonic patients and healthy controls. S. C. FICARELLA*; A. RICHARD; Q. WELNIARZ; C. GALLEA; S. MEUNIER; E. ROZE; M. VIDAILHET. *Inst. du Cerveau et de la Moelle épinière, Sorbonne Universités, Inserm U 1127, CNRS UMR 7225, Hôpital de la Pitié Salpêtrière.*

9:00 O5 **492.06** The effect of error-sensitivity and perturbation schedules on the slow and fast processes in reach adaptation. A. T. BANSAL*; B. M. 'T HART; D. Y. HENRIQUES. *York Univ., York Univ.*

10:00 O6 **492.07** ● A supination task to assess corticospinal function in mice. S. F. AGGER*; N. SERRADJ; E. C. MEYERS; A. M. SLOAN; E. R. HOLLIS. *Burke Neurolog. Inst., Univ. of Texas at Dallas, Vulintus, Inc.*

Tues. AM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 O7 **492.08** Action discovery and refinement through reinforcement in the mouse corticostriatal network. A. C. MOSBERGER*; L. J. SIBENER; V. ATHALYE; H. F. M. RODRIGUES; R. M. COSTA. *Columbia Univ.*

8:00 O8 **492.09** Thalamostriatal circuits in flexible and automatized motor skill execution. L. J. SIBENER*; A. C. MOSBERGER; H. RODRIGUES; V. ATHALYE; R. M. COSTA. *Columbia Univ.*

9:00 O9 **492.10** Reinforcement learning of continuous movements in the basal ganglia. J. M. MURRAY*; S. ESCOLA. *Columbia Univ.*

10:00 O10 **492.11** ● Corticospinal neuron function during skilled and unskilled forelimb training. F. MARINO*; N. SERRADJ; A. M. SLOAN; E. R. HOLLIS. *Burke Neurolog. Inst., Vulintus, Inc.*

11:00 O11 **492.12** Learning adapted feedback responses to unpredictable force fields during reaching. F. CREVECOEUR*; J. MATHEW; P. LEFEVRE. *Univ. of Louvain.*

8:00 O12 **492.13** Single-pulse transcranial magnetic stimulation over the parietal cortex does not impair implicit visuomotor adaptation. F. SAVOIE*; L. DALLAIRE-JEAN; F. THÉNAULT; K. WHITTINGSTALL; P. BERNIER. *Univ. de Sherbrooke, Univ. de Sherbrooke.*

9:00 O13 **492.14** Prior history of learning saturates the brain's capacities to form motor memories. R. HAMEL*; J. LEPAGE; P. BERNIER. *Univ. de Sherbrooke, Univ. de Sherbrooke, Univ. De Sherbrooke.*

10:00 O14 **492.15** Intensive motor learning induces EEG and behavioral changes that are reversed by a nap. M. F. GHILARDI*; E. GIRAU; S. RICCI; E. TATTI; C. CHAN; C. CIRELLI; G. TONONI. *CUNY, CUNY, CUNY Med. Sch., CUNY Sch. of Med., Univ. of Wisconsin Madison Dept. of Psychiatry, Univ. of Wisconsin Madison.*

11:00 O15 **492.16** Practice in a motor learning task increases movement-related beta modulation depth over frontal and ipsilateral parietal areas in a subsequent motor test. E. TATTI*; S. RICCI; R. MEHRARAM; N. LIN; S. GEORGE; M. F. GHILARDI. *CUNY Sch. of Med., CUNY Med. Sch., Newcastle Univ., CUNY.*

8:00 O16 **492.17** Consolidation of motor memory induced by instance-reliant learning. M. JAVIDI*; G. TAYS; S. BAO; J. WANG*. *Univ. of Wisconsin.*

9:00 O17 **492.18** The nature of savings associated with a visuomotor adaptation task that involves either one arm or both arms. R. JAMES*; S. BAO; J. WANG. *Univ. of Wisconsin.*

POSTER

493. Motor Learning: Circuits

Theme E – Motor Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 O18 **493.01** Cognitive and sensorimotor contributions to the nine-hole peg test: A functional near-infrared spectroscopy study. L. BONZANO*; L. PEDULLÀ; G. BRICHETTO; M. BOVE. *Univ. of Genoa, Multiple Sclerosis Italian Fndn.*

9:00 O19 **493.02** Functional connectivity between thalamus, primary motor cortex, and primary sensory cortex in humans with essential tremor. B. PARKS*; E. OPRI; S. CERNERA; A. GUNDUZ. *Univ. of Florida, Univ. of Florida.*

10:00 O20 **493.03** The effect of acute aerobic exercise on the consolidation of motor memories. S. R. HOLMAN*; W. R. STAINES. *Univ. of Waterloo.*

11:00 O21 **493.04** The influence of the subjective estimation of force production on motor-related cortical potentials. T. MIYAMOTO*; T. KIZUKA; S. ONO. *Univ. of Tsukuba.*

8:00 O22 **493.05** Developmental aspects of predictive motor abilities. S. PARK*; A. CARDINAUX; D. GUO; P. SINHA; D. STERNAD. *Northeastern Univ., MIT.*

9:00 O23 **493.06** ▲ Extrinsic noise benefits skill acquisition and timing accuracy. A. CAHILL*; Z. ZHANG; S. PARK; D. STERNAD. *Northeastern Univ.*

10:00 O24 **493.07** ● A cortico-basal ganglia model for choosing an optimal rehabilitation strategy for hemiparetic stroke. S. ELANGO*; S. V. CHAKRAVARTHY; S. JAYAKUMAR; R. NARAYANAMURTHY; V. MURALIDHARAN. *Indian Inst. of Technol. Madras, Univ. of California San Diego.*

11:00 O25 **493.08** Gender differences in competitive anxiety and coping strategies in junior handball athletes. D. IVASKEVYCH; S. FEDORCHUK*; S. TUKAIEV. *Natl. Univ. of Physical Educ. and Sports of Ukraine, Natl. Univ. of Physical Educ. and Spor.*

8:00 O26 **493.09** Perceptual modulation of the somatosensory system during planning. A. DALIRI*; B. MCGUFFIN. *Arizona State Univ., Arizona State Univ.*

9:00 O27 **493.10** ▲ Visuospatial attention modulates motor cortex excitability. S. BANDA*; A. ANAND; S. CONVENTO; J. M. YAU. *Baylor Col. of Med.*

10:00 O28 **493.11** Neural correlates of error-prediction in the course of motor learning. M. JOCH*; L. K. MAURER; M. HEGELE; H. MAURER; H. MÜLLER. *Justus Liebig Univ., Ctr. for Mind, Brain and Behavior - CMBB.*

11:00 O29 **493.12** Interfering with potentiated actions produced by near-hand targets using rTMS. A. PAOLETTI*; M. SKELLEKIE; L. BROWN. *Trent Univ.*

8:00 O30 **493.13** A cortical command circuit coordinates food handling and manipulation. X. AN*; H. MOHAN; K. MATHO; A. KEPECS; J. HUANG. *Cold Spring Harbor Lab.*

9:00 O31 **493.14** Effect of chronic low back pain on movement inhibition using a Go/No-Go paradigm. R. L. JUDY*; W. WANG; J. ALDERUCCIO; M. KLEIN; G. BRODY-HEIM; A. ANTONY; J. S. THOMAS; S. COOMBES. *Univ. of Florida, Univ. of Florida, Virginia Commonwealth Univ.*

10:00 O32 **493.15** Noisier muscle activation exacerbates dysmetria in Friedrich's ataxia relative to Spinocerebellar ataxia 6. S. L. BRACKSIECK*; A. CASAMENTO-MORAN; N. L. CLARK; B. YACOUBI KEYHANI; S. H. SUBRAMONY; D. E. VAILLANCOURT; M. CORTI; E. A. CHRISTOU. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

11:00 O33 **493.16** Frontal cortical control of brainstem inhibitory neurons projecting to the intralaminar thalamic nuclei. E. BOSZ*; V. M. PLATTNER; M. A. DIANA; L. ACSADY. *Inst. Exp. Med. Hung Acad Sci., Semmelweis Univ., Pierre at Marie Curie Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 O34 **493.17** ▲ Visual and proprioceptive cuing differentially evoke two distinct routes for imitation. M. W. ISAACS*; L. J. BUXBAUM; A. L. WONG. *Moss Rehabil. Res. Inst.*

9:00 O35 **493.18** Why don't humans always respond to a stimulus? L. MOHEIMANIAN*; S. PARASKEVOPOULOU; P. BRUNNER; G. SCHALK. *New York State Dept. of Hlth., State Univ. of New York at Albany, Albany Med. Col.*

10:00 O36 **493.19** Temporal sequencing in the human auditory system. J. R. SWIFT*; G. SCHALK. *New York State Dept. of Hlth., State Univ. of New York, Albany Med. Col.*

11:00 O37 **493.20** Kinematic changes in the uninjured limb after unilateral brachial plexus injury. L. SOUZA; G. FREIRE; J. MARTINS; L. LUSTOSA; T. POZZO; C. D. VARGAS*. *Inst. of Biophysics Carlos Chagas Filho, Inst. of Neurol. Deolindo Couto, Inst. of Neurol. Deolindo Couto, IIT@UniFe Ctr. for Translational Neurophysiol.*

8:00 O38 **493.21** How does the brain produce behavior? Advances in understanding of large-scale cortical physiology. G. SCHALK*. *Wadsworth Ctr, NYSDOH.*

POSTER

494. Cortical Planning and Execution: Neurophysiology in Rodents and Others I

Theme E – Motor Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 O39 **494.01** A novel take on zona incerta efferent connections from axonal tracing mapped with PHA-L in the rat. D. S. ZAHM*; M. T. DESTA; S. SUBRAMANIAN; Y. TAN; K. P. PARSLEY. *St. Louis Univ. Sch. of Med.*

9:00 O40 **494.02** Spatial-temporal tuning properties of the rodent frontal orienting field neurons. L. LI*; Y. CHEN; H. CHEN; J. LI; C. MA; J. C. ERLICH. *NYU-ECNU Inst. of Brain and Cognitive Sci. at NYU Shanghai, Dartmouth College, Psychological and Brain Sci., NYU Shanghai.*

8:00 DP07/O41 **494.03** (Dynamic Poster) Real-time burst detection of neural oscillations allows behaviourally relevant neurofeedback. G. KARVAT*; A. SCHNEIDER; M. ALYAHYAEY; F. STEENBERGEN; I. DIESTER. *Freiburg Univ.*

11:00 O42 **494.04** Marker free 3D tracking reveals insights into the role of the motor cortex in movement planning and execution in freely moving rodents. A. SCHNEIDER*; C. ZIMMERMANN; T. BROX; I. DIESTER. *Univ. of Freiburg, Univ. of Freiburg, Univ. of Freiburg, Univ. of Freiburg.*

8:00 O43 **494.05** Long-range connectivity does not predict functional response types in mouse anterior lateral motor cortex. W. YANG*; Z. DING; N. LI. *Baylor Col. of Med.*

9:00 O44 **494.06** The corticospinal tract is involved in sensory filtering but not motor command in the lumbar cord of rodents. C. BICHARA*; Y. MORENO-LOPEZ; M. CORDERO-ERAUSQUIN. *INCI - CNRS, Univ. of Strasbourg.*

10:00 P1 **494.07** Value information that affects decision making is transmitted from the thalamus to the motor cortex. E. YOSHIDA; K. NAKAE; K. KOBAYASHI; S. ISHII; M. MATSUZAKI*. *The Univ. of Tokyo, Kyoto Univ., Natl. Inst. for Physiological Sci.*

11:00 P2 **494.08** Intracortical microstimulation of sensorimotor cortex in short-tailed opossum (Monodelphis domestica): New insights into the evolution of motor cortex in mammals. A. C. HALLEY*; M. K. BALDWIN; M. ENGLUND; A. SANCHEZ; L. A. KRUBITZER. *Univ. of California, Davis, Univ. of California, Davis.*

8:00 P3 **494.09** Contribution of the ventro-lateral thalamus (VL) to the locomotion-related activity of motor cortex. I. N. BELOOZEROVA*. *Georgia Inst. of Technol.*

9:00 P4 **494.10** Modularity produces a robust neural code for motor planning. G. CHEN*; B. KANG; J. W. LINDSEY; S. DRUCKMANN; N. LI. *Baylor Col. of Med., Stanford Univ.*

10:00 P5 **494.11** Modulation of superior colliculus biases cortical action representations and behavior. A. M. THOMAS*; N. LI. *Baylor Col. of Med.*

11:00 P6 **494.12** Cortical features predict movement dynamics during emergence from anesthesia. S. GAO*; V. KRISHNAMURTHY; D. P. CALDERON. *Weill Cornell Med., Cornell Tech, Cornell Univ.*

8:00 P7 **494.13** Distinct activity of pyramidal and fast-spiking neurons in the mouse premotor cortex during a voluntary movement. N. C. GIORDANO*; C. ALIA; L. FRUZZETTI; A. CATTANEO; L. BONINI; M. CALEO. *CNR - IN / Scuola Normale Superiore, Scuola Normale Superiore - CNR, CNR - IN, Scuola Normale Superiore, Univ. of Parma, Neurosci. Institute, C.N.R.*

9:00 P8 **494.14** Thalamocortical control of movement initiation. J. DACRE*; M. COLLIGAN; J. AMMER; V. CHAMOSA-PINO; J. SCHIEMANN; F. CLAUDI; J. M. PAKAN; N. L. ROCHEFORT; C. HUANG; A. HANTMAN; I. DUGUID. *The Univ. of Edinburgh, The Univ. of Edinburgh, Janelia Res. Campus.*

10:00 P9 **494.15** Synaptic and cellular basis for prefrontal anticipation of motor behavior. C. ZHANG; M. ALLEGRA; F. KOUKOULI; U. MASKOS; J. CHANGEUX; C. SCHMIDT-HIEBER*. *Inst. Pasteur.*

11:00 P10 **494.16** A motivation signal in motor cortex for high-stake actions. M. ELBAZ*; S. SUBRAMANIAM; Q. LEJEUNE; C. ETHIER. *CERVO - Laval Univ.*

8:00 P11 **494.17** Causal dissection of cortical-striatal interactions governing the neural circuit control of reaching. M. A. NICHOLAS*; P. BELSEY; E. A. YTTRI. *Carnegie Mellon Univ.*

9:00 P12 **494.18** Flexible routing of bimanual forelimb movements by dual descending pathways of the motor cortex. J. PARK*; J. W. PHILLIPS; A. HANTMAN; J. T. DUDMAN. *HHMI Janelia Res. Campus.*

10:00 P13 **494.19** Calcium imaging reveals neurons with complex activity patterns in mouse motor cortex during a reach-to-water task. H. A. GRIER*; M. T. KAUFMAN. *Univ. of Chicago.*

11:00 P14 **494.20** Role of rat secondary motor cortex in complex movements and decision making. A. BURMAN*; E. M. VAZEY; D. E. MOORMAN. *Univ. of Massachusetts Amherst, Univ. of Buenos Aires, Univ. of Massachusetts.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

495. Brain-Computer Interface: Neurophysiology, Function, and Learning

Theme E – Motor Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 P15 **495.01** The rate of neuroprosthetic learning is invariant to initial levels of closed-loop decoder adaptation. B. LIU*; A. YOU; A. L. ORSBORN; J. M. CARMENA. *Duke Universtiy, The UC Berkeley - UCSF Grad. Program In Bioengi, Univ. of Washington, UC Berkeley.*

9:00 P16 **495.02** Closed loop BCI decoder optimization in a tetraplegic subject with a chronic ECoG implant. D. B. SILVERSMITH*; R. ABIRI; N. HARDY; E. F. CHANG; K. GANGULY. *UCSF, UCSF.*

10:00 P17 **495.03** Use of optical brain-computer interface to identify neural strategies underlying new skill acquisition and performance following extended practice. B. B. JEON*; S. M. CHASE; S. J. KUHLMAN. *Carnegie Mellon Univ., Carnegie Mellon Univ.*

11:00 P18 **495.04** Dynamical influence of premotor and primary motor cortex during movement. R. A. D'ALEO*; A. G. ROUSE; M. H. SCHIEBER; S. V. SARMA. *Johns Hopkins Sch. of Med., Univ. of Rochester, Univ. of Rochester, Johns Hopkins.*

8:00 P19 **495.05** ● Awakening proprioception in neuroprostheses: Modeling of muscle spindles transducers. A. CIMOLATO*; M. LAFFRANCHI; E. DE MOMI; S. RASPOPOVIC. *Politecnico Di Milano, Inst. Italiano di Tecnologia, ETH Zürich.*

9:00 P20 **495.06** Multiphoton imaging in alert mouse visual cortex reveals sparse, distributed activation of neurons by electrical stimulation. M. C. DADARLAT*; Y. J. SUN; M. P. STRYKER. *Univ. of California, San Francisco, UCSF, Univ. California Med. Sch.*

10:00 P21 **495.07** Midbrain nucleus in pigeon generates locomotion elicited by electrical stimulation. J. JANG*; Y. JUNG; C. BAEK; S. PARK; S. SHIM; K. SEO; J. SEO; S. KIM; Y. SONG. *Seoul Natl. Univ., Seoul Natl. Univ., Seoul Natl. Univ.*

11:00 P22 **495.08** Behavioral assessment of sensory percepts induced by dorsal thoracic epidural spinal cord stimulation in primates. A. P. YADAV*; M. O. KRUCOFF; M. A. LEBEDEV; M. A. NICOLELIS. *Duke Univ.*

8:00 P23 **495.09** Population level analysis of the correlations between spinal interneuron and motoneuron firing during reflexive motor activity in the spinalized and spinal intact decerebrate cat. M. A. LEMAY*; M. A. GALLO; S. SHANKAR; A. J. KRUPKA; C. K. THOMPSON. *Temple Univ., DeSales Univ., Temple Univ.*

9:00 P24 **495.10** The motor command to a single motor pool during different modes of activation. C. TAYLOR*; T. KMIEC; F. NEGRO; C. K. THOMPSON. *Temple Univ., Temple Univ., Dept. of Clin. and Exptl. Sci.*

10:00 P25 **495.11** Motor unit activation underlying upper limb reflexes to a mechanical displacement. I. KURTZER*; F. NEGRO; C. K. THOMPSON. *New York Inst. of Technol. Col. of Osteo. Med., Dept. of Clin. and Exptl. Sci., Temple Univ.*

11:00 P26 **495.12** Distinct contributions of mesencephalic locomotor regions in locomotion control. Y. HUANG*; Z. WANG. *Inst. of Neuroscience, State Key Lab. of Neuroscience, CAS Ctr. for Excellence in Brain Sci. & Intelligence Technology, Chinese Acad. of Sci., Univ. of Chinese Acad. of Sci.*

8:00 P27 **495.13** Characteristics of the pubococcygeus muscle motoneurons reflex activity in the male rat. O. LARA-GARCIA*; Y. MAR DE LEÓN; M. LARA-GARCIA; P. PACHECO; L. NICOLAS-TOLEDO. *Univ. Autónoma de Tlaxcala, Univ. Veracruzana, Univ. Nacional Autonoma de México.*

9:00 P28 **495.14** ● Strategy of motor unit activation during eccentric and concentric dynamic contractions. J. LETIZI; B. SHIWANI; J. C. KLINE; S. ROY; G. DE LUCA; P. CONTESSA*. *Delsys & Altec Inc.*

10:00 P29 **495.15** Differential adjustments to low and high threshold motor units during experimental muscle pain. E. MARTINEZ-VALDES*; F. NEGRO; D. FARINA; D. FALLA. *Univ. of Birmingham, Dept. of Clin. and Exptl. Sci., Imperial Col. London.*

11:00 P30 **495.16** Factors influencing estimation of motoneuron excitability using analysis of motor unit populations. L. M. MCPHERSON*; A. S. HASSAN; F. NEGRO; M. CUMMINGS; R. K. POWERS; J. P. DEWALD; C. HECKMAN; C. K. THOMPSON. *Washington Univ. in St. Louis, Florida Intl. Univ., Northwestern Univ., Dept. of Clin. and Exptl. Sci., Northwestern Univ., Univ. Washington, Northwestern Univ., Temple Univ.*

8:00 P31 **495.17** The need of accurate decomposition methods for the precise estimation of the neural drive to muscle. F. NEGRO*; E. MARTINEZ-VALDES; L. M. MCPHERSON; C. K. THOMPSON; A. CUDICIO; U. YAVUZ. *Universita' degli Studi di Brescia, Univ. of Birmingham, Florida Intl. Univ., Temple Univ., Univ. Twente.*

9:00 P32 **495.18** Within and across day repeatability of estimates of human spinal motoneuron excitability. C. K. THOMPSON*; T. KMIEC; P. KUMAR; L. M. MCPHERSON; F. NEGRO. *Temple Univ., Temple Univ., Florida Intl. Univ., Dept. of Clin. and Exptl. Sci.*

10:00 P33 **495.19** Striatopallidal pathway modulates neuroprosthetic learning by volitional control of calcium signals in the cortex & globus pallidus. J. CHEN*; L. ZHANG; Y. ZHOU; C. LIU; W. ZHENG; Z. YAO; Q. WANG; Y. JIN; S. ZHANG; W. CHEN. *Wenzhou Med. Univ., Zhejiang Univ.*

11:00 P34 **495.20** Adaptation of neural activity in parietal cortex of rhesus monkey during control of 3D reaches in a brain-computer interface. E. FERREA*; P. MOREL; A. GAIL. *German Primate Ctr., Univ. of Goettingen, Bernstein Ctr. for Computat. Neurosci.*

POSTER

496. Motor Systems Analysis and Models

Theme E – Motor Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 P35 **496.01** ▲ Effects of inter-stimulus interval duration and predictability on sensorimotor beta. R. B. LERICHE*; N. JACKSON; K. PETERSON; Z. ASPANDIAR; V. HUFNAGEL; N. C. SWANN. *Univ. of Oregon.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 P36 **496.02** A neuromechanical model of continuous wrist motion. L. ZIEGELMAN*; R. SUN; Y. HU; W. A. DELGADO; M. E. HERNANDEZ. *Univ. of Illinois At Urbana-Champaign, Case Western Reserve Univ.*

10:00 P37 **496.03** Transient behavior and predictability in manipulating complex objects. R. T. NAYEEM*; S. BAZZI; N. HOGAN; D. STERNAD. *Northeastern Univ., MIT, Northeastern Univ. Dept. of Biol.*

11:00 P38 **496.04** Foraging as an evidence accumulation process. J. DAVIDSON*; A. EL HADY. *Max Planck Inst. for Ornithology, Princeton Neurosci. Inst.*

8:00 P39 **496.05** A computational model of mixed pattern generation for forward locomotion in *C. elegans.* E. J. IZQUIERDO*; E. O. OLIVARES. *Cognitive Sci. Program, Indiana Univ., Indiana Univ.*

9:00 P40 **496.06** Chewing drives stepping rates regardless of chewing initiation timing suggesting top-down control of coupled oscillators. B. SAMULSKI*; J. PREBOR; S. MORRISON. *Old Dominion Univ.*

10:00 P41 **496.07** A hybrid modeling framework for the comparison of motor and sensory peripheral nerve fiber recruitment during stimulation. S. ROMENI*; G. VALLE; A. MAZZONI; S. MICERA. *The Biorobotics Institute, Scuola Superiore Sant'Anna, École Polytechnique Fédérale de Lausanne (EPFL).*

11:00 P42 **496.08** Decoding motor tasks through supervised subspace alignment. I. PENIDO*; J. B. HYNES; J. P. DONOGHUE; C. E. VARGAS-IRWIN. *Brown Univ., Carney Inst. for Brain Sci., Brown, Wyss Ctr. For Bio and Neuro Engin.*

8:00 Q1 **496.09** Large scale *in-silico striatum reconstruction on the micro-circuitry level.* J. HJORTH*; A. KOZLOV; J. FROST NYLÉN; I. CARANNANTE; R. C. LINDROOS; S. MYSORE SURYANARAYANA; G. SILBERBERG; J. HELLGREN KOTALESKI; S. GRILLNER. *Royal Inst. of Technol., Karolinska Institutet.*

9:00 Q2 **496.10** A modeling and optimization framework for understanding the role of reflexes in the feline hindlimb in promoting proportional coordination of the joints during yield. T. GOVINDARAJ*; D. R. HOWLAND; G. SAWICKI; T. R. NICHOLS. *Georgia Inst. of Technol., Univ. of Louisville, Georgia Inst. of Technol., Georgia Inst. of Technol.*

10:00 Q3 **496.11** Resting state auditory motor functional connectivity and dopaminergic responses during rhythmic auditory motor entrainment: A [11C]-(+)-PHNO PETand fMRI study. Y. KOSHIMORI*; A. P. STRAFELLA; M. VALLI; V. SHARMA; P. RUSJAN; S. HOULE; M. H. THAUT. *Univ. of Toronto, CAMH.*

POSTER

497. Control of Spinal Locomotion Circuits

Theme E – Motor Systems

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 Q4 **497.01** Diversity of dopaminergic and glutamatergic marker expression in the meso-diencephalic dopaminergic nuclei in mice. M. FOUGÈRE*; D. RYCZKO. *Univ. De Sherbrooke.*

9:00 Q5 **497.02** Stimulation of the ventral roots activates regions of the dorsal horn that are necessary to trigger locomotor-like activity in the neonatal mouse spinal cord. M. FALGAIROLLE*; M. J. O'DONOVAN. *NINDS, NIH.*

10:00 Q6 **497.03** Convergence and divergence of the excitatory drive to motoneurons within the spinal escape circuit in adult zebrafish. I. PALLUCCHI*; M. BERTUZZI; A. EL MANIRA. *Karolinska Institutet, Karolinska Institutet, Karolinska Inst.*

8:00 DP08/Q7 **497.04** (Dynamic Poster) Brainstem command neurons that specify locomotor direction. J. M. CREGG*; R. LEIRAS; O. KIEHN. *Univ. of Copenhagen.*

8:00 Q8 **497.05** The role of dopaminergic transmission in olfactomotor processing in lampreys. P. BEAUSÉJOUR*; J. VEILLEUX; F. AUCLAIR; G. DAGHFOUS; C. NGOVANDAN; D. VEILLEUX; B. ZIELINSKI; R. DUBUC. *Univ. de Montréal, Univ. du Québec à Montréal, Univ. of Windsor.*

9:00 Q9 **497.06** Multi-faced functions of the reticulospinal systems involved in muscle tone regulation with respect to the modulation of neurotransmitters within the brainstem. K. TAKAKUSAKI*; M. TAKAHASHI; T. NAKAJIMA; R. CHIBA. *Asahikawa Med. Univ.*

10:00 Q10 **497.07** Endoscopic calcium imaging of brainstem V2a stop neurons. J. SCHWENKGRUB*; E. GATIER; J. BOUVIER; B. BATHELLIER. *Paris-Saclay Inst. of Neurosci. (NeuroPSI).*

11:00 Q11 **497.08** Complex locomotor sequences encoded by different command neurons in adult zebrafish. E. M. BERG*; L. MROWKA; A. EL MANIRA. *Karolinska Inst.*

8:00 Q12 **497.09** Serotonergic neurons involved in the excitation of spinal neurons. K. E. ARMSTRONG*; S. BHAYVA; M. NAZZAL; X. CHEN; U. SLAWINSKA; K. STECINA; L. M. JORDAN. *Univ. of Manitoba, Nencki Inst. of Exptl. Biol. of PAS.*

9:00 Q13 **497.10** Neuronal age-related recruitment and coordination among reticulospinal neurons control stimulus-dependent variability of escape behavior in larval zebrafish. M. TANIMOTO; A. PUJALA*; R. LU; N. JI; M. KOYAMA. *HHMI Janelia Res. Campus, Janelia Res. Campus, Janelia Res. Campus, Univ. of California Berkeley.*

10:00 Q14 **497.11** Exploring inhibitory neuronal connectivity in the mouse locomotor circuit. S. DI COSTANZO*; G. GATTO; F. STAM; M. GOULDING. *The Salk Inst. for Biol. Studies, Univ. of California San Diego.*

11:00 Q15 **497.12** Spinal V3 Interneuron subpopulations diversify along temporally ordered developmental pathways. D. A. DESKA-GAUTHIER*; J. BOROWSKA-FIELDING; H. ZHANG; J. B. BIKOFF; Y. ZHANG. *Dalhousie Univ., St. Jude Children's Res. Hosp., Dalhousie Univ.*

8:00 Q16 **497.13** Distinct neuronal drives from central locomotor circuits modulate breathing during exercise. C. HÉRENT*; S. DIEM; G. FORTIN; J. BOUVIER. *CNRS.*

9:00 Q17 **497.14** Functional organization of the spinal locomotor network based on analysis of interneuronal activity. P. V. ZELENIN*; O. V. GORSKII; Y. P. GERASIMENKO; T. G. DELIAGINA; P. E. MUSIENKO. *Karolinska Institutet, Pavlov Inst. of Physiol., St. Petersburg State Univ.*

10:00 Q18 **497.15** A model for self-organizing spinal cord circuitry through learning. J. M. D. ENANDER*; A. M. JONES; M. KIRKLAND; J. HURLESS; H. JORNTELL; G. E. LOEB. *Univ. Lund, USC, USC.*

11:00 R1 **497.16** Analysis of the transverse distribution of the locomotor CPG during different speeds of fictive locomotion. V. RANCIC; K. BALLANYI; S. GOSGNACH*. *Univ. of Alberta.*

Tues. AM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 R2 **497.17** Cats stepping on a split belt treadmill reveal a functional organization of commissural interactions within the spinal locomotor circuits. E. M. LATASH; W. H. BARNETT; R. A. CAPPS; S. M. DANNER; A. FRIGON; I. A. RYBAK; Y. I. MOLKOV*. *Georgia State Univ., Georgia State Univ., Drexel Univ. Col. of Med., Univ. de Sherbrooke, Georgia State Univ.*

9:00 R3 **497.18** Role of spinal V3 interneurons in left-right coordination of locomotor activity. N. A. SHEVTSOVA; H. ZHANG; S. DANNER; I. RYBAK; Y. ZHANG. *Drexel Univ. Col. of Med., Dalhousie Univ.*

POSTER

498. Vocalization and Social Behavior in Non-Avian Species

Theme F – Integrative Physiology and Behavior

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 R4 **498.01** ▲ Correlating neural and behavioral responses in an insect model. B. A. NAVIA*; B. SHIN. *Andrews Univ.*

9:00 R5 **498.02** Testosterone levels regulate dopamine innervation in the inner ear of a seasonally breeding vocal fish. J. PERELMUTER*; L. DEMIS; R. A. MOHR; J. A. SISNEROS; P. M. FORLANO. *The Grad. Center, City Univ. of New York, Brooklyn Col., Univ. of Washington, Univ. Washington, City Univ. of New York, Brooklyn Col.*

10:00 R6 **498.03** Molecular characterization of vocal neurons in Xenopus laevis. R. T. INAGAKI; S. RAGHURAMAN; L. LEAVITT; K. CHASE; T. STEEL; E. ZORNIK; B. M. OLIVERA; A. YAMAGUCHI*. *Univ. of Utah, Reed Col.*

11:00 R7 **498.04** Syntax information maximization: Optimizing classification of mouse ultrasonic vocalizations. S. HERTZ*; B. WEINER; N. PERETS; M. LONDON. *The Hebrew Univ. of Jerusalem, Tel Aviv Univ.*

8:00 R8 **498.05** Using a sound source localization system to determine the function of mouse vocal signals during naturalistic group interaction. M. R. WARREN*; R. S. CLEIN; J. P. NEUNUEBEL. *Univ. of Delaware.*

9:00 R9 **498.06** Quantifying dynamic social and vocal behavior of freely interacting mice using a sound source localization system. R. S. CLEIN*; D. T. SANGIAMO; M. R. WARREN; J. P. NEUNUEBEL. *Univ. of Delaware, Univ. of Delaware.*

10:00 R10 **498.07** Mechanisms of ultrasonic vocalization production in excised rat larynges. J. HÅKANSSON*; A. AGARWAL; C. P. ELEMANS. *Univ. of Southern Denmark, Univ. of Cambridge.*

11:00 R11 **498.08** Take a deep breath: Sighing and vocal motor control in SD-rats. T. RIEDE*. *Midwestern Univ.*

8:00 R12 **498.09** Using degus to studying relationship formation between adult females. A. L. THATCHER; S. COOKE; K. WEBB; K. BUTLER; N. INSEL*. *Univ. of Montana.*

9:00 R13 **498.10** A developmentally conserved neural signature of social-vocal communication in the motor cortex of Egyptian fruit bats. M. C. ROSE*; T. A. SCHMID; J. E. ELIE; M. M. YARTSEV. *Univ. of California Berkeley.*

10:00 R14 **498.11** Correlated neural activity across the brains of socially interacting bats. W. ZHANG*; M. M. YARTSEV. *Univ. of California Berkeley.*

11:00 R15 **498.12** Unraveling the evolution of brain networks for complex vocal behavior through comparative epigenomics across mammals. M. WIRTHLIN*; S. ANNALDASULA; I. KAPLOW; T. A. SCHMID; S. VERNES; W. R. STAUFFER; M. M. YARTSEV; A. R. PFENNING. *Carnegie Mellon Univ., Univ. of California Berkeley, Max Planck Inst. For Psycholinguistics, Univ. of Pittsburgh, Univ. of California Berkeley, Carnegie Mellon Univ.*

8:00 R16 **498.13** Compensatory mechanisms affect sensorimotor integration during ongoing vocal-motor acts in marmoset monkeys. J. LÖSCHNER*; T. POMBERGER; S. R. HAGE. *CIN, Univ. of Tuebingen.*

9:00 R17 **498.14** Single unit recordings in the brainstem of vocalizing marmoset monkeys. T. POMBERGER*; S. R. HAGE. *CIN, Univ. of Tuebingen.*

10:00 R18 **498.15** Arousal states underlying vocal behavior in macaque monkeys. C. RISUENO SEGOVIA*; P. CHAMPEROUX; S. R. HAGE. *Werner Reichardt Ctr. For Integrative Neuroscien, Ctr. de Recherches Biologiques, CIN, Univ. of Tuebingen.*

11:00 R19 **498.16** Genomic responses to selection for behavior in tame and aggressive foxes. A. V. KUKEKOVA*; J. L. JOHNSON; H. M. RANDO; L. N. TRUT. *Univ. of Illinois at Urbana-Champaign, Inst. of Cytology and Genet. of the Russian Acad. of Sci.*

8:00 R20 **498.17** The effects of simulated predation on shoaling behavior in zebra fish (Danio rerio). J. BOLES*; I. TILMONT; J. MONELLY; E. YORK; K. POND; O. TUMINELLI; A. JOHNSON; K. WIENS; A. VELKEY. *Christopher Newport Univ.*

9:00 S1 **498.18** Sexually dimorphic behavioral responses in zebrafish social choice. T. BETTS; I. DANSTROM; J. BOLES; L. O'NEIL; E. YORK; K. POND; G. SCHOLERFIELD; J. PARKER; M. CIRA ANGEL; K. ELEFTERIOU; R. TALIBI; A. J. VELKEY; K. M. WIENS*. *Christopher Newport Univ., Bay Path Univ.*

10:00 S2 **498.19** Early social isolation reduces social interactions in adult planarians and reduces neural activation in sensory processing brain regions. S. GUARIGLIA*; S. M. ORTIZ; B. KOLSIN; C. KNAPSKI. *New York State Inst. for Basic Res., St. Josephs by the Sea HS.*

POSTER

499. Hormone Modulation of Behavior and Physiology II

Theme F – Integrative Physiology and Behavior

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 S3 **499.01** Resting state functional connectivity under stress differs across the hormonal contraceptive cycle. A. Y. HERRERA*; P. NASSERI; K. GILLETTE; S. FAUDE; J. WHITE; R. VELASCO; M. MATHER. *USC.*

9:00 S4 **499.02** Alterations in progesterone activity affects serotonergic innervation of the medial prefrontal cortex and produces deficits in complex cognitive behaviors. A. PHILLIPS*; C. K. WAGNER. *Univ. at Albany State Univ. of New York, Univ. Albany.*

10:00 S5 **499.03** Clinically relevant synthetic progestin alters medial prefrontal cortex microglial phenotype and density in a sex-specific manner. M. LOLIER*; C. K. WAGNER. *Univ. at Albany.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 S6 **499.04** Dose-dependent effects of testosterone on spatial learning strategies and brain-derived neurotrophic factor in male rats. M. D. SPRITZER*; K. J. ZHANG; R. A. RAMDEV; N. J. TUTA. *Middlebury Col., Middlebury Col.*

8:00 S7 **499.05** Cognitive impairments induced in a middle aged rodent model of androgen deprivation therapy for prostate cancer are reversed with the antidepressant vortioxetine. A. M. SHARP*; J. GELFOND; T. L. JOHNSON-PAIS; R. J. LEACH; M. LISS; A. C. SULLIVAN; I. M. THOMPSON; D. MORILAK. *UT Hlth. San Antonio, UT Hlth. San Antonio, UT Hlth. San Antonio, UT Hlth. San Antonio, UT Hlth. San Antonio, UT Hlth. San Antonio, South Texas Veterans Hlth. Care Service, UT Hlth. San Antonio, UT Hlth. San Antonio, CHRISTUS Santa Rosa Hosp.*

9:00 S8 **499.06** Mental rotation task performance in a gender diverse Thai sample: A test of neurohormonal theory. L. T. THURSTON*; M. N. SKORSKA; D. E. PERAGINE; L. A. COOME; D. P. VANDERLAAN. *Univ. of Toronto, Univ. of Toronto Mississauga.*

10:00 S9 **499.07** Examination of sex differences in the dorsal raphe serotonin. H. O. CAIOLA; B. D. ROOD*. *Rowan Univ. Sch. of Osteo. Med.*

11:00 S10 **499.08** Melatonin and 5-methoxytryptophol effects on locomotor activity, glycemic index, and weight of testes and seminal vesicles of young rats. A. VAZQUEZ-ALVAREZ*; F. ZAPATA DENOVA; B. PRIETO-GOMEZ; C. REYES-VAZQUEZ. *Univ. Nacional Autónoma de México, UNAM, Univ. Nacional Autonoma Mexico, Dept. De Fisiología.*

8:00 S11 **499.09** Estrogen fluctuations modulate electrophysiological properties of ventral tegmental area dopamine neurons to alter event salience. M. SHANLEY*; Y. MIURA; R. KAMALETDINOVA; R. KARIM; E. BLICKER; A. K. FRIEDMAN. *The Grad. Center, City Univ. of New York, Hunter College, City Univ. of New York.*

9:00 S12 **499.10** Prepubertal ovarian inhibition of exploration and novelty seeking in Siberian hamsters: Does estradiol play a role? A. BARRETT*; R. F. KYNE; L. M. BROWN; M. J. PAUL. *Univ. at Buffalo, SUNY.*

10:00 S13 **499.11** A specialized serotonergic neuron subtype responsive to dopamine and central to behavior. K. LYON*; S. M. DYMECKI. *Harvard Med. Sch.*

11:00 S14 **499.12** Increased social interaction and anxiety-like behaviors in FLRT2 deficient mice. S. YAMAGISHI*; F. ETO; Y. SHINODA; S. OGAWA; I. YAO; K. TAKAO; T. MIYAKAWA; K. SATO. *Hamamatsu Univ. Sch. of Med., Hamamatsu Univ. Sch. of Med., Tokyo Univ. of Pharm. and Life Sci., Tokyo Univ. of Sci., Kwansei Gakuin Univ., Univ. of Toyama, Natl. Inst. for Physiological Sci., Fujita Hlth. University, ICMS, Div. Syst. Med.*

8:00 S15 **499.13** Alterations of estradiol-induced histone H3 acetylation in the preoptic area and anteroventral periventricular nucleus of middle-aged female rats. Y. SUN*; W. XU; J. HUANG; L. LI; X. ZHANG; Y. WANG. *Ob/Gyn Hosp. of Fudan Univ.*

9:00 S16 **499.14** Introduction of the human PCSK1 mutation G209R into mice leads to frequent neonatal mortality and dwarfism in surviving adults. S. GAHLOT; M. SHAKYA; I. LINDBERG; M. J. LOW*. *Univ. of Michigan, Univ. of Maryland Dept. of Anat. and Neurobio.*

10:00 S17 **499.15** Estrogen signaling modulation by mammary tumors: A role in cognitive dysfunction? K. L. G. RUSSART*; L. STREHLE; V. BURCH; A. OATES; A. THOMAS; A. LAHOUD; J. KAUR; L. PYTER. *Ohio State Univ.*

11:00 S18 **499.16** Temporal dynamics of the behavioral and endocrine response to an aggressive challenge in wild-type and fighter strains of the Siamese fighting fish Betta splendens. D. GONÇALVES*; A. RAMOS; S. D. CARDOSO. *Univ. of St. Joseph.*

8:00 DP09/T1 **499.17** (Dynamic Poster) Viral-mediated transgenesis of MAOA and AVP increases territorial aggression in stickleback. N. J. JAMES*; A. BELL. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois, Urbana Champaign.*

9:00 T2 **499.18** ▲ Hypothalamic activation after restraint stress and social stress in C57Bl/6 mice. A. P. ALMEIDA*; S. C. MOTTA. *Inst. of Biomed. Sci. | USP.*

10:00 T3 **499.19** Sex differences in the effects of social status and fluoxetine treatment on aggression in Syrian hamsters. D. A. VOISIN*; V. MICHOPOULOS; K. L. HUHMAN; H. ALBERS. *Georgia State Univ., Emory Univ.*

11:00 T4 **499.20** Melatonin regulates seasonal variation in neurosteroid profiles and aggressive behavior in male Siberian hamsters. K. M. MUNLEY*; J. E. DEYOE; C. H. ADANIYA; A. M. NOWAKOWSKI; C. C. REN; G. V. MURPHY; J. M. REINHART; G. E. DEMAS. *Indiana Univ.*

8:00 T5 **499.21** Selection for aggression changes brain expression patterns in male and female Siamese fighting fish Betta splendens. S. D. CARDOSO*; A. RAMOS; M. HUAWEI; Q. JIANWEN; D. GONÇALVES. *Univ. of St. Joseph, Hong Kong Baptist Univ.*

9:00 T6 **499.22** Corticosterone signaling and a lateral habenula-ventral tegmental area circuit modulate compulsive self-injurious behavior in a rat model. Y. GUO; X. TANG*; J. ZHANG; S. JIN; J. LI; L. DING; K. ZHANG; C. YANG; H. ZHOU; X. HE; F. XU; G. BI; L. XU; P. LAU. *Univ. of Sci. and Technol. of China, Key Lab. of Animal Models and Human Dis. Mechanisms, Lab. of Learning and Memory, and CAS Ctr. for Excellence in Brain Kunming Inst. of Zoology, Chinese Acad. of Sci., Kunming Univ. of Sci. and Technol., Hust-Suzhou Inst. For Brainsmatics, Sch. of Lifescience, Univ. of Sci. and Technol. of China, Kunming Univ. of Sci. and Technol., Brainvta (Wuhan) Co., Ltd, Wuhan Inst. of Physics and Mathematics, CAS, Sch. of Lifescience, Univ. of Sci. and Technol. of China.*

10:00 T7 **499.23** ▲ Control of social status is distributed across androgen receptor paralogs in a cichlid. B. A. ALWARD*; C. J. SKALNIK; R. A. YORK; S. A. JUNTTI; R. D. FERNALD. *Stanford Univ., Univ. of Maryland.*

11:00 T8 **499.24** CRISPR Cas9 generation and behavioral characterization of a syrian hamster V1a receptor knockout. J. H. TAYLOR*; J. C. WALTON; K. E. MCCANN; A. NORVELLE; Q. LIU; J. VANDER VELDEN; J. M. BORLAND; M. HART; C. JIN; K. L. HUHMAN; D. N. COX; H. ALBERS. *Georgia State Univ., NIH/NIEHS, Georgia State Univ.*

8:00 T9 **499.25** Suffering from aggression? Use cage climbers in your mouse cage! M. A. VOGT*; S. SERBA; R. PALME; S. CHOURBAJI. *Univ. of Heidelberg, Univ. of Vet. Med.*

9:00 T10 **499.26** The relationship between testosterone and isolation-induced aggressive behavior in male layer chicks. S. KAWAKAMI*; Z. YAN. *Hiroshima Univ. Grad. Sch. of Biosphere Sci.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 T11 **499.27** Evidence that differential expression of estrogen receptor alpha is causal for alternative behavioral phenotypes in a polymorphic species. J. R. MERRITT*; D. L. MANEY. *Emory Univ.*

11:00 T12 **499.28** Neurochemical phenotyping of dominance and submissiveness. K. MURLANOVA*; A. PINHASOV; I. MICHAELEVSKI; M. V. PLETNIKOV. *Ariel Univ., Johns Hopkins Univ. Sch. of Med.*

8:00 T13 **499.29** Methylphenidate-mediated inhibition of dopamine transporter-expressing non-dopaminergic neurons in the mouse ventral premammillary nucleus that control aggression. L. T. A. HEIKKINEN*; C. BROBERGER. *Karolinska Institutet, Stockholm Univ.*

9:00 T14 **499.30** Effect of early-life knock-down of DNMTs and TETs on sex differences in cell type in the hypothalamus. L. R. CORTES*; C. D. CISTERNAS; N. G. FORGER. *Georgia State Univ., Georgia State Univ.*

POSTER

500. Behavioral Responses to Stress

Theme F – Integrative Physiology and Behavior

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 T15 **500.01** JNK controls hippocampal circuit dynamics assessed by fiberphotometry in behaving mice. J. JOHN; N. TIWARI; P. HOLLOS; F. MARCHISELLA; V. FAGERHOLM; S. HUUSKONEN; E. T. COFFEY*. *Univ. ot Turku, Abo AKademi Univ., Abo Akademi Univ., Univ. of Turku, Abo Akademi Univ. and Univ. of Turku.*

9:00 T16 **500.02** Learning expression of neurophysiological stress markers in honey bees. T. E. BLACK*; O. FOFAH; T. GIRAY; C. I. ABRAMSON. *Oklahoma State Univ., Oklahoma State Univ., Univ. of Puerto Rico.*

10:00 T17 **500.03** Parallel prefrontal-periaqueductal gray circuits mediate active and passive coping behaviors in response to stress. S. B. JOHNSON*; R. T. LINGG; T. D. SKOG; S. A. ROMIG-MARTIN; R. T. LALUMIERE; J. J. RADLEY. *Univ. of Iowa, Univ. of Iowa.*

11:00 T18 **500.04** Social dominance alters both coping style and stress resilience. M. CANNON*; E. GRAHAM; M. BURZINSKI; N. SAGARAD; M. COOPER. *Univ. of Tennessee.*

8:00 T19 **500.05** ▲ The effects of minocycline on acute defeat-induced social avoidance and microglial activity in the hamster vmPFC. T. T. CLARITY*; A. GRIZZELL; M. A. COOPER. *The Univ. of Tennessee, Knoxville, Univ. of Tennessee.*

9:00 T20 **500.06** Microglial contributions to acute stress-induced perturbations of the vmPFC in male Syrian hamsters. A. GRIZZELL*; T. T. CLARITY; M. A. COOPER. *Univ. of Tennessee, The Univ. of Tennessee, Knoxville, Univ. of Tennessee.*

10:00 U1 **500.07** Chronic social defeat stress to adolescent mice induces anxiety-like behavior with reduced oligodendrogenesis. T. SHIMIZU*; A. ISHIDA; N. TAJIRI; H. HIDA. *Nagoya City Univ., Grad. Sch. of Med. Sci.*

11:00 U2 **500.08** Distinct environmental stress response of mice with high and low immobility traits through the analysis of ultrassonic vocalization and chronic unpredictable stress exposure. T. M. REIS-SILVA*; A. C. S. SAMPAIO; P. S. RODRIGUES; M. C. GALVAO; E. P. SILVA; N. MOREIRA; L. S. MEDEIROS; K. E. KIATAQUI; M. M. BERNARDI. *Paulista Univ.*

8:00 U3 **500.09** Perception of beauty during and after stress: The ugly becomes less uglier. R. K. NARAYAN*; A. KUMAR; V. PAREEK. *All India Inst. of Med. Sci., Natl. Brain Res. Ctr.*

9:00 U4 **500.10** Role of Kalirin-7 in the mPFC in depression-like behaviors. C. WANG; X. MA*. *Shaanxi Normal Univ.*

10:00 U5 **500.11** Mice susceptible to chronic stress display a broadening of orientation tuning in microcircuits of the primary visual cortex. H. BACKHAUS*; N. BUERGER; P. KAPLICK; A. STROH. *Univ. Med. Ctr., German Resilience Ctr.*

11:00 U6 **500.12** ▲ Oxytocin intranasal administration promotes exercise and decrease anxiety-like behaviors in rats. P. A. MUÑOZ RODRÍGUEZ*; L. G. RODRÍGUEZ SANTOS; W. NORZÉ; A. P. RAMOS ROLÓN; V. S. ENCARNACIÓN CORTES; F. M. GONZÁLEZ HERNÁNDEZ; E. OLMEDO LÓPEZ; C. S. MALDONADO-VLAAR. *Univ. of Puerto Rico, Rio Piedras Campus.*

8:00 U7 **500.13** ● Neural mechanisms underlying stress-resilience effects of by immunization with mycobacterium vaccae in rats. C. A. ZAMBRANO*; M. G. FRANK; H. M. D'ANGELO; K. M. LOUPY; S. F. MAIER; C. A. LOWRY. *Univ. of Colorado, Univ. of Colorado Boulder.*

POSTER

501. Functional Brain Imaging and Multimodal Imaging

Theme F – Integrative Physiology and Behavior

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 U8 **501.01** Identifying the brain networks altered by gaming disorder defined by ICD-11: Cluster analysis by permutation test in calculating functional connectivity. Y. OKAZAKI*; S. KURIKI; H. KOBAYASHI; H. NAKAYAMA; S. MIHARA; S. HIGUCHI; A. ISHIYAMA. *Waseda Univ., Tokyo Denki Univ., Natl. Hosp. Organization Kurihama Med. and Addiction Ctr.*

9:00 U9 **501.02** Somatosensory area 3b network is a composite of multiple distinct networks in macaque monkeys and humans. J. THOMAS*; D. SHERON; S. MOHANTA; N. JAIN. *NBRC.*

10:00 U10 **501.03** Effects of isoflurane anesthesia on functional networks in marmosets: Comparison to fully awake resting state functional magnetic resonance imaging. Y. HORI*; D. J. SCHAEFFER; K. M. GILBERT; L. K. HAYRYNEN; J. C. CLÉRY; J. S. GATI; R. S. MENON; S. EVERLING. *The Univ. of Western Ontario.*

11:00 U11 **501.04** Baseline functional connectivity predicts successful weight loss at six months after bariatric surgery. W. ZHANG*; G. LI; Y. HU; L. LIU; Y. WANG; Y. DING; C. HU; J. LI; G. JI; P. MANZA; G. WANG; Y. ZHANG. *Sch. of Life Sci. and Technology, Xidian Univ., Natl. Clin. Res. Ctr. for Digestive Dis. and Xijing Hosp. of Digestive Diseases, Fourth Military Med. Univ., Lab. of Neuroimaging, Natl. Inst. on Alcohol Abuse and Alcoholism.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 U12 **501.05** Metric alterations of brain connectivity in patients with morbid obesity undergoing gastric bypass. A. DELGADILLO-RAMÍREZ; P. VIEYRA-REYES*; P. FLORES-OCAMPO; L. PACHECO-BLAS; E. TRUJILLO-CONDES; G. MONTES DE OCA-LEMUS; C. JIMÉNEZ-GARCÉS; M. HERNÁNDEZ-GONZÁLEZ. *Facultad de Medicina. Univ. Autónoma del Estado de México, Hosp. Infantil Federico Gómez.*

9:00 U13 **501.06** Modeling the pial network: Linear hexagonal network that includes realistic vascular parameters. X. ZOU*; J. KIM; D. RESS. *Baylor Col. of Med.*

10:00 U14 **501.07** ▲ Silenced but still connected: Chemogenetic inactivation of the prefrontal cortex results in brain-wide fMRI hyper-synchronization. C. CANELLA*; F. ROCCHI; D. GUTIERREZ BARRAGAN; M. PASQUALETTI; A. GOZZI. *Inst. Italiano di Tecnologia, Univ. of Trento, Univ. of Pisa.*

11:00 U15 **501.08** The neurovascular response is attenuated by focused ultrasound-mediated disruption of the blood-brain barrier. N. TODD*; Y. ZHANG; M. S. LIVINGSTONE; D. BORSOOK; N. MCDANNOLD. *Brigham and Women's Hosp., Harvard Med. Sch., Boston Children's Hosp.*

8:00 U16 **501.09** ● Cerebellar connectivity changes related to cognition in multiple sclerosis. M. D. ZUPPICHINI*; K. WEST; D. SIVAKOLUNDU; D. OKUDA; B. P. RYPMA. *Univ. of Texas At Dallas, Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas at Southwestern, Univ. of Texas At Dallas.*

9:00 U17 **501.10** Prediction of individual cognitive ability using resting-state functional connectivity. E. DHAMALA*; K. JAMISON; A. KUCEYESKI. *Weill Cornell Med., Weill Cornell Med.*

10:00 U18 **501.11** ● An MRI compatible headstage for simultaneous electrophysiology and fMRI recording. M. SORENSON*; Y. I. SHIH; S. LEE; R. FRANKLIN; M. GERHARDT; F. SOLZBACHER. *Blackrock Microsystems, Univ. of North Carolina At Chapel Hill, Univ. of Utah.*

11:00 U19 **501.12** Hemodynamic correlates of posterior alpha rhythm during eyes-open and eyes-closed states: A simultaneous EEG-fMRI study. J. E. GALLEGO RUDOLF*; E. H. PASAYE-ALCARÁZ; M. CORSI-CABRERA. *Inst. de Neurobiologia, UNAM, Facultad de Psicología, UNAM.*

8:00 U20 **501.13** Development of the functional ultrasound imaging platform for awake and behaving mice in preclinical drug discovery. A. SHATILLO*; H. VAHERTO; J. KOPONEN; D. MISZCZUK. *Charles River Discovery.*

9:00 U21 **501.14** 7t MRI: Combined fMRI-fMRS of m1 during rest and motor tasks, linking bold and neurochemicals. J. M. LEVENSTEIN*; W. CLARKE; B. IP; U. EMIR; P. BANDETTINI; C. J. STAGG. *Univ. of Oxford, NIMH-NIH, Purdue Univ.*

10:00 U22 **501.15** Differential effects of the anaesthetic agents sevoflurane and isoflurane on functional connectivity in the rhesus macaque cortex. C. B. C. R. POULLIAS; K. L. MURPHY; K. KRUG*; J. SALLET. *Oxford Univ., Newcastle Univ.*

11:00 U23 **501.16** ●▲ Using multimodal MRI to investigate brain structure, function, and capillary density in a genetic model of diabetes. C. LAWSON*; K. RENTRUP; J. QIAO; X. CAI; P. KULKARNI; C. FERRIS. *Northeastern Univ. Dept. of Psychology.*

8:00 U24 **501.17** Probing the potential biophysical mechanisms of fast fMRI signals. J. E. CHEN*; G. H. GLOVER; N. E. FULTZ; N. A. OHRINGER; B. R. ROSEN; J. R. POLIMENI; L. D. LEWIS. *Massachusetts Gen. Hosp. and Harvard Med. Sch., Stanford Univ., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., MGH/Harvard Med. Sch., Boston Univ.*

9:00 U25 **501.18** Effect of ApoE ε4 carriers on BBB permeability, Amyloid-b and Tau in cognitively normal subjects - A multimodal MRI/PET study. A. C. CHAKHOYAN; A. MONTAGNE; M. D. SWEENEY; D. A. NATION; J. PA; T. BENZINGER; J. C. MORRIS; H. C. CHUI; A. W. TOGA; B. V. ZLOKOVIC. *USC, USC, Washington Univ. in St. Louis Sch. of Med., Washington Univ. in St. Louis Sch. of Med., USC.*

10:00 U26 **501.19** Loneliness is associated with altered regional cerebral blood flow: An arterial spin labeling imaging study. Y. CHEN*; T. CANLI. *State Univ. of New York at Stony Brook, Stony Brook Univ. Dept. of Psychology.*

11:00 U27 **501.20** Temporal stability of the hemodynamic response function in human cortex. A. TAYLOR*; X. ZOU; J. KIM; D. RESS. *Baylor Col. of Med.*

8:00 U28 **501.21** Disruption of midbrain functional connectivity in cerebral small vessel disease: Evidence from CADASIL. D. SCHOEMAKER*; Y. ZULUAGA; L. VELILLA; C. OSPINA; F. LOPERA; J. ARBOLEDA-VELASQUEZ; Y. T. QUIROZ. *Massachusetts Gen. Hospital/Harvard Med. Sch., Grupo de Neurociencias de Antioquia, Schepens Eye Res. Inst., Massachusetts Gen. Hosp.*

9:00 U29 **501.22** Data quality and safety of simultaneous EEG-fMRI using multi-band fMRI sequences. M. K. EGAN*; R. LARSEN; B. P. SUTTON; S. SADAGHIANI. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign.*

10:00 U30 **501.23** The effect of sleep deprivation on the brain-gut axis. Y. SHEN*; D. YANG; C. WU; Y. TUNG. *Taipei Med. Univ., Taipei Med. Univ.*

11:00 U31 **501.24** Mapping brain hemodynamic signals and autonomic activity related to slow yoga breathing techniques and working memory performance. S. DEEPESHWAR*; R. B. BUDHI; T. SHETTY; M. N. KRISHNAMURTHY. *Swami Vivekananda Anusandhana Samsthana (S-VYASA), Visva Bharati, A Central Univ., Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA), Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA).*

8:00 U32 **501.25** Acute exposure to dim light at night is sufficient to induce neurological changes and depressive-like behavior. W. H. WALKER, II; J. C. BORNIGER; M. M. GAUDIER-DIAZ; O. H. MELÉNDEZ-FERNÁNDEZ2; J. L. PASCOE; A. C. DEVRIES; R. J. NELSON*. *West Virginia Univ. Sch. of Med., Stanford, Univ. of North Carolina.*

9:00 U33 **501.26** Neurovascular function in J20 Alzheimer's mice and cardiovascular disease/mixed dementia mouse models. O. SHABIR*; P. S. SHARP; B. J. PENDRY; M. L. FLOARE; C. HOWARTH; P. HEATH; J. SIMPSON; S. B. WHARTON; S. E. FRANCIS; J. BERWICK. *Univ. of Sheffield.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

502. Impacts of Sleep Disruption

Theme F – Integrative Physiology and Behavior

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 U34 **502.01** ▲ Multitaper spectrograms reveal opiate specific changes in mouse electroencephalogram. C. B. O'BRIEN*; C. E. LOCKLEAR; Z. T. GLOVAK; H. A. BAGHDOYAN; R. LYDIC. *Univ. of Tennessee, Univ. of Tennessee, Oak Ridge Natl. Lab.*

9:00 U35 **502.02** Systemically administered opiates disrupt the architecture of sleep and wakefulness in mouse. C. E. LOCKLEAR*; C. G. BUSTAMANTE; Z. T. GLOVAK; D. ZEBADUA UNZAGA; C. B. O'BRIEN; R. LYDIC; H. A. BAGHDOYAN. *Univ. of Tennessee, Univ. of Tennessee, Oak Ridge Natl. Lab.*

10:00 U36 **502.03** Sleep improves when hyperbaric oxygen therapy administered before and after methadone dose reduction for adults with opioid use disorder. R. M. QUOCK*; M. WILSON; L. SKEIKY; K. STANEK; T. ODOM-MARYON; D. HANSEN; M. LAYTON. *Washington State Univ., Washington State Univ., Washington State Univ., Spokane Hyperbaric Ctr., Washington State Univ.*

11:00 U37 **502.04** Antioxidant supplementation augments gamma activity during sleep deprivation. P. N. BUSHANA*; M. A. SCHMIDT; B. A. SORG; J. P. WISOR. *Washington State Univ., Washington State Univ., Washington State Univ.*

8:00 U38 **502.05** Sleep loss increases membrane fluidity of myelin sheaths. A. ABOUFARES EL ALAOUI; R. FIORINI; M. FABRI; M. BELLESI*. *Marche Polytechnic Univ., Marche Polytechnic Univ., Univ. of Bristol.*

9:00 U39 **502.06** Estradiol action modulates adenosinergic sleep pressure. P. C. SMITH*; D. J. PHILLIPS; S. S. VIECHWEG; A. POCIVAVSEK; J. A. MONG. *Univ. of Maryland SOM, Univ. of South Carolina Sch. of Med.*

10:00 U40 **502.07** ● SUVN-G3031, histamine H3 receptor inverse agonist preclinical evaluation for the treatment of excessive daytime sleepiness in narcolepsy. G. BHYRAPUNENI*; V. BENADE; S. DARIPELLI; V. KAMUJU; A. SHINDE; R. ABRAHAM; R. NIROGI; V. JASTI. *Suven Life Sci. Ltd.*

11:00 V1 **502.08** Melatonin and recovery sleep ameliorate anxious behaviour and impairment in hippocampal neurogenesis induced by sleep deprivation. R. CHITTORA*; A. JAIN; M. BHATNAGAR. *Univ. Col. of Science, Mohan Lal Sukhadia, Univ. Col. of Science, Mohan Lal Sukhadia Univ.*

8:00 V2 **502.09** Differential impact of light or dark phase kynurenine challenge in male and female rats: Biochemical alterations and disruptions in sleep-wake behavior. A. M. LEWIS; N. T. J. WAGNER; K. M. RENTSCHLER; S. A. BUCK; A. BARATTA; S. BEGGIATO; J. A. MONG; A. POCIVAVSEK*. *Univ. of South Carolina Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Pittsburgh, Univ. of Ferrara, Univ. of Maryland Sch. of Med.*

9:00 V3 **502.10** An experimental system of prenatal kynurenine elevation: Distinct sex-dependent alterations in brain kynurenic acid and sleep disturbances in adulthood. K. RENTSCHLER*; A. BARATTA; A. L. DITTY; A. M. LEWIS; N. T. J. WAGNER; C. J. WRIGHT; J. A. MONG; A. POCIVAVSEK. *Univ. of South Carolina Sch. of Med., Univ. of Pittsburgh, Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

10:00 V4 **502.11** ▲ Regulation of pS6 and Arc in the hippocampus by sleep and learning. V. K. KODOTH*; J. DELORME; S. J. ATON. *Univ. of Michigan, Univ. of Michigan.*

11:00 V5 **502.12** Neural substrates underlying the homeostatic sleep response in mouse basal forebrain. C. YANG; H. BOUAOUDA; C. SHUKLA; K. DEISSEROTH; S. WINSTON; Y. BOLORTUYA; J. M. MCNALLY; J. T. MCKENNA; R. BASHEER*. *VA Boston Healthcare System-Harvard Med. Sch., Stanford Univ. Dept. of Psychology.*

8:00 V6 **502.13** Sleep deprivation and how it affects the neuropil. S. GABULYA; A. T. BRODIN; L. OLSON; T. E. KARLSSON*. *Karolinska Institutet, Karolinska Inst.*

9:00 V7 **502.14** ▲ Sleep duration influences the amount and clearance of stress granules in *Caenorhabditis elegans.* M. K. DOUGHERTY*; C. SAUL; L. CARMAN; M. D. NELSON; J. C. TUDOR. *St. Joseph's Univ.*

10:00 V8 **502.15** Where does the dreamless mutation take effect?: Generation of NALCN-FLEx and NALCN-flox knock-in mice. T. FUJIYAMA*; S. MIZUNO; M. ABE; S. KANNO; M. KAKIZAKI; K. IWASAKI; A. IKKYU; N. HOTTA-HIRASHIMA; M. YAMADA; C. MIYOSHI; M. SATO; T. KANDA; K. SAKIMURA; S. TAKAHASHI; H. FUNATO; M. YANAGISAWA. *WPI-IIIS, The Univ. of Tsukuba, Lab. Animal Resource Center, Univ. of Tsukuba, Brain Res. Institute, Niigata Univ.*

11:00 V9 **502.16** ● Melatonin modifies SOX2+ cell proliferation in dentate gyrus and modulates SIRT1 and MECP2 in long-term sleep-deprivation. A. HINOJOSA GODINEZ*; G. LOPEZ-ARMAS; M. E. FLORES SOTO; L. JAVE-SÚAREZ; M. LUQUÍN DE ANDA; A. GÁLVEZ CONTRERAS; I. RUSANOVA; O. P. GONZALEZ-PÉREZ; R. E. GONZALEZ-CASTAÑEDA. *Univ. de Guadalajara, Ctr. De Enseñanza Técnico Industrial, Ctr. de Investigacion Biomedica de Occidente, Ctr. de Investigacion Biomedica de Occidente, Univ. de Granada, Univ. de Colima.*

8:00 V10 **502.17** Sleepstate modulation in calcium transients in CAMKII CA1 hippocampal neurons in APP knock-in mice varies with genotype. P. V. FENIK; C. LIU; K. PULLUM; S. C. VEASEY*. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

9:00 V11 **502.18** Synchronisation of UP-state termination during SWS is driven by thalamic inputs onto L1 interneurons. Y. HAY*; T. FUCHSBERGER; A. KOERLING; T. QUARRELL; O. PAULSEN. *Univ. of Cambridge.*

10:00 V12 **502.19** ● Control of wakefulness and cortical electrical activity by basal forebrain Lhx6 and Npas1 neurons in the mouse. C. YANG*; J. T. MCKENNA; J. M. MCNALLY; M. ANDERSON-CHERNISHOF; S. WINSTON; S. CHAN; R. E. BROWN. *Harvard Med. School/Va Boston Healthcare Syst., Northwestern University, Feinberg Sch. of Med.*

11:00 V13 **502.20** ▲ The effect of prenatal sleep chronodisruption on metabolism of rat progeny. A. E. SÁNCHEZ-GARCÍA*; K. A. MARCIANO DIMAS, JR; M. BARRADAS-VAJONERO; C. PERALTA VÁZQUEZ; A. G. MENDOZA; K. V. SOSA-HUERTA; A. OLIVERAS-HERNANDEZ; T. CIBRIAN-LLANDERAL; R. AYALA-MORENO; M. A. MELGAREJO-GUTIERREZ. *Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana, Univ. La Salle, Univ. Veracruzana.*

8:00 V14 **502.21** Voltage-gated potassium channel shaker promotes sleep via thermosensitive GABA transmission. J. KIM*; Y. KI; H. LEE; M. HUR; J. HUR; C. LIM. *UNIST.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 V15 **502.22** ● Diurnal fluctuations of perineuronal nets in the rat medial prefrontal cortex. J. H. HARKNESS*; P. N. BUSHANA; E. T. JORGENSEN; A. E. GONZALEZ; D. M. HEGARTY; S. A. AICHER; T. E. BROWN; J. P. WISOR; B. A. SORG. *Washington State University, Vancouver, Washington State Univ., Univ. of Wyoming, Washington State Univ., OHSU, Oregon Hlth. & Sci. Univ., Univ. of Wyoming, Washington State Univ.*

10:00 V16 **502.23** Nitrogen metabolism regulates sleep homeostasis. J. L. BEDONT*; A. KOLESNICK; D. MALIK; M. DAVIDOV; A. WELJIE; A. SEHGAL. *Univ. of Pennsylvania, Univ. of Pennsylvania Perelman Sch. of Med.*

11:00 V17 **502.24** Metabolic regulation of sleep: The role of lateral hypothalamic leptin circuit. U. SINGH*; B. A. TOTH; K. C. DAVIS; K. SAITO; J. JIANG; G. F. BUCHANAN; H. CUI. *Univ. of Iowa, Univ. of Iowa.*

8:00 V18 **502.25** ▲ Typical and atypical spindles found in rapid eye movement sleep. C. GONZALEZ*; K. SWIFT; K. KEUS; G. R. POE. *UCLA, Univ. of Michigan, UCLA.*

9:00 V19 **502.26** Sleep facilitates insight into temporal hidden patterns. R. S. GUTHRIE*; K. KEUS; C. GONZALEZ; J. YANO; J. HOLLOWAY; K. CLARK; M. A. GLUCK; I. LERNER; B. A. GROSS; G. R. POE. *Univ. of California, Univ. of California, Univ. of California, Univ. of California, Univ. of California, Rutgers Univ. Newark, Rutgers Univ., UCLA.*

10:00 V20 **502.27** ▲ Early not delayed propranolol injection enhances fear extinction recall after trauma exposure in rats. J. A. HOLLOWAY; Y. CABRERA; B. A. GROSS; G. R. POE*. *UCLA.*

11:00 V21 **502.28** Post-stress sleep features in gonadally intact females affect fear learning. Y. CABRERA*; J. HOLLOWAY; J. JIMENEZ; K. SWIFT; G. R. POE. *UCLA, Univ. of Michigan, UCLA.*

POSTER

503. Sleep Regulation

Theme F – Integrative Physiology and Behavior

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 V22 **503.01** ▲ Changes in neuronal synchrony alter slow wave activity across infraslow cycles. M. B. DASH*; A. GREEN. *Middlebury Col.*

9:00 V23 **503.02** ▲ Chemogenetic activation of melanin concentrating hormone neurons attenuates sleep disturbances and contextual conditioning in predator odor trauma mouse model of PTSD. S. KUMAR; R. SHARMA; P. SAHOTA; M. M. THAKKAR*. *HSTMV Hospital/University of Missouri, Truman VA Med. Center/University of Missouri, Univ. of Missouri.*

10:00 V24 **503.03** Neuronal activity of brainstem reticular formation neurons across the sleep-wake cycle in the domestic chicken. O. LYAMIN*; A. BAKHCHINA; I. SHAMSIEV; J. SIEGEL. *Dept Psychiat, Univ. California Los Angeles, A.N. Severtsov Inst. of Ecology and Evolution, Inst. of Psychology, Inst. of Higher Nervous Activity and Neurophysiol.*

11:00 V25 **503.04** MiR-190 acts in the pupal nervous system to affect the arousal system and sleep behavior in *Drosophila melanogaster.* E. J. RIVERA-RODRÍGUEZ*; M. HOBIN; P. CHEN; L. C. GRIFFITH. *Brandeis Univ., Brandeis Univ.*

8:00 V26 **503.05** ▲ Examination of a role for the locus coeruleus in CO_2-induced arousal from sleep. C. J. HAUSER*; A. L. ZOCHER; G. F. BUCHANAN. *Univ. of Iowa, Carver Col. of Medicine, Univ. of Iowa, Iowa Neurosci. Inst.*

9:00 V27 **503.06** Frequency-dependent modulation of sleep and wakefulness via optogenetic stimulation of the basal forebrain parvalbumin neurons. J. HEO*; J. LEE; C. KIM; T. KIM. *Gwangju Inst. of Sci. and Technol.*

10:00 V28 **503.07** ▲ Scully in sleep regulation and dementia. A. ARZOLA*, Jr; P. SABANDAL; K. HAN. *Univ. of Texas at El Paso.*

11:00 V29 **503.08** Sex differences in active-phase sleep amount are partially driven by X chromosome dosage. I. S. N. NICHOLS*; S. ANDERSON; H. HRNCIR; Z. HERNANDEZ; A. P. ARNOLD; K. N. PAUL. *Univ. of California Los Angeles.*

8:00 V30 **503.09** Time restricted feeding (TRF) improves sleep in a mouse model of Huntington's disease. Y. TAHARA; S. ANDERSON; I. S. NICHOLS*; C. A. GHIANI; K. N. PAUL*; C. S. COLWELL. *Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles.*

9:00 V31 **503.10** Transcriptomic analysis of sleep states. A. KULKARNI*; T. BJORNESS; A. SUZUKI; G. KONOPKA; R. GREENE. *Univ. of Texas Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr.*

10:00 V32 **503.11** Hippocampal population activity during REM and slow wave sleep. M. A. F. FRAZER*; G. R. POE. *Univ. of California Los Angeles, UCLA.*

11:00 V33 **503.12** ▲ Sex differences in the electrophysiological makeup of sleep in gonadally intact rats. K. KEUS*; K. SWIFT; C. GONZALEZ; Y. CABRERA; J. JIMENEZ; J. HOLLOWAY; B. C. CLAWSON; B. A. GROSS; G. R. POE. *UCLA, Univ. of Michigan, Ann Arbor, UCLA, UCLA, UCLA, Univ. of Michigan, Ann Arbor, UCLA.*

8:00 V34 **503.13** Evidence for a role of tachykinin-1-expressing preoptic area neurons in isoflurane-induced unconsciousness. S. L. REITZ*; M. B. KELZ. *Univ. of Pennsylvania.*

9:00 V35 **503.14** Coupled sleep, attention and dopamine receptor deficits after early life stress. Y. MAKINO*; K. OSADA; T. K. HENSCH. *Harvard Univ., Boston Children's Hosp.*

POSTER

504. Appetitive and Incentive Learning and Memory II

Theme G – Motivation and Emotion

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 V36 **504.01** Basolateral amygdala projecting anterior cingulate cortex neurons control reward devaluation. Z. YUAN*; Z. QI; Y. CUI; Q. FENG; M. LUO. *Natl. Inst. of Biol. Sciences, Beijing.*

9:00 V37 **504.02** Increased noradrenergic activity within the basolateral amygdala enhances appetitive extinction. L. H. CORBIT*. *Univ. of Toronto.*

10:00 V38 **504.03** Role of basolateral amygdala to nucleus accumbens projections in mediating flexibility of sign- and goal-tracking rats. D. E. KOCHLI*; S. E. KEEFER; U. GYAWALI; D. J. CALU. *Univ. of Maryland Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 V39 **504.04** Role of basolateral amygdala to insular cortex projections in mediating individual and experience-dependent differences in flexibility of sign- and goal-tracking rats. S. E. KEEFER*; D. E. KOCHLI; S. Z. BACHARACH; D. J. CALU. *Univ. of Maryland Sch. of Med.*

8:00 V40 **504.05** A reciprocal cortical-amygdala circuit for the encoding and retrieval of detailed associative reward memories. A. SIAS*; A. K. MORSE; C. SHIEH; S. M. HOLLEY; V. GREENFIELD; C. CEPEDA; M. S. LEVINE; K. M. WASSUM. *UCLA, UCLA, UCLA, UCLA.*

9:00 V41 **504.06** Midbrain dopaminergic input to basal amygdala gates state-dependent learning of salient cues. A. LUTAS*; H. KUCUKDERELI; O. ALTURKISTANI; C. CARTY; K. FERNANDO; A. U. SUGDEN; V. DIAZ; V. FLORES-MALDONADO; M. L. ANDERMANN. *Beth Israel Deaconess Med. Ctr.*

10:00 V42 **504.07** Hierarchical amygdala network dynamics reflect learning of adaptive behavioral patterns. Y. BITTERMAN*; J. COURTIN; J. GRÜNDEMANN; A. LÜTHI. *Friedrich Miescher Inst. For Biomed. Res., Univ. of Basel, Univ. of Basel.*

11:00 V43 **504.08** The effects of lesions of the amygdala and periaqueductal gray on learning from gains and losses. C. A. TASWELL*; V. D. COSTA; E. A. MURRAY; B. B. AVERBECK. *NIH/NIMH, NIMH/NIH.*

8:00 V44 **504.09** A brainstem circuit controlling the expression of natural and addiction memory. R. LIN*; J. LIANG; R. WANG; T. YAN; Z. GUO; Y. LIU; M. LUO. *Natl. Inst. of Biol. Sci.*

9:00 V45 **504.10** Role of the cerebral ganglion in the shift of taste-preference by learning of *aplysia.* N. TESHIMA*; K. UMETA; Y. KATSUMATA; Y. YOSHIMI; T. NAGAHAMA. *Shibaura Inst. of Technol., Teikyo Heisei Univ/ Fac Hlth. Med. Sci.*

10:00 V46 **504.11** Characterization of prefrontal-subcortical circuitry in execution and inhibition of reward seeking behaviors. J. P. CABALLERO*; D. E. MOORMAN. *Univ. of Massachusetts Amherst.*

11:00 W1 **504.12** Inverse gating of discrimination learning by dopamine D2 receptors in the nucleus accumbens. T. SAWADA*; Y. IINO; K. YAMAGUCHI; S. YAGISHITA; H. KASAI. *The Univ. of Tokyo.*

8:00 W2 **504.13** Chronic stress causes a lasting increase in relapse-like behavior following punishment-induced abstinence from palatable food seeking, an effect mediated by dopamine D_1-like receptors. K. T. BALL*; S. HOLBROOK; R. PHELPS; J. ROE. *Bloomsburg Univ, Pennsylvania.*

9:00 W3 **504.14** The role of n-methyl-d-aspartate receptors in the insular cortex during a motivational conflict task: Updating from an appetitive to an aversive memory. M. OLVERA-CALTZONTZIN*; M. I. MIRANDA. *Univ. Nacional Autonoma De Mexico.*

10:00 W4 **504.15** NMDA receptor-dependent plasticity in the nucleus accumbens underlies acquisition of cued reward-seeking behavior. M. VEGA VILLAR; J. C. HORVITZ; S. M. NICOLA*. *City Col., Albert Einstein Coll Med.*

11:00 W5 **504.16** Activation of oxytocin receptor expressing neurons in the ventral tegmental area that project to nucleus accumbens can be rewarding or aversive. J. PERIS*; K. TOTTEN; D. MONTGOMERY; K. A. SCOTT; E. G. KRAUSE. *Univ. of Florida.*

8:00 W6 **504.17** Chemogenetic activation of orbitofrontal striatal circuitry increases flexibility in rats that have developed habitual behavior on a modified t maze task. J. J. STOTT*; K. S. SMITH. *Dartmouth Col.*

9:00 W7 **504.18** ▲ Fos expressing neuronal ensembles in ventromedial prefrontal cortex mediate acquisition of food seeking. A. A. GENOVESE*; R. QUINTANA-FELICIANO; G. LOYOLA; B. L. WARREN. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

10:00 W8 **504.19** ▲ Fos-expressing neuronal ensembles projecting from ventromedial prefrontal cortex to nucleus accumbens are activated during acquisition of food seeking. G. LOYOLA*; R. QUINTANA-FELICIANO; A. GENOVESE; L. F. KANE; B. T. HOPE; B. L. WARREN. *Univ. of Florida, Natl. Inst. On Drug Abuse, NIH.*

11:00 W9 **504.20** Transcriptional profiles in reinforcement learning across brain regions reflect associative structure and reward history. S. BINDAS; C. S. CHEN; D. WEAVER; N. M. GRISSOM*. *Univ. of Minnesota.*

8:00 W10 **504.21** Murine genetic variance in muscarinic cholinergic receptor antagonism of fat intake and acquisition and expression of fat-conditioned flavor preferences in three inbred mouse strains. B. ISKHAKOV; P. DOHNALOVA; J. ISKHAKOVA; T. MUSTAC; A. YUABOV; J. MACANIAN; E. ISRAEL; N. LOCURTO; N. FRANZ; G. FAZILOV; M. SHENOUDA; R. J. BODNAR*. *Queens Col.*

POSTER

505. Fear and Aversive Learning and Memory: Circuits II

Theme G – Motivation and Emotion

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 W11 **505.01** Early adolescent adversity inflates periaqueductal gray/dorsal raphe cue responding but diminishes threat signaling in female adult rats. M. MOADDAB*; K. M. WRIGHT; M. A. MCDANNALD. *Boston Col.*

9:00 W12 **505.02** Zona incerta gabaergic output controls a signaled locomotor action in the midbrain tegmentum. S. HORMIGO; J. ZHOU; M. A. CASTRO-ALAMANCOS*. *Drexel Univ. Col. of Med.*

10:00 W13 **505.03** Dorsolateral periaqueductal gray activates antipredatory neural responses in the amygdala in foraging rats. E. KIM*; M. KONG; S. PARK; J. ROMANI; S. KIM; J. CHO; J. J. KIM. *Univ. of Washington, Catholic Kwandong Univ., Catholic Kwandong Univ. Intl. St. Mary's Hosp., Korea Univ. of Sci. and Technol., Korea Inst. of Sci. and Technol., Univ. of Washington, Univ. of Washington.*

11:00 W14 **505.04** Role of the cerebellum-periaqueductal grey pathway in fear conditioning. E. PACI*; C. LAWRENSON; R. MORAN; B. LUMB; R. APPS. *Univ. of Bristol, King's Col.*

8:00 W15 **505.05** Anatomical and functional characterization of RMTg-projecting PFC neurons. E. J. GLOVER*; E. M. STARR; W. N. WAYMAN; J. J. WOODWARD; L. CHANDLER. *Univ. of Illinois at Chicago, Med. Univ. of South Carolina, Med. Univ. S Carolina.*

9:00 W16 **505.06** Striatal beta oscillation and neuronal activity in the primate caudate nucleus differentially represent valence and arousal under approach-avoidance conflict. K. AMEMORI*; S. AMEMORI; D. J. GIBSON; A. M. GRAYBIEL. *Kyoto Univ., MIT.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 W17 **505.07** Medial prefrontal cortex projection to lateral habenula is functional and modulated by dopamine. H. LI*; J. TSAI; A. BUXBAUM; Y. AYOUB; R. MALINOW. *UCSD, UCSD.*

11:00 W18 **505.08** Connections of the laterodorsal tegmental nucleus with the medial prefrontal cortex and habenular-interpeduncular-raphe system. R. SOUZA; D. BUENO; L. B. LIMA; I. C. FURIGO; J. DONATO, Jr; M. METZGER*. *Inst. of Biomed. Sciences, Univ. of São Paulo.*

8:00 W19 **505.09** Quantitative determination of the GABAergic cell number in the lateral and basal nuclei of the amygdala using unbiased stereology in mice. V. K. VERECZKI*; É. KRIZSÁN; O. I. PAPP; K. MÜLLER; N. HAJOS. *Semmelweis University, Budapest, Hungary, Inst. Exp Med. Hungarian Acad Sci.*

9:00 W20 **505.10** Whole-brain mapping of neuronal activation during formation, consolidation and retrieval of aversive memories. A. FRANCESCHINI*; A. COSTA; I. COSTANTINI; B. RANI; G. MAZZAMUTO; A. P. DI GIOVANNA; P. BLANDINA; M. B. PASSANI; F. S. PAVONE; L. SILVESTRI. *LENS European Lab. for Non-Linear Spectroscopy, Univ. of Florence, Univ. of Florence, Univ. of Florence.*

10:00 W21 **505.11** Lsfmpy: Open-source toolkit for brain-wide neural activity mapping in optically cleared mouse brain. S. BEDNAREK*; N. JERMAKOW; M. STEFANIUK; M. PAWŁOWSKA; R. REHMAN; K. NOWICKA; L. BIJOCH; F. ROSELLI; D. K. WÓJCIK; P. MAJKA. *Nencki Inst. of Exptl. Biol., Ulm Univ.*

11:00 W22 **505.12** *In vivo* whole cell recordings from the amygdala. Y. SATO*; Y. IKEGAYA. *The Univ. of Tokyo.*

8:00 W23 **505.13** Extended amygdala circuits are differentially activated by context fear conditioning in male and female rats. L. URIEN; R. NORDLICHT; E. P. BAUER*. *Barnard Col.*

9:00 W24 **505.14** Anatomical and functional characterization of ventral subiculum projections to the BNST. L. URIEN*; S. COHEN; R. NORDLICHT; E. P. BAUER. *Barnard Col. of Columbia Univ.*

POSTER

506. Mechanisms Underlying Decision-Making, Motivation, and Reinforcement

Theme G – Motivation and Emotion

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 W25 **506.01** ▲ Amphetamine sensitization under reward uncertainty has opposing effects on conditioned approach and conditioned reinforcement to serial cues. K. A. CAPLAN*; A. S. KNES; C. CLIBANOFF; H. O. RODRÍGUEZ-CRUZ; C. M. FREELAND; M. J. F. ROBINSON. *Wesleyan Univ.*

9:00 W26 **506.02** ▲ Optogenetic inhibition of the AIC and OFC during risky decision making. A. S. KNES*; C. M. FREELAND; K. A. CAPLAN; M. J. F. ROBINSON. *Wesleyan Univ., Wesleyan Univ.*

10:00 W27 **506.03** ▲ Reward uncertainty elicits cue-triggered craving for predictive and incentive cues. N. ROME*; J. CHABOT; T. PENG; H. XU; M. MUSTO; M. J. F. ROBINSON. *Wesleyan Univ.*

11:00 W28 **506.04** Frequency response of optically stimulated, midbrain dopamine neurons. P. SHIZGAL*; V. PALLIKARAS; F. CARTER; D. N. VELÁZQUEZ-MARTINEZ; A. ARVANITOGIANNIS. *Concordia Univ., Univ. Nacional Autonoma de Mexico.*

8:00 W29 **506.05** ▲ Questioning the role of phasic dopamine signaling in reinforcement learning. F. CARTER*; V. PALLIKARAS; P. SHIZGAL. *Concordia Univ.*

9:00 W30 **506.06** The trade-off between optical power and pulse duration in optical excitation of midbrain dopamine neurons. V. PALLIKARAS*; F. CARTER; D. VELAZQUEZ-MARTINEZ; A. ARVANITOGIANNIS; P. SHIZGAL. *Concordia Univ., Univ. Nacional Autonoma De Mexico.*

10:00 W31 **506.07** Evolution of phasic dopamine release in limbic, associative, and sensorimotor domains of the striatum during the development of habitual reward seeking. W. VAN ELZELINGEN*; W. E. BASTET; J. M. MATOS; D. SMULDERS; I. WILLUHN. *The Netherlands Inst. for Neuroscience, Royal Netherlands Acad. of Arts and Sci., Dept. of Psychiatry, Amsterdam UMC, Univ. of Amsterdam.*

11:00 W32 **506.08** Differences in phasic dopamine release during Pavlovian and operant conditioning in ventromedial and ventrolateral striatum. J. N. GOEDHOOP*; I. WILLUHN. *Netherlands Inst. For Neuroscience, Royal Netherlands Acad. of Arts and Sci., Dept. of Psychiatry, Amsterdam UMC, Univ. of Amsterdam.*

8:00 W33 **506.09** Nutritional programming during pregnancy and lactation sensitizes food addiction like behavior in offspring of rats. L. MONTALVO MARTINEZ*; G. CRUZ CARRILLO; L. FUENTES MERA; R. ORTIZ LÓPEZ; A. CAMACHO MORALES. *Autonomous Univ. of Nuevo León, Technological Inst. and of Superior Studies of Monterrey.*

9:00 W34 **506.10** Cholinergic basal forebrain neurons can drive motivated behavior by serving as a conditioned stimulus. E. Y. KIMCHI*; A. BURGOS-ROBLES; G. A. MATTHEWS; T. L. CHAKOMA; M. PATARINO; J. C. WEDDINGTON; W. YANG; R. SIMONS; S. FOUTCH; M. FONG; M. F. BEAR; K. M. TYE. *Massachusetts Gen. Hosp., MIT, Salk Inst. for Biol. Studies.*

10:00 W35 **506.11** Amygdalostriatal transition zone circuits mediating associative learning and motivated behaviors. F. MILLS*; H. S. CHEN; S. SHAO; M. E. LEMIEUX; C. R. LEE; K. M. TYE. *The Salk Inst. for Biol. Studies, MIT, Univ. of California San Diego.*

11:00 W36 **506.12** Wireless recording of projection-defined PFC neurons during a novel social dominance task. N. PADILLA-COREANO*; J. C. WEDDINGTON; R. ZHANG; R. R. ROCK; C. CHANG; S. B. HAUSMANN; G. MATTHEWS; J. P. CURLEY; K. M. TYE. *The Salk Inst., Massachussetts Inst. of Technol., Univ. of Texas at Austin.*

8:00 W37 **506.13** Ventral pallidum neurons signal reward prediction errors consistent with reinforcement learning. D. J. OTTENHEIMER*; B. A. BARI; E. SUTLIEF; J. M. RICHARD; J. Y. COHEN; P. H. JANAK. *Johns Hopkins Univ., Univ. of Minnesota, Johns Hopkins Univ., Johns Hopkins Univ.*

9:00 W38 **506.14** Amygdalocortical circuits for the dynamic regulation of conditioned reward-seeking. K. M. FRASER*; P. H. JANAK. *Johns Hopkins Univ.*

10:00 W39 **506.15** Ventral hippocampus, basolateral amygdala, and nucleus accumbens inactivation impairs cue responding in Pavlovian-conditioned contextual discrimination. T. KIM*; P. JANAK. *Johns Hopkins Univ., Johns Hopkins Sch. of Med.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

507. Stress, Anxiety, and Aversion

Theme G – Motivation and Emotion

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 W40 **507.01** ▲ Aggression alters mood-related behavior in adult sexually experienced male CD-1 mice. A. THEMANN*; O. LIRA; F. J. FLORES-RAMIREZ; S. D. IÑIGUEZ. *The Univ. of Texas at El Paso.*

9:00 W41 **507.02** Vicarious social defeat stress induces depression-related outcomes in a sex-specific manner in adolescent C57BL/6 mice. M. RODRIGUEZ*; E. J. FLORES; S. INIGUEZ. *The Univ. of Texas At El Paso.*

10:00 W42 **507.03** Upregulation of hippocampal extracellular signal-regulated kinase (ERK)-2 induces antidepressant-like behavior in the rat forced swim test. I. GARCIA-CARACHURE*; F. J. FLORES-RAMIREZ; S. D. IÑIGUEZ. *The Univ. of Texas at El Paso.*

11:00 W43 **507.04** The enduring anxiogenic phenotype induced by juvenile antidepressant exposure is ameliorated by fluoxetine re-exposure in adult female C57BL/6 mice. F. J. FLORES-RAMIREZ*; O. LIRA; F. D. RODRIGUEZ; J. PRECIADO-PIÑA; D. I. PARDO; S. A. CASTILLO; S. D. INIGUEZ. *Univ. of Texas at El Paso.*

8:00 W44 **507.05** ▲ Adolescent rats exhibit context-dependent methamphetamine sensitization while adult rats fail to exhibit sensitization using a one-trial procedure. B. W. SORTMAN*; C. MORENO-BARRIGA; D. FRANCO; E. NUNEZ; K. J. THIEL; A. R. ZAVALA. *California State Univ., Madonna Univ.*

9:00 X1 **507.06** Lateral habenula gabaergic cells: Involvement in anxiety and stress-related behaviors. V. MATHIS*; P. J. KENNY. *Icahn Sch. of Med. At Mt Sinai, ICAHN Sch. of Med. At Mount Sinai.*

10:00 X2 **507.07** The role of septal enkephalinergic neurons in anxiety. M. AN*; K. KIM; H. KIM; S. KIM. *Seoul Natl. Univ.*

11:00 X3 **507.08** The amygdala differentially regulates defensive behaviors evoked by CO_2. R. J. TAUGHER*; B. J. DLOUHY; C. J. KREPLE; A. GHOBBEH; Y. WANG; J. A. WEMMIE. *Univ. of Iowa, Iowa City VA Med. Ctr., Univ. of Iowa, Univ. of Iowa.*

8:00 X4 **507.09** Region and cell-type specific contribution of mGlu5 receptors to social behavior and anxiety. A. RAMOS PRATS*; F. FERRAGUTI. *Med. Univ. of Innsbruck.*

9:00 X5 **507.10** Central inhibition of heme oxygenase carbon monoxide pathway modifies the anxiety-like behavior in endotoxemic rats. C. R. A. LEITE-PANISSI*; E. O. PRIMINI; M. C. CARVALHO. *Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto.*

10:00 X6 **507.11** Basolateral amygdala projections to the insular cortex mediate social approach to stressed rats. A. DJERDJAJ*; N. S. RIEGER; J. P. CHRISTIANSON. *Boston Col.*

11:00 X7 **507.12** A spino-hypothalamo-habenular pathway mediating aversive behaviors. S. LEE*; Y. FAN; M. KIM; C. YANG; H. KIM. *Daegu Haany Univ.*

8:00 X8 **507.13** Ventromedial prefrontal parvalbumin neurons signal active avoidance. Y. HO*; Q. YANG; P. BODDU; M. R. WARDEN. *Cornell Univ., Univ. of Massachusetts Med. Sch., Icahn Sch. of Med. at Mount Sinai, Cornell Neurotech, Cornell Univ.*

9:00 X9 **507.14** Norepinephrine inhibits sensory neuron TRPV1 signaling in a sex- and stress-dependent manner. L. V. THANG*; M. K. MADASU; S. SINGH; J. GARCIA; R. AL-HASANI; J. G. MCCALL. *Washington Univ. In St. Louis, St. Louis Col. of Pharm., St Louis Col. of Pharm., Washington Univ. in St. Louis, St. Louis Col. of Pharm. & Washington Uni, Washington Univ. in St. Louis.*

10:00 X10 **507.15** Midbrain glutamatergic neurons drive locus coeruleus-mediated negative affect. K. E. PARKER*; A. R. BUCKLEY; S. L. STEWART; S. C. HUNTER; J. G. MCCALL. *Washington Univ. In St. Louis, St. Louis Col. of Pharm., Washington Univ. in St. Louis, Washington Univ. In St. Louis, Emory Univ.*

11:00 X11 **507.16** Chemogenetic inhibition of neurons in the paraventricular nucleus of the thalamus that project to the nucleus accumbens has an anxiolytic effect on stress-induced anxiety. X. DONG*; S. LI; G. J. KIROUAC. *Univ. of Manitoba.*

8:00 X12 **507.17** Extensive divergence of projections from neurons in the paraventricular nucleus of the thalamus to widespread regions of the forebrain. S. LI*; X. DONG; G. J. KIROUAC. *Univ. of Manitoba.*

9:00 X13 **507.18** Treating psychiatric illness through targeted network disruption and electrical biomarker identification. M. BILGE; A. KANABAR; I. BASU; S. T. OLSEN*; M. J. BOGGESS; A. ROCKHILL; A. K. GOSAI; E. HAHN; C. CUSIN; T. DECKERSBACH; Z. WILLIAMS; D. D. DOUGHERTY; A. S. WIDGE. *Mass Gen. Hospital/Harvard Med. Sch., Univ. of Minnesota, Mass Gen. Hospital/Harvard Med. Sch.*

10:00 X14 **507.19** Alteration of brain connectivity and behavior using a precisely timed electrical stimulation paradigm in a fear regulation circuit. M. LO*; R. L. YOUNK; E. B. BLACKWOOD; A. E. REIMER; A. S. WIDGE. *Univ. of Minnesota.*

POSTER

508. Mood Disorders: Depression and Bipolar Disorders: Clinical Studies

Theme G – Motivation and Emotion

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 X15 **508.01** Impact of immediate, pre-learning stress on the acquisition, extinction, and generalization of fear in a fear-potentiated startle paradigm. P. R. ZOLADZ*; M. R. RIGGENBACH; J. N. WEISER; B. E. MOSLEY; J. J. HIPSKIND; L. E. WIREMAN; K. L. HESS; T. J. DUFFY; J. K. HANDEL; M. G. KASCHALK; K. E. RENEAU; S. J. HELWIG; B. R. RORABAUGH; S. D. NORRHOLM; T. JOVANOVIC. *Ohio Northern Univ., Emory Univ.*

9:00 X16 **508.02** ▲ Stress that is temporally separated from learning sex-dependently affects long-term memory in a forced confabulation paradigm. K. E. RENEAU*; M. R. RIGGENBACH; J. N. WEISER; L. E. WIREMAN; M. G. KASCHALK; S. J. HELWIG; B. R. RORABAUGH; K. E. PAYMENT; P. R. ZOLADZ. *Ohio Northern Univ., Ohio Northern Univ.*

10:00 X17 **508.03** ▲ Impact of stress and the timing of misleading questions on false memory formation. M. R. RIGGENBACH*; B. R. RORABAUGH; K. E. PAYMENT; P. R. ZOLADZ. *Ohio Northern Univ., Ohio Northern Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 X18 **508.04** ● The effects of mindfulness-based interventions on sustained attention and inhibitory control. E. M. MOHR*; T. BRANDMEYER; R. HECHT; R. S. GUPTA; P. L. A. SCHOENBERG; D. R. VAGO. *Vanderbilt Univ. Med. Ctr., Univ. of California, San Francisco, Vanderbilt Univ., Vanderbilt Univ. Med. Ctr.*

8:00 X19 **508.05** Can EEG explain obesity-related cognition during exercise? J. BENAVIDEZ*; C. DY; H. TRAN; M. MIYAKOSHI; S. KESLACY. *California State University, Los Angeles, Swartz Ctr. for Computat. Neuroscience, Inc, UCSD.*

9:00 X20 **508.06** Disentangling the effects of subjective task load and task performance on neuroendocrine stress response. K. LAFOLLETTE*; B. C. SATTERFIELD; M. LAZAR; W. D. S. KILLGORE. *Stanford Univ., Univ. of Arizona.*

8:00 DP10/X21 **508.07** (Dynamic Poster) Environmental pollutants influence stress hormone and memory: Implications to brain health in human aging. J. N. SOUZA-TALARICO*; P. PLUSQUELLEC; S. J. LUPIEN; F. C. SILVA; D. SUCHECKI. *Sch. of Nursing, Univ. of São Paulo, École de Psychoéducation, Univ. de Montréal, Univ. of Montreal, Sch. of Nursing, Univ. of São Paulo, Univ. Federal de Sao Paulo.*

11:00 X22 **508.08** Predicting real-life stress reactivity from the effects of acute stress on brain function. R. TOUTOUNJI*; B. KAPTEIJNS; M. KRENTZ; F. KRAUSE; L. D. DE VOOGD; E. VASSENA; E. J. HERMANS. *Donders Inst. for Brain, Cognition, and Behaviour, Radboud Univ. Med. Ctr., New York Univ.*

8:00 X23 **508.09** ▲ Relationship between academic stress and heart rate variability (HRV) patterns for college athletes. N. RAJ*; M. DITOMMASO; A. JOHNSON; R. E. JOHNSON. *Valparaiso Univ., Valparaiso Univ.*

9:00 X24 **508.10** Interactive effects of childhood stress and acute stress on prefrontal resting-state connectivity. H. WANG*; L. D. DE VOOGD; R. VERKES; B. ROOZENDAAL; G. FERNANDEZ; E. J. HERMANS. *Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ. Med. Ctr., Dept. of Psychology, New York Univ.*

10:00 X25 **508.11** ▲ Evaluation of stress-reducing interventions in an undergraduate student population: Perceived stress, blood pressure, frontal EEG asymmetry, and salivary immunoglobulin-alpha. L. ANDERSEN; S. GOWAN; B. RONNESTRAND; B. TAYLOR; M. WONG*. *Univ. of Wisconsin-La Crosse, Univ. of Wisconsin-La Crosse, Univ. of Wisconsin-La Crosse.*

11:00 X26 **508.12** Silver brain: Forget bingo, start virtual cardio. H. TRAN*; T. ESGUERRA; E. PUENTE; S. KESLACY. *California State Univ. of Los Angeles, CSULA.*

8:00 X27 **508.13** ▲ Biomarkers of stress reactivity in animals and humans. S. T. JENZ*; J. MECKES; P. H. LIM; S. GOLDSTEIN; S. L. WERT; E. TUNC OZCAN; R. JANKORD; R. SHIA; E. E. REDEI. *Northwestern Univ. Feinberg Sch. of Med., Air Force Res. Lab.*

9:00 X28 **508.14** Breathing at 6 breaths per minute modulates autonomic tone in women at risk for Alzheimer's disease. B. KRAUSE-SORIO*; P. M. MACEY; P. SIDDARTH; K. T. LAIRD; K. NARR; H. LAVRETSKY. *Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles.*

10:00 X29 **508.15** Investigating technostress from a neurobiological perspective: Results of a neurois research program with a focus on field studies. R. RIEDL; T. FISCHER*. *Univ. of Applied Sci. Upper Austria.*

11:00 X30 **508.16** ● Abnormal dendrite and synapse formation in neurons differentiated from psychiatric disorder patient-derived induced pluripotent stem cells with copy number variation of PCDH15 and RELN. T. ISHII*; M. ISHIKAWA; K. FUJIMORI; T. MAEDA; I. KUSHIMA; Y. ARIOKA; D. MORI; B. YAMAGATA; S. NIO; T. A. KATO; S. KANBA; M. MIMURA; N. OZAKI; H. OKANO. *Keio Univ. Sch. of Med., Sumitomo Dainippon Pharma. Co., Ltd, Nagoya Univ. Grad. Sch. of Med., Keio Univ. Sch. of Med., Grad. Sch. of Med. Sciences, Kyushu Univ.*

8:00 X31 **508.17** Emotional control in bipolar disorder type 1: An mvpa analysis of fMRI data. F. KONDO*; J. C. WHITEHEAD; F. CORBALÁN; S. BEAULIEU; J. L. ARMONY. *McGill Univ., Douglas Mental Hlth. Univ. Inst., McGill Univ.*

9:00 X32 **508.18** Gamma band auditory steady-state responses in bipolar disorder patients. N. ORIBE*; Y. HIRANO; S. HIRANO; T. ONITSUKA; T. UENO. *Hizen Psychiatric Ctr., Kyushu Univ., Kyushu Univ., Hizen Psychiatry Ctr.*

10:00 X33 **508.19** ● Development of induced pluripotent stem cell model of bipolar disorder derived from an Okinawan pedigree with a potential genetic component. G. TAKAMATSU*; K. YANAGI; J. LEE; Y. MANOME; C. HARA-MIYAUCHI; K. KOGANEBUCHI; K. HATTORI; M. HASEGAWA; M. ISA; D. DIMITROV; H. TOMOKO; T. KONDO; T. TAKAHASHI; H. KUNUGI; H. J. OKANO; R. KIMURA; T. KANAME; M. MATSUSHITA. *Univ. of the Ryukyus, Univ. of the Ryukyus, Natl. Ctr. for Child Hlth. and Develop., Jikei Univ. Sch. of Med., Univ. of the Ryukyus, Natl. Ctr. of Neurol. and Psychiatry, Natl. Ctr. of Neurol. and Psychiatry, Univ. of the Ryukyus, Okinawa Inst. of Sci. and Technol. Gradua, Jichi Med. Univ.*

11:00 X34 **508.20** Analysis of commonly used reference genes in the frontopolar cortex in schizophrenia and bipolar disorder. A. MEDINA*; E. HUGHES; W. E. BUNNEY; R. MYERS; A. SCHATZBERG; J. D. BARCHAS; H. AKIL; S. J. WATSON, Jr. *Univ. Michigan, Univ. of Michigan, Mol. and Behavioral N, Univ. of California Irvine Dept. of Psychiatry and Human Behavior, HudsonAlpha Inst. for Biotech., Psychiatry and Behavioral Sciences, Stanford Univ., Weill Cornell Med. Col., Univ. of Michigan.*

8:00 X35 **508.21** Differentiating young depressed adults at high risk for developing bipolar disorder from those at low risk: A machine learning approach. J. CHA*; A. ANAND. *Cleveland Clin.*

POSTER

509. Depression and Bipolar Disorders: Ketamine in Animal Studies

Theme G – Motivation and Emotion

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 X36 **509.01** Bioenergetic and behavioral impacts of ketamine and lithium combinatorial treatment in a state of antidepressant resistance. J. PRICE*; B. A. MORATH; K. BUTTERS; M. A. FRYE; S. MCGEE; S. J. TYE. *Mayo Clin., UCLA, Deakin Univ., Mayo Clin.*

9:00 X37 **509.02** ● Assessment of rapid antidepressant effects of ketamine in animal model. R. MEDAPATI; J. TADIPARTHI; N. GANUGA; G. RAMALINGAYYA; P. JAYARAJAN; K. MUDIGONDA*; R. NIROGI. *Suven Life Sci. Ltd.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 X38 **509.03** Maternal separation and prolonged exposure to ketamine did not alter maternal behavior in rats. E. L. RICCI*; B. RIBEIRO; L. PANTALEON; J. Z. MAGALHÃES; G. ABREU; A. R. FUKUSHIMA; C. MUNHOZ; M. RIBEIRO; H. S. SPINOSA. *Presbyterian Mackenzie Univ., Univ. Presbiteriana Mackenzie, Sch. of Vet. Med. and Animal Sci. U, Univ. of São Paulo.*

11:00 X39 **509.04** ▲ Naltrexone attenuates the antidepressant-like effects of ketamine in C57B/6 mice. F. ZHANG*; R. RICE; J. H. PORTER; A. ANDRADE. *Virginia Commonwealth Univ.*

8:00 X40 **509.05** Evaluating the antidepressant-like effects of ketamine, its isomers, and (2R,6R)-hydroxynorketamine (HNK) in C57B/6 mice. J. H. PORTER*; F. ZHANG; R. RICE. *Virginia Commonwealth Univ.*

9:00 X41 **509.06** Effects of ketamine and (2R-6R)-hydroxynorketamine (HNK) on cognition: A role for the nucleus reuniens? R. RICE*; F. ZHANG; P. GOSWAMEE; R. MCQUISTON; J. H. PORTER. *Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

10:00 X42 **509.07** Evaluation of serotonin 2A receptor involvement in the antidepressant-like and abuse-related effects of ketamine. T. M. HILLHOUSE*; H. S. POPAL; C. MERRITT; S. E. CARLAN; K. A. WEBSTER; J. H. PORTER. *Weber State Univ., Virginia Commonwealth Univ.*

11:00 X43 **509.08** ▲ Evaluation of the antidepressant, anxiolytic, and locomotion effects of the N-methyl-d-aspartate (NMDA) receptor antagonist dextromethorphan in mice. J. J. SAAVEDRA*; S. C. HONEYCUTT; P. I. GARRETT; A. M. PETERSON; J. W. WHITE; T. M. HILLHOUSE. *Weber State Univ.*

8:00 X44 **509.09** Corticosterone as a confounding factor in delineating mechanisms underlying ketamine's rapid antidepressant actions. L. J. WEGMAN-POINTS*; B. POPE; L. SEMKE; A. M. ZOBEL; E. WAUSON; V. DURIC; L. YUAN. *Des Moines Univ.*

9:00 X45 **509.10** ▲ Effect of ketamine on parvabumin interneurons in the prefrontal cortex and hippocampus during depression-like behavior in mice. O. LAWLER*; M. GAMES; V. MAGANA NAVAS; V. ARMENDARIZ CABRAL; K. MATA ARAUZ; K. ODELL; Q. WANG. *John Brown Univ., John Brown Univ., John Brown Univ.*

10:00 X46 **509.11** Unique signaling of ketamine and 2R, 6R HNK in their rapid antidepressant actions. R. THAPA*; C. XU; X. CAI; S. YAN. *Southern Illinois Univ., Shaanxi Normal Univ., Capital Med. Univ.*

11:00 Y1 **509.12** Ketamine produces a long-lasting enhancement of synaptic transmission. G. JANG*; B. MACIVER. *Stanford Univ. Sch. of Med.*

8:00 Y2 **509.13** Antidepressant effects of s-ketamine through a reduction of functional I_h. C. KIM*; D. JOHNSTON. *The Univ. of Texas At Austin.*

9:00 Y3 **509.14** Ketamine but not rapastinel increases mPFC pyramidal cell GCaMP fluorescence. B. D. HARE*; R. S. DUMAN. *Yale Sch. of Med.*

10:00 Y4 **509.15** Distinct projections of the medial prefrontal cortex underlie the rapid antidepressant actions of ketamine. R. SHINOHARA*; B. D. HARE; R. LIU; R. S. DUMAN. *Yale Univ. Sch. of Med.*

11:00 Y5 **509.16** Temporal characterization of sex-specific changes in glutamatergic/GABAergic neuron markers expression in a mouse model of stress. C. JIANG*; R. S. DUMAN. *Yale Univ. Sch. of Med., Yale Univ. Sch. Med.*

8:00 Y6 **509.17** ● Initial cellular trigger for rapid antidepressant actions of rapastinel: Cell-type specific role of NMDAR and dopamine receptors. S. POTHULA*; T. KATO; R. LIU; M. WU; A. SLIBY; R. SHINOHARA; P. BANERJEE; R. DUMAN. *Yale Univ., Allergan Inc..*

9:00 Y7 **509.18** Cell type specific transcriptome analysis in medial prefrontal cortex and ventral hippocampus after ketamine treatment. B. LEE*; M. J. GIRGENTI; M. V. FOGACA; R. S. DUMAN. *Yale Univ. Sch. Med.*

10:00 Y8 **509.19** Stress-sensitive antidepressant-like effects of ketamine in the mouse forced swim test. P. J. FITZGERALD*; J. Y. YEN; B. O. WATSON. *Univ. of Michigan.*

11:00 Y9 **509.20** Ketamine modulates spontaneous and miniature excitatory synaptic currents in the medial prefrontal cortex of acutely stressed rats. F. SALERNO SCARZELLA*; E. SCHIAVON; L. MUSAZZI; M. POPOLI; L. FORTI. *Univ. of Insubria, Univ. degli Studi di Milano.*

POSTER

510. Psychostimulant Actions on Neural Circuits

Theme G – Motivation and Emotion

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 Y10 **510.01** Midazolam potentiates heroin-induced brain hypoxia, hypothermia, and behavioral inhibition. A. AFZAL*; E. A. KIYATKIN. *Natl. Inst. On Drug Abuse.*

9:00 Y11 **510.02** Effect of transporter inhibitors on brain concentration of peripherally injected diphenidine. K. OKUDA*; M. ASARI; H. TANAKA; C. HOSHINA; K. HORIOKA; K. MATSUBARA; H. SHIONO; K. SHIMIZU. *Asahikawa Med. Univ., Kyoto Univ. Hosp.*

10:00 Y12 **510.03** Changes in the structure and diversity of the rat gut microbiota induced by volatilized cocaine and adulterants. C. SCORZA*; C. PICCINI; M. MARTINEZ BUSI; J. ABIN CARRIQUIRY; P. ZUNINO. *IIBCE, IIBCE, IIBCE.*

11:00 Y13 **510.04** Role of the terminal amine group of alphaPVP derivatives (synthetic cathinones) inducing psychostimulant and rewarding effects. R. LÓPEZ-ARNAU*; L. DUART-CASTELLS; N. NADAL-GRATACÓS; X. BERZOSA; M. MURALTER; M. CARBÓ; J. CAMARASA; D. PUBILL; E. ESCUBEDO. *Fac. of Pharm. and Food Science, Univ. of Barcelona, Barcelona, Spain, IQS Sch. of Engineering, Univ. Ramon Llull, Barcelona, Spain, Univ. of Barcelona.*

8:00 Y14 **510.05** Cue-induced reinstatement following chronic intravenous ketamine self-administration in male and female Long-Evans rats. D. P. HAGARTY*; C. STRONG; K. L. MANN; J. BREEDLOVE; K. SCHOEPFER; S. CAJUSTE; M. KABBAJ. *Florida State Univ.*

9:00 Y15 **510.06** ● Methamphetamine-induced behavioral sensitization: A role for brain CYP2D1. M. R. STOCCO*; S. MIKSYS; F. B. WADJI; B. ZHAO; A. EL-SHERBENI; R. F. TYNDALE. *Univ. of Toronto, Campbell Family Mental Hlth. Res. Institute, CAMH.*

10:00 Y16 **510.07** Drug addiction and withdrawal induce changes in behavior and epigenetic biomarkers. A. ZMAROWSKI*; S. REED; B. LEARN; C. BOND; J. CLAYBOURNE; R. LORDO; D. S. B. S. SILVA; R. SPURBECK. *Battelle.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 Y17 **510.08** Effects of chronic co-administration of modafinil and citalopram on motor activity and the subsequent oral self-administration of modafinil. E. YEPEZ*; L. MOLINA-MARTINEZ; J. JUAREZ. *Univ. De Guadalajara, Univ. of Guadalajara, Univ. Guadalajara.*

8:00 Y18 **510.09** The effects of inhaled salvinorin A on resting state functional connectivity in humans. M. K. DOSS*; R. R. GRIFFITHS; D. G. MAY; M. W. JOHNSON; J. M. CLIFTON; F. S. BARRETT. *Johns Hopkins Univ.*

9:00 Y19 **510.10** ▲ Acute oral administration of clobenzorex increases rectal temperature without altering motor activity in rat. B. GÓMEZ-DE LOS SANTOS*; D. MARCELO-PÉREZ; G. D. APÓSTOL-DEL ROSAL; A. PATRICIO-MARTÍNEZ; I. D. LIMÓN. *Benemérita Univ. Autónoma De Puebla, Benemérita Univ. Autónoma de Puebla.*

8:00 DP11/Y20 **510.11** (Dynamic Poster) The effects of chronic methamphetamine on LINE-1 activity in rat striatum, hippocampus and prefrontal cortex. A. B. MOSZCZYNSKA*. *Wayne State Univ.*

11:00 Y21 **510.12** Chronic clobenzorex administration decreased motor behaviour without dopaminergic degeneration. A. PATRICIO-MARTÍNEZ*; G. D. APOSTOL DEL ROSAL; B. GÓMEZ-DE LOS SANTOS; F. LUNA MORALES; I. D. LIMÓN. *Lab. de Neurofarmacología-FCQ-BUAP, Facultad de Ciencias Biológicas-BUAP, Lab. de Neuroendocrinología-FCQ-BUAP.*

8:00 Y22 **510.13** The effects of voluntary methamphetamine vapor exposure and binge intoxication in adult Wistar rats. A. GUTIERREZ*; J. D. NGUYEN; M. A. TAFFE. *Univ. of California San Diego, The Scripps Res. Inst.*

9:00 Y23 **510.14** Characterization of repeated exposure to ketamine and its metabolite in zebrafish larvae. N. N. JACKSON*; K. S. JONES. *Univ. of Michigan Med. Sch.*

10:00 Y24 **510.15** The prefrontal cortex and the caudate nucleus respond conjointly to methylphenidate (Ritalin). Concomitant behavioral and neuronal recording study. S. S. VENKATARAMAN*; C. CLAUSSEN; C. REYES-VAZQUEZ; N. KHARAS; N. DAFNY. *Wake Forest Univ. Sch. of Med., The Univ. of Texas McGovern Med. Sch. at Houston, Dept. De Fisiología.*

11:00 Y25 **510.16** Effects of quercetin pre-treatments and repeated toxic-dose methamphetamine on hyperthermia. A. ALMALKI*; Y. ALTHOBAITI. *Taif Univ., Taif Univ.*

8:00 Y26 **510.17** Using nanoparticles to reduce methamphetamine toxicity. M. SEVERSON; P. JAMPANI; Z. WANG; L. M. MCFADDEN*. *Univ. of South Dakota, Univ. of South Dakota.*

POSTER

511. Drugs of Abuse: Learning and Memory II

Theme G – Motivation and Emotion

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 Y27 **511.01** Identification of a novel metabolic-epigenetic interaction network mediating learning-related histone acetylation in the brain. D. C. ALEXANDER*; M. MENDOZA; G. EGERVARI; P. MEWS; B. A. GARCIA; S. BERGER. *Univ. of Pennsylvania, Icahn Sch. of Med. at Mount Sinai.*

9:00 Y28 **511.02** A novel method to study prolonged reward-context associations. G. MCKENDRICK*; N. GRAZIANE. *Pennsylvania State Univ.*

10:00 Y29 **511.03** Modeling drug reward in invertebrates. A. ROMERO; J. F. GOMEZ-MOLINA; U. M. RICOY*. *Northern New Mexico Col., Intl. Group of Neurosci. (IGN).*

11:00 Y30 **511.04** *In vivo* labeling and molecular characterization of active neurons in the infralimbic cortex using a genetically encoded photo-activatable calcium integrator (CaMPARI2). R. MADANGOPAL*; S. J. WEBER; V. LENNON; L. E. KOMER; F. RUBIO; V. MENON; E. R. SCHREITER; B. T. HOPE. *Natl. Inst. on Drug Abuse IRP, Columbia Univ., Howard Hughes Med. Institute, Janelia Farm Res. Campus.*

8:00 Y31 **511.05** The iDISCO-SMART pipeline for whole brain activity mapping following incubation of palatable food seeking. M. JIN*; J. NGUYEN; S. J. WEBER; V. A. LENNON; L. E. KOMER; C. HEINS; C. MEJIAS-APONTE; J. M. BOSSERT; Y. SHAHAM; B. T. HOPE; S. A. GOLDEN; R. MADANGOPAL. *NIH, Univ. of Washington.*

9:00 Y32 **511.06** A dopamine-induced coordinated gene expression program regulates neuronal function and cocaine response. K. E. SAVELL*; A. J. BAUMAN; S. THUKRAL; N. A. GOSKA; F. A. SULTAN; L. IANOV; L. WHITAKER; J. RUBIO; B. T. HOPE; J. J. DAY. *Univ. of Alabama at Birmingham, Natl. Inst. on Drug Abuse Intramural Res. Program.*

10:00 Y33 **511.07** ▲ Social reward learning in adolescent mice using conditioned place preference. C. P. CANN*; C. N. MILLER; R. MARINO; M. VENNIRO; B. T. HOPE; L. R. WHITAKER. *Natl. Inst. On Drug Abuse.*

11:00 Y34 **511.08** ▲ Neurobiological substrates of discriminative stimulus controlled incubation of cocaine craving. V. A. LENNON*; S. J. WEBER; L. E. KOMER; R. MADANGOPAL; L. R. WHITAKER; B. J. TUNSTALL; J. M. BOSSERT; Y. SHAHAM; B. T. HOPE. *Natl. Inst. On Drug Abuse IRP.*

8:00 Y35 **511.09** Alcohol derived acetate promotes brain histone acetylation and alcohol related learning. G. EGERVARI*; P. MEWS; R. NATIVIO; S. SIDOLI; G. DONAHUE; S. I. LOMBROSO; D. C. ALEXANDER; S. L. RIESCHE; E. A. HELLER; E. J. NESTLER; B. A. GARCIA; S. L. BERGER. *Univ. of Pennsylvania, Icahn Sch. of Med. At Mount Sinai.*

9:00 Y36 **511.10** Altered actin filament dynamics in the *Drosophila* mushroom bodies lead to fast acquisition of alcohol consumption preference. A. BUTTS*; S. OJELADE; A. RODAN; A. ROTHENFLUH. *Univ. of Utah, Baylor Col. of Med., Univ. of Utah.*

10:00 Y37 **511.11** ▲ The molecular mechanisms of ethanol neuroadaptation. A. ANQUEIRA*; A. GHEZZI. *Univ. of Puerto Rico, Río Piedras, Univ. of Puerto Rico, Rio Piedras.*

11:00 Y38 **511.12** ▲ Sex-differences in ethanol conditioned place preference in mice. P. KOZAN*; E. ALVARADO; P. D. RIVERA. *Hope Col.*

8:00 Y39 **511.13** ● A longitudinal fMRI resting-state study of reward-circuit plasticity induced by chronic ethanol exposure in rats. M. ESGUERRA; H. M. WIESNER; C. E. HUTCHISON; W. ZHU; Y. ZHANG; A. K. ZILVERSTAND; J. ZIMMERMANN; W. CHEN; X. H. ZHU; M. J. THOMAS*. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

9:00 Y40 **511.14** Ventral paired median neurons mediate state-dependent alcohol memory. K. M. NUNEZ*; M. TALAY; G. BARNEA; K. R. KAUN. *Brown Univ., Brown Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 Y41 **511.15** The effect of adolescent delta-9-tetrahydrocannabinol and ethanol exposure on prefrontal cortex reliant behaviors. C. E. SMILEY*; K. E. NIMCHUK; H. K. SALEH; A. M. MOORE; J. T. MCGONIGAL; J. T. GASS. *Med. Univ. of South Carolina.*

11:00 Y42 **511.16** ▲ Long-term behavioral effects of nicotine and ethanol exposure in aged rodents. L. M. FOLTS; G. M. FERNANDEZ*. *St. Mary's Col. of Maryland.*

8:00 Y43 **511.17** The role of baseline anxiety in associative learning and response to acute stress. T. E. H. MOSES*; E. A. WOODCOCK; M. K. GREENWALD. *Wayne State Univ. Sch. of Med., Yale Univ. Sch. of Med.*

9:00 Y44 **511.18** Stress and drugs of abuse alter GABAergic transmission in the ventral tegmental area via chloride cotransporter KCC2 downregulation. A. OSTROUMOV*; B. A. KIMMEY; J. A. DANI. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

10:00 Z1 **511.19** Chronic toluene exposure produces learning and memory impairment in rats. M. Y. GAUTHEREAU-TORRES*; A. JACOBO-JACOBO; J. I. SANDOVAL-MEDINA; L. F. ORTEGA-VARELA; D. GODINEZ-HERNANDEZ. *Univ. Michoacana De San Nicolas De Hidalgo, Univ. Michoacana De San Nicolas De Hidalgo, Univ. Michoacana De San Nicolas De Hidalgo, Univ. Michoacana De San Nicolas De Hidalgo.*

11:00 Z2 **511.20** ▲ Repeated exposure to high dose dextromethorphan impairs memory and alters c-Fos expression in adolescent male rats. E. CARLONI; J. DE CHABOT; J. BOEHLKE; C. HICKS; L. RAMOS*. *Lawrence Univ.*

POSTER

512. Economic Decision-Making

Theme H – Cognition

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 Z3 **512.01** Sex differences in meta-learning in a dynamic bandit task in mice. C. S. CHEN*; B. A. EBITZ; S. R. BINDAS; N. M. GRISSOM. *Univ. of Minnesota.*

9:00 Z4 **512.02** Multifocal transcranial direct current stimulation over the left dorsolateral prefrontal cortex and left ventrolateral prefrontal cortex reduced risk-taking behavior depending on personality traits. D. REDOLAR-RIPOLL*; O. MARTIN DE LA TORRE; A. CUEVAS-GONZÁLEZ; D. GALLARDO-PUJOL. *Open Univ. of Catalonia (UOC), Univ. de Barcelona (UB), Univ. Autònoma de Barcelona (UAB).*

10:00 Z5 **512.03** Neural correlates of risk and reward evidence accumulation during decision-making. J. PURCELL; A. JAHN; J. W. BROWN*. *Indiana Univ., Univ. of Michigan.*

11:00 Z6 **512.04** Neural dynamics of value-based action selection: Effect of reward and risk on alpha and beta oscillation. X. CHEN*; Y. KWAK. *Univ. of Massachusetts, Amherst.*

8:00 Z7 **512.05** Neural correlates of risky decision-making and relations with risk- and reward-related behavior among individuals with low SES. R. POUDEL*; M. J. TOBIA; M. C. RIEDEL; T. SALO; J. S. FLANNERY; L. D. HILL-BOWEN; A. R. LAIRD; A. S. DICK; C. M. PARRA; M. T. SUTHERLAND. *Florida Intl. Univ., Florida Intl. Univ., Florida Intl. Univ.*

9:00 Z8 **512.06** Regulation of risky decision making via activity in dopaminergic neurons in the ventral tegmental area. S. L. BLAES*; C. A. ORSINI; H. M. HOLIK; S. M. BETZHOLD; S. M. SINGHAL; C. J. FRAZIER; J. L. BIZON; B. SETLOW. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida McKnight Brain Inst., Univ. of Florida.*

10:00 Z9 **512.07** Dissecting the role of the nucleus accumbens in risk taking with optogenetics. C. A. ORSINI*; S. M. BETZHOLD; A. WHEELER; T. W. TEN-EYCK; J. SHALLCROSS; S. HARDEN; S. M. SINGHAL; M. SCHWENDT; C. J. FRAZIER; J. L. BIZON; B. SETLOW. *UNIVERSITY OF FLORIDA, Univ. of Florida, Univ. Of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida McKnight Brain Inst., Univ. of Florida.*

11:00 Z10 **512.08** High gamma activity in the human prefrontal and insular cortices represent monetary gains and losses during decision making. S. WU*; S. WU. *Natl. Yang-Ming Univ.*

8:00 Z11 **512.09** Influence of dopamine on perception of effort. P. PADMANABHAN*; R. T. ROEMMICH; V. S. CHIB. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

9:00 Z12 **512.10** ▲ Motor cortical thickness and the subjective valuation of physical effort in humans. A. UMESH; K. KUTTEN; P. S. HOGAN; J. T. RATNANATHER; V. S. CHIB*. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Sch. of Med.*

10:00 Z13 **512.11** Brain-behavior correlates of intertemporal choice in healthy aging. H. ROMERO-KORNBLUM; A. J. BEAGLE; J. KRAMER; W. CHIONG*. *Univ. of California San Francisco Dept. of Neurol.*

11:00 Z14 **512.12** Optogenetic inactivation of prefrontal cortex during intertemporal choice reveals unique roles for this structure in young and aged rat decision making. C. M. HERNANDEZ*, III; A. WHEELER; T. W. TEN EYCK; C. C. LABISTE; B. SETLOW; J. L. BIZON. *Univ. of Florida, McKnight Brain Inst., Univ. of Florida.*

8:00 Z15 **512.13** ▲ Contributions of gonadal hormones to intertemporal choice in male rats. A. WHEELER*; C. M. HERNANDEZ; C. A. ORSINI; T. W. TEN EYCK; C. C. LABISTE; B. SETLOW; J. L. BIZON. *Univ. of Florida, Univ. of Florida, Univ. of Florida McKnight Brain Inst.*

9:00 Z16 **512.14** The neuroeconomics of narratives and asset-price bubbles: Power-law dynamics of asset markets may arise from switching between valuation and control networks. J. L. HARACZ*. *Indiana Univ.*

10:00 Z17 **512.15** ▲ Decoding the time-evolving neural valuation of gain and loss using MEG. S. NIE*; M. WANG; H. ZHANG. *Peking Univ., Peking Univ., Peking Univ.*

11:00 Z18 **512.16** Testing neural representations of value and task space. A. R. VAIDYA*; H. JONES; D. BADRE. *Brown Univ., Brown Univ.*

POSTER

513. Mechanisms Underlying Memory Formation

Theme H – Cognition

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 Z19 **513.01** Kibra modulates learning and memory via binding to dendrin. Y. LU; S. MA*. *Huazhong Univ. of Sci. and Technol., The Inst. for Brain Research, Collaborative in.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 Z20 **513.02** The mechanism study of histone demethylation gene Utx in mouse cognitive function. L. CHEN*; M. LIU; X. YANG; W. LI. *Bio-X Institutes,Shanghai Jiao Tong Univ., Shanghai Jiao Tong Univ. Sch. of Medcine.*

10:00 Z21 **513.03** Calcineurin modulation of conditioned taste aversion extinction. S. E. REYES-GARCÍA*; M. L. ESCOBAR. *UNAM, Facultad de Psicología, UNAM, Fac Psicologia.*

11:00 Z22 **513.04** Comparative analyses of cytoskeletal gene expression during sate-dependent memory transition from recent to remote. V. JOVASEVIC*; F. SANANBENESI; J. WIKTOROWICZ; A. FISCHER; J. RADULOVIC. *Northwestern Univ., German Ctr. for Neurodegenerative Dis., The Univ. of Texas, Univ. Goettingen/Dzne, Northwestern Univ.*

8:00 Z23 **513.05** Imaging endogenous AMPA receptor dynamics underlying fear learning. A. R. GRAVES*; D. J. TWARD; M. I. MILLER; J. T. VOGELSTEIN; R. L. HUGANIR. *Johns Hopkins Univ. Dept. of Neurosci., Johns Hopkins Univ.*

9:00 Z24 **513.06** Tracking metabolic changes associated with retrieval in the hippocampus. M. MARUI*; K. ADACHI; T. HAYASHI; M. NAGASAWA. *Meijo Univ.*

10:00 Z25 **513.07** Developmental deltamethrin exposure to Sprague-Dawley rats alters dopaminergic and glutamatergic systems and long-term potentiation when tested as adults. E. M. PITZER*; C. SUGIMOTO; G. A. GUDELSKY; M. T. WILLIAMS; C. V. VORHEES. *Cincinnati Children's Res. Fndn. and Univ. of Cincinnati, Cincinnati Children's Res. Fndn., Univ. of Cincinnati.*

11:00 Z26 **513.08** Characterization of behavioral deficits in activity-regulated cytoskeleton-associated protein knock-in (ArcKR) mice. D. W. YAKOUT*; Z. D. ALLEN; A. J. GEORGE; F. P. TALLARD; J. SEXTON; S. S. MOY; A. M. MABB. *Georgia State Univ., Univ. of North Carolina.*

8:00 Z27 **513.09** Overexpression of purinergic P2X4 receptors in hippocampus rescues memory impairment of rats with type 2 diabetes. P. ZHANG; Q. SUN; R. WENG; H. ZHANG; S. YU; G. XU*. *Soochow Univ., Emory Univ. Sch. of Med.*

9:00 Z28 **513.10** The role of vitamin D in the adult brain. M. M. AL-AMIN; R. K. P. SULLIVAN; Y. YU; J. LUI; X. CUI; T. H. BURNE*. *Queensland Brain Inst.*

10:00 Z29 **513.11** The role of epigenetics in regulation of promoter competition of Prkcz gene. A. BORODINOVA*; P. M. BALABAN. *Inst. of Higher Nervous Activity, Inst. Higher Nervous Activity & Neurophysiol. RAS.*

11:00 Z30 **513.12** TET1 is expressed as two distinct isoforms in the mouse brain with differing effects on physiology and cognitive function. C. B. GREER; S. P. MORAN; J. WRIGHT; J. D. WEISS; P. J. KINGSLEY; K. S. CHRONISTER; J. ZHU; A. Y. JIN; L. J. MARNETT; A. J. KENNEDY; G. A. KAAS*. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Bates Col.*

8:00 Z31 **513.13** Convergent roles of beta-catenin and APC in regulating mRNA translation, plasticity and learning. J. M. ALEXANDER*; S. JIN; L. A. FEIG; M. H. JACOB. *Tufts Univ. Sch. Med.*

9:00 Z32 **513.14** ▲ Targeting Tet2 enhances spatial memory. A. REDA*; A. E. PRATT; S. RAUF; K. E. ZENGELER; H. C. SMITH; C. P. GETTENS; B. G. MALACHOWSKY; A. J. KENNEDY. *Bates Col., Bates Col.*

10:00 Z33 **513.15** ▲ Enhanced response learning with intrastriatal infusions of a BDNF mimic, 7,8-dihydroxyflavone. M. T. AMBALAVANAR; R. S. GARDNER*; P. E. GOLD; D. L. KOROL. *Syracuse Univ.*

11:00 Z34 **513.16** Myosin IIB as a key player in memory maintenance. L. DE OLIVEIRA ALVARES*; M. SILVA. *Federal Univ. Rio Grande do Sul, Univ. Federal do Rio Grande do Sul.*

8:00 Z35 **513.17** ▲ Phosphorylation of 4EBP2 affects hippocampus-dependent memory. I. K. SUCCI*; N. A. BURKERT; T. JENKINS; J. C. TUDOR. *St. Joseph's Univ.*

9:00 Z36 **513.18** Poly I:C has sex-specific effects on learning and memory systems. C. K. POSILLICO*; R. E. GARCIA-HERNANDEZ; J. AHMED; S. JACOB; N. C. TRONSON. *Univ. of Michigan.*

10:00 Z37 **513.19** Duration of aromatase inhibition differentially affects levels of a postsynaptic scaffolding protein in highly estrogenic female and male hippocampal tissue. T. COURT; C. GUSHO; D. BAILEY*. *Med. Col. of Wisconsin-Green Bay, St. Norbert Col.*

11:00 Z38 **513.20** ▲ Targeting DNA methylation to improve long-term memory in a model for intellectual disability. L. GALE; J. SERRANO; A. REDA; K. ZENGELER; H. C. SMITH; A. J. KENNEDY*. *Bates Col.*

POSTER

514. Decision Making: Orbitofrontal Cortex

Theme H – Cognition

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 Z39 **514.01** Monkeys with orbitofrontal cortex lesions show normal pupil responses and eye movement patterns when viewing valuable images. J. HWANG*; P. L. NOBLE; E. GONZALEZ-ARAYA; E. A. MURRAY. *Lab. of Neuropsychology, NIMH/NIH.*

9:00 Z40 **514.02** Contribution of the orbitofrontal cortex to inference based on specific stimulus-reward relationships. M. OGAWA*; S. ISHINO; K. TOKUOKA; T. ISA; B. D. ALLEN; A. S. CHUONG; E. S. BOYDEN; N. OISHI; I. SANGHUN; T. YAMADA. *Kyoto Univ., Kyoto Univ., MIT, Natl. Inst. for Physiological Sci.*

10:00 Z41 **514.03** Establishing causal links between the orbitofrontal cortex and economic decisions. S. N. BALLESTA*; W. SHI; K. E. CONEN; C. PADOA-SCHIOPPA. *Univ. of Strasbourg, Washington Univ.*

11:00 Z42 **514.04** Stimulation of serotonergic terminals in the orbitofrontal and medial prefrontal cortices differentially affects waiting for the future rewards. K. W. MIYAZAKI; K. MIYAZAKI*; A. YAMANAKA; K. F. TANAKA; K. DOYA. *Okinawa Inst. Sci. and Tech. (OIST), Res. Inst. of Envrn. Medicine, Nagoya Univ., Keio Univ. Sch. of Med. Dept. of Neuropsychiatry.*

8:00 AA1 **514.05** Causal role of monkey orbitofrontal cortex on reward value computation and decision-making. T. SETOGAWA*; T. MIZUHIKI; N. MATSUMOTO; B. J. RICHMOND; M. SHIDARA. *Univ. of Tsukuba, AIST, NIMH.*

9:00 AA2 **514.06** Interaction between basal forebrain orbitofrontal cortex and secondary visual cortex during a visual discrimination task. P. GOMBKOTO*; P. VARSANYI; C. M. CHAVEZ; P. ZIOBRO; L. ZABORSZKY. *Rutgers The State Univ. of New Jersey.*

Tues. AM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 AA3 **514.07** Distinct local and long-range cortical dynamics in an adaptive decision-making task. A. BANERJEE*; G. PARENTE; J. TEUTSCH; C. LEWIS; F. VOIGT; F. HELMCHEN. *Univ. of Zürich.*

11:00 AA4 **514.08** Decision-making in the context of multi-attribute options. Z. S. GILLIS*; E. L. RICH. *Icahn Sch. of Med. at Mount Sinai.*

8:00 AA5 **514.09** Orbitofrontal-to-striatal projection drives confidence-dependent choice bias. J. HIROKAWA*; A. LAK; T. OTT; T. OHNUKI; Y. OSAKO; H. MANABE; Y. SAKURAI; A. KEPECS. *Doshisha Univ., Univ. Col. London, Cold Spring Harbor Lab.*

9:00 AA6 **514.10** The role of the orbitofrontal cortex in updating value expectations. E. L. RICH*; Z. S. GILLIS. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

10:00 AA7 **514.11** Activity of single neurons in the macaque orbitofrontal cortex complies with the continuity axiom of expected utility theory. S. FERRARI-TONIOLO*; W. SCHULTZ. *Univ. of Cambridge.*

11:00 AA8 **514.12** Structured representations in orbitofrontal neurons during time investment decisions. T. OTT*; P. MASSET; J. HIROKAWA; A. KEPECS. *Cold Spring Harbor Lab., Doshisha Univ.*

8:00 AA9 **514.13** Interactions between the medial orbitofrontal cortex and nucleus accumbens facilitate risk assessment behaviors. M. K. LOH*; N. C. FERRARA; J. A. ROSENKRANZ. *Rosalind Franklin Univ.*

9:00 AA10 **514.14** Distinct roles of the pACC and cOFC in cost-benefit decision-making. G. K. PAPAGEORGIOU*; K. AMEMORI; H. N. SCHWERDT; D. J. GIBSON; A. M. GRAYBIEL. *MIT, Kyoto Univ., MIT.*

10:00 AA11 **514.15** ▲ Effect of orbitofrontal cortex DREADDs inhibition on probabilistic discrimination reversal learning and win-stay, lose-shift strategies in male and female rats. S. KOLLI*; C. G. AGUIRRE; E. NGUYEN; A. IZQUIERDO. *UCLA.*

11:00 AA12 **514.16** Overtraining of avoidance in rodents as a model for OCD-like compulsions. C. I. HUERTAS PÉREZ*, Jr.; F. J. MARTINEZ-RIVERA; M. J. SANCHEZ-NAVARRO; J. E. PEREZ-TORRES; G. J. QUIRK*. *Univ. Puerto Rico Sch. of Med., Univ. of Puerto Rico Med. Sci., Univ. Puerto Rico Sch. of Med.*

8:00 AA13 **514.17** ▲ An automated arena for *in vivo* recordings of freely behaving lizards. S. WEISS*; G. J. LAURENT. *Max-Planck Inst. For Brain Res.*

9:00 AA14 **514.18** Neurons in the orbitofrontal cortex encode the same decision variables in different choice tasks. W. SHI*; S. BALLESTA; C. PADOA-SCHIOPPA. *Washington Univ. in St. Louis, Lab. de Neurosciences Cognitives et Adaptatives, UMR 7364, CNRS et Univ. de Strasbourg.*

10:00 AA15 **514.19** Contrasting neural representations in the orbitofrontal cortex under single and multi-attribute decisions. C. XU; X. CAI*. *New York Univ. Shanghai, East China Normal Univ.*

11:00 AA16 **514.20** Neural correlates of absolute and relative predictive validity in lateral orbitofrontal cortex during learning. S. VOLZ; M. KANG; I. REVERTE; F. ALHAZMI; M. IORDANOVA; G. ESBER*. *Brooklyn College, City Univ. of New York, The Grad. Center, City Univ. of New York, Concordia Univ.*

8:00 AA17 **514.21** Optimization of a risky decision-making task for electrophysiology in male and female rats. D. B. K. GABRIEL*; A. L. VONGPHRACHANH; W. B. CAUGHRON; N. W. SIMON. *Univ. of Memphis.*

9:00 AA18 **514.22** A computational model for the modulation of learning by the common and separate prediction error. F. ALHAZMI*; A. KRISHNAN; G. R. ESBER. *Brooklyn College, City Univ. of New York, The Grad. Center, City Univ. of New York.*

10:00 AA19 **514.23** Prefrontal mechanisms of economic decisions with sequential offers. K. NI*; Y. LIU; X. CAI. *NYU Shanghai, East China Normal Univ.*

11:00 AA20 **514.24** Sex differences in the discounting of delayed punishment. A. LILEY*. *Univ. of Memphis.*

POSTER

515. Working Memory: Prefrontal Cortex I

Theme H – Cognition

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 AA21 **515.01** Effects of a high fat diet on working memory and metabolism in rats. H. M. MURPHY*; C. H. WIDEMAN. *John Carroll Univ.*

9:00 AA22 **515.02** ▲ Maternal high-fat diet during pregnancy effects on working memory performance and glutathione levels in the rat offspring at young age. N. Y. CORTÉS*; C. R. VUELVAS-OLMOS; R. PEDRAZA-MEDINA; M. F. PINTO-GONZALEZ; N. Y. PEÑA-GARCIA; J. L. COLLAS-AGUILAR; J. GUZMÁN-MUÑIZ; L. M. BALTAZAR-RODRIGUEZ; N. A. MOY-LOPEZ. *Univ. of Colima, Univ. of Colima.*

10:00 AA23 **515.03** Frontal eye field inactivation modulates beta rhythms within V4 cortex. M. PARTO DEZFOULI*; M. ZAREI; M. I. VANEGAS; M. DALIRI; Z. BAHMANI; B. NOUDOOST. *Dept. of Biomed. Engin., Iran Univ. of Sci. and Technol., Dept. of Electrical Engineering, Sharif Univ. of Technol., Dept. of Ophthalmology and Visual Sciences, Univ. of Utah, Sch. of Cognitive Sci., Inst. for Res. In Fundamental Sci.*

11:00 AA24 **515.04** Thalamic amplification of cortical connectivity supports short-term maintenance of sensory history. L. I. SCHMITT*; M. M. HALASSA. *MIT.*

8:00 AA25 **515.05** ● Reversal of an MK-801 induced working memory deficit by the D1 agonist SKF-81297 in a rodent touchscreen test. R. WYLER; M. HAMAN; B. KUENNECKE; E. C. O'CONNOR*. *F. Hoffmann-La Roche, F. Hoffmann-La Roche.*

9:00 AA26 **515.06** Spatial encoding of mPFC neurons during working memory. X. MA*; H. ZHU; Z. LI. *NIH.*

10:00 AA27 **515.07** Large-scale non-human primate local field potential dynamics during visual short-term memory. S. J. HOFFMAN*; N. M. DOTSON; C. M. GRAY. *Montana State Univ. Bozeman, Univ. of California Berkeley.*

11:00 AA28 **515.08** Optogenetic inhibition of secondary motor cortex disrupts olfactory working memory in behaving mice. A. BELLAFARD*; G. NAMVAR; P. GOLSHANI. *UCLA Dept. of Neurol.*

8:00 AA29 **515.09** Impact of spatial working memory on visual processing within V4. M. I. VANEGAS*; W. H. NESSE; B. NOUDOOST. *Univ. of Utah, Univ. of Utah.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 AA30 **515.10** Low-dose olanzapine and clozapine effects on spatial working memory performance in rhesus monkeys. N. A. UPRIGHT*; M. G. BAXTER. *Icahn Sch. of Med. at Mount Sinai.*

10:00 AA31 **515.11** Anxiety induced working memory disruption was mediated by amygdala-ventral hippocampal circuit. J. CHOI*; Y. JEONG. *KAIST.*

11:00 AA32 **515.12** Putative roles of inhibitory interneuron subtypes in working memory. P. PATIL*; M. KATKOV; O. YIZHAR; M. V. TSODYKS. *Weizmann Inst. of Sci.*

8:00 AA33 **515.13** Cholinergic modulation of working memory performance and delay-related firing via actions at muscarinic M1 receptors and KCNQ potassium channels in dlPFC. V. C. GALVIN*; S. YANG; Y. YANG; L. E. JIN; A. S. LOWET; H. GAITSCH; T. C. LIGHTBOURNE; A. F. ARNSTEN; M. WANG. *Yale Univ., Yale Univ., Penn State Univ., Weill Cornell Med., Harvard Univ., Yale Univ., New York State Med., Yale Univ. Sch. Med., Yale Univ. Sch. of Med.*

9:00 AA34 **515.14** Model of temporal integration through recurrent feedback and synaptic facilitation. R. A. BAARDA*; D. L. COX; E. R. F. AKSAY; M. S. GOLDMAN. *UC Davis, Weill Med. Col. of Cornell Univ., UC Davis.*

10:00 AA35 **515.15** Local field potentials contain stronger and more stable information than spikes. S. SHASHIDHARA*; K. WATANABE; M. KUSUNOKI; M. KADOHISA; M. J. BUCKLEY; J. DUNCAN. *MRC Cognition and Brain Sci. Unit, Natl. Inst. Information & Communications Technol., Univ. of Oxford, Univ. of Oxford, Oxford Univ., Univ. of Cambridge.*

11:00 AA36 **515.16** A task-irrelevant visual perturbation reveals hidden information from a spatial working memory network. D. Y. JUNG*; J. ROZOWSKY; A. C. SNYDER. *Univ. of Rochester, Univ. of Rochester, Univ. of Rochester, Univ. of Rochester.*

8:00 AA37 **515.17** ● Automated touchscreen test battery for group-housed mice: TUNL, 5CSRTT and the use of moving visual stimuli. D. ATTALLA; K. STUMPENHORST; Y. WINTER*. *Humboldt Univ. - Inst. fuer Biologie.*

9:00 AA38 **515.18** Examinations into the effects of serotonin 5-$HT_{1A/1B}$ agonist on working memory. A. E. PAHUA*; B. OLIVER; M. EMERY; A. GUTIERREZ; Y. VALENZUELA; D. AMODEO. *California State Univ.*

10:00 AA39 **515.19** Consolidation of long-term object memory in C57BL/6J mice is enhanced by systemic administration of a dopamine D1 agonist, or post-training exposure to a novel context. B. L. HINDMAN*; J. V. BARAN; R. W. STACKMAN, JR. *Florida Atlantic Univ., Florida Atlantic Univ.*

11:00 AA40 **515.20** ▲ Left hippocampal CA3 not right CA3 dominate spatial working memory. H. QING*; D. SONG; Q. YANG; D. WANG; Z. XIE; Y. YAN; Z. QUAN. *Beijing Inst. of Technol., Shanghai University of Traditional Chinese Med.*

8:00 AA41 **515.21** ▲ The magic number of 7: A novel paradigm for assessing capacity of olfactory working memory in mice. G. HUANG*. *Peking Univ. Sixth Hosp.*

9:00 AA42 **515.22** The effects of maternal electronic cigarette exposure on offspring behavior and epigenetics. T. NGUYEN*; G. E. LI; H. CHEN; C. G. CRANFIELD; K. C. MCGRATH; C. A. GORRIE. *Univ. of Technol. Sydney, Univ. of Technol. Sydney.*

10:00 AA43 **515.23** Collaborative cross and diversity outbred populations as a tool to understand the effect of aging and genetics on cognitive decline. A. R. OUELLETTE*; G. CHRUCHILL; C. C. KACZOROWSKI. *The Jackson Lab.*

11:00 AA44 **515.24** Chronic sleep fragmentation accelerates age-dependent cognitive decline in human apolipoprotein E4 transgenic mice. D. V. NAIR*; R. VIJAY; D. GOZAL. *Atlantic Hlth. Systems, Morristown, NJ and Biomed. Res. Inst. of New, Univ. of Chicago, The Univ. of Missouri Sch. of Med.*

8:00 BB1 **515.25** Sex differences shape memory capacity declining during aging: Rescue effects of voluntary exercise. V. LOFFREDO*; G. TORROMINO; F. ESPOSITO; M. DE RISI; E. DE LEONIBUS. *Sapienza Univ. of Rome, Inst. of Cell. Biol. and Neurobio. - IBCN-CNR, IGB - Inst. of Genet. and Biophysics, TIGEM - Telethon Inst. of Genet. and Med.*

POSTER

516. Human Perceptual and Spatial Learning

Theme H – Cognition

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 BB2 **516.01** Online pattern extraction during spatial navigation. K. N. GRAVES*; J. W. ANTONY; N. B. TURK-BROWNE. *Yale Univ., Princeton Univ.*

9:00 BB3 **516.02** A modality-independent network underlies the retrieval of large-scale spatial environments in the human brain. D. J. HUFFMAN*; A. D. EKSTROM. *Univ. of California, Davis, Univ. of Arizona.*

10:00 BB4 **516.03** Theta power and phase-amplitude coupling in the human hippocampus during spatial memory retrieval. U. VIVEKANANDA*; D. BUSH; J. A. BISBY; B. DIEHL; A. MISEROCCHI; A. MCEVOY; R. RODIONOV; M. C. WALKER; N. BURGESS. *Inst. of Neurol., UCL Inst. of Cognitive Neurosci., Natl. Hosp. for Neurol. and Neurosurg., Inst. Neurol, UCL.*

11:00 BB5 **516.04** ▲ Distinct cerebral structures are involved in landmark- vs. geometry-based spatial navigation. S. RAMANOËL*; M. DURTESTE; A. BIZEUL; A. OZIER-LAFONTAINE; M. BÉCU; N. ROSSIGNOL; C. HABAS; A. ARLEO. *Sorbonne Univ. - Vision Inst., CHNO des Quinze-Vingts.*

8:00 BB6 **516.05** Improving individuals' spatial orientation skills. M. A. R. MCLAREN-GRADINARU*; F. BURLES; I. DHILLON; A. RETSINAS; A. UMILTÀ; G. IARIA. *Univ. of Calgary, Univ. of Calgary.*

9:00 BB7 **516.06** Structural properties of the brain in developmental topographical disorientation. J. A. HANNAH*; F. BURLES; J. KOHL; K. JELINKOVA; J. PARMAR; G. IARIA. *Univ. of Calgary.*

10:00 BB8 **516.07** The functional contribution of anterolateral entorhinal cortex to intra-item configural processing. J. C. LIANG*; R. K. OLSEN; N. G. Y. SHING; N. LADYKA-WOJCIK; J. D. RYAN; M. D. BARENSE. *Univ. of Toronto, Rotman Res. Inst.*

11:00 BB9 **516.08** Learning and categorization of objects through haptic exploration. K. GAUDER*; D. GOLDREICH. *McMaster Univ., McMaster Univ.*

8:00 BB10 **516.09** ▲ Exploring emotion-related changes in spatial memory with virtual reality. C. BUHLER; E. NYAM-OCHIR; M. DIAMOND; M. CLAYTON; J. O. TAYLOR*. *Utah Valley Univ.*

Tues. AM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 BB11 **516.10** Individual differences in gray matter of posterior medial structures predict source memory accuracy. J. SNYTTE*; A. ELSHIEKH; S. SUBRAMANIAPILLAI; S. PASVANIS; M. D. BARENSE; R. K. OLSEN; M. N. RAJAH. *McGill Univ., McGill Uiversity, McGill Univ., Douglas Inst., Univ. of Toronto, Rotman Res. Inst., McGill Univ.*

10:00 BB12 **516.11** Low frequency EEG phase synchronization of cortico-hippocampal communication in human spatial navigation. W. WANG*; L. WANG; W. WANG. *Beijing Normal Univ., Inst. of Psychology, Chinese Acad. of Sci.*

11:00 BB13 **516.12** Functional connectivity measured with resting state functional magnetic resonance imaging as a biomarker of spatial neglect during recovery rehabilitation period of stroke. T. EBISU*; M. FUKUNAGA; T. MURASE; M. UMEDA. *Kansai Electric Power Hosp., Natl. Inst. for Physiological Sci., Meiji Univ. of Integrative Med.*

8:00 BB14 **516.13** Visual perception of joint stiffness from multi-joint limb motion. M. E. HUBER*; A. M. WEST, Jr.; C. FOLINUS; N. HOGAN. *MIT, MIT.*

9:00 BB15 **516.14** Bayesian surprise precedes successful memory encoding. Y. SHIKAUCHI*; K. KITAJO. *Riken, Natl. Inst. of Natural Sci., The Grad. Univ. for Advanced Studies (SOKENDAI).*

10:00 BB16 **516.15** Identifying distinct functional subdivisions of the anterior temporal lobes. S. J. GOTTS*; A. S. PERSICHETTI; A. MARTIN. *Lab. of Brain and Cognition, NIMH/NIH.*

11:00 BB17 **516.16** V1 BOLD signal changes associated with orientation learning and transfer at different visual hemispheres. D. HU*; X. XIE; C. YU; P. ZHANG. *Peking Univ., Inst. of Biophysics.*

8:00 BB18 **516.17** Human brain dynamics during navigation with natural walking under different workload conditions in virtual reality by using the mobile brain/body imaging approach. T. N. DO*; C. LIN; C. A. CORTES; A. K. SINGH; J. LIU; H. CHEN; K. GRAMANN. *Univ. Of Technol. Sydney, Berlin Inst. of Technol., UCSD.*

9:00 BB19 **516.18** Visual perceptual learning does not enhance metacognitive efficiency. D. KWON*; Y. SHIN; D. YI. *YONSEI UNIVERSITY.*

10:00 BB20 **516.19** Event similarity biases perceived spatial distance. X. XING*; J. SAUNDERS. *The Univ. of Hong Kong.*

11:00 BB21 **516.20** EEG-derived changes in brain activation and network connectivity in corporate employees due to brain training. S. CHELIAN*; S. L. MILLER; W. MCBURNETT; A. A. KRUSE. *Platypus Inst.*

8:00 BB22 **516.21** ● Dynamics and maintenance of cognitive training effects: Analysis of a massive observational dataset. R. J. SCHAFER*; N. F. NG; A. M. OSMAN. *Lumos Labs.*

POSTER

517. Human Working Memory: Mechanisms I

Theme H – Cognition

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 BB23 **517.01** The effect of stimulus predictability on cerebro-cerebellar verbal working memory processing: An fMRI study. Y. SHEU*; Y. LIANG; J. E. DESMOND. *The Johns Hopkins Univ. Sch. of Med.*

9:00 BB24 **517.02** ▲ Decoding the temporal dynamics of working memory with recurrent neural networks. S. GOLDSTEIN*; Z. HU; M. DING. *Univ. of Florida, Univ. Florida.*

10:00 BB25 **517.03** Single-trial contralateral delay activity also reflects item encoding precision. C. MERKEL*; J. HOPF; M. A. SCHOENFELD. *Otto-von-Guericke Univ., Leibniz Inst. for Neurobio., Kliniken Schmieder.*

11:00 BB26 **517.04** The temporal dynamics of working memory: Persistent interactions with perception. C. TENG*; S. KAPLAN; D. KRAVITZ. *George Washington Univ.*

8:00 BB27 **517.05** ▲ Pupillary signatures of attention and working memory fluctuations. P. A. KEENE*; M. T. DEBETTENCOURT; E. AWH; E. K. VOGEL. *Univ. of Chicago.*

9:00 BB28 **517.06** Threat of shock influences parietal bold responses during a visual short-term memory task. N. L. B. BALDERSTON*; M. GOODWIN; A. BEALE; M. ERNST; C. GRILLON. *NIH.*

10:00 BB29 **517.07** Brain networks communicate through theta oscillations to encode high load in a visuospatial working memory task: An EEG connectivity study. S. MUTHUKRISHNAN*; S. SONI; R. SHARMA. *All India Inst. of Med. Sci.*

11:00 BB30 **517.08** Reconstructing working memory swap errors with fMRI data. R. MALLETT*; J. A. LEWIS-PEACOCK. *The Univ. of Texas At Austin.*

8:00 BB31 **517.09** Solving the conundrum of working memory training - from manipulation based on dorsal circuitry to strategy based on ventral representations. T. MALINOVITCH*; P. ALBOUY; R. J. ZATORRE; M. AHISSAR. *Hebrew Univ. of Jerusalem, Montreal Neurolog. Institute, McGill Univ., Intl. Lab. for Brain, Music and Sound Res. (BRAMS).*

9:00 BB32 **517.10** ● Connectome-based predictive modeling of working memory from resting-state functional connectivity in people with multiple sclerosis. A. J. R. SHANKAR*; H. R. MANGLANI; S. FOUNTAIN-ZARAGOZA; D. G. EVANS; R. S. PRAKASH. *The Ohio State Univ.*

10:00 BB33 **517.11** ▲ Distractor suppression in visual working memory. L. L. CHAI*; N. HAKIM; T. FELDMANN-WUSTEFELD; E. K. VOGEL. *Univ. of Chicago, Univ. of Southampton.*

11:00 BB34 **517.12** Representing location versus temporal context in visual working memory. J. M. FULVIO*; B. R. POSTLE. *Univ. of Wisconsin - Madison.*

8:00 BB35 **517.13** Prior knowledge shapes the neural dynamics of mnemonic and response-related representations in visual working memory. Q. YU*; B. POSTLE. *Univ. of Wisconsin-Madison.*

9:00 BB36 **517.14** Neural dynamics of interrupting active working memory. N. HAKIM*; T. FELDMANN-WUSTEFELD; E. AWH; E. K. VOGEL. *Univ. of Chicago, Univ. of Southampton, Univ. of Chicago Dept. of Radiology.*

10:00 BB37 **517.15** Multivariate decoding of visual working memory load from the human EEG signal. W. S. THYER*; K. C. ADAM; E. VOGEL; E. AWH. *Univ. of Chicago, UCSD.*

11:00 BB38 **517.16** Distinct encoding characteristics in occipital and parietal areas during human sequence memory. Q. HUANG*; H. LUO. *Sch. of Psychological and Cognitive Sciences, Peking Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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8:00 BB39 **517.17** The temporal dynamics of working memory maintenance in a category-based N-Back. O. J. RATCLIFFE*; B. STARESINA; K. SHAPIRO. *Univ. of Birmingham.*

9:00 BB40 **517.18** Congruent context features enhance integration and attenuate separation of working memory representations across and within memory episodes. C. FISCHER*; S. CZOSCHKE; B. PETERS; B. RAHM; J. KAISER; C. BLEDOWSKI. *Goethe Univ., Albert-Ludwigs-University Freiburg.*

10:00 BB41 **517.19** ● Neurophysiological indices of the transfer of cognitive training gains to untrained tasks in multiple sclerosis patients. T. J. COVEY*; Z. TURTOLA; J. L. SHUCARD; X. WANG; D. W. SHUCARD. *Jacobs Sch. of Med. and Biomed. Sciences, Univ. at Buffalo.*

11:00 BB42 **517.20** Sustained slow wave activity and alpha oscillations index distinct aspects of storage in working memory. G. K. DIAZ*; E. K. VOGEL; E. AWH. *Univ. of Chicago.*

8:00 DP12/BB43 **517.21** (Dynamic Poster) Spatiotemporal dynamics of associative memory processing in patients with focal epilepsy. S. HENIN; A. SHANKAR; H. BORGES; D. FRIEDMAN; A. FLINKER; W. DOYLE; O. DEVINSKY; G. BUZSAKI; A. A. LIU*. *New York Univ. Sch. of Med., The Ohio State Univ., New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

POSTER

518. Human Decision-Making and Reasoning: Cognition and Computations I

Theme H – Cognition

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 BB44 **518.01** Distinct neural correlates underlie mean reward and reward variance in risky decision making: Evidence from eye-tracking and fMRI. S. SUN*; R. YU. *Caltech, Natl. Univ. of Singapore.*

9:00 BB45 **518.02** Competing decision making strategies in a fixed odds game: The subversive role of the reinforcement learning network. C. R. STEINHARDT*; S. V. SARMA. *Johns Hopkins Univ., Johns Hopkins Univ.*

10:00 BB46 **518.03** Humans over-expect from the future chances in finite sequential decision problems. Y. SHIN; H. SEON; Y. SHIN; D. CHUNG*; O. KWON. *UNIST, UNIST, Univ. of Ulsan.*

11:00 BB47 **518.04** Menu complexity effects on attribute integration in risky multi-attribute decision making. J. G. ELSEY*; Y. YANG; E. EMERIC; E. NIEBUR; V. STUPHORN. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*

8:00 BB48 **518.05** A computational model for cognitive fatigue in individuals with multiple sclerosis. F. R. ERANI*; J. D. MEDAGLIA. *Drexel Univ., Drexel Univ.*

9:00 BB49 **518.06** Modulation of 1/f noise emitted in reaction time: Independent effects of increasing uncertainty of "when" and "what" in stimulus presentation. P. ALEFANTIS*; C. SIETTOS; I. ALEFANTI; N. SMYRNIS. *New York Univ., Dept. of Mathematics and Applications, Univ. of Naples Federico II, Lab. of Cognitive Neurosci. and Sensorimotor Control, Univ. Mental Health, Neurosciences and Precision Med. Res. Inst. "COSTAS STEFANIS", Psychiatry Department, Natl. and Kapodistrian Univ. of Athens, Med. Sch.*

10:00 BB50 **518.07** Identifying intuitive and reflective social decision processes. S. NUMANO*; T. NIHONSUGI; M. HARUNO. *Grad. Sch. of Frontier Biosciences, Osaka Univ., Natl. Inst. of Information and Communications Technol., Osaka Univ. of Econ.*

11:00 BB51 **518.08** Experience and stress management training strategies ameliorate phasic and tonic electrodermal activities independently during critical simulated situations. D. CLAVERIE*; F. SIGWALT; J. EVAIN; M. BUI; A. GUINET-LEBRETON; M. TROUSSELARD; F. CANINI; D. CHASSARD; A. DUCLOS; J. LEHOT; T. RIMMELÉ; M. LILOT. *IRBA, Hospices Civils de Lyon, Grenoble Alpes Univ. Hosp., Hop. d'Instruction des Armées Desgenettes, Service de Santé des Armées, Inst. of Biomed. Research, Armies' Hlth. Service, Ecole du Val de Grâce, 1 place A. Laveran, Paris, Inst. of Biomed. Research, Armies' Hlth. Service, Ecole du Val de Grâce, 1 place A. Laveran, Univ. Claude Bernard Lyon 1, Ctr. Lyonnais d'Enseignement par Simulation en Santé, SAMSEI, Hospices Civils de Lyon, Univ. Claude Bernard Lyon 1, bioMérieux.*

8:00 BB52 **518.09** Changes-of-mind due to high decision uncertainty: An experimental and computational modelling study. N. A. A. ATIYA*; A. ZGONNIKOV; D. O'HORA; K. WONG-LIN. *Ulster Univ., Univ. of Aizu, Natl. Univ. of Ireland Galway.*

9:00 BB53 **518.10** Behavioral and EEG evidence of negative conformity bias in a value based task. H. WU*; Q. LIU; X. XU; X. LIU. *Inst. of Psychology Chinese Acad. of Sci., Caltech, Sch. of Automation, Wuhan Univ. of Technol., Inst. of Psychology Chinese Acad. of Sci.*

10:00 BB54 **518.11** Accumulation of evidence during decision making in obsessive-compulsive disorder patients. Y. CHEN*; Y. LIU; Q. FAN; T. YANG. *Inst. of Neurosci., Shanghai Mental Hlth. Ctr.*

11:00 BB55 **518.12** Imposing inductive biases to solve general inference tasks in recurrent neural networks. R. RAJALINGHAM*; M. JAZAYERI. *MIT, Massachusetts Inst. of Technol. Dept. of Brain and Cognitive Sci.*

8:00 BB56 **518.13** Rapid confidence-based hierarchical and counterfactual reasoning in humans. M. RAMADAN*; M. JAZAYERI. *Massachusetts Inst. of Technol. Dept. of Brain and Cognitive Sci., McGovern Inst. for Brain Res.*

9:00 BB57 **518.14** The role of information lifespan and rate of information flow on decision making. Y. LIU*; S. WU. *Inst. of Neuroscience, Natl. Yang-Ming Univ.*

10:00 BB58 **518.15** Dynamic value biases in decision making under time pressure. E. A. CORBETT*; A. MARTINEZ RODRIGUEZ; L. SPENCE; C. JUDD; R. G. O'CONNELL; S. KELLY. *Trinity Col. Dublin, Univ. Col. Dublin, Univ. Col. Dublin.*

11:00 BB59 **518.16** ▲ Relationship between obesity dieting success and measures of decision-making. K. ALSTATT; T. HUYNH; A. O'DONOVAN; S. V. ABRAM; N. C. SCHMITZER-TORBERT*. *Wabash Col., San Francisco VA Hlth. Care Syst., The Veterans Hlth. Res. Inst., Univ. of California San Francisco, Univ. of California San Francisco.*

8:00 BB60 **518.17** Long term effects of nucleus accumbens deep brain stimulation reveal a causal contribution of ventral striatum to human self control. B. J. WAGNER*; C. B. SCHÜLLER; T. SCHÜLLER; J. BALDERMANN; D. HUYS; J. PETERS; J. KÜHN. *Univ. of Cologne, Dept. of Psychology, Biol. Psychology, Univ. of Cologne, Med. Faculaty, Dept. of Psychiatry and Psychotherapy, Dept. of Psychology, Biol. Psychology.*

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* Indicates abstract's submitting author

9:00 BB61 **518.18** The dynamics of explore-exploit decisions reveals a signal-to-noise mechanism for random exploration. S. FENG*; S. WANG; R. C. WILSON. *Khalifa Univ. of Sci. and Technol., Univ. of Arizona, Univ. of Arizona.*

10:00 BB62 **518.19** Momentary changes in subjective feelings during conscious decision-making are explained by actual and counterfactual rewards and punishments. L. P. SANDS*, III; A. JIANG; K. T. KISHIDA. *Wake Forest Univ. Sch. of Med., Wake Forest Univ. Sch. of Med., Wake Forest Univ. Sch. of Med.*

11:00 BB63 **518.20** The influence of action on explore-exploit decisions. S. WANG*; H. SADEGHIYEH; R. C. WILSON. *Univ. of Arizona.*

8:00 BB64 **518.21** Interactions between opioid craving and impulsive decision-making: Behavioral and neural evidence. S. LOPEZ-GUZMAN*; A. B. KONOVA; K. LOUIE; N. V. BANAVAR; A. BELL; J. ROTROSEN; P. W. GLIMCHER. *Univ. del Rosario, New York Univ., Rutgers Univ., New York Univ.*

9:00 BB65 **518.22** Large-scale brain oscillatory network dynamics of perceptual decision-making: An EEG study. S. GHIMIRE*; M. DHAMALA. *Georgia State Univ.*

10:00 BB66 **518.23** A Bayesian model explains intentional binding as precision-dependent, causality-based cue integration. R. LEGASPI*; T. TOYOIZUMI. *RIKEN Ctr. for Brain Sci.*

11:00 BB67 **518.24** Context effects on probability estimation. S. WU*; W. LIN; J. L. GARDNER. *Natl. Yang-Ming Univ., Natl. Yang-Ming Univ., Stanford Univ.*

POSTER

519. Clinical and Biomarker Research in Schizophrenia

Theme H – Cognition

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 BB68 **519.01** Have you seen the ghost - Saccadic suppression in schizophrenia. R. LENCER*; I. MEYHOEFER; J. TRIEBSCH; K. SILLING; T. WATSON; M. LAPPE. *Univ. of Muenster WWU, Western Sydney Univ.*

9:00 BB69 **519.02** ● Opioid antagonists are effective treatments for the symptoms of schizophrenia: A meta-analysis. S. CLARK*; J. VAN SNELLENBERG; A. ABI-DARGHAM. *Storm Biosci. Inc, Stony Brook Med.*

10:00 BB70 **519.03** Altered perception of complex-flow illusory motion in schizophrenia is associated with positive symptom severity. K. ZELJIC; Q. XIANG; Y. PAN; D. LIU; Z. WANG*. *Inst. of Neurosci., Shanghai Jiao Tong Univ. Sch. of Med., Shanghai Jiao Tong Univ. Sch. of Med.*

11:00 BB71 **519.04** Deficits of multisensory integration in schizophrnenia and autism: Common or specific neural pathways? M. TOYMAIAN; P. COVANIS; A. MANTAS; T. KARANTINOS; S. KAYAS; C. KLEIN; N. SMYRNIS*. *Natl. and Kapodistrian Univesrity of Athens Med. Sch., Univ. Mental Health, Neurosciences and Precision Med. Res. Inst. "COSTAS STEFANIS", SKKA A LIFEPLAN, Univ. of Freiburg Med. Sch.*

8:00 BB72 **519.05** Testing the brain-heart linkage in schizophrenia and obsessive compulsive disorder: The effect of cardiovascular activity on saccadic eye movement performance. M. LAZARIDI; P. COVANIS; G. PANAGIOTAROPOULOU; T. KARANTINOS; C. G. THELERITIS*; N. SMYRNIS. *Natl. and Kapodistrian Univesrity of Athens Med. Sch., Univ. Mental Health, Neurosciences and Precision Med. Res. Inst. "COSTAS STEFANIS".*

9:00 BB73 **519.06** ● Differential effects of juvenile or adolescent stress in adult rats: Behavioral manifestation and neurophysiological correlates. X. ZHU*; A. GRACE. *Univ. of Pittsburgh.*

10:00 BB74 **519.07** Computerized social cognitive training for individuals with schizophrenia is associated with neural changes in the theory of mind network. S. LOKEY*; K. M. HAUT; A. LEE; B. GALINDO; S. PRIDGEN; A. SAXENA; M. NAHUM; C. I. HOOKER. *Univ. of Illinois at Chicago, Rush Univ. Med. Ctr., Rush Univ. Med. Ctr., Univ. of Rochester, Posit Sci., Hebrew Univ. of Jerusalem, Rush Univ. Med. Ctr.*

11:00 BB75 **519.08** Increased functional coupling between VTA and hippocampus during rest in first-episode psychosis. D. F. GREGORY*; M. JALBRZIKOWSKI; W. FORAN; D. F. MONTEZ; B. LUNA; V. P. MURTY. *Temple Univ., Univ. of Pittsburgh, Washington Univ. in St. Louis.*

8:00 BB76 **519.09** ▲ Investigation of the temporal dimension of prepulse inhibition of the acoustic startle response. M. DEBONO; N. PARENTELA; D. BITRAN; A. C. BASU*. *Col. of the Holy Cross.*

9:00 BB77 **519.10** ▲ Machine learning approaches to characterize neurophysiological and cognitive measures predictive of schizophrenia diagnosis. J. KNICKREHM*; R. KIM; C. LAINSCSEK; A. L. SAMPSON; R. C. GUR; R. E. GUR; T. COGS INVESTIGATORS; T. J. SEJNOWSKI; G. A. LIGHT. *Salk Inst. For Biol. Studies, Inst. for Neural Computation, Univ. of Pennsylvania, Philadelphia Veterans Admin. Med. Ctr., Univ. of California San Diego, Univ. of California San Diego, VA San Diego Healthcare Syst.*

10:00 BB78 **519.11** Mismatch negativity deficits in individuals at clinical high risk for psychosis. R. B. SHAIK*; M. A. PARVAZ; Z. BILGRAMI; C. SARAC; C. BENAVIDES MARTINEZ; J. LOPEZ CALDERON; C. CORCORAN. *Icahn Sch. of Med. at Mount Sinai, Facultad de Ingeniería, Univ. Autónoma de Chile, Talca.*

11:00 BB79 **519.12** ● Investigating the relationship between paracingulate sulcus length and verbal source monitoring in clinical high risk for psychosis individuals. A. LEE*; S. LOKEY; K. HAUT; S. PRIDGEN; C. I. HOOKER. *Rush Univ. Med. Ctr.*

8:00 BB80 **519.13** Increased functional connectivity of the insula during emotional face recognition in patients with schizophrenia. S. E. PATEL*; M. D. GREGORY; Y. TONG; D. P. EISENBERG; V. S. MATTAY; J. H. CALLICOTT, III; K. F. BERMAN. *Northwestern Univ., NIMH/NIH, NIH/NIMH, Natl. Inst. of Mental Hlth., Lieber Inst. For Brain Develop., Johns Hopkins Univ. Sch. of Med., Clin. and Translational Neurosci. Br., NIH/National Inst. of Mental Hlth.*

9:00 BB81 **519.14** Task-specific disruptions in theta oscillations associated with impaired working memory for temporal order in people with schizophrenia. X. L. LIU*; L. HSIEH; M. HURTADO; C. RANGANATH; T. A. NIENDAM; T. A. LESH; C. S. CARTER; J. D. RAGLAND. *Univ. of California, Davis, Xiamen Univ.*

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* Indicates abstract's submitting author

10:00 BB82 **519.15** Subjective language aptitude is linked to neural activity in Broca's area, but not to objective performance during a semantic priming task. F. S. ZENGAFFINEN*; S. FURGER; A. STAHNKE; A. FEDERSPIEL; T. KOENIG; K. STEGMAYER; S. WALTHER; R. WIEST; W. STRIK; T. DIERKS; Y. MORISHIMA. *Univ. Hosp. of Psychiatry and Psychotherapy, Univ. Inst. of Diagnos. and Interventional Neuroradiology, Inselspital, Univ. of Bern.*

11:00 BB83 **519.16** Posterior striatal dopamine infusion increases striatal and auditory cortical Fos expression to a greater extent in proestrus than in metestrus female rats. T. J. ZAFAR; Z. YELLOWMAN; E. M. NIKULINA; R. P. HAMMER*, Jr. *Univ. of Arizona Col. of Med., Univ. of Arizona Col. of Med.*

8:00 BB84 **519.17** ● Neuro-behavioral multivariate markers for personalized patient segmentation, selection and treatment response prediction along the psychosis spectrum. J. JI*; M. HELMER; J. B. BURT; B. ADKINSON; A. KOLOBARIC; M. FLYNN; N. HILL; C. H. SCHLEIFER; Z. TAMAYO; A. SAVIC; Y. CHO; G. REPOVS; J. D. MURRAY; A. ANTICEVIC. *Yale Univ., Yale Univ., Univ. of Zagreb, Univ. of Ljubljana, Yale Univ.*

9:00 BB85 **519.18** Functional connectivity changes in emotion processing network following social cognitive training in individuals with psychosis. K. M. HAUT*; B. GALINDO; A. LEE; S. LOKEY; M. NAHUM; C. I. HOOKER. *Rush Univ. Med. Ctr., Univ. of Illinois at Chicago, Hebrew Univ. of Jerusalem, Posit Sci.*

10:00 CC1 **519.19** Caudate connectivity and antipsychotic medication dose in psychosis patients. E. HERMS*; J. BISHOP; J. WREN-JARVIS; V. OKUNEYE; M. KESHAVAN; C. A. TAMMINGA; G. PEARLSON; J. SWEENEY; S. KEEDY. *The Univ. of Chicago, Univ. of Minnesota, Univ. of Chicago, Harvard Med. Sch., Univ. of Texas Southwestern Med. Ctr. at Dallas, Yale Sch. of Med., Univ. of Cincinnati, Univ. of Chicago.*

11:00 CC2 **519.20** Increased entropy of microstate sequences in first episode psychosis. M. MURPHY*; D. ÖNGÜR. *Harvard Med. Sch.*

POSTER

520. Molecular Structural Imaging

Theme I – Techniques

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 CC3 **520.01** Non-parametric hyperdimensional analysis of multiscale phenotypic factors in intact cerebral organoids. J. SWANEY*; A. ALBANESE; D. YUN; N. EVANS; L. KAMENTSKY; M. KIM; C. SOHN; J. ANTONUCCI-JOHNSON; V. PHAM; C. DELEPINE; M. SUR; L. GEHRKE; K. CHUNG. *MIT.*

9:00 CC4 **520.02** An engram index permits brain-wide mapping of a specific memory. D. S. ROY; Y. PARK*; S. K. OGAWA; J. CHO; H. CHOI; J. MARTIN; K. CHUNG; S. TONEGAWA. *MIT, MIT.*

10:00 CC5 **520.03** Multiplexed organ-wide mapping of biomolecules using oligonucleotide labeling. C. H. SOHN*; Y. TIAN; M. E. KIM; N. P. TOWNSEND HASS; L. DELORENZO; K. CHUNG. *MIT, MIT, MIT, Broad Inst. of MIT and Harvard.*

8:00 DP13/CC6 **520.04** (Dynamic Poster) Ultrafast brain-wide immunostaining for scalable single-cell-resolution proteomic phenotyping. D. YUN*; Y. PARK; J. H. CHO; L. KAMENTSKY; N. EVANS; K. XIE; A. ALBANESE; J. SWANEY; Y. TIAN; C. SOHN; W. GUAN; G. DRUMMOND; H. CHOI; T. KU; Q. ZHANG; H. JUNG; L. RUELAS; G. FENG; K. CHUNG. *MIT, MIT, MIT, MIT, MIT, Broad Inst. of Harvard Univ. and MIT.*

8:00 CC7 **520.05** Mechanical interlocking of biomolecules *in situ* preserves tissue architecture and integrity of biomolecules. Y. TIAN*; J. T. MARTIN; X. JIN; D. J. IRVINE; K. CHUNG. *MIT, MIT, Broad Inst. of Harvard Univ. and MIT, MIT, MIT, Ragon Inst. of Massachusetts Gen. Hospital, Massachusetts Inst. of Technol. and Harvard Univ., MIT, Howard Hughes Med. Inst., MIT, MIT.*

9:00 CC8 **520.06** SHIELD protocols for scalable tissue protection and imaging. K. XIE*; S. CHOI; H. AHN; Y. PARK; C. SOHN; D. YUN; N. EVANS; E. NICHOLS; K. SAIJO; K. CHUNG. *MIT, MIT, MIT, Yonsei Univ., Univ. of California Berkeley, MIT, Broad Inst. of Harvard Univ. and MIT.*

10:00 CC9 **520.07** ● A scalable pipeline for comprehensive single-cell resolution mapping of the human brain. W. GUAN*; T. KU; N. EVANS; Y. PARK; C. SOHN; D. YUN; J. WANG; S. CHEN; M. FROSCH; K. CHUNG. *MIT, MIT, MIT, Chinese Univ. of Hong Kong, Massachusetts Gen. Hosp. and Harvard Med. Sch., MIT, Broad Inst. of Harvard Univ. and MIT.*

11:00 CC10 **520.08** Scalable cell phenotyping framework for microglial cells. M. E. KIM*; G. DRUMMOND; E. NICHOLS; N. B. EVANS; Y. PARK; N. DINAPOLI; D. YUN; K. XIE; J. SWANEY; K. SAIJO; K. CHUNG. *MIT, MIT, Univ. of California Berkeley, MIT, MIT.*

8:00 CC11 **520.09** CUBIC fine-vision: A whole-brain cell classification by isometric three-dimensional imaging and analysis. M. KURODA*; T. MANO; C. SHIMIZU; E. A. SUSAKI; H. R. UEDA. *The Univ. of Tokyo, The Univ. of Tokyo, RIKEN Ctr. for Biosystems Dynamics Res., The Univ. of Tokyo, JST-PRESTO.*

9:00 CC12 **520.10** SeeNet: Hybrid hydrogel and tissue clearing for molecular and structural characterization of cerebral vasculature. T. MIYAWAKI*; E. A. SUSAKI; S. YAMAGUCHI; H. R. UEDA; Y. IKEGAYA. *The Univ. of Tokyo, The Univ. of Tokyo, RIKEN Ctr. for Biosystems Dynamics Res., Japan Society for the Promotion of Sci. (JSPS), PRESTO, Japan Sci. and Technol. Agency (JST), Gifu Univ., Gifu Univ., The Univ. of Tokyo, Natl. Inst. of Information and Communications Technol.*

10:00 CC13 **520.11** Advanced CUBIC pipeline in whole-organ cell profiling for biomedical research. T. T. MITANI*; K. MATSUMOTO; S. A. HORIGUCHI; J. KANESHIRO; T. C. MURAKAMI; T. MANO; H. FUJISHIMA; A. KONNO; H. HIRAI; H. R. UEDA. *RIKEN Ctr. for Biosystems Dynamics Res., The Univ. of Tokyo, Gunma Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 CC14 **520.12** ● A versatile protocol for three-dimensional whole-organ/body staining and imaging with single-cell resolution based on electrolyte-gel properties of biological tissue. E. SUSAKI*; C. SHIMIZU; A. KUNO; K. TAINAKA; X. LI; K. NISHI; H. ONO; K. L. ODE; Y. SAEKI; K. MIYAMICHI; K. ISA; C. YOKOYAMA; H. KITAURA; M. IKEMURA; T. USHIKU; Y. SHIMIZU; T. SAITO; T. C. SAIDO; M. FUKAYAMA; H. ONOE; K. TOUHARA; T. ISA; A. KAKITA; M. SHIBAYAMA; H. R. UEDA. *Grad. Sch. of Medicine, The Univ. of Tokyo, PRESTO, Japan Sci. and Technol. Agency, RIKEN Ctr. for Biosystems Dynamics Res., Univ. of Tsukuba, Brain Res. Institute, Niigata Univ., The Inst. for Solid State Physics, The Univ. of Tokyo, Fac. of Medicine, The Univ. of Tokyo, Grad. Sch. of Agr. and Life Sciences, The Univ. of Tokyo, ERATO Touhara Chemosensory Signal Project, Japan Sci. and Technol. Agency, Kyoto Univ., RIKEN Ctr. for Biosystems Dynamics Res., Brain Res. Institute, Niigata Univ., Grad. Sch. of Medicine, The Univ. of Tokyo, RIKEN Ctr. for Biosystems Dynamics Res., RIKEN Ctr. For Brain Sci., Human Brain Res. Center, Grad. Sch. of Medicine, Kyoto Univ., Intl. Res. Ctr. for Neurointelligence (WPI-IRCN), UTIAS, The Univ. of Tokyo.*

8:00 CC15 **520.13** Circadian change of whole-brain c-Fos immunoreactivity and its quantitative analysis by CUBIC-neural activity pipeline. S. X. YOSHIDA*; K. MATSUMOTO; T. MANO; H. FUJISHIMA; C. SHIMIZU; M. KURODA; E. A. SUSAKI; H. R. UEDA. *RIKEN Ctr. For Biosystems Dynamics Res., Dept. of Systems Pharmacology, Grad. Sch. of Medicine, The Univ. of Tokyo.*

9:00 CC16 **520.14** Ca^{2+}-dependent/-independent hyperpolarization pathway plays a role in sleep regulation -The first application of cubic in sleep research-. S. SHI*; H. R. UEDA. *The Univ. of Tokyo.*

8:00 DP14/CC17 **520.15** ● (Dynamic Poster) CUBIC-Cloud: A cloud-based computational framework for quantitative single-cell-resolution whole-brain analysis. T. MANO*; E. A. SUSAKI; K. MURATA; K. KON; C. SHIMIZU; H. ONO; K. MIYAMICHI; K. TOUHARA; H. R. UEDA. *The Univ. of Tokyo, Intl. Res. Ctr. for Neurointelligence (WPI-IRCN), RIKEN Ctr. for Biosystems Dynamics Res., The Univ. of Tokyo, JST-PRESTO, The Univ. of Tokyo, ERATO Touhara Chemosensory Signal Project.*

11:00 CC18 **520.16** Super resolution imaging of various neuronal structures of the brain via expansion microscopy. D. D. SONG*; I. C. CHO; C. E. PARK; J. SEO; Y. SIM; K. MIN; J. CHANG. *KAIST, Sungkyunkwan Univ.*

8:00 CC19 **520.17** Expansion microscopy imaging of various biomolecular species of the brain. I. CHO*; J. CHANG. *KAIST.*

9:00 CC20 **520.18** Super resolution imaging of actin of the brain via expansion microscopy. C. PARK*; J. CHANG. *KAIST.*

10:00 CC21 **520.19** Multiplexed super resolution volumetric imaging of substantia nigra via expansion microscopy. K. MIN*; S. KIM; Y. CHO; J. LEE; J. SEO; Y. SIM; Y. LEE; J. CHANG. *Sungkyunkwan Univ., Sungkyunkwan Universiy, KAIST.*

11:00 CC22 **520.20** Multiplexed expansion microscopy imaging of the brain. J. SEO*; Y. SIM; J. CHANG. *Sungkyunkwan Univ., KAIST.*

8:00 CC23 **520.21** Rapid super-resolution imaging of neural tissue with large-scale molecular sampling. N. E. ALBRECHT*; C. G. EBELING; R. HOBSON; M. A. SAMUEL. *Baylor Col. of Med., Bruker Nano Surfaces.*

POSTER

521. Optic Probes

Theme I – Techniques

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 CC24 **521.01** Flexible high-density µLED-based implant with improved mechanical and optical performance for optogenetic stimulation of the cochlear. E. KLEIN*; A. DIETER; O. PAUL; T. MOSER; P. RUTHER. *Univ. of Freiburg, Univ. Med. Ctr. Goettingen.*

9:00 CC25 **521.02** Real-time visualization of acetylcholine in acute striatal slices using iAChSnFR; a new robust genetically-encoded fluorescent sensor. J. A. CHOUINARD*; J. S. MARVIN; P. M. BORDEN; L. L. LOOGER; J. R. WICKENS. *Okinawa Inst. of Sci. and Technol., Howard Hughes Med. Inst.*

10:00 CC26 **521.03** Rational engineering of an intensiometric, genetically encoded, indicator for quantifying CREB phosphorylation events *in vivo.* T. YOKOYAMA*; M. INOUE; T. ITO; Y. KONDO; H. FUJII; M. SAKAMOTO; H. BITO. *Univ. of Tokyo Grad Sch. Med., Stanford Univ., IRCN, Univ. of Tokyo.*

11:00 CC27 **521.04** A “plastic” fluorescent probe of neurotransmitter for imaging neurotransmitter secretion in central nervous systems prepared by molecular-imprinting method. Y. YOSHIMI*; N. TESHIMA; Y. KATSUMATA; K. ENDO; R. HASEGAWA; T. NAGAHAMA; N. HIMI; M. OKAMOTO; T. INUTSUKA. *Shibaura Inst. Technol., Teikyo Heisei Univ., Kawasaki Med. Sch., Pharm Eval Inst. Jpn.*

8:00 CC28 **521.05** Simultaneous detection of spikes and synaptic potentials with two-photon, two-color voltage and calcium imaging *in vivo.* Y. BANDO*; M. WENZEL; R. YUSTE. *Hamamatsu Univ. Sch. of Med., Columbia Univ., Univ. of Bonn.*

9:00 CC29 **521.06** Optimization of genetically encoded voltage indicators for *in vivo* imaging. I. KOLB*; A. ABDELFATTAH; B. ARTHUR; G. CAO; V. JAYARAMAN; D. KIM; W. KORFF; L. LAVIS; Y. LIANG; L. LOOGER; D. MERRYWEATHER; D. REEP; E. SCHREITER; Y. SHUAI; K. SVOBODA; A. TSANG; G. TSEGAYE; G. TURNER; A. WONG; J. HASSEMAN. *Janelia Res. Campus.*

10:00 CC30 **521.07** Engineering red and far-red genetically encoded Ca^{2+} indicators. R. DALANGIN*; Y. SHEN; R. E. CAMPBELL. *Univ. of Alberta.*

11:00 CC31 **521.08** Improved genetically encoded indicators for multi-spectral fluorescent voltage imaging. M. KANNAN*; G. VASAN; C. HUANG; S. HAZIZA; X. LIU; C. GARDINER; M. J. SCHNITZER; V. A. PIERIBONE. *Yale Univ., Stanford Univ.*

8:00 CC32 **521.09** Engineering calcium- and voltage-sensitive bioluminescent systems for *in vivo* imaging in brain. S. SUNITA; J. PLATISA*; P. O’BRIEN; K. TRIEBEL; M. CONNOR; C. GARDINER; J. CHOI; A. J. TAAL; J. D. FABBRI; K. SHEPARD; V. A. PIERIBONE. *The John B Pierce Lab., Yale Univ., Columbia Univ.*

9:00 CC33 **521.10** Exploiting intra-protein electron transfer for optimal temporal resolution in *de novo* designed genetically encoded voltage indicators. M. J. IWANICKI*; C. MOSER; B. Y. CHOW; B. DISCHER. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract’s submitting author

10:00 CC34 **521.11** Jedis - improved genetically encoded voltage indicators for imaging membrane potential dynamics. Z. LIU; X. LU; Y. GOU; S. GUAN; J. LEE; E. FROUDARAKIS; J. REIMER; A. S. TOLIAS; F. ST-PIERRE*. *Rice Univ., Baylor Col. of Med., Baylor Col. of Med.*

11:00 CC35 **521.12** Comparison between transgenic and AAV-PHP.eB mediated expression of GCaMP6s using *in vivo* wide field functional imaging of brain activity. N. MICHELSON*; M. VANNI; T. MURPHY. *Univ. of British Columbia, Univ. of Montreal.*

8:00 CC36 **521.13** Imaging acetylcholine dynamics by GPCR-based fluorescent indicators. M. JING*; Y. LI; J. ZENG; M. XU; Y. LI. *Peking Univ., Yale Univ., Peking Univ., Inst. of Neuroscience, Chinese Acad. of Scie, Peking Univ.*

9:00 CC37 **521.14** Spying on purinergic transmission by constructing new genetically encoded adenosine and ATP sensors. Z. WU*; H. WANG; K. HE; M. JING; S. PAN; H. WU; M. XU; Y. LI. *State Key Lab. of Membrane Biology, Peking Univ. Sch. of Life Sci., PKU-IDG/McGovern Inst. for Brain Res., Peking-Tsinghua Ctr. for Life Sciences, Acad. for Advanced Interdisciplinary Studies, Peking Univ., Chinese Inst. for Brain Res., Sch. of Life Sciences, Tsinghua Univ., Inst. of Neuroscience, Chinese Acad. of Scie, Chinese Acad. of Sci. Ctr. for Excellence in Brain Sci. and Intelligence Technology, Chinese Acad. of Sci.*

10:00 CC38 **521.15** Development and applications of the novel genetically-encoded serotonin sensors. M. LI*; J. WAN; M. JING; J. FENG; J. ZOU; J. ZENG; X. LI; C. WEI; H. WANG; Y. ZHENG; F. DENG; M. LUO; S. TANG; Y. LI. *Peking Univ., Peking Univ., Peking Univ., USC, Peking Univ., Natl. Inst. of Biol. Sciences, Beijing, Natl. Inst. of Biol. Sci.*

11:00 CC39 **521.16** Development of a toolbox of genetically-encoded fluorescent sensors for endocannabinoids and neuropeptides. H. WANG*; A. DONG; T. QIAN; S. PAN; K. HE; D. J. LIPUT; H. L. PUHL, III; B. DUDOK; D. M. LOVINGER; I. SOLTESZ; Y. LI. *State Key Lab. of Membrane Biology, Peking Univ. Sch. of Life Sci., PKU-IDG/McGovern Inst. for Brain Res., Peking-Tsinghua Ctr. for Life Sciences, Acad. for Advanced Interdisciplinary Studies, Peking Univ., NIH/NIAAA, NIH, Stanford Univ., Natl. Inst. on Alcohol Abuse and Alcoholism Rockville Office, Stanford Univ., Chinese Inst. for Brain Res.*

8:00 CC40 **521.17** *In vivo* population voltage imaging of neural activity in awake, behaving mice. S. N. SHROFF*; H. TSENG; H. J. GRITTON; S. BENSUSSEN; K. D. PIATKEVICH; M. F. ROMANO; E. S. BOYDEN; X. HAN. *Boston Univ., MIT.*

9:00 CC41 **521.18** Voltage imaging of subthreshold dynamics in awake behaving mice. H. TSENG*; S. BENSUSSEN; K. D. PIATKEVICH; S. SHROFF; H. GRITTON; R. MOUNT; J. SHERMAN; E. S. BOYDEN; X. HAN. *Boston Univ., MIT.*

POSTER

522. Techniques: Microelectrodes II

Theme I – Techniques

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 CC42 **522.01** Recessed traces for low-stress passivation of chronic penetrating silicon microelectrodes. N. NOLTA*; P. GHELICH; M. HAN. *Univ. of Connecticut.*

9:00 CC43 **522.02** A portable neurostimulator with wirelessly adjusted constant-current waveforms and bias voltage. A. ERSOZ*; H. PHU; I. KIM; M. HAN. *Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut.*

10:00 CC44 **522.03** Comparison of sputtered iridium and sputtered iridium oxide on silicon-based neural microelectrodes. P. GHELICH*; N. NOLTA; M. HAN. *Univ. of Connecticut.*

11:00 CC45 **522.04** Acute intraganglia recordings of single-unit neural activity with a novel microelectrode array. E. C. BOTTORFF; A. A. JIMAN; E. J. WELLE; P. R. PATEL; J. P. SEYMOUR; C. A. CHESTEK; T. M. BRUNS*. *Univ. of Michigan, Univ. of Michigan, King Abdulaziz Univ., Univ. of Michigan.*

8:00 CC46 **522.05** Monitoring of glucose- and insulin-triggered vagus nerve activity using carbon fiber microelectrode arrays in anesthetized rats. A. A. JIMAN*; E. J. WELLE; P. R. PATEL; E. C. BOTTORFF; D. C. RATZE; J. M. RICHIE; Z. OUYANG; D. YAN; L. L. ZIMMERMAN; J. P. SEYMOUR; C. A. CHESTEK; T. M. BRUNS. *Univ. of Michigan, Univ. of Michigan, King Abdulaziz Univ., Univ. of Michigan.*

9:00 CC47 **522.06** Fabrication and characterization of a carbon fiber peripheral nerve electrode appropriate for chronic recording. E. J. WELLE*; A. A. JIMAN; P. R. PATEL; J. WOODS; J. M. RICHIE; E. C. BOTTORFF; J. P. SEYMOUR; T. M. BRUNS; C. A. CHESTEK. *Univ. of Michigan, Univ. of Michigan.*

10:00 CC48 **522.07** Design and testing of an active 4096 channel micro-electrocorticography (μECoG) array. G. SHULL*; J. VIVENTI; J. ROGERS; J. CHANG; J. LI; E. SONG. *Duke Univ., Northwestern Univ., Univ. of Illinois Urbana-Champaign.*

11:00 CC49 **522.08** High density, actively multiplexed μECoG array (HDAMA). I. RACHINSKIY*; L. WONG; C. CHANG; C. WANG; M. TRUMPIS; J. OGREN; Z. HU; B. MCLAUGHLIN; J. VIVENTI. *Duke Univ., Micro-Leads Inc., Micro-Leads.*

8:00 CC50 **522.09** Kiloscale neural interfaces for long-term recording. C. CHIANG*; S. M. WON; A. L. ORSBORN; K. YU; M. TRUMPIS; B. BENT; C. WANG; B. PESARAN; J. A. ROGERS; J. VIVENTI. *Duke Univ., Northwestern Univ., Univ. of Washington, Yonsei Univ., New York Univ.*

9:00 CC51 **522.10** An approach for functional validation of connectivity in neuronal networks. E. GUZMAN*; K. R. TOVAR; K. S. KOSIK. *Univ. of California Santa Barbara, Univ. of California, Santa Barbara, Univ. of California Santa Barbara.*

10:00 CC52 **522.11** Real-time processing and visualization of high-channel-count electrophysiology data with the open ephys GUI. P. KULIK*; A. DOSHI; A. CUEVAS LOPEZ; J. VOIGTS; J. H. SIEGLE. *Allen Inst., Univ. Politècnica De València, MIT, Allen Inst. for Brain Sci.*

11:00 CC53 **522.12** A low-power wireless transmission system of neural data by hardware compression. A. CUEVAS LOPEZ*; D. R. QUIÑONES; E. PÉREZ; V. J. LÓPEZ MADRONA; J. VOIGTS; J. H. SIEGLE; S. CANALS; D. MORATAL. *Inst. de Neurociencias CSIC-UMH, Univ. Politècnica de València, MIT, Allen Inst. for Brain Sci.*

8:00 CC54 **522.13** A non-contact multi-channel probe for monitoring network electrophysiology. T. SHARF*; M. HARI; P. HANSMA; K. S. KOSIK. *Univ. of California Santa Barbara, Univ. of California Santa Barbara.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 CC55 **522.14** All-diamond microfiber electrodes for neurochemical sensing. C. A. RUSINEK*; Y. GUO; R. RECHENBERG; E. PURCELL; C. MCKINNEY; M. BECKER; W. LI. *Fraunhofer USA Inc. Ctr. For Coatings and Diamond Technologies, Michigan State Univ., Fraunhofer USA, Inc. Ctr. for Coatings and Diamond Technologies, Univ. of North Carolina.*

10:00 CC56 **522.15** Microfabricated diamond microfiber electrodes for neural sensing. Y. GUO; C. H. THOMPSON; W. YANG; R. RECHENBERG; C. RUSINEK; M. BECKER; E. K. PURCELL; W. LI*. *Michigan State Univ., Michigan State Univ., Fraunhofer USA Inc. Ctr. for Coatings and Diamond Technologies.*

11:00 CC57 **522.16** ● A wearable, high channel count, digitizing, neural signal amplifier for microelectrode recordings in humans. N. R. HALPER*; C. DRYDEN; M. SORENSON; M. GERHARDT; F. SOLZBACHER; R. FRANKLIN. *Blackrock Microsystems, Univ. of Utah.*

8:00 CC58 **522.17** Biomimetic, multi-modal platform to validate soft neuroprosthetic technology. G. SCHIAVONE*; I. FURFARO; B. BARRA; F. FALLEGGER; J. BLOCH; G. COURTINE; M. CAPOGROSSO; S. P. LACOUR. *EPFL, Univ. of Fribourg, CHUV, EPFL, Univ. of Fribourg.*

9:00 CC59 **522.18** Evaluation of chronically implanted tissue-engineered-electronic-neural-interface (TEENI) for next-generation prosthetics. E. ATKINSON*; E. NUNAMAKER; A. K. GORMALEY; A. M. BRAKE; M. YUSUFALI; B. SPEARMAN; C. KULIASHA; A. FURNITUREWALLA; R. PARITOSH; S. MOBINI; C. SCHMIDT; J. W. JUDY; K. J. OTTO. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

10:00 CC60 **522.19** Modeling the impact of size, shape, distance, and dielectric width on the recording performance of microelectrodes in peripheral nerves. A. FURNITUREWALLA; P. RUSTOGI; J. W. JUDY; E. E. PATRICK*. *Univ. of Florida, Uniuniversity of Florida.*

11:00 CC61 **522.20** MRI compatible soft microelectrode arrays for large scale recordings of brain surface activity. F. FALLEGGER*; G. SCHIAVONE; E. PIRONDINI; F. B. WAGNER; N. VACHICOURAS; G. COURTINE; J. BLOCH; S. P. LACOUR. *Bertarelli Fndn. Chair in Neuroprosthetic Technology, Lab. for Soft Bioelectronic Interfaces, Inst. of Microengineering, Inst. of Bioengineering, Ctr. for Neuroprosthetics, Swiss Federal Inst. of Technol. Lausanne (EPFL), Dept. of Neurosurgery, Ctr. Hospitalier Universitaire Vaudois (CHUV), UPCourtine, Ctr. for Neuroprosthetics and Brain Mind Institute, Sch. of Life Sciences, Swiss Federal Inst. of Technol. Lausanne (EPFL).*

8:00 CC62 **522.21** Tissue-engineered electronic nerve interfaces (TEENI): Improved design, fabrication, and packaging using aggressive *in vitro* reactive-accelerated-aging reliability testing. C. A. KULIASHA; B. S. SPEARMAN; E. W. ATKINSON; K. J. OTTO; C. E. SCHMIDT; J. W. JUDY*. *Univ. of Florida.*

9:00 CC63 **522.22** A multifunctional microelectrode array for long-term, high-resolution intracortical recordings. J. M. HERRERA-MORALES*; M. HEUSCHKEL; F. MOR; A. ROUX; A. WOODTLI; L. STOPPINI; J. DONOGHUE. *Wyss Ctr. For Bio and Neuroengineering, Haute Ecole du Paysage, d'Ingénierie et d'Architecture (HEPIA).*

10:00 CC64 **522.23** ▲ Fully desktop fabricated, flexible electrocorticography electrode arrays. A. D. TILLERY*; J. HU; M. L. RYNES; P. DONALDSON; S. L. SWISHER; S. B. KODANDARAMAIAH. *Univ. of Maryland, Col. Park, Univ. of Minnesota, Twin Cities, Univ. of Minnesota, Twin Cities.*

11:00 CC65 **522.24** Separation of drug effects in human iPS cell-derived neurons using MEA system. Y. ISHIBASHI; M. SHIMIZU; S. TAKAHASHI; R. YOKOI; N. MATSUDA; A. ODAWARA; I. SUZUKI*. *Tohoku Inst. of Technol.*

8:00 CC66 **522.25** Extracellular recordings of peripheral nerve compound action potentials and consecutive-trace bioimpedance measurements. T. M. SMITH*; C. A. R. CHAPMAN; J. AVERY; N. THOMPSON; I. TAROTIN; M. KELLY; D. GOODWIN; K. ARISTOVICH; J. PERKINS; D. CHEW; D. HOLDER. *Univ. Col. London, Imperial Col. London, Univ. of Newcastle, Royal Vet. Col., Royal Vet. Col., Galvani Bioelectronics.*

9:00 CC67 **522.26** A fully transparent, flexible μECoG array based on highly conductive and anti-reflective PEDOT:PSS-ITO-Ag-ITO thin films. W. YANG*; Q. H. FAN; W. LI. *Michigan State Univ.*

POSTER

523. Network Theory and Modeling

Theme I – Techniques

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 CC68 **523.01** Early recurrence enables figure border ownership. P. MEHRANI; J. K. TSOTSOS*. *York Univ.*

9:00 CC69 **523.02** Triplet motifs sustain activity in sparse recurrent networks. Y. ZHU*; K. R. BOJANEK; J. N. MACLEAN. *The Univ. of Chicago.*

10:00 CC70 **523.03** Extended associative memory by inhibitory modulation. T. HAGA*; T. FUKAI. *RIKEN, Okinawa Inst. of Sci. and Technol. Grad. Univ.*

11:00 CC71 **523.04** Predicting dynamics from connectivity patterns in networks of canonical neural oscillators. A. RADULESCU*; S. EVANS. *State Univ. of New York at New Paltz.*

8:00 CC72 **523.05** Correlations, population dynamics, and structural connectivity. S. SARAF*; L. YOUNG. *New York Univ.*

9:00 CC73 **523.06** Robustly encoding multiple variables on smooth manifolds in a spiking model of hippocampus. E. P. FRADY*; F. T. SOMMER. *UC Berkeley, Helen Wills Neurosci. Inst.*

10:00 CC74 **523.07** Cognitive chimera and synchrony states in human brain networks. K. BANSAL*; J. O. GARCIA; J. M. VETTEL. *Columbia Univ., CCDC Army Res. Lab., CCDC Army Res. Lab.*

11:00 CC75 **523.08** ● Do tuned responses in cerebral microvessels imply lateral interactions among vessels? A computational study. B. S. KUMAR*; N. MAYAKKANNAN; S. V. CHAKRAVARTHY; P. KARA. *Indian Inst. of Technology, Madras (IITM), Univ. of Minnesota.*

8:00 CC76 **523.09** Synaptic plasticity rules for maintenance of spatial working memory. J. GU*; S. LIM. *New York Univ. Shanghai.*

9:00 CC77 **523.10** Structural functional relationships in the human brain networks. F. ZAMANI ESFAHLANI*; J. FASKOWITZ; B. MIŠIĆ; R. BETZEL. *Indiana Univ. at Bloomington, McGill Univ.*

10:00 CC78 **523.11** The organization of functional connections without direct structural links. Z. LIU*; R. F. BETZEL; B. MISIC. *McConnell Brain Imaging Centre, Montreal Neurolog. Institute, McGill Univ., Indiana Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 DD1 **523.12** Systematic computational ablation for identification of oxygen sensation functional pathways in *caenorhabditis elegans.* J. KIM*; E. SHLIZERMAN. *Univ. of Washington, Univ. of Washington.*

8:00 DD2 **523.13** A spiking neuron model of pharmacologically-biased fear conditioning in the amygdala. P. DUGGINS*; C. ELIASMITH. *Univ. of Waterloo, Univ. Waterloo.*

9:00 DD3 **523.14** Solving the exploitation vs exploration dilemma of reinforcement learning using a network of spiking neurons with reward-modulated STDP. M. V. BAZHENOV*; G. P. KRISHNAN; Y. SOKOLOV; N. IMAM. *Univ. of California San Diego, Intel Corp.*

10:00 DD4 **523.15** Multistability in the global dynamic of inter-areal brain networks - A model comparison. C. DIMULESCU*; N. ROTH; K. OBERMAYER. *Technische Univ. Berlin.*

11:00 DD5 **523.16** Applications of nonlinear control to the dynamics of the whole-brain network: A model study. T. CHOUZOURIS*; N. ROTH; K. OBERMAYER. *Tech. Univ. Berlin.*

8:00 DD6 **523.17** Redundantly large networks can learn faster. D. V. RAMAN*; A. PEREZ ROTONDO; T. O'LEARY. *Univ. of Cambridge.*

9:00 DD7 **523.18** Learning complex action representations for goal-directed tasks through neuromodulation of Hebbian plasticity in modular spiking networks. S. AENUGU*; A. SHARMA; S. YELAMARTHY; H. HAZAN; P. S. THOMAS; R. KOZMA. *Univ. of Massachusetts Amherst.*

10:00 DD8 **523.19** Incorporating domain knowledge as a strategy for minimizing training requirements and improving generalization performance in convolutional networks applied to visual object recognition tasks. A. S. RIOS*; G. C. MEL; V. AKOPIAN; L. ITTI; B. W. MEL. *USC, Stanford Univ., Google.*

11:00 DD9 **523.20** Neural networks with motivation. S. SHUVAEV*; N. TRAN; M. STEPHENSON-JONES; B. LI; A. KOULAKOV. *Cold Spring Harbor Lab., Univ. Col. London.*

8:00 DD10 **523.21** Relating information flow and causal interventions in neural circuits. P. VENKATESH*; P. GROVER. *Carnegie Mellon Univ., Carnegie Mellon Univ.*

9:00 DD11 **523.22** A new method for encoding sequence of sounds as words: A computational model of speech perception. M. TOPALIDOU*; G. HICKOK. *Univ. of California, Irvine.*

10:00 DD12 **523.23** Balance of excitation and inhibition maximizes the coding capacity of a network. S. CHOWDHARY; C. ASSISI*. *Indian Inst. of Sci. Educ. and Res.*

11:00 DD13 **523.24** Memory and cognitive capabilities of heterogeneous neural structures. Y. G. T. TIRAT-GEFEN*; A. TIRAT-GEFEN. *Maxwave Res. LLC, US Government.*

8:00 DD14 **523.25** Effects of temporal clustering on learning in neural networks. T. RAHIMI-MOGHADDAM*; C. J. HONEY. *Johns Hopkins Univ.*

9:00 DD15 **523.26** Optimal or random?: How correlated variability impacts population neural coding. J. A. LIVEZEY*; M. DOUGHERTY; S. MADHOW; P. SACHDEVA; K. E. BOUCHARD. *Lawrence Berkeley Natl. Lab., Univ. of California, Berkeley.*

10:00 DD16 **523.27** Continuous-time partitioning of neural variability. A. S. CHARLES*; J. PILLOW. *Princeton Univ.*

POSTER

524. Computational Tools for Brain and Behavioral Experiments

Theme I – Techniques

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 DD17 **524.01** Simultaneous EEG acquisition framework towards the massive EEG hyperscanning. S. LEE*; H. CHO; S. C. JUN. *Gwangju Inst. of Sci. and Technol., Wadsworth Ctr., New York State Dept. of Hlth.*

9:00 DD18 **524.02** The influence of white matter lesions on the electrical field during transcranial electric stimulation. Preliminary results of a computational sensitivity analysis. B. KALLOCH*; K. WEISE; P. BAZIN; L. LAMPE; A. VILLRINGER; M. HLAWITSCHKA; B. SEHM. *Max Planck Inst. For Human Cognitive and Brain Sci., Leipzig Univ. of Applied Sci., Ilmenau Univ. of Technol., Univ. of Amsterdam.*

10:00 DD19 **524.03** BrainIAK education: User-friendly tutorials for advanced, computationally-intensive fMRI analysis. M. KUMAR; C. T. ELLIS; Q. LU; H. ZHANG; P. J. RAMADGE; N. B. TURK-BROWNE; K. A. NORMAN*. *Princeton Univ., Yale Univ.*

11:00 DD20 **524.04** A mathematical framework to classify motivated mental states with EEG. I. COS*; N. IZAGUIRRE; M. GILSON; G. DECO. *Univ. Pompeu Fabra, Pompeu Fabra Univ., Ctr. for Brain and Cognition, Univ. Pompeu Fabra.*

8:00 DD21 **524.05** NiBetaSeries: Assessing task connectivity. J. KENT*; M. VOSS. *Univ. of Iowa, Univ. of Iowa.*

8:00 DP15/DD22 **524.06** (Dynamic Poster) Non-parametric discovery of population dynamics from large-scale activity recordings. M. GENKIN*; T. ENGEL. *Cold Spring Harbor Lab.*

10:00 DD23 **524.07** Generating personalized brain models at high spatial resolution using Mesoscale Individualized NeuroDynamic (MINDy) Modeling. M. SINGH*; S. CHING; T. BRAVER. *Washington Univ. In St. Louis.*

11:00 DD24 **524.08** Neurostimulation safety investigations performed with reference, posable anatomical models. A. M. CASSARA; B. A. LLOYD*; S. FARCITO; E. NEUFELD; N. KUSTER. *IT'IS Fndn., ETH Zurich.*

8:00 DD25 **524.09** Multiple electroencephalographic reading system with linear depth control in small species. R. BELTRAN-RAMIREZ*. *Univ. De Guadalajara.*

9:00 DD26 **524.10** Evaluation of the Japanese eye typing system with EEG. I. MOTOYAMA*; T. UDA; M. YAMAZAKI; N. OKAMOTO; Y. KURODA; H. EDA. *Grad. Sch. For GPI, ORANGEARCH Inc., GRAND COEUR LAB LLC, Col. of Social Sciences, Ritsumeikan Univ., Kyoto Univ. of Educ., Photonics Innovations Co., Ltd.*

10:00 DD27 **524.11** Web-based integrated database platform for exploring and sharing omics datasets. J. CHOI; N. KIM; Y. JANG; J. HEO; B. HA; S. JEONG*. *KBRI.*

11:00 DD28 **524.12** Logistic regression applications for machine learning and intelligent decision-making. H. C. YUAN*; M. V. CHAO. *Independent Lab., Independent Lab.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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* Indicates abstract's submitting author

8:00 DD29 **524.13** Automatic segmentation of anatomical structures based on high-resolution diffusion tensor imaging in the developing pig brain. J. LI*; T. TU; C. HSU; A. AGARONYAN; V. LAM; K. LYDIC; A. DAVIS; P. C. WANG; A. V. FARIA; S. MORI; R. JONAS; N. ISHIBASHI. *Children's Natl. Hlth. Syst., Howard Univ., Johns Hopkins Univ., Children's Natl. Hlth. Syst.*

9:00 DD30 **524.14** Computational methods for registration and analysis of whole brain volumetric image data acquired via serial two-photon tomography. A. D. AJAY*; D. M.RAMIREZ; K. POINSATTE; M. P. GOLDBERG; J. P. MEEKS. *UTSouthwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr.*

10:00 DD31 **524.15** Automated alignment and segmentation of mouse mesoscale brain images using machine learning. D. XIAO*; B. FORYS; R. TANDUN; T. MURPHY. *Univ. of British Columbia.*

11:00 DD32 **524.16** Inference of decision-making strategy from high throughput animal training. M. QIAO*; T. ZHANG; C. SEGALIN; S. SAM; P. PERONA; M. MEISTER. *Caltech.*

8:00 DD33 **524.17** Machine learning techniques for online decoding of single units activity and position during wakefulness or sleep reactivation. T. BALENBOIS*; S. LAVENTURE; D. BRYZGALOV; K. BENCHENANE. *Mobs Team, Lab. Plasticité Du Cerveau, ESPC.*

POSTER

525. Software Tools: Imaging

Theme I – Techniques

Tue. 8:00 AM – *McCormick Place, Hall A*

8:00 DD34 **525.01** ● Automated atlas refinement in 3D. D. M. YOUNG*; S. FAZEL DARBANDI; G. SCHWARTZ; Z. BONZELL; D. YURUK; M. NOJIMA; J. RUBENSTEIN; W. YU; S. SANDERS. *Univ. of California, San Francisco, Agency for Science, Technol. and Res.*

9:00 DD35 **525.02** Workflow for quantification and spatial analysis of labeling in large series of microscopic images from murine brains. M. A. PUCHADES*; S. C. YATES; N. GROENEBOOM; G. CSUCS; T. B. LEERGAARD; J. G. BJAALIE. *Univ. of Oslo, Univ. of Oslo.*

10:00 DD36 **525.03** ● Automatic ultrasound based neuronavigation approach for functional ultrasound imaging. M. NOUHOUM; J. FERRIER; B. OSMANSKI; M. TANTER; T. DEFFIEUX*. *Physics For Med. Paris (Inserm / ESPCI Paris / CNRS / PSL Res.), Iconeus.*

11:00 DD37 **525.04** Braindrles: A crowd-sourcing tool for stroke lesion segmentation quality control. S. LIEW*; A. SURI; M. P. NOTTER; K. ITO; P. RAAMANA; A. KESHAVAN. *USC, Ctr. for Biomed. Imaging, Baycrest Hlth. Sci., Child Mind Inst.*

8:00 DD38 **525.05** SBA composer: Web-based platform for interactive, multi-modal data visualization with Jupyter notebook control. R. BAKKER; N. TIMONIDIS; P. H. TIESINGA*. *Radboud Univ.*

9:00 DD39 **525.06** Deep learning for OCT angiogram vectorization. S. STEFAN*; C. POLUCHA; J. LEE. *Brown Univ.*

10:00 DD40 **525.07** Introducing bioimage suite web: A simple, modern, & powerful software suite. S. NOBLE*; Z. SALTZMAN; C. LACADIE; H. GARBUS; J. ONOFREY; X. PAPADEMETRIS; D. SCHEINOST. *Yale Univ.*

11:00 DD41 **525.08** ● Cloud-enabled massively parallel structural and functional MRI preprocessing pipeline. H. GONZALEZ*; M. E. KOLLADA; M. S. MELLEM; Y. LIU; O. RODRIGUEZ; P. AHAMMAD. *Blackthorn Therapeut.*

8:00 DD42 **525.09** ▲ AISuite: A Python tool for morphometrical analysis. J. ROOS*; M. ENGELHARDT. *Med. Fac. Mannheim, Heidelberg Univ.*

9:00 DD43 **525.10** Tmsmap software for analysis of transcranial magnetic stimulation mapping results - Demonstration of the new features. P. NOVIKOV*; M. NAZAROVA; K. KOZLOVA; E. IVANINA; V. NIKULIN. *HSE Univ., Federal Ctr. for Cerebrovascular Pathology and Stroke, The Ministry of Healthcare of the Russian Federation, Federal State Budget Inst., HSE Univ., Max Planck Inst. for Human Cognitive and Brain Sci., Campus Benjamin Franklin, Charité—Universitätsmedizin Berlin.*

10:00 DD44 **525.11** Cell detection and segmentation via persistent homology. U. KILIC*; M. VAIANA; E. M. GOLDBERG; S. E. MULDOON. *Univ. At Buffalo, SUNY, Univ. At Buffalo, The Children's Hosp. of Philadelphia, Univ. at Buffalo, SUNY.*

11:00 DD45 **525.12** ● Advanced machine learning in Cellairus: The next generation of unbiased stereology. W. D. PACK*; N. ROUSSEL; A. D. LEDUC; B. S. EASTWOOD; C. R. BATES; H. L. KESSLER; J. MCMULLEN; S. J. TAPPAN; P. J. ANGSTMAN; F. DU; M. LIU; J. R. GLASER. *MBF Biosci., FD NeuroTechnologies, Inc.*

8:00 DD46 **525.13** ▲ Data interface and apps for systems neurophysiology and imaging. D. GARCIA MURILLO; Z. WANG; O. PAPAEMMANOUIL; S. D. VAN HOOSER*. *Brandeis Univ., Brandeis Univ.*

9:00 DD47 **525.14** ANTs-based pipeline for preprocessing structural neuroimaging data from stroke patients. H. HECTOR*; I. PAPPAS; K. HAWS; A. S. KAYSER; M. DESPOSITO. *Univ. of California, San Francisco, Univ. of California, Berkeley, VA Northern California Hlth. Care Syst., Univ. of California San Francisco, Univ. of California Berkeley.*

10:00 DD48 **525.15** Brain platform: A step towards standardized analysis of neuroimaging data. S. AGHAYEE*; Z. BOWEN; G. MAGNUSSON; M. DIEP; M. LINDVALL; A. PORTER; W. LOSERT. *Univ. of Maryland, Col. Park, Univ. of Maryland, Fraunhofer USA, Fraunhofer, Univ. of Maryland.*

11:00 DD49 **525.16** ▲ Cost effective open-source platform for the physiological data collection simultaneously with fMRI. P. T. SUMMERS; S. LEE*; Y. I. SHIH. *The Univ. Of North Carolina At Chapel Hill, The Univ. Of North Carolina At Chapel Hill.*

8:00 DD50 **525.17** A python package for quantitative classification and characterization of single neuron full morphology. P. XIE*; Y. WANG; L. LIU; Z. ZHOU; Y. YU; W. WAN; T. WANG; Q. WANG; L. QU; J. A. HARRIS; H. ZENG; H. PENG. *Allen Inst. for Brain Sci., Southeast Univ., Anhui Univ.*

9:00 DD51 **525.18** A robust intracranial electrode localization algorithm. T. ENDESTAD*; A. SOLBAKK; J. IVANOVIC; P. LARSSON; R. T. KNIGHT; A. O. BLENKMANN. *Univ. of Oslo, Univ. of Oslo, Oslo Univ. Hosp., Univ. of California Berkeley.*

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10:00 DD52 **525.19** An affordable and accurate tool to target subcortical structures in non-human primate. S. PARK*; C. N. GUTEKUNST; M. J. CONNOLLY; A. DEVERGNAS; R. E. GROSS. *Georgia Inst. of Technol., Emory Univ. Sch. of Med., Yerkes Natl. Primate Res. Ctr.*

11:00 DD53 **525.20** Integration and web presentation of brain initiative cell census network data in the cell registry and allen brain explorer. C. L. THOMPSON*; L. NG; D. FENG; G. ACHARYA; T. S. MOLLENKOPF; T. GILLESPIE; G. HSU; S. MUFTI; F. D'ORAZI; A. E. BANDROWSKI; J. GEE; M. E. MARTONE; T. TICKLE; M. J. HAWRYLYCZ. *Allen Inst. for Brain Sci., Allen Inst. For Brain Sci., Allen Inst., UCSD, UCSD, Univ. of Pennsylvania, The Broad Inst. of MIT and Harvard, Allen Inst. Brain Sci.*

8:00 DD54 **525.21** Robust mapping of sectioned or 3D mouse brain images from multiple modalities using EM-LDDMM. D. J. TWARD*; B. C. LEE; X. LI; B. HUO; P. P. MITRA; M. MILLER. *Johns Hopkins Univ., Cold Spring Harbor Lab.*

9:00 DD55 **525.22** MorphoHub: An informatics platform for managing massive data production of neuron morphology. S. JIANG*; S. ZHAO; L. LIU; Z. ZHOU; Z. RUAN; Y. WANG; H. PENG. *Southeast Univ., Allen Inst. For Brain Sci., Southeast Univ.*

10:00 DD56 **525.23** A working protocol for reconstruction of 3D single neuron morphology. L. LIU*; Z. ZHOU; Y. YU; L. YIN; Y. SONG; P. XIE; Y. WANG; Y. WANG; S. A. SORENSEN; J. A. HARRIS; H. ZENG; W. XIE; H. PENG. *Southeast Univ., Allen Inst. For Brain Sci., Allen Inst. for Brain Sci., Southeast Univ., Allen Inst., Allen Inst. for Brain Sci., Inst. of Life Sciences, Southeast Univ.*

11:00 DD57 **525.24** Automatic multi-scale neuron refinement for whole mouse brain reconstruction. Z. ZHOU*; L. LIU; Y. WANG; Z. RUAN; H. PENG. *Allen Inst. For Brain Sci., Southeast Univ., Allen Inst., Southeast Univ.*

8:00 DD58 **525.25** Single neuron morphology heterogeneity from a whole brain perspective. L. MANUBENS-GIL*; P. XIE; L. LIU; H. PENG. *SEU-Allen Joint Ctr. for Neuron Morphology, Allen Inst. for Brain Sciene.*

9:00 DD59 **525.26** The Brain Image Library. A. J. ROPELEWSKI*; A. WETZEL; G. HOOD; D. SIMMEL; K. BENNINGER; M. BRUCHEZ; A. WATSON; S. C. WATKINS. *Carnegie Mellon Univ., Carnegie Mellon Univ., Univ. of Pittsburgh.*

10:00 DD60 **525.27** Immersive visualization is a key enabler for precise whole-brain scale reconstruction of neurons. Y. WANG*; Q. LI; L. LIU; Z. ZHOU; Y. WANG; L. KONG; H. PENG. *Inst. for Brain and Intelligence, Southeast Univ., Southeast Univ. – Allen Inst. Joint Ctr., Sch. of Computer Engin. and Science, Shanghai Univ., Shanghai Inst. for Advanced Communication and Data Science, Shanghai Univ., Allen Inst. For Brain Sci.*

11:00 DD61 **525.28** Ultratracer2 on HPC for high-throughput neuron morphology reconstruction. L. DING*; Z. ZHOU; Z. DING; H. PENG. *Southeast Univ., Allen Inst. For Brain Sci., Bournemouth Univ.*

8:00 DD62 **525.29** Multi modal neuroimaging visualization and analysis tool. N. PELED*; O. FELSENSTEIN; E. HAHN; A. ROCKHILL; L. FOLSOM; T. GHOLIPOUR; N. ROZENGARD,; A. C. PAULK; A. S. WIDGE; D. DOUGHERTY; S. S. CASH; M. HÄMÄLÄINEN; S. STUFFLEBEAM. *MGH/HST Martinos Ctr. For Biomed. Imaging, Bar-Ilan Univ., The George Washington Univ., Massachusetts Gen. Hosp., Univ. of Minnesota.*

9:00 DD63 **525.30** Cortical atlas of the canine brain. P. J. JOHNSON*; W. LUH; J. P. LOFTUS; K. GRAHAM; A. WHITE; B. C. RIVARD; E. F. BARRY. *Cornell Univ. Col. of Vet. Med., Natl. Inst. on Aging, Natl. Inst. of Hlth., Univ. of Sydney Sch. of Med., Univ. of Sydney Sch. of Med., Cornell Col. of Vet. Med.*

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Tuesday PM

LECTURE *McCormick Place*

526. SPECIAL LECTURE- Evolution and Dissolution of Memories Over Time — CME

Tue. 1:30 PM - 2:40 PM — Hall B

Speaker: E. A. MAGUIRE, *Univ. Col. London.*

Autobiographical memories are the ghosts of our past. Through them we visit places long departed, see faces once familiar, and hear voices now silent. These often decades-old personal experiences can be recalled on a whim or come unbidden into our everyday consciousness. This lecture will focus on examining not only how autobiographical memories evolve in the brain over time, but also how our understanding of this process has developed through the 50 years of the Society for Neuroscience.

SYMPOSIUM *McCormick Place*

527. Comparing Dopamine Metabolism in Mouse and Human Neurons: Relevance for Parkinson's Disease — CME

Tue. 1:30 PM - 4:00 PM — Room: S406A

Chair: D. KRAINC, *Northwestern University Feinberg School of Medicine*

Parkinson's disease involves the degeneration of dopaminergic neurons in the substantia nigra. However, unlike human patients, most Parkinson's disease mouse models do not exhibit dopaminergic degeneration, suggesting fundamental species differences. This symposium will highlight recent work demonstrating that dopamine metabolism is differentially regulated across mouse and human midbrain neurons, contributing to differences in neuromelanin production and their susceptibility to degeneration.

1:30 **527.01** Introduction.

1:35 **527.02** Dopamine metabolism in mouse versus human neurons. D. KRAINC. *Northwestern Univ. Feinberg Sch. of Med.*

2:10 **527.03** Dopamine oxidation and selective toxicity in neurons. T. G. HASTINGS. *Univ. of Pittsburgh.*

2:45 **527.04** Neuromelanin imaging as a Parkinson's biomarker. L. ZECCA. *Italian Natl. Res. Council.*

3:20 **527.05** Parkinson's disease and dopamine neurotransmission. D. SULZER. *Columbia Univ.*

3:55 **527.06** Closing Remarks.

SYMPOSIUM *McCormick Place*

528. Neural Circuit and Plasticity Mechanisms of Cognitive Control of Feeding Behavior — CME

Tue. 1:30 PM - 4:00 PM — Room: S100A

Chair: G. D. PETROVICH, *Boston College*

Persistent food cravings drive overeating and binge-eating disorder. Palatable food cues stimulate excessive food seeking and consumption through cognitive and hedonic processes. This symposium will highlight new neural circuitry and plasticity mechanisms underlying cognitive control of feeding, including learning and memory processes that integrate sensory and reward components of food and related cues. Sex differences and translational implications of these findings will be also discussed.

1:30 **528.01** Introduction.

1:35 **528.02** Medial prefrontal cortex circuitry and cognitive motivation to eat. G. D. PETROVICH. *Boston Col.*

2:10 **528.03** A network of medial prefrontal, orbitofrontal, and insular cortical sites subserves opioid-driven eating and food impulsivity. B. A. BALDO. *Univ. of Wisconsin-Madison.*

2:45 **528.04** Hypothalamus-hippocampus circuitry regulates food impulsivity via melanin-concentrating hormone. S. E. KANOSKI. *USC.*

3:20 **528.05** Gut-brain signal regulation of food reinforcement in the modern food environment. D. M. SMALL. *Yale Univ. Sch. of Med.*

3:55 **528.06** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

529. Adult Hippocampal Neurogenesis in Humans and Rodents: New Evidence and New Perspectives — CME

Tue. 1:30 PM - 4:00 PM — Room: S100BC

Chair: J. SONG, *University of North Carolina*
Co-Chair: S. GE. *State Univ. of New York at Stony Brook*

Adult neurogenesis in mammals including humans affords remarkable structural and functional plasticity and regenerative capacity to mature circuits. This minisymposium will cover the most recent topics in adult hippocampal neurogenesis, including new evidence for human adult hippocampal neurogenesis, visualization of neural stem cells in living mice, regulation of adult neurogenesis by niche cells and neural circuits, and adult neurogenesis in the contexts of behavior and diseases.

1:30 **529.01** Introduction.

1:35 **529.02** Adult Hippocampal neurogenesis in humans. M. BOLDRINI. *Columbia University.*

1:55 **529.03** Visualization of hippocampal neurogenesis *in vivo*. S. JESSBERGER. *University of Zurich.*

2:15 **529.04** Dissecting neural circuits in regulating adult hippocampal neurogenesis. J. SONG. *University of North Carolina.*

2:35 **529.05** Neuro-glio-vascular network regulation of hippocampal neurogenesis. S. GE. *State University of New York At Stony Brook.*

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2:55 **529.06** Contribution of new neurons to hippocampal functions. A. SAHAY. *HMS, HSCI, Center for Regenerative Medicine.*

3:15 **529.07** Pathological role of hippocampal neurogenesis in epileptogenesis. J. HSIEH. *University of Texas at San Antonio.*

3:35 **529.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

530. The Synaptic Vesicle Cycle Revisited: New Insights Into the Modes and Mechanisms — CME

Tue. 1:30 PM - 4:00 PM — Room: S105

Chair: J. R. MORGAN, *Eugene Bell Center for Regenerative Biology and Tissue Engineering*
Co-Chair: S. WATANABE. *Johns Hopkins Univ.*

Neurotransmission relies critically upon the ability of nerve terminals to locally recycle synaptic vesicles with precise efficiency. Recently, the field has witnessed many exciting discoveries on synaptic vesicle recycling. Novel pathways have been identified; multiple modes of vesicle exo-/endocytosis have been reported, distinguished by speed; and new points of molecular regulation are now known. This minisymposium will present these findings and discuss how they impact the classical view of the vesicle cycle.

1:30 **530.01** Introduction.

1:35 **530.02** Molecular Mechanisms Underlying Exo-Endocytosis of Single Synaptic Vesicles. N. L. CHANADAY. *Vanderbilt Univ. Sch. of Med.*

1:55 **530.03** Biophysical and Molecular Mechanisms of Ultrafast Endocytosis. S. WATANABE. *Johns Hopkins Univ.*

2:15 **530.04** Activity-Dependent Bulk Endocytosis: Role of New Molecules. M. A. COUSIN. *Univ. of Edinburgh.*

2:35 **530.05** Phase Separation of Synaptic Vesicles at the Nerve Terminal. D. MILOVANOVIC. *Yale Sch. of Med.*

2:55 **530.06** Coordination Between Vesicle Acidification and Trafficking at the Neuronal Synapse. I. MILOSEVIC. *European Neurosci. Inst.*

3:15 **530.07** Parkinson's Disease Mechanisms: Impacts on Synaptic Vesicle Trafficking. J. R. MORGAN. *Marine Biol. Lab.*

3:35 **530.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

531. Expecting the Unexpected: Cortical Circuits for Novelty Detection — CME

Tue. 1:30 PM - 4:00 PM — Room: S406B

Chair: J. P. HAMM, *Georgia State University*

Efficient sensory processing involves building predictions based on context and detecting when events betray these predictions. Recent findings indicate that whether a stimulus is context-typical vs context-deviant/novel may be encoded by separate circuit mechanisms or even neural subpopulations (e.g. deviance detecting cells) distributed across sensory, associative, and prefrontal cortices. This minisymposium will highlight this discovery with converging results and insights from mice, ferrets, and humans.

1:30 **531.01** Introduction.

1:35 **531.02** Cell and circuit mechanisms of deviance detection in visual cortex. J. P. HAMM. *Georgia State Univ.*

1:55 **531.03** Stimulus-Specific Context Differentiation in Posterior Parietal Cortex of the Ferret. F. FROHLICH. *Univ. of North Carolina.*

2:15 **531.04** The coding of novel vs. familiar stimuli in the mouse visual cortex. J. HOMANN. *Princeton.*

2:35 **531.05** Mechanisms for sensory adaptation in auditory cortex. M. N. GEFFEN. *Univ. of Pennsylvania.*

2:55 **531.06** How context modulates deviance responses - functional brain imaging and eye tracking investigations in humans. M. CHAIT. *Univ. Col. London.*

3:15 **531.07** Can you see a thought? Holographic manipulation of neuronal ensembles and behavioral choices. R. YUSTE. *Columbia Univ.*

3:35 **531.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

532. Redefining Neuromodulation of Behavior: Impact of a Modular Locus Coeruleus Architecture — CME

Tue. 1:30 PM - 4:00 PM — Room: S102

Chair: N. K. B. TOTAH, *Max Planck Institute for Biological Cybernetics*

The locus coeruleus (LC) is a brainstem nucleus critical for survival (wakefulness, autonomic responses, and analgesia) as well as cognition. LC neurons project throughout the central nervous system and could transmit a homogenous noradrenergic signal that uniformly regulates these diverse functions. This minisymposium will present work reconceptualizing LC as a differentiated system for targeted neuromodulation on the basis of developmental, molecular, anatomical, and neurophysiological diversity.

1:30 **532.01** Introduction.

1:35 **532.02** The locus coeruleus is a complex and differentiated neuromodulatory system. N. K. TOTAH. *Helsinki Inst. of Life Sci.*

1:55 **532.03** Making inferences from nociception: lessons from the double edged sword of the locus coeruleus. A. E. PICKERING. *Univ. of Bristol.*

2:15 **532.04** Unique roles of coeruleoamygdalar and coeruleocortical projection pathways in mediating anxiety-like behavior. D. J. CHANDLER. *Rowan Univ. Sch. of Osteo. Med.*

2:35 **532.05** Distinct afferent and efferent locus coeruleus circuits modulate negative affect. J. G. MCCALL. *Washington Univ. in St. Louis.*

2:55 **532.06** Defining a role for a locus coeruleus sub-circuit in behavioral flexibility. L. A. SCHWARZ. *St. Jude Children's Res. Hosp.*

3:15 **532.07** Genetic strategies for uncovering the molecular basis of LC-NE neuron diversity. P. JENSEN. *NIEHS/NIH.*

3:35 **532.08** Closing Remarks.

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LECTURE *McCormick Place*

533. DAVID KOPF LECTURE ON NEUROETHICS- The Neuroethics Frontier — CME

Tue. 3:00 PM - 4:10 PM — Hall B

Speaker: N. FARAHANY, *Duke Univ.*

How should we think about our emerging capabilities of accessing and altering human brains, particularly in light of advances in genome-editing technologies? This lecture will focus on the ethical, legal, and social issues arising from accessing and altering human brains. It will discuss consumer neuro-technologies, corporate interests in accessing and changing brains, and government attempts to do the same. It will also consider the current and future potential directions of these neuroethical issues, particularly in light of recent controversies about human genome-editing.

LECTURE *McCormick Place*

534. PRESIDENTIAL SPECIAL LECTURE- Wavefront Engineering: Illuminating the Neural Landscape — CME

Tue. 5:15 PM - 6:30 PM — Hall B

Speaker: V. EMILIANI, *Vision Inst. (CNRS, INSERM, Sorbonne University).*

The revolution of optogenetics has opened perspectives in both fundamental and medical neuroscience unimaginable 10 years ago. Joint progress in the design of microbial opsins and in the shaping of wave fronts to precisely guide light through tissues is now bringing the field into a new phase that we can call circuit optogenetics, where neural circuits distributed across several brain areas can be optically interrogated and controlled with millisecond precision and single-cell resolution.

NANOSYMPOSIUM

535. Neurodevelopmental Disorders: New Molecular Mechanisms

Theme A – Development

Tue. 1:00 PM – *McCormick Place, N427*

1:00 **535.01** Dissecting the molecular basis of MTOR somatic mutations in aberrant brain development and neural circuit formation. S. PARK*; J. LIM; S. RAMAKRISHINA; S. KIM; W. KIM; J. LEE; H. KANG; J. F. REITER; D. KIM; H. KIM; J. LEE. *KAIST, Hanyang Univ., Yonsei Univ., KISTI, Univ. of California.*

1:15 **535.02** Sex differences in microRNA expression in human 2nd trimester fetal brain. C. C. TOSTE*; M. C. O'DONOVAN; M. J. HILL; N. J. BRAY. *Cardiff Univ.*

1:30 **535.03** Two males with X-linked, syndromic mental retardation carry *de novo* mutations in HNRNPH2. W. M. JEPSEN*; K. RAMSEY; S. SZELINGER; L. LLACI; C. BALAK; N. BELNAP; C. BILAGODY; M. DE BOTH; R. GUPTA; M. NAYMIK; R. PANDEY; I. S. PIRAS; M. SANCHEZ-CASTILLO; S. RANGASAMY; V. NARAYANAN; M. J. HUENTELMAN. *Translational Genomics Res. Inst., Translational Genomics Res. Inst., Arizona State Univ.*

1:45 **535.04** Early and late prenatal maternal inflammation alters fetal and neonatal brain volume. E. GUMA*; E. SNOOK; G. DESROSIERS-GREGOIRE; G. A. DEVENYI; S. SPRING; J. P. LERCH; M. CHAKRAVARTY. *McGill Univ., Douglas Univ. Mental Hlth. Institute, McGill, Univ. of Toronto, Douglas Univ. Mental Hlth. Institute, McGill, The Hosp. For Sick Children, Univ. of Toronto, Univ. of Oxford, Douglas Univ. Mental Hlth. Institute, McGill, McGill Univ., McGill Univ.*

2:00 **535.05** Human induced pluripotent stem cell-derived 3D organoids combined with high-content screening reveal network-level phenotypes in a subset of individuals with idiopathic autism. M. DURENS*; J. NESTOR; K. HEROLD; M. W. NESTOR. *Hussman Inst. For Autism, Univ. of Maryland Sch. of Med.*

2:15 **535.06** Human axon guidance is aberrant in an iPS model of tuberous sclerosis complex via a RhoA-dependent pathway. T. S. CATLETT*; M. M. ONESTO; A. J. MCCANN; S. K. REMPEL; T. M. GOMEZ. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

2:30 **535.07** Dysregulated acetyl-CoA homeostasis causes metabolic and synaptic abnormalities in neurodevelopment. I. A. DIETERICH*; N. H. ROBINSON; K. A. OVERMYER; A. PETERSEN; J. J. COON; S. ZHANG; A. BHATTACHARYYA; L. PUGLIELLI. *Univ. of Wisconsin Madison, Univ. of Wisconsin Madison, Univ. of Wisconsin Madison.*

2:45 **535.08** Oxidative stress and mitochondrial dysfunction in parvalbumin interneurons following perinatal NMDAR blockade in mice. A. J. PHENSY*; D. BAIRUTY; E. GAUBA; K. A. LINDQUIST; K. LINDQUIST; L. GUO; N. SRINIVASAN; S. GANDHI; H. DU; S. KROENER. *Univ. of Texas at Dallas, TCOM, Stanford, UT Southwestern, Univ. of Texas at Dallas.*

3:00 **535.09** Increased availability of acetyl-CoA in the cytosol results in synaptic dysfunction and an autistic-like phenotype in the mouse. M. RIGBY*; N. OREFICE; H. MITCHELL; A. FRELKA; R. PEARCE; L. PUGLIELLI. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

3:15 **535.10** Investigating human cortical developmental disorder using cortical organoids. I. PARK*; Y. XIANG; Y. TANAKA; B. CAKIR; B. PATTERSON; Y. KANG; S. LEE. *Yale Univ., Dept. of Genetics, Yale Sch. of Med., Yale Univ., Univ. of Arkansas For Med. Sci., Univ. of Arkansas For Med. Sci.*

3:30 **535.11** Modeling brain overgrowth in autism using human pluripotent stem cells. S. CHETTY*. *Stanford Univ.*

NANOSYMPOSIUM

536. Molecular and Genetic Mechanisms Underlying Glia-Neuron Interactions

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 1:00 PM – *McCormick Place, S401*

1:00 **536.01** Glia-neuron interactions in *C. elegans*. S. RAIDERS; E. C. BLACK; A. BAE; S. SHAHAM; A. SINGHVI*. *Fred Hutchinson Cancer Res. Ctr., Albert Einstein Col. of Med., The Rockefeller Univ.*

1:15 **536.02** Novel role of ubiquitin specific protease 22 in glial-neuronal interactions during *Drosophila* development. S. V. TODI*; W. TSOU. *Wayne State Univ. Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:30 **536.03** Bdnf signaling through TrkB.T1 is a novel mechanism for astrocyte morphological maturation. L. M. HOLT*; R. HERNANDEZ; N. L. PACHECO; M. HOSSAIN; M. L. OLSEN. *Virginia Tech., Univ. of Alabama at Birmingham.*

1:45 **536.04** Monosynaptic tracing maps brainwide afferent oligodendrocyte precursor cell connectivity. B. YALCIN*; C. MOUNT; K. CUNLIFFE-KOEHLER; M. MONJE. *Stanford Univ.*

2:00 **536.05** The role of ectosomes in the patterning of the myelinated axon: Structural findings. S. SZUCHET*; S. A. .O'SULLIVAN; M. S. DOMOWICZ. *The Univ. of Chicago, The Univ. of Chicago.*

2:15 **536.06** Progression of cortical hypersynchrony and epileptogenesis induced by brain tumors. J. F. MEYER*; K. YU; A. HATCHER; I. AIBA; B. DENEEN; J. L. NOEBELS. *Baylor Col. of Med., Baylor Col. of Med.*

2:30 **536.07** Immune-neuron interaction in radiation-associated cognition dysfunction. J. CHENG*; Z. SHI; J. JIANG; B. HE; Y. PEI; M. WU; H. CHEN; X. HU; J. XIE; W. LIN; Y. TANG. *Sun Yat-Sen Univ., Southern Med. Univ.*

NANOSYMPOSIUM

537. Molecular Targets for Parkinson's Disease: Animal Models

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, S104*

1:00 **537.01** Cinnamon and its metabolite sodium benzoate upregulates astroglial GDNF via CREB and alleviates Parkinsonian pathology in the MPTP-lesioned mice. D. PATEL*; A. JANA; A. ROY; K. PAHAN. *Rush Univ. Med. Ctr., Univ. of Illinois, Jesse Brown Veterans Affairs Med. Ctr.*

1:15 **537.02** ● Multi-kinase inhibition may have optimal effects on neurodegenerative pathologies via the tyrosine kinase discoidin domain receptors (DDRs). A. J. FOWLER*; M. HEBRON; A. A. MISSNER; J. D. GREENZAID; X. LIU; C. E. H. MOUSSA. *Georgetown Univ. Med. Ctr.*

1:30 **537.03** Effect of LRRK2 kinase inhibition and G2019S-LRRK2 expression in a rat a-synuclein fibril model of Parkinson's disease. K. J. KELLY*; V. DELIC; S. CHANDRA; H. J. SCOTT; A. B. WEST. *Duke Univ., Veterans Affairs | New Jersey Hlth. Care Syst., Univ. of Alabama At Birmingham.*

1:45 **537.04** ● G-protein biased dopamine D3R agonist modulates D1R-D3R interactions to attenuate β-arrestin signaling pathways in levodopa induced dyskinesia. W. XU; X. GUITART; B. CAMPOS; W. REA; S. FERRÉ; S. KORTAGERE*. *Drexel Univ. Col. of Med., Natl. Inst. on Drug Abuse.*

2:00 **537.05** Role of Nurr1 in environmental regulation of the dopaminergic phenotype. H. S. PARTINGTON; J. M. NUTTER; J. B. EELLS*. *East Carolina Univ. Sch. of Med.*

2:15 **537.06** Bruton's tyrosine kinase (BTK) regulates inflammasome activation and neuropathology in Parkinson's disease. R. GORDON*; N. BIRCH; K. HANTON; W. GODFREY; N. GROVES; J. D. O'SULLIVAN. *The Univ. of Queensland, Royal Brisbane and Women's Hosp. (RBWH).*

2:30 **537.07** ● Prevention of intra- and extracellular α-synuclein toxicity and seeding by single domain antibodies. E. E. CONGDON*; Y. LIN; E. M. SIGURDSSON. *New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

2:45 **537.08** ● Novel dual GLP-1/GIP receptor agonists show neuroprotective effects in Parkinson's disease animal models. C. HOLSCHER*. *Henan Univ. of Chinese Med.*

3:00 **537.09** Repositioning of tetracycline as modulators of L-DOPA-induced dyskinesia. M. BORTOLANZA; G. CRIVELARO DO NASCIMENTO; C. FONTANARI; L. H. FACCIOLI; R. RAISMAN-VOZARI; E. DEL BEL*. *Univ. of Sao Paulo- Ribeirao Preto Dent. Sch., Fac. of Pharmaceut. Sci. of Ribeirao Preto, Univ. of Sao Paulo, Sorbonne Universite, UPMC Univ. Paris 06, INSERM, CNRS, UM75, U1127, UMR 7225, Inst. du Cerveau et de la Moelle Epinière.*

NANOSYMPOSIUM

538. Animal Models of Neurodegenerative Disorders

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, N426*

1:00 **538.01** HSF1 and tumor suppressor p53, a dangerous relationship in Huntington's disease. N. L. ZARATE; T. A. INTIHAR; D. YU; E. A. MARTINEZ; R. GOMEZ-PASTOR*. *Univ. of Minnesota, Dickinson Col.*

1:15 **538.02** Solid lipid curcumin particles improved learning and memory and protected medium spiny neurons morphology in YAC128 mouse model of Huntington's disease. A. AL-GHARAIBEH*; R. CULVER; S. J. HEILEMAN; B. SRINAGESHWAR; D. STORY; K. SPELDE; L. PALADUGU; N. MUNRO; N. MUHN; N. KOLLI; J. ROSSIGNOL; P. MAITI; G. L. DUNBAR. *Insight Inst. of Neurosurg. and Neurosci., Field Neurosciences Inst. Lab. for Restorative Neurol., Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Field Neurosciences Inst., Central Michigan Univ.*

1:30 **538.03** ● Dietary salt induces cognitive impairment by promoting tau pathology. G. FARACO*; K. HOCHRAINER; S. G. SEGARRA; S. SCHAEFFER; M. M. SANTISTEBAN; A. MENON; H. JIANG; D. M. HOLTZMAN; J. ANRATHER; C. IADECOLA. *Weill Cornell Med., Washington Univ.*

1:45 **538.04** ● Modulating p75 neurotrophin receptor signaling alleviates synaptic degeneration and dysfunction in a mouse model of tauopathy. A. LATIF-HERNANDEZ*; T. YANG; K. C. TRAN; H. LIU; S. M. MASSA; F. M. LONGO. *Stanford Med. Sch., SFVAMC & UCSF.*

2:00 **538.05** Orexin receptor antagonist-induced effects on sleep, cognition and tau pathology in the rTg4510 mouse model of tauopathy. R. J. KEENAN*; L. CORNTHWAITE-DUNCAN; H. DAYKIN; S. OBERRAUCH; M. BRIAN; J. METHA; K. J. BARNHAM; G. ALLOCCA; D. HOYER; L. H. JACOBSON. *Univ. of Melbourne, Florey Inst. of Neurosci. and Mental Hlth., The Scripps Res. Inst.*

2:15 **538.06** Knock out of Trem2 exacerbates phenotypes in P301S tau transgenic mice. A. F. FEITEN*; A. VAN HUMMEL; J. VAN DER HOVEN; F. DELERUE; Y. D. KE; L. M. ITTNER. *Macquarie Univ.*

2:30 **538.07** Anxiety-related behavior, memory impairment and systemic insulin resistance in humanized tau mice. R. A. GONÇALVES*; N. WIJESEKARA; P. E. FRASER; F. G. DE FELICE. *Queens Univ., Univ. of Toronto, Federal Univ. of Rio De Janeiro, Univ. of Toronto, Fed Univ. Rio De Janeiro.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:45 **538.08** Mesenchymal stem cells protected Purkinje cells and recovered gait of a porcine model of ataxia-telangietasia. P. NEGRAO DE ASSIS*; D. KOTA; J. DYKSTRA; J. CAIN; J. WEIMER. *Sanford Res., Sanford Res., Sanford Res.*

3:00 **538.09** Expression of mutant α-synuclein in oligodendrocytes induces remarkable glial inflammation and demyelination in the spinal cord and brainstem/cerebellar white matter: A novel model of multiple system atrophy-cerebellar type and primary progressive multiple sclerosis. H. YAMAGUCHI*; D. MATSUSE; K. MASAKI; T. SAIGA; Y. NISHIMURA; M. WATANABE; R. YAMASAKI; K. TANAKA; J. KIRA. *Dept. of Neurology, Neurolog. Inst, Kyushu Univ. Sch. of Med., Keio Univ. Sch. of Med. Dept. of Neuropsychiatry.*

3:15 **538.10** Longitudinal characterization of spinocerebellar ataxia type 3 mouse model CNS transcriptome. K. BLUMENSTEIN; A. ZALON; H. ZHANG; A. PIERCE; N. STEC; Y. GUAN; H. PAULSON; H. S. MCLOUGHLIN*. *Univ. of Michigan.*

3:30 **538.11** Gabaergic inhibitory interneurons as therapeutic target for spinocerebellar ataxia type 1. C. EDAMAKANTI*; J. GEORGE; M. MARTINA; P. OPAL. *Northwestern Univ.*

NANOSYMPOSIUM

539. Neurotoxicity, Inflammation, and Neuroprotection

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, S103*

1:00 **539.01** Osteopontin (SPP1) expression in HIV-infected humanized mice suppresses microglial inflammation in the brain. F. MAHMUD; T. BOUCHER; Y. DU; E. GREIF; P. SYSA-SHAH; R. DANNALS; M. POMPER; K. METCALF PATE; C. LYONS; B. CARLSON; A. M. BROWN*. *Johns Hopkins Univ. Sch. of Med.*

1:15 **539.02** Assessment of adverse neurotoxicity of BoNT/A by using an engineered human brain model. G. AMBRIN*; B. R. SINGH; H. CHO. *Univ. of Massachusetts, Dartmouth, 2Institute of Advanced Sciences, UNC Charlotte.*

1:30 **539.03** Proteogenomic analysis of microglia during LPS-induced acute inflammation. A. CARTIER*; B. YEUNG; J. MOYRON-QUIROZ; Q. GAO; K. NAZOR; T. HUANG; S. ZOU; M. TAM; P. TAYLOR. *Biolegend.*

1:45 **539.04** The anti-inflammatory potential of curcumin preparations on activated glial cell numbers and morphology in the GFAP-IL6 mouse brain. E. GYENGESI*; F. ULLAH; R. ASGAROV; G. NEIDERMAYER; G. MUENCH. *Western Sydney Univ.*

2:00 **539.05** ● Developmental difference in the astroglial response to chorda tympani transection is independent of microglia presence. A. J. RIQUIER*; S. I. SOLLARS. *Univ. of Nebraska at Omaha.*

2:15 **539.06** Modulation of neuroinflammatory signals mitigates radiation-induced neurocognitive decline independent of hippocampal neurogenesis. S. GOKHAN*; V. CHITU; K. M. ARONSON; Y. M. ALTUN; N. P. BRODIN; E. STANLEY; M. F. MEHLER; W. A. TOMÉ. *Albert Einstein Coll Medici, Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. Med., Albert Einstein Col. of Med.*

2:30 **539.07** Aspirin upregulates IL-1Ra in glial cells via PPAR-alpha. K. PAHAN*; S. CHAKRABARTI; A. ROY; T. PROROK; D. R. PATEL; S. DASARATHY. *Rush Univ. Med. Ctr.*

2:45 **539.08** A comparison of microglial response and lesion resolution after intracerebral hemorrhage in young and aged mice. X. YANG; X. LIU; H. REN; J. WANG. *The Johns Hopkins Univ. Sch. of Med.*

3:00 **539.09** Resolution of neuroinflammation triggered by cortical spreading depression. Z. KAYA*; N. BELDER; S. YILMAZ-OZCAN; B. DONMEZ-DEMIR; E. EREN-KOCAK; H. KARATAS-KURSUN; M. YEMİSCİ; T. DALKARA. *Hacettepe Univ.*

3:15 **539.10** Cln6 deficient glia are primed for activation and contribute to the neuronal deficits observed in CLN6 Batten disease. J. N. SHEETS*; K. FRANCIS; J. WEIMER; J. CAIN. *Sanford Res.*

3:30 **539.11** The quaking RNA binding protein regulates alternative splicing in microglia during demyelination and remyelination in the CNS. J. LEE*; X. CHEN; S. RICHARD. *McGill Univ., Lady Davis Inst.*

3:45 **539.12** Dysfunctional phenotype of microglia isolated from eNOS-/- mice. S. A. AUSTIN*; Z. S. KATUSIC. *Mayo Clin.*

NANOSYMPOSIUM

540. Stroke II

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, S505*

1:00 **540.01** Robust neuroprotection by neuroprotectin D1, a docosahexaenoic acid-derived mediator, in experimental ischemic stroke. L. BELAYEV; A. OBENAUS; L. KHOUTOROVA*; P. MUKHERJEE; N. PETASIS; N. G. BAZAN. *LSUHSC, Univ. California Irvine, LSU, USC.*

1:15 **540.02** ● Stroke co-morbidities potentiate complement-dependent neuroinflammation after stroke. A. TOUTONJI*; S. TOMLINSON; A. ALAWIEH; C. ATKINSON. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*

1:30 **540.03** Recurrent hypoglycemia promotes cerebral microvascular mitochondrial dysfunction and enhanced ischemia-reperfusion injury to the brain. W. R. EVANS*; S. S. V. P. SAKAMURI; J. A. SPERLING; Q. LE; V. N. SURE; D. W. BUSIJA; R. MOSTANY; P. V. G. KATAKAM. *Tulane Univ., Tulane Univ. Sch. of Med.*

1:45 **540.04** The role of glutamate antiporter, system x_c^-, in regulation of electrophysiological hypoxic responses in hippocampal slices. B. S. HEIT*; A. CHU; A. SANE; J. E. RICHMOND; D. E. FEATHERSTONE; A. RAY; J. R. LARSON. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. Illinois Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago Dept. of Psychiatry.*

2:00 **540.05** Differential effects of young and old serum exosomes on ischemic stroke outcomes in aged rats. H. ZHANG*; K. JIN. *Univ. of North Texas Hlth. Sci. Ctr., Univ. of North Hlth. Sci. Ctr.*

2:15 **540.06** Post-stroke whole body vibration reduces systemic innate immune inflammation in nicotine exposed reproductively senescent rats. N. A. K. KERR*; W. J. MORENO; J. SANCHEZ; O. E. FURONES-ALONSO; W. DIETRICH, III; A. P. RAVAL; H. M. BRAMLETT. *Univ. of Miami, Univ. of Miami Sch. of Med., Univ. of Miami, Univ. of Miami.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:30 **540.07** ▲ Post-stroke physical exercise reduces ischemic brain damage and improves cognition in reproductively senescent female rats. S. SARAVANAN*; C. FURONES; W. ZHAO; K. DAVE; M. A. PEREZ-PINZON; A. P. RAVAL. *Univ. of Miami, Univ. of Miami.*

2:45 **540.08** Identification of protective role of enolase1 in cerebral ischemia-induced neuronal injury and of potential ischemia biomarker by brain slice-based SELEX. H. TU*; W. JIANG; C. LIU; X. TIAN; P. YANG; W. TAN. *Hunan Univ., Inst. of Mol. Med. (IMM), Renji Hospital, Shanghai Jiao Tong Univ. Sch. of Medicine, and Col. of Chem. and Chem. Engineering, Shanghai Jiao Tong Univ., Dept. of Chemistry, Dept. of Physiol. and Functional Genomics, Ctr. for Res. at the Bio/Nano Inter-face, UF Hlth. Cancer Center, UF Genet. Inst. and McKnight Brain Inst. Univ. of Florida.*

3:00 **540.09** Chronic nicotine exposure hinders whole body vibration therapy induced ischemic protection in the brain of reproductively senescent female rats. A. P. RAVAL*; W. MORENO; J. SANCHEZ; N. KERR; O. E. FURONES-ALONSO; W. DIETRICH, III; H. M. BRAMLETT. *Univ. of Miami, Univ. of Miami, Univ. of Miami.*

3:15 **540.10** ▲ Nicotine alters brain energy metabolism and exacerbates ischemic injury in female rats. S. PATEL*; F. DIAZ; A. P. RAVAL. *Univ. of Miami, Leonard M. Miller Sch. of Med.*

NANOSYMPOSIUM

541. Traumatic Brain Injury

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, S404*

1:00 **541.01** 3D *in vitro* brain tissue model to identify mechanisms of traumatic brain injuries. V. LIAUDANSKAYA*; J. Y. CHUNG; N. ROULEAU; A. N. BERK; C. MIZZONI; I. GEORGAKOUDI; M. J. WHALEN; T. J. F. NIELAND; D. L. KAPLAN. *Tufts Univ., Massachusetts Gen. Hosp.*

1:15 **541.02** Spatial and temporal single cell molecular dissection of traumatic brain injury. D. ARNESON*; G. ZHANG; R. FOREMAN; I. AHN; G. DIAMANTE; Z. YING; Z. HEMMINGER; R. WOLLMAN; F. GOMEZ-PINILLA; X. YANG. *UCLA, UCLA, UCLA, UCLA, UCLA, UCLA.*

1:30 **541.03** Individualized assessment of longitudinal alterations after repetitive mild blast injury in Veterans using FDG-PET. D. J. CROSS*; S. MINOSHIMA; G. E. TERRY; D. G. COOK; J. S. MEABON; K. PAGULAYAN; M. RASKIND; E. PESKIND. *Univ. of Utah, VA Puget Sound.*

1:45 **541.04** Novel strain-based analysis of tissue mechanics informs about changes in structural integrity within the corpus callosum following exposure to sub-concussive impacts. A. A. CHAMPAGNE*; E. PEPONOULAS; I. TEREM; A. ROSS; M. TAYEBI; Y. CHEN; N. S. COVERDALE; P. M. F. NIELSEN; A. WANG; V. SHIM; S. HOLDSWORTH; D. J. COOK. *Queen's Univ., Dept. of Electrical Engin., N/A, Auckland bioengineering Inst., The Univ. of Auckland, The Univ. of Auckland, Queen's Univ.*

2:00 **541.05** ▲ Temporal changes in cerebrospinal histamine correlate with neurobehavioral deficits following mild traumatic brain injury in rats. M. P. BAIER*; A. C. EDWARDS; C. W. MOEHLENBROCK; E. F. FALCON; M. R. LERNER; H. O. AWWAD. *Univ. of Oklahoma Hlth. Sci. Ctr., Univ. of Oklahoma Hlth. Sci. Ctr., Univ. of Oklahoma Hlth. Sci. Ctr.*

2:15 **541.06** Early neurovascular dysfunction is associated with long-term behavioural impairments after juvenile traumatic brain injury. A. ICHKOVA*; B. RODRIGUEZ-GRANDE; M. FOURNIER; J. AUSSUDRE; E. ZUB; P. SICARD; N. MARCHI; J. BADAUT. *Univ. of Bordeaux, Univ. of Montpellier.*

2:30 **541.07** Vascular pathology mediated traumatic brain injury and the regenerative treatment using peptide hydrogel. X. MA*; B. SARKAR; P. IGLESIAS-MONTORO; Z. SIDDIQUI; V. KUMAR; J. HAORAH. *New Jersey Inst. of Technol.*

2:45 **541.08** Gut feelings in the traumatic brain injury pathogenesis. F. GOMEZ-PINILLA*; S. REGE; G. ZHANG; L. F. ROYES. *UCLA, UCLA Brain Injury Res. Center, Federal Univ. of Santa Maria.*

3:00 **541.09** Aeromedical relevant hypobaria exposure induced oxidative stress in rats with mild traumatic brain injury facilitates homocysteine flux through the transsulfuration pathway: A compensatory mechanism to mitigate the secondary injury process. F. TCHANTCHOU*; C. MILLER; F. LI; L. RAMSUE; M. GOODFELLOW; G. FISKUM. *Univ. of Maryland Sch. of Med., U.S Air Force Sch. of Aerospace Med.*

3:15 **541.10** The voltage-gated proton channel Hv1 impairs recovery after traumatic brain injury in mouse through altered responses of microglia/macrophage. J. WU*; J. HE; Y. LI; R. M. RITZEL; B. SHIM; A. I. FADEN; L. WU. *Univ. of Maryland, Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Mayo Clin.*

3:30 **541.11** The novel class of homeostatic lipid mediators, elovanoids, provide high-grade neuroprotection in experimental traumatic brain injury. L. S. BELAYEV*; A. OBENAUS; E. HADDAD; L. KHOUTOROVA; V. A. CRUZ FLORES; P. MUKHERJEE; N. A. PETASIS; N. BAZAN. *LSUHSC, Univ. California Irvine, LSUHSC, Children's Hosp. of New Orleans, USC.*

3:45 **541.12** Probiotic therapeutics prevent neurological and cognitive deficits in traumatic brain injury in mice. W. Z. AMARAL*; L. Z. YING; F. GOMEZ-PINILLA. *UCLA.*

4:00 **541.13** The effects of model repetitive TBI and treatment with tertiary-butylhydroquinone and pioglitazone. W. A. RATLIFF*; D. QUBTY; V. DELIC; C. G. PICK; B. A. CITRON. *Bay Pines VA Healthcare Syst., Tel Aviv Univ. Sackler Sch. of Med., VA New Jersey Hlth. Care Syst., Rugters - New Jersey Med. Sch.*

NANOSYMPOSIUM

542. Therapeutic Interventions for Nervous System Injury

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, N228*

1:00 **542.01** Rescuing the fate of neural progenitor transplants in the injured spinal cord niche via attenuation of notch signaling with GDNF. M. KHAZAEI*; C. S. AHUJA; H. NAKASHIMA; N. NAGOSHI; J. WANG; J. CHIO; A. BADNER; M. G. FEHLINGS. *Krembil Res. Institute, Univ. Hlth. Network, Univ. of Toronto, Keio Univ. Sch. of Med., Toronto Western Hosp.*

1:15 **542.02** Myelination of peripheral nerves is controlled by phosphatidylinositol 4-kinase type III-beta (PI4KB) through regulation of Schwann cell Golgi function. A. ALVAREZ-PRATS*; T. BABA; Y. KIM; D. ABEBE; S. WILSON; Z. ALDWORTH; M. A. STOPFER; J. HEUSER; T. BALLA. *NIH, NIH, GlaxoSmithKline, NIH, NIH.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:30 **542.03** Extracellular vesicles derived from neural progenitor cells - A preclinical evaluation in a mouse model of stroke. T. R. DOEPPNER*; X. ZHENG; I. GRAF; R. KRUSE; M. BÄHR. *Univ. of Göttingen Med. Sch.*

1:45 **542.04** Differences in human and animal primary neural stem cell responses to inflammatory and regenerative cues: Impact on the successful translation of therapies to humans. A. GALUTA*; D. GHINDA; R. SANDARAGE; J. F. KWAN; S. CHEN; A. M. AURIAT; E. C. TSAI. *Univ. of Ottawa, The Ottawa Hosp., The Ottawa Hosp. Res. Inst., Univ. of British Columbia.*

2:00 **542.05** Epidural stimulation elicits network-level activation of human spinal circuitry to generate rhythmic motor behavior in individuals with motor complete spinal cord injury without intentional supraspinal input. N. Y. HAREL*; E. REJC; C. FERREIRA; O. A. ALSALMAN; Y. P. GERASIMENKO; S. J. HARKEMA; C. A. ANGELI. *James J. Peters VA Med. Ctr., Icahn Sch. of Med. at Mount Sinai, Univ. of Louisville, Univ. of Louisville, Pavlov Inst. of Physiol, Univ. Louisville, Frazier Rehab Inst, KSCIRC, Frazier Rehab Inst.*

2:15 **542.06** Prolonged effects of targeted epidural stimulation on blood pressure and cerebral blood flow velocity during tilt: A case report. J. M. WECHT*; A. V. OVECHKIN; S. WANG; B. DITTERLINE; O. BLOOM; J. D. GUEST; G. F. FORREST; S. J. HARKEMA. *James J Peters VA Med. Ctr., Univ. Louisville, Univ. of Louisville, Univ. of Louisville, The Feinstein Inst. For Med. Res., Univ. of Miami Miller Sch. of Med., Kessler Fndn., Univ. Louisville, Frazier Rehab Inst, KSCIRC.*

2:30 **542.07** ▲ 3D printed polypyrrole microneedle arrays for electronically controlled drug release. J. HUANG; J. JOHNSON; M. WALTER; R. SAIGAL*. *Univ. of Washington, Univ. of Washington, UW Neurolog. Surgery.*

2:45 **542.08** Anatomy and function of the vertebral column lymphatics network in mice . J. THOMAS*; L. JACOB; L. BOISSERAND; L. GERALDO; J. BRITO; T. MATHIVET; S. ANTILA; K. ALITALO; N. RENIER; A. EICHMANN. *Sorbonne University, UPMC Univ. Paris 06, ICM, Yale Sch. of Med., PARCC, Wihuri Res. Inst.*

NANOSYMPOSIUM

543. New Approaches for Pain Assessment and Treatment

Theme D – Sensory Systems

Tue. 1:00 PM – *McCormick Place, S405*

1:00 **543.01** National institute of neurological disorders and stroke preclinical screening platform for pain. S. A. WOLLER*; J. H. KEHNE; M. HACHICHA; B. KLEIN; M. A. PELLEYMOUNTER; M. L. OSHINSKY; W. J. KOROSHETZ; A. TAMIZ; S. IYENGAR. *NINDS, Natl. Inst. of Neurolog. Disorders and Stroke, NINDS, NIH/NINDS, NINDS/NIH, NINDS/NIH, NIH, NIH/NINDS.*

1:15 **543.02** Sustainable reduction of phantom limb pain by MEG-based BMI. T. YANAGISAWA*; R. FUKUMA; B. SEYMOUR; M. TANAKA; K. HOSOMI; O. YAMASHITA; H. KISHIMA; Y. KAMITANI; Y. SAITOH. *Osaka Univ., Osaka Univ. Grad. Sch. of Med., ATR Computat. Neurosci. Labs., Osaka Univ. Grad. Sch. of Med., Univ. of Cambridge, Natl. Inst. for Information and Communications Technol., Osaka Univ. Grad. Sch. of Med., Osaka Univ. Grad. Sch. of Med., ATR, RIKEN Ctr. for Advanced Intelligence Project, Kyoto Univ.*

1:30 **543.03** ● Use of dicer-substrate small interfering RNA *in vivo* to decipher the time-related contribution of the CCL2/CCR2 signaling in chronic inflammatory and neuropathic pain. M. DANSEREAU*; K. NESZVECSKO; A. M. JACOBI; S. S. ROSE; M. A. BEHLKE; J. LONGPRE; P. SARRET. *Univ. De Sherbrooke, Sherbrooke Behavioral Phenotyping Core Facility, Integrated DNA Technologies.*

1:45 **543.04** ● Using place preference to evaluate pain relief in a rat model of chronic low back pain. B. YUAN; J. LI; A. L. PERSONS; D. CHEN; A. CHEE; T. C. NAPIER*; H. S. AN. *Rush Univ. Med. Ctr., Second Military Med. Univ., Rush Univ. Med. Ctr.*

2:00 **543.05** Prevention of neuropathic pain development via a therapeutic plasma fraction. M. CASTRO LABRADA*; L. MADUSHANI; R. ESTRADA; I. GALLAGER; S. BRAITHWAITE; V. KHEIFETS. *Alkahest Inc.*

2:15 **543.06** ● Diode laser based selective assessment (DLss) of A-δ or C-fiber nociception: From cells to patiens. M. J. IADAROLA*; D. C. YEOMANS; M. I. NEMENOV. *Dept. of Perioperative Med., Stanford Univ., Lasmed LLC, Stanford Univ.*

2:30 **543.07** ● Unlocking NaV1.7's pain potential: Discovery and initial characterization of a novel class of compounds selectively targeting NaV1.7 through inhibition of a protein-protein interaction. R. KHANNA*; R. CHAWLA; A. CHEFDEVILLE; S. CAI; A. MOUTAL; J. YU; X. YANG; E. DUSTRUDE; C. MADURA; S. S. BELLAMPALLI; L. CHEW; S. LUO; L. FRANÇOIS-MOUTAL; D. D. SCOTT; V. GOKHALE; M. KHANNA. *Univ. of Arizona, BIO5 Institute, Univ. of Arizona, The Ctr. for Innovation in Brain Sciences, The Univ. of Arizona Hlth. Sciences, Tucson, Arizona, Regulonix Holding Inc., Tucson, Arizona.*

2:45 **543.08** ● Unlocking NaV1.7's pain potential: Preclinical studies on a first-in-class selective NaV1.7 regulator. A. CHEFDEVILLE*; R. CHAWLA; S. CAI; A. MOUTAL; M. PATEK; J. YU; X. YANG; E. T. DUSTRUDE; C. MADURA; S. S. BELLAMPALLI; L. CHEW; S. LUO; L. FRANÇOIS-MOUTAL; D. D. SCOTT; V. GOKHALE; M. KHANNA; R. KHANNA. *Univ. of Arizona, BrightRock Path LLC.*

NANOSYMPOSIUM

544. Motor Control and Stroke Recovery

Theme E – Motor Systems

Tue. 1:00 PM – *McCormick Place, S403*

1:00 **544.01** ● Premotor cortical tDCS enhances inter-hemispheric motor network functional connectivity in chronic stroke patients. R. H. UNGER*; M. J. LOWE; K. A. KOENIG; K. A. POTTER-BAKER; F. BETHOUX; E. B. BEALL; S. E. JONES; X. WANG; E. B. PLOW; D. A. CUNNINGHAM. *Cleveland Clin. Lerner Col. of Med., Cleveland Clin., Cleveland Clin., Cleveland Clin., Cleveland Clin., MetroHealth Med. Ctr.*

1:15 **544.02** Chronic stroke hemispheric dominance and task specific fMRI laterality of cortical motor activation. D. A. CUNNINGHAM*; A. O. RICKERT; E. B. PLOW; J. S. KNUTSON. *Case Western Reserve Univ., MetroHealth Rehabil. Inst., Cleveland Clin.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:30 **544.03** ● Using TMS to inform paradigms of DBS in human stroke motor recovery. K. O'LAUGHLIN*; E. B. PLOW; T. ARORA; A. WYANT; D. A. CUNNINGHAM; K. A. POTTER-BAKER; Y. LIN; R. GOPALAKRISHNAN; D. P. FLODEN; K. B. BAKER; A. G. MACHADO. *Cleveland Clin. Fndn., Cleveland Clin., Cleveland Clin., Case Western Reserve Univ., Natl. Yang-Ming Univ., Cleveland Clin., Cleveland Clin., Cleveland Clin.*

1:45 **544.04** ● Uncovering the role of intact, contralesional motor cortices in upper limb functional motor recovery after stroke. E. B. PLOW*; Y. LIN; V. SANKARASUBRAMANIAN; K. A. POTTER-BAKER; D. A. CUNNINGHAM; K. O'LAUGHLIN; A. CONFORTO; K. SAKAIE; X. WANG; J. S. KNUTSON; A. G. MACHADO. *Cleveland Clin., Natl. Yang-Ming Univ., Univ. of Michigan, Cleveland Clin. Fndn., Case Western Reserve University/MetroHealth Rehabil. Inst. of Ohio, Hosp. Das Clínicas/São Paulo Univ. and Inst. Israelita De Ensino E P, Cleveland Clin., Cleveland Clin., Cleveland Clin.*

2:00 **544.05** ● Modulation of post-movement event-related synchronization by deep brain stimulation of the dendatothalamocortical pathway in stroke patients. R. GOPALAKRISHNAN*; K. B. BAKER; D. A. CUNNINGHAM; N. D. MATHEWS; B. A. CAMPBELL; A. G. MACHADO. *Cleveland Clin., Cleveland Clin., Case Western Reserve Univ., Cleveland Clin.*

2:15 **544.06** Disruption of direct and indirect descending pathways in post-stroke individuals: Effects of stimulation timing and activation state. A. J. LOPEZ*; J. XU; J. LIU; M. TREES; M. R. BORICH; T. M. KESAR. *Emory Univ.*

2:30 **544.07** Does interhemispheric balance influence ankle motor control in stroke survivors? H. LIM*; S. MADHAVAN. *Univ. of Illinois At Chicago.*

2:45 **544.08** Can aerobic exercise modulate corticomotor excitability in stroke? A. SIVARAMAKRISHNAN*; S. MADHAVAN. *Univ. of Illiois At Chicago, Univ. of Illinois At Chicago.*

3:00 **544.09** The effect of glucose levels on TMS-evoked afferent inhibition: A placebo-controlled, double-blinded intervention study. C. V. TURCO*; S. TOEPPE; A. J. NELSON. *McMaster Univ.*

3:15 **544.10** Motor and synaptic deficit in 5-lipoxygenase knockout mice. M. B. DA SILVA*; R. CAMPOS; J. FRANÇA; P. FROST; J. CLARKE; V. RIBEIRO-RESENDE; C. CANETTI. *Federal Univ. of Rio De Janeiro, Federal Univ. of Rio De Janeiro.*

3:30 **544.11** Paired Associative Stimulation (PAS) in freely-behaving rats did not modulate corticomotor plasticity through volley timing. W. K. TING*; C. MÉRETTE; G. PICHER; M. HUOT-LAVOIE; C. ETHIER. *Univ. Laval - CERVO, Univ. Laval - CERVO.*

3:45 **544.12** Role of nitric oxide signaling in modulation of mouse motor cortex plasticity induced by transcranial direct current stimulation. M. V. PODDA*; V. LONGO; C. COLUSSI; S. COCCO; M. SPINELLI; S. A. BARBATI; C. GRASSI. *Univ. Cattolica del Sacro Cuore, Natl. Res. Council (CNR-IBCN), Fondazione Policlinico Universitario A. Gemelli IRCCS.*

NANOSYMPOSIUM

545. Molecular Mechanisms of Memory Formation and Reconsolidation

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, N227*

1:00 **545.01** Using calcium sensors to monitor synapse number in *Aplysia* sensorimotor neuron cultures. W. S. SOSSIN*; T. W. DUNN; C. A. FARAH. *McGill Univ.*

1:15 **545.02** Isoform specificity of PKMs in long-term facilitation is mediated through stabilization by KIBRA. L. FERGUSON*; W. S. SOSSIN. *McGill Univ., McGill Univ.*

1:30 **545.03** Boundaries on lability: Severe fear learning leads to reconsolidation-resistant memories due to noradrenergic-dependent changes in plasticity mechanisms. J. HAUBRICH*; K. NADER. *McGill Univ.*

1:45 **545.04** Activation of septal projections to CA1 interneurons promotes retrieval of contextual memory. A. SANS; A. RAZZAUTI; H. MONYER; C. SINDREU*. *Univ. of Barcelona, Med. Fac. of Univ. Heidelberg & DKFZ.*

2:00 **545.05** A protein synthesis code for differential threat memory trace in central amygdala interneurons. P. SHRESTHA*; Z. SHAN; M. MAMCARZ; A. ZERIHOUN; C. JUAN; K. AGUSTIN; P. HERRERO VIDAL; N. HEINTZ; J. PELLETIER; E. KLANN. *New York Univ., The Rockefeller Univ., McGill Univ.*

2:15 **545.06** Sex-dependent differences in the engagement of the ubiquitin-proteasome system during fear memory formation. T. J. JAROME*; T. MCFADDEN; S. A. ORSI; J. L. NELSEN; M. O'DONNELL; N. JONES; R. K. DEVULAPALLI; E. L. MCCOIG; K. MARTIN. *Virginia Polytechnic Inst. and State Univ., Virginia Polytechnic Inst. and State Univ., Virginia Polytechnic Inst. and State Univ.*

2:30 **545.07** Selective agonists for delta-opioid receptor, KNT-127 and SNC80, differentially act on extinction learning of contextual fear memory in mice. D. YAMADA*; S. YANAGISAWA; S. YANAGITA; J. OKA; H. NAGASE; A. SAITOH. *Tokyo Univ. of Sci., Tokyo Univ. of Sci., IIIS, Univ. of Tsukuba.*

NANOSYMPOSIUM

546. Working Memory: Mechanisms II

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, S402*

1:00 **546.01** Characterizing behavioral and neural signatures of working memory in childhood. M. D. ROSENBERG*; S. MARTINEZ; K. M. RAPUANO; M. I. CONLEY; A. O. COHEN; M. D. CORNEJO; D. J. HAGLER, Jr.; K. M. ANDERSON; T. D. WAGER; E. J. FECZKO; E. EARL; D. A. FAIR; D. M. BARCH; R. WATTS; B. J. CASEY. *Yale Univ., Univ. of Chicago, New York Univ., Univ. of California San Diego, Univ. of Colorado Boulder, Oregon Hlth. & Sci. Univ., Washington Univ. in St. Louis.*

1:15 **546.02** Distinguishing cognitive effort and working memory load. O. KARDAN*; K. C. S. ADAM; I. MANCE; N. W. CHURCHILL; E. K. VOGEL; M. G. BERMAN. *The Univ. of Chicago, Univ. of California San Diego, Univ. of Oregon, St. Michael's Hosp.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:30 **546.03** Neural mechanisms of retrospective selection in visual working memory. M. F. PANICHELLO*; T. J. BUSCHMAN. *Princeton Neurosci. Inst.*

1:45 **546.04** The dissociation of covert spatial attention during visual working memory. S. HAN*; Y. KU. *East China Normal Univ.*

2:00 **546.05** Event segmentation reveals working memory forgetting rate. A. JAFARPOUR*; E. A. BUFFALO; R. T. KNIGHT; A. G. COLLINS. *Univ. of Washington, Univ. of Washington, Univ. of California Berkeley.*

2:15 **546.06** Whole-brain functional connectivity predicts working memory performance in novel healthy and memory-impaired individuals. E. W. AVERY*; K. R. YOO; M. D. ROSENBERG; Y. KWON; A. S. GREENE; S. GAO; D. L. NA; D. SCHEINOST; R. T. CONSTABLE; M. M. CHUN. *Yale Univ., Yale Univ., Yale Univ., Sungkyunkwan Univ. Sch. of Med., Yale Univ., Yale Univ., Yale Univ.*

2:30 **546.07** Dynamic network coding of working-memory domains and working-memory processes. E. S. SOREQ*; A. HAMPSHIRE. *Imperial Col. London.*

2:45 **546.08** Complementary strategies for encoding information in working memory. M. M. HENDERSON*; R. L. RADEMAKER; J. T. SERENCES. *UCSD, UCSD.*

3:00 **546.09** Shared resources between visual attention and visual working memory are allocated through rhythmic sampling. E. BALESTRIERI*; L. RONCONI; D. MELCHER. *Univ. of Muenster, Univ. Vita-Salute San Raffaele, Univ. of Trento.*

NANOSYMPOSIUM

547. New Technologies for Imaging Neuronal Structure and Activity

Theme I – Techniques

Tue. 1:00 PM – *McCormick Place, S106*

1:00 **547.01** ● All optical functional screens for directed evolution of protein based biosensors. H. TIAN*; B. GMEINER; V. PAROT; H. DAHCHE; S. BEGUM; K. WILLIAMS; T. GREEN; H. XU; A. E. COHEN. *Harvard Univ.*

1:15 **547.02** Near infrared optical probes enable dopamine imaging with high spatiotemporal resolution. A. G. BEYENE*; K. DELEVICH; J. T. DEL BONIS-O'DONNELL; D. PIEKARSKI; W. LIN; A. W. THOMAS; S. J. YANG; P. KOSILLO; D. YANG; L. E. WILBRECHT; M. P. LANDRY. *UC Berkeley, Univ. of California, Berkeley, Univ. of California Berkeley, UC Berkeley, Univ. of California Berkeley.*

1:30 **547.03** Comparative performance of a bacterial phytochrome and an opsin-based GEVI in intact brain tissue. C. SONG*; M. MATLASHOV; M. MONAKHOV; V. VERKHUSHA; T. KNOPFEL. *Imperial Col. London, Albert Einstein Col. of Med.*

1:45 **547.04** Designing genetically encoded voltage indicators for *in vivo* imaging. A. S. ABDELFATTAH*; R. VALENTI; T. KAWASHIMA; A. SINGH; O. NOVÁK; H. LIU; Y. SHUAI; Y. HUANG; B. LIN; R. PATEL; J. MACKLIN; T. CHEN; G. C. TURNER; Z. LIU; M. KOYAMA; K. SVOBODA; M. B. AHRENS; L. D. LAVIS; E. R. SCHREITER. *Howard Hughes Med. Institute, Janelia Res. Campus, Inst. of Exptl. Medicine, Acad. of Sci. of the Czech Republic, HHMI Janelia Res. Campus, Natl. Yang-Ming Univ., Janelia Res. Campus, HHMI / Janelia Farm Res. Campus.*

2:00 **547.05** ● Head mounted microendoscopic calcium imaging in deep layer premotor cortex of behaving rhesus macaque. A. BOLLIMUNTA; S. R. SANTACRUZ; R. W. EATON; J. H. MORRISON; K. A. MOXON; J. M. CARMENA; J. J. NASSI*. *Inscopix, Inc., Univ. of Texas At Austin, UC Davis, UC Berkeley.*

2:15 **547.06** Super resolution oblique light sheet microscopy. J. MIZRACHI*; A. NARASIMHAN; X. QI; K. UMADEVI VENKATARAJU; D. ALBEANU; P. OSTEN. *Cold Spring Harbor Lab., Cold Spring Harbor Lab., Cold Spring Harbor Lab.*

2:30 **547.07** Whole-brain calcium imaging during physiological vestibular stimulation in larval zebrafish. G. MIGAULT; T. VAN DER PLAS; H. TRENTESAUX; T. PANIER; R. CANDELIER; R. PROVILLE; B. ENGLITZ; G. DEBREGEAS; V. BORMUTH*. *Sorbonne Univ., Radboud Univ., Sorbonne Université/CNRS, INSERM, U1215, Radboud Univ.*

2:45 **547.08** Primate brain circuit topographic map revealed by ultra high DSI: 2D retinal GC hexagonal pattern (Polyak, 1953) translates faithfully from optic nerve to 3D thalamic arrays and captures right visual field in left visual cortex. J. R. KORENBERG*; F. YEH; L. DAI; A. N. VAN HOEK; E. HSU; O. ABDULLAH; S. JOSHI. *Univ. of Utah, Univ. of Pittsburgh, Univ. of Utah Brain Inst., Univ. of Utah, Univ. of Utah, Univ. Abu Dhabi, Univ. of Utah.*

3:00 **547.09** Genetically targeted fMRI. B. B. BARTELLE*; S. GHOSH; N. LI; T. XIE; A. JASANOFF. *MIT, MIT, MIT.*

3:15 **547.10** ● High throughput assays of neuronal excitability and synaptic function using all-optical electrophysiology. C. A. WERLEY*; J. FERRANTE; J. J. FINK; H. SHROFF; G. B. BORJA; G. T. DEMPSEY. *Q-State Biosci.*

3:30 **547.11** Light sheet fluorescence expansion microscopy and serial block face sectioning: Complete mapping of extended neuronal circuits at super resolution. J. E. RODRIGUEZ GATICA*; I. PAVLOVA; J. SCHWEIHOFF; J. P. SIEBRASSE; M. K. SCHWARZ; U. KUBITSCHECK. *Rheinische Friedrich-Wilhelms-University Bonn, Rheinische Friedrich-Wilhelms-University Bonn.*

3:45 **547.12** Optical monitoring of dopamine dynamics with dLight1.2 in a mouse model of neurofibromatosis type 1. J. E. ROBINSON*; G. M. COUGHLIN; A. M. HORI; J. R. CHO; T. PATRIARCHI; L. TIAN; V. GRADINARU. *Caltech, Univ. of California, Davis.*

4:00 **547.13** The role of familiarity in object manipulation: An 'object in the fMRI scanner' study. E. ROUNIS*; Z. ZHANG; N. NELISSEN; N. FILIPPINI; P. ZEIDMAN; J. DIEDRICHSEN. *Oxford Univ., King's Col. London, Univ. of Oxford, UCL Inst. of Neurology, London, United Kingdom, Western Univ.*

POSTER

548. Molecular Mechanisms of Synaptogenesis and Circuit Refinement

Theme A – Development

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 A1 **548.01** Mutations in protocadherins impact neural circuit assembly. S. LIGHT*; J. JONTES. *The Ohio State Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 A2 **548.02** Altered cortical development and neural excitability in the medial prefrontal cortex of B-cell CLL/lymphoma 9 mutant mice. Y. KUANG*; B. YANG; S. CHEN; W. LI. *Shanghai Jiaotong Univ., Bio-X Inst., Bio-X Institutes, Shanghai Jiao Tong Univ., Shanghai Jiao Tong Univ.*

3:00 A3 **548.03** Early fast frequency activity sculpts functional and behavioral maturation of prefrontal networks. J. A. PÖPPLAU*; S. H. BITZENHOFER; M. CHINI; A. MARQUARDT; I. L. HANGANU-OPATZ. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. of California San Diego.*

4:00 A4 **548.04** Chronic exposure to delta9-THC during adolescence alters muscarinic M2 receptor distribution in adult prefrontal cortical neurons contacted by CB1 terminals. M. GARZON; K. MACKIE; V. M. PICKEL*. *Dpt Anat, Histol and Neurosci. Fac Med. UAM, Indiana Univ. Bloomington Dept. of Psychological and Brain Sci., Weill Cornell Med.*

1:00 A5 **548.05** ● Connectivity profiling and single-cell RNA sequencing to study homeostatic plasticity in hippocampal neuronal networks *in vitro.* T. KIM*; J. BARTRAM; M. SCHROETER; A. HIERLEMANN. *ETH Zurich.*

2:00 A6 **548.06** A synaptic switch gates developmentally-regulated homeostatic plasticity in parvalbumin interneurons of the visual cortex. M. DRUART*; M. SOIZA-REILLY; M. QUAGGETTO; M. GARCIA; I. MOUTKINE; C. LE MAGUERESSE. *Inst. Du Fer À Moulin, Sorbonne Univ., IFIBYNE (UBA-CONICET).*

3:00 A7 **548.07** Multiplexing rhythmic information by spike timing dependent plasticity. M. SHAMIR*; N. SHERF. *Ben-Gurion Univ., Ben-Gurion Univ. of the Negev.*

4:00 A8 **548.08** Mechanism by which perineuronal nets promote hardwiring of vestibular circuits for sensori-motor behaviors. Y. CHAN*; T. KWAN; A. TAM; C. MA; K. WU; D. SHUM. *Sch. of Biomedic. Sci., Fac. Med., Univ. Hong Kong.*

1:00 A9 **548.09** Genetic disruption of DCC and Ntn1 expression in adult midbrain dopamine neurons produces significant behavioral changes. M. M. CLINE*; A. HUNKER; B. JUAREZ; L. S. ZWEIFEL. *Univ. of Washington, Univ. of Washington.*

1:00 DP01/A10 **548.10** (Dynamic Poster) Humanization of SRGAP2C expression increases cortico-cortical connectivity and alters cortical neural responses in the mouse brain. E. SCHMIDT*; H. T. ZHAO; C. KIM; E. HILLMAN; F. POLLEUX. *Columbia University, Mortimer B. Zuckerman Mind Brain Behavior Inst., Columbia University, Mortimer B. Zuckerman Mind Brain Behavior Inst.*

3:00 A11 **548.11** Distinct roles of TrkB and p75NTR signaling in neural circuit refinement in the developing visual system. E. KUTSAROVA*; A. SCHOHL; M. MUNZ; O. BILASH; Y. ZHANG; A. WANG; E. S. RUTHAZER. *McGill Univ., Friedrich Miescher Inst. for Biomed. Resear, New York Univ. Sch. of Med., Yale Univ.*

4:00 A12 **548.12** Family nurture intervention (FNI) which increases EEG power of preterm infants at term age does so through mechanisms other than FNI effects on delta brushes, effectors of early brain development. P. G. GRIEVE; M. M. MYERS; J. L. BARONE; R. J. LUDWIG; R. I. STARK; J. R. ISLER; M. G. WELCH*. *Columbia Univ., Columbia Univ. Med. Ctr.*

1:00 A13 **548.13** Maturation of prefrontal cortex responses to basolateral amygdala inputs during adolescence: Frequency-dependent regulation by local excitatory & inhibitory signaling. M. AUGER*; K. TSENG. *Univ. of Illinois at Chicago-College of Med., Univ. of Illinois at Chicago - Col. of Med.*

2:00 A14 **548.14** Maturation of cFos expression in cortical circuits. M. POMPEIANO*; M. T. COLONNESE. *The George Washington Univ. Sch. of Med.*

3:00 A15 **548.15** Microglia-mediated remodelling of the medial pulvinar connectivity: New insights for schizophrenia. J. HOMMAN-LUDIYE*; J. A. BOURNE. *Monash Univ.*

4:00 A16 **548.16** Death of Cajal-Retzius cells regulates the wiring of upper cortical layers. M. RIVA*; I. GENESCU; C. HABERMACHER; D. ORDUZ; F. LEDONNE; F. RIJLI; G. LOPEZ BENDITO; E. COPPOLA; S. GAREL; M. C. ANGULO; A. PIERANI. *Inst. of Psychiatry and Neurosci. of Paris, Imagine Inst. of Genet. Dis., Inst. Jacques Monod, Ecole Normale Superieure, INSERM U1128, Univ. Paris Descartes, Friedrich Miescher Inst. for Biomed. Res., Inst. de Neurosciencias de Alicante.*

1:00 A17 **548.17** Early life adversity and maturation of dorsal raphe synapses. A. KISNER*; C. GOMEZ; M. CAMACHO; A. M. POLTER. *The George Washington Univ.*

2:00 A18 **548.18** Developmental divergence of sensory stimulus representation in cortical VIP and SST interneurons. R. KASTLI*; R. VIGHAGEN; A. VAN DER BOURG; A. ARGUNSAH; A. IQBAL; F. F. VOIGT; D. KIRSCHENBAUM; A. AGUZZI; F. HELMCHEN; T. KARAYANNIS. *Univ. of Zurich, Brain Res. Inst., Brain Res. Inst., Univ. Hosp. Zurich, Brain Res. Inst. / Univ. of Zurich, Brain Res. Institute/ University of Zurich.*

3:00 A19 **548.19** Development of cortical AMPA and GABA-A receptor mediated connections in the absence of NMDA receptors. R. DENG*; P. O. KANOLD. *Univ. of Maryland.*

4:00 A20 **548.20** Establishment of clustered protocadherin-regulated high reciprocal connectivity between clonal cortical neurons requires sensory experience in mouse barrel cortex. E. TARUSAWA*; M. SANBO; M. HIRABAYASHI; T. YAGI; Y. YOSHIMURA. *Osaka university, NIPS.*

POSTER

549. Neural Mechanisms for Developmental Disorders II

Theme A – Development

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 A21 **549.01** Transgenerational transmission of behavioral phenotypes in a paternal aspartame exposure mouse model. S. K. JONES*; D. M. MC CARTHY; P. G. BHIDE. *Florida State Univ. Col. of Med.*

2:00 A22 **549.02** Distraction processing in adults with ADHD: An ERP study. E. T. MARCELLE*; Y. ZHAO; N. KARIMI; S. P. HINSHAW. *Univ. of California, Berkeley.*

3:00 A23 **549.03** Memory consolidation in children with ADHD is improved by the exploration of an unrelated novel virtual environment. V. BAUMANN*; T. BIRNBAUM; C. BREITLING; J. TEGELBECKERS; E. EDELMANN; J. BERGADO-ACOSTA; H. FLECHTNER; K. KRAUEL. *Otto von Guericke Univ., Northwestern Univ., Otto-von-Guericke Univ., Otto von Guericke Univ., Otto-von-Guericke Univ.*

4:00 A24 **549.04** Overexpression of the ataxin 7 gene in the prefrontal cortex and striatum leads to the development of hyperactive phenotype in mice: Involvement of the noradrenergic and dopaminergic systems. L. L. SAYSON*; C. BOTANAS; R. CUSTODIO; A. ABIERO; M. KIM; H. LEE; H. KIM; J. CHEONG. *Uimyung Res. Inst. For Neurosci.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 A25 **549.05** Brain-derived neurotrophic factor improves neurite development and mitochondrial activity of dopaminergic neurons differentiated from exfoliated deciduous tooth-derived pulp stem cells of children with ADHD. H. T. NGUYEN*; H. KATO; H. SATO; H. YAMAZA; K. MASUDA. *Section of Oral Med. for Children, Div. of Oral Health, Growth & Develop.*

2:00 A26 **549.06** Hand performance asymmetry as a motor phenotype of children with fetal alcohol spectrum disorder. D. E. LIDSTONE*; F. Z. MIAH*; J. F. BEASLEY; J. S. DUFEK. *Univ. of Nevada, Las Vegas, Univ. of Nevada, Las Vegas.*

3:00 A27 **549.07** Altered anatomic and functional connectivity in Tourette syndrome. S. W. WU*; H. S. JACKSON; D. A. HUDDLESTON; W. YUAN. *Cincinnati Children's Hosp. Med. Ctr., Cincinnati Children's Hosp. Med. Ctr.*

4:00 A28 **549.08** Brain and behavioural changes in mice colonized with human ADHD gut microbiota. S. DAM*; A. TENGELER; M. WIESMANN; C. BELZER; B. FRANKE; T. KOZICZ; A. KILIAAN; A. ARIAS VASQUEZ. *Donders Inst. for Brain, Cogniton & Behaviour, Radboudumc, Wageningen Univ. & Res.*

1:00 A29 **549.09** Motivation is deficient in the spontaneously hypertensive rat (SHR), a rodent model of ADHD: Evidence from an operant breakpoint paradigm. A. S. NAZARIO*; M. E. STEVENSON; Y. S. GREENBERG; B. S. LARSON; C. C. MILLER; R. A. SWAIN. *Univ. of Wisconsin-Milwaukee.*

2:00 A30 **549.10** ▲ The cerebello-thalamo-prefrontal pathway in ADHD. E. M. ALLISON*; T. IKUTA. *The Univ. of Mississippi.*

3:00 A31 **549.11** Shared and unique neural correlates of reading and attention. M. E. MARKO*; R. F. SLOMOWITZ; B. C. DRURY; L. M. MCGRATH; C. J. STOODLEY. *American Univ., Univ. of Denver.*

4:00 A32 **549.12** ▲ Differences in social behaviors as reflected by parental judgement in school age children with perinatal stroke and school age children with high functioning autism. E. M. BEAVER*; M. MEYER; S. EDWARDS; P. LAI. *Univ. of Nebraska at Kearney.*

1:00 A33 **549.13** ● The progression of white matter abnormalities in phenylketonuria. H. E. CLOCKSIN*; D. A. WHITE; Z. HAWKS; S. E. CHRIST. *Univ. of Missouri, Washington Univ. in St. Louis.*

2:00 A34 **549.14** Caffeine via adenosine A2A receptors recovers neuronal outgrowth in attention deficit and hyperactivity disorder (ADHD) rat model. C. B. ALVES; A. S. ALMEIDA; D. M. MARQUES; A. FAÉ; A. L. MACHADO; L. O. PORCIÚNCULA. *Univ. Federal do Rio Grande do Sul.*

3:00 A35 **549.15** Effects of repeated tDCS over the right IFG in children and adolescents with ADHD. C. BREITLING*; T. ZAEHLE; V. BAUMANN; J. TEGELBECKERS; H. FLECHTNER; K. KRAUEL. *Otto-von-Guericke Univ., Otto-von-Guericke Univ., Otto-von-Guericke Univ., Northwestern Univ.*

4:00 A36 **549.16** Reduced sensitivity to auditory statistics in dyslexia is associated with a reversed activation pattern in the default mode network. A. GERTSOVSKI*; M. AHISSAR. *The Hebrew Univ. of Jerusalem.*

1:00 A37 **549.17** Delayed neuronal outgrowth and alterations in synaptic proteins in cultured cortical neurons from attention deficit and hyperactivity disorder (ADHD) rat model. D. M. MARQUES*; A. S. ALMEIDA; C. B. ALVES; L. O. PORCIÚNCULA. *Federal Univ. of Rio Grande Do Sul.*

2:00 A38 **549.18** Sex differences in impulsivity, cognition, proteins involved in brain maturation and response to caffeine in a rat model of attention deficit and hyperactivity disorder (ADHD). A. S. ALMEIDA*; F. NUNES; D. M. MARQUES; L. O. PORCIÚNCULA. *Federal Univ. of Rio Grande Do Sul.*

3:00 A39 **549.19** Methylphenidate ameliorates hyperlocomotion in CDKL5 deficient mice. W. LIAO*; Y. LUO; C. JHANG. *Inst. of Neuroscience, Natl. Cheng-Chi Univ., Res. Ctr. for Mind, Brain and Learning, Natl. Cheng-Chi Univ.*

4:00 A40 **549.20** ● Decoding dyslexia: Early identification of reading impairment. L. A. GABEL*; E. JOHNSON; D. T. TRUONG; S. PANIAGUA; B. E. SHELTON; J. HUNG; E. MURRAY; K. VOSS; O. GRIGAUX; M. SCHIAZZA; M. DENBLEYKER; W. DUNCAN; J. R. GRUEN. *Lafayette Col., Boise State Univ., Yale Univ., Boise State Univ., Lafayette Col., Yale Sch. of Med.*

1:00 A41 **549.21** ▲ Chronic exposure to the psychostimulants Ritalin and Adderall during adolescence alters brainstructure and function. J. L. DEMAREE*; D. AGGARWAL; I. SENTHILKUMAR; C. LAWSON; X. CAI; P. P. KULKARNI; C. F. FERRIS. *Northeastern Univ., Northeastern Univ., Northeastern Univ. Dept. of Psychology, Northeastern University, Ctr. for Translational NeuroImaging.*

2:00 A42 **549.22** A retroviral twist to Angelman syndrome. N. J. PANDYA*; P. LOPATTA; V. COSTA; B. BANFAI; M. T. MILLER; M. EBELING; M. TZOUROS; T. DUNKLEY; R. JAGASIA. *Roche Pharma Res. and Early Develop., Roche Pharma Res. and Early Develop., Roche Pharma Res. and Early Develop.*

3:00 A43 **549.23** Integrative DNA methylation and gene expression analysis of Williams syndrome. R. KIMURA*; R. LARDENOIJE; K. TOMIWA; Y. FUNABIKI; M. NAKATA; S. SUZUKI; T. AWAYA; T. KATO; T. MURAI; T. HEIKE; B. P. F. RUTTEN; M. HAGIWARA. *Kyoto Univ., Maastricht Univ., Todaiji Ryoiku Hosp. for Children, Kyoto Univ., Hyogo Prefectural Amagasaki Gen. Med. Ctr., Kyoto Univ.*

4:00 A44 **549.24** Magnetic resonance assessment of learning deficiency induced by neonatal exposure to isoflurane. D. P. AKSENOV*; P. VENKATASUBRAMANIAN; C. DIXON; L. LI; M. MILLER; A. WYRWICZ. *NorthShore Univ. HealthSystem.*

1:00 A45 **549.25** Chronic metabolic effects of anesthesia on the developing brain. P. N. VENKATASUBRAMANIAN*; L. LI; A. M. WYRWICZ; D. P. AKSENOV. *NorthShore Univ. HealthSystem.*

POSTER

550. Animal Models II

Theme A – Development

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 A46 **550.01** Sex differences in blood-brain barrier permeability during lipopolysaccharide-induced sickness. D. KOLMOGOROVA*; E. AH-YEN; K. B. SMITH; B. C. TAYLOR; R. CHANDRASEGARAM; N. ISMAIL. *Univ. of Ottawa, Univ. of Ottawa, Cardiff Univ., Univ. of Ottawa.*

2:00 A47 **550.02** ▲ Enriching experiences during adolescence affect enrichment evoked activity in entorhinal cortex in late adolescence and early adulthood. H. GODFREY*; C. H. GODFREY; D. E. DRURY; D. D. WRIGHT; E. M. BUNCICK-ROAKES; M. C. ZRULL. *Appalachian State Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 A48 **550.03** Constant innervation despite pubertal growth of the mouse constant innervation despite pubertal growth of the mouse constant innervation despite pubertal growth of the mouse penis. L. PURKART*; J. SIGL-GLÖCKNER; M. BRECHT. *Humboldt-Universität Zu Berlin.*

4:00 A49 **550.04** ● Treatment with the PDE9 inhibitor BI409306 during adolescence mitigates social interaction and dopaminergic deficits in adult offspring of the poly(I:C) based maternal immune activation neurodevelopmental mouse model. J. RICETTO; J. SCARBOROUGH; R. ARBAN; C. DORNER-CIOSSEK*; H. ROSENBROCK; U. MEYER. *Univ. of Zurich-Vetsuisse, Boehringer Ingelheim Pharma GmbH & Co KG.*

1:00 A50 **550.05** Dosage sensitivity intolerance of VIPR2 duplication is causative in manifestation of schizophrenia-like striatal dopamine abnormality, cognitive, social, and developmental deficits in a novel bacterial artificial chromosome transgenic mouse model. X. TIAN*; M. REN; A. D. RICHARD; M. ELSAADI; D. S. DWYER; R. L. KLEIN; N. E. GOEDERS; X. W. YANG; X. LU. *Louisiana State Univ. Hlth. Sci. Ctr., Louisiana State Univ. Hlth. Sci. Ctr., UCLA, Louisiana State Univ. Hlth. Sci. Ctr.*

2:00 A51 **550.06** ▲ Feminized digit ratios in androgen insensitive rats. V. DI RITA*; S. M. BREEDLOVE; C. L. JORDAN. *Michigan State Univ.*

3:00 A52 **550.07** The effects of an adenosine A(2a) agonist on the rewarding associative properties of nicotine and neural plasticity in a rodent model of schizophrenia. W. D. GILL*; H. W. SHELTON; K. C. BURGESS; R. W. BROWN. *East Tennessee State Univ.*

4:00 A53 **550.08** ▲ The effect of early-life fluoxetine administration on binge eating behavior in adulthood in male and female rats. A. L. CASTRO*; Y. TREESUKOSOL. *California State Univ. Long Beach, California State Univ. Long Beach.*

1:00 A54 **550.09** Investigation of GLuR1 and GLuR2 AMPA receptor subtype distribution in the hippocampus of long evans rats during a sensitive developmental period. N. TZAKIS*; M. R. HOLAHAN. *Carleton Univ.*

2:00 A55 **550.10** Stress in adolescence enhances the use of dorsolateral striatum-dependent habit learning in adulthood. T. M. GADBERRY*; C. A. BOLANOS-GUZMAN; M. G. PACKARD. *Texas A&M Univ.*

3:00 A56 **550.11** Age-dependent voluntary ethanol consumption and escalation in a rat model using alcohol vapor self-administration. M. RISHER*; H. G. SEXTON. *Joan C. Edwards Sch. of Medicine, Marshall Univ., Duke Univ. Med. Ctr.*

4:00 A57 **550.12** Galantamine prevents adolescent binge ethanol-induced loss of cholinergic neurons, neuroimmune activation, and epigenetic modifications in the adult basal forebrain. R. P. VETRENO*; F. T. CREWS. *Univ. of North Carolina at Chapel Hill.*

1:00 A58 **550.13** Effects of WIN 55,212-2 on inhibitory control in adolescent mice. A. LAUER; T. K. LAFFERTY*; R. HALE. *Shippensburg Univ.*

2:00 A59 **550.14** The behavioural effects of early adolescent lipopolysaccharide administration on adolescent and adult male and female rats. I. BISHNOI*; M. KAVALIERS; K. OSSENKOPP. *Western Univ.*

3:00 A60 **550.15** High-sucrose intake in post-weaned rats is associated with morphological and functional changes in the pubococcygeus muscle. Y. M. DE LEON RAMIREZ*; P. PACHECO; O. LARA GARCÍA; M. A. LARA GARCIA; J. ANTOLIN; M. MARTINEZ-GOMEZ; L. NICOLÁS TOLEDO. *Univ. Autonoma De Tlaxcala, UNAM, Ctr. Tlaxcala Biología De La Conducta, Univ. Veracruzana, Inst. de Investigaciones Biomédicas UNAM.*

4:00 A61 **550.16** Gestational diabetes mellitus results in cerebral vascular remodeling in the developing brain of offspring. T. ROGERS; Q. LIU; K. RARICK; S. S. COHEN*. *Med. Col. of Wisconsin.*

1:00 A62 **550.17** Emotional reactivity in adolescent male rhesus macaques: The role of puberty on brain and behavioral development. J. RAPER; F. KAZI; A. RATLIFF; R. RICHARDSON; E. MORIN; M. PINCUS; L. LI; E. J. FECZKO; E. EARL; D. FAIR; M. SANCHEZ*; J. BACHEVALIER; Z. KOVACS-BALINT. *Emory Univ., Emory Univ., Emory Univ., Children's Healthcare of Atlanta, Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ., Emory Univ., Emory Univ.*

2:00 A63 **550.18** Adolescent binge ethanol slows oligodendrocyte maturation through regulation of histone methylation in the PFC. E. BLAY; R. E. STEVENSON; A. C. PAIS; J. T. WOLSTENHOLME*. *Virginia Commonwealth Univ.*

3:00 A64 **550.19** ▲ Reduction of litter size induces overweight, depressive-like behavior, and increases IL-1β plasma levels in juvenile rats. A. S. SAMPAIO*; T. M. LIMA; P. S. RODRIGUES; N. A. SANTOS; L. M. SILVA; M. C. GALVÃO; K. E. KIATAQUI; T. M. REIS-SILVA; N. MOREIRA; I. B. SUFFREDINI; T. B. KIRSTEN; M. M. BERNARDI. *Paulista Univ.*

4:00 A65 **550.20** Reorganization of dynamic connectivity patterns during brain development in awake rats. Z. MA*; N. ZHANG. *The Penn State Univ.*

1:00 A66 **550.21** Adolescent morphine exposure has long term, sex-specific effects on social behavior. C. FIGUEROA*; S. D. BILBO; A. M. KOPEC. *Albany Med. Col., Harvard Med. School/MGH.*

2:00 A67 **550.22** Interactions of sex and reduced dopamine transporter expression on social play. H. T. TRAN*; B. DEMARCO; F. S. HALL. *Univ. of Toledo, Univ. of Toledo Col. of Pharm. and Pharmaceut. Sci.*

3:00 A68 **550.23** Female adolescent Sprague Dawley rats display blunted central and peripheral cytokine responses following an acute stress challenge. P. MARSLAND*; A. PARRELLA; A. S. VORE; T. DEAK. *Binghamton Univ., Binghamton University-SUNY.*

4:00 A69 **550.24** Individual differences in brain activation following ethanol-induced social facilitation and inhibition among cFos-LacZ transgenic rats. T. T. TOWNER*; E. I. VARLINSKAYA; D. F. WERNER; L. P. SPEAR. *Binghamton Univ., Binghamton Univ., Binghamton Univ., Ctr. For Develop. and Behavioral Neurosci.*

1:00 A70 **550.25** Influence of developmental nicotine exposure on cholinergic circuits engaged in fear/threat memory. J. A. WILKING*; N. S. DESAI; D. A. TALMAGE; L. W. ROLE. *Stony Brook Univ., NINDS, Stony Brook Univ., Stony Brook Univ.*

2:00 A71 **550.26** Isolation stress during adolescence on anxiety-like behavior and conditioned place preference to cocaine. E. U. PÉREZ-CARDONA*; A. C. SEGARRA. *Univ. of Puerto Rico, Med. Sci. Campus.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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* Indicates abstract's submitting author

3:00 A72 **550.27** Mapping prefrontal cortical development over adolescence in mouse. K. J. MASTRO*; C. WILLING; W. WANG; L. STANWICKS; B. SABATINI; B. A. STEVENS. *Boston Children's Hosp., Broad Inst., Harvard Med. Sch., Howard Hughes Med. Inst., Boston Children's Hosp.*

POSTER

551. Cellular and Molecular Mechanisms of Evolution and Development

Theme A – Development

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 A73 **551.01** ▲ Photoreception in Lumbriculus variegatus, an aquatic annelid. M. VARGAS*; J. SCOTTY; C. L. BAER; C. R. FLORES; E. L. CAIN; V. G. MARTINEZ ACOSTA. *Univ. of the Incarnate Word, Univ. of the Incarnate Word, Northeast Lakeview Col.*

2:00 A74 **551.02** Nervous system evolution: A molecular genetic characterization of neural cell types in S. kowalevskii. J. M. ANDRADE LOPEZ*; A. M. PANI; P. J. MINOR; C. J. LOWE. *Stanford Univ., Univ. of North Carolina, Chapel Hill.*

3:00 A75 **551.03** Radial glial cells coexpress DCX and GFAP in the adult turtle brain and early embryonic mouse brain. A. J. NAPOLI*; A. S. POWERS; S. GE. *State Univ. of New York at Stony Brook, State Univ. of New York at Stony Brook.*

4:00 A76 **551.04** Identifying common genetic variants that influence Wnt signaling and proliferation in human neural progenitor cells. J. M. WOLTER*; B. LE; D. LIANG; M. J. LAFFERTY; K. COURTNEY; A. ELWELL; J. PIVEN; M. J. ZYLKA; J. L. STEIN. *Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill, NIH, Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill, UNC-Chapel Hill.*

1:00 A77 **551.05** Transcriptomic evidence that von Economo neurons are regionally specialized extratelencephalic-projecting excitatory neurons. J. A. MILLER*; R. D. HODGE; M. NOVOTNY; B. E. KALMBACH; J. T. TING; T. E. BAKKEN; B. D. AEVERMANN; E. R. BARKAN; M. L. BERKOWITZ-CERASANO; C. COBBS; F. DIEZ-FUERTES; S. DING; J. MCCORRISON; N. J. SCHORK; S. I. SHEHATA; K. A. SMITH; S. M. SUNKIN; D. N. TRAN; P. VENEPALLY; A. YANNY; F. J. STEEMERS; J. W. PHILLIPS; A. BERNARD; C. KOCH; R. S. LASKEN; R. H. SCHEUERMANN; E. S. LEIN. *Allen Inst. for Brain Sci., J. Craig Venter Inst., Univ. of Washington, Univ. of Washington, The Ben and Catherine Ivy Ctr. for Advanced Brain Tumor Treatment, Swedish Neurosci. Inst., J. Craig Venter Inst., Illumina, Inc., UCSD.*

2:00 A78 **551.06** Identification of mouse and human Ppp1r1b/DARPP-32 striatal-specific enhancers. M. D. CIRNARU*; C. CORWIN; M. AUDRAIN; J. FULLARD; P. ROUSSOS; M. E. EHRLICH. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

3:00 A79 **551.07** Accelerated evolution of oligodendrocytes in human brain. S. BERTO*; I. MENDIZABAL; N. USUI; K. TORIUMI; P. CHATTERJEE; C. DOUGLAS; C. A. TAMMINGA; T. M. PREUSS; S. YI; G. KONOPKA. *UT Southwestern Med. Ctr., Georgia Inst. of Technol., Osaka Univ., Tokyo Metropolitan Inst. of Med. Sci., UT Southwestern Med. Ctr., Emory Univ.*

4:00 A80 **551.08** ▲ Characterization of a neoblast population in the regenerating model system, Lumbriculus variegatus. B. A. SALVADOR; V. G. MARTINEZ ACOSTA*. *Univ. of the Incarnate Word.*

1:00 A81 **551.09** ▲ Conserved and divergent expression dynamics during early patterning of the telencephalon in mouse and in chick embryos. V. Y. MULEY*; C. J. LOPEZ-VICTORIO; J. T. AYALA-SUMUANO; A. GONZÁLEZ-GALLARDO; B. FARIAS-SERRATOS; L. GONZÁLEZ-SANTOS; G. WRAY; M. HERNÁNDEZ; A. VARELA-ECHAVARRÍA. *Inst. de Neurobiología, Univ. Nacional Autónoma de México, Duke Univ., Inst. de Matemáticas.*

2:00 A82 **551.10** Widespread neuronal expression of class I major histocompatibility complex isotypes in the adult human brain. M. T. C. MOU; S. M. CLARK; M. L. LANE; L. H. TONELLI*. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Baltimore.*

3:00 A83 **551.11** Distribution of oxytocin and vasopressin v1a receptors in chimpanzees. C. N. ROGERS*; D. J. COPPETO; K. INOUE; J. K. RILLING; T. M. PREUSS; L. J. YOUNG. *Emory Univ., Yerkes Natl. Primate Res. Ctr., Yerkes Natl. Primate Res. Ctr., Emory Univ., Emory Univ., Yerkes Natl. Primate Res. Ctr., Emory Univ., Yerkes Natl. Primate Res. Ctr., Emory Univ. Sch. of Med., Emory Univ., Ctr. for Behavioral Neurosci.*

4:00 A84 **551.12** Immediate early gene expression demonstrates ocular dominance columns in V1 of squirrel monkeys. S. LI*; S. YAO; Q. ZHOU; T. TAKAHATA. *Zhejiang University, Interdisciplinary Inst. of Neurosci. and Technol. (ZIINT).*

1:00 A85 **551.13** Distribution of the calcium binding proteins calbindin-D28k, calretinin, and parvalbumin in the naked mole-rat brain. R. J. EMBALABALA*; J. L. CHEATWOOD; D. K. SARKO. *Southern Illinois Univ. Med. Sch.*

2:00 A86 **551.14** Neuron-specific protein-coding genes are evolutionarily more conserved than genes specific to other brain cell types. L. XU*; S. DOS SANTOS; T. CAPRA; S. HERCULANO-HOUZEL. *Vanderbilt Univ.*

3:00 B1 **551.15** Energy availability in the rat brain related to constrained capillary supply, not neuronal demand. L. VENTURA-ANTUNES*; M. DASGUPTA; L. WESOLOSKI; S. HERCULANO-HOUZEL. *Vanderbilt Univ.*

4:00 B2 **551.16** Mosaic scaling of numbers of neurons in subcortical structures of bird and mammalian brains. S. HERCULANO-HOUZEL*. *Vanderbilt Univ.*

POSTER

552. GABA and Glycine: Receptors, Inhibition, and Neuronal Excitability

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 B3 **552.01** The evolution of the $GABA_A$ receptors in vertebrates. H. J. HAINES; D. LAGMAN; L. LUNDIN; D. LARHAMMAR*. *Uppsala Univ., Sars Intl. Ctr. for Marine Mol. Biol.*

2:00 B4 **552.02** Distribution of $GABA_A$ receptor subunits in the monkey fore brain. G. SPERK*; E. KIRCHMAIR; I. KONDOVA. *Med. Univ. Innsbruck, Med. Univ. Innsbruck, Biomed. Primate Res. Ctr.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 B5 **552.03** Glycine alpha2-containing receptors in de the developing striatum of mice. J. RIGO*; J. COMHAIR; J. DEVOGHT; S. N. SCHIFFMANN; G. MORELLI; R. J. HARVEY; D. GALL; B. BRÔNE. *Hasselt Univ., Univ. libre De Bruxelles (ULB), UCL Sch. of Pharm.*

4:00 B6 **552.04** ▲ Influence of the N265M mutation on intrinsic kinetics of α5β2γ2L GABAA receptors. S. KLEIN*; C. LOR; R. A. PEARCE. *Univ. of Wisconsin-Madison.*

1:00 B7 **552.05** Feedback signaling from horizontal cells to cone photoreceptors in mammalian retina mediated by GABA-induced pH changes. S. A. BARNES*; J. C. R. GROVE; A. A. HIRANO; N. C. BRECHA. *Doheny Eye Inst., UCLA, Univ. of California, San Francisco.*

2:00 B8 **552.06** Regulation of tonic and phasic inhibition by phosphorylation of α5-$GABA_A$ Receptors. C. KIVISILD*; D. P. BRIGHT; T. G. SMART. *Univ. Col. London.*

3:00 B9 **552.07** Targeting extrasynaptic gammaaminobutyric acid receptors to prevent and reverse opioid antinociceptive tolerance in mice. K. GENARO; R. F. YOSHIMURA; D. HOGENKAMP; T. B. C. JOHNSTONE; K. W. GEE*. *Univ. of California Irvine.*

4:00 B10 **552.08** MicroRNA regulation of inhibitory synaptic plasticity. D. RAJGOR*; A. M. PURKEY; T. M. WELLE; J. D. GARCIA; M. DELL'ACQUA; K. R. SMITH. *Univ. of Colorado, Denver, Univ. of Colorado, Anchutz.*

1:00 B11 **552.09** GABAergic interneurons in mice excite neonatal hippocampus but inhibit isocortex. Y. MURATA; M. T. COLONNESE*. *George Washington Univ., The George Washington Univ. Sch. of Med.*

2:00 B12 **552.10** ● Anesthetic drug activation of $GABA_A$ receptors in astrocytes drives a persistent increase in extrasynaptic $GABA_A$ receptor function in neurons. A. PINGUELO*; K. KANESHWARAN; G. LEI; D. WANG; B. A. ORSER. *Univ. of Toronto, Univ. of Toronto, Sunnybrook Hlth. Sci. Ctr.*

3:00 B13 **552.11** ● Mis-trafficking of $GABA_A$ receptor subunits in mouse models of autism spectrum disorder. C. CHOI; J. L. SMALLEY; Q. REN; S. J. MOSS; P. A. DAVIES*. *Tufts Univ. Sch. of Med.*

4:00 B14 **552.12** δ-subunit containing $GABA_A$ IPSCs are driven by both synaptic and diffusional GABA in mouse dentate granule neurons. M. SUN*; L. ZIOLKOWSKI; A. BENZ; S. MENNERICK. *Washington Univ. in St. Louis, Washington Univ. in St. Louis.*

1:00 B15 **552.13** Neurosteroids, $GABA_A$ receptors, and neuronal synchrony. X. LU*; P. LAMBERT; A. BENZ; C. F. ZORUMSKI; J. H. STEINBACH; S. J. MENNERICK. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*

2:00 B16 **552.14** Subtle changes to IPSC kinetics have profound implications on larger scale brain activity. P. M. LAMBERT*; M. KEISER; M. SUN; L. ZIOLKOWSKI; H. SHU; A. BENZ; S. MENNERICK. *Washington Univ. in St Louis.*

3:00 B17 **552.15** A novel GABAA receptor auxiliary subunit controlling benzodiazepine anxiolysis and hypnosis. W. HAN*; J. LI; K. PELKEY; S. PANDEY; X. CHEN; Y. WANG; K. WU; T. LI; D. CASTELLANO; C. LIU; R. PETRALIA; J. LYNCH; C. MCBAIN; W. LU. *NIH/NINDS, NIH/NICHD, The Univ. of Queensland, NIH/NIDCD, NIH/NHLBI.*

4:00 B18 **552.16** Mannitol decreases neocortical epileptiform activity during early brain development via co-transport of chloride and water. E. DUQUETTE; N. RAHMATI; K. DUQUETTE; K. J. STALEY; J. GLYKYS*. *Massachusetts Gen. Hosp., Univ. of Iowa. Carver Col. of Med.*

1:00 B19 **552.17** Potassium chloride cotransporter-2 is an important facilitator for epileptogenesis. Y. WANG*. *Fudan Univ.*

2:00 B20 **552.18** Hippocampal network dynamics in the conditional absence of NKCC1. K. KIRMSE*; J. GRAF; C. ZHANG; T. HERRMANN; T. FLOSSMANN; V. RAHMATI; O. W. WITTE; S. J. KIEBEL; C. A. HÜBNER; K. HOLTHOFF. *Jena Univ. Hosp., Jena Univ. Hosp., Technische Univ. Dresden.*

3:00 B21 **552.19** Role of psychosine in cognitive deficits in the Krabbe brain (KD). R. REBIAI*; M. MARSHALL; M. PERGANDE; D. NGUYEN; S. COLOGNA; M. I. GIVOGRI; E. R. BONGARZONE. *Univ. of Illinois At Chicago (UIC), Univ. of Illinois At Chicago (UIC).*

4:00 B22 **552.20** Human glycine receptor autoantibodies disrupt inhibitory neurotransmission. S. J. CRISP*; C. L. DIXON; L. JACOBSON; E. CHABROL; A. VINCENT; D. M. KULLMANN. *Univ. of Cambridge, Inst. of Neurol., Univ. of Oxford.*

POSTER

553. Synaptic Plasticity: Other Mechanisms

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 B23 **553.01** A computational model of two-photon calcium imaging with GCaMP6 in dendrites and spines. B. B. SCHNEIDERS*; M. ADOFF; A. ABOUZEID; D. A. DOMBECK; W. L. KATH. *Northwestern Univ.*

2:00 B24 **553.02** Geometric effects on the electrochemical activity in dendritic spines. M. BELL*; P. RANGAMANI. *Univ. of California San Diego.*

3:00 B25 **553.03** Optogenetic induction of long term potentiation at somatostatin interneuron excitatory synapses causes metaplasticity in pyramidal cell afferent pathways in hippocampus. A. ASGARIHAFSHEJANI*; I. LAPLANTE; J. LACAILLE. *Univ. De Montreal.*

4:00 B26 **553.04** A biochemical mechanism for time-encoding memory formation within individual synapses of Purkinje cells. A. MANDWAL*; J. ORLANDI; C. SIMON; J. DAVIDSEN. *Univ. of Calgary.*

1:00 B27 **553.05** Variance analysis on synaptic currents predicts the source of plasticity at hippocampal synapses. A. N. VAN HUIJSTEE*; C. A. P. SILVA; C. LOHMANN; H. W. KESSELS. *Univ. of Amsterdam, Netherlands Inst. for Neurosci.*

2:00 B28 **553.06** Identification of a novel calcineurin a phosphorylation site as marker of neuronal activity through phosphoproteome analysis. K. PEREZ DE ARCE*; L. LI; R. ASHMAD; A. CAMPBELL; A. GOSHAL; M. E. FITZPATRICK; M. NAGIEC; J. MADISON; K. DUONG; R. HOFFING; M. WEIWER; F. F. WAGNER; M. J. SUCZ; J. SHAW; A. J. KOLESKE; S. A. CARR; E. M. SCOLNICK; Y. ZHANG; J. R. COTTRELL. *Broad Inst., Broad Inst., Yale Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 B29 **553.07** Tumor necrosis factor modulates hippocampal synaptic plasticity through intracellular calcium stores. D. KLEIDONAS*; M. LENZ; N. MAGGIO; A. VLACHOS. *Inst. of Anat. and Cell Biology, Fac. of Medicine, Univ. of Freiburg, Fac. of Biology, Univ. of Freiburg, Spemann Grad. Sch. of Biol. and Medicine, Univ. of Freiburg, Sheba Med. Ctr., The Chaim Sheba Med. Ctr., Talpiot Med. Leadership Program, The Chaim Sheba Med. Ctr., Sackler Fac. of Med. and Sagol Sch. of Neuroscience, Tel Aviv Univ., Fac. of Medicine, Univ. of Freiburg.*

4:00 B30 **553.08** The role of AnkyrinR in perineuronal nets in parvalbumin-positive inhibitory interneurons. S. R. HA*; J. OSES-PRIETO; A. L. BURLINGAME; M. N. RASBAND. *Baylor Col. of Med., Univ. of California.*

1:00 B31 **553.09** Characterization of perineuronal nets in human entorhinal cortex, hippocampus and ventromedial prefrontal cortex. C. BELLIVEAU*; A. TANTI; A. MCFARQUHAR; F. DENUX; M. DAVOLI; N. MECHAWAR. *Douglas Hosp. Res. Ctr., McGill Univ.*

2:00 B32 **553.10** Subanaesthetic ketamine reactivates adult visual cortical plasticity to restore vision from amblyopia. S. F. GRIECO*; Q. QIAO; X. ZHENG; T. HOLMES; S. P. GANDHI; X. XU. *UCI, Univ. of California Irvine Dept. of Neurobio. and Behavior, Univ. California, Irvine.*

3:00 B33 **553.11** Role of GirK channels in long-term potentiation of synaptic inhibition in an *in vivo* mouse model of early amyloid-β pathology. J. NAVARRO-LOPEZ*; I. SÁNCHEZ-RODRÍGUEZ; A. GRUART; J. DELGADO-GARCIA; L. JIMENEZ-DIAZ. *Univ. of Castilla-La Mancha, Univ. of Castilla-La Mancha, Pablo De Olavide Univ., Pablo De Olavide Univ., Neurophysiol & Behav Lab, Univ. Castilla La-Mancha.*

4:00 B34 **553.12** Inhibition of G9a/GLP complex rescues synaptic plasticity deficits in the hippocampal area CA1 in APP/PS1 mouse model of Alzheimer's disease. K. PANG*; J. LEE; S. SAJIKUMAR. *Natl. Univ. of Singapore, Life Sci. Institute, Ctr. for Life Sci.*

1:00 B35 **553.13** Extended amygdala circuits in alcohol use disorder. N. D. WINTERS*; S. PATEL. *Vanderbilt Univ.*

2:00 B36 **553.14** Phrenic evoked response is enhanced after daily acute intermittent hypoxia in rats. R. RODRIGUES PERIM*; M. D. SUNSHINE; A. HOLLAND; J. SANTIAGO; G. S. MITCHELL; E. GONZALEZ-ROTHI. *Univ. of Florida.*

3:00 B37 **553.15** Molecular mechanism of non associative learning in earthworms. Y. KITAMURA*; D. SOUDA; H. FUJITA. *Kanto Gakuin Univ.*

4:00 B38 **553.16** Automated quantitative assessment and classification of neuromuscular junctions. A. MEJIA MAZA*; C. SUDRE; J. N. SLEIGH; E. M. FISHER. *Univ. Col. London, Kings Col. London, Univ. Col. London, Inst. of Neurology, Univ. Col. London.*

POSTER

554. Neuronal Firing Properties: Modulation, Development, and Pathologies II

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 B39 **554.01** Resurgent sodium and high threshold potassium currents underlie the maturation of a zebra finch vocal motor nucleus. B. ZEMEL*; A. A. DAGOSTIN; P. V. LOVELL; S. R. FRIEDRICH; C. V. MELLO; H. P. VON GERSDORFF. *Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ. Sch. of Med., Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*

2:00 B40 **554.02** Similarities in response non-linearities in macaque lateral prefrontal cortex visual neurons during *in vivo* and *in vitro* experiments. Implications for normalization models. E. S. KUEBLER*; M. JIMENEZ; J. BLONDE; R. A. GULLI; B. W. CORRIGAN; L. DUONG; R. LUNA; M. ROUSSY; H. IGARASHI; J. K. SUNSTRUM; S. MATOVIC; M. WIEDERMAN; J. JEONG; S. TREUE; S. EVERLING; W. INOUE; M. O. POULTER; J. C. MARTINEZ-TRUJILLO. *Western, Western Univ., Univ. of Western Ontario, New York Univ., Univ. of Western Ontario, Robarts Res. Inst., Robarts Res. Inst., Robarts Res. Inst., German Primate Ctr., Univ. Western Ontario, Carleton Univ., Brain and Mind Institute, Univ. of Western On.*

3:00 B41 **554.03** Intermittent access to alcohol enhances the intrinsic excitability of lateral orbitofrontal cortex neurons. S. N. ROBERTS*; R. D. CANNADY; P. J. MULHOLLAND; J. J. WOODWARD. *Med. Univ. of South Carolina, MUSC, Med. Univ. of South Carolina.*

4:00 B42 **554.04** Impact of a novel slow afterhyperpolarization (sAHP) on spike encoding by serotonergic (5-HT) dorsal raphe (DR) neurons. M. ISHIBASHI; E. A. BERRY; N. E. MOLINA; T. SATO; A. FUKUDA; C. S. LEONARD*. *Hamamatsu Univ. Sch. of Med., New York Med. Coll.*

1:00 B43 **554.05** Pathophysiological concentrations of acetic acid from ethanol metabolism increases excitability of medium spiny neurons in the nucleus accumbens shell. A. D. CHAPP*; P. G. MERMELSTEIN; M. THOMAS. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota Syst.*

2:00 B44 **554.06** ▲ Oxytocin modulates the electrical properties of liver-projecting DMV neurons. K. M. SANTOS*; D. J. MORAES; V. R. ANTUNES; M. P. D. SILVA. *Inst. of Biomed. Sci., Sch. of Med. of Ribeirao Preto.*

3:00 B45 **554.07** Spontaneous spike homeostasis as a protective mechanism against reactive oxygen species (ROS) saturation. C. CHINTALURI*; T. VOGELS. *Univ. of Oxford.*

4:00 B46 **554.08** Electrophysiological properties of genetically distinct nociceptive neurons in the central amygdala. A. ADKE*; A. KHAN; H. H. AHN; Y. K. SUGIMURA; T. WILSON; Y. CARRASQUILLO. *NIH, Jikei Univ. Sch. of Med.*

1:00 B47 **554.09** Microglia-triggered plasticity of intrinsic excitability modulates psychomotor behaviors in acute cerebellar inflammation. G. OHTSUKI*; M. YAMAMOTO; M. KIM; H. IMAI; Y. ITAKURA. *Kyoto Univ., Kyoto Univ., Kyoto Univ., Kyoto Univ.*

2:00 B48 **554.10** Cholinergic modulation of intrinsic plasticity in layer 2/3 pyramidal neurons of the mouse barrel cortex. D. F. GILL; C. HANSEL*. *Univ. of Chicago.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 B49 **554.11** Increased excitability and decreased inhibition in layer 5 primary somatosensory cortex pyramidal neurons of aged mice. I. R. POPESCU*; K. Q. LE; A. E. LELAND; R. MOSTANY. *Tulane Univ., Tulane Univ., Tulane Univ.*

4:00 B50 **554.12** Non-thermal modulation of neuronal signaling by electromagnetic mid-infrared stimulation. X. LIU*; Y. XIAO; C. CHANG; B. SONG; Y. SHU. *Beijing Normal Univ., Natl. Innovation Inst. of Def. Technol., Univ. of Shanghai for Sci. and Technol.*

1:00 B51 **554.13** A biophysical mechanism for epigenetic inheritance of enhanced complex learning capabilities. S. ZIDAN*; E. BARKAI. *Univ. of Haifa.*

2:00 B52 **554.14** Mitf links neuronal activity and intrinsic plasticity in olfactory bulb projection neurons. P. H. PETERSEN*; D. ATACHO; H. REYNISSON; T. EYSTEINSSON; E. STEINGRÍMSSON. *Univ. of Iceland.*

3:00 B53 **554.15** Hyperexcitability of pyramidal neurons caused by BRAFV600E is partially rescued by dominant negative REST. G. AKGÜL*; J. DUNNACK; J. J. LOTURCO. *Univ. of Connecticut.*

4:00 B54 **554.16** Fibronectin is heterogeneously expressed in the mouse subiculim. T. KASHIMA*; A. NOGUCHI; Y. IKEGAYA; N. MATSUMOTO. *The Univ. of Tokyo.*

1:00 B55 **554.17** Which cellular mechanism yields compatibility between brain states, synaptic plasticity and neuromodulation? K. COUTISSE*; G. DRION. *Univ. of Liege.*

2:00 B56 **554.18** Differential effect of oxytocin on cell types in medial prefrontal cortex: A comparison between single and pair fear-exposed adolescent rats. J. TAESUB*. *Dankook Univ.*

POSTER

555. Animal Models of Epilepsy II

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 B57 **555.01** Further characterization of a genetic mouse model of adult-onset epilepsy. T. N. FERRARO*; A. I. BATTERMAN; I. SALEM; E. MOGILYANSKY; R. DACI; L. K. YOUNG; D. R. MILLER; F. PARDO-MANUEL DE VILLENA; R. J. BUONO; L. D. SIRACUSA. *Cooper Med. Sch. of Rowan Univ., Thomas Jefferson Univ., Univ. of North Carolina, Hackensack Meridian Sch. of Med. at Seton Hall Univ.*

2:00 B58 **555.02** ● Targeted deletion of mitochondrial cyclophilin D mediates neuroprotection in epileptic brain. B. R. VILLA*; C. N. GAVRILOVICI; G. TESKEY; J. M. RHO. *Univ. of Calgary, Univ. of Calgary, Alberta Children's Hospital, Univ. of Calgary.*

3:00 B59 **555.03** Leveraging intrinsic ion channel plasticity in the hippocampus to dampen seizure susceptibility. C. M. CARVER*; M. S. SHAPIRO. *Univ. of Texas Hlth. San Antonio.*

4:00 B60 **555.04** Prediction of seizures by active probing neurostimulation. C. KREMPP*; S. EBRAHIM; E. ROGGE; B. F. COUGHLIN; A. AZMI; N. F. FUMEAUX; A. KADAMBI; M. F. MORAES; S. S. CASH. *Massachusetts Gen. Hospital, Harvard Med. Sch., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Nucleo de Neurociencias (NNC) - Univ. Federal de Minas Gerais, Mass Genl Hosp.*

1:00 B61 **555.05** The effect of inflammation on behavioral outcome and seizure susceptibility after experimental traumatic brain injury. Y. LIN*; C. WU; J. LIU; A. Y. REID. *Univ. of Toronto, Univ. Hlth. Network, Univ. Hlth. Network, Univ. of Toronto.*

2:00 B62 **555.06** Effects of the testicular androgens in absence seizures in the myelin mutant taiep male rat. C. CORTES*; E. GRADOS; J. R. EGUIBAR. *B. Univ. Autonoma de Puebla.*

3:00 B63 **555.07** Electrophysiological characterization of CA1 neurons in a mouse model of Dravet syndrome. M. MARTINA*; S. SCHOCK; D. DYMENT. *Natl. Res. Council of Canada, Children's Hosp. of Eastern Ontario Res. Inst.*

4:00 B64 **555.08** Severe, refractory status epilepticus following cortical injury. T. SINGH*; S. JOSHI; J. WILLIAMSON; J. KAPUR. *Univ. of Virginia.*

1:00 B65 **555.09** Seizure susceptibility in a PCDH19 epilepsy mouse model. N. SABETFAKHRI*; A. D. GUEMEZ-GAMBOA. *Northwestern Univ. Feinberg Sch. of Med., Nortwestern Univ.*

2:00 B66 **555.10** Endogenous activation of cannabinoid receptor type 1 (CB1R) is required for survival and neuroprotection in rats exposed to the organophosphate nerve agent soman. S. O'BRIEN*; B. WINNER; S. WOLFE; K. KELLY; C. PHUNG; K. PAGARIGAN; M. EISEN; P. BODNER; M. NELSON; P. MCNUTT. *MRICD.*

3:00 B67 **555.11** Zebrafish model of post-traumatic epilepsy. S. CHO*; E. PARK; A. BAKER; A. REID. *Univ. Hlth. Network, St. Michael's Hosp.*

4:00 B68 **555.12** Vasoactive intestinal peptide-expressing interneurons are impaired in a mouse model of Dravet syndrome. K. M. GOFF*; E. M. GOLDBERG. *Univ. of Pennsylvania, The Children's Hosp. of Philadelphia.*

1:00 B69 **555.13** Compensatory contralateral hippocampal neurogênesis in the absence of cognitive impairment following experimental hippocampectomy in adult rats. W. GOMES-LEAL*; G. T. M. CARDOSO; E. C. S. FRANCO; A. PEREIRA; F. L. GOMES; A. F. BRINO; S. M. A. LIMA. *Federal Univ. of Pará, Inst. of Biol. Sciences, North Epilepsy Group (NEG)., Federal Univ. of Pará, Inst. of Biol. Sciences, NEG., Evandro Chagas Institute, Pathology Unit, NEG., Lab. of Signal Processing, Federal Univ. of Pará, Inst. of Technology, NEG., Neurol. Unit, João de Barros Barreto Univ. Hospital, NEG., Exptl. Sch. of Primates, Ctr. for Theory and Behavioral Research, Federal Univ. of Pará, NEG., Lab. of Neurobiology, Inst. of Biol. Sciences, NEG.*

2:00 B70 **555.14** Validation of a single-channel murine seizure and interictal event detection algorithm in multi-channel rat and human EEG. R. A. BERGSTROM*; R. J. KOTLOSKI. *Beloit Col., Univ. of Wisconsin Sch. of Med. and Pub.*

3:00 B71 **555.15** Changes in neural activity associated with different gad gene mutations in larval zebrafish. J. D. LAUDERDALE*; Y. LIU; J. B. BYERS; H. C. SCHRIEVER; A. J. VANLEUVEN; J. M. CARPENTER; C. E. GUNDERSON; N. M. FILIPOV; S. QUINN; P. KNER. *Univ. of Georgia, Univ. of Georgia, Univ. of Georgia, Univ. of Georgia, Univ. of Georgia.*

4:00 B72 **555.16** ▲ Behavioral characterization of a new temporal lobe epilepsy model induced by 4-aminopyridine in rats. B. NUÑEZ-IBARRA; A. X. LÓPEZ; C. VENTURA*; L. MEDINA-CEJA. *Univ. De Guadalajara.*

Tues. PM

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* Indicates abstract's submitting author

1:00 B73 **555.17** Characterization of interictal spike (IIS) morphologies important in the mouse kainate and rat pilocarpine models of epilepsy. R. A. BERGSTROM; J. A. PFAMMATTER; D. SUBRAMANIAN; V. SANTHAKUMAR; M. V. JONES*. *Beloit Col., Univ. of Wisconsin Madison, Univ. of California Riverside.*

2:00 B74 **555.18** Neurochemical changes in the hippocampus of a prenatal model of epilepsy. S. T. PERUZZARO*; N. MORISOT; L. YU; A. MALIK; S. HSIEH; H. B. JANSSENS; A. RASSOULPOUR. *Charles River Labs.*

3:00 B75 **555.19** Impaired GABAergic inhibition and seizure susceptibility in a mouse model of SLC13A5 deficiency. J. J. LAWRENCE*; R. WANG; F. SELINA; T. ANDERSON; X. LIU; M. HAYES; S. RAMCHANDRAN; V. GANAPATHY. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*

4:00 B76 **555.20** *In vivo* unanesthetized mapping of glutamate neurotransmission during acute interictal spikes in the mouse neocortex using a genetically encoded sensor. M. Z. ZHAO*; J. LI; F. YANG; J. NIEMEYER; H. MA; T. H. SCHWARTZ. *Weill Cornell Med. of Cornell Univ., Weill Cornell Med. of Cornell Univ., The First Hosp. of Jilin Univ.*

1:00 B77 **555.21** Behavioral state tracking using intracranial electrophysiology in an implantable system. V. KREMEN*, Jr; V. SLADKY; P. NEJEDLY; I. KIM; T. PAL ATTIA; B. H. BRINKMANN; B. K. STURGES; C. M. CROWE; G. A. WORRELL. *Mayo Clin., Mayo Clin., Univ. of California at Davis, Univ. of California at Davis.*

2:00 B78 **555.22** A novel epileptic mouse model to better understand pathogenic mechanisms: mTOR-repressor DEPDC5 deficient mouse. A. BACQ*; T. RIBIERRE; D. ROUSSEL; S. BAULAC. *Inst. Du Cerveau Et De La Moelle Epiniere (ICM).*

3:00 B79 **555.23** Morphological and physiological characterization of DEPDC5 acute and chronic deficiency models. M. CERULLO*; A. DE FUSCO; E. CASTROFLORIO; C. MICHETTI; S. BAULAC; F. BENFENATI. *Inst. Italiano di Tecnologia, Dept. of Exptl. Medicine, Univ. of Genova, MRC Harwell Inst., IRCSS, Ospedale Policlinico San Martino, Inst. du Cerveau et de la Moelle Epiniere (ICM).*

POSTER

556. Central and Peripheral Myelinating Cells I

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 B80 **556.01** Oligodendrocyte involvement in adapter-protein 4 deficient hereditary spastic paraplegia. J. BELGRAD*; E. SANTOS; R. DE PACE; J. BONIFACINO; R. FIELDS. *NIH.*

1:00 DP02/B81 **556.02** (Dynamic Poster) The function of tuberous sclerosis complex in oligodendrocytes and myelin. A. V. EVANGELOU*; J. N. BOURNE; W. B. MACKLIN; T. L. WOOD. *Rutgers Univ., Univ. of Colorado.*

3:00 B82 **556.03** Defects of myelination are common pathophysiology in autism spectrum disorder. B. PHAN; J. BOHLEN*; B. A. DAVIS; Z. ZE; H. CHEN; B. MAYFIELD; S. C. PAGE; M. CAMPBELL; H. L. SMITH; D. GALLOP; C. L. THAXTON; J. M. SIMON; E. E. BURKE; J. SHIN; A. J. KENNEDY; D. SWEATT; B. D. PHILPOT; A. E. JAFFE; B. J. MAHER. *Univ. of Pittsburgh, MSTP, Lieber Inst. For Brain Develop., UNC Sch. of Med., Bates Col., Vanderbilt.*

4:00 B83 **556.04** Nanostructured surfaces for oligodendrocyte differentiation. K. D. SHARMA*; K. M. ALGHAZALI; A. B. RANGUMAGAR; J. TRINGALI; A. GHOSH; A. S. BIRIS; J. Y. XIE. *Arkansas State Univ., Univ. of Arkansas at Little Rock, Univ. of Arkansas at Little Rock, New York Inst. of Technol. Col. of Osteo. Med.*

1:00 B84 **556.05** mTOR regulation of differentiation, myelination, and maintenance in brain and spinal cord oligodendroglia. L. KHANDKER*; M. A. JEFFRIES; T. L. WOOD. *Rutgers Univ., New Jersey Med. Sch, Rutgers Univ.*

2:00 B85 **556.06** Zinc storage proteins and zinc transporters are developmentally regulated in oligodendrocytes. C. M. ELITT*; C. E. R. RICHARDSON; J. WANG; S. J. LIPPARD; M. D. SHOULDERS; P. A. ROSENBERG. *Boston Children's Hosp., Harvard Med. Sch., MIT, MIT.*

3:00 B86 **556.07** Oligodendrocyte progenitor cells during development and upon sensory loss in mouse visual cortex. H. SHIN*; H. D. KAWAI. *Soka Univ., Soka Univ.*

4:00 B87 **556.08** Myelinating glial connexin deficiency within the central nervous system results in an increased inflammatory response and decreased oligodendrocyte development. S. KEIL*; M. FREIDIN; C. K. ABRAMS. *Univ. of Illinois Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*

1:00 B88 **556.09** Oligodendrocyte progenitor cell fate after white matter stroke. N. M. SHIH*; I. L. LLORENTE; M. MACHNICKI; S. T. CARMICHAEL. *UCLA, UCLA, UCLA Sch. Med.*

2:00 B89 **556.10** Oxygen tension regulates the phenotype of oligodendrocyte precursor cells. K. YASUDA*; T. MAKI; H. KINOSHITA; R. TAKAHASHI. *Kyoto Univ. Grad. Sch. of Med.*

3:00 B90 **556.11** The role of neuron-derived connective tissue growth factor in cuprizone-induced intoxication of mature oligodendrocytes. L. LEE*; C. CHEN. *Natl. Taiwan Univ.*

4:00 B91 **556.12** Remyelination leads to new myelination patterns in the cerebral cortex. C. L. CALL*; J. L. ORTHMANN-MURPHY; G. C. MOLINA-CASTRO; Y. HSIEH; M. N. RASBAND; P. A. CALABRESI; D. E. BERGLES. *Johns Hopkins Univ., Perelman Sch. of Medicine, Univ. of Pennsyl, Harvard Univ., Baylor Col. of Med.*

1:00 B92 **556.13** The DYT6 dystonia protein THAP1 regulates glycosaminoglycan metabolism during oligodendrocyte maturation. D. YELLAJOSHYULA*; M. R. COOKSON; W. DAUER. *Univ. Of Michigan, Natl. Inst. Aging, NIH.*

2:00 B93 **556.14** Loss of oligodendrocyte monocarboxylate transporter 1 expression causes late onset axonal degeneration. T. PHILIPS*; Y. MIRONOVA; Y. JOUROUKHIN; M. V. PLETNIKOV; D. E. BERGLES; J. D. ROTHSTEIN. *Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. Med., Johns Hopkins Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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* Indicates abstract's submitting author

3:00 B94 **556.15** m6A mRNA methylation is essential for oligodendrocyte maturation and CNS myelination. H. XU*; J. S. JONES; R. B. KUNJAMMA; Y. WENG; B. ELBAZ; Q. FEI; X. ZHUANG; G. MING; C. HE; B. J. POPKO. *The Univ. of Chicago, Univ. of Pennsylvania, The Univ. of Chicago, Univ. of Chicago Dept. of Neurobio.*

4:00 B95 **556.16** Developmental myelination and the nuclear progesterone receptor. P. WINOKUR*; B. ZHAO; Y. MA; T. VARTANIAN. *The Rockefeller Univ., Weill Cornell Med. Col. of Cornell Univ.*

1:00 B96 **556.17** Activity-induced release of a neuropeptide promotes oligodendrocyte precursor cell differentiation and myelination. L. A. OSSO*; K. A. RANKIN; J. R. CHAN. *Univ. of California, San Francisco.*

2:00 B97 **556.18** Electrophysiological and genetic profiling of single oligodendrocyte lineage cells. E. GOULD*; J. KIM. *Univ. of Texas San Antonio Hlth. Sci., Univ. of Texas Hlth. Sci. Ctr. San Antonio Sch. of Nursing.*

3:00 B98 **556.19** Using patient-derived hiPSCs to model white matter changes in autism spectrum disorder. J. LI*; S. CHETTY. *Stanford Univ.*

4:00 B99 **556.20** ▲ Regulation of oligodendrocyte exploratory behavior and sampling of axons by neural activity. J. R. GRONSETH; T. A. MALLON; M. R. MARTELL; B. B. DUXBURY; A. J. TREICHEL; J. T. HENKE; E. S. MENGES; H. N. NELSON; J. H. HINES*. *Winona State Univ.*

1:00 B100 **556.21** Axon determination of subtype specific myelin ensheathment and pruning. H. N. NELSON*; A. J. TREICHEL; E. DANKERT; M. MARTELL; A. KAISER; A. TRUDEL; J. R. GRONSETH; S. LANG; J. H. HINES. *Winona State Univ.*

POSTER

557. Neuro-Oncology

Theme B – Neural Excitability/ Synapses/ and Glia

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 B101 **557.01** Magnetic resonance imaging guided study of regional variations in glioblastoma multiforme pathology and gene expression. F. M. ARAIN*; A. SHAIKH; M. WAQAS; M. U. TARIQ; M. F. RAGHIB; G. HAIDER; M. S. SHAMIM; F. MUBARAK; S. H. HASSAN; S. A. ENAM; A. A. JABBAR*. *Aga Khan Univ.*

2:00 B102 **557.02** From tumor growth to invasiveness: Morpho-molecular dynamics of the glial-immune-vascular unit in the GL261-C57/Bl6J mouse model of glioblastoma. A. VIRTUOSO; G. CIRILLO; M. RIVA; A. BENTIVEGNA; C. GIUSSANI; M. LAVITRANO; M. PAPA*; R. GIOVANNONI. *Univ. of Campania "Luigi Vanvitelli", Univ. of Milano-Bicocca, KU Leuven, Univ. of Pisa.*

3:00 C1 **557.03** Translational imaging findings in a pediatric patient-derived orthotopic xenograft brain tumor model. J. SCHUELER; J. RYTKÖNEN; D. LÖTSCH; D. LENHARD; A. SHATILLO; K. LEHTIMÄKI; P. POUTIAINEN; D. MISZCZUK; J. GOJOL; W. BERGER; T. HUHTALA*. *Charles River Discovery, Charles River Discovery, Med. Univ. of Vienna, Kuopio Univ. Hosp.*

4:00 C2 **557.04** Comparative RNA-seq analyses of mouse IUE-induced gangliogliomas and human counterparts. S. CASES-CUNILLERA*; H. VATTER; S. SIVALINGAM; S. SCHOCH; A. J. BECKER. *Neuropathology; Univ. Bonn Med. Ctr., Univ. Bonn Med. Ctr., Univ. Bonn Med. Ctr., Univ. Bonn Med. Ctr.*

1:00 C3 **557.05** ▲ Androgens stimulate glioblastoma derived U87 cell metabolism and proliferation while steroid enzymes inhibitors and androgen antagonists reduced their metabolic capacity. M. A. OROZCO; R. A. VALDEZ; J. V. SEGOVIA-VILA; M. C. ROMANO*. *Cinvestav IPN, Cinvestav IPN, Cinvestav-IPN, Ctr. De Investigación Y De Estudios Avanzados De.*

2:00 C4 **557.06** Osmr controls cellular respiration and resistance to stress in glioma stem cells and post mitotic neurons. A. JAHANI-ASL*; A. SHARANEK; A. BURBAN. *McGill Univ.*

3:00 C5 **557.07** Diffuse intrinsic pontine glioma invasion mediated by the Nogo pathway. R. AZIZ-BOSE*; K. R. TAYLOR; A. C. HUI; H. ZHANG; A. PONNUSWAMI; M. MONJE. *Stanford Univ.*

4:00 C6 **557.08** Capsaicin effects on glioma cell cultures. A. SANGAMI; A. TORRES; T. GRAY; E. E. SERRANO*. *New Mexico State University, Biol.*

1:00 C7 **557.09** ▲ Evaluation of the *in-vitro* effect of coumaric derivatives against the aggressiveness of glioblastoma multiforme cells. L. J. RESÉNDIZ-CASTILLO*; Y. K. GUTIÉRREZ-MERCADO; J. C. MATEOS-DIAZ; A. A. CANALES-AGUIRRE. *Ctr. for Res. and Assistance in Technol. and Design of the State of Jalisco A.C., Univ. of the Valley of Mexico, Ctr. for Res. and Assistance in Technol. and Design of the State of Jalisco A.C.*

2:00 C8 **557.10** ▲ The chemokine receptor CXCR7 modulates numerous signaling pathways in glioblastoma stem cells. G. F. TAPSALL*; A. CALINESCU; S. AKULA. *Univ. of Michigan Med. Sch., Univ. of Michigan, Univ. of Michigan Med. Sch.*

3:00 C9 **557.11** ● Neuronal-activity regulated BDNF secretion promotes pediatric glioma growth. K. TAYLOR*; R. AZIZ-BOSE; H. ZHANG; A. HUI; A. BLANK; A. C. GERAGHTY; M. MONJE. *Stanford Univ.*

4:00 C10 **557.12** Altered neurotrophin receptor expression and signalling by histone deacetylase inhibitors in human neuroblastoma cells. S. DEDONI; L. MARRAS; M. C. OLIANAS; A. INGIANNI; P. ONALI*. *Univ. of Cagliari, Dept Biomed. Sci., Univ. of Cagliari, Dept.Biomedical Sci., Univ. of Cagliari.*

1:00 C11 **557.13** Evaluation of combinations of PI3K / AKT and Sonic Hedgehog (SHH) inhibitors against glioblastoma. R. MEJÍA-RODRÍGUEZ*; D. ROMERO-TREJO; R. O. GONZALEZ; J. V. SEGOVIA-VILA. *CINVESTAV, Univ. Autónoma Metropolitana-Iztapalapa, Cinvestav-IPN.*

2:00 C12 **557.14** ▲ Identification and characterization of the role played by the neuronal Na^+/Ca^{2+} exchanger in glioblastoma progression and malignity. L. CALABRESE; P. MOLINARO*; A. SERANI; B. SEVERINO; S. NATALE; F. FRECENTESE; F. FIORINO; G. DI RENZO; L. ANNUNZIATO. *"Federico II" Univ. of Naples, "Federico II" Univ. of Naples, IRCCS SDN.*

3:00 C13 **557.15** Adora2a inhibition as novel therapeutic target for cisplatin-induced cognitive dysfunction. A. OLIVEROS*; K. YOO; A. M. CORUJO; J. TANG; D. BROGREN; M. JANG. *Mayo Clin. Col. of Med.*

Tues. PM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 C14 **557.16** ● Harnessing redox homeostasis as a therapeutic modality in glioblastoma. J. SUN; S. NAGPAL; C. PATEL; M. MERCHANT; T. JANG; A. R. DIERS; S. KAZEROUNIAN; S. GESTA*; N. R. NARAIN; R. SARANGARAJAN; L. RECHT. *Stanford Med., BERG LLC.*

1:00 C15 **557.17** Vitamin C induces glioblastoma invasiveness by increasing perivascular satellitosis and bystander effect. E. RAMIREZ*; N. A. JARA; F. A. MARTINEZ ACUÑA; L. E. FERRADA; K. A. SALAZAR; A. WOLLMANN-ZWERENZ; P. HAU; F. J. NUALART. *Univ. of Concepcion, Univ. de Concepcion, Univ. of Concepcion, Univ. de Concepción, Univ. De Concepción, Univ. Hosp. Regensburg, Univ. de Concepción.*

2:00 C16 **557.18** A new class of inhibitors of HuR multimerization is identified. N. FILIPPOVA*; J. A. CALANO; X. YANG; S. ANANTHAN; E. OFORI; P. VIBHA; L. B. NABORS. *Univ. of Alabama at Birmingham, Southern Res. Inst.*

3:00 C17 **557.19** ▲ Identifying small molecules that specifically inhibit glioma stem cells. S. E. LAYE; R. SPINA; A. SLOAN; D. M. VOSS; B. J. HOFFER*; E. E. BAR. *Hathaway Brown Sch., Case Western Reserve Univ., NIDA/ NIH.*

4:00 C18 **557.20** ▲ Identifying safe and effective pharmacologic agents for use with neural stem cell therapy in glioblastoma. M. KAUSS*; A. CALINESCU. *Univ. of Michigan.*

1:00 C19 **557.21** Lateral ventricle infiltrating glioblastoma disrupts the ventricular-subventricular zone neurogenic niche. E. S. NORTON*; C. DE LA ROSA PRIETO; S. JEANNERET; K. BELTRAN; N. ZARCO; M. A. LARA VELAZQUEZ; A. CARRANO; A. QUINONES-HINOJOSA; J. GARCIA-VERDUGO; H. GUERRERO CAZARES. *Mayo Clin., Univ. Castilla-La Mancha, The Univ. of Texas At Austin, Mayo Clin., UNAM, Univ. De Valencia.*

2:00 C20 **557.22** *In vivo* circadian rhythms in glioblastoma multiforme presents opportunities for chronotherapy and personalized medicine. A. R. DAMATO*; J. B. RUBIN; E. D. HERZOG. *Washington Univ. in St. Louis, Washington Univ. Sch. of Med.*

3:00 C21 **557.23** Treatment of glioblastoma using superparamagnetic iron oxide nanoparticles with modified surface. P. JENDELOVA*; Z. PLICHTA; D. MAREKOVA; K. TURNOVCOVA; D. HORAK. *Inst. of Exptl. Medicine, CAS, Inst. of Macromolecular Chem.*

4:00 C22 **557.24** Interactions between immune microenvironment, stem cells, and cell proliferation in pediatric embryonal central nervous system [CNS] tumors. K. T. SCHAFERNAK*; E. C. UTAGAWA; S. V. MEHTA; T. DI MODICA; E. J. MUFSON; S. E. PEREZ. *Phoenix Children's Hosp., Barrow Neurolog. Inst., Barrow Neurolog. Inst., Barrow Neurolog. Inst.*

1:00 C23 **557.25** Gliobalstoma invades by co-opting healthy astrocytes via gap junctional communication. S. MCCUTCHEON; D. C. SPRAY*. *Albert Einstein Col. Med.*

2:00 C24 **557.26** Xenotransplantation of human glioblastoma y neuroblastoma in zebrafish larvae: *In vivo* imaging and proliferation assessment. V. AKLE*; J. A. VENEGAS; M. A. FORERO-SHELTON; J. M. GONZALEZ. *Univ. de los Andes, Univ. de los Andes.*

3:00 C25 **557.27** Intratumoral modulation therapy enhances multi-modality treatment platforms for pediatric and adult high grade gliomas. A. DEWEYERT*; E. IREDALE; H. XU; E. WONG; S. SCHMID; M. HEBB. *Univ. of Western Ontario, Western Univ., London Hlth. Sci. Ctr.*

4:00 C26 **557.28** Predisposition for neoplasia in progenitors for horizontal and cone photoreceptor cells in the developing chicken retina. D. KONJUSHA*; M. BLIXT; M. HELLSAND; F. HALLBÖÖK. *Uppsala Univ.*

1:00 C27 **557.29** Generation of a porcine experimental model of spinal cord glioma. M. S. TORA*; P. TEXAKALIDIS; J. WETZEL; N. HARDCASTLE; T. FEDERICI; N. M. BOULIS. *Emory Univ. Sch. of Med.*

POSTER

558. Alzheimer's Disease: Neuroinflammation and Immune Actions

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 C28 **558.01** Sex-specific effects of maternal separation on cognition and LPS-induced accumulation of amyloid beta in adult C57BL6/J mice. J. L. PETERMAN*; J. D. WHITE; S. LOPEZ; M. JOHNSON; M. CHUMLEY; G. BOEHM. *Texas Christian Univ.*

2:00 C29 **558.02** ▲ Cystatin F derived from blood borne monocyte ameliorates cognitive impairment of APP/PS1 transgenic mice. K. ZHANG*; Y. CHEN; X. CHEN. *China Med. Univ.*

3:00 C30 **558.03** Effect of humanin on streptozotocin-induced cognitive deficit in mice. T. TANAKA; Y. KITA*; T. NIIKURA. *Sophia Univ., Alliance Protein Labs.*

4:00 C31 **558.04** Effects of docosahexaenoic acid and its peroxidation product on amyloid-β peptide-stimulated microglia. X. GENG*; B. YANG; R. LI; M. LADU; G. Y. SUN; C. GREENLIEF; J. C. LEE. *Univ. of Illinois at Chicago, Univ. of Missouri-Columbia, Univ. of Missouri-Columbia, Univ. of Illinois, Chicago.*

1:00 C32 **558.05** Neonatal infection leads to increased susceptibility to amyloid-βoligomer-induced brain inflammation, synapse loss and cognitive impairment in mice. P. S. FROST; R. T. DA SILVA; A. VENANCIO; I. MATIAS; N. LYRA E SILVA; G. KINCHESKI; P. M. PIMENTEL-COELHO; F. G. DE FELICE; F. C. A. GOMES; S. T. FERREIRA; C. P. FIGUEIREDO; J. R. CLARKE*. *Federal Univ. of Rio de Janeiro, Federal Univ. of Santa Catarina, Federal Univ. of Rio De Janeiro.*

2:00 C33 **558.06** Systemic long-term inflammation promotes spatial memory impairment. G. H. SCHIRMBECK*; C. F. DA RÉ; M. SEADY; F. FRÓES; S. G. SILVA; J. H. TADAY; C. S. GONÇALVES; M. C. LEITE. *Federal Univ. of Rio Grande Do Sul.*

3:00 C34 **558.07** Metabolic dysregulation induces early-onset Alzheimer's disease in a high-fat diet mouse model. M. JO*; R. ULLAH; M. KIM; B. P. F. RUTTEN; M. KIM*. *Gyeongsang Natl. Univ., Maastricht Univ. Med. Ctr.*

4:00 C35 **558.08** Human TREM2 gene dosage-mediated microglia reprogramming is impaired by the R47H variant *in vivo.* C. LEE*; A. DAGGETT; K. INOUYE; P. LANGFELDER; R. KAWAGUCHI; N. WANG; X. GU; G. COPPOLA; H. XU; X. W. YANG. *UCLA, UCLA, UCLA, UCLA, Sanford Burnham Prebys Med. Discovery Institutu.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 C36 **558.09** Tissue inhibitor of matrix metalloproteinase-1, a cytokine secreted rapidly from amyloid-β induced reactivated astrocytes, ameliorate disease pathology and cognitive impairments in models of Alzheimer's disease. S. SARKAR; P. SAHA; P. KUMAR; S. C. BISWAS*. *CSIR-Indian Inst. of Chem. Biol.*

2:00 C37 **558.10** The impact of high sucrose diet on the cortical pathogenesis and insulin sensitivity of APPswe/PS1dE9 mice. H. YAO*; P. KAO; L. CHEN; L. CHAO; H. TSAY. *Natl. Yang-Ming Univ.*

3:00 C38 **558.11** ▲ Elucidating the role of heat shock protein 27 in vascular cognitive impairment and dementia. A. E. WOOLUMS; B. R. PRICE; T. L. SUDDUTH*; C. A. DICKEY; D. M. WILCOCK. *Univ. of Kentucky, Univ. of Kentucky, Univ. of South Florida, Univ. of Kentucky.*

4:00 C39 **558.12** ▲ Time course of neuropathological events in hyperhomocysteinemic amyloid depositing mice. N. W. FIELDER; E. M. WEEKMAN*; T. L. SUDDUTH; B. R. PRICE; A. E. WOOLUMS; D. HAWTHORNE; C. E. SEAKS, IV; D. M. WILCOCK. *Unversity of Kentucky, Univ. of Kentucky.*

1:00 C40 **558.13** Central adiponectin prevents olfactory dysfunction induced by amyloid $\beta_{1\text{-}42}$. M. A. GUZMÁN-RUIZ*; E. ORTA- SALAZAR; A. HERRERA-GONZÁLEZ, Jr.; A. CANDELAS-JUÁREZ, Jr.; C. BERNAL-MONDRAGÓN, Jr.; S. DÍAZ-MIRANDA; R. GUEVARA-GUZMÁN. *Facultad de Medicina, UNAM, Neurobio. Inst., Neurobio. Inst.*

2:00 C41 **558.14** ● Stereological analysis of neurodegeneration and neuroinflammation in Tg4510 mice using manual and automatic stereology. R. H. PATEL*; S. S. ALAHMARI; D. B. GOLDGOF; H. A. PHOULADY; P. DAVE; L. O. HALL; P. R. MOUTON. *Univ. of South Florida, Univ. of Southern Maine, SRC Biosci.*

3:00 C42 **558.15** Age-related changes in basal forebrain microglial activation. B. L. SOMERA*; J. R. FADEL. *USC Sch. of Med.*

4:00 C43 **558.16** Nrf2 induced shift in APP/AB processing and autophagy dysfunction in APP_{swe}/PS1ΔE9mice. R. X. AVILES-REYES*; D. JOHNSON; J. A. JOHNSON. *Univ. of Wisconsin, Univ. of Wisconsin Madison.*

1:00 C44 **558.17** Expression of miRNA146 and regulation of neutrophil proinflammatory functions sheds new light on the pathogenesis of Alzheimer's disease. S. KIM*; S. KIM. *Bundang Hosp. of Seoul Natl. Univ., Seoul Natl. Univ. Bundang Hosp. & Seoul Natl. Univ. Col. of Med.*

2:00 C45 **558.18** Acute systemic LPS injections attenuate high-sucrose diet-induced neurodegenerative processes in estrous female wild-type mice. A. G. PACHOLKO*; L. K. BEKAR. *Univ. of Saskatchewan, Univ. of Saskatchewan.*

3:00 C46 **558.19** ▲ The role of IL-6 and glial response in neurotoxicity mediated by amyloid beta oligomers. D. TORAL-RIOS*; B. FLORAN-GARDUÑO; V. CAMPOS-PEÑA. *CENTRO DE INVESTIGACIÓN Y DE ESTUDIOS AVANZADOS, INSTITUTO NACIONAL DE NEUROLOGIA Y NEUROCIRUGIA.*

4:00 C47 **558.20** Role of triggering receptor expressed in myeloid cells 2 (TREM2) in aging. W. QU*; A. GRAM; L. LI. *Univ. of Minnesota, Univ. of Minnesota.*

1:00 C48 **558.21** Exploring adverse neuroinflammation for Alzheimer's disease through prostaglandin D2 signaling. C. H. WALLACE*; G. OLIVEROS; R. SHRESTHA; P. ROCKWELL; L. XIE; P. SERRANO; M. FIGUEIREDO-PEREIRA. *City Univ. of New York, Hunter Col., Grad. Ctr., City Univ. of New York, Hunter Col., City Univ. of New York, Hunter Col.*

2:00 C49 **558.22** ▲ Early life perturbation of the gut microbiome (short-term antibiotic) results in a sex-specific reduction of brain amyloidosis. H. B. DODIYA; J. XIA*; C. ZHANG; P. PATEL; X. ZHANG; M. J. SCHIPMA; R. E. TANZI; J. A. GILBERT; S. SISODIA. *The Univ. of Chicago, Massachusetts Gen Hosp, Harvard Med. Sch., Northwestern Univ., Univ. of California San Diego.*

3:00 C50 **558.23** The effect of Alzheimer's disease associated mutations in APP on the progression of colorectal cancer induced by AOM/DSS in a mouse model. M. SOHRABI*; C. COMBS. *Univ. of North Dakota.*

4:00 C51 **558.24** CSF1-R directed inhibition suppresses inflammation and plaque burden, but enhances neuritic dystrophy in a mouse model of Alzheimer's disease. B. CASALI*; E. G. REED-GEAGHAN; G. E. LANDRETH. *Indiana Univ., Case Western Reserve Univ., Indiana Univ. Sch. of Med.*

1:00 C52 **558.25** Mast cells and neuroinflammation in Alzheimer's disease pathogenesis. K. DURAISAMY*; G. SELVAKUMAR; M. E. AHMED; R. THANGAVEL; S. RAIKWAR; I. DUBOVA; K. PREMKUMAR; S. A. ZAHEER; S. IYER; A. ZAHEER. *Univ. of Missouri, Sch. of Med., Harry S. Truman Mem. Veterans Hosp.*

2:00 C53 **558.26** Down regulation of GMF inactivates NLRP3-inflammasome and improves neurobehavioural functions in 5XFAD mice. M. AHMED*; R. THANGAVEL; G. SELVAKUMAR; D. KEMPURAJ; I. DUBOVA; S. RAIKWAR; S. ZAHEER; S. IYER; A. ZAHEER. *Univ. of Missouri, Harry S. Truman Mem. Veterans Hosp.*

3:00 C54 **558.27** Alterations in free fatty acids and phospholipids in an APP knock-in mouse model for Alzheimer's disease. C. EMRE; B. JUN; P. NILSSON; N. G. BAZAN; M. SCHULTZBERG*. *Karolinska Institutet, Louisiana State Univ. Hlth. Sci. Ctr.*

4:00 C55 **558.28** Effect of repeated exposure at low ozone doses on the expression of inflammatory cytosines in hippocampi of rats. A. E. RODRÍGUEZ-MARTÍNEZ*; M. VALDÉS-FUENTES; A. MIRANDA-MARTÍNEZ; M. CRUZ-REYES; A. LÓPEZ-VALDEZ; E. HERNÁNDEZ-OROZCO; S. RIVAS-ARANCIBIA. *Univ. Nacional Autonoma de México, Tecnológico de Estudios Superiores de Huixquilucan.*

1:00 C56 **558.29** Examining alterations of $GABA_B$ receptors in hyperglycemia and Alzheimer's disease related pathology. A. A. ORTIZ*; A. M. SALAZAR; A. M. LEISGANG; A. PLATT; M. PEREZ; C. GUESE; J. W. KINNEY. *Univ. of Nevada Las Vegas.*

2:00 C57 **558.30** Upregulation of GMF and TREM2 expression in the amyloid plaques of 5XFAD mouse model of Alzheimer's disease. R. THANGAVEL*; M. E. AHMED; D. SAEED; K. WU; I. DUBOVA; S. A. SHAMIM; G. P. SELVAKUMAR; K. DURAISAMY; S. P. RAIKWAR; S. ZAHEER; S. S. IYER; A. ZAHEER. *Dept. of Neurology, Univ. of Missouri Sch. of Med., Harry S. Truman Mem. Veteran's Hosp.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

559. Synaptic Dysfunction in Alzheimer's Disease: *In Vitro* Models

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 C58 **559.01** Hyperactivity of hiPSC-glutamatergic neurons in response to $PM_{2.5}$ particles: A potential mechanism linking air pollution to increased incidence of Alzheimer's disease. K. L. GORDON*; C. HANDLEY; R. C. B. BASA; S. ANKAM; Y. HUANG; J. ZHENG; W. DING; J. H. PRICE; P. MCDONOUGH. *Vala Sci. Inc., Univ. of Nebraska Med. Ctr., Chinese Acad. of Sci., The Scintillon Inst.*

2:00 C59 **559.02** Ablation of $p75^{NTR}$ signaling strengthens interaction of gamma and theta rhythms and counteracts amyloid beta induced degradation of neuronal dynamics in mouse hippocampus *in vitro*. Y. ANDRADE-TALAVERA*; H. BALLEZA-TAPIA; P. DOLZ-GAITÓN; A. FISAHN. *Karolinska Institutet.*

3:00 C60 **559.03** ▲ Early network dysfunction in P301S tau transgenic neurons cultured on microelectrode arrays. R. B. MEEKER*; A. DOMBROSKI; T. DEMARSE; B. HARRIS. *Univ. of North Carolina at Chapel Hill.*

4:00 C61 **559.04** Exploring the impact of hyperphosphorylated tau on neuronal network connectivity. L. RIS*; P. VERSTRAELEN; G. GARCIA-DIAZ BARRIGA; A. VILLERS; B. LEROY; R. WATTIEZ; W. DE VOS; M. WAUTERS. *Univ. of Mons, Univ. of Antwerp.*

1:00 C62 **559.05** Molecular determinants regulating the instantaneous localization of amyloid precursor protein on plasma membrane. V. BELAPURKAR*; A. BABU; S. KEDIA; D. KUMARAN NAIR. *Indian Inst. of Sci., Cochin Univ. of Sci. and Technol., Indian Inst. of Sci.*

2:00 C63 **559.06** Neuroprotective effects of elephant black garlic extract against beta amyloid peptide toxicity on hippocampal slices. J. A. GAVILAN*; J. D. PANES; P. A. GODOY; T. B. SILVA-GRECCHI; G. B. SALGADO; N. MUÑOZ; O. RAMIREZ; P. VARAS; C. PEREZ; G. YEVENES; J. FUENTEALBA. *Univ. De Concepcion, Melimei Co., Univ. de Concepcion.*

3:00 C64 **559.07** Early sex differences in AMPA and NMDA receptor responses in 5xFAD. E. P. SACKINGER; T. VU; A. RADKE; F. NIGUSSIE; K. R. MAGNUSSON*. *Oregon State Univ.*

4:00 C65 **559.08** Exosomes from induced pluripotent stem cell-derived neurons of Alzheimer's patients modulate synaptic plasticity. S. LI*; A. GELB; M. CHEN; D. J. SELKOE; W. XIA. *Brigham and Women's Hosp., Geriatric Res. Educ. Clin. Center, Edith Nourse Rogers Mem. Veterans Hosp., Brigham and Women's Hospital, Harvard Med. School, Bedford VA Hospital, Boston Univ.*

1:00 C66 **559.09** Effects of amyloid beta on excitatory synaptic transmission in layer II of the entorhinal cortex. M. E. SUVANTO*; J. SARAGOSA; O. J. OLAJIDE; C. A. CHAPMAN. *Concordia Univ., Univ. of Ilorin.*

2:00 C67 **559.10** Accumulation of oligomeric Aβ within neurons, and Tau phosphorylation, are part of a homeostatic mechanism aimed at restoring temporarily impeded axonal transport. V. MURESAN*; Z. LADESCU MURESAN. *New Jersey Med. School, Rutgers Univ.*

3:00 C68 **559.11** Asymptotic long-term depression in aged Dp16 mice, a genetic model of 'Alzheimer's disease in Down syndrome'. A. V. BONDAR; M. Y. KHOTIMCHENKO; A. M. KLESCHEVNIKOV*. *Far Eastern Federal Univ., Univ. of California San Diego.*

4:00 C69 **559.12** Increased functional excitatory/inhibitory synaptic ratio in the parietal cortex of Alzheimer's disease but not Down syndrome. J. C. LAUTERBORN; P. SCADUTO; C. M. GALL; C. D. KEENE; A. LIMON*. *Julie Lauterborn, UTMB, Univ. of California, Univ. of Washington.*

1:00 C70 **559.13** Impaired degradation dynamics of synaptic vesicle machinery in APP KI mice. T. HARK; N. R. RAO*; E. BOMBA; J. N. SAVAS. *Northwestern Univ., Northwestern Univ.*

2:00 C71 **559.14** Optogenetic activation of somatostatin interneurons selectively restores hippocampal spike timing-dependent long-term potentiation impaired by Aβ oligomers. J. LEE*; K. PARK; H. JANG; B. A. RICHARDS; M. M. KOHL; J. KWAG. *Korea Univ., Korea Univ., Univ. of Toronto Scarborough, Univ. of Oxford.*

3:00 C72 **559.15** Optogenetic activation of parvalbumin-positive interneurons restores hippocampal theta-nested gamma oscillation impairment by Aβ oligomers. K. PARK*; J. LEE; M. M. KOHL; B. A. RICHARDS; J. KWAG. *Korea Univ., Korea Univ., Univ. of Oxford, Univ. of Toronto Scarborough.*

4:00 C73 **559.16** Interaction of Presenilin 1 with NMDA receptor: Effects of FAD mutants. C. DIMOVASILI*; M. A. RAHIM; A. GEORGAKOPOULOS; N. K. ROBAKIS. *Icahn Sch. of Med. at Mount Sinai.*

1:00 C74 **559.17** Assessment of microglia influence in synaptic transmission and early amyloid-beta plaque deposition in knock-in mouse models of Alzheimer's disease. D. P. BENITEZ*; C. N. E. PEERBOOM; D. M. CUMMINGS; F. A. EDWARDS. *Univ. Col. London, Utrecht Univ.*

2:00 C75 **559.18** Alterations in membrane excitability and synaptic properties of nucleus accumbens neurons in Alzheimer's disease mouse models. S. S. GALLEGOS*; E. J. FERNANDEZ; A. ARAYA; N. RIFFO; P. CISTERNAS; N. INESTROSA; B. MUÑOZ; B. K. ATWOOD; L. G. AGUAYO. *Univ. of Concepcion, Pontificia Univ. Católica de Chile, Indiana Univ. Sch. of Med.*

3:00 C76 **559.19** Local synaptic PKR activation is involved in amiloyd-beta oligomer induced synapse degeneration. N. W. MARTINEZ*; S. MATUS; I. ALFARO. *Fundación Ciencia y Vida.*

4:00 C77 **559.20** Modified mitochondrial function by histone deacetylase inhibitors in neuronal models of Alzheimer's disease. I. L. FERREIRA*; D. MARINHO; A. C. REGO. *Ctr. for Neurosci. and Cell Biol., Ctr. for Neurosci. and Cell Biol. and Fac. of Med.*

1:00 C78 **559.21** Investigating the role of CD2AP, an Alzheimer's disease susceptibility gene, in mammalian synaptic structure and function. M. PAVESKOVIC*; S. A. OJELADE; B. T. PEKAREK; B. R. ARENKIEL; J. M. SHULMAN. *Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med.*

2:00 C79 **559.22** Alzheimer's disease pathogenesis: The denied access model. S. XU*; W. DAUBERMAN. *Florida Inst. of Technol., Florida institute of Technol.*

3:00 C80 **559.23** ● The Alzheimer's disease risk gene BIN1 regulates neuronal hyperexcitability. Y. VOSKOBIYNYK*; J. ROTH; J. COCHRAN; T. RUSH; K. M. GREATHOUSE; N. CARULLO; L. L. MCMAHON; J. H. HERSKOWITZ; J. J. DAY; E. D. ROBERSON. *Univ. of Alabama at Birmingham.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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* Indicates abstract's submitting author

4:00 C81 **559.24** ● Tau-SH3 interactions are critical mediators of amyloid-β toxicity in primary neurons. J. R. ROTH*; T. J. RUSH; S. J. THOMPSON; A. R. ALDAHER; J. S. MESINA; J. COCHRAN; E. D. ROBERSON. *Univ. of Alabama at Birmingham.*

1:00 C82 **559.25** ● Hyperexcitability in Alzheimer's disease hiPSC derived neurons and cerebral organoids is a result of both increased excitation and decreased inhibition. S. GHATAK*; N. DOLATABADI; R. GAO; D. TRUDLER; Y. WU; X. ZHANG; A. SULTAN; M. V. TALANTOVA; R. AMBASUDHAN; B. VOYTEK; S. A. LIPTON. *The Scripps Res. Inst., Univ. of California San Diego Dept. of Cognitive Sci., Scintillon Inst., The Scripps Res. Inst.*

2:00 C83 **559.26** Membrane cholesterol homeostasis is regulated by amyloid precursor protein at axon terminals. Q. Z. ZHANG*; O. PELLETIER; S. ALAMGIR; H. HUANG; C. R. SANDERS. *Florida Atlantic Univ., The Brain Inst. at FAU, Vanderbilt Univ.*

3:00 C84 **559.27** The damage of astrocytes induced by fatty acids may contribute to diabetic encephalopathy. D. LI*; F. MA; S. SHI; X. WANG. *Chinese Acad. of Med. Sci., Inst. Materia Med.*

4:00 C85 **559.28** ● *In vitro* modelling of progressive tauopathy in neuronal circuits using a novel high throughput assay platform. S. ILLES*; A. KARLSSON; P. KARILA; J. PIHL; M. KARLSSON. *Cellectricon AB.*

POSTER

560. Alzheimer's Disease: Amyloid-Beta Toxicity

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 C86 **560.01** The neuroprotective actions of an active core sequence of amyloid beta on amyloid beta-induced neurotoxicity involves cellular prion protein. R. M. TAKETA*; R. A. NICHOLS. *Univ. of Hawaii.*

2:00 C87 **560.02** Modulation of voltage-gated calcium channels via protofibrillar amyloid-β. E. KAISIS*; L. THEI; G. STEPHENS; M. DALLAS. *Univ. of Reading.*

3:00 C88 **560.03** Modulation of protein synthesis' regulators by amyloid beta oligomers. F. CAMPOS RIBEIRO*; D. COZACHENCO FERREIRA; F. GUARINO DE FELICE; S. TEIXEIRA FERREIRA. *Federal Univ. of Rio De Janeiro.*

4:00 C89 **560.04** Synaptic failure and mitochondrial dysfunction are induced by direct interaction of soluble oligomers of beta amyloid with mitochondrial membranes. J. PANES-FERNÁNDEZ*; J. GAVILÁN; P. A. GODOY RIVERA; T. B. SILVA-GRECCHI; O. RAMÍREZ-MOLINA; N. MUNOZ-MOLINA; C. MUNOZ-MONTECINO; J. FUENTEALBA. *Univ. de Concepción.*

1:00 C90 **560.05** ●▲ GAL-101 prevents beta-amyloid induced membrane depolarization in two different types of retinal cells. C. G. PARSONS*; M. MAZZANTI; S. V. GORNATI; E. PIZZI; G. RAMMES. *Galimedix, Univ. di Milano, Erasmus MC, Univ. of Milan, Clin. Rechts der Isar.*

2:00 C91 **560.06** ▲ The injection of the beta amyloid peptide 25-35 in the fornix impairs learning, decreases the activity of acetylcholinesterase and changes the expression of Nrf2. L. G. SÁNCHEZ-ABDÓN*; G. MORALES-FLORES; I. MARTÍNEZ-GARCÍA; A. RAMÍREZ-MATA; A. PATRICIO-MARTINEZ; I. D. LIMÓN. *Benemérita Univ. Autónoma de Puebla, Benemérita Univ. Autónoma de Puebla, Benemérita Univ. Autónoma de Puebla, Benemérita Univ. Autónoma de Puebla.*

3:00 C92 **560.07** Association of aβ with astrocyte-derived and ceramide-enriched exosomes mediates aβ mitotoxicity in neurons which is prevented by novel ceramide analogs. A. ELSHERBINI*; H. QIN; Z. ZHU; S. KARKI; S. CRIVELLI; P. TRIPATHI; G. WANG; E. BIEBERICH. *Univ. of Kentucky.*

4:00 D1 **560.08** Comparison of salivary Aβ levels and oral microbiome in two different mouse models of AD. A. M. FLODEN*; M. SOHRABI; S. NOOKALA; G. D. MANOCHA; C. K. COMBS. *Univ. of North Dakota.*

1:00 D2 **560.09** Expression of P2X2 purinergic receptor in N2a differentiated cells, as a model to study amyloid beta related pathways. P. A. GODOY*; I. CUCHILLO-IBAÑEZ; D. MENNICKENT; O. RAMÍREZ-MOLINA; T. B. SILVA-GRECCHI; J. PANES-FERNÁNDEZ; J. GAVILÁN; J. SÁEZ-VALERO; J. FUENTEALBA. *Univ. De Concepción, Inst. de Nuerociencias de Alicante, Ctr. de Investigación Biomédica en Red sobre Enfermedades Neurodegenerativas (CIBERNED).*

2:00 D3 **560.10** Amyloid-beta dimers interfere with amyloid-beta plaque formation. E. VAN GERRESHEIM; A. HERRING; A. MÜLLER-SCHIFFMANN; K. KEYVANI; C. KORTH*. *Heinrich Heine Univ. Dusseldorf, Universitätsklinikum Essen.*

3:00 D4 **560.11** Sensitivity of the aging brain to amyloid beta oligomers increases with age. A. YEGANEH*; S. LOGAN; H. PORTER; D. OWEN; J. FARLEY; W. M. FREEMAN; W. E. SONNTAG. *The Univ. of Oklahoma Hlth. and Sci. Cen, Univ. of Oklahoma Hlth. Sci. Ctr., Oklahoma Univ. Hlth. Sci. Ctr., Univ. of Oklahoma HSC.*

4:00 D5 **560.12** Inhibition of polyamine synthesis decreases beta amyloid mediated apoptosis. A. SANDBERG*; A. JOHNSON; D. FUDGE; S. MELGAR; C. HICKS; D. PATTERSON; G. VACANO; M. MARGITTAI; H. WEISMILLER; S. HARVEY; L. HERNANDEZ; P. A. CAVIEDES; A. LEDREUX; Y. QIN; A. GRANHOLM; D. A. LINSEMAN; D. PAREDES. *Univ. of Denver, Univ. of Denver, Univ. of Denver, Univ. of Denver, Univ. of Denver, Univ. of Miami, ICBM Fac Medicine, Univ. of Chile, Ctr. for Biotech. & Bioengineering, Univ. of Denver.*

1:00 D6 **560.13** ● Role and regulation of E3 ubiquitin ligase itch in neuronal apoptosis. M. CHAUHAN*; P. K. MODI; P. SHARMA. *Natl. Inst. of Immunol.*

2:00 D7 **560.14** Increased cell cycle reporter activity is not associated with amyloid β-induced death of neurons. L. M. ITTNER*; S. IPPATI; Y. DENG; J. VAN DER HOVEN; Y. LIN; A. ITTNER; N. HAASS; Y. D. KE. *Macquarie Univ., San Raffaele Scientific Inst., Univ. of Queensland Diamantina Inst.*

3:00 D8 **560.15** Concentration of pyroglutamate Abeta42 in the frontal cortex of high-pathology elderly controls, mild cognitive impairment, and Alzheimer's disease. V. N. PIVTORAIKO; E. E. ABRAHAMSON; E. J. MUFSON; M. D. IKONOMOVIC*. *Univ. of Pittsburgh, Barrow Neurolog. Inst.*

Tues. PM

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4:00 D9 **560.16** Dendritic spine density in the frontal cortex of high-pathology elderly controls, mild cognitive impairment, and Alzheimer's disease. E. E. ABRAHAMSON*; Z. MI; M. A. KNAPP; K. N. FISH; R. A. SWEET; E. J. MUFSON; M. D. IKONOMOVIC. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Barrow Neurolog. Inst.*

1:00 DP03/D10 **560.17** (Dynamic Poster) Real time imaging using quantum dot nanoprobes revealed cell membrane protrusion-dependent amyloid β_{42} aggregation at peripheral region of PC12 cells. Y. CHIKAI; R. YAMASHITA; M. KURAGANO*; M. TAKAHASHI; K. TOKURAKU. *Muroran Inst. of Technol., Hokkaido Univ.*

2:00 D11 **560.18** ● Single walled carbon nanotube optical reporter for amyloid beta detection. M. ANTMAN- PASSIG*; A. S. AGUSTINUS; Z. CHEN; D. A. HELLER. *Mem. Sloan Kettering Cancer CTR, Weill Cornell Grad. Sch. of Med. Sci., Weill Cornell Grad. Sch. of Med. Sci.*

POSTER

561. Neurotoxicity, Inflammation, and Neuroprotection: Advances in Nanomedicine

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 D12 **561.01** Stress induced exacerbation of Alzheimer's disease brain pathology is thwarted by co-administration of nanowired cerebrolysin and amyloid beta peptide antibodies. H. S. SHARMA*; D. F. MURESANU; A. NOZARI; R. J. CASTELLANI; A. OZKIZILCIK; H. MOESSLER; J. V. LAFUENTE; R. TIAN; I. MANZHULO; A. SHARMA. *Uppsala Univ., The Foundation of the Society for the Study of NEU, Beth Israel Deaconess Med. Ctr., Univ. of Maryland Sch. of Med., Univ. of Arkansas, Ever NeuroPharma, Univ. of Basque Country, Univ. of Aekansas Fayetteville, Natl. Scientific Ctr. of Marine Biology, Far Eastern Branch, Russian Acad. of Sciences, Sch. of Biomedicine, Far Eastern Federal Univ.*

2:00 D13 **561.02** ▲ Nanodelivery of antioxidant H-290/51 with select neurotrophic factors cerebrolysin thwarted chronic nicotine exposure induced exacerbation of Alzheimer's disease brain pathology. S. SHARMA*; A. SHARMA; A. OZKIZILCIK; P. K. MENON; R. PATNAIK; A. NOZARI; H. MOESSLER; R. J. CASTELLANI; D. F. MURESANU; J. V. LAFUENTE; R. TIAN; H. S. SHARMA. *Blekinge Inst. of Technol., Uppsala Univ., Univ. of Arkansas, Banaras Hindu Univ., Indian Inst. of Technology,Banaras Hindu Univ., Beth Israel Deaconess Med. Ctr., Ever NeuroPharma, Univ. of Maryland Med. Sch., The Fndn. of the Society for the Study of NEU, Univ. of Basque Country, Univ. of Arkansas Fayetteville.*

3:00 D14 **561.03** Co-administration of DL-3-n-butylphthalide and neprilysin is neuroprotective in Alzheimer's disease. F. NIU*; A. SHARMA; L. FENG; D. F. MURESANU; J. V. LAFUENTE; A. NOZARI; A. OZKIZILCIK; R. TIAN; H. S. SHARMA. *CSPC Zhongnuo Pharmaceut. Shijiazhuang Co Ltd, Uppsala Univ., Bethune Peace Intl. Hosp., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Basque Country, Beth Israel Deaconess Med. Ctr., Univ. of Arkansas, Univ. of Arkansas Fayetteville, Uppsala Univ.*

4:00 D15 **561.04** Pathophysiology of sleep deprivation enhances amyloid beta peptide and p-tau in the CSF and brain. Neuroprotective effects of nanowired delivery of multomodal drug cerebrolysin. A. SHARMA*; D. F. MURESANU; A. OZKIZILCIK; J. V. LAFUENTE; A. NOZARI; H. MOESSLER; L. FENG; R. TIAN; R. J. CASTELLANI; H. S. SHARMA. *Uppsala Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Arkansas, Univ. of Basque Country, Beth Israel Deaconess Med. Ctr., Ever NeuroPharma, Bethune Intl. Peace Hosp., Univ. of Arkansas Fayetteville, Univ. of Mariland Med. Sch., Uppsala Univ.*

1:00 D16 **561.05** ▲ Sleep deprivation induced exacerbation of Parkinson's disease pathophysiology is attenuated by co-administration of nanowired cerbrolysin and serotonin-3 receptor antagonist ondansetron. A. OZKIZILCIK*; A. SHARMA; A. NOZARI; H. MOESSLER; D. F. MURESANU; J. V. LAFUENTE; R. J. CASTELLANI; R. TIAN; R. PATNAIK; P. K. MENON; H. S. SHARMA. *Univ. of Arkansas, Uppsala Univ., Beth Israel Deaconess Med. Ctr., Ever NeuroPharma, The Fndn. of The Society for The Study of NEU, Univ. of Basque Country, Univ. of Maryland Med. Sch., Univ. of Arkansas Fayetteville, Indian Inst. of Technology,Banaras Hindu Univ., Banaras Hindu Univ.*

2:00 D17 **561.06** Nanodelivery of neuronal nitric oxide synthase antibodies with cerebrolysin thwarted methamphetamine induced aggravation of brain pathology in Parkinson's disease. J. V. LAFUENTE*; A. SHARMA; H. MOESSLER; A. NOZARI; D. F. MURESANU; R. PATNAIK; P. K. MENON; R. J. CASTELLANI; A. OZKIZILCIK; R. TIAN; H. S. SHARMA. *Univ. of Basque Country, Uppsala Univ., Ever NeuroPharma, Beth Israel Deaconess Med. Ctr., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Indian Inst. of Technology,Banaras Hindu Univ., Banaras Hindu Univ., Univ. of Maryland Med. Sch., Univ. of Arkansas, Univ. of Arkansas Fayetteville.*

3:00 D18 **561.07** ▲ Nanowired delivery of cerebrolysin with antioxidant methylene blue induces superior neuroprotection following ischemia-reperfusion injury in experimental cardiac arrest. A. K. PANDEY*; A. SHARMA; D. F. MURESANU; H. MOESSLER; J. V. LAFUENTE; A. NOZARI; A. OZKIZILCIK; R. TIAN; R. PATNAIK; R. J. CASTELLANI; H. S. SHARMA. *Indian Inst. of Technology, Banaras Hindu Univ., Uppsala Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Ever NeuroPharma, Univ. of Basque Country, Beth Israel Deaconess Med. Ctr., Univ. of Arkansas, Univ. of Arkansas Fayetteville, Indian Inst. of Technology,Banaras Hindu Univ., Univ. of Maryland Med. Sch.*

4:00 D19 **561.08** ▲ Spinal cord injury induced exacerbation of Alzheimer's disease pathophysiology in rhe cord is reduced by topical application of nanowired cerebrolysin and antibodies to tumor necrosis factor alpha. P. K. MENON*; A. SHARMA; A. NOZARI; R. J. CASTELLANI; D. F. MURESANU; R. PATNAIK; J. V. LAFUENTE; A. OZKIZILCIK; R. TIAN; H. MOESSLER; H. S. SHARMA. *Banaras Hindu University, Indian Instituteb of technology, Uppsala Univ., Beth Israel Deaconess Med. Ctr., Univ. of Maryland Med. Sch., The Fndn. of the Society for the Study of NEU, Indian Inst. of Technology,Banaras Hindu Univ., Univ. of Basque Country, Univ. of Arkansas, Univ. of Arkansas Fayetteville, Ever NeuroPharma, Uppsala Univ. Hosp.*

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* Indicates abstract's submitting author

1:00 D20 **561.09** Engineered nanoparticles from metals aggravate brain pathology following traumatic brain injury is reduced by nanodelivery of antibodies to dynorphin A (1-17) with a multimodal drug cerebrolysin. A. NOZARI*; A. SHARMA; H. MOESSLER; R. PATNAIK; P. K. MENON; D. F. MURESANU; R. J. CASTELLANI; R. TIAN; A. OZKIZILCIK; J. V. LAFUENTE; H. S. SHARMA. *Beth Israel Deaconess Med. Ctr., Uppsala Univ., Ever NeuroPharma, Indian Inst. of Technology,Banaras Hindu Univ., Banaras Hindu Univ., The Fndn. of the Society for the Study of NEU, Univ. of Maryland Med. Sch., Univ. of Arkansas Fayetteville, Univ. of Arkansas, Univ. of Basque Country, Uppsala Univ.*

2:00 D21 **561.10** Prior heat exposure exacerbates brain blast injury-neuroprotection by nanodelivery of cerebrolysin with serotonin 6 receptor antagonist SB-399885. D. F. MURESANU*; A. SHARMA; A. OZKIZILCIK; A. NOZARI; I. MANZHULO; J. V. LAFUENTE; R. TIAN; R. J. CASTELLANI; H. MOESSLER; H. S. SHARMA. *The Fndn. of the Society for the Study of NEU, RoNeuro" Inst. for Neurolog. Res. and Diagnos., Uppsala Univ. Hosp., Univ. of Arkansas, Beth Israel Deaconess Med. Ctr., Natl. Scientific Ctr. of Marine Biol., Sch. of Biomedicine, Far Eastern Federal University, Univ. of Basque Country, Univ. of Arkansas Fayetteville, Univ. of Maryland Med. Sch., EverNeuro Pharma, Uppsala Univ.*

3:00 D22 **561.11** Nanodelivery of histamine H3 receptor inverse agonist BF-2549 with clobenpropit a H3 receptor antagonist and H4 receptor agonist induced neuroprotection in spinal cord injury is potentiated by antioxidant compound H-290/51. R. PATNAIK*; A. SHARMA; P. SJOQUST; D. F. MURESANU; A. NOZARI; R. J. CASTELLANI; P. K. MENON; R. TIAN; A. OZKIZILCIK; H. S. SHARMA. *Indian Inst. of Technology,Banaras Hindu Univ., Uppsala Univ., Astra Zaneca, The Fndn. of the Society for the Study of NEU, Beth Israel Deaconess Med. Ctr., Univ. of Maryland Med. Chool, Banaras Hindu Univ., Univ. of Arkansas Fayetteville, Univ. of Arkansas.*

4:00 D23 **561.12** Nanowired delivery of dl-3-n-butylphthalide with antibodies to alpha synuclein potentiated neuroprotection in Parkinson's disease. L. FENG*; A. SHARMA; F. NIU; D. F. MURESANU; A. NOZARI; J. V. LAFUENTE; A. OZKIZILCIK; R. TIAN; R. J. CASTELLANI; H. S. SHARMA. *Bethune Intl. Peace Hosp., Uppsala Univ. Hosp., CSPC Zhongnuo Pharmaceut. Shijiazhuang Co Ltd, The Fndn. of the Society for the Study of NEU, Beth Israel Deaconess Med. Ctr., Univ. of Basque Country, Univ. of Arkansas, Univ. of Arkansas Fayetteville, Univ. of Marymand Med. Sch., Uppsala Univ.*

POSTER

562. Alzheimer's Disease: Tau Biochemistry and Physiology

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 D24 **562.01** Hyperphosphorylated tau aggregation as a platform for Alzheimer's disease therapeutics and risk factors identification. M. KUO*; M. LIU; S. HOVDE; D. SUI. *Michigan State Univ.*

2:00 D25 **562.02** Alzheimer's disease-like tau toxicity is enhanced by its nuclear localization. R. CANDIA; A. ALONSO*. *The Col. of Staten Island, Col. of Staten Island, CUNY.*

3:00 D26 **562.03** ▲ Key sequences within isoforms of human tau protein drive aggregation in Alzheimer's and related tauopathies. S. S. MADHAVAN*; S. P. LAD; D. T. DOUGHARTY; M. MARCUS; F. HENDERSON; L. WU; B. XU. *Virginia Tech.*

4:00 D27 **562.04** An Alzheimer's disease-related mutation in MARK4 promotes tau accumulation and exacerbates tau-induced neurodegeneration in a *drosophila* model of tau toxicity. T. OBA*; T. SAITO; A. ASADA; K. M. IIJIMA; K. ANDO. *Tokyo Metropolitan Univ., Dept. of Alzheimer's Dis. Research, Natl. Ctr. for Geriatrics and Gerontology.*

1:00 D28 **562.05** Photooxygenation inhibits tau amyloid formation. Y. HORI*; T. SUZUKI; T. SAWAZAKI; Y. SHIMIZU; Y. NEMOTO; A. TANIGUCHI; S. OZAWA; Y. SOHMA; M. KANAI; T. TOMITA. *Grad. Sch. Pharm. Sci., The Univ. of Tokyo, Grad. Sch. Pharm. Sci., The Univ. of Tokyo, Sch. Pharm., Tokyo Univ. of Pharm. and Life Sci.*

2:00 D29 **562.06** Tau propagation is dependent on the genetic background in multiple mouse strains. S. DUJARDIN*; M. B. DE LOS SANTOS; R. N. BANNON; C. COMMINS; T. V. KAMATH; B. T. HYMAN. *Massachusetts Gen. Hospital, Harvard Med. Sc, Massachusetts Gen. Hosp., Massachusetts Gen. Hospital, Harvard Med. Sch.*

3:00 D30 **562.07** Role of extracellular vesicles in HSV-1-driven brain damage. V. PROTTO*; O. KOLESOVA; L. PILENZI; G. NAPOLETANI; M. L. POTENZA; R. PIACENTINI; C. GRASSI; M. E. MARCOCCI; A. T. PALAMARA; G. DE CHIARA. *Natl. Res. Council of Italy, Sapienza Univ. of Rome, Inst. of Human Physiology, Univ. Cattolica, Fondazione Policlinico Universitario A. Gemelli IRCCS, San Raffaele Pisana, IRCCS, Telematic Univ.*

4:00 D31 **562.08** The role of annealing and fragmentation in human tau aggregation dynamics. C. J. HUSEBY; R. BUNDSCHUH; J. KURET*. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*

1:00 D32 **562.09** Quantification of lysine methylation on tau protein in aging and Alzheimer's disease. C. J. HUSEBY*; C. N. HOFFMAN; J. COCURON; A. P. ALONSO; J. KURET. *Ohio State University, Wexner Med. Ctr., Ohio State Univ., Univ. of North Texas, Ohio State Univ.*

2:00 D33 **562.10** Identifying unique sites of tau phosphorylation during hyperexcitation. A. K. SCHNEEWEIS*; J. MA; E. ANDRE; W. ZHU; D. PAK. *Georgetown Univ., Georgetown Univ., Georgetown Univ.*

3:00 D34 **562.11** ● Development of new ultra sensitive assays to quantify tau aggregation and pathological tau conformation using digital immunoassay technology. A. FRANCOIS*; G. DAS DORES; F. IOP; R. BILLIRAS; V. PASTEAU; F. PANAYI; R. JEGGO. *Servier Res. Inst.*

4:00 D35 **562.12** The dynamics of MAPT liquid-liquid phase separation are regulated by RNA binding proteins. P. E. ASH; S. LEI; S. BOUDEAU; L. JIANG; L. AL-MOHANNA; M. KNOBEL; N. M. KANAAN; B. L. WOLOZIN*. *Boston Univ. Sch. of Med., Michigan State Univ., Boston Univ. Sch. of Med.*

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* Indicates abstract's submitting author

POSTER

563. Alzheimer's Disease and Related Disorders: Preclinical Models

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 D36 **563.01** Neuroprotective effects of cannabinoid ligands in a model of early Alzheimer pathogenesis. E. BOESCH*; T. B. DEMARSE; B. HARRIS; A. DOMBROSKI; A. SUCHY; A. AMIN; R. B. MEEKER. *UNC Eshelman Sch. of Pharm., Univ. of North Carolina, Univ. of North Carolina at Chapel Hill.*

2:00 D37 **563.02** Regulatory effect of resveratrol on neuronal apoptosis in Alzheimer's disease. X. WANG*; F. JIAO; Q. ZHAO; S. ZHANG; Y. ZHANG; Y. ZAI; Y. WU. *Jining Med. Univ., Jining Med. Univ., Jining Med. Univ.*

3:00 D38 **563.03** The interaction between fructose and DHA consumption on Alzheimer's disease (AD) pathogenesis. V. PALAFOX-SANCHEZ*; Z. YING; X. YANG; F. GOMEZ-PINILLA. *UCLA, UCLA Brain Injury Res. Ctr.*

4:00 D39 **563.04** ▲ Therapeutics to target amyloid beta and tau in fibroblasts from a familial Alzheimer's disease patient: Relevance to drug repurposing. J. SEPULVEDA*; E. FELDMAN; L. XIE; P. ROCKWELL; P. A. SERRANO; M. E. FIGUEIREDO-PEREIRA. *Hunter Col., Hunter Col., Hunter Col.*

1:00 D40 **563.05** ● Disease model for progranulin-linked frontotemporal dementia using patient and engineered stem cells. J. TERRYN*; F. NAMI; M. GAJJAR; W. DECRAENE; L. ORDOVAS VIDAL; S. RAITANO; P. VAN DAMME; C. VERFAILLIE. *KU Leuven, Neurol. Department, UZ Leuven.*

2:00 D41 **563.06** Novel NAMPT activators attenuate neurotoxicity and neuroinflammation associated with neurodegeneration. J. GORDON-BLAKE*; K. RATIA; B. KARUMUDI; K. DYE; R. C. KNOPP; M. BEN AISSA; K. TAM; G. THATCHER. *Univ. of Illinois at Chicago.*

3:00 D42 **563.07** Glia maturation factor knockdown and gene editing attenuates microglial activation. S. P. RAIKWAR*; G. P. SELVAKUMAR; M. E. AHMED; I. DUBOVA; R. THANGAVEL; K. DURAISAMY; S. ZAHEER; S. IYER; A. ZAHEER. *Univ. of Missouri-Columbia, Sch. of Med., Harry S. Truman Mem. Veterans' Hosp.*

4:00 D43 **563.08** ● Triple therapy with masupirdine (SUVN-502), donepezil and memantine in moderate Alzheimer's disease: Topline results of phase-2a study. R. V. NIROGI*; J. RAVULA; S. JETTA; V. GOYAL; S. PANDEY; G. BHYRAPUNENI; P. JAYARAJAN; A. SHINDE; K. MUDIGONDA; V. JASTI. *Suven Life Sci.*

1:00 D44 **563.09** ● Triple therapy with masupirdine (SUVN-502), donepezil and memantine in moderate Alzheimer's disease: Baseline patient characteristics in phase-2a study. R. NIROGI; J. RAVULA; S. JETTA; V. GOYAL; S. PANDEY; G. BHYRAPUNENI; P. JAYARAJAN*; A. SHINDE; K. MUDIGONDA; V. JASTI. *Suven Life Sci. Ltd.*

2:00 D45 **563.10** The effect of clinical vestibular repeating stimulation on Alzheimer's disease by air caloric device. K. NAKAMAGOE*; S. YAMADA; R. KAWAKAMI; T. KOGANEZAWA; A. TAMAOKA. *Dept. of Neurology, Div. of Clin. Medicine, Fac. of Medicine, Univ. of Tsukuba, Dept. of Physiology, Div. of Biomed. Science, Fac. of Medicine, Univ. of Tsukuba.*

3:00 D46 **563.11** ● Repetitive transcranial magnetic stimulation as an emerging treatment of cognitive dysfunction in Alzheimer's disease. M. W. MCNERNEY*; J. CHENG; A. NODA; B. HERNANDEZ; L. SHERE; J. YESAVAGE. *VA, Stanford Univ. Sch. of Med.*

4:00 E1 **563.12** A possible role of Palmitoylethanolamide combined with Luteoline in Frontotemporal Dementia treatment: A clinical and neurophysiological study. M. ASSOGNA*; E. CASULA; C. MOTTA; S. BONNÌ; I. BORGHI; F. DI LORENZO; M. MINEI; A. MARTORANA; G. KOCH. *Univ. of Rome Tor Vergata, Santa Lucia Fndn.*

1:00 E2 **563.13** Role of Akt2 in activity dependent protein translation in Alzheimer's disease pathology. V. RAVINDRANATH*; R. D. GOWAIKAR. *Indian Inst. of Sci., Indian Inst. of Sci.*

2:00 E3 **563.14** Sex specific differences in synaptic dysfunction and behavioral deficit in Alzheimer's disease mouse model. R. KOMMADDI*; K. CHITHANATHAN; R. D. GOWAIKAR; S. KARUNAKARAN; V. RAVINDRANATH. *Indian Inst. of Sci., Indian Inst. of Sci.*

3:00 E4 **563.15** Cortical synaptic transcriptomic profile of a mouse model of Alzheimer's disease. R. D. GOWAIKAR*; A. VERMA; V. RAVINDRANATH. *Indian Inst. of Sci., Indian Inst. of Sci., Indian Inst. of Sci.*

4:00 E5 **563.16** Transcriptomic profiling in young AD transgenic (APPswe/PS1ΔE9) mice reveals a novel candidate gene. A. VERMA; :. V. RUPANAGUDI; A. RAMACHANDRAN*; V. RAVINDRANATH. *Indian Inst. of Sci., Ctr. for Brain Res., Indian Inst. of Sci., Indian Inst. of Sci.*

1:00 E6 **563.17** Aging is associated with risk-averse decision making in fischer 344 x Brown Norway F1 hybrid rats. R. J. DRAGONE*; C. A. ORSINI; M. POMPILUS; A. WHEELER; M. FEBO; B. SETLOW; J. L. BIZON. *Univ. of Florida, Univ. of Florida, Univ. of Florida McKnight Brain Inst.*

2:00 E7 **563.18** Age-related decreases in CA3-CA1 ripple coordination. N. M. DICOLA*; A. L. LACY; O. J. BISHR; K. M. KIMSEY; K. DIBA; S. N. BURKE; A. P. MAURER. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Michigan.*

3:00 E8 **563.19** Neuropathological outcomes in a mouse model of amyloid beta and tau. E. J. KOLLER*; K. R. IBANEZ; E. GONZALEZ DE LA CRUZ; T. A. MACHULA; D. RYU; C. JANUS; B. I. GIASSON; D. R. BORCHELT; P. CHAKRABARTY. *Univ. of Florida.*

4:00 E9 **563.20** Progranulin deficiency causes structural abnormalities in the periphery of knockout mice. A. WALKER*; S. RAYAPROLU; J. GASS; J. HOWARD; L. JAMES; C. DUFFY; J. M. LEWIS. *Univ. of Florida, UF Col. of Med., Mayo Clin., Univ. of Florida, Univ. of Florida.*

1:00 E10 **563.21** Mediation of periventricular white matter hyperintensity burden, cognition, depression, and quality of life in older adults with amnestic mild cognitive impairment. B. DEFEIS*; J. TANNER; D. O'SHEA; L. DE WIT; A. MEJIA; P. AMOFA; S. MAYEWKSI; M. CHANDLER; G. SMITH. *Univ. of Florida, Tallahassee Mem. HealthCare, Mayo Clin.*

2:00 E11 **563.22** Investigating the neuroprotective mechanisms of the presubiculum in a knock-in App mouse model of Alzheimer's disease. J. SHI*; A. B. ALI*. *Univ. Col. London.*

3:00 E12 **563.23** Alpha5 subunit-containing $GABA_A$ receptors are preserved on resilient calretinin interneurons in the AppNL-F/NL-F mouse model of Alzheimer's disease. A. L. PETRACHE*; A. B. ALI. *Univ. Col. London.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 E13 **563.24** Maternal choline supplementation ameliorates Alzheimer's disease pathology by reducing brain homocysteine levels across multiple generations. R. VELAZQUEZ*, Jr; E. FERREIRA; W. WINSLOW; I. S. PIRAS; N. DAVE; M. NAYMIK; M. J. HUENTELMAN; A. TRAN; S. ODDO. *Biodesign Inst. At Arizona State Univ., Translational Genomics Res. Inst., Arizona State Univ.*

1:00 E14 **563.25** Adenosine augmentation evoked by an ENT1 inhibitor ameliorates the dysregulated protein phosphorylation and impaired neuronal plasticity in a mouse model of tauopathy. Y. CHERN*; C. CHANG; Y. CHANG; S. CHENG; D. BLUM; L. BUEE; H. CHEN. *Inst. Biomed Sci., Academia Sinica, IBMS, Academia Sinica, Neurosci. Program In Academia Sinica, NPAS, Inserm, Inserm.*

2:00 E15 **563.26** Utilization of γ-secretase trimming activity for proper evaluation of Aβ targeting compounds. S. TAGAMI*; K. YANAGIDA; M. IKEDA; T. KUDO; M. OKOCHI. *Osaka Univ. Grad. Sch. of Med., Osaka Univ. Grad. Sch. of Med.*

3:00 E16 **563.27** Lim kinase inhibition provides dendritic spine resilience against amyloid-β. J. H. HERSKOWITZ*; B. HENDERSON; K. M. GREATHOUSE; R. RAMDAS; T. RAO; S. BACH; C. WALKER; K. CURTIS; J. DAY; A. MATTHEYSES. *The Univ. of Alabama At Birmingham.*

4:00 E17 **563.28** Synergistic analysis of dendritic spine morphology and the synaptic proteome in human entorhinal cortex uncovers mechanisms of synapse loss in Alzheimer's disease. C. K. WALKER*; B. D. BOROS; K. M. GREATHOUSE; E. B. DAMMER; K. A. CURTIS; H. M. MUHAMMAD; R. RAMDAS; I. CHAUDHARY; D. M. DUONG; N. T. SEYFRIED; J. H. HERSKOWITZ. *Univ. of Alabama At Birmingham, Emory Univ., Emory Sch. Med.*

1:00 E18 **563.29** My active and healthy ageing (My-AHA), an ICT-based project for risk detection and prevention. A. E. VERCELLI*; I. RAINERO; G. AUMAYR; M. SUMMERS. *Neurosci. Inst. Cavalieri Ottolenghi, Univ. of Torino, Johanniter Austria, Univ. of the Sunshine Coast.*

2:00 E19 **563.30** Neuroprotective effects of a novel lipoic acid-dl-3-n-butylphthalide hybrid. K. UPPAKARA*; S. B. WAN; W. SAENGSAWANG. *Fac. of Sci. Mahidol Univ., Ocean Univ. of China, Fac. of Sci. Mahidol Univ.*

POSTER

564. Alzheimer's Disease and Other Dementias: Therapeutic Strategies III

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 E20 **564.01** ● Therapeutic effects of human LDLR overexpression on ApoE-related tau pathology and brain dysfunction. C. WANG*; A. LI; S. NATHAN; R. SPELLMAN; M. MANIS; M. FINN; Y. SHI; M. XIONG; J. REMOLINA SERRANO; P. SULLIVAN; D. HOLTZMAN. *Washington Univ. In St. Louis, Duke Univ.*

2:00 E21 **564.02** ● Synaptic tau targeted immunotherapy for Alzheimer's disease. C. TAI*; H. MA; S. HUANG; C. LI; M. WU; C. WU; S. LIN; M. JANG. *APRINOIA Therapeut. Inc.*

3:00 E22 **564.03** Neuroprotective effects of peripherally-administered irisin in a tauopathy model of Alzheimer's. K. A. BRETLAND*; L. LIN; K. M. BRETLAND; C. M. DENGLER-CRISH. *Northeast Ohio Med. Univ., Kent State Univ.*

4:00 E23 **564.04** FNDC5/irisin links physical exercise to neuroprotection in mouse models of Alzheimer's disease. M. V. LOURENCO*; O. ARANCIO; S. T. FERREIRA; F. G. DE FELICE. *Fed Univ. of Rio De Janeiro, Columbia Univ., Fed. Univ. Rio de Janeiro, Fed Univ. Rio De Janeiro.*

1:00 E24 **564.05** Dose-dependent neurochemical, molecular, and behavioral effects of intranasal insulin. J. M. ERICHSEN*; J. L. WOODRUFF; C. A. GRILLO; L. P. REAGAN; J. R. FADEL. *Univ. of South Carolina Sch. of Med., WJB Dorn VA Med. Ctr.*

2:00 E25 **564.06** Insulin sensitizers and the risk of incident dementia: A meta-analysis using real-world evidence. M. HUSSAIN*; A. HABIB; A. NAJMI. *Jamia Hamdard, Jamia Hamdard, Jamia Hamdard.*

3:00 E26 **564.07** A novel Cdk5 inhibitory peptide attenuates pathological features in human and mouse models of Alzheimer's disease. O. KRITSKIY*; J. SEO; L. TSAI. *MIT, MIT, The Picower Inst. for Learning and Memory, MIT.*

4:00 E27 **564.08** The HDL mimetic peptide 4F mitigates cerebral amyloid angiopathy in transgenic APPswDI mice. R. ZHONG*; D. S. CHERNICK; D. A. HOTTMAN; L. LI. *Univ. of Minnesota, Univ. of Minnesota.*

1:00 E28 **564.09** LC1405 prevents beta-amyloid peptide-induced toxicity by regulating histamine H3 receptor signaling pathway. R. LIU*; L. WANG; H. JIANG; Q. WANG. *Inst. of Medicinal Biotech., Inst. of Medicinal Biotech. Chinese Acade.*

2:00 E29 **564.10** ● Soluble TNF mediates obesogenic diet-induced alterations in peripheral and brain immunophenotype in a mouse model of Alzheimer's disease. M. G. T. TANSEY*; K. P. MACPHERSON; L. N. EIDSON; M. K. HERRICK; M. DE SOUSA RODRIGUES; L. SNIFFEN; S. D. KELLY; A. M. HAMILTON; D. L. OLIVER; Y. YANG; J. CHANG. *Emory Univ. Sch. of Med., Indiana Univ. Sch. of Med., Emory Univ., Emory Univ.*

3:00 E30 **564.11** Suppression of ATAD3A aberrant activation attenuates neuropathology and cognitive deficits in experimental models of Alzheimer's disease. Y. ZHAO*; X. SUN; X. QI. *Case Western Reserve Univ. Sch. of Med.*

4:00 E31 **564.12** A rationally designed peptide based on the ɣ-secretase cleavage product of ephrinB2 promotes angiogenesis *in vitro.* S. Z. VANCE*; Y. YOON; N. WARREN; N. K. ROBAKIS; A. GEORGAKOPOULOS. *Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med., Icahn Sch. of Med., Icahn Sch. of Med. at Mount Sinai.*

1:00 E32 **564.13** A new unbeneficial myokine secreted from atrophied skeletal muscle accelerates the onset of Alzheimer's disease. T. NAGASE; C. TOHDA. *Inst. of Natural Medicine, Univ. of Toyama.*

2:00 E33 **564.14** ● Clathrin nanoparticles efficiently deliver brain-derived neurotrophic factor to the hippocampus, reverse oxidative stress and enhance synaptogenesis and memory in Alzheimer's mouse model. G. VITALIANO*; C. ADAM; G. ZEBALLOS; X. CHEN; F. DU; F. VITALIANO. *McLean Hosp., ExQor Technologies.*

3:00 E34 **564.15** *In vivo* methods for characterizing visual system pathology in Alzheimer's mouse models. G. FRAME*; E. S. PLYLER; C. M. DENGLER-CRISH. *Northeast Ohio Med. Univ., Northeast Ohio Med. Univ. (NEOMED).*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

565. Animal Models of Huntington's Disease

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 E35 **565.01** A novel MSD ELISA-based assay for the selective detection and quantitation of rodent HTT protein. S. DIJKSTRA*; A. C. P. CORREIA; J. SUIJKER; N. A. NGAI; P. NAUD; M. POIRIER; D. F. FISCHER; D. MACDONALD. *Charles River, CHDI Management, Inc.*

2:00 E36 **565.02** Hippocampal ultrastructural alterations accompany cognitive and affective deficits in the YAC128 mouse model of Huntington's disease. P. S. BROCARDO*; C. DE PAULA NASCIMENTO-CASTRO; E. PLÁCIDO; E. C. WINKELMANN- DUARTE; A. L. S. RODRIGUES; J. GIL-MOHAPEL. *Federal Univ. of Santa Catarina, Federal Univ. of Santa Catarina, Federal Univ. of Santa Catarina, Univ. of Victoria.*

3:00 E37 **565.03** Abnormal basal ganglia activity in the Q175 knock-in mouse model of Huntington's disease. J. W. CALLAHAN*; M. D. BEVAN. *Northwestern Univ.*

4:00 E38 **565.04** Progressive basal ganglia pathology in male heterozygous q175 knock-in Huntington's disease mice. Y. DENG; H. WANG; M. JONI; A. REINER*. *Univ. of Tennessee Hlth. Sci. Ctr.*

1:00 E39 **565.05** Characterization of Htt-Q130-LEH, a novel heterozygous knock-in rat model of Huntington's disease. T. HEIKKINEN*; T. BRAGGE; S. KOPONEN; T. PARKKARI; G. TOMBAUGH; S. GELMAN; S. ZHONG; L. DEVI; A. GHAVAMI; K. CIRILLO; A. BARRE; F. GACKIERE; D. GUIMOND; S. ZAPETTINI; B. SAVA; P. CHAUSSON; E. STEIDL; B. BUISSON; K. KUHLBRODT; A. KAKOULIDOU; S. JOBUSCH; K. TILLACK; A. GAERTNER; E. VAN DER KAM; R. Z. CHEN; D. HOWLAND; I. MUNOZ-SANJUAN; R. CACHOPE; J. ROSINSKI; V. BEAUMONT. *Charles River Discovery, Psychogenics, Neuroservice, Evotec, CHDI Management/CHDI Fndn.*

1:00 DP04/E40 **565.06** (Dynamic Poster) Working memory and cortico-basal ganglia circuitry in a novel AAV2.retro-mediated non-human primate (NHP) model of Huntington's disease (HD). A. R. WEISS*; Z. LIU; X. WANG; J. DOMIRE; W. LIGUORE; K. BRANDON; C. D. KROENKE; J. L. MCBRIDE. *Oregon Natl. Primate Res. Ctr., Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*

3:00 E41 **565.07** The difference of mutant Huntingtin expression between HD KI pig and KI mouse tissues. X. ZHANG*; S. YAN; X. LI. *Guangdong-Hong Kong-Macau Inst. of CNS Regener, Jinan Univ., Guangdong-Hong Kong-Macau Inst. of CNS Regeneration.*

4:00 E42 **565.08** Characterision of kynurenine 3-monooxygenase as a therapeutic target for Huntington's disease. M. K. BONDULICH*; A. PAPADOPOULOU; G. P. BATES; F. GIORGINI; Y. SONG. *UCL, Univ. of Leicester.*

1:00 E43 **565.09** Lack of aryl hydrocarbon receptor in a mice model of Huntington's disease results in a motor and behavioral improvement. Q. ANGELES-LÓPEZ*; L. G. GARCIA-LARA; R. CASTANEDA ARELLANO; F. PEREZ; G. ELIZONDO-AZUELA; J. V. SEGOVIA-VILA. *Cinvestav, Inst. Nacional de Neurología y Neurocirugía, Univ. of Guadalajara, Inst. Nacional De Neurología Y Neurocirugía, Ctr. de Investigación y de Estudios Avanzados del Inst. Politécnico Nacional, Cinvestav-IPN.*

2:00 E44 **565.10** Signaling pathways associated to plasticity recover induced by NT-3 in striatal degeneration. V. G. GÓMEZ-PINEDA; E. HERNANDEZ-ECHEAGARAY*. *Univ. Nacional Autónoma de México, Univ. Nacional Autónoma De México.*

3:00 F1 **565.11** ● Targeted delivery of Huntington's disease gene therapeutics. N. TODD; B. ELMER; K. B. KEGEL; L. S. SHIHABUDDIN; L. M. STANEK; J. UPADHYAY*. *Brigham and Women's Hosp., Sanofi, Mass Gen. Hosp., Boston Children's Hospital, Harvard Med. Sch.*

4:00 F2 **565.12** The toll-like receptor 4 in the process of brain damage associated with Huntington's disease. P. E. MARTINEZ-GOPAR*; F. PEREZ-SEVERIANO; C. GONZALEZ-ESPINOSA. *Natl. Inst. of Neurol. and Neurosurg., Inst. Nacional De Neurología Y Neurocirugía, Ctr. for Res. and Advanced Studies of the Natl. Polytechnic Inst.*

1:00 F3 **565.13** Flexible and inflexible T-maze decision-making and neural coding of cost and benefit in wild-type and Huntington's disease model mice. L. G. GIBB*; D. HU; A. FRIEDMAN; B. BLOEM; A. GARDNER; K. O'NELL; J. K. XIONG; A. M. GRAYBIEL. *MIT.*

2:00 F4 **565.14** Mu opioid receptors are strongly upregulated in the Q175 mouse model of Huntington's disease. R. MORIGAKI*; J. H. LEE; T. YOSHIDA; C. WÜTHRICH; A. M. GRAYBIEL. *MIT, Grad. Sch. of Biomed. Sciences, Tokushima Univ., Mayo Clin. Grad. Sch. of Biomed. Sci.*

3:00 F5 **565.15** Developmental organization of striosomes and striosome-related circuits. A. MATSUSHIMA*; A. M. GRAYBIEL. *MIT.*

4:00 F6 **565.16** Huntington's disease model Q175 mice exhibit deficits in adaptation of reward licking response in a visual cue-reward learning task. M. J. KIM*; A. M. GRAYBIEL. *MIT.*

1:00 F7 **565.17** Pharmacological reduction of elevated calcium levels in cortical pyramidal neurons for the treatment of Huntington's disease. K. D. OIKONOMOU*; X. YU; B. S. KHAKH; M. S. LEVINE; C. CEPEDA. *UCLA, UCLA.*

2:00 F8 **565.18** Thalamocortical projections are significantly impaired in the R6/2 mouse model of Huntington's disease. S. M. HOLLEY*; K. OIKONOMOU; G. MKRTCHYAN; C. M. SWIFT; L. MOHAN; C. CEPEDA; M. S. LEVINE. *UCLA.*

POSTER

566. Neurodegeneration Mechanisms

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 F9 **566.01** ▲ Characterization of the equilibrium mutant mice induced by the N-ethyl-N-nitrosourea agent: Behavioral, astrocytes and neurochemical aspects. K. E. KIATAQUI*; B. C. G. ORLANDO; P. S. RODRIGUES; E. P. SILVA; A. S. SAMPAIO; N. MOREIRA; L. S. MEDEIROS; M. C. GALVAO; T. M. REIS-SILVA; M. M. BERNARDI. *Paulista Univ.*

2:00 F10 **566.02** The role of mitochondrial complex I dysfunction in synaptic plasticity and maintenance. C. FRANK*; B. MALLIK. *Univ. of Iowa.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 F11 **566.03** SMN regulates neuromuscular junction integrity through U7 snRNP. S. TISDALE; M. VAN ALSTYNE; C. M. SIMON; G. Z. MENTIS; L. PELLIZZONI*. *Columbia Univ.*

4:00 F12 **566.04** Reduction of serotonergic synapses and its effects in sensory-motor function in spinal muscular atrophy. N. DELESTRÉE*; E. SEMIZOGLOU; J. G. PAGIAZITIS; A. VUKOJICIC; V. PAUSHKIN; G. Z. MENTIS. *Columbia University, Ctr. for Motor Neuron Biol. and Dis.*

1:00 F13 **566.05** ▲ Machine learning enhanced dynamic meta-analysis for preclinical ALS combination therapy optimization. A. J. LEE*; B. M. LEE; E. J. RIDGEWAY; C. S. MITCHELL. *Georgia Inst. of Technol., Georgia Inst. of Technol.*

2:00 F14 **566.06** The effects of chemogenetic inhibition of L5-M1 pyramidal neurons in the SOD1-G93A mouse model of amyotrophic lateral sclerosis on the onset and severity of motor symptoms and neurodegeneration. S. A. BEDARD*; K. CHEN; J. C. PRESSEY; A. LAU; J. ROBERTSON; M. A. WOODIN. *Univ. of Toronto, Univ. of Toronto.*

3:00 F15 **566.07** Profiling neuronal stress responses regulated by dual leucine zipper kinase (DLK). E. ASGHARI ADIB*; J. SHADRACH; X. CHEN; D. DICKMAN; B. A. PIERCHALA; C. A. COLLINS. *Univ. of Michigan, Univ. of Michigan, USC, USC, Univ. of Michigan.*

4:00 F16 **566.08** Behavioral and neurochemical abnormalities in a pharmacologically-induced mouse model of Gaucher disease. M. MONBUREAU*; N. MORISOT; A. MALIK; G. CARROT; J. ROESER; H. JANSSENS; A. RASSOULPOUR. *Charles River Labs.*

1:00 F17 **566.09** ● Hypoxia induced brain injury and cellular recovery in adult zebrafish. N. KAYA*; J. D. LAUDERDALE; S. T. DOUGAN. *Univ. of Georgia.*

2:00 F18 **566.10** Enhanced oligodendrocytes regeneration reduces the early decline in motor coordination and extends the survival of SOD1 (G93A) mice. E. GONZALEZ FERNANDEZ*; B. PARKER; S. H. KANG. *Shriners Hosp. Pediatric Res. Ctr.*

3:00 F19 **566.11** ● Tdp-43 q331k overexpression leads to adult-onset motor and cognitive impairment in a mouse model. E. H. JENSEN*; E. MCGUIRK; A. BIALAS; J. YU; L. SHIHABUDDIN; J. DODGE. *Sanofi Genzyme.*

4:00 F20 **566.12** Changed expression of potassium rectifying channel in glial cells in spinal cord of the ALS rat model. M. PERIC; D. BATAVELJIC; P. R. ANDJUS*. *Univ. of Belgrade Fac. of Biol.*

1:00 F21 **566.13** CHCHD10 a protein at the intersection of mitochondrial diseases and ALS-FTD. H. KAWAMATA; C. J. ANDERSON; K. BREDVIK; S. M. MEADOWS; C. M. LUTZ; G. MANFREDI*. *Weill Cornell Med., Weill Cornell Med., Weill Cornell Med., The Jackson Lab., Weill Med. Col. Cornell Univ.*

2:00 F22 **566.14** Retromer complex deficiency in amyotrophic lateral sclerosis. E. J. PÉREZ-TORRES*; V. MISHRA; F. LOTTI; S. E. PRZEDBORSKI. *Columbia Univ., Columbia Univ., Columbia Univ.*

3:00 F23 **566.15** Investigating recurrent inhibition in pre-symptomatic adult SOD1-G93A mice. N. CORNU; M. BACZYK; D. ZYTNICKI; M. MANUEL*. *Univ. de Paris, SPPIN - Saints-Pères Paris Inst. for the Neurosciences, CNRS, Poznań Univ. of Physical Educ.*

4:00 F24 **566.16** A Charcot-Marie-tooth disease type 2E point mutation in neurofilament protein L causes protein instability, atrophied axons, and proximal neurofilament accumulations. E. J. STONE*; A. UCHIDA; P. C. MONSMA; A. BROWN. *The Ohio State Univ.*

1:00 F25 **566.17** Electroceutical treatment of dysphagia in a mouse model of ALS. B. BALLENGER*; I. DENINGER; K. OSMAN; T. LEVER. *Univ. of Missouri, Univ. of Missouri.*

2:00 F26 **566.18** Distinct populations of layer 5b pyramidal neurons in the primary motor cortex. M. V. MOYA; M. N. RAO; R. KIM; C. E. SFERRAZZA; N. HEINTZ; E. F. SCHMIDT*. *The Rockefeller Univ., Rockefeller Univ., HHMI.*

4:00 F27 **566.19** Effects of human Wharton's jelly mesenchymal stem cell therapy in a mouse model of amyotrophic lateral sclerosis. M. FURTADO; L. C. TEIXEIRA PINHEIRO*; J. F. VASQUES; T. PUIG PIJUAN; M. P. PINHEIRO; M. F. SANTIAGO; R. MENDEZ-OTERO; F. GUBERT. *Univ. Federal Do Rio De Janeiro.*

3:00 F28 **566.20** SMA-specific differences in the translatome of spinal motor neurons *in vivo*. P. L. PRICE*; K. ENGEL; C. TSAI; M. TALIAFERRO; C. DIDONATO; G. J. BASSELL; W. ROSSOLL. *Emory Univ., Univ. of Colorado Sch. of Med., Mayo Clin., Northwestern Univ.*

1:00 F29 **566.21** ● Post-paralysis treatment with the electrophilic compound EOLO42016 abrogates neuroinflammation and slows disease progression in inherited ALS. S. IBARBURU*; E. TRÍAS; J. RODRIGUEZ-DUARTE; G. GALLIUSSI; V. LÓPEZ; M. KOVACS; V. VARELA; M. INGOLD; C. BATTHYANY; L. BARBEITO. *Inst. Pasteur De Montevideo, Inst. Pasteur de Montevideo, Facultad de Química, UdelaR.*

POSTER

567. Neuroinflammation and Animal Models I

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 F30 **567.01** Targeting Nox2 to reduce autoimmune elicited neural damage in the central nervous system. C. HU*; S. WU; C. HSU; J. HONG; S. CHEN; C. SHIEH. *Tri-Service Gen. Hosp., Natl. Inst. of Envrn. Hlth. Sci., Tri-Service Gen. Hosp., NIEHS, Tri-Service Gen. Hosp., Natl. Cheng Kung Univ.*

2:00 F31 **567.02** Cellular source of hypothalamic macrophage accumulation in diet-induced obesity. C. LEE*. *Asan Med. Ctr.*

3:00 F32 **567.03** ● Functional interplay between neurons and glia in mice models of familial epilepsy. P. SINHA*; B. VERMA; S. GANESH. *Indian Inst. of Technol. Kanpur.*

4:00 F33 **567.04** GLP1 receptor agonist prevents development of Wolfram syndrome symptoms in the Wfs1 deficient rat. K. SEPPA*; M. TOOTS; R. REIMETS; T. JAGOMÄE; J. R. NYENGAARD; E. VASAR; A. TERASMAA; M. PLAAS. *Univ. of Tartu, Aarhus Univ. Hosp.*

1:00 F34 **567.05** ▲ Osteoporosis in a clinically relevant mouse model of multiple sclerosis. B. LIN*; D. LAUNDER; O. A. MILLER; D. Y. BAILEY; F. K. ASSIFUAH; H. R. CONTI; B. M. KOFFMAN; J. DU. *The Univ. of Toledo.*

Tues. PM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 F35 **567.06** Goshajinkigan, a Japanese traditional herbal medicine, prevents age-related allodynia in senescence-accelerated mice. M. NAKANISHI*; N. KOYAMA; S. FUKUI; H. KITAGAWA. *Shiga Univ. of Med. Sci., Shiga Univ. of Med. Sci., Shiga Univ. of Med. Sci. Hosp.*

3:00 F36 **567.07** Ultra-high field MRI to monitor leptomeningeal inflammation in an animal model of multiple sclerosis. S. KIM*; M. D. SMITH; P. BHARGAVA; P. CALABRESI. *Johns Hopkins SOM.*

4:00 F37 **567.08** Characterization of cytokine levels in LPS-treated mice: Multiplex assay of key inflammatory mediators in neurodegenerative disorders. K. M. PALDANIUS*; L. RAUHALA; T. STENIUS; F. KHAN; T. BOLKVADZE; R. O. PUSSINEN; T. HUHTALA; D. MISZCZUK. *Charles River Discovery.*

1:00 F38 **567.09** Early detection of experimental cerebral malaria associated brain pathology. R. BHATTACHARJEE; K. HARIT; S. ARNIM; E. BUDINGER*; J. GOLDSCHMIDT; K. MATUSCHEWSKI; D. SCHLÜTER; G. NISHANTH. *Otto-von-Guericke Univ. Magdeburg, Leibniz Inst. for Neurobio., Max Planck Inst. for Infection Biol., Humboldt Univ., Inst. of Med. Microbiology and Hosp. Epidemiology, Helmholtz Ctr. for Infection Res.*

2:00 F39 **567.10** Hippocampal inflammation in a mouse model of perioperative neurocognitive disorders. X. XIANG*; G. YANG; S. ZHU. *Zhejiang Univ., Columbia Univ.*

3:00 F40 **567.11** Holothuria scabra extract reduces cytosolic phospholipase A2 expression induced by Plasmodium yoelii infection. S. CHOMPOOPONG*; L. KWATHAI; P. SANGUANWONG; P. UAWITHYA; I. LIU. *Dept. of Anatomy, Fac. of Med. Siriraj, Tzu Chi Univ.*

4:00 F41 **567.12** Behavioural and histological changes in cuprizone-fed mice. P. J. SHORTLAND*; M. K. SEN; M. S. ALMUSLEHI; J. R. COORSSEN; D. A. MAHNS. *Western Sydney Univ., Brock Univ.*

1:00 F42 **567.13** Overexpression of catalase in mitochondria mitigates changes in inflammatory cytokine levels in the mouse hippocampus due to simulated microgravity and social isolation. L. RUBINSTEIN*; A. SCHREURS; C. TAHIMIC; S. STEZINA; S. THORES; M. LOWE; A. RONCA; R. GLOBUS. *NASA Ames Res. Ctr., NASA.*

2:00 F43 **567.14** ▲ TNF-alpha, IL-1 beta and myeloperoxidase inhibition contribute to the analgesic and anti-inflammatory curative effects of the aqueous and methanol extracts of paullinia pinnata (sapindaceae) in septic mono-arthritis in rats. P. T. TSEUGUEM PUM*; A. NGANGOUM MOUGA; M. KENFACK TSAGUE; B. KOLBER; K. TIDGEWELL; T. NGUELEFACK. *Univ. of Dschang, Duquesne Univ.*

3:00 F44 **567.15** Neuroimmunological characterization of a mouse model of primary progressive multiple sclerosis and effects of immunosuppressive or neuroprotective strategies on disease evolution. G. RANIERI*; D. BUONVICINO; S. PRATESI; D. GUASTI; A. CHIARUGI. *Univ. of Florence.*

4:00 F45 **567.16** Dimethylfumarate plays a protective role against migraine in nitroglycerin-treated mice. E. ESPOSITO*; G. CASILI; M. LANZA; A. FILIPPONE; I. PATERNITI; M. CAMPOLO; S. CUZZOCREA. *Univ. of Messina.*

1:00 F46 **567.17** miRNA regulation in early inflammatory signals induced by hypoxic ischemia encephalopathy in neonates. T. C. HILLMAN*; L. SIEBOLD; J. A. ABDALA; C. G. WILSON. *Loma Linda Univ.*

2:00 G1 **567.18** The use of curcumin encapsulated dendrimer nanoparticles as anti-inflammatory agents for glioblastoma therapy in C57BL/6J mice. N. MUNRO*. *Central Michigan Univ.*

3:00 G2 **567.19** ▲ Study of a new analogue of paroxetine 3HPSS in a model of depression induced by lipopolysaccharide. P. HERNÁNDEZ-ARRAMBIDE; D. CHAMORRO-ARENAS; I. PARRA; I. MARTÍNEZ; F. LUNA; I. D. LIMÓN; V. ALATRISTE; L. QUINTERO; S. CRUZ-GREGORIO; R. MEZA-LEÓN; F. SARTILLO-PISCIL; L. MARTINEZ MENDIETA*. *Benemérita Univ. Autónoma de Puebla.*

POSTER

568. Neuroinflammation and Animal Models II

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 G3 **568.01** Characterization of the immune response to sciatic nerve injury: Implications for sensory axon growth and regeneration. A. L. KALINSKI*; C. YOON; P. DUNCKER; L. HUFFMAN; J. ATKINSON; B. SEGAL; R. GIGER. *Univ. of Michigan, Univ. of Michigan Med. Sch.*

2:00 G4 **568.02** Neuroprotective effect of dimethylfumarate on oxaliplatin-induced neuropathic pain. M. CAMPOLO*; G. CASILI; I. PATERNITI; A. FILIPPONE; M. LANZA; S. CUZZOCREA; E. ESPOSITO. *Univ. of Messina, Univ. of Messina.*

3:00 G5 **568.03** Aluminum exposure linked to neurodegeneration in honey bees (Apis mellifera spp.). A. CHICAS-MOSIER*; T. E. BLACK; K. P. HESTER; L. BELZUNCES; J. L. AGOSTO-RIVERA; C. I. ABRAMSON. *Oklahoma State Univ., Oklahoma State Univ., Oklahoma State Univ., Inst. Natl. de la Recherche Agronomique, Univ. of Puerto Rico-Rio Piedras.*

4:00 G6 **568.04** ● A specific extract from the amazon rain forest plant uncaria tomentosa (cat's claw) is a potent inhibitor and reducer of brain plaques, tangles and inflammation. A. D. SNOW*; G. M. CASTILLO; B. P. NGUYEN; P. Y. CHOI; J. A. CUMMINGS; J. CAM; Q. HU; T. LAKE; W. PAN; A. J. KASTIN; D. A. KIRSCHNER; S. G. WOOD; E. M. ROCKENSTEIN; E. MASLIAH; S. LORIMER; R. E. TANZI; L. LARSEN. *Cognitive Clarity Inc, ProteoTech Inc., Louisiana State Univ., Boston Col., Brigham Young Univ., UCSD, UCSD, Univ. of Otago, Massachusetts Gen. Hosp. and Harvard Univ.*

1:00 G7 **568.05** C1q knockout mice have elevated sensitivity to glycolipid elevations and show aberrant forms of lipidated alpha-synuclein. O. R. BREKK*; J. KORECKA; A. MOSKITES; O. ISACSON; P. J. HALLETT. *McLean Hosp.*

2:00 G8 **568.06** Huntingtin mediates internalization of the TLR-4 and intracellular signaling in mast cells. M. J. PEREZ-RODRIGUEZ*; A. IBARRA-SANCHEZ; C. GONZALEZ-ESPINOSA; F. PEREZ-SEVERIANO. *Cinvestav, Sede Sur, Inst. Nacional de Neurología Y Neurocirugía.*

3:00 G9 **568.07** The effects of a non-steroidal anti-inflammatory agent on cyclophosphamide induced changes in behavior, hippocampal neurogenesis, and neuroinflammation. S. M. PAVLOCK*; A. KESARWANI; D. M. MC CARTHY; P. JEAN-PIERRE; P. G. BHIDE. *Florida State Univ. Col. of Med., Florida State Univ. Col. of Med., Florida State Univ. Col. of Med.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 G10 **568.08** ▲ Studying the role of toxoplasma effector protein GRA15 in the CNS. S. KUMAR*; A. A. KOSHY; J. A. KOCHANOWSKY. *Univ. of Arizona.*

1:00 G11 **568.09** Aging modulates inflammatory and behavioral responses to a tumor. L. D. STREHLE*; A. A. LAHOUD; J. KAUR; J. J. KRUEPKE; J. M. JOHNSON; R. M. BARRIENTOS; L. M. PYTER. *The Ohio State Univ.*

2:00 G12 **568.10** Small molecule ONC201 inhibits HIV-1 replication in brain macrophages via FOXO3a and TRAIL. Y. HUANG*; R. ZHAO; Y. LI; J. ZHENG. *Univ. Nebraska Med. Ctr., Shanghai Tenth People's Hosp. Affiliated to Tongji Univ. Sch. of Med.*

3:00 G13 **568.11** Differential effects of piroxicam versus minocycline on acute lipopolysaccharide-induced sickness behavior and slow wave EEG activity in young c57bl6 mice. Z. W. SULTAN*; B. M. KRAUSE; S. M. GRADY; C. A. MURPHY; R. D. SANDERS; M. I. BANKS. *Univ. of Wisconsin-Madison.*

4:00 G14 **568.12** ▲ Impact of prenatal ZIKV infection on the development of hippocampal and cortical structures. R. T. PATEL*; M. L. SHERER; N. A. HAAS; M. PARCELLS; J. M. SCHWARZ. *Univ. of Delaware, Univ. of Delaware, Univ. of Delaware, Univ. of Delaware.*

1:00 G15 **568.13** [^{11}C]PIB PET imaging can detect white and grey matter demyelination in a non-human primate model of progressive multiple sclerosis. C. C. REAL*; R. H. CARVALHO; S. CININI; A. T. GARCEZ; F. L. S. DURAN; F. L. N. MARQUES; L. E. MELLO; G. BUSATTO FILHO; E. F. J. DE VRIES; L. R. G. BRITTO; C. A. BUCHPIGUEL; D. DE PAULA FARIA. *Faculdade de Medicina da Univ. de Sao Paulo, Escola Paulista de Medicina, Univ. Federal de Sao Paulo, Univ. Med. Ctr. Groningen, Univ. de Sao Paulo.*

2:00 G16 **568.14** Transcriptional changes in mouse amygdala and hippocampus after exposure to firefighting overhaul environment. S. A. KRAUKLIS*; S. J. GAINEY; J. DRNEVICH; A. E. TOWERS; S. KERBER; D. L. SMITH; K. W. FENT; G. P. HORN; G. G. FREUND. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Loyola-Maryland, Skidmore Col., CDC/NIOSH/DSHEFS, Univ. of Illinois At Urbana-Champaign.*

3:00 G17 **568.15** Immunohistochemical characterization of ACTA2 knockout mice reveals significant vascular, white matter and glial cell abnormalities. S. MCCARTHY*; F. E. HERISSON; J. WRIGHT; D. MILEWICZ; P. L. MUSOLINO. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp. / Harvard Med. S, Univ. of Texas Hlth. Sci. Med. Ctr. at Houston, Univ. of Texas Hlth. Sci. Ctr. at Houston, MGH/ Harvard.*

4:00 G18 **568.16** S-nitrosylation of cathepsin B inhibits autophagic flux, contributing to neurodegenerative disease. K. KIM*; T. NAKAMURA; J. KOH; C. OH; S. A. LIPTON; Y. KIM. *Sejong Univ., The Scripps Res. Inst., Univ. Ulsan Col. Med., Scintillon Inst., Scripps Res. Inst. and UC San Diego.*

1:00 G19 **568.17** Zinc protects against A2E-induced toxicity in ARPE19 cells. J. CHOI*; B. SEO; J. KOH; Y. YOON. *Asan Inst. For Life Sci., Asan Med. Ctr., Asan Med. Ctr.*

POSTER

569. Ischemic Stroke IV

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 G20 **569.01** Improved biopharmaceutic properties of asparagus racemosus root ethanolic extract to confer neuroprotection in cerebral stroke via phytosomal delivery. H. AHMAD*; D. MISHRA; R. SAXENA; D. MISHRA; C. V. RAO; A. K. DWIVEDI. *CSIR-NBRI, CSIR-CDRI.*

2:00 G21 **569.02** DNA methylation in neuronal cell death at the early stage of ischemic status. M. ASADA*; H. HAYASHI; K. KIKUIRI; K. MURAKAMI; B. YUAN; N. TAKAGI. *Tokyo Univ. of Pharm. and Life Sci., Josai Univ.*

3:00 G22 **569.03** ● Deficiency of the Fn14 receptor enhances synaptic plasticity after acute ischemic stroke and promotes functional recovery without affecting infarct volume. K. ENNIS; D. NAGY; S. SU; A. THOMAS; J. MAHONEY; A. NELSON; D. MURPHY; G. MARSH; T. REYNOLDS; S. HAMANN; C. EHRENFELS; R. MASSOL; M. ARNOLD; M. HAJOS; L. C. BURKLY*. *Biogen, Biogen, Biogen.*

4:00 G23 **569.04** Therapeutic angiogenesis: Nogo-A targeted therapy promotes vascular and functional recovery following stroke. R. RUST*; L. GRÖNNERT; R. Z. WEBER; G. MULDERS; A. M. SARTORI; A. HOFER; M. E. SCHWAB. *Univ. and ETH Zurich, Univ. of Zurich, Univ. of Zurich.*

1:00 G24 **569.05** Neuroprotective role of protein arginine methyltransferases in cerebral ischemia. A. COUTO E SILVA*; C. Y. WU; H. POSSOIT; G. A. CLEMONS; R. H. LEE; H. W. LIN. *LSU Hlth. Sci. Ctr. Shreveport, LSU Hlth. Sci. Ctr. Shreveport.*

2:00 G25 **569.06** MicroRNA (mir)20a-3p preserves astrocyte mitochondrial function in ischemic conditions. T. BRANYAN*; R. SRINIVASAN; F. SOHRABJI. *Texas A&M Univ., Texas A&M Hlth. Sci. Ctr. Col. of Med.*

3:00 G26 **569.07** Kv1.3 as a pharmacological target for reducing neuroinflammation in the wake of ischemic stroke in both sexes. Y. CHEN; H. M. NGUYEN; Y. CUI; H. WULFF*. *Univ. of California Davis.*

4:00 G27 **569.08** Elevation of extracellular glycine levels attenuates deficits following ischemic stroke *in vivo.* J. D. CAPPELLI*; P. KHACHO; A. SOKOLOVSKI; B. WANG; S. RAYMOND; P. CHUDALAYANDI; A. Y. WONG; R. BERGERON. *Ottawa Hosp. Res. Inst., Ottawa Hosp. Res. Inst., Ottawa Hosp. Res. Inst., Univ. of Ottawa.*

1:00 G28 **569.09** Post-treatment of sumanirole provide neuroprotection against ischemic stroke injury in rat model. P. KAUSHIK*; H. TABASSUM; S. PARVEZ. *Jamia Hamdard, Indian Council of Med. Res.*

2:00 G29 **569.10** N-formyl peptide receptor 2 activation via annexin A1 up-regulates hematoma resolution after germinal matrix hemorrhage. J. FLORES*; Y. DING; D. MCBRIDE; J. TANG; J. ZHANG. *Loma Linda Univ. Sch. of Med., Loma Linda Univ., UTHealth Med. Sch.*

3:00 G30 **569.11** The role of 12/15 lipoxygenase inhibition on stroke induced neuroinflammation. C. CAKIR-AKTAS; M. YEMISCI; E. EREN-KOCAK; T. DALKARA; E. BODUR; K. VAN LEYEN; H. KARATAS-KURSUN*. *Hacettepe University, Inst. Neurolog. Sciences&Psychiatry, Hacettepe Univ. Fac. of Med., Hacettepe Univ., Massachusetts Gen. Hosp.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 G31 **569.12** Intranasal insulin treatment improves functional stroke outcomes in mice. C. J. SMITH; S. NGUYEN; L. S. WATSON; C. S. ROBINSON*. *Med. Univ. of South Carolina.*

1:00 G32 **569.13** Activation of Jak2/Stat1 pathway by IFN gamma induces CXCR3 signaling and inflammatory response by mouse cerebral endothelial cells and astrocytes. E. D. WINFORD*; S. M. DAVIS; K. R. PENNYPACKER. *Univ. of Kentucky, Univ. of Kentucky.*

2:00 G33 **569.14** Temporal evaluation of heme oxygenase-1 expression in peri-infarct neurons and astrocytes after ischemic reperfusion injury. D. SINGH*; H. WASAN; U. SHARMA; A. DINDA; R. KH. *All India Inst. of Med. Sci. (AIIMS), All India Inst. of Med. Sci., All india Inst. of Med. Sci., All india Inst. of Med. Sci., All india Inst. of Med. Sci.*

3:00 G34 **569.15** Ascorbate protects against secondary brain damage after focal ischemia via modulation of TET3. K. MORRIS-BLANCO*; M. J. BERTOGLIAT; B. CHELLUBOINA; R. VEMUGANTI. *Univ. of Wisconsin-Madison, Univ. of Wisconsin - Madison, Univ. of Wisconsin.*

4:00 G35 **569.16** Changes in the expression of gene associated with retinoid-interferon induced mortality-19 in the dentate gyrus of Camk2α-hetero knockout mice. S. HWANG*; J. KIM; S. KIM. *The Catholic Univ. of Korea.*

1:00 G36 **569.17** Differential expression of GRIM-19 (gene associated with retinoid-interferon induced mortality-19) in the dentate gyrus of mouse hippocampus following pilocarpine-induced SE. J. KIM*; S. HWANG; S. KIM. *The Catholic Univ. of Korea.*

POSTER

570. Traumatic Brain Injury: Therapeutic Strategies

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 G37 **570.01** ▲ Long-term preclinical safety evaluation of clinical-grade human neural stem cells in an experimental model of traumatic brain injury. A. SIRSY*; M. SPURLOCK; Z. HU; A. MAHAVADI; M. BOULINA; L. QUESADA; E. MONEXE; M. ANDREU; S. GAJAVELLI; S. H. GULTEKIN; D. A. SHEAR; R. M. BULLOCK. *Miami Project to Cure Paralysis; Univ. of Miami, Sun Yat-Sen Mem. Hospital, Sun Yat-Sen Univ., Univ. Miami, Walter Reed Army Inst. of Res.*

2:00 G38 **570.02** Elevating microRNA-122 in blood for treatment of ischemic stroke, traumatic brain injury, and intracerebral hemorrhage in rats. D. LIU*; X. CHENG; B. P. ANDER; H. HULL; X. ZHAN; F. R. SHARP; B. STAMOVA; G. JICKLING; B. G. LYETH. *UC Davis, UC Davis, UC Davis, MIND Inst., MIND Inst/UC Davis, Univ. of California At Davis, Univ. of California, Davis Sch. of Med., Univ. of California Davis, UC Davis.*

3:00 G39 **570.03** Intranasal insulin improves cognitive function and reduces anxiety-like behavior after repeated mild brain injury. K. R. BYRNES*; N. HOCKENBURY; D. ACS; M. C. TSUDA; W. H. FREY, II. *Uniformed Services Univ., HJF/Uniformed Services Univ., Healthpartners Neurosci. Ctr.*

4:00 G40 **570.04** Chemokine receptors CCR5 & CXCR4: Potential targets for enhancing recovery after traumatic brain injury. Y. FRIEDMAN-LEVI*; S. LIRAZ-ZALTSMAN; G. GINCBERG; E. L. KESNER; A. J. SILVA; E. SHOHAMI. *Hebrew Univ., Sheba Med. Ctr., UCLA Med. Ctr.*

1:00 G41 **570.05** Mesenchymal stem cell-derived exosomes improve functional recovery in female rats after traumatic brain injury. Y. ZHANG*; Y. ZHANG; M. CHOPP; M. LU; Z. ZHANG; A. MAHMOOD; Y. XIONG. *Henry Ford Hosp., Henry Ford Hosp., Oakland Univ., Henry Ford Hosp.*

2:00 G42 **570.06** Unrepaired open craniectomy worsens motor skill impairment in a rat traumatic brain injury model. S. BARBAY*; S. TSAU; B. T. ANDREWS; R. J. NUDO. *Univ. Kansas Med. Ctr., Univ. Kansas Med. Ctr., Univ. Kansas Med. Ctr.*

3:00 G43 **570.07** Targeted and improved homing of mesenchymal stem cells overexpressing fibroblast growth factor 21 to injury site in a mouse model of traumatic brain injury: Real-time MRI tracking study. R. A. SHAHROR*; A. ALI; C. WU; Y. CHIANG; K. CHEN. *Taipei Med. Univ., Ph.D. Program for Neural Regenerative Medicine, Col. of Med. Sci. and Technology, Taipei Med. Univ. and Natl. Hlth. Res. Inst., Ctr. for Neurotrauma and Neuroregeneration, Taipei Med. University, Taipei 110, Taiwan., TMU Neurosci. Res. Ctr. - NeuroImage, Col. of Medicine, Taipei Med. Univ., Dept. of Neurosurgery, Taipei Med. Univ. Hosp., Dept. of Surgery, Sch. of Medicine, Col. of Medicine, Taipei Med. Univ.*

4:00 G44 **570.08** Dual allosteric modulator reverses traumatic brain injury induced cognitive impairments. D. J. TITUS*; T. JOHNSTONE; D. HOGENKAMP; K. W. GEE; C. M. ATKINS. *Univ. of Miami Miller Sch. of Med., Sch. of Medicine, Univ. of California, Irvine.*

1:00 H1 **570.09** A ketone mono-ester, 3-hydroxybutyl-3-hydroxybutyrate, attenuates sensory and motor deficits in a CCI model of TBI in male Sprague-Dawley rats. C. P. ALMEIDA-SUHETT*; A. NAMBOODIRI; K. CLARKE; P. DEUSTER. *Uniformed Services Univ. of the Hlth. Scienc, Henry M. Jackson Fndn. for the Advancement of Military Med., Uniformed Services Univ. of the Hlth. Scienc, Univ. of Oxford.*

2:00 H2 **570.10** Human non-hematopoietic umbilical cord blood stem cell treatment reduces inflammation following traumatic brain injury in rats. M. R. CHROSTEK*; A. T. CRANE; V. D. KRISHNA; N. L. EMMITT; N. G. TOMAN; W. J. SWANSON; E. G. FELLOWS; M. L. SHIAO; M. C. CHEERAN; W. C. LOW; A. W. GRANDE. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

3:00 H3 **570.11** Daily contextual manipulations are critical for success in a hippocampal dependent rehabilitation task following experimental traumatic brain injury. L. M. LAW*; D. R. GRIFFITHS; J. LIFSHITZ. *Univ. of Arizona/Phoenix Children's Hosp., Univ. of Arizona/Phoenix Children's Hosp.*

4:00 H4 **570.12** ● Reversing cognitive decline in chronic traumatic brain injury with targeted complement modulation. K. MALLAH*; A. ALAWIEH; R. CHALHOUB; F. LANGLEY; M. YORK; H. BROOME; S. TOMLINSON. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*

1:00 H5 **570.13** ● Nmda receptor modulation with NYX-458 rescues cognitive impairment and peripheral growth hormone levels in a clinically relevant rat model of repeat concussion. L. P. CACHEAUX*; K. LEADERBRAND; R. J. WILSON; J. S. BURGDORF; M. E. SCHMIDT; S. U. SAHU; J. R. MOSKAL. *Aptinyx Inc., Northwestern Univ.*

2:00 H6 **570.14** Neural protection and regeneration by inhibition of cholinesterase in TBI animals. Y. CHIANG*; S. HSUEH; W. CHANG; C. WU; K. CHEN. *Taipei Med. Univ., Taipei Med. Univ., Taipei Med. Univ.*

3:00 H7 **570.15** Divergent effects of gliptins on the pathological outcomes in a mouse model of traumatic brain injury. Y. HUNG*; Y. WANG; S. LEE. *Natl. Hlth. Res. Inst.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 H8 **570.16** Rolipram loaded polymeric micelle nanocarrier reduces inflammatory response and apoptosis after traumatic brain injury. C. MACKS*; D. JEONG; M. LYNN; J. LEE. *Clemson Univ., Greenville Hosp. Syst.*

1:00 H9 **570.17** Intravitreal injection of mesenchymal stem cells expressing hIGF-1 increases mouse retinal ganglion cells survival and axonal regeneration in a model of optic nerve crush. J. F. VASQUES*; C. A. ABREU; L. CHIMELI-ORMONDE; B. S. F. SOUZA; M. B. P. SOARES; R. MENDEZ-OTERO. *UFRJ, Fundação Oswaldo Cruz, UFRJ.*

2:00 H10 **570.18** Viral reprogramming of reactive astrocytes to neurons as a therapy for cerebral injury. E. G. FELLOWS*; A. T. CRANE; N. G. TOMAN; A. R. STEEVENS; M. R. CHROSTEK; A. W. GRANDE. *Univ. of Minnesota Med. Sch.*

3:00 H11 **570.19** CMX-2043 improves neurological outcomes after moderate focal traumatic brain injury. T. HALLOWELL*; N. DELSO; K. BROWNE; M. STOLOW; J. STARR; M. J. MCMANUS; D. CULLEN; T. KILBAUGH. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania, CHOP/UPENN.*

4:00 H12 **570.20** ▲ HDACi nanotherapeutics to treat traumatic brain injury. G. MOUSA*; C. COPELAND; B. I. MARTINEZ; K. LEKA; G. R. BJORKLUND; K. T. HOUSEHOLDER; J. NEWBERN; R. W. SIRIANNI; S. E. STABENFELDT. *Arizona State Univ., Univ. of Texas Med. Sch.*

1:00 H13 **570.21** Cognitive improvement by deep cerebellar stimulation in a traumatic brain injury model of rodents. N. D. MATHEWS; H. H. CHAN; O. HOGUE; C. WYANT; R. CHIOMINTO; A. MCCREERY; R. KUNDALIA; D. P. FLODEN; A. G. MACHADO; K. B. BAKER*. *Cleveland Clin. Fndn., Cleveland Clin., Cleveland Clin., Cleveland Clin., Cleveland Clin.*

2:00 H14 **570.22** Effects of exercise as a pre-treatment for TBI in juvenile rats. R. C. HOLDEN*; M. J. HYLIN. *Southern Illinois Univ. Carbondale, Southern Illinois Univ. Carbondale Dept. of Psychology.*

POSTER

571. Spinal Cord Injury II

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 H15 **571.01** Investigating effects of transcutaneous spinal stimulation in restoring upper extremity function in people with spinal cord injury. F. ZHANG*; A. RAMANUJAM; K. MOMENI; M. RAVI; R. PILKAR; J. CARNAHAN; G. F. FORREST. *Kessler Fndn.*

2:00 H16 **571.02** Transcutaneous spinal stimulation augments excitability of spinal circuitry during maximal voluntary contraction. K. MOMENI*; M. RAVI; A. RAMANUJAM; R. PILKAR; F. ZHANG; E. GARBARINI; G. F. FORREST. *Kessler Fndn., Kessler Fndn.*

3:00 H17 **571.03** Spinal mapping identifies optimal parameters to target specific motor pools through existing spinal networks after SCI. M. RAVI*; K. MOMENI; A. RAMANUJAM; R. PILKAR; F. ZHANG; E. GARBARINI; G. F. FORREST. *Kessler Fndn., Kessler Fndn.*

4:00 H18 **571.04** Neuromuscular response to transcutaneous spinal stimulation during overground walking. A. RAMANUJAM*; K. MOMENI; M. RAVI; R. PILKAR; F. ZHANG; E. GARBARINI; G. F. FORREST. *Kessler Fndn., Kessler Fndn.*

1:00 H19 **571.05** Neuromuscular responses to electrical stimulation profiles of varying amplitudes and frequency. R. PILKAR*; K. MOMENI; A. RAMANUJAM; E. GARBARINI; G. FORREST. *Kessler Fndn.*

2:00 H20 **571.06** Contribution of trunk muscles to upright sitting with segmental support in children with spinal cord injury. G. SINGH*; L. MENDEZ; B. UGILIWENEZA; A. BEHRMAN. *Univ. of Louisville.*

3:00 H21 **571.07** ● Unexpected recovery in a 3 year old with chronic, cervical spinal cord injury and ventilator dependent during activity-based therapy program. M. ROBERTS*; D. STOUT; S. BICKEL; M. CALVERY; K. BROTHERS; K. MCNAMARA; G. SINGH; A. BEHRMAN. *Frazier Rehabil. Inst., Univ. of Louisville, Univ. of Louisville.*

4:00 H22 **571.08** ● Differences in resting state functional connectivity between low and high levels of physical activity in healthy school-aged children. L. R. ALVARADO*; A. L. BEHRMAN; B. E. DEPUE. *Univ. of Louisville, Univ. of Louisville, Univ. of Louisville.*

1:00 H23 **571.09** ● The impact of an activity-based therapy program on pediatric patients with SCI and families. K. C. MCNAMARA*; K. BROTHERS; M. L. CALVERY; A. L. BEHRMAN. *Frazier Rehabil. Inst., Univ. of Louisville, Univ. of Louisville.*

2:00 H24 **571.10** Continuous beat-by-beat blood pressure and heart rate recording to assess autonomic regulation of the cardiovascular system in typically developing and in children with spinal cord injury. A. KELLER*; G. SINGH; A. BEHRMAN. *Univ. of Louisville.*

3:00 H25 **571.11** Functional contribution of the mesencephalic locomotor region to locomotor recovery after spinal cord injury. M. ROUSSEL*; H. GODET; G. CLAIN; D. LAFRANCE-ZOUBGA; M. LEMIEUX; F. BRETZNER. *Ctr. de recherche CHU de Québec-Université Laval, Univ. Laval.*

4:00 H26 **571.12** Central control of speed-dependent gait expression in intact rats and following spinal cord injury. S. M. DANNER*; C. T. SHEPARD; I. A. RYBAK; D. S. K. MAGNUSON. *Drexel Univ. Col. of Med., Univ. of Louisville, Univ. of Louisville.*

1:00 H27 **571.13** Optogeneticially mediated neuromodulation of trunk motor cortex paired with exercise based rehabilitation and viral BDNF leads to axial reflex changes below a complete T9/T10 spinal cord injury. K. A. SCHMIDT*; S. F. GISZTER. *Drexel Univ., Drexel Univ. Col. of Med.*

2:00 H28 **571.14** Silencing long ascending propriospinal neurons improves hindlimb coordination and stepping precision after incomplete SCI. C. T. SHEPARD*; B. L. BROWN; M. A. VAN RIJSWIJCK; R. M. ZALLA; M. V. PARSCH; A. S. RIEGLER; A. M. POCRATSKY; S. R. WHITTEMORE; D. S. MAGNUSON. *Univ. of Louisville, Univ. of Louisville, Univ. of Louisville, Univ. of Louisville, Univ. of Louisville.*

3:00 H29 **571.15** A hybrid neuroprosthesis for standing and walking balance in people with spinal cord injuries. M. J. NANDOR*; R. D. QUINN; M. AUDU. *Case Western Reserve Univ., Case Western Reserve Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

572. Neural Stimulation and Rehabilitation to Treat Spinal Cord Injury

Theme C – Neurodegenerative Disorders and Injury

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 H30 **572.01** Interaction of peripheral-nerve electrical stimulation with central pattern generators in dogs with naturally-occurring complete spinal cord injury. M. YEO; N. JEFFERY; H. PARK*. *Texas A&M Univ.*

2:00 H31 **572.02** A fully-implantable closed-loop stance detection and plantar cutaneous augmentation system to promote gait rehabilitation after spinal cord injury. A. SHON*; K. BRAKEL; M. HOOK; H. PARK. *Texas A&M Univ., Texas A&M Hlth. Sci. Ctr.*

3:00 H32 **572.03** ● Targeted epidural spinal stimulation after spinal cord injury: Personalized, computationally-guided stimulation protocols. A. ROWALD*; S. KOMI; R. DEMESMAEKER; E. BAAKLINI; H. LORACH; E. KURT; F. BECCE; B. LLOYD; A. M. CASSARA; H. MONTANARO; A. WATRIN; M. CABAN; M. D´ERCOLE; M. VAT; L. MCCRACKEN; S. MANDIJA; M. FROELING; E. PAOLES; D. GANTY; M. VAN´T KLOOSTER; J. BAKKER; C. A T VAN DEN BERG; V. DELATTRE; H. LAMBERT; N. KUSTER; E. NEUFELD; M. CAPOGROSSO; F. B. WAGNER; J. BLOCH; G. COURTINE. *Swiss Federal Inst. of Technol. (EPFL), Lausanne Univ. Hosp. (CHUV), Stichting Katholieke Univ., Lausanne Univ. Hosp. (CHUV), IT'IS Fndn., Swiss Federal Inst. of Technol. (ETHZ), GTXmedical, Swiss Federal Inst. of Technol. (EPFL), Univ. Med. Ctr. Utrecht, Univ. of Fribourg.*

4:00 H33 **572.04** ● Targeted epidural spinal stimulation after spinal cord injury: Multi-center clinical trial in patients with subacute injuries. R. DEMESMAEKER*; S. KOMI; M. D'ERCOLE; E. BAAKLINI; H. LORACH; M. CABAN; A. YULZARI; M. VAN 'T KLOOSTER; A. WATRIN; R. BUSCHMAN; J. VON ZITZEWITZ; V. DELATTRE; H. LAMBERT; F. B. WAGNER; J. BLOCH; G. COURTINE. *Swiss Federal Inst. of Technol. (EPFL), Lausanne Univ. Hosp. (CHUV), GTXmedical, Swiss Federal Instute of Technol. (EPFL), Medtronic, Lausanne Univ. Hosp. (CHUV).*

1:00 H34 **572.05** A novel robotic platform for forelimb motor rehabilitation in rats. M. PASQUINI*; N. D. JAMES; G. COURTINE; S. MICERA. *Scuola Superiore Sant'Anna, EPFL, EPFL, Ecole Polytechnique Federale De Lausanne.*

2:00 H35 **572.06** The application of whole organ clearing techniques to spinal cord injury: Unique challenges and solutions. N. CHO*; L. BATTI; S. PAGÈS; M. A. ANDERSON; K. BARTHOLDI; Q. BARRAUD; G. COURTINE. *EPFL, Wyss Ctr. for Bio and Neuro Engin., Univ. Hosp. of Lausanne (CHUV).*

3:00 H36 **572.07** The role of proprioceptive afferents in activity-dependent, spatiotemporal epidural stimulation of the cervical spinal cord. N. D. JAMES*; I. DEWANY; L. BAUD; S. SHERMAN; B. BARRA; N. GREINER; N. CHO; M. CAPOGROSSO; G. COURTINE. *EPFL, Univ. of Fribourg.*

4:00 H37 **572.08** ● Targeted epidural spinal stimulation after spinal cord injury: Automated optimization of stimulation protocols. S. KOMI*; R. DEMESMAEKER; P. ABRANCHES DE CARVALHO; I. PERRET; H. LORACH; E. BAAKLINI; L. MCCRACKEN; K. MINASSIAN; F. B. WAGNER; J. BLOCH; G. COURTINE. *Swiss Federal Inst. of Technol. (EPFL), Lausanne Univ. Hosp. (CHUV), Med. Univ. of Vienna, Lausanne Univ. Hosp. (CHUV).*

1:00 H38 **572.09** Role of nociceptive afferent input on forelimb reaching and grasping behaviors in the spinal cord injured rat. J. R. WALKER*; A. ONG; M. R. DETLOFF. *Drexel Univ. Col. of Med.*

2:00 H39 **572.10** Rehabilitative strength training induces anatomical and functional plasticity of primary nociceptive neurons after cervical spinal cord injury. M. R. DETLOFF*; A. ONG; J. R. WALKER; V. ROVIRA ZAMBRANA; T. THAWEERATTANASINP. *Drexel Univ. Col. of Med.*

3:00 H40 **572.11** Boosting production of endogenous stem cells in the spinal cord to enhance recovery from spinal cord injury. V. K. LALL*; J. DEUCHARS; S. A. DEUCHARS; R. M. ICHIYAMA. *Univ. of Leeds, Univ. Leeds, Univ. of Leeds.*

4:00 H41 **572.12** Combined epidural stimulation, anti-nogo antibody treatment and training in a severe contusion injury. R. W. KISSANE; R. G. DICKSON*; K. CHEN; M. E. SCHWAB; S. CHAKRABARTY; R. M. ICHIYAMA. *Univ. of Liverpool, Univ. of Leeds, Beihang Univ., Univ. of Zurich.*

1:00 H42 **572.13** Neuron intrinsic growth program activation in response to electrical stimulation of the primary motor cortex. N. ZAREEN*; H. ALEXANDER; J. H. MARTIN. *The City Col. of the City Univ. of NY.*

2:00 H43 **572.14** Combined cortical and spinal neuromodulation strengthens the effectiveness of motor rehabilitation in incomplete cervical spinal cord injury. H. SHARIF*; H. ALEXANDER; J. H. MARTIN. *City Col. of New York, CUNY Sch. of Med.*

3:00 H44 **572.15** Phasic and tonic stimulation of M1 produces morphological and electrophysiological changes in the corticospinal system. L. YANG*; J. H. MARTIN. *CUNY Sch. of Med., CUNY Sch. of Med.*

4:00 H45 **572.16** Downslope locomotor training - A rehabilitative strategy targeting eccentric components of gait. L. R. MONTGOMERY*; J. M. NANNEY; S. F. MCMURTRY; A. M. DE BOEF; E. KAJTAZ; T. NICHOLS; D. R. HOWLAND. *Univ. of Louisville, Univ. of Louisville, Robley Rex VA Med. Ctr., Univ. of Louisville, Georgia Inst. of Technol.*

1:00 H46 **572.17** Evidence for modulation of force-dependent feedback in cat hindlimb using eccentric training -- A potential mechanism for locomotor recovery. S. MCMURTRY*; A. DE BOEF; E. KAJTAZ; L. MONTGOMERY; J. NANNEY; D. R. HOWLAND; T. R. NICHOLS. *Georgia Inst. of Technol., Univ. of Louisville, Univ. of Louisville, Univ. of Louisville, Univ. of Louisville.*

POSTER

573. Taste: Sensing and Coding

Theme D – Sensory Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 I1 **573.01** Uncovering the spatial representation of taste identity in the human brain. J. AVERY*; A. G. LIU; C. D. RIDDELL; S. J. GOTTS; J. E. INGEHOLM; A. MARTIN. *Natl. Inst. of Mental Hlth.*

2:00 I2 **573.02** ▲ Generalization of conditioned avoidance of 10% ethanol to sucrose, quinine and sucrose-quinine mixtures in male and female rats. S. R. HESSEL; Y. TREESUKOSOL*. *California State Univ. Long Beach.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 I3 **573.03** ● Sucrose detection and decision-making coding in the rat anterior insular and orbitofrontal cortex. E. FONSECA*; V. SANDOVAL-HERNÁNDEZ; S. MEJÍA-ORTIZ; F. ZEPEDA-RUIZ; S. A. SIMON; R. GUTIERREZ. *CINVESTAV, Escuela Nacional de Ciencias Biológicas, IPN, Duke Univ. Hosp., CINVESTAV - IPN.*

4:00 I4 **573.04** Testing basic principles of gustatory neural coding. Y. HUNG*; M. A. STOPFER. *NIH.*

1:00 I5 **573.05** Functional division of *Drosophila melanogaster* sweet taste neurons underlying behavioral flexibility towards sugars. H. CHEN*; U. STERN; R. YANG. *Duke Univ., Duke Univ.*

2:00 I6 **573.06** Human taste buds are more densely innervated than those of mice and tree shrews. B. HIGH*; C. E. WILSON; R. YANG; M. E. JETTÉ; T. E. FINGER. *Univ. of Colorado.*

3:00 I7 **573.07** Memories are coming: Tracking the neural activity underlying taste aversion learning. E. ARIELI*; N. YOUNES; A. MORAN. *Tel Aviv Univ., Sagol Sch. of Neurosci.*

4:00 I8 **573.08** The effects of sleeve gastrectomy on oral and post-oral sucrose preferences in a high fat diet-induced obese rat model of spinal cord injury. T. TANG; L. B. WILLING; E. N. BLANKE; N. HORVATH; G. M. HOLMES; A. HAJNAL*. *Penn State Univ. Coll Med.*

1:00 I9 **573.09** High fat diet's influence on body composition and peripheral taste organs persists even after switching to a low fat diet. F. HARNISCHFEGER; M. S. WEISS; P. M. DI LORENZO*; R. DANDO. *Cornell Univ., Binghamton Univ., Binghamton Univ., Cornell Univ.*

2:00 I10 **573.10** State-dependent coding: LiCl-induced sickness alters gustatory oscillatory rhythms and coordinated spiking during taste processing. B. T. STONE*; A. MAHMOOD; J. LIN; D. B. KATZ. *Brandeis Univ., Brandeis Univ.*

3:00 I11 **573.11** Neonatal chorda tympani transection enhances gustatory responses from uninjured nerves in the adult rat parabrachial nucleus of the pons. L. J. MARTIN*; S. I. SOLLARS. *Univ. of Nebraska At Omaha.*

POSTER

574. Auditory Processing: Neural Coding

Theme D – Sensory Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 I12 **574.01** Do rat brains discriminate Spanish and English languuages? M. SATO*; N. MATSUMOTO; Y. IKEGAYA. *The Univ. of Tokyo.*

2:00 I13 **574.02** ▲ Direct comparison of nonlinear sensory encoding models in ferret primary auditory cortex. J. R. PENNINGTON*; S. V. DAVID. *Oregon Hlth. & Sci. Univ., Oregon Hlth. and Sci. Univ.*

3:00 I14 **574.03** The properties of neural activities by acoustic factors in higher auditory region to sound stimuli in awake and anesthetized finches. A. YOSHIDA*; M. INDA; K. HOTTA; K. OKA. *Keio-Univ. Biophysics and Neuroinformatics Lab.*

4:00 I15 **574.04** Representation of behavioral integration time downstream of auditory cortex. J. YAO*; J. GIMOTO; D. SANES. *New York Univ.*

1:00 I16 **574.05** Characterization of modularity in the lateral cortex of the mouse inferior colliculus using a combination of optogenetic circuit mapping and *in vivo* two-photon imaging. B. A. IBRAHIM*; D. A. LLANO. *Univ. of Illinois at Urbana-Champaign.*

2:00 I17 **574.06** Neuronal dynamics of non-classically responsive cortical neurons. M. INSANALLY*; B. DEPASQUALE; B. F. ALBANNA; K. RAJAN; R. C. FROEMKE. *New York Univ. Sch. of Med., Princeton Neurosci. Institute, Princeton Univ., Fordham Univ., Dept. of Neuroscience, Icahn Sch. of Med. at Mount Sinai.*

3:00 I18 **574.07** Data-driven auditory field mapping for mice using naturalistic sounds. H. TERASHIMA*; H. TSUKANO; S. FURUKAWA. *NTT Communication Sci. Labs., Brain Res. Institute, Niigata Univ., Univ. of North Carolina at Chapel Hill.*

4:00 I19 **574.08** Response properties of the bat primary auditory cortex to frequency-modulated stimuli. K. BAKSHI*; S. MACIAS HERRERA; M. S. SMOTHERMAN. *Texas A&M Univ. Inst. For Neurosci., Texas A&M Univ. Dept. of Biol.*

1:00 I20 **574.09** ● Auditory neurofeedback for noise suppression and speech enhancement. Y. DONG; Y. G. GAI*. *St. Louis Univ.*

2:00 I21 **574.10** Dynamics of primate inferior colliculus neurons during the localization of simultaneous sounds. S. M. WILLETT*; S. T. TOKDAR; J. M. GROH. *Duke Univ., Duke Univ., Duke Univ.*

3:00 I22 **574.11** ▲ Modeling nonlinear dendritic integration in space-specific auditory neurons of barn owls. J. C. GORMAN; A. V. R. MILLER; J. L. PENA; B. J. FISCHER*. *Seattle Univ., Albert Einstein Col. of Med.*

4:00 I23 **574.12** Causal relationship between right auditory cortex and speech-evoked frequency following responses: Evidence from tDCS and EEG. G. MAI*; P. HOWELL. *Univ. Col. London.*

1:00 I24 **574.13** Phonological feature and pitch classification with a branched convolutional neural network. I. M. GRIFFITH*; S. JAIN; A. G. HUTH; L. S. HAMILTON. *Univ. of Texas At Austin, Univ. of Texas at Austin, Univ. of Texas at Austin, Univ. of Texas at Austin.*

2:00 I25 **574.14** Neural decoding model of auditory attention in a dichotic listening condition. J. PARK; J. KYONG; J. CHOI; M. SUH; S. KIM; Y. LIM*. *Seoul Natl. Univ., Hallym Univ., Korea Inst. of Sci. and Technol., Seoul Natl. Univ. Hosp., Seoul Natl. Univ.*

3:00 I26 **574.15** Neonatal exposure to mild sound in rats differentially altered FM sensitivities at the auditory cortex and midbrain. T. CHIU*; Y. LI; M. CHANG; T. WANG; D. SUTA. *Natl. Chiao-Tung Univ., Natl. Chiao-Tung Univ., Natl. Chiao-Tung Univ., China Med. Univ. Hosp., CIIRC Czech Tech. Univ.*

4:00 I27 **574.16** Reliable envelope coding from unreliable single neurons. K. B. PENIKIS*; D. H. SANES. *NYU.*

1:00 I28 **574.17** Single cell and population encoding in input and associative layers of mouse auditory cortex across strains. Z. BOWEN*; D. E. WINKOWSKI; D. PLENZ; P. O. KANOLD. *Univ. of Maryland, Natl. Inst. of Mental Health, NIH, Univ. of Maryland.*

2:00 I29 **574.18** Decision tree based phonetic selectivity using high density µECoG-recordings. S. DURAIVEL*; C. CHIANG; K. BARTH; I. RACHINSKIY; M. HAGLUND; D. G. SOUTHWELL; S. SINHA; J. VIVENTI; G. B. COGAN. *Duke Univ., Duke Univ., Duke Univ., Duke Univ., Duke Univ.*

Tues. PM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 I30 **574.19** Effects of arousal on population coding of natural sounds in primary auditory cortex. C. R. HELLER*; D. SADERI; Z. P. SCHWARTZ; S. V. DAVID. *Oregon Hlth. and Sci. Univ.*

4:00 I31 **574.20** Differential roles of somatostatin and parvalbumin-positive interneurons in contrast gain control. C. F. ANGELONI*; X. DING; M. N. GEFFEN. *Univ. of Pennsylvania.*

1:00 I32 **574.21** Characterizing the nonlinear encoding of speech in the human auditory cortex. M. KESHISHIAN*; H. AKBARI; B. KHALIGHINEJAD; J. L. HERRERO; A. D. MEHTA; N. MESGARANI. *Columbia Univ., Columbia Univ., The Feinstein Inst. For Med. Res., Hofstra North Shore LIJ Sch. of Med.*

2:00 I33 **574.22** Multi voxel pattern analysis of auditory oddball as a tool for investigating locus coeruleus modulation of perceptual circuits. K. C. YAGHOUBI*; M. ALIZADEH SHALCHY; X. CHEN; J. LANGLEY; I. J. BENNETT; X. P. HU; A. R. SEITZ; M. A. K. PETERS. *Univ. of California, Riverside, Univ. of California, Riverside, Univ. of California, Riverside.*

3:00 I34 **574.23** ● Vivarium and laboratory noise, ultrasonic noise, and vibration as unrecognized experimental confounds in neuroscience research. J. G. TURNER*. *Illinois Col., Turner Scientific.*

4:00 I35 **574.24** Mismatch responses at the scalp and primary auditory cortex of the rhesus macaque: Mismatch negativity, mismatch positivity, stimulus specific adaptation and deviance detection. T. TEICHERT*. *Univ. of Pittsburgh.*

1:00 I36 **574.25** ● Laminar origin of evoked ECoG high-gamma activity. M. DOUGHERTY*; A. P. Q. NGUYEN; V. BARATHAM; K. E. BOUCHARD. *Lawrence Berkeley Natl. Lab., Univ. of Iowa, UC Berkeley.*

2:00 I37 **574.26** ● Evoking potentials without events: Intrinsic response identification in neural recordings using higher-order spectra. C. K. KOVACH*; K. V. NOURSKI; P. E. GANDER; H. OYA; H. KAWASAKI; M. A. HOWARD, III. *Univ. of Iowa Hosp. and Clinics.*

3:00 I38 **574.27** Neurons in auditory cortex integrate statistical regularities on different time scales. L. GARAMI*; C. F. ANGELONI; X. DING; M. N. GEFFEN. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

4:00 I39 **574.28** Role of interneurons in populations' neural coding in auditory cortex. M. TOBIN*; K. WOOD; X. DING; M. N. GEFFEN. *Univ. of Pennsylvania.*

1:00 I40 **574.29** Reorganization of cortical population neuronal activity following differential auditory fear conditioning. K. WOOD*; R. BETZEL; D. S. BASSETT; M. N. GEFFEN. *Univ. of Pennsylvania, Indiana Univ., Univ. of Pennsylvania.*

2:00 I41 **574.30** Transformation of sound representations between inferior colliculus and auditory cortex. J. BOURG*; A. KEMPF; T. TARPIN; B. BATHELLIER. *CNRS, ENS, CNRS.*

POSTER

575. Cellular Mechanisms of Retinal Connectivity in Health and Disease

Theme D – Sensory Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 I42 **575.01** Antibodies against lysophosphatidic acid protected against blast-induced ocular dysfunctions. P. ARUN*; A. BATUURE; F. ROSSETTI; D. WILDER; J. DEMAR; Y. WANG; I. GIST; A. MORRIS; R. SABBADINI; J. LONG. *Walter Reed Army Inst. of Res., Univ. of Kentucky, San Diego State Univ.*

2:00 I43 **575.02** The role of microRNA-150 in the pathogenesis of diabetic retinopathy. F. YU*; S. CHAPMAN; M. L. KO; G. Y. KO. *Texas A&M Univ., Texas A&M Univ., Texas A&M Univ.*

3:00 I44 **575.03** A retinal photoreceptor distribution model based on an algorithm of the Voronoi diagram. K. MIYATAKE*; T. KOHAMA. *Kindai Univ.*

4:00 J1 **575.04** Crx is posttranscriptional regulated by daylight stimulation in postnatal rat retinal neurocytes. J. ZHUANG*; K. YU; Y. WU; J. QIU; Z. LAI; S. CHEN; M. TANG. *Zhongshan Ophthalmic Center, Sun Yat-Sen Univ.*

1:00 J2 **575.05** Adenosine reduces photoreceptor damage in a zebrafish light-induced damage model of age-related macular degeneration. A. KHAN*; S. L. STELLA, Jr. *Penn State Univ. Col. of Med.*

2:00 J3 **575.06** Melanopsin (Opn4) regulates retinal neuron diversity during fetal development. S. DSOUZA*; M. NGUYEN; R. LANG. *Cincinnati Children's Hosp. Med. Ctr.*

3:00 J4 **575.07** The GABAergic phenotype of horizontal cells in the mouse retina. Z. URESTI*; M. MIRANDA-ARANGO. *The Univ. of Texas At El Paso.*

4:00 J5 **575.08** Novel roles for encephalopsin (OPN3) within the mammalian central nervous system. B. A. UPTON*; G. NAYAK; K. ZHANG; R. A. LANG. *Cincinnati Children's Hosp. Med. Ctr.*

1:00 J6 **575.09** GABA release by intrinsically photosensitive retinal ganglion cells influences non-image forming vision. T. SONODA*; T. M. SCHMIDT. *Northwestern Univ.*

2:00 J7 **575.10** Light regulates gut microbiome composition and rhythmicity through ipRGCs. T. LU*; C. LEE. *Natl. Taiwan Universiy, Natl. Taiwan Univ.*

3:00 J8 **575.11** Light modulates oxytocin release and sociosexual behavior in mice through ipRGCs. J. YU*; P. LIAO; S. CHEN. *Natl. Taiwan Univ.*

4:00 J9 **575.12** ▲ A mouse training protocol for time perception test. F. LIANG*; S. CHEN. *Natl. Taiwan Univ.*

1:00 J10 **575.13** Mouse rod photoreceptor ribbons are essential for the formation of a large pool of primed vesicles. C. P. GRABNER*; T. MOSER. *Max Planck Inst. For Biophysical Chem., Univ. Med. Ctr. Goettingen.*

2:00 J11 **575.14** Cannabinoid receptors as modulators of cell migration in retinoblastoma. C. M. VECCHINI-RODRIGUEZ*; Y. OQUENDO-ALVARADO; F. BIAGGI-HUYKE; M. PORTELA-VÁZQUEZ; J. FLORES-OTERO. *Univ. of Puerto Rico Sch. of Med., Comprehensive Cancer Ctr., Inst. of Neurobio., Univ. of Puerto Rico, Villanova Univ.*

3:00 J12 **575.15** Light at night influences intestine transcriptome profile in mice. I. LEE*; S. CHEN. *NTU.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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* Indicates abstract's submitting author

4:00 J13 **575.16** LKB1 is required for cone photoreceptor nuclear positioning and function. C. BURGER*; F. LI; N. ALBRECHT; D. JIANG; M. A. SAMUEL. *Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med.*

1:00 J14 **575.17** Gene delivery to cone photoreceptors by subretinal injection of rAAV2/6 in the mouse retina. M. FUKUTOME; T. HORI; C. MAEJIMA; H. MATSUSHIMA; K. KOBAYASHI; S. KITAZAWA; R. KITAHARA; K. KITANO; K. KOBAYASHI; S. MORITOH; C. KOIKE*. *Ritsumeikan Univ., Natl. Inst. for Physiological Sci., Ritsumeikan Univ.*

1:00 DP06/J15 **575.18** (Dynamic Poster) Using cell atlases to investigate the evolution and development of retinal cell types in multiple vertebrate species. Y. PENG*; W. YAN; K. SHEKHAR; M. LABOULAYE; M. YAMAGATA; Q. ZHANG; G. FENG; A. REGEV; J. R. SANES. *Harvard Univ., Broad Inst. of MIT and Harvard, MIT, Broad Inst. of MIT and Harvard, MIT.*

3:00 J16 **575.19** Transcriptomic classification of retina cells from human and non-human primate. W. YAN*; Y. PENG; T. VAN ZYL; Q. ZHANG; G. FENG; J. R. SANES. *Harvard Univ., Massachusetts Eye and Ear Infirmary, Harvard Med. Sch., MIT.*

4:00 J17 **575.20** Alterations in photoreceptor signals due to thyroid hormone receptor beta mutations are present in larval and adult zebrafish. C. DEVEAU*; J. XIAODONG; T. YOSHIMATSU; S. SUZUKI; J. HEJTMANCIK; R. NELSON. *NIH NINDS, NIH NEI, Univ. of Sussex, Univ. of Washington.*

1:00 J18 **575.21** Neural mechanisms of contextual modulation in the retinal direction selective circuit. X. HUANG*; M. RANGEL; K. L. BRIGGMAN; W. WEI. *The Univ. of Chicago, Ctr. of Advanced European Studies and Res., Univ. of Chicago.*

2:00 J19 **575.22** ▲ Enhancement of information transfer on mouse retina by the addition of external noise. A. HUNG*; J. J. WU; C. CHAN; C. CHIAO. *Natl. Tsing-Hua Univ., Academia Sinica.*

3:00 J20 **575.23** Neonatal retinal waves revisited: Evidence for a novel, transient population of hyper-connected cholinergic cellular clusters. E. SERNAGOR*; J. DE MONTIGNY; V. KRISHNAMOORTHY. *Newcastle Univ.*

4:00 J21 **575.24** Development of direction selectivity maps in the mouse retina. A. TIRIAC*; M. B. FELLER. *Univ. of California Berkeley.*

1:00 DP05/J22 **575.25** (Dynamic Poster) Temporal dynamics of inhibitory circuits shape the directional code of the retina. L. ANKRI*; E. EZRA-TSUR; M. RIVLIN-ETZION. *Weizmann Inst. of Sci., Weizmann Inst. of Sci.*

2:00 J23 **575.26** Saccadic suppression in the retina and its underlying mechanisms. S. IDREES*; F. FRANKE; M. BAUMANN; Z. M. HAFED; T. A. MÜNCH. *Werner Reichardt Ctr. for Integrative Neurosci., ETH Zürich, Hertie Inst. for Clin. Brain Res., Inst. for Ophthalmic Res.*

3:00 J24 **575.27** Intrinsic properties shape a feature selectivity computation in a novel RGC. S. WIENBAR*; G. SCHWARTZ. *Northwestern Univ.*

4:00 J25 **575.28** Gap junction coupling shapes the encoding of light in the newborn retina. F. CAVAL-HOLME*; C. VOUFO; Y. ZHANG; M. B. FELLER. *Univ. of California Berkeley.*

POSTER

576. Visual System: Response Modulation and Adaptation

Theme D – Sensory Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 J26 **576.01** Visual evoked magnetic fields to 8Hz repetitive pattern-reversal stimulation. Y. GOTO*; S. TOBIMATSU. *Sch. of Medicine, Intl. Univ. of Helth and Welfare, Kyushu Univ, Grad Sch. Med. Sci.*

2:00 J27 **576.02** Functional characteristics of stimulus driven resting state fMRI signals. Y. SUNG*; S. OGAWA. *Tohoku Fukushi Univ., Touhoku Fukushi Univ.*

3:00 J28 **576.03** Contrast dependent spatial frequency tuning dynamics in the cat primary visual cortex. H. TANAKA*. *Kyoto Sangyo Univ.*

4:00 J29 **576.04** Visual oddball paradigm reveals feature non-specific prediction errors in V1 of a mouse model of fragile X syndrome. A. PAK*; S. T. KISSINGER; A. A. CHUBYKIN. *Purdue Univ.*

1:00 J30 **576.05** A periorbital pulse current stimulation preceding upcoming visual stimulation causes macroscopic changes in visual information processing in healthy humans - An EEG study. P. DZWINIEL*; M. ŁABĘCKI; I. RACIBORSKA; M. ŻEBROWSKA; W. J. WALESZCZYK. *Nencki Inst. of Exptl. Biol. PAS, Univ. of Warsaw.*

2:00 J31 **576.06** Cross-orientation suppression in mouse visual cortex. D. J. BARBERA*; N. J. PRIEBE. *The Univ. of Texas at Austin.*

3:00 J32 **576.07** Skewed distribution of response reliability in mouse V1 across different types of visual stimuli. J. XIA*; P. O'NEILL; M. GOARD; R. WESSEL. *Washington Univ. In St. Louis, New York Univ., Univ. of California, Santa Barbara.*

4:00 J33 **576.08** Serotonergic modulation of functional connectivity in V1 of awake macaques. L. SEILLIER*; K. KAWAGUCHI; H. NIENBORG. *Ctr. For Integrative Neuroscience, Uni Tuebingen.*

1:00 J34 **576.09** Combined visual and patterned optogenetic stimulation of ferret visual cortex reveals that cortical circuits may work in the supralinear stabilized network regime. S. WANG*; K. D. MILLER; S. D. VAN HOOSER. *Brandeis Univ., Columbia Univ.*

2:00 J35 **576.10** Impact of experience on tuning diversity and natural scene discriminability in primary visual cortex. P. L. STAN; J. E. KAUTTONEN; B. JEON; T. FUCHS; S. M. CHASE; T. LEE; S. J. KUHLMAN*. *Univ. of Pittsburgh, Carnegie Mellon Univ., Carnegie Mellon Univ., Carnegie Mellon Univ.*

3:00 J36 **576.11** Synaptic mechanisms underlying rapid adaptation in mouse visual cortex. J. Y. LI*; L. L. GLICKFELD. *Duke Univ.*

4:00 J37 **576.12** Cellular representation of visual recognition memory in the mouse primary visual cortex. T. KIM*; M. T. HARNETT; M. F. BEAR. *MIT, MIT.*

1:00 J38 **576.13** Cross-species analysis of mismatch negativity responses in primary visual cortex of mice and ferrets. T. SIKKENS*; L. M. F. KLAVER; M. A. MULLER; C. M. A. PENNARTZ; C. A. BOSMAN; U. OLCESE. *Univ. of Amsterdam.*

2:00 J39 **576.14** Contribution of receptive field center and surround to repetition suppression in macaque visual area V2. N. P. WILLIAMS*; C. R. OLSON. *Carnegie Mellon Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 J40 **576.15** Cholinergic enhancement of visual conditioning on cortical activity mapping. G. LALIBERTÉ*; E. VAUCHER. *Univ. of Montreal.*

4:00 J41 **576.16** Spatiotemporal dynamics of brightness coding in human visual cortex revealed by the temporal context effect. H. ZHOU*; M. DAVIDSON; P. KOK; L. MCCURDY; F. P. DE LANGE; H. LAU; K. SANDBERG. *Aarhus Univ., Donders Inst. for Brain, Cognition, and Behaviour, UCL, Yale Univ., Radboud Univ. Nijmegen, Dept. of Psychology, Aarhus Univ. Hosp.*

1:00 J42 **576.17** Following neural response against 15Hz blinking light stimuli in goldfish's optic-tectum. A. FUNASE*; Y. SUZUKI; S. FUJIWARA; S. MIKI; I. TAKUMI; Y. HIRATA. *Nagoya Inst. of Technol., Dept. Physiol. St. Marianna Univ. Sch. Med., Chubu Univ., Chubu Univ. Col. of Engin.*

2:00 J43 **576.18** Monocular and binocular components of contrast gain control in primate V1. L. PALMIERI; B. G. C. CUMMING*. *Natl. Eye Institute, NIH.*

3:00 J44 **576.19** ▲ A model of efficient coding for motion without ambiguity in cortical area MT. N. A. LINGAREDDY; B. LIU; L. C. OSBORNE; S. E. PALMER*. *Univ. of Chicago, Duke Universtiy, Duke Univ., Univ. of Chicago.*

4:00 J45 **576.20** Efficiency without ambiguity: An adaptive sensory code in cortical area MT. B. LIU; L. C. OSBORNE*. *Duke Univ.*

POSTER

577. Visual Pathways: To and From the Cortex

Theme D – Sensory Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 J46 **577.01** Pulvinar mediates the oscillatory transmission across low to high hierarchical cortical areas. N. CORTES*; B. SOUZA; C. F. CASANOVA. *Univ. de Montréal, Univ. du Québec à Trois Rivières.*

2:00 K1 **577.02** Dynamic functional influence of corticothalamic pathways on first- and higher-order visual thalamus. M. A. KIRCHGESSNER*; A. D. FRANKLIN; E. M. CALLAWAY. *Salk Inst. for Biol. Studies, UC San Diego, UC San Diego.*

3:00 K2 **577.03** Morphology of the projection of the visual cortex to the claustrum in the mouse: A single axon study. E. FRIGON*; J. ROY; D. BOIRE. *Univ. Du Quebec A Trois-Rivieres, Dept. d'anatomie.*

4:00 K3 **577.04** On-afferent inhibition underlies stronger V1 responses to dark. D. ST-AMAND*; C. L. BAKER*. *McGill Univ., McGill Vision Res. Unit.*

1:00 K4 **577.05** Spatiochromatic processing in adults who had childhood unilateral amblyopia. M. A. KLASSEN; H. D. J. HATHARASINGHAGE; A. R. CRAIG; C. S. CHISHOLM; C. BEADLE; M. F. WESNER*. *Lakehead Univ., Lakehead Univ., Lakehead Univ.*

2:00 K5 **577.06** Late dark rearing disrupts axis selectivity in the mouse thalamus and primary visual cortex. C. STEPHANY*; N. PICARD; M. FAGIOLINI; C. CHEN. *F.M. Kirby Neurobio. Center, Boston Children's Hosp.*

3:00 K6 **577.07** Perceptual similarity arises from center-surround interactions. E. F. W. BOWEN; E. CHILDERS; A. RODRIGUEZ; R. GRANGER*. *Dartmouth.*

4:00 K7 **577.08** Identifying neural circuits underlying visually evoked entrainment. C. ADAIKKAN*; K. ABDELAAL; M. MURDOCK; A. J. HUANG; H. A. SULLIVAN; I. WICKERSHAM; T. J. MCHUGH; L. TSAI. *MIT, RIKEN Ctr. for Brain Sci., MIT.*

1:00 K8 **577.09** Mapping functional thalamocortical connections in the mouse visual system. J. ZHUANG*; S. CHATTERJEE; R. LARSEN; K. TAKASAKI; N. OUELLETTE; B. MACLENNAN; J. WATERS; C. REID. *Allen Inst. for Brain Sci.*

2:00 K9 **577.10** Encoding models of visual and electrical stimuli in rat lateral geniculate nucleus: A deep learning approach. E. MOUNIR; B. ABDULLAH; H. M. K. MAHDI; S. ELDAWLATLY*. *Ain Shams Univ., German Univ. in Cairo.*

3:00 K10 **577.11** Using macromolecular tissue volume mapping to parcellate magno and parvo subdivisions in the human lateral geniculate nucleus. H. OISHI*; H. TAKEMURA; K. AMANO. *Ctr. for Information and Neural Networks (CiNet), Natl. Inst. of Information and Communication, Osaka Univ.*

4:00 K11 **577.12** Rules of connectivity limiting promiscuous relations between LGN concentric neurons and retinotopically aligned fast-spike interneurons in rabbit V1. Y. BERESHPLOVA; X. HEI; J. ALONSO; H. A. SWADLOW*. *Univ. of Connecticut, SUNY Optometry.*

1:00 K12 **577.13** Activation of a visual cortical column by a directionally selective thalamocortical neuron. Y. I. BERESHPOLOVA*; C. R. STOELZEL; C. SU; J. ALONSO; H. A. SWADLOW. *Univ. of Connecticut, SUNY Optometry.*

2:00 K13 **577.14** Primary visual cortex representing central, near peripheral, and far peripheral vision are differentially functionally connected, and these differences follow patterns of known brain networks. P. DEMIRAYAK*; S. SIMS; U. PANDEY; K. VISSCHER. *Univ. of Alabama At Birmingham.*

3:00 K14 **577.15** Retinotopic patterns of structural connectivity between V1 and functional networks. S. A. SIMS*; U. PANDEY; S. CEDOTAL; J. L. ROBINSON; K. M. VISSCHER. *Univ. of Alabama At Birmingham, Auburn Univ., Univ. of Alabama at Birmingham.*

4:00 K15 **577.16** Distinct cellular and network responses to thalamo-cortical versus cortico-cortical L1 inputs in non-primary neocortex. C. MURPHY*; B. M. KRAUSE; M. I. BANKS. *Univ. of Wisconsin.*

1:00 K16 **577.17** Structural measures of magno- and parvocellular projections in visual cortex using ultra-high field fMRI. K. T. NAVARRO*; K. B. WELDON; M. J. SANCHEZ; K. E. M. TREGILLUS; S. A. ENGEL; C. A. OLMAN. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota Dept. of Psychology.*

2:00 K17 **577.18** What degree of global synchrony exists in noradrenergic and cholinergic axons across mouse cortex? L. N. COLLINS*; E. D. VICKERS; D. A. MCCORMICK. *Univ. of Oregon.*

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* Indicates abstract's submitting author

POSTER

578. Multi-Sensory Integration

Theme D – Sensory Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 K18 **578.01** ▲ An electroencephalography investigation of the effects of attention on crossmodal temporal acuity. C. BABARINSA*; Z. KEELEY; K. HIRABAYASHI; S. PAPADAKIS; Z. BARNES-SCOTT; R. JAFFE; L. D. KWAKYE. *Oberlin Col.*

2:00 K19 **578.02** ▲ Bayesian causal inference modeling of attentional effects on the temporal binding window of multisensory integration. V. L. FISHER*; M. JACKSON; C. NAVE; O. JUNG-BEEMAN; L. D. KWAKYE. *Oberlin Col., Oberlin Col.*

3:00 K20 **578.03** Visual modulation of neuronal firing in the macaque auditory core. J. J. ORCZYK; C. E. SCHROEDER; Y. KAJIKAWA*. *Nathan Kline Inst., Columbia Univ. Col. of Physicians and Surgeons.*

4:00 K21 **578.04** Audiovisual integration in anterior fundus face patch of macaque monkeys. A. P. KHANDHADIA*; A. P. MURPHY; L. M. ROMANSKI; J. K. BIZLEY; D. A. LEOPOLD. *NIMH, Univ. of Rochester Sch. of Med. and Dent., UCL Ear Institute, 332 Grays Inn Road.*

1:00 K22 **578.05** Neural basis of stereognosis in somatosensory system. E. V. OKOROKOVA*; C. M. GREENSPON; Q. HE; S. J. BENSMAIA. *Univ. of Chicago, Univ. of Chicago, Univ. of Chicago.*

2:00 K23 **578.06** ▲ Vision automatically exerts online and offline influences on tactile spatial perception. Y. R. WANI; S. CONVENTO; J. M. YAU*. *Baylor Col. of Med.*

3:00 K24 **578.07** Olfacto-tactile interactions in mice whisker somatosensory areas S1 and S2. A. RENARD*; E. HARRELL; B. BATHELLIER. *CNRS.*

4:00 K25 **578.08** Alpha and beta band brain activity tracks the temporal correlation between auditory and visual stimuli. A. R. NIDIFFER*; E. C. LALOR. *Univ. of Rochester, Trinity Col. Dublin, Trinity Col. Dublin, Univ. of Rochester.*

1:00 K26 **578.09** Crossing the hands in cross-modal contexts affects the spatial cognition: Evidence from EEG. A. BOLLINI*; C. CAMPUS; M. GORI. *Inst. Italiano Di Tecnologia (IIT).*

2:00 K27 **578.10** Decoding anticipatory action plans using EEG event-related potentials. T. C. CHEUNG*; L. L. GUO; A. FROST; C. PEREIRA; M. NIEMEIER. *Univ. of Toronto Scarborough.*

3:00 K28 **578.11** Relationship between saccade-related eardrum oscillations and clinical measures of middle ear impedance. C. KING*; R. LANDRUM; D. MURPHY; S. SCHLEBUSCH; D. KAYLIE; C. A. SHERA; J. GROH. *Duke Univ., USC.*

4:00 K29 **578.12** Eye movement is linearly encoded by eardrum motion: The decipherable EMREO. D. L. K. MURPHY*; C. D. KING; R. LANDRUM; S. SCHLEBUSCH; C. A. SHERA; J. M. GROH. *Duke Univ., USC.*

1:00 K30 **578.13** Changes in saccade-related eardrum oscillations after surgical denervation of the stapedius muscle. S. N. SCHLEBUSCH*; M. W. COOPER; D. M. KAYLIE; D. L. K. MURPHY; C. D. KING; C. A. SHERA; J. M. GROH. *Duke Univ., USC.*

2:00 K31 **578.14** Stimulus salience and spatial correspondence determine enhancement or depression of multisensory integration in fish. N. MARTORELL; M. PERARA; V. MEDAN*. *Univ. of Buenos Aires, IFIBYNE-CONICET.*

3:00 K32 **578.15** ▲ Auditory-visual multisensory enhancement in a vertebrate command neuron. S. OTERO CORONEL*; V. MEDAN. *Univ. of Buenos Aires, CONICET - Univ. of Buenos Aires, Univ. of Buenos Aires, CONICET - Univ. of Buenos Aires.*

4:00 K33 **578.16** Functional magnetic resonance response shape and the inhibitory system. D. AKSENOV; L. LI; M. MILLER; A. M. WYRWICZ*. *Northshore Univ. Healthsystem.*

1:00 K34 **578.17** Transcriptional analysis of circadian correlations among dopamine, dopaminergic receptors and clocks genes in spinal cord of rat. C. PIÑA LEYVA*; B. FLORÁN GARDUÑO; L. RODRÍGUEZ SOSA; I. JIMÉNEZ ESTRADA; J. GONZÁLEZ BARRIOS. *CINVESTAV, Hosp. Regional "1° de Octubre", ISSSTE, UNAM.*

2:00 K35 **578.18** Implications of firing rate changes in the claustrum during classical conditioning. M. REUS-GARCIA*; N. PERETZ-RIVLIN; G. ATLAN; A. CITRI; A. GRUART; J. DELGADO-GARCIA. *Pablo de Olavide Univ., The Hebrew Univ.*

3:00 K36 **578.19** Atypical afferents of the thalamic reticular nucleus. B. D. RICHARDSON*; E. J. HANSEN. *Univ. of Idaho, Univ. of Idaho.*

4:00 K37 **578.20** Multisensory integration related to dentition in the neocortex of the naked mole-rat (Heterocephalus glaber). N. J. M. HITE*; J. NIE; D. K. SARKO. *Southern Illinois University, Sch. of Med., Southern Illinois University, Sch. of Med., Southern Illinois University, Sch. of Med.*

1:00 K38 **578.21** *In vivo* recordings of opto-tagged S1-projecting claustrocortical neurons in a cross-modal detection task. M. CHEVÉE*; E. F. FINKEL; D. H. O'CONNOR; S. P. BROWN. *Johns Hopkins Univ. Sch. of Med.*

2:00 K39 **578.22** Multisensory responses in primary auditory cortex of the cat. C. BOUCHER*; X. BAO; Y. MERRIKHI; M. MEREDITH; S. G. LOMBER. *McGill Univ., Virginia Commonwealth Univ.*

3:00 K40 **578.23** Cortico-cortical representation induced by conditioning in primary of auditory, visual, somatosensory cortices. G. TASAKA*; Y. IDE; M. TAKAHASHI; N. NAKAJIMA; T. AIHARA. *Tamagawa Univ., Tamagawa Univ., Tamagawa Univ.*

4:00 L1 **578.24** Brain miniaturization: Comparisons of the neuroarchitectures of brains in the honey bee and stingless bees. I. T. SINAKEVITCH*; S. NIVERTY; N. CHAWLA; B. H. SMITH. *Arizona State Univ.*

POSTER

579. Cerebellum: Cortex and Nuclei II

Theme E – Motor Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 L2 **579.01** Plasticity of ponto-cerebellar circuits generates a prospective error signal in climbing fibers. S. OHMAE*; J. F. MEDINA. *Baylor Col. of Med.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 L3 **579.02** The cerebellum and prefrontal cortex cooperate to perform a cognitive timing task in mice. G. J. WOJACZYNSKI*; J. J. SIEGEL; J. F. MEDINA. *Baylor Col. of Med.*

3:00 L4 **579.03** Evidence that the cerebellum coordinates movement on the mental number line. J. S. TSAY*; M. KING; S. D. MCDOUGLE; R. IVRY. *Univ. of California Berkeley.*

4:00 L5 **579.04** Cerebellar modulation of attention to distractor stimuli in a sensory conflict task: A transcranial magnetic stimulation study. D. R. ANDREW*; M. S. ADAMS; S. R. MUIR; W. R. STAINES. *Univ. of Waterloo.*

1:00 L6 **579.05** The cerebellar dentate nucleus in autism: Are neurons and their perineuronal nets preserved despite missing purkinje cells? C. BRANDENBURG*; B. WHITE; C. ENSOR; G. J. BLATT. *Hussman Inst. For Autism, Hussman Inst. for Autism.*

2:00 L7 **579.06** The influence of cerebellar transcranial direct current stimulation applied over multiple days on motor learning in an overhand throwing task. L. LIMA DE ALBUQUERQUE*; D. LIDSTONE; M. PANTOVIC; I. MUNOZ; M. K. ZUROWSKI; E. W. WILKINS; J. S. DUFEK; B. J. POSTON. *Univ. of Nevada, Las Vegas.*

3:00 L8 **579.07** Cerebellar high gamma activation during performance of a reaching task in MEG. F. W. CARVER; L. SEPE-FORREST; R. QUENTIN; T. HOLROYD; R. COPPOLA*; A. C. NUGENT. *NIMH, NINDS.*

4:00 L9 **579.08** Neural connections between oculomotor neural integrators and vestibulo-cerebellum. T. SUGIMURA; Y. SAITO*. *Nara Med. Univ.*

1:00 L10 **579.09** Spike sorting for multichannel recordings in floccular complex of the primate cerebellum. N. J. HALL*; D. J. HERZFELD; S. G. LISBERGER. *Duke Univ.*

2:00 L11 **579.10** ▲ Responses of mouse cerebellar Purkinje cells to omissions in regular trains of sensory stimuli. G. W. ZEMPOLICH*; S. T. BROWN; I. M. RAMAN. *Northwestern Univ.*

3:00 L12 **579.11** Sensory experience remodels genome architecture in a neural circuit to drive motor learning. P. VALNEGRI*; T. YAMADA; Y. YANG; A. BONNI. *Northwestern Univ., Washington Univ. Sch. of Med., Univ. of Tsukuba.*

4:00 L13 **579.12** Cerebellar output pathways for spatial and temporal locomotor calibration. D. M. DARMOHRAY; M. R. MACIEL; J. JACOBS; M. R. CAREY*. *Champalimaud Ctr. For the Unknown, Champalimaud Fndn., Champalimaud Ctr. For the Unknown.*

1:00 L14 **579.13** Selective modular expansion of the cortico-cerebellar system explains variation in brain size among primates and humans. J. SMAERS*; D. VANIER. *Stony Brook Univ.*

2:00 L15 **579.14** Focal adhesion proteins and Calpain are involved in the reorganization of the actin cytoskeleton of Bergmann fibers. Y. BASTIAN; J. A. MENDEZ*. *IMSS, Univ. Autonoma De San Luis Potosi.*

3:00 L16 **579.15** Dopaminergic modulation of cerebellar UBCs. E. CANTON*; V. DUMRONGPRECHACHAN; Y. KOZOROVITSKIY. *Northwestern Univ.*

4:00 L17 **579.16** Training of marmoset monkey for head-fixed electrophysiological recordings from the cerebellum. P. HAGE*; E. SEDAGHAT-NEJAD; K. KARBASI; T. PALIN; R. SHADMEHR. *Johns Hopkins Sch. of Med., Johns Hopkins Univ., Johns Hopkins Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ. Dept. of Biomed. Engin.*

1:00 L18 **579.17** Cerebellar and cerebral cortical responses to transcranial alternating current stimulation using an *in vivo* approach. R. A. HEFFNER*; R. DAVIS; F. ANDERSON; T. COFER; H. LU. *Philadelphia Col. of Osteo. Med. GA.*

2:00 L19 **579.18** Convergence of sensory-evoked signals via multiple pathways in the cerebellum. T. ISHIKAWA*; I. SUGIHARA; M. SHIMUTA. *Jikei Univ. Sch. of Med., Tokyo Med. & Dent. Univ.*

3:00 L20 **579.19** Effect of cerebellar theta burst stimulation on plasticity of interconnected parietal and motor areas. E. GOLDENKOFF; T. G. LEE; M. VESIA*. *Univ. of Michigan, Univ. of Michigan.*

4:00 L21 **579.20** Neuronal signals regulating and monitoring of synchronized saccade timing in the primate deep cerebellar nuclei. R. TAKEYA*; M. TANAKA. *Hokkaido Univ. Sch. Med.*

1:00 L22 **579.21** Regulatory control of microglial phagocytosis by estradiol and prostaglandin E2 in the developing rat cerebellum. M. PEREZ-POUCHOULEN*; S. J. YU; C. R. ROBY; N. BONSAVAGE; M. M. MCCARTHY. *Univ. of Maryland Sch. of Med.*

2:00 L23 **579.22** ● Eye-blink conditioning in awake and intact ferrets. R. P. PATEL*; C. ZHOU; C. J. BENNETT; H. EYBPOSH; R. RUCHO; G. LABROZZI; C. CAI; J. TURNER; W. A. HUANG; F. FROHLICH; A. GIOVANNUCCI. *Univ. of North Carolina-Chapel Hill, Univ. of North Carolina-Chapel Hill, Univ. of North Carolina-Chapel Hill/NCSU, Univ. of North Carolina-Chapel Hill/NCSU.*

POSTER

580. Basal Ganglia: Pathophysiology

Theme E – Motor Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 L24 **580.01** A novel basal ganglia thalamocortical normal and pathological motor circuitry model. D. KUMBHARE*; G. WEISTROFFER; M. S. BARON. *Virginia Commonwealth Univ., Hunter Holmes McGuire Res. Inst., Virginia Commonwealth Univ., Virginia Commonwealth Univ., Hunter Holmes McGuire Res. Inst.*

2:00 L25 **580.02** Parkinsonism and dystonia originate differentially along highly discrete cortical basal ganglia motor subcircuits. G. WEISTROFFER*; D. KUMBHARE; M. S. BARON. *Virginia Commonwealth Univ., Hunter Holmes McGuire VA Med. Ctr., Virginia Commonwealth Univ., VCUMC/VCUHS, Hunter Holmes McGuire VA Med. Ctr.*

3:00 L26 **580.03** Distinct striatal population dynamics during voluntary movement under healthy and disease conditions. D. ZEMEL*; H. J. GRITTON; M. F. ROMANO; X. HAN. *Boston Univ.*

4:00 L27 **580.04** Regulation of Parkinsonian motor behaviors by a diencephalon-midbrain circuitry. L. LI*; Y. LI; X. LI. *Zhejiang Univ.*

1:00 L28 **580.05** Deep brain stimulation of the Tourette Syndrome target (centromedian-parafascicular complex) results in striatal dopamine efflux in the rat. A. E. RUSHEEN*; A. S. BARATH; H. SHIN; J. ROJAS CABRERA; K. E. BENNET; C. D. BLAHA; Y. OH; K. H. LEE. *Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 L29 **580.06** Phase-dependent electrical stimulation modulates phase-amplitude coupling in Parkinson's disease. Y. SALIMPOUR*; K. A. MILLS; W. S. ANDERSON. *Johns Hopkins Sch. of Med., Johns Hopkins Univ.*

3:00 L30 **580.07** Diverse mechanisms lead to common dysfunction of striatal cholinergic interneurons in distinct genetic mouse models of dystonia. M. SCARDUZIO*; K. ESKOW JAUNARAJS; M. E. EHRLICH; L. L. MCMAHON; D. STANDAERT. *UAB, Mt. Sinai Sch. Med., UAB.*

4:00 L31 **580.08** Striatal cholinergic interneurons and fetal alcohol exposure-induced behavioral flexibility. J. WANG*; A. BINETTE; X. XIE; X. WANG; L. SMITH; R. MIRANDA. *Texas A&M Hlth. Sci. Ctr.*

1:00 L32 **580.09** Difference in pallidal single unit activity in cervical dystonia with jerky and sinusoidal head tremor. A. SEDOV*; S. USOVA; U. SEMENOVA; A. GAMALEYA; A. TOMSKIY; S. B. BEYLERGIL; H. A. JINNAH; A. G. SHAIKH. *Semenov Inst. of Chem. Physics, Russian Aca, N .N. Burdenko Natl. Scientific and Practical Ctr. for Neurosurg., Case Western Reserve, Emory Univ.*

2:00 L33 **580.10** Reversal of subthalamic nucleus dysfunction in Q175 Huntington's disease mice through viral vector mediated lowering of mutant Huntingtin. J. F. ATHERTON*; J. KONDAPALLI; D. WOKOSIN; M. D. BEVAN. *Northwestern Univ.*

3:00 L34 **580.11** Basal ganglia output in the Q175 model of Huntington's disease. A. TIRAN-CAPPELLO*; M. D. BEVAN. *Northwestern Univ.*

4:00 L35 **580.12** Altered synaptic connectivity onto a distinct subset of striatal neurons in levodopa-induced dyskinesia. A. E. GIRASOLE*; M. RYAN; M. M. MCGREGOR; R. PALETZKI; R. BRAKAJ; C. R. GERFEN; A. B. NELSON. *UCSF, UC San Francisco, UCSF, NIMH, NIMH.*

1:00 L36 **580.13** Chronic L-DOPA induces activation of SRF in the striatum of a dyskinetic rat model. I. D. LIMÓN PÉREZ DE LEÓN*; D. L. RODRÍGUEZ-REYES; V. PALAFOX-SÁNCHEZ; I. MARTÍNEZ-GARCÍA. *Benemerita Univ. Autonoma De Puebla, UCLA, Benemérita Univ. Autónoma de Puebla.*

2:00 L37 **580.14** Parkinsonian beta power during rest and movement in the globus pallidus internus and subthalamic nucleus. R. S. EISINGER*; J. CAGLE; E. OPRI; J. ALCANTARA; S. CERNERA; K. FOOTE; M. S. OKUN; A. GUNDUZ. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

3:00 L38 **580.15** Learning contributes to Parkinsonian motor impairment and requires activation of indirect pathway spiny projection neurons. T. H. C. CHEUNG*; Y. DING; X. ZHUANG; U. J. KANG. *NYU Langone Med. Ctr., Univ. of Chicago Dept. of Neurobio.*

4:00 L39 **580.16** Real time monitoring of circuit plasticity reveals a role for orbitofrontal-striatal pathway in cocaine-induced hyperlocomotion. S. BARISELLI*; N. MIYAZAKI; A. V. KRAVITZ. *NIH, NIDDK, Natl. Inst. of Hlth.*

1:00 L40 **580.17** ● Phase-dependent closed-loop modulation of beta-frequency network oscillations in Parkinsonian rats. M. ROTHWELL*; C. MCNAMARA; A. SHAROTT. *Univ. of Oxford.*

2:00 L41 **580.18** ▲ Dorsal striatum volume increase after electroconvulsive therapy correlates with improvement of psychomotor symptoms in late life depression. M. G. A. VAN CAUWENBERGE; L. EMSELL; F. BOUCKAERT; K. VANSTEELANDT; F. DE WINTER; M. LAROY; C. C. ADAMSON; A. DOLS; M. L. STEK; J. VAN DEN STOCK*; M. VANDENBULCKE. *KU Leuven, Murdoch Childrens Res. Inst., GGZ inGeest Amsterdam, VUmc Amsterdam.*

3:00 L42 **580.19** Optogenetic silencing of cholinergic neurons of the basal forebrain evokes falls and impairs cued turning in rats with striatal dopamine loss. A. KUCINSKI*; K. B. PHILLIPS; M. SARTER. *Univ. of Michigan.*

4:00 L43 **580.20** A diencephalic pathway for movement initiation and rescue of Parkinsonian symptoms. G. D. R. WATSON*; R. N. HUGHES; E. PETTER; H. H. YIN. *Duke Univ., Duke Univ., Duke Univ., Duke Univ.*

1:00 L44 **580.21** Forelimb motor learning results in specific refinements in intertrial motor variability, is associated with striatal plasticity and is impaired in mouse models of Huntington's disease. C. L. WOODARD*; M. D. SEPERS; J. D. BOYD; A. L. SOUTHWELL; M. R. HAYDEN; T. MURPHY; L. A. RAYMOND. *Univ. of British Columbia, Univ. of Central Florida.*

2:00 L45 **580.22** Dystonic-like movements in a mouse model of task-specific dystonia are stereotyped and distinct from innate behaviors. K. KERNODLE*; W. T. DAUER; D. K. LEVENTHAL. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Ann Arbor.*

3:00 L46 **580.23** Spatiotemporal dynamics of striatal circuits during repetitive behaviors in autism spectrum disorder. A. M. VICENTE*; G. J. MARTINS; V. B. PAIXAO; R. M. COSTA. *Columbia Univ., Champalimaud Fndn.*

4:00 M1 **580.24** Inhibition of signaling and metabolic pathways in the Pink1-/- rat model of early-onset Parkinsonism. C. A. KELM-NELSON*; M. R. CIUCCI. *Univ. of Wisconsin Madison Dept. of Surgery.*

1:00 M2 **580.25** Behavioral sensitization to methylphenidate is modulated by glutaminergic signaling in the caudate nucleus. N. KING*; S. FLOREN; M. THOMAS; N. DAFNY. *Univ. of Texas McGovern Med. Sch.*

POSTER

581. Sensorimotor Transformation: Physiology and Pathophysiology

Theme E – Motor Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 M3 **581.01** Gating of sensory input during grasping in humans with spinal cord injury. R. VASTANO; M. A. PEREZ*. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr., Shirley Ryan Ability Lab.*

2:00 M4 **581.02** Multifinger interaction and coordination in levodopa naive Parkinson's disease patients: An uncontrolled manifold analysis. P. B. DE FREITAS*, Jr; S. M. FREITAS; M. M. LEWIS; X. HUANG; M. L. LATASH. *Univ. Cruzeiro Do Sul, Univ. Cidade De Sao Paulo, Pennsylvania State Univ. Dept. of Neurol., The Pennsylvania State Univ., Pennsylvania State Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 M5 **581.03** ▲ Measurement of finger range of motion in patients receiving therapy for hand paralysis: Accuracy and precision of a custom-built electrogoniometer. L. I. ZEIN; N. MAKOWSKI; C. M. MILLER*; J. KNUTSON. *Hathaway Brown Sch., Cleveland FES Ctr.*

4:00 M6 **581.04** Somatosensory cortical excitability changes earlier in human motor learning than motor cortex excitability. H. OHASHI*; P. L. GRIBBLE; D. J. OSTRY. *Haskins Labs. Inc, Western University, Canada, McGill Univ.*

1:00 M7 **581.05** Transient and tonic grasp force signals in motor cortex. B. DEKLEVA*; K. M. QUICK; J. M. WEISS; J. E. DOWNEY; N. G. HATSOPOULOS; M. BONINGER; J. L. COLLINGER. *Univ. of Pittsburgh, Univ. of Chicago, Univ. of Chicago, Univ. of Pittsburgh.*

2:00 M8 **581.06** Interactions between hand force steadiness, tactile acuity, and perceived function in children with upper limb peripheral nerve injury. R. N. LOGUE*; R. E. BIALEK; C. S. MEYERSON; L. J. YANG; S. H. BROWN. *Univ. of Michigan, Michigan Med.*

3:00 M9 **581.07** ● Functional cortical activation deficits during manual tasks in older adults with type II diabetes. S. L. GORNIAK*; A. HERNANDEZ; L. POLLONINI. *Univ. of Houston.*

4:00 M10 **581.08** ● Integrative properties and connectivity of brain sensory motor pathways in humans. S. HSSAIN-KHALLADI*; A. GIRON; C. HUNEAU; C. GITTON; D. SCHWARTZ; N. GEORGES; M. LE VAN QUYEN; G. MARRELEC; V. MARCHAND-PAUVERT. *LIB, Sorbonne Université/Inserm/CNRS , Labex SMART, Sorbonne Univ., LIB, Sorbonne Université/Inserm/CNRS, Univ. de Nantes, Ctr. de Recherche de l'ICM, INSERM UMRS 975- CNRS UMR 7225.*

1:00 M11 **581.09** A mixture of deafferented and intact digits' enrollment reveals motor inefficiency during moment-compensatory grasping tasks. W. ZHANG*; A. CARTERON; C. BENSON; B. HAHN. *City Univ. of New York / CSI, Staten Island Univ. Hosp.*

2:00 M12 **581.10** Combined brain and hand stimulation to improve hand movement after stroke, a pilot randomized trial. A. SETHI*; E. SANTARNECCHI; A. PASCUAL-LEONE. *Univ. of Pittsburgh, Beth Israel Deaconess Med. Ctr., Beth Israel Deaconess Med. Cente.*

3:00 M13 **581.11** Motor planning assessment during intraoperative functional mapping in glioma surgery. J. J. SÁNCHEZ-DUEÑAS*; A. B. SANDOVAL-BONILLA; F. DELGADO. *Univ. Nacional Autónoma De México UNAM, Inst. Mexicano del Seguro Social, Inst. Mexicano del Seguro Social.*

4:00 M14 **581.12** Touchpoints directed at 2D objects reveal medial axis sensitivity despite gross deficits in forced-choice shape discrimination: Evidence from visual form agnosia and cortical blindness. R. L. WHITWELL*; J. K. DUNKLE; J. T. ENNS. *The Univ. of British Columbia.*

1:00 DP07/M15 **581.13** (Dynamic Poster) Assessing hand dexterity after stroke in 3D. J. XU*; S. KUMAR; K. OLDS; J. BROWN; J. CARDUCCI; A. FORRENCE; K. W. JOHN. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*

2:00 M16 **581.14** Forced-use therapy improves recovery of hand motor function after sensorimotor cortex lesions in macaca mulatta. W. G. DARLING*; M. A. PIZZIMENTI; D. L. ROTELLA; J. GE; K. S. STILWELL-MORECRAFT; R. J. MORECRAFT. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa, Univ. of South Dakota, Univ. South Dakota Schl Med.*

3:00 M17 **581.15** Assessment of hand motor function in a cynomolgus monkey model of ischemic stroke using endovascular transient middle cerebral artery occlusion. C. JEON; J. WON; K. KIM; J. SEO; H. YEO; J. PARK; Y. AHN; S. LEE; K. YI; C. CHOI; S. CHA; Y. LEE*. *Korea Res. Inst. of Biosci. & Biotech., Chungbuk Natl. Univ. Hosp.*

4:00 M18 **581.16** Slow-conducting pyramidal tract neurons in macaque and rat. A. KRASKOV*; D. S. SOTEROPOULOS; I. S. GLOVER; R. N. LEMON; S. N. BAKER. *UCL Queen Square Inst. of Neurol., Newcastle Univ., UCL Queen Square Inst. of Neurol.*

1:00 M19 **581.17** Descending cortical pathways bidirectionally modulate forelimb tactile feedback in the cuneate nucleus. J. M. CONNER; A. S. BOHANNON*; D. J. BUTLER; E. AZIM. *Salk Inst. for Biol. Studies.*

POSTER

582. Animal-Reaching Motor Learning

Theme E – Motor Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 M20 **582.01** Skill acquisition increases myelination and strengthens functional connectivity in the sensorimotor circuit of the adult rat. C. SAMPAIO-BAPTISTA*; A. DE WEIJER; A. VAN DER TOORN; W. M. OTTE; A. WINKLER; A. LAZARI; P. SALVAN; D. BANNERMAN; R. M. DIJKHUIZEN; H. JOHANSEN-BERG. *Univ. of Oxford, Utrecht Univ.*

2:00 M21 **582.02** ● Changes in neural population activity underlying the learning of novel arm dynamics. X. SUN*; D. J. O'SHEA; E. M. TRAUTMANN; M. D. GOLUB; S. VYAS; T. G. FISHER; S. RYU; K. V. SHENOY. *Stanford Univ., Stanford Univ., Stanford Univ., Palo Alto Med. Fndn., Howard Hughes Med. Inst. - Stanford Univers.*

3:00 M22 **582.03** Coordination between local and distributed population dynamics drives skilled motor behaviors. K. DEROSIER*; T. VEUTHEY; K. GANGULY. *Univ. of California San Francisco, San Francisco Veterans Affairs Med. Ctr., Univ. of California San Francisco.*

4:00 M23 **582.04** Neuronal ensemble encoding bimanual motor coordination in mice. M. JEONG*; H. LEE; B. LIM; S. PAIK; D. KIM. *KAIST, UCSD.*

1:00 M24 **582.05** Error signals in the red nucleus that drive adaptation in reaching: Comparison with errors in the cerebral cortices. M. INOUE*; S. KITAZAWA. *Osaka Univ., Osaka Univ., Osaka Univ., Natl. Inst. of Information and Communications Technology, and Osaka Univ.*

2:00 M25 **582.06** Investigating flexion synergies post-CST lesion in a NHP. A. J. GOTT*; S. N. BAKER; R. SHADMEHR; S. T. ALBERT; J. W. KRAKAUER. *Newcastle Univ., Johns Hopkins Univ. Dept. of Biomed. Engin., Johns Hopkins Sch. of Med., Johns Hopkins Univ.*

3:00 M26 **582.07** ● A wireless operant behavior system for fine motor assessments in standard rack-mounted home cages. A. M. SLOAN*; C. A. SANCHEZ; D. K. BORN; C. A. THORN. *Vulintus, Inc., Univ. of Texas at Dallas, Univ. of Texas at Dallas.*

4:00 M27 **582.08** A 3 dof pneumatically-actuated robotic system for complex reaching tasks in rodents compatible with electrophysiology. B. J. GEREKE*; B. R. NELSON; K. E. BOUCHARD. *Lawrence Berkeley Natl. Lab., Univ. of California Berkeley, Lawrence Berkeley Natl. Lab.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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* Indicates abstract's submitting author

1:00 M28 **582.09** Exploring the necessity of dopamine in vagus nerve stimulation induced motor map expansion. J. BROUGHER*; C. A. THORN. *Univ. of Texas At Dallas.*

2:00 M29 **582.10** Noradrenergic alpha-2 receptor antagonism inhibits vagus nerve stimulation dependent enhancement of motor cortical plasticity. C. TSENG*; S. J. GAULDING; C. A. THORN. *Univ. of Texas At Dallas.*

POSTER

583. Cortical Planning and Execution: Neurophysiology in Rodents and Others II

Theme E – Motor Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 M30 **583.01** Selective gating of dynamical modes in a thalamo-cortical system. J. JARAMILLO*; K. SVOBODA; X. WANG. *New York Univ. Ctr. for Neural Sci., HHMI / Janelia Farm Res. Campus, Shanghai Res. Ctr. for Brain Sci. and Brain-Inspired Intelligence.*

2:00 M31 **583.02** Analysis of neural representations of movement and internal states by video-based prediction in a short-term memory task. Z. WANG; D. LIU; S. CHEN; K. SVOBODA; N. LI; S. DRUCKMANN*. *Stanford Univ., Janelia Res. Campus, Howard Hughes Med. Inst., HHMI / Janelia Farm Res. Campus, Baylor Col. of Med.*

3:00 M32 **583.03** Mesoscale analysis of motor planning and movement initiation across multiple brain regions. L. D. LIU*; S. CHEN; A. WANG; M. N. ECONOMO; T. WANG; X. WANG; S. DRUCKMANN; K. SVOBODA; N. LI. *Baylor Col. of Med., HHMI, UCL, Stanford Univ., Boston Univ., New York Univ.*

4:00 M33 **583.04** Attractor dynamics gate cortical information flow during decision-making. A. FINKELSTEIN*; L. FONTOLAN; M. N. ECONOMO; N. LI; S. ROMANI; K. SVOBODA. *Howard Hughes Med. Inst., Baylor Col. of Med.*

1:00 M34 **583.05** A new interpretation of visual cortical areas in mice. M. HU*; R. V. RIKHYE; M. GOARD; M. G. M. KUMAR; H. MURTHY; M. SUR. *Picower Inst. for Learning and Memory, Vicarious AI, Univ. of California, Santa Barbara, Indian Inst. of Technol.*

2:00 M35 **583.06** Involvement of the locus coeruleus network in an attention-demanding sensory discrimination task. V. BRETON-PROVENCHER*; M. SUR. *MIT.*

3:00 M36 **583.07** Prefrontal cortex-superior colliculus interactions during visually guided decision-making. R. HUDA; K. G. CRUZ*; M. SUR; A. SULLINS. *MIT.*

4:00 M37 **583.08** Dynamic control of visually-guided locomotion through cortico-subthalamic projections. E. M. ADAM*; T. JOHNS; M. SUR. *Picower Inst. For Learning and Memory, MIT.*

1:00 M38 **583.09** Modulation of neuronal coding by astrocytes during motor learning. C. DELEPINE; K. LI*; V. SHAH; T. JOHNS; M. SUR. *MIT, MIT, MIT.*

2:00 M39 **583.10** Cortical contribution to lingual kinematics as the tongue reaches for, and misses, targets. T. BOLLU*; S. C. WHITEHEAD; B. KARDON; J. REDD; M. LIU; J. H. GOLDBERG. *Cornell Univ., Cornell Univ., Cornell Univ., Cornell Univ.*

3:00 M40 **583.11** Kinematics of the mouse tongue as it searches for a water spout. B. ITO*; T. BOLLU; J. GOLDBERG. *Cornell Univ.*

4:00 M41 **583.12** Distinct roles of primary, secondary visual cortex and posterior parietal cortex in visually-guided decision-making. Y. OSAKO*; T. OHNUKI; H. MANABE; Y. SAKURAI; J. HIROKAWA. *Doshisha Univ., Grad., Sch., of Brain Science, Doshisha Univ., Doshisha Univ., Doshisha Univ.*

1:00 M42 **583.13** Functional characterization of motor cortex neurons during voluntary movement execution in the rat. P. RODRIGUEZ-MORENO; G. SANTANA-CHAVEZ; R. OLIVARES-MORENO; M. LOPEZ-HIDALGO; G. ROJAS-PILONI*. *Dept. de Neurobiología del Desarrollo y Neurofisiología, Inst. de Neurobiología, Univ. Nacional Autónoma de México, Boulevard Juriquilla 3001, Campus UNAM-Juriquilla, Querétaro 76230, Mexico., Escuela Nacional de Estudios Superiores Unidad Juriquilla. Univ. Nacional Autonoma de Mexico.*

2:00 M43 **583.14** Dendritic resonance in a detailed model of pyramidal tract neuron of mouse primary motor cortex. C. KELLEY*; S. DURA-BERNAL; S. NEYMOTIN; W. W. LYTTON. *SUNY Downstate Med. Ctr., The Nathan Kline Inst. for Psychiatric Res.*

3:00 M44 **583.15** Response to simultaneous long-range inputs and oscillatory inputs in a multiscale model of M1 microcircuits. S. DURA-BERNAL*; S. A. NEYMOTIN; B. A. SUTER; C. KELLEY; R. TEKIN; G. M. SHEPHERD; W. W. LYTTON. *State Univ. of New York Downstate Med. Ctr., Nathan Kline Inst. For Psychiatric Res., Inst. of Sci. and Technol. (IST) Austria, SUNY Downstate Med. Ctr., SUNY Downstate Med. Ctr., Northwestern Univ., SUNY Downstate.*

4:00 N1 **583.16** Single unit characterization of cortical sensorimotor transformations in a whisker detection task. Z. ZHANG*; B. ZAREIAN; E. ZAGHA. *UC Riverside, UC Riverside.*

1:00 N2 **583.17** Visualizing cortical sensorimotor propagation for selective detection. K. ARULJOTHI*; K. MARRERO; E. ZAGHA. *Univ. of California, Riverside, Univ. of California, Riverside.*

POSTER

584. Brain-Computer Interface: Rehabilitation

Theme E – Motor Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 N3 **584.01** Optimal post-injury time window to apply activity-dependent stimulation to drive functional recovery after traumatic brain injury in the rat. H. M. HUDSON*; D. J. GUGGENMOS; N. VITALE; M. AZIN; P. MOHSENI; R. J. NUDO. *Univ. of Kansas Med. Ctr., Case Western Reserve Univ., Univ. of Kansas Med. Ctr.*

2:00 N4 **584.02** Non invasive kinesthetic feedback in a bidirectional hand system for upper limb amputees. G. DOMINIJANNI*; G. VALLE; E. D'ANNA; S. MICERA. *École Polytechnique Fédérale de Lausanne (EPFL), Scuola Superiore Sant'Anna.*

3:00 N5 **584.03** Neuroprosthetic stimulation optimized by learning control algorithms. M. BONIZZATO*; S. COTE; S. LAFERRIERE; S. QUESSY; G. LAJOIE; M. MARTINEZ; N. DANCAUSE. *Univ. de Montreal.*

4:00 N6 **584.04** A neural-machine interface for control of a lower-limb prosthesis. J. A. BRANTLEY*; J. L. CONTRERAS-VIDAL. *Univ. of Houston, Univ. of Houston.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 N7 **584.05** Repetitive anodal transcranial direct current stimulation hastens isoflurane-induced emergence and recovery and enhances memory in healthy rats. M. T. MANSOURI; P. S. GARCIA*. *Columbia Univ. Med. Ctr.*

2:00 N8 **584.06** ● Dose and montage effects of transcranial direct current stimulation on motor sequence learning. G. SCHLAUG*; A. B. SHINDE. *Beth Israel Deaconess Med. Center/HMS, Beth Israel Deaconess Med. Center/Harvard Med.*

3:00 N9 **584.07** Transcranial direct current stimulation increases regional cerebral blood flow in targeted and network brain regions. A. B. SHINDE*; F. MUNSCH; D. ALSOP; G. SCHLAUG. *Beth Israel Deaconess Med. Ctr. and Harvard M.*

4:00 N10 **584.08** ● Brain computer interface operation of a commercial augmentative and alternative communication device. J. E. HUGGINS*; R. T. CROSS; M. A. GARCIA VERDUGO; C. G. WOODWORTH; K. HILL. *Univ. of Michigan, Prentke Romich Co., Univ. of Pittsburgh.*

1:00 N11 **584.09** Neurofeedback (NFB) using brain computer interface (BCI) software for training reading-related attention in mild Alzheimer's disease (AD). D. KLEE; D. MCLAUGHLIN; T. MEMMOTT; M. FRIED-OKEN; B. S. OKEN*. *Oregon Hlth. & Sci. Univ.*

2:00 N12 **584.10** Artificial somatosensory kinaesthetic feedback of arm movements. L. HEHENBERGER*; A. I. SBURLEA; R. J. KOBLER; G. R. MUELLER-PUTZ. *Graz Univ. of Technol.*

3:00 N13 **584.11** ● Neurotechnologies for the restoration of three-dimensional arm movements after cervical spinal cord injury. B. BARRA*; S. CONTI; M. G. PERICH; K. Z. ZHUANG; G. SCHIAVONE; N. GREINER; M. KAESER; E. M. ROUILLER; S. P. LACOUR; T. MILEKOVIC; J. BLOCH; G. COURTINE; M. CAPOGROSSO. *Univ. of Fribourg, Univ. of Geneva, Ecole Polytechnique Federale de Lausanne, CHUV, Ecole Polytechnique Federale de Lausanne.*

4:00 N14 **584.12** Dynamical encoding of swing and stance phases as orthogonal states in hindlimb motor cortex. L. S. URBAN*; I. SEÁÑEZ; S. ANIL; C. HITZ; S. SUN; N. MACELLARI; G. COURTINE. *EPFL.*

1:00 N15 **584.13** ● Experimental framework for the assessment of the efficacy of spinal cord stimulation to restore voluntary arm movement in monkeys after spinal cord injury. S. CONTI*; B. BARRA; M. G. PERICH; K. Z. ZHUANG; G. SCHIAVONE; N. GREINER; M. KAESER; E. ROUILLER; S. P. LACOUR; T. MILEKOVIC; J. BLOCH; G. COURTINE; M. CAPOGROSSO. *Univ. of Fribourg, Univ. of Geneva, EPFL, CHUV.*

2:00 N16 **584.14** Exploring the neural basis underlying locomotor activities and leg reaching in macaque motor, premotor, and sensory cortex. I. SEÁÑEZ*; S. BORGOGNON; N. MACELLARI; A. HICKEY; C. HITZ; R. ORNELAS KOBAYASHI; L. S. URBAN; H. LORACH; M. G. PERICH; T. MILEKOVIC; M. CAPOGROSSO; E. ROUILLER; J. BLOCH; G. COURTINE. *Swiss Federal Inst. of Technol. (EPFL), Univ. of Fribourg, Univ. of Geneva, Univ. of Geneva, Lausanne Univ. Hosp. (CHUV).*

3:00 N17 **584.15** ▲ The music box: A steady-state visual evoked potentials (SSVEP)-based brain-computer interface (BCI) for people with complex communication disorders. O. ZHOU; J. J. S. NORTON; C. S. CARMACK; J. CARTER; K. GOSMANOVA*; J. R. WOLPAW; T. M. VAUGHAN. *Wadsworth Center, NY State Dept. of Hlth., Stratton VA Med. Ctr.*

4:00 N18 **584.16** Brain Storm: A gamified steady-state visual evoked potential (SSVEP)-based brain-computer interface (BCI) for children. J. MULLINS; J. J. S. NORTON*; T. BRETL. *Univ. of Illinois, Wadsworth Center, NY State Dept. of Hlth., Stratton VA Med. Ctr.*

1:00 N19 **584.17** Investigating modularity and functional outcomes of rehabilitation of rats with complete T9/10 SCI through viral brain-derived neurotrophic factor, epidural stimulation and pelvic-based robot training. A. P. BORISYUK*; S. F. GISZTER. *Drexel Univ. Col. of Med.*

2:00 N20 **584.18** Magnification of visual feedback alters modulation of motor neuron pool in older adults. S. PARK*; M. KWON; E. A. CHRISTOU. *Univ. of Florida, Marquette Univ., Univ. of Florida.*

3:00 N21 **584.19** Validation of an assistive-oriented and rehabilitative-oriented brain-machine interface paradigm for locomotion restoration in a group of patients with chronic complete spinal cord injury. S. SHOKUR*; D. SCHWARZ; D. S. F. CAMPOS; A. C. DONATI; G. BAO; N. M. P. C. RIOS; A. LIN; A. TAKIGAMI; M. A. ARATANHA; S. Y. YAMAUTI; S. S. JOSHI; R. C. MOIOLI; F. L. BRASIL; E. MORYA; M. A. NICOLELIS. *Associação Alberto Santos Dumont para Apoio à Pesquisa, Duke Univ., AACD, Inst. Santos Dumont, Univ. of São Paulo, Hosp. Israelita Albert Einstein, Univ. of California, Davis, Federal Univ. of Rio Grande do Norte, Duke Univ., Duke Univ.*

1:00 DP08/N22 **584.20** ● (Dynamic Poster) Effects of a vibri-tactile brain-computer interface paradigm on the coma recovery scale-revised in patients with disorders of consciousness. N. MUROVEC; A. HEILINGER; R. XU; R. SPATARO; V. LA BELLA; Y. MIAO; J. JIN; G. EDLINGER*; C. GUGER. *g.tec medical engineering GmbH, g.tec Guger Technologies OG, IRCCS Ctr. Neurolesi Bonino Pulejo, ALS Clin. Res. Ctr., East China Univ. of Sci. and Technol., g.tec neurotechnology GmbH.*

1:00 N23 **584.21** Brain plasticity following intensive robotic 'Third Thumb' usage for hand augmentation. P. KIELIBA; D. CLODE; T. R. MAKIN*. *Univ. Col. London.*

2:00 N24 **584.22** ▲ Efficacy and long-term stability of a high-density intramuscular electrode system for functional electrical stimulation. N. L. HOLLY; B. A. HASSE; L. COX; D. M. MARGOLIS; K. M. GOTHARD; A. J. FUGLEVAND*. *Univ. of Arizona, Univ. of Arizona, Col. of Medicine, Univ. of Arizona, Univ. Arizona, Col. Med.*

POSTER

585. Motor Neuron II

Theme E – Motor Systems

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 N25 **585.01** The effect of dry needling therapy on gene expression in a model of muscle spasticity. E. E. GARCIA-VENCES*; J. CEBALLOS ZAVALA; J. FIGUEROA VARELO; E. DE LA CRUZ CASTILLO; S. CALVO CARRION; P. HERRERO GALLEGO; A. IBARRA. *Univ. Anahuac Mexico Norte, Univ. de San Jorge.*

2:00 N26 **585.02** Preservation of Ia afferent synaptic inputs on regenerated motoneurons after nerve injury does not result in restoration of function. T. M. ROTTERMAN*; P. NARDELLI; V. GARCIA; F. J. ALVAREZ; T. C. COPE. *Georgia Inst. of Technol., Georgia Inst. of Technol., Georgia Inst. of Technol., Emory Univ., Georgia Inst. of Technol.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 N27 **585.03** Exercise improves contractile force and kinematical movement of paralyzed hindlimb after brain damage of mice. A. YOSHIKAWA*; H. OHTAKI; M. IZUMIZAKI. *Showa University, Sch. of Med., Showa Univ. Sch. of Med.*

4:00 N28 **585.04** The duration and frequency of vibration modulate the recovery time of the post-vibration depression of monosynaptic Ia facilitation in humans. M. NITO*; T. YOSHIMOTO; M. JIMENJI; W. HASHIZUME; A. NAITO. *Yamagata Univ. Sch. of Med.*

1:00 N29 **585.05** Loss of NAMPT alters function and structure of the neuromuscular junction (NMJ). S. LUNDT*; N. ZHANG; L. POLO-PARADA; S. DING. *Univ. of Missouri.*

2:00 N30 **585.06** No influence of the menstrual cycle on ankle joint position sense and inhibitory function of primary somatosensory cortex. K. IKARASHI*; D. SATO; K. IGUCHI; Y. YAMAZAKI; K. YAMASHIRO. *Niigata Univ. of Hlth. and Welfare, Niigata Univ. of Hlth. and Welfare.*

3:00 N31 **585.07** Influence of focal muscle fatigue on paired associative stimulation induced plasticity in the primary motor cortex. K. KURIHARA*; D. SATO; K. YAMASHIRO; Y. YAMAZAKI; A. MARUYAMA. *Niigata Univ. of Hlth. and Welfare, Niigata Univ. of Hlth. and Welfare, Kagoshima Univ.*

4:00 N32 **585.08** Orexin modulates electrophysiological properties of Phox2b neurons located around trigeminal motor nucleus. K. NAGOYA*; S. NAKAMURA; T. TSUJIMURA; M. INOUE; T. INOUE. *Niigata Univ., Showa Univ.*

1:00 N33 **585.09** Stimulation of a reinnervating laryngeal muscle with low frequency inhibits foreign reinnervation and promotes selective reinnervation by native motoneurons and restores function. D. L. ZEALEAR*; Y. LI; M. E. POWELL; S. HUANG. *Vanderbilt Univ. Med. Ctr.*

2:00 N34 **585.10** Hypoexcitability and hyperexcitability in sacral motorneurons of SOD1G93A high copy ALS mice: Disease versus compensation. C. S. I. DRAPER*; A. A. MAHROUS; S. M. ELBASIOUNY. *Wright State Univ., Wright State Univ., Wright State Univ.*

3:00 N35 **585.11** Serotonin$_{1b}$ receptor mediated presynaptic inhibition of jaw closing motoneurons. K. NAKAYAMA*; A. NAGATA; S. NAKAMURA; A. MOCHIZUKI; M. DANTSUJI; K. MAKI; T. INOUE. *Showa Univ. Sch. of Dent., Showa Univ. Sch. of Dent.*

4:00 N36 **585.12** Quadriceps muscle motor unit activity after anterior cruciate ligament reconstruction. A. MCPHERSON*; N. BATES; C. HAIDER; T. HEWETT; N. SCHILATY. *Mayo Clin., Univ. of Kentucky.*

1:00 N37 **585.13** ▲ Behavioral recovery and spinal motoneuron remodeling after polyethylene glycol fusion repair of singly cut and ablated sciatic nerves. E. A. HIBBARD; C. GHERGHEREHCHI; M. MIKESH; G. BITTNER; D. R. SENGELAUB*. *Indiana Univ., Univ. of Texas, Indiana Univ. Bloomington.*

2:00 N38 **585.14** Estimate of persistent inward currents in humans during varying muscle contraction speeds. E. H. KIM*; R. K. POWERS; C. HECKMAN. *Northwestern Univ., Univ. Washington, Northwestern Univ.*

3:00 N39 **585.15** Fatigue induced modulation of human soleus H reflex in conditions of ipsilateral common peroneal nerve stimulation. E. V. KOLOSOVA*. *Natl. Univ. of Physical Educ. and Sports of Ukraine.*

4:00 N40 **585.16** ▲ An investigation into the differential effects on somatosensory functions during deafferentation. W. CAI*; F. G. HEPWORTH LLOYD; P. SARAI; S. HUGHES; P. H. STRUTTON. *Imperial Col. London.*

1:00 N41 **585.17** Cerebellar influence on the H-reflex of soleus muscle during acquisition of sexual experience in male rats. J. R. GUTIERREZ*; R. ZEMPOALTECA; P. CARRILLO; A. J. CHACON; R. TOLEDO-CARDENAS; J. FISHER; G. A. CORIA-AVILA; J. MANZO; L. I. GARCIA. *Doctorado en Investigaciones Cerebrales, Ctr. Tlaxcala de Biología de la Conducta, Inst. de Neuroetología, Ctr. de Investigaciones Cerebrales.*

2:00 N42 **585.18** Non uniform denervation of muscle fibers in botulinum toxin injected spastic muscle. S. CHANDRA; B. AFSHARIPOUR; W. Z. RYMER; N. L. SURESH*. *Shirley Ryan Ability Lab., Northwestern Univ., Shirley Ryan Ability Lab.*

3:00 N43 **585.19** Sex differences in fatigue of ankle plantar flexor muscles. M. BILODEAU*; A. DUGAS; F. DUQUETTE; C. GIROUX; K. GUERTIN. *Univ. of Ottawa.*

4:00 N44 **585.20** Exercise to the rescue: Effects of aging and long-term exercise on structural plasticity of motor neurons and GDNF expression in spinal cord. A. F. CINTRÓN-COLÓN*; J. SPITSBERGEN. *Western Michigan Univ.*

1:00 N45 **585.21** Trans-cranial direct current stimulation changes fore paw dominance in mice. A. GORIN; O. ELWANY; B. ABDELRAHMAN; A. ELCHARFA; M. ARNOS; Z. AHMED*. *Col. of Staten island, Col. of Staten Island.*

2:00 N46 **585.22** Synaptic inputs terminating on alpha motor neurons undergo age-related changes in mice. R. W. CASTRO*; K. VANCE; G. VALDEZ. *Brown Univ., Fralin Biomed. Res. Inst.*

3:00 O1 **585.23** ● A high-density electrode array for mapping corticospinal recruitment of upper-limb muscles after stroke. E. H. BEDOY*; M. URBIN; G. F. WITTENBERG; G. SHARMA; D. J. WEBER. *Univ. of Pittsburgh, Univ. of Pittsburgh, Battelle Mem. Inst., Univ. of Pittsburgh.*

4:00 O2 **585.24** The potassium-chloride cotransporter KCC2 is regulated by muscle innervation, but not exercise, in spinal motoneurons following peripheral axotomy. E. T. AKHTER*; S. SARIN; A. W. ENGLISH; F. J. ALVAREZ. *Emory Univ., Emory Univ. Sch. of Med., Emory Univ.*

1:00 O3 **585.25** Myoinhibitory peptide is a co-transmitter in common inhibitor motor neurons and decreases slow muscle contraction. S. LIESSEM*; C. GUSCHLBAUER; D. KOWATSCHEW; S. L. HOOPER; S. DIPPEL; S. I. KORSCHING; A. BLANKE; R. PREDEL; A. BÜSCHGES. *Univ. of Cologne, Univ. of Cologne, Ohio Univ., Georg-August-University Goettingen.*

POSTER

586. Hormone Modulation of Behavior and Physiology III

Theme F – Integrative Physiology and Behavior

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 O4 **586.01** Trkb activation is required for 17beta-estradiol induced enhancement of hippocampal memory consolidation. K. S. GROSS*; R. ALF; T. R. POLZIN; K. M. FRICK. *Univ. of Wisconsin Milwaukee, Univ. of Wisconsin-Milwaukee.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 O5 **586.02** Maintenance of hippocampal estrogen receptor α protein levels following continuous and previous estradiol treatment in aging ovariectomized rats. N. E. BAUMGARTNER*; S. M. MCQUILLEN; M. J. MAROTEAUX; D. D. HUTSON; J. M. DANIEL. *Tulane Univ., Tulane Univ., Tulane Univ.*

3:00 O6 **586.03** The interplay of the rapid activation of the G-protein coupled estrogen receptor and/or estrogen receptor beta and the oxytocin receptor on social recognition. P. PALETTA*; I. GREWAL; A. CLARKE; E. CHOLERIS. *Univ. of Guelph, Univ. of Guelph.*

4:00 O7 **586.04** Motherhood has short and long term effects on hippocampal neurogenesis, inflammation, and gene expression. P. DUARTE-GUTERMAN*; S. E. LIEBLICH; R. S. EID; D. A. SKANDALIS; M. IBRAHIM; L. A. M. GALEA. *Univ. of British Columbia, Whitney Lab. for Marine Bioscience, Univ. of Florida.*

1:00 O8 **586.05** Effects of hot flash induction and estrogen receptor beta activation on hippocampus-dependent memory consolidation in ovariectomized mice. A. W. FLEISCHER*; K. M. FRICK. *Univ. of Wisconsin-Milwaukee.*

2:00 O9 **586.06** Quantifying rapid effects of 17β-estradiol on cell signaling pathways in the dorsal and ventral hippocampus. T. PURI*; P. A. S. SHEPPARD; S. E. LIEBLICH; L. A. M. GALEA. *Univ. of British Columbia.*

3:00 O10 **586.07** ▲ Intrahippocampal infusion of a G-protein coupled estrogen receptor (GPER) agonist increases CA1 spine density and enhances memory consolidation in female mice. J. C. SCHALK*; J. KIM; W. A. KOSS; K. M. FRICK. *Univ. of Wisconsin-Milwaukee.*

4:00 O11 **586.08** 17β-estradiol rapidly induces activity-regulated cytoskeleton-associated protein (arc) expression. Y. RIZWAN*; J. LALONDE; E. CHOLERIS. *Univ. of Guelph, Univ. of Guelph, Univ. of Guelph.*

1:00 O12 **586.09** Impaired BDNF signaling disrupts modulation of cognition and behavior by estrogens in female rats. A. V. PRAKAPENKA*; M. M. CAMPANICO; R. ELMAN; A. BERLIN; N. RAMIREZ-ESTEVEZ; C. E. SORTWELL; T. J. COLLIER; K. STEECE-COLLIER; D. L. KOROL. *Syracuse Univ., Syracuse Univ., Fayetteville-Manlius High Sch., Rondout Valley High Sch., Michigan State Univ.*

2:00 O13 **586.10** ▲ Let's talk about sex (hormones): Cognitive characterization and evaluation of gonadal hormone deprivation in a rat model of Alzheimer's disease. H. L. BULEN*; V. L. PEÑA; S. N. NORTHUP-SMITH; C. BARKER; V. E. WONER; A. V. PRAKAPENKA; S. ODDO; H. A. BIMONTE-NELSON. *Arizona State Univ., Arizona Alzheimer's Consortium, Syracuse Univ., Arizona State Univ.*

3:00 O14 **586.11** Sex and subregion differences in the rapid effects of 17β-estradiol on cell signaling cascades in the dentate gyrus of male and female rats. P. A. S. SHEPPARD*; T. PURI; L. A. M. GALEA. *Univ. of British Columbia, Univ. of British Columbia.*

4:00 O15 **586.12** A sex-specific role of the basolateral amygdala in fear-based cognitive bias in adult rats. T. E. HODGES*; L. A. M. GALEA. *Univ. of British Columbia.*

1:00 O16 **586.13** Sex differences in the brain expression of steroidogenic molecules under basal conditions and after gonadectomy. R. C. MELCANGI*; S. DIVICCARO; L. M. GARCIA-SEGURA; S. GIATTI. *Univ. degli Studi di Milano, Inst. Cajal-CSIC.*

2:00 O17 **586.14** An assessment of the transition to menopause in the rat in the TgF344-AD model of Alzheimer's disease. V. L. PEÑA*; S. N. NORTHUP-SMITH; V. E. WONER; H. L. BULEN; C. A. DYER; L. P. MAYER; S. ODDO; H. A. BIMONTE-NELSON. *Arizona State Univ., Arizona Alzheimer's Consortium, Senestech, Inc., Arizona State Univ.*

3:00 O18 **586.15** APOE genotype, sex, and 17beta-estradiol influence memory and the hippocampus in a mouse model of Alzheimer's disease. L. R. TAXIER*; S. M. PHILIPPI; J. M. YORK; M. LADU; K. M. FRICK. *Univ. of Wisconsin-Milwaukee, Univ. of Wisconsin Milwaukee, Univ. of Illinois at Chicago Dept. of Anat. and Cell Biol., Univ. of Illinois, Chicago.*

4:00 O19 **586.16** The cognitive effects of the highly selective progestin segesterone acetate in a rat model of surgical menopause. V. E. WONER*; S. V. KOEBELE; S. N. NORTHUP-SMITH; M. N. WILLEMAN; C. BARKER; A. SCHATZKI-LUMPKIN; M. VALENZUELA SANCHEZ; H. A. BIMONTE-NELSON. *Arizona State Univ., Arizona Alzheimer's Consortium, Translational Genomics Res. Inst.*

1:00 O20 **586.17** Investigating long-term cognitive effects of variations in gynecological surgery during adulthood in a rat model. S. V. KOEBELE*; V. E. WONER; S. N. NORTHUP-SMITH; M. N. WILLEMAN; I. M. STROUSE; H. L. BULEN; A. R. SCHRIER; D. F. DENARDO; L. P. MAYER; C. A. DYER; H. A. BIMONTE-NELSON. *Arizona State Univ., Arizona Alzheimer's Consortium, The Translational Genomics Res. Inst., Arizona State Univ., Senestech Inc.*

2:00 O21 **586.18** Altered methylation pattern of the SRD5A2 gene in cerebrospinal fluid of post-finasteride patients. S. DIVICCARO*; L. CASARINI; M. MARINO; D. SANTI; S. SPERDUTI; S. GIATTI; M. GRIMOLDI; D. CARUSO; G. CAVALETTI; M. SIMONI; R. C. MELCANGI. *Univ. Degli Studi Di Milano, Univ. of Modena and Reggio Emilia, Papa Giovanni XXIII Hosp., Univ. of Milano Bicocca.*

3:00 O22 **586.19** Sex dimorphism of pregnenolone synthesis in the rat spinal cord of a multiple sclerosis experimental model. S. GIATTI*; R. RIGOLIO; S. DIVICCARO; D. CARUSO; G. CAVALETTI; R. C. MELCANGI. *Univ. degli Studi di Milano, Univ. of Milano-Bicocca.*

4:00 O23 **586.20** The effects of ovarian hormones on the nuclear progesterone receptor in the female rat hippocampus. C. GAGNE*; S. PATEL; A. GHEZZO; W. G. BRAKE. *Concordia Univ.*

1:00 O24 **586.21** The effects of ovarian hormones on the membrane-bound progesterone receptor β in the female rat hippocampus. S. PATEL*; C. GAGNE; A. LESTAGE; W. G. BRAKE. *Concordia Univ.*

2:00 O25 **586.22** Training-induced neurosteroids enhance remote spatial memory in mice. K. SHIMIZU*; K. MAEHATA; T. IKENO; Q. WANG; T. TAKAO; Y. FUKADA. *Dept. Biol. Sciences, The Univ. of Tokyo, Inst. for Protein Research, Osaka Univ.*

3:00 O26 **586.23** ▲ Effects of developmental and acute exposure to environmental estrogenic compounds on anxiety and memory in male and female rats. M. VOGT; J. ASBERRY; J. WILLING*. *Bowling Green State Univ., Bowling Green State Univ.*

4:00 O27 **586.24** Anabolic-androgenic steroids impair biconditional task performance in male rats. R. I. WOOD*; R. O. SERPA. *Keck Sch. Med. USC, Keck Sch. of Med. of USC.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 O28 **586.25** Hippocampal estrogen and androgen modulate dendritic spines and LTP in non-genomic manner. S. KAWATO*; M. SOMA; M. OGIUE-IKEDA; Y. KOMATSUZAKI. *Univ. of Tokyo, Teikyo Univ., Nihon Univ.*

2:00 O29 **586.26** The impact of the estrous cycle and novelty on female rat behavior in the open field test. C. K. MILLER*; H. B. PATISAUL; J. MEITZEN. *North Carolina State Univ.*

3:00 O30 **586.27** Hibiscus is a source of phytoestrogens that modulates spatial memory and hippocampal BDNF expression: A behavioral and molecular study. G. LORENZANA*; A. SANTERRE; I. ANDRADE-GONZALEZ; J. BAÑUELOS-PINEDA. *Univ. of Guadalajara, Inst. Tecnológico de Tlajomulco.*

4:00 O31 **586.28** Postnatal progesterone receptor activity influences adult episodic-like memory in the rat. A. J. N. NEWELL*; C. K. WAGNER. *Univ. at Albany.*

1:00 O32 **586.29** Luteinizing hormone fluctuations across the estrous cycle impacts synaptic markers in the cingulate and hippocampus. M. E. MEY*; G. CASADESUS SMITH; S. BHATTA; N. MULLINS; K. SRACIC. *Kent State Univ., Kent State Univ., Kent State Univ.*

2:00 O33 **586.30** Long term ovariectomy in a nonhuman primate model of menopause reduces hippocampal volume and shifts microglial morphology toward an inflammatory profile; conjugated equine estrogens are not protective. A. MAFI; E. BLAGINYKH; S. MISTRY; P. MIRJALILI; A. BESSKEN; E. HOPKINS; G. HOWE; G. P. TINKLER*. *Kent State Univ., Kent State Univ.*

POSTER

587. Stress and Adolescence

Theme F – Integrative Physiology and Behavior

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 O34 **587.01** ▲ Social instability in adolescence alters dendritic morphology in medial prefrontal cortex and its response to stress in adult rats. M. R. BREACH*; K. M. MOENCH; C. L. WELLMAN. *Indiana Univ.*

2:00 O35 **587.02** Stress during puberty decreases sexual motivation and affects the correlation testosterone-electroencephalographic activity in adult male rats. E. HERNANDEZ-ARTEAGA*; M. L. RAMÍREZ-RENTERÍA; M. HERNÁNDEZ-GONZÁLEZ; M. A. GUEVARA; H. BONILLA-JAIME; A. AGMO. *Inst. De Neurociencias, Inst. de Neurociencias, Univ. de Guadalajara, Univ. Autónoma Metropolitana, Univ. of Tromsø.*

3:00 O36 **587.03** Effects of social stress exposure during adolescence on impulsivity. L. F. GONZALEZ MARTINEZ*; K. MORAN; G. GRAY; C. MALONE; Y. DELVILLE. *The Univ. of Texas at Austin.*

4:00 O37 **587.04** ▲ Effects of prolonged social isolation in adolescence: Sex differences in anxiety and sociability behavior in rats. E. MRACKOVA*; J. ROSENKRANZ. *Rosalind Franklin Univ. of Med. and Sci.*

1:00 O38 **587.05** Maternal separation produces immune activation in the brain leading to neuropsychiatric disorders in the adolescence. S. BACHILLER*; A. PAULUS; I. GARCIA-DOMINGUEZ; Q. DENIS; A. BOZA-SERRANO; T. DEIERBORG. *Lund Univ., Fac. of Pharm.*

2:00 O39 **587.06** Chronic social crowding and instability stress with Enviro-dri: A novel mouse model of anxiety and depression-like behavior. C. PARENT*; K. CRAIG; E. CHARBONNEAU; A. AREL-DUBEAU; A. MARTEL; M. J. MEANEY; T. ZHANG. *Douglas Mental Hlth. Univ. Inst., Sackler Program for Epigenetics and Psychobiology at McGill University, Ludmer Ctr. for Neuroinformatics and Mental Hlth., Singapore Inst. for Clin. Sci.*

3:00 O40 **587.07** The effect of maternal deprivation on behavior in a mouse model. M. D. THOMPSON*; S. L. P. LIPPI; C. M. KREITLER. *Angelo State Univ.*

4:00 O41 **587.08** Chronic mild unpredictable stress and high-fat diet given during adolescence impact both cognitive and noncognitive behaviors in young adult mice. S. L. P. LIPPI*; M. D. THOMPSON; L. C. VOTH; A. M. FLORES. *Angelo State Univ.*

1:00 O42 **587.09** Alternative splicing of glucocorticoid receptor (GR) increases in the brain following acute and chronic stress. J. CHANG*; A. ASIMES; T. PAK. *Loyola Univ. Chicago.*

2:00 O43 **587.10** Mechanisms of resilience after adolescent chronic stress: Implications for PTSD. E. M. COTELLA*; R. D. MOLONEY; M. FITZGERALD; P. MAHBOD; J. NIBLACK; J. P. HERMAN. *Univ. of Cincinnati.*

3:00 O44 **587.11** Previous studies have shown that though the outward symptoms of these disorders are similar between adults and adolescents, some physiological and psychological differences between the two groups are apparent. It is likely that the underlying mechanisms by which anxiety disorders develop differ between the two age groups. M. A. CORTES; K. M. CORDER; L. E. DOBRUNZ*. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*

4:00 P1 **587.12** Acute traumatic stress during adolescence alters myelination in the rodent prefrontal cortex. J. BRETON*; M. BARRAZA; A. VADHRI; N. GALOUSTIAN; D. KAUFER. *Univ. of California Berkeley.*

1:00 P2 **587.13** miR-137 drives anxiety-like behavior and epigenetic remodeling in the adult amygdala after adolescent alcohol exposure. E. J. KYZAR*; J. P. BOHNSACK; H. ZHANG; S. C. PANDEY. *Univ. of Illinois at Chicago.*

POSTER

588. Stress-Modulated Pathways

Theme F – Integrative Physiology and Behavior

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 P3 **588.01** Effect of fatty-acids amylase inhibitor (FAAH) on TRPV1 and CB1 receptors regulating anxiety and depression behaviors within the mesolimbic system. W. NORZÉ*; L. RODRÍGUEZ SANTOS; P. MUÑOZ RODRÍGUEZ; A. RAMOS ROLÓN; V. ENCARNACIÓN CORTES; E. OLMEDO LÓPEZ; F. GONZÁLEZ HERNÁNDEZ; C. MALDONADO VLAAR. *Univ. of Puerto Rico Rio Piedras Campus.*

2:00 P4 **588.02** The memory engram for trauma and its implications for vulnerability to PTSD. B. C. J. DIRVEN*; J. R. HOMBERG; T. L. KOZICZ; M. J. A. G. HENCKENS. *Donders Inst. for Brain, Cognition, and Behaviour, Radboudumc, Donders Inst. for Brain, Cognition, and Behaviour, Radboudumc, Mayo Clin.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 P5 **588.03** EEG activity increased in the vestibular cortex after noisy galvanic vestibular stimulation in bilateral vestibular hypofunction patients. C. KAO*; L. KO; R. CHIKARA; P. CHEN; Y. JHENG. *Natl. Yang-Ming University, Vet Gen Hosp, Taipei, Dept. of Biol. Sci. and Technology, Natl. Chiao Tung University, Hsinchu, Taiwan, Dept. of Physical Therapy and Assistive Technology, Natl. Yang-Ming Univ.*

4:00 P6 **588.04** Prefrontal cortical Rap1 expression regulates synaptic morphogenesis, *in vivo* neuronal engagement, and cognition. B. A. KERMATH*; A. M. VANDERPLOW; A. M. NOVAK; M. E. CAHILL. *The Univ. of Wisconsin-Madison.*

1:00 P7 **588.05** Inhibition of GABA-ergic parvalbumin interneurons during chronic stress prevents stress mediated behavioral and physiological phenotypes. N. NAWREEN*; R. MORANO; P. MAHBOD; K. DALAL; E. M. COTELLA; B. PACKARD; R. D. MOLONEY; J. P. HERMAN. *Univ. of Cincinnati, Univ. of Cincinnati, Univ. of Cincinnati, Univ. of Cincinnati.*

2:00 P8 **588.06** Acute stress transiently regulates DUSP6 in murine hippocampal neurons. E. CRAIG*; K. NICHOLSON; W. NG; N. J. MACLUSKY. *Univ. of Guelph, Univ. of Guelph.*

3:00 P9 **588.07** Chemogenetic inhibition of the infralimbic division of the medial prefrontal cortex blocks acquisition of social familiarity-induced anxiolysis (SoFiA). A. R. BURKE*; S. MAJUMDAR; A. R. ABREU; E. A. LUNGWITZ; A. DIETRICH; K. D. ANDREWS; W. A. TRUITT. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*

4:00 P10 **588.08** Role of mineralocorticoid receptors in the development of hippocampal area CA2 and in CA2-dependent behavior. K. E. MCCANN*; D. J. LUSTBERG; E. K. SHAUGHNESSY; K. E. CARSTENS; S. FARRIS; G. M. ALEXANDER; S. M. DUDEK. *NIH/NIEHS.*

1:00 P11 **588.09** Activation of infralimbic cortical glutamate neurons reduces cardiovascular and endocrine stress reactivity. B. MYERS*; D. SCHAEUBLE; T. WALLACE; S. A. PACE; A. J. CHICCO. *Colorado State Univ.*

2:00 P12 **588.10** Cell type specific impact of chronic stress in striatum neurons. D. RODRIGUES*; N. SOUSA; P. MONTEIRO. *Minho Univ.*

3:00 P13 **588.11** Prebiotics, commensal probiotics and modulation of stress responsive neurocircuitry. R. S. THOMPSON; S. HOPKINS; M. GAFFNEY; T. KELLEY; T. R. JOUARD; F. VARGAS; A. GONZALEZ; M. VITATERNA; F. TUREK; C. A. LOWRY; P. C. DORRESTEIN; R. KNIGHT; K. P. WRIGHT, Jr.; M. FLESHNER*. *Univ. of Colorado Boulder, The Ctr. for Neurosci., Univ. of Colorado Boulder, Univ. of California, Northwestern Univ. - Ctr. for Sleep and Circadian Biol., Univ. of California - Collaborative Mass Spectrometry Innovation Ctr., Univ. of California.*

4:00 P14 **588.12** Infralimbic cortex glutamate output is necessary for the neural and behavioral consequences of chronic stress. S. A. PACE*; C. CHRISTENSEN; M. SCHACKMUTH; T. WALLACE; J. M. MCKLVEEN; W. BEISCHEL; R. MORANO; J. SCHEIMANN; S. WILSON; J. P. HERMAN; B. MYERS. *Colorado State Univ., NIH, Univ. of Cincinnati, Univ. of Cincinnati, Univ. of South Carolina.*

1:00 P15 **588.13** ▲ The role of hemispheric lateralization on the mPFC-VTA pathway on stress resilience. R. KAMALETDINOVA*; M. SHANLEY; A. ONOICHENCO; R. KARIM; A. K. FRIEDMAN. *Hunter College, City Univ. of New York, The Grad. Center, City Univ. of New York.*

2:00 P16 **588.14** Digging deeper into the molecular effects of acute stress on mouse hippocampus. A. FLORIOU-SERVOU*; L. VON ZIEGLER; R. R. DAS GUPTA; O. STURMAN; H. LIN; H. U. ZEILHOFER; J. BOHACEK. *ETH Zurich, Univ. of Zurich.*

3:00 P17 **588.15** Chronic exposure to environmental noise differentially affects the newborn phenotypes in male rat brain. F. CRUZ MENDOZA*; D. FERNÁNDEZ-QUEZADA; S. LUQUIN; F. PAJARITO; Y. RUVALCABA-DELGADILLO; F. JAUREGUI. *Univ. De Guadalajara, Univ. de Guadalajara.*

4:00 P18 **588.16** Chronic exposure to environmental noise promote changes in dendritic arborization of male rat cortex and limbic system. D. FERNÁNDEZ-QUEZADA*; S. LUQUIN; A. GARCÍA-ZAMUDIO; Y. RUVALCABA-DELGADILLO; F. JAUREGUI-HUERTA. *Univ. De Guadalajara.*

1:00 P19 **588.17** The effect of chronic stress and a post-stress rest period on the hippocampal GABAergic neurons. J. B. ORTIZ; J. M. NEWBERN; C. D. CONRAD*. *Univ. of Arizona Col. Med., Arizona State Univ., Arizona State Univ.*

2:00 P20 **588.18** Comparative effects of diverse acute stressors on dendritic spines in the male rat amygdala, hippocampus, and prefrontal cortex. J. A. ABETTAN*; R. SHANSKY; N. L. MOORE; K. CRAVEDI; M. MAY; I. JEONG. *Northeastern Univ., Northeastern Univ., USAMRICD, Natl. Inst. of Mental Hlth., Walter Reed Army Inst. of Res., Walter Reed Army Inst. of Res.*

3:00 P21 **588.19** Pubertal stress reprograms inhibitory tone in the PVN at genetic and electrophysiological levels. K. E. MORRISON*; A. B. COLE; P. J. KANE; S. M. THOMPSON; T. L. BALE. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Baltimore, Univ. of Maryland Baltimore.*

4:00 P22 **588.20** Kappa opioid regulation of lateral habenula neurons and response to early life stress. S. C. SIMMONS*; R. D. SHEPHERD; S. GOUTY; R. HAMMACK; L. LANGLOIS; B. M. COX; F. S. NUGENT. *Uniformed Services Univ. of Heath Sci.*

1:00 P23 **588.21** Prefrontal cortical modulation and encoding of motivation, social behavior, and stress responding. T. WALLACE*; D. SCHAEUBLE; S. A. PACE; B. MYERS. *Colorado State Univ.*

2:00 P24 **588.22** Corticotropin-releasing factor administration into locus coeruleus affects theta activity in medial prefrontal and orbitofrontal cortex differentially in female and male rats. S. BATES*; J. ARNER; A. L. CURTIS; S. BHATNAGAR. *Children's Hosp. of Philadelphia, Children's Hosp. Philadelphia, Univ. Pennsylvania, Children's Hosp Philadelphia.*

3:00 P25 **588.23** Differential effects of ten-days of stress on BDNF-TrkB signaling in the hippocampus and prefrontal cortex. A. MOGUL*; E. TAYLOR-YEREMEEVA; A. KHAN; S. ROBINSON; H. WANG. *NIH, Hamilton Col., CUNY Sch. of Med.*

4:00 P26 **588.24** Acute restraint stress reorganizes VTA-NAc communication and affects reward processing. D. C. LOWES*; E. S. HOLT; L. YUSUFOVA; Z. H. BRETTON; A. FIRDOUS; J. A. GORDON; A. Z. HARRIS. *Columbia Univ., Natl. Inst. of Mental Hlth.*

1:00 P27 **588.25** Medial prefrontal cortex-mediated control of food restriction-evoked hyperactivity differs for the pathway projecting to dorsal striatum versus dorsal raphe versus an all-inclusive corticofugal pathway. A. N. SANTIAGO*; S. GEORGE; I. HANDA; C. AOKI. *New York Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 P28 **588.26** Social stress alters locus coeruleus and medial prefrontal cortex network activity and coherence in adult and adolescent female rats. J. ARNER*; A. L. CURTIS; M. BATES; H. GUAJARDO; R. J. VALENTINO; S. BHATNAGAR. *Children's Hosp. of Philadelphia, Natl. Inst. on Drug Abuse, Univ. of Pennsylvania Perelman Sch. of Med.*

3:00 P29 **588.27** ▲ Association between chemotherapy induced brain structural alterations and cognitive performance in breast cancer patients revealed by GQI. W. CHUANG*; J. WENG; V. CHEN; Y. TSAI. *Chang Gung Univ., Chang Gung Mem. Hosp., Chang Gung Univ., Chang Gung Mem. Hosp.*

4:00 P30 **588.28** The effect of aging and ancestral stress on T2 relaxation values in the hippocampus. L. S. TRUICA*; M. AMBESKOVIC; J. K. MCCREARY; G. A. METZ. *Canadian Ctr. For Behavioral Neurosci., Univ. of Lethbridge, Univ. of Lethbridge, Univ. Lethbridge.*

POSTER

589. Brain Blood Flow, Metabolism, and Homeostasis

Theme F – Integrative Physiology and Behavior

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 DP09/P31 **589.01** (Dynamic Poster) Evaluating blood brain barrier contribution to cortical extracellular glucose and lactate fluctuations during motor behaviour. A. BELAND*; C. MESSIER. *Univ. of Ottawa.*

2:00 P32 **589.02** ● Baseline brain oxygen metabolism predicts fatigue in multiple sclerosis. K. L. WEST*; D. SIVAKOLUNDU; M. D. ZUPPICHINI; G. B. MARUTHY; H. LU; D. T. OKUDA; B. RYPMA. *Univ. of Texas at Dallas, Univ. of Texas at Dallas, Johns Hopkins Univ., Univ. of Texas Southwestern Med. Ctr.*

3:00 P33 **589.03** Developmental changes in [2,4-$^{13}C_2$] beta-hydroxybutyrate and [1-^{13}C] glucose metabolism in rat brain. K. SAKOGAWA*; T. KANAMATSU. *Soka Univ.*

4:00 P34 **589.04** Innervation is required for apolipoprotein A-IV-induced fatty acid uptake by adipose tissues. C. C. LO*; H. SHI; Q. ZHU; J. WENG; M. SHEN. *Ohio Univ., Miami Univ.*

1:00 P35 **589.05** ▲ Hypothyroidism modifies the expression of insulin, GLUT4, aromatase and estrogen receptors in pancreas of female rabbits. J. RODRIGUEZ CASTELAN*; C. ACEVES; F. CASTELÁN; E. CUEVAS-ROMERO. *Inst. de Neurobiología, Univ. Nacional Autónoma de México, Univ. Autónoma de Tlaxcala, Inst. de Investigaciones Biomédicas, Univ. Nacional Autónoma de México, Univ. Autónoma de Tlaxcala.*

2:00 P36 **589.06** The bile acid receptor FXR: A new actor of the brain control of energy homeostasis. K. BANTUBUNGI*; B. DECKMYN; D. DOMENGER; S. DUCASTEL; E. NICOLAS; E. DORCHIES; E. CARON; J. CHARTON; E. VALLEZ; B. DEPREZ; J. ANNICOTTE; S. LESTAVEL; A. TAILLEUX; C. MAGNAN; B. STAELS. *UMR 1011, Inserm U1011, Inserm UMR-S1172, Inserm U1177, Cnrs UMR 8199, Inserm UMR 8251.*

3:00 P37 **589.07** C2 domain protein involved in MC4R trafficking and hypothalamic control of energy balance. C. K. GAVINI*; T. COOK; D. RADEMACHER; V. MANSUY-AUBERT. *Loyola Univ. Chicago.*

4:00 P38 **589.08** ▲ The role of lateral hypothalamic area leptin receptor circuitry in behavior and metabolism. B. A. TOTH*; U. SINGH; K. C. DAVIS; K. SAITO; D. A. MORGAN; K. RAHMOUNI; H. CUI. *Univ. of Iowa, F.O.E. Diabetes Res. Ctr., Obesity Res. and Educational Iniative, Iowa Neurosci. Inst.*

1:00 P39 **589.09** Differential regulation of glucose metabolism in the cerebrospinal fluid and peripheral circulation in wild-type mice. T. NAKAJIMA*; S. TAKEDA; A. OYAMA; Y. ITO; Y. TAKAMI; Y. TAKEYA; K. SUGIMOTO; K. YAMAMOTO; H. RAKUGI; R. MORISHITA. *Grad. Sch. of Medicine, Osaka Univ., Grad. Sch. of Medicine, Osaka Univ.*

2:00 P40 **589.10** Pine needle extract activates POMC neurons in the hypothalamus. E. KIM; E. BYUN; D. KANG; S. HONG; J. HAN; D. LEE*. *Gyeongsang Natl. University, Sch. of Med., Gyeongsang Natl. University, Sch. of Med.*

3:00 P41 **589.11** Effects of environmental enrichment on ketone metabolism and neurite outgrowth. S. PYO*; S. SONG; J. YU; J. SEO; Y. SHIN; S. WI; A. BAEK; B. NAM; E. CHO; S. JO; J. HEO; J. CHOI; S. CHO. *Yonsei Univ., Yonsei Univ., Yonsei Univ., Yonsei Univ., Yonsei Univ., Chungnam Univ.*

4:00 P42 **589.12** Parasympathetic nervous system directly regulate hepatic glucose metabolism. W. SONG*; C. NAMKOONG; H. CHOI. *Seoul Natl. Univ. Col. of Med.*

1:00 Q1 **589.13** Hyaluronan at the brain-environment interface. D. M. THEVALINGAM*; E. C. JENKINS; D. P. MCCLOSKEY. *City Univ. of New York, City Univ. of New York.*

2:00 Q2 **589.14** Effects of hypothalamic cAMP response element binding protein (CREB1) on energy and glucose homeostasis. B. TAIB*; V. FONG; J. WEST; K. KAESTNER; R. S. AHIMA. *Johns Hopkins Univ. Sch. of Med., Univ. of Pennsylvania Sch. of Med.*

3:00 Q3 **589.15** ▲ The effect of intermittent hypoxia on body weight regulation in diet induced and genetically obese mice. K. E. PROPSOM*; S. N. FRAMNES; D. M. ARBLE. *Marquette Univ., Marquette Univ.*

4:00 Q4 **589.16** Chronic variable stress during adolescence alters the thyroid axis response to voluntary exercise. M. A. PARRA-MONTES DE OCA*; J. CHARLI; P. JOSEPH-BRAVO. *Inst. de Biotecnologia UNAM.*

1:00 Q5 **589.17** Glut4 expression in relationship with prenatal and postnatal sugared water consumption in rats. V. VELÁZQUEZ-OROZCO*; L. NICOLAS-TOLEDO; E. CUEVAS-ROMERO; A. ORTEGA-SOTO; F. CASTELÁN; J. RODRÍGUEZ-ANTOLÍN. *Univ. Autonoma De Tlaxcala, Univ. Autonoma De Tlaxcala, Inst. Politécnico Nacional, Univ. Nacional Autonoma De Mexico.*

2:00 Q6 **589.18** ▲ Neuronal mitochondria design principles from mouse cerebellum tomography. R. MENDELSOHN*; T. M. BARTOL, JR; C. LEE; G. GARCIA; E. LIU; K. BROCKMEYER; E. A. BUSHONG; S. PHAN; G. PERKINS; M. H. ELLISMAN; A. SKUPIN; T. J. SEJNOWSKI; P. RANGAMANI. *Salk Inst. For Biol. Studies, Salk Inst. for Biol. Studies, UCSD, Univ. of Luxembourg, Salk Inst. for Biol. Studies, Univ. California - San Diego, Univ. California - San Diego, UCSD BSB 1000.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 Q7 **589.19** Chronic activation leads to neuronal glycolysis. A. KSENDZOVSKY*; M. ALTSHULER; M. BACHANI; S. WALBRIDGE; J. P. STEINER; J. HEISS; J. KAPUR; K. A. ZAGHLOUL. *Natl. Inst. of Hlth. Office of Intramural, NIH, Natl. Institutes of Hlth., Natl. Inst. of Neurolog. Disorders and Stroke, Univ. Virginai Hlth. Sci. Ctr., Natl. Inst. of Neurolog. Disorders and Stroke, NIH.*

4:00 Q8 **589.20** Focused ultrasound treatment of murine non-alcoholic steatohepatitis. T. S. HUERTA*; A. DEVARAJAN; T. TSAAVA; S. S. CHAVAN; K. J. TRACEY. *Feinstein Inst. for Med. Res., Elmezzi Grad. Sch. of Mol. Med., Donald and Barbara Zucker Sch. of Med. @ Hofstra/ Northwell.*

1:00 Q9 **589.21** Metabolic rewiring in mice with decreased mitochondrial complex I function. T. L. EMMERZAAL*; G. PRESTON; B. GRAHAM; R. KELLY; E. MORAVA; R. RODENBURG; T. L. KOZICZ. *Mayo Clin., Mayo Clin., Baylor Col. of Med., Boston Children's Hosp., Radboudumc.*

2:00 Q10 **589.22** Non-guassian diffusion procedure shows microstructural changes in patients with type 2 diabetes mellitus. R. KUMAR*; C. CABRERA-MINO; B. ROY; L. EHLERT; M. WOO; S. CHOI. *Univ. of California at Los Angeles, Univ. of California at Los Angeles.*

3:00 Q11 **589.23** Steady-state intracellular ph and the recovery from NH_4^+-induced acidosis in rat hippocampal neurons and astrocytes: A new look on the analysis. V. A. RUFFIN*; W. F. BORON. *Virginia Union Univ., Case Western Reserve Univ.*

4:00 Q12 **589.24** Brain microstructural changes in patients with type 2 diabetes mellitus. M. LAI*; L. EHLERT; C. CABRERA-MINO; B. ROY; M. WOO; S. CHOI; R. KUMAR. *Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles.*

1:00 Q13 **589.25** ● Regional brain gray matter tissue changes and associations with cognition and mood functions in patients with type 2 diabetes mellitus. B. ROY*; S. CHOI; C. CABRERA-MINO; L. EHLERT; R. MULLER; M. J. FREEBY; M. WOO; R. KUMAR. *Univ. of California at Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles.*

2:00 Q14 **589.26** Low-grade benzene exposure induces sex-specific metabolic imbalance and hypothalamic ER-stress markers. L. K. DEBARBA*; A. MULKA; P. FAKHOURY; O. DIDYUK; A. AWADA; M. HOLLAND; I. AYYAR; M. SACLA; J. B. M. LIMA; U. KLUEH; M. SADAGURSKI. *Wayne State Univ., Wayne State Univ.*

3:00 Q15 **589.27** Implications of fatty acid metabolism for bioenergetic and behavioural deficits of NMDAR deficient mice. T. V. LIPINA*; Y. YAN; L. PEPERA; A. J. RAMSEY. *Univ. of Toronto.*

4:00 Q16 **589.28** ● Vascular changes in the brains of NMDA receptor knockdown mice. K. INTSON*; Y. YAN; T. LIPINA; L. YU; D. EMTYAZI; J. G. SLED; A. SALAHPOUR; A. J. RAMSEY. *Univ. of Toronto, The Hosp. for Sick Children (SickKids), Univ. of Toronto, Univ. of Toronto.*

POSTER

590. Sleep Mechanisms

Theme F – Integrative Physiology and Behavior

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 R17 **590.01** Photoperiod affects leptin sensitivity and ventilatory drive in the C57Bl/6J mouse. A. A. JONES*; N. A. CHAPPELLE; D. M. ARBLE. *Marquette Univ.*

2:00 R18 **590.02** Amygdala GABAergic neuron's abnormal activity pattern during cataplexy. M. LIU*; Y. SUN; E. BENDELL. *Med. Univ. of South Carolina.*

3:00 R1 **590.03** Adolescent sleep disruption induces long-lasting impairment in social novelty preference. W. BIAN*; L. DE LECEA. *Stanford Univ.*

4:00 R2 **590.04** Social clock influence on Uruguayan adolescent's sleep and performance. I. ESTEVAN DEBAT*; B. TASSINO; A. SILVA. *Facultad De Psicología, Udelar, Facultad de Ciencias, UdelaR, Facultad de Ciencias, UdelaR.*

1:00 R3 **590.05** Is dim light at night a risk factor for exacerbating autistic behavior? H. WANG*; D. H. LOH; Y. TAHARA; C. A. GHIANI; C. S. COLWELL. *Univ. of California - Los Angeles, Univ. of California - Los Angeles, Univ. of California - Los Angeles.*

2:00 R4 **590.06** ● Validation of PiezoSleep scoring against EEG/EMG sleep scoring in rats. I. TOPCHIY; A. M. FINK; K. MAKI; M. W. CALIK*. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*

3:00 R5 **590.07** ▲ Effect of extremely low frequency electromagnetic fields on locomotor activity rhythm of Wistar rats. K. F. ROLDAN-RIZO*; D. ELIAS-VIÑAS; L. VERDUGO-DIAZ. *Univ. Nacional Autónoma De México, CINVESTAV, Inst. Politécnico Nacional, Univ. Natl. Autonoma Mexico.*

4:00 R6 **590.08** Increasing the arousal level may inhibit cisplatin-induced anorexia in mice. K. YAMAMOTO*. *Osaka Univ.*

1:00 R7 **590.09** The caudal paralaminar thalamus plays a critical role in cortical activation and arousal. W. YIWEI*; M. LIU; D. CAI; F. XIE; L. YOU; Y. YUE; R. CHEN; J. ZOU; T. LI. *Inst. of Neural Engin., Inst. of Neural Engin., Tsinghua Univ., Sch. of Medicine,Tsinghua Univ.*

2:00 R8 **590.10** ● Hypothalamic MCH neurons contribute to forgetting of hippocampus dependent memory during REM sleep. S. IZAWA*; S. CHOWDHURY; D. ONO; T. MIYAZAKI; Y. MUKAI; R. INOUE; T. S. KILDUFF; A. YAMANAKA. *Res. Inst. of Envrn. Med., JSPS Res. Fellowship for Young Scientist, SRI Intl., CREST, JST.*

3:00 R9 **590.11** Right putamen functional connectivity is associated with chronic pain and sleep quality in older adults. S. MONTESINO GOICOLEA*; P. A. VALDES-HERNANDEZ; Y. CRUZ-ALMEIDA. *Univ. of Florida.*

4:00 R10 **590.12** Differential change of light and deep NREM sleep by thalamic PLCβ4. J. HONG*; G. HA; H. KWAK; Y. LEE; H. JEONG; P. SUH; E. CHEONG. *Yonsei Univ., Sch. of Life Science, Unist of Sci. and Technol., Korea Brain Res. Inst.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 R11 **590.13** Sleep quality meaning and its association with the Pittsburgh sleep quality index (PSQI): A population base study across the adult lifespan. L. AMORIM*; A. SOUSA; T. C. CASTANHO; N. SOUSA; N. C. SANTOS. *Life and Hlth. Sci. Res. Inst. (ICVS), Sch. of Medicine, Univ. of Minho, ICVS/3B's - PT Government Associate Lab., Clin. Academic Ctr. (2CA), Sch. of Medicine, Univ. of Minho.*

2:00 R12 **590.14** Inspiratory muscle training may increase gray matter volume in obstructive sleep apnea. P. M. MACEY*; A. PAL; A. AGUILA; M. SARMA; A. SAUCEDO; A. M. THOMAS; R. S. AYSOLA. *Univ. of California at Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles.*

3:00 R13 **590.15** Inspiratory muscle training reduces inflammation markers in brain of obstructive sleep apnea patients. A. PAL*; A. P. AGUILA; M. SARMA; A. SAUCEDO; R. S. AYSOLA; A. M. THOMAS; P. M. MACEY. *Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles.*

4:00 R14 **590.16** Acoustic pink noise stimulation after sleep spindle may enhance the procedural memory consolidation. J. CHOI*; S. C. JUN. *Gwangju Inst. of Sci. and Technol.*

1:00 R15 **590.17** Sleep consolidation of visuomotor adaptation: Differential effects on memory retention and persistence. A. SOLANO*; L. A. RIQUELME; D. PÉREZ-CHADA; V. DELLA-MAGGIORE. *Ifibio-Houssay, Univ. of Buenos Aires, Pulmonary and Sleep Service, Austral Univ. Hosp.*

2:00 R16 **590.18** Potential role of gut microbiota in neurobehavioral deficits induced by simulated shift work condition in mice. S. SHIYANA*; K. KONDEPUDI; M. BISHNOI; K. CHOPRA. *Panjab Univ., Natl. Agri-food Biotech. Inst.*

3:00 R17 **590.19** Activation of orexigenic neurons induced by binge eating of sugar or fat and sleep delay in a model of night eating syndrome. E. ESPITIA-BAUTISTA*; L. UBALDO-REYES; C. ESCOBAR. *UNAM.*

4:00 R18 **590.20** ▲ Asprosin administration promotes wakefulness and blunts torpor bouts in mice. E. M. COHN*; K. ODENIGBO; F. GULAMALI; S. J. SWOAP; M. CARTER. *Williams Col.*

1:00 R19 **590.21** Tetrodotoxin-mediated inactivation of the prefrontal cortex decreases wakefulness and increases the time to emergence from sevoflurane anesthesia in rat. E. R. TRAMMEL*; A. PARKAR; T. GROENHOUT; L. SHARBA; A. BOOTWALA; T. LIU; G. A. MASHOUR; D. PAL. *Univ. of Michigan.*

2:00 R20 **590.22** Neonatal exposure to isoflurane alters sleep architecture and cognition in adolescent rats in a sex-specific manner. F. M. MANZELLA*; B. F. GULVEZAN; Y. H. RAOL; V. JEVTOVIC-TODOROVIC; S. M. TODOROVIC. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus.*

3:00 S1 **590.23** Sleep fragmentation increases alcohol sensitivity and alcohol-induced mortality in *drosophila.* L. C. LYONS*; A. K. DE NOBREGA; C. L. CAMARILLO; E. J. NOAKES. *Florida State Univ.*

4:00 S2 **590.24** ● Investigation novel-sleep related genes in *Drosophila melanogaster*: A follow up on KOMP2 identified genes in *Mus musculus.* R. GUERRIERO*; D. A. HARRISON; P. SHAW; B. F. O'HARA. *Univ. of Kentucky, Washington Univ. Sch. of Med. In St. Louis, Signal Solutions LLC.*

1:00 S3 **590.25** Deprivation of 'sleep-like' inactivity in an annelid worm disrupts neural mechanisms, but not metabolism. M. J. ZORAN*; L. H. JORDAN. *Texas A&M Univ.*

2:00 S4 **590.26** Zebratrack: A remanent imaging behavior quantification platform. P. R. MARTINEAU; L. C. LEUNG; P. MOURRAIN*. *Martineau and Associates, Stanford Univ., Stanford Univ.*

3:00 S5 **590.27** ▲ Cardiorespiratory activity and sleep deprivation in crayfish. M. OSORIO-PALACIOS*; L. MONTIEL-TREJO; Z. PEÑA-LEAL; I. OLIVER-DOMÍNGUEZ; J. HERNÁNDEZ-FALCÓN; K. MENDOZA-ÁNGELES. *Univ. Nacional Autónoma de México.*

4:00 S6 **590.28** Standardized rice bran supplement enhances non-rapid eye movement sleep in mice through histamine H1 receptors. M. UM*; M. YOON; J. JUNG; J. LEE; S. CHO. *Korea Food Res. Inst., Univ. of Sci. & Technol., Pukyong Natl. Univ.*

POSTER

591. Food Intake and Energy Balance: Integration of Peripheral Signals

Theme F – Integrative Physiology and Behavior

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 S7 **591.01** Leptin increases postsynaptic NMDA receptor-mediated currents and synaptic throughput in LepR neurons of the NTS. D. M. NEYENS*; N. J. HUSTON; R. C. RITTER; S. M. APPLEYARD. *Washington State Univ.*

2:00 S8 **591.02** Role of selenium utilization in hypothalamic control of energy metabolism. D. TORRES*; M. W. PITTS; A. C. HASHIMOTO; M. J. BERRY. *Univ. of Hawai'i at Manoa Dept. of Cell and Mol. Biol.*

3:00 S9 **591.03** A chemogenetic analysis of the nucleus solitary tract role in satiation. K. GILLAND*; E. A. FOX. *Purdue Univ.*

4:00 S10 **591.04** Leptin receptor activity in the nucleus of the solitary tract increases forebrain leptin sensitivity. R. B. HARRIS*. *Med. Col. of Georgia.*

1:00 S11 **591.05** Consumption of dietary emulsifiers alters gene expression in the amygdala, paraventricular nucleus, and arcuate nucleus of mice. A. R. ARNOLD*; K. L. HUHMAN; B. CHASSAING. *Georgia State Univ.*

2:00 S12 **591.06** Leptin and glucose-sensing neurons in the hypothalamic arcuate nucleus of the rat. D. E. GARCIA-DIAZ*; J. GARDUÑO; I. ARENAS; J. BRAVO-MARTINEZ; H. CASTRO; K. BERMEO. *Univ. Nacional Autonoma de Mexico.*

3:00 S13 **591.07** AgRP neuronal disinhibition is driven by KCC2 dysregulation in obese mice. A. C. KORGAN*; W. WEI; K. C. GRAHAM; S. L. A. MARTIN; K. M. S. O'CONNELL. *The Jackson Lab.*

4:00 S14 **591.08** Relation of oxidative stress and phosphorylation of AMPK hypothalamic with the feeding behavior in diabetic rats. J. M. MENDOZA-BELLO*; M. I. BARRAGAN-BONILLA; Y. A. FLORES-CORTEZ; A. MILLAN-VEGA; B. ILLADES-AGUIAR; M. RAMIREZ; M. ESPINOZA-ROJO. *Univ. Autonoma De Guerrero, Univ. Autonoma De Guerrero, Univ. Autónoma de Guerrero, Univerisdad Autónoma de Guerrero - CONACYT.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 S15 **591.09** Effect of curcumin on NPY and POMC expression in the arcuate nucleus of the hypothalamus in diabetic rats. M. I. BARRAGAN-BONILLA*; M. RAMIREZ; J. M. MENDOZA-BELLO; B. ILLADES-AGUIAR; P. AGUILERA; M. ESPINOZA. *Univ. Autónoma de Guerrero, Univ. Autonoma de Guerrero, Univ. Autonoma de Guerrero, Inst. Nacional de Neurologia y Neurocirugia.*

2:00 S16 **591.10** Sexual dimorphism in the onset of diet-induced obesity is dependent on AgRP-neuronal excitability. K. C. GRAHAM*; A. C. KORGAN; W. WEI; S. L. A. MARTIN; K. M. S. O'CONNELL. *The Jackson Lab.*

3:00 S17 **591.11** Elevated dietary sucrose consumption induces AgRP neuronal circuit dysregulation and leptin resistance without altering body weight. A. C. KORGAN; K. ABREU; K. GRAHAM; W. WEI; S. L. A. MARTIN; K. M. S. O'CONNELL*. *The Jackson Lab., State Univ. of Ceara, The Jackson Lab.*

4:00 S18 **591.12** A neural circuit mechanism for mechanosensory feedback control of ingestion. M. KIM*; D. KIM; G. HEO; H. KIM; S. JUNG; M. AN; J. PARK; H. PARK; M. LEE; S. KIM. *Inst. of Mol. Biol. and Genetics, Seoul Natl. Univ., Dept. of Chemistry, Seoul Natl. Univ., Program in Neuroscience, Seoul Natl. Univ.*

1:00 T1 **591.13** Modulation of hypothalamic hunger circuits by an ascending catecholamine pathway. D. ATASOY*; I. AKLAN; N. SAYAR; Y. YAVUZ. *Univ. of Iowa, Yeditepe Univ.*

2:00 T2 **591.14** Effects of vagotomy and lesions of the area postrema on nausea induced by tranexamic acid. M. FUJITA*; Y. HIRAI; K. HISADOME; M. FUNAHASHI. *Hokkaido Univ.*

3:00 T3 **591.15** Impact of early life gut microbial environment on energy homeostasis, vagal development, and CCK-induced satiety. A. K. KAMITAKAHARA*; V. MAGALONG; P. R. LEVITT. *Children's Hosp. Los Angeles, Keck Sch. of Medicine, Univ. of Southern California.*

4:00 T4 **591.16** Atlas-based spatial analysis of rat hindbrain regions that display rapid activation in association with glycemic challenge. G. P. TAPIA*; L. J. AGOSTINELLI; S. D. CHENAUSKY; J. BARNES; D. D. MOLINA; A. M. KHAN. *The Univ. of Texas at El Paso, USC, Univ. of Iowa, Carver Col. of Med.*

1:00 T5 **591.17** Examining the effect of antibiotic treatment on emotional health: Comparable findings in rats and humans. M. E. GLOVER*; I. A. KERMAN; S. M. CLINTON. *Virginia Tech. Univ., Carilion Clin.*

2:00 T6 **591.18** Relationship between vagus nerve spikes and physiological signals of central and peripheral organs in a freely moving rat. T. OKONOGI*; Y. SHIKANO; Y. NISHIMURA; A. YAMANAKA; Y. IKEGAYA; T. SASAKI. *The Univ. of Tokyo, Keio Univ., Res. Inst. of Envrn. Medicine, Nagoya Univ., JST PRESTO.*

3:00 T7 **591.19** Altered spinophilin interactions in the hypothalamus and pancreas of a leptin receptor mutant (db/db) model of obesity. K. C. STICKEL*; D. S. WATKINS; A. J. BAUCUM II. *IUPUI, Indiana Univ. Sch. of Med., Indiana University-Purdue Univ. Indianapolis.*

POSTER

592. Subcortical Circuitry Motivation, Compulsive Behavior, and Psychostimulants

Theme G – Motivation and Emotion

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 T8 **592.01** Excitation and inhibition of limbic corticotropin releasing factor neurons modulates motivation. H. M. BAUMGARTNER*; L. L. HUERTA SANCHEZ; J. SCHULKIN; K. C. BERRIDGE. *Univ. of Michigan, Georgetown Univ.*

2:00 T9 **592.02** Comparing reward roles of D1 neurons vs D2 neurons in accumbens and amygdala. S. ABTAHI*; E. M. RODBERG; K. C. BERRIDGE. *Univ. of Michigan, Ann Arbor, Univ. of Michigan, Ann Arbor.*

3:00 T10 **592.03** Cortical optogenetic stimulation of 'liking' and ventral pallidum inhibition for 'disgust'. I. MORALES*; K. C. BERRIDGE. *Univ. of Michigan.*

4:00 T11 **592.04** Optogenetic excitation of the ventral pallidum and lateral hypothalamus promotes 'wanting' but only the posterior ventral pallidum enhances 'liking'. J. J. OLNEY*; D. C. CASTRO; K. URSTADT; A. A. KOTIAN; K. C. BERRIDGE. *Univ. of Michigan, Univ. Of Washington, Occidental Col.*

1:00 T12 **592.05** Dangerous desire: Paired central amygdala photostimulation can turn fear into desire. E. E. NAFFZIGER*; S. M. WARLOW; K. C. BERRIDGE. *Univ. of Michigan, Univ. of California San Diego, Univ. of Michigan.*

2:00 T13 **592.06** Cortico-striatal circuits mediate compulsive behavior in schedule-induced polydipsia. T. ARBAB*; D. DENYS; I. WILLUHN. *Netherlands Inst. For Neuroscience, Royal Netherlands Acad. of Arts and Sci., Dept. of Psychiatry, Amsterdam UMC, Univ. of Amsterdam.*

3:00 T14 **592.07** Neurostructural substrates underlying dispositional optimism in late adolescence. H. L. LAI*; S. WANG; Q. GONG. *Huaxi MR Res. Ctr. (HMRRC).*

4:00 T15 **592.08** Deep-brain stimulation of the internal capsule has distinct effects on neuronal activity in different nodes of cortico-striatal circuits. B. J. G. VAN DEN BOOM*; A. ALONSO-ANDRES; D. DENYS; I. WILLUHN. *Netherlands Inst. For Neuroscience, Royal Netherlands Acad. of Arts and Sci., Dept. of Psychiatry, Amsterdam UMC, Univ. of Amsterdam.*

1:00 T16 **592.09** ● ▲ Activation of the metabotropic glutamate receptor 1 attenuates behavioral deficits in NMDA hypofunction models. J. GALBRAITH*; S. YOHN; E. RIETH; A. J. RAMSEY; C. K. JONES; C. W. LINDSLEY; P. J. CONN. *Vanderbilt Univ., Univ. of Toronto.*

2:00 T17 **592.10** ● Activation of the M1 muscarinic acetylcholine receptor modulates nucleus accumbens dopamine release and increases motivational responding. S. E. YOHN*; J. GALBRAITH; E. G. RIETH; I. WETZKA; C. W. LINDSLEY; P. J. CONN. *Vanderbilt Univ., Vanderbilt Univ.*

3:00 T18 **592.11** The role of the indirect pathway in sex differences in the formation of preference for cocaine over food in rats. M. KALYANI*; H. EPSTEIN; J. B. BECKER. *Univ. of Michigan.*

4:00 T19 **592.12** Sex differences in motivation for cocaine: Role of progesterone and oxytocin. A. S. KOHTZ*; B. LIN; H. E. DAVIES; A. SHUMYATSKY; G. S. ASTON-JONES. *Rutgers Univ., Rutgers Univ.*

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* Indicates abstract's submitting author

1:00 T20 **592.13** Differential control of behavior by cocaine and morphine cues: Role of locus coeruleus and auditory brainstem plasticity. M. A. PRESKER*, Jr.; D. SULLIVAN; S. TOMBOKAN; K. M. BIESZCZAD; G. S. ASTON-JONES. *Rutgers Univ., Rutgers Univ.*

2:00 U1 **592.14** Orexin1 receptor signaling in ventral tegmental area attenuates motivation for cocaine with drug-paired cues. C. PANTAZIS*; M. H. JAMES; N. SHIN; J. E. FRAGALE; G. S. ASTON-JONES. *Rutgers Univ., Florey Inst. for Neurosci. and Mental Hlth.*

3:00 U2 **592.15** Enhanced food motivation following binge-like eating in female rats is dependent on orexin (hypocretin) input to ventral tegmental area. M. H. JAMES*; S. LIU; K. FERNANDOPULLE; C. B. PANTAZIS; H. E. BOWREY; N. T. BELLO; G. ASTON-JONES. *Rutgers, The State Univ. of New Jersey, Florey Inst. for Neurosci. and Mental Hlth.*

4:00 U3 **592.16** Sex differences in effects of GPER1 activation on preference for cocaine in male and female rats. J. A. QUIGLEY*; J. B. BECKER. *Univ. of Michigan.*

1:00 U4 **592.17** Graded control of pupil dilation and cortical neuromodulation using selective and parametric stimulation of the mouse vagus nerve. Z. H. MRIDHA*; J. DE GEE; Y. SHI; R. ALKASHGARI; J. WILLIAMS; A. SUMINSKI; M. WARD; W. ZHAMG; M. MCGINLEY. *Baylor Col. of Med., Univ. of Winconsin, Purdue Univ.*

2:00 U5 **592.18** The modulation of excitation and inhibition by neuropeptides in the ventral pallidum is cell type specific. D. NEUHOFER*; J. A. HEINSBROEK; E. DERESCHEWITZ; P. W. KALIVAS. *MUSC, Med. Univ. of South Carolina, MUSC, Med. Univ. S Carolina.*

POSTER

593. Emotion: Neurocircuitry

Theme G – Motivation and Emotion

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 U6 **593.01** Monkey anterior cingulate cortex: Topography and laminar pattern of corticocortical connections indicate hierarchical organization. H. SAKATA; Y. KIM; M. NEJIME; N. KONOIKE; S. MIYACHI*; K. NAKAMURA. *Primate Res. Institute, Kyoto Univ.*

2:00 U7 **593.02** Oxytocin signaling in the central amygdala modulates emotion discrimination in mice. F. MALTESE*; V. FERRETTI; G. CONTARINI; M. NIGRO; A. BONAVIA; H. HUANG; V. GIGLIUCCI; G. MORELLI; D. SCHEGGIA; F. MANAGO; G. CASTELLANI; A. LEFEVRE; L. CANCEDDA; B. CHINI; V. GRINEVICH; F. PAPALEO. *Inst. Italiano di Tecnologia, CNR, Inst. of Neurosci., Schaller Res. Group on Neuropeptides, German Cancer Res. Ctr.*

3:00 U8 **593.03** Learning-related changes in infralimbic cortical activity during conditioned inhibition of fear. K. H. NG*; S. SANGHA. *Purdue Univ., Purdue Inst. for Integrative Neurosci.*

4:00 U9 **593.04** ● Capture and modulation of emotion regulation inferred from connectivity analysis. R. SHEPARD*; L. STEWART; M. XING; A. LEOW; O. AJILORE. *Univ. of Illinois at Chicago.*

1:00 U10 **593.05** The role of ventral hippocampal inputs to the anterior hypothalamus in escape behaviours and stress response. J. BANG*; J. K. SUNSTRUM; J. ZHAO; S. ST-CYR; D. GARAND; M. RAHMAN; G. M. PARFITT; M. A. WOODIN; P. O. MCGOWAN; W. INOUE; J. KIM. *Univ. of Toronto, Univ. of Western Ontario, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto Scarborough, Univ. of Toronto, Univ. of Toronto, Univ. of Western Ontario, Univ. of Toronto.*

2:00 U11 **593.06** A focus on primate area 25 and its regulation of reward and threat driven responses. C. M. WOOD*; L. ALEXANDER; A. M. SANTANGELO; L. OIKONOMIDIS; J. ALSIÖ; P. L. R. GASKIN; S. J. SAWIAK; Y. T. HONG; T. D. FRYER; A. C. ROBERTS. *Univ. of Cambridge, Univ. of Cambridge, Univ. of Cambridge, Univ. of Cambridge.*

3:00 U12 **593.07** Ultrasonic vocalizations as a means of inducing anxiety via potential threat exposure: Evidence from behavioral, neural, and fMRI analyses in the rat. J. A. HONEYCUTT*; L. E. GRANATA; C. DEMAESTRI; P. P. KULKARNI; C. F. FERRIS; H. C. BRENHOUSE. *Northeastern Univ.*

4:00 U13 **593.08** Lateral hypothalamic neural outputs drive active coping response. E. MARTIANOVA*; A. PAGEAU; D. LEBLANC; C. PROULX. *Cervo Brain Res. Ctr., Laval Univ., Laval Univ.*

1:00 U14 **593.09** Preferential activation for emotional music versus sounds in motor, interoceptive, and language brain areas. R. J. LEPPING*; J. M. BRUCE; K. M. GUSTAFSON; J. HU; L. E. MARTIN; C. R. SAVAGE; R. ATCHLEY. *Univ. of Kansas Med. Ctr., Univ. of Missouri-Kansas City, Univ. of Missouri-Kansas City, Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Nebraska-Lincoln, Univ. of Nebraska-Lincoln, Univ. of South Florida.*

2:00 U15 **593.10** Synaptic organization of amygdala to prefrontal cortex circuits. K. MANOOCHERI*; A. G. CARTER. *New York Univ.*

3:00 U16 **593.11** Spatio-temporal dynamics and individual differences linked to vlPFC's role in emotion-cognition interactions: Evidence from a simultaneous fMRI-ERP investigation. M. MOORE*; A. T. SHAFER; R. BAKHTIARI; A. SINGHAL; F. DOLCOS. *Univ. of Illinois at Urbana-Champaign, Natl. Inst. on Aging, Univ. of Alberta.*

4:00 U17 **593.12** Neural circuits underlying a psychotherapeutic regimen for fear disorders. J. BAEK*; S. LEE; T. CHO; S. KIM; M. KIM; Y. YOON; K. KIM; J. BYUN; S. KIM; J. JEONG; H. SHIN. *Inst. for Basic Sci., Korea Advanced Inst. of Sci. and Technol., Seoul Natl. Univ. Col. of Med.*

1:00 U18 **593.13** Regulation of prefrontal cortex by two opposing hippocampal pathways. C. SANCHEZ BELLOT*; A. F. MACASKILL. *Univ. Col. London.*

2:00 U19 **593.14** Input-output mapping of ventral hippocampal circuits. R. W. S. WEE*; A. MACASKILL. *Univ. Col. London.*

3:00 U20 **593.15** Ventral tegmental area glutamatergic neurons differentially express calcium-binding proteins. S. MONGIA*; T. YAMAGUCHI; H. WANG; B. LIU; M. MORALES. *NIDA/NIH.*

4:00 U21 **593.16** Cytoarchitectural characterization of zona incerta doapmine neurons. Z. D. BRODNIK*; M. F. MORALES. *IRP, NIDA, NIH, IRP, NIDA, NIH.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 U22 **593.17** VTA glutamate neurons establish excitatory synapses on mPFC parvalbumin neurons. S. ZHANG*; H. WANG; M. F. MORALES. *Natl. Inst. of Health, Natl. Inst. on Drug Abuse, IRP, Natl. Inst. of Health, Natl. Inst. on Drug Abuse, IRP.*

2:00 U23 **593.18** VTA glutamate neurons promote aversion by activation of mPFC parvalbumin neurons. H. WANG*; H. WANG; M. F. BARBANO; A. N. FIGUEROA GONZÁLEZ; M. AKBARI; M. F. MORALES. *IRP/NIDA/NIH, IRP/ NIDA/ NIH, Natl. Inst. On Drug Abuse, IRP, NIDA, NIH.*

3:00 U24 **593.19** Electrophysiological properties of ventral tegmental area combinatorial glutamate-GABA neurons. J. A. MIRANDA-BARRIENTOS*; I. CHAMBERS; D. H. ROOT; H. WANG; G. MATEO-SEMIDEY; B. LIU; M. F. MORALES. *NIDA, Univ. of Colorado Boulder, IRP/NIDA/NIH, IRP, NIDA, NIH.*

4:00 U25 **593.20** VTA glutamatergic, but not GABAergic, neurons play a role in innate defensive behavior. M. F. BARBANO*; H. WANG; B. LIU; A. FIGUEROA-GONZÁLEZ; M. MORALES. *Natl. Inst. on Drug Abuse.*

1:00 U26 **593.21** The prefrontal cortex-ventral tegmental area projection signals movement but not reward in positive and negative environments. R. J. POST*; B. J. SLEEZER; V. LEE; K. PELLEGRINO; N. W. RINGELBERG; B. A. MONCRIEFFE; M. R. WARDEN. *Cornell Univ., Rockefeller Univ., Univ. of North Carolina Med. Sch., Cornell Univ., Cornell Univ.*

2:00 U27 **593.22** Infralimbic projections to the basal forebrain regulate fear extinction recall. C. FERNANDES-HENRIQUES*; R. ZHANG-SHEN; I. GRUNFELD; M. CORNIQUEL; N. BURNEY; S. LEI; M. LABKOVICH; D. SEMIDEY; E. LIKHTIK. *City Univ. of New York, City Univ. of New York, City Univ. of New York, New York Univ., City Univ. of New York, City Univ. of New York.*

3:00 U28 **593.23** Auditory safety training improves novel auditory discrimination learning and sensory discrimination curves. I. NAHMOUD*; J. G. VASQUEZ; H. CHO; T. DENNIS-TIWARY; E. LIKHTIK. *Hunter Col., Hunter Col., Hunter Col., City Univ. of New York.*

4:00 U29 **593.24** Nucleus accumbens neurons exhibit cell-type specific coupling to hippocampal inputs. E. F. OLIVEIRA*; L. L. SJULSON. *Albert Einstein Col. of Med., Albert Einstein Col. of Med.*

POSTER

594. Emotion: Fear, Anxiety, and Pain II

Theme G – Motivation and Emotion

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 U30 **594.01** Parsing the neural circuits for visually-evoked emotional contagion. H. JUNG*; A. D. HUBERMAN. *Stanford Univ. Sch. of Med.*

2:00 U31 **594.02** Pair bonding attenuates fear memory acquisition through oxytocin receptor signaling in monogamous prairie voles. Y. HIROTA*; L. J. YOUNG; S. MITSUI. *Gunma Univ. Grad. Sch. of Hlth. Sci., Univ. of Tsukuba, Emory Univ.*

3:00 U32 **594.03** Central oxytocin is anxiolytic and anti-depressive in B6 mice. K. E. NISBETT*; M. E. RAGOZZINO. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*

4:00 U33 **594.04** Social buffering in a novel social fear conditioning procedure in male and female rats. L. M. DAWUD*; E. C. LOETZ; A. L. HAAS; S. TRAN; J. WISEMAN; I. MAMAYAN; B. N. GREENWOOD; S. T. BLAND. *Univ. of Colorado Denver, Univ. of Colorado Denver.*

1:00 U34 **594.05** Visual recognition of mirror, video-recorded, and still images in rats. T. YAKURA*; H. YOKOTA; Y. OHMICHI; M. OHMICHI; T. NAKANO; M. NAITO. *Aichi Med. Univ.*

2:00 U35 **594.06** An ecologically-relevant paradigm to study fear and foraging strategies in mice. P. R. ZAMBETTI*; B. P. SCHUESSLER; J. J. KIM. *Univ. of Washington, Univ. of Washington.*

3:00 U36 **594.07** The effects of lateral habenula lesions on foraging and avoidance behavior in rats living in a naturalistic, risky foraging environment. B. P. SCHUESSLER*; J. J. KIM. *Univ. of Washington, Univ. of Washington.*

4:00 U37 **594.08** Potent and quick responses to conspecific faces and snakes in the anterior cingulate cortex of monkeys. N. KONOIKE*; H. IWAOKI; K. NAKAMURA. *Primate Res. Institute, Kyoto Univ.*

1:00 U38 **594.09** Opposing contributions of subregions of the primate orbitofrontal cortex to the regulation of threat in the common marmoset. Z. M. STAWICKA*; R. MASSOUDI; L. OIKONOMIDIS; N. K. HORST; A. C. ROBERTS. *Univ. of Cambridge.*

2:00 U39 **594.10** Differentiation between physical and emotional response patterns with the application of electrophysiological sensors in a VR environment. J. KRITIKOS*; M. DOULOUDI. *Natl. Tech. Univ. of Athens, Natl. Kapodistrian Univ. of Athens.*

3:00 U40 **594.11** Resting state functional connectivity of the human periaqueductal grey using 7-Tesla MRI. C. N. WEIS*; A. A. HUGGINS; K. P. BENNETT; E. A. PARISI; C. L. LARSON. *Univ. of Wisconsin Milwaukee.*

4:00 V1 **594.12** ● Brain responses elicited by recollecting a break-up event of oneself. L. CHIEN*; W. KUO. *Yangming Univ.*

1:00 V2 **594.13** Multimodal affect recognition: Deep learning analysis of physiological, environmental, facial expression, and mobile sensor data for emotion detection in chronic pain patients. L. P. WHEELER*; P. NEJEDLY; V. KREMEN, JR; B. BRINKMANN; G. A. WORRELL. *Mayo Clin. Grad. Sch. of Biomed. Sci., Mayo Clin., Mayo Clin.*

2:00 V3 **594.14** When and why two emotional experiences are similar to each other. M. RIBERTO*; M. C. IORDAN; R. PAZ; G. POBRIC; D. TALMI. *Weizmann Inst. of Sci., The Univ. of Manchester, Princeton Univ., Neurobiology, Weizmann Institue of Sci., Sch. of Psychological Sciences, Univ. of Manchester.*

3:00 V4 **594.15** Prospectively assessed childhood trauma is associated with dysregulation of emotion processing in adulthood. L. M. MAYO*; Y. CHO; D. MIRO; P. GUSTAFSSON; M. HEILIG. *Linköping Univ.*

4:00 V5 **594.16** ● Exploration of the long-term anxiogenic effects of vicarious juvenile stressor experience. E. F. ALI*; P. KENT; J. S. JAMES; C. CAYER; A. ABIZAID; Z. MERALI. *Carleton Univ., The Royal's Inst. of Mental Hlth. Res., Univ. of Ottawa, Carleton Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 V6 **594.17** Abusive caregivers are not a secure base for their infant: Understand the neurobiology using a rodent model. A. I. BLOMKVIST*; M. OPENDAK; D. A. WILSON; R. M. SULLIVAN. *Stockholm Univ., New York Univ., New York Univ. Sch. of Med., NKI & NYU Sch. of Med.*

2:00 V7 **594.18** Maternal suppression of learned fear and developmental transitions in prefrontal activity. P. A. ROBINSON-DRUMMER*; M. OPENDAK; A. BLOMKVIST; R. SULLIVAN. *NKI & NYU Sch. of Med., Univ. of Stockholm.*

3:00 V8 **594.19** Maternal social buffering reduces infant pain: Understanding the supporting neural circuitry. G. A. BARR*; M. OPENDAK; R. PERRY; R. M. SULLIVAN. *Children's Hosp. of Philadelphia, New York Univ. Sch. of Med., Nathan Kline Inst. and NYU Sch. of Med.*

4:00 V9 **594.20** Developmental transitions in amygdala PKC isoforms and AMPA receptor expression associated with threat memory in infant rats. R. ZANCA*; M. OPENDAK; P. A. SERRANO; R. M. SULLIVAN. *Hunter College, CUNY, CUNY Grad. Ctr., New York Univ., NKI & NYU Sch. of Med.*

1:00 V10 **594.21** Infant neurobehavioral processing of the caregiver: Translating across species during typical and maltreatment rearing. M. OPENDAK*; E. THEISEN; A. I. BLOMKVIST; T. LIND; E. C. SARRO; M. DOZIER; R. M. SULLIVAN; D. A. WILSON. *New York Univ., New York Univ. Langone Med. Ctr., Stockholm Univ., UCSD, Dominican Col., Univ. of Delaware, NKI & NYU Sch. of Med., New York Univ. Sch. of Med.*

2:00 V11 **594.22** What happens to the infant during maltreatment? Stress targets hippocampus but stress with mother targets amygdala and social behavior. C. RAINEKI*; M. OPENDAK; E. C. SARRO; B. S. MCEWEN; D. A. WILSON; R. M. SULLIVAN. *Univ. of British Columbia, New York Univ., Dominican Col., Rockefeller Univ., New York Univ. Sch. of Med., NKI & NYU Sch. of Med.*

3:00 V12 **594.23** The fluctuation of anxiety behavior dependent on female estrous cycle. G. HA*; H. J. KWAK; D. LEE; E. CHEONG. *Yonsei Univ., Yonsei Univ.*

4:00 V13 **594.24** Sex differences in macrocircuitry and microcircuitry of the Tac2 pathway in fear conditioning. A. FLORIDO*; E. R. VELASCO GARCIA; J. A. GONZÁLEZ-PARRA; A. GOMEZ-GOMEZ; Ó. J. POZO; R. ANDERO GALI. *Autonomous Univ. of Barcelona, IMIM.*

1:00 DP10/V14 **594.25** (Dynamic Poster) PACAP-PAC1R system in females: Contributions to fear learning and adaptations to stressors. E. R. VELASCO GARCIA*; A. FLORIDO; Á. FLORES; E. SENABRE; A. TORRES; A. ROCA; L. GARCIA-ESTEVE; R. ANDERO GALI. *Autonomous Univ. of Barcelona, Univ. Pompeu Fabra, IDIBAPS.*

POSTER

595. Human Studies: Fear and Anxiety

Theme G – Motivation and Emotion

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 V15 **595.01** TGFB-inducible early growth response protein 2 (TIEG2) gene: Impact of genetic variation on anxiety-related traits in healthy individuals. L. B. KOLLERT*; C. ZIEGLER; M. SCHIELE; H. WEBER; M. ROMANOS; T. B. LONSDORF; P. ZWANZGER; A. REIF; P. PAULI; J. DECKERT; K. DOMSCHKE. *Univ. of Wuerzburg, Univ. of Freiburg, Univ. of Wuerzburg, Univ. of Hamburg-Eppendorf, Univ. of Muenster, kbo-Inn-Salzbach-Hospital, Univ. of Frankfurt, Univ. of Wuerzburg.*

2:00 V16 **595.02** Exposure treatment in spider phobia: Associations between resting state connectivity, symptom severity and within-session extinction. F. R. SEEGER*; H. SCHWARZMEIER; N. SIMINSKI; B. GATHMANN; T. STRAUBE; J. REPPLE; J. BOEHNLEIN; E. J. LEEHR; U. DANNLOWSKI; K. ROESMANN; M. JUNGHOEFER; M. J. HERRMANN. *Ctr. for Mental Health, Dept. of Psychiatry, Psychosomatics and Psychotherapy, Univ. Hosp. of Wuerzburg, Inst. of Med. Psychology and Systems Neuroscience, Univ. of Muenster, Otto Creutzfeldt Ctr. for Cognitive and Behavioral Neuroscience, Univ. of Muenster, Dept. of Psychiatry, Univ. of Muenster, Inst. for Biomagnetism and Biosignal Analysis, Univ. of Muenster.*

3:00 V17 **595.03** Mindfulness meditation alters neurophysiological symptoms of anxiety in preadolescents. N. A. SHANOK*; C. REIVE; K. D. MIZE; K. COBTY; I. BAKIR; N. A. JONES. *Florida Atlantic Univ., Florida Atlantic Univ.*

4:00 V18 **595.04** Temporal unpredictability modulates brain activity in threat confrontation. N. SIMINSKI*; S. BOEHME; J. ZELLER; M. P. I. BECKER; A. MUEHLBERGER; T. STRAUBE; M. J. HERRMANN. *Univ. Hosp. of Wuerzburg, Univ. of Regensburg, Univ. of Muenster.*

1:00 V19 **595.05** Spider phobia and brain morphometry: Brain-structural predictors of within-session extinction during behavioral exposure. H. SCHWARZMEIER*; F. R. SEEGER; N. SIMINSKI; A. LOGINA; E. J. LEEHR; J. BOEHNLEIN; J. REPPLE; K. ROESMANN; B. GATHMANN; M. JUNGHOEFER; T. STRAUBE; U. DANNLOWSKI; M. J. HERRMANN. *Univ. Hosp. of Wuerzburg, Univ. of Muenster, Inst. for Biomagnetism and Biosignalanalysis, Univ. of Muenster, Otto-Creutzfeld Ctr. for Cognitive and Behavioral Neuroscience, Univ. of Muenster, Inst. of Med. Psychology and Systems Neuroscience, Univ. of Muenster.*

2:00 V20 **595.06** ● Effects of a smartphone-based virtual reality exposure app to treat fear of heights, a randomized-controlled trial. D. BENTZ*; N. SCHICKTANZ; N. WANG; M. K. IBACH; A. AERNI; A. ZIMMER; D. J. DE QUERVAIN; A. PAPASSOTIROPOULOS. *Div. of Cognitive Neuroscience, Univ. of Basel, Transfaculty Res. Platform, Univ. of Basel, Univ. Psychiatric Clinics, Univ. of Basel, Div. of Mol. Neuroscience, Univ. of Basel.*

3:00 V21 **595.07** ● Therapeutic effects of ketamine on treatment refractory generalized anxiety and social anxiety disorders are unrelated to plasma levels: A double blind active controlled study. S. M. SHADLI*; P. GLUE; N. MCNAUGHTON; N. MEDLICOTT. *Univ. of Otago, Univ. of Otago, Univ. of Otago.*

Tues. PM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 V22 **595.08** The role of anxiety sensitivity in overgeneralization of conditioned fear. M. S. VIETZ*; T. B. LONSDORF; P. ZWANZGER; A. REIF; J. DECKERT; P. PAULI; K. DOMSCHKE; M. A. SCHIELE. *Univ. Hosp. Wuerzburg, Ctr. of Mental Health, Univ. of Wuerzburg, Univ. Med. Ctr. Hamburg-Eppendorf, kbo-Inn-Salzach Hosp., Univ. Hosp. of Muenster, Ludwig Maximilian Univ., Univ. Hosp. of Frankfurt, Univ. of Wuerzburg, Univ. of Freiburg.*

1:00 V23 **595.09** Dissociation between striatal volume and risky decision-making in OCD. P. S. MOREIRA; P. MARQUES; A. COELHO; P. COSTA; J. MACOVEANU; H. R. SIEBNER; N. SOUSA; P. MORGADO*. *Life and Hlth. Sci. Res. Inst. (ICVS), Sch. of Medicine, Univ. of Minho, Copenhagen Univ. Hosp. Rigshospitalet, Copenhagen Univ. Hosp. Hvidovre.*

2:00 V24 **595.10** Effects of phychological and physical stress on intestinal microbiota, generalized anxiety and depressive disorders and serum levels of kynurenine metabolites. G. S. AZPILCUETA-MORALES; B. PALACIOS-GONZALEZ; V. PEREZ-DE LA CRUZ; L. RAMOS-CHAVEZ; L. SANCHEZ-CHAPUL*; E. ESTRADA-CAMARENA. *Inst. Nacional de Psiquiatria "Manuel de La Fuente", Inst. Nacional De Ciencias Genomicas, Inst. Nacional de Neurologia Y Neurocirugia "Ramon de La Fuente", Inst. Nacional De Rehabilitacion.*

3:00 V25 **595.11** The interplay between neural and cognitive risk factors in individuals with high trait anxiety: A network analysis. L. FANG*; J. A. ANDRZEJEWSKI; T. SUSA; H. GILBERTSON; J. M. CARLSON. *Northern Michigan Univ., Northern Michigan Univ., Northern Michigan Univ.*

4:00 V26 **595.12** Alterations in resting-state functional connectivity following mindfulness training in adolescents with attentional and emotional disturbances: A pilot investigation. S. JUN*; A. T. SHAFER; Y. HU; A. D. IORDAN; S. DOLCOS; A. SINGHAL; S. VOHRA; F. DOLCOS. *Univ. of Illinois, Urbana-Champaign, Natl. Inst. on Aging, Univ. of Michigan, Univ. of Alberta, Univ. of Alberta.*

1:00 V27 **595.13** Suicidal ideation and the salience network: Modeling connectivity with MEG and dynamic causal modeling. J. R. GILBERT*; E. BALLARD; C. S. GALIANO; A. NUGENT; C. A. ZARATE, JR. *Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*

2:00 V28 **595.14** Reduced habituation of the amygdala in women with borderline personality disorder when experiencing shame and guilt. M. GÖTTLICH*; A. L. WESTERMAIR; F. BEYER; M. L. BUßMANN; U. SCHWEIGER; U. M. KRÄMER. *Univ. of Luebeck, Univ. of Luebeck, Queen Mary Univ. of London, Univ. of Luebeck.*

3:00 V29 **595.15** Neurocircuitry disfunction in anorexia nervosa identified by neuropathological analysis. I. KAWAKAMI*; K. UMEDA; Z. TANEI; M. HASEGAWA; S. MURAYAMA; S. IRITANI. *Tokyo Metropolitan Inst. of Gerontology, Tokyo Metropolitan Matsuzawa Hosp., Tokyo Metropolitan Inst. of Med. Sci., Nagoya Univ.*

4:00 V30 **595.16** Stress responses, inhibitory control and food intake in women with eating disorders. M. L. WESTWATER*; H. ZIAUDDEEN; A. X. GORKA; F. MANCINI; C. GRILLON; M. ERNST; P. C. FLETCHER. *Univ. of Cambridge, NIH, NIH, Univ. of Cambridge.*

1:00 V31 **595.17** ● Prospective six months follow up study of salivary DHEA-S levels and treatment response among adolescents with eating disorders. T. GOLTSER*; R. GIESSER; A. SHALEV; A. MELTZER; R. MASARWA; D. PEVZNER; L. CANNETI; E. GALILI-WEISSTUB; R. SEGMAN. *Mol. Psychiatry Lab. - Dept. of Ps, The Herman-Danna Div. of Pediatric Psychiatry, Dept. of Psychiatry, Hadassah - Hebrew Univ. Med. Center; Jerusalem Israel.*

2:00 V32 **595.18** Effects of juvenile stress on social behavior and impulsivity: Relationship to changes in dopamine-related proteins. T. A. PAINE*; C. TANNOUS-TAYLOR; S. BRAINARD; E. HARDEBECK; I. SCHWOB; S. CHANG. *Oberlin Col.*

3:00 V33 **595.19** ▲ OCD symptom dimensions predict the degree of dorsal anterior cingulate cortex network dysfunction in obsessive-compulsive disorder. T. D. MERAM*; T. J. ATTISHA; A. Z. CHOWDURY; P. EASTER; G. HANNA; P. ARNOLD; D. R. ROSENBERG; V. A. DIWADKAR. *Wayne State Univ. Sch. of Med., Wayne State Univ. Sch. of Med., Wayne State Univ. Sch. of Med., Wayne State Univ., Univ. of Michigan, Univ. of Calgary, Wayne State Univ. Sch. of Med., Wayne State Univ. SOM.*

POSTER

596. Stress and Anxiety

Theme G – Motivation and Emotion

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 V34 **596.01** Adolescent environmental enrichment prior to social stress induces resilience in a novel rodent model of vulnerability. A. M. O'CONNOR*; E. K. HEBDA-BAUER; S. J. WATSON, Jr.; H. AKIL. *Univ. of Michigan.*

2:00 V35 **596.02** ● Effect of chlordiazepoxide on cardiovascular and behavioral measures in a rat model of panic. S. LOIODICE*; E. C. O'CONNOR; S. NOURRY; G. VIARDOT; E. P. PRINSSEN; C. L. DRIEU LA ROCHELLE. *Biotrial Pharmacol., F. Hoffmann-La Roche Ltd, Biotrial.*

3:00 V36 **596.03** ● SSRI exerts anxiolytic action via 5-HT1A and 5-HT2A receptors in the amygdala. T. IZUMI*; K. KONNO; M. WATANABE; K. TANAKA; T. YOSHIDA; H. SHIKANAI; M. YOSHIOKA. *Pharmaceut. Sciences, Hlth. Sci. Univ. of Hokkaido, Hokkaido Univ. Grad. Sch. of Med., Keio Univ. Sch. of Med., Hokkaido Univ. Grad. Sch. of Med.*

4:00 V37 **596.04** Prefrontal excitatory and inhibitory balance in stress-induced anxiety: Evidence for over-inhibition. C. PAGE*; L. COUTELLIER. *The Ohio State Univ., Ohio State Univ.*

1:00 V38 **596.05** Moderate prenatal alcohol exposure on gestational day 12 alters social behavior and prelimbic cortex glutamate transmission in adult rats. K. R. PRZYBYSZ*; J. M. JOHNSON; E. I. VARLINSKAYA; M. R. DIAZ. *Binghamton Univ.*

2:00 V39 **596.06** ▲ Localization of brain regions with enhanced synaptic plasticity associated with avoidance learning in Wistar-Kiyoto rats. N. A. MCCARTHY*; R. C. PETERSON; D. R. COOK-SNYDER; D. P. MILLER; R. J. SERVATIUS. *Carthage Col., Central New York Res. Corp., Rutgers Biomed. Hlth. Sci., State Univ. of New York Upstate Med. Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 V40 **596.07** ▲ Neuropharmacological profile of the bertholletia excelsa seeds and its influence on the metabolism of lipids in mice. O. FRAUSTO-GONZÁLEZ*; M. E. GONZÁLEZ-TRUJANO; C. J. BAUTISTA. *Inst. Nacional de Psiquiatría Ramón de la Fuente Muñiz, Facultad de Química, Univ. Nacional Autónoma de México, Inst. Nacional de Ciencias Médicas y Nutrición Salvador Zubirán.*

4:00 V41 **596.08** Aqueous extract of pomegranate prevents anxiety-like behavior and metabolic changes induced by cafeteria diet in an animal model of menopause: Possible participation of PPARgamma and MAS receptor. E. M. ESTRADA-CAMARENA*; N. M. VEGA-RIVERA; N. CERVANTES-ANAYA; D. ISLAS-PRECIADO; D. PULIDO; G. AZPUILCUETA MORALES; G. RAMÍREZ-RODRIGUEZ; A. GRANADOS JUÁREZ; P. GORTARI; C. LÓPEZ-RUBALCAVA; S. TREVIÑO; I. GALLARDO-ORTÍZ; E. GONZALEZ TRUJANO. *Inst. Natl. Psiquiatria, Inst. Nacional de Psquiatría Ramon de la Fuente, British Columbia, Inst. Nacional de Psquiatría Ramon de la Fuente, Inst. Nacional de Psquiatría Ramon de la Fuente, Ctr. de Investigación y Estudios Avanzados, Benémerita Univ. Autónoma de Puebla, FES-Izttacala UNAM, Inst. Nacional de Psquiatría Ramon de la Fuente.*

1:00 V42 **596.09** Differences in the morphology of microglia cells in the hippocampus of selectively bred high- and low-responder rats: Implications for emotional temperament. P. M. MARAS*; E. HEBDA-BAUER; H. AKIL; S. WATSON. *Univ. of Michigan.*

2:00 V43 **596.10** Importance of optimization and pharmacological validation of behavioral assays in a rodent behavioral core. M. C. TSUDA*; T. J. WU; I. LUCKI. *HJF/ Uniformed Services Univ., Uniformed Services Univ., Uniformed Services Univ. of the Hlth. Scienc.*

3:00 V44 **596.11** Identification of neuronal circuits underlying leptin actions on anxiety. M. GUO*; H. YANG; D. ZHAO; J. WANG; X. LU. *Binzhou Med. Univ. Hosp., Med. Col. of Georgia At Augusta Univ.*

4:00 V45 **596.12** ▲ Evaluation of the Rhizoma anemarrhena herb for potential to reduce reactive oxidative species. S. SOWA; N. SWALVE*. *Alma Col.*

1:00 V46 **596.13** ▲ Neuropharmacological actions of the diterpene tilifodiolide. C. ALBA-BETANCOURT*; A. RUIZ-ARREDONDO; M. GONZÁLEZ-CHÁVEZ; D. GASCA-MARTÍNEZ; M. DEVEZE-ÁLVAREZ; Á. ALONSO-CASTRO. *Univ. De Guanajuato, Univ. de Guanajuato, Autonomus Univ. of San Luis Potosi, Inst. of Neurobio.*

2:00 W1 **596.14** Distinct anxiety outcomes following traumatic brain injury. J. POPOVITZ*; S. P. MYSORE; H. ADWANIKAR. *Johns Hopkins Univ., Johns Hopkins Univ.*

3:00 W2 **596.15** Molecular and cellular mechanisms underlying the contributions of the G protein-gated inwardly rectifying K+ channels to anxiety-related behavior. B. N. V. VO*; E. MARRON; H. OBERLE; K. WICKMAN. *Univ. of Minnesota.*

4:00 W3 **596.16** The role of ventral tegmental area subcircuit in mediating anxiety following repeated social stress. C. S. MOREL*; S. MONTGOMERY; S. M. KU; B. JUAREZ; M. FLANIGAN; J. J. WALSH; E. S. CALIPARI; L. LI; S. J. RUSSO; A. K. FRIEDMAN; M. HAN. *Mount Sinai Icahn Sch. of Med., Mount Sinai Icahn Sch. of Med., Dept. of Pharmacology, Univ. of Washington, Stanford Univ., Vanderbilt Univ. Sch. of Med., Hunter College, City Univ. of New York.*

1:00 W4 **596.17** Activity regulated cytoskeleton associated protein differentially regulates mood related behavior in the male and female nucleus accumbens. R. D. PENROD*; C. W. COWAN. *Med. Univ. of South Carolina.*

2:00 W5 **596.18** Dorsal periaqueductal gray and medial hypothalamus involvement in the panic-modulating effects caused by serotonergic activation of dorsal raphe lateral wings. M. MATTHIESEN*; L. DANIEL MENDES; H. ZANGROSSI JR. *Univ. Estadual Paulista, Univ. de São Paulo.*

3:00 W6 **596.19** Neurotrophin modulation of a social circuit to mediate preadolescent stress effects on adult social interaction. N. TSE*; F. S. LEE. *Weill Cornell Med. Grad. Sch., Weill Cornell Med. Col.*

4:00 W7 **596.20** Prefrontal cortical control of the paraventricular thalamus. N. MACK*; W. GAO. *Drexel Univ. Col. of Med.*

1:00 W8 **596.21** Physiological characterization of lateral orbitofrontal cortical projection neurons to nucleus accumbens and basolateral amygdala. C. LAI*; C. CHANG. *Natl. Tsing Hua Univ., Natl. Tsing Hua Univ.*

2:00 W9 **596.22** Physiological function abnormal of anterior dorsal bed nucleus of the stria terminalis and ventromedial hypothalamus contribute to the social-isolation-induced behavioral deficits. C. ZHENG*; L. WEI; B. BO; Z. LIANG; Z. WANG. *Inst. of Neuroscience, Chinese Acad. of Sci.*

3:00 W10 **596.23** Effects of combined psychological and metabolic stress on behavior and physiology. B. MELANSON*; T. LAPOINTE; F. LERI. *Univ. of Guelph.*

POSTER

597. Cocaine: Behavior, Circuits, and Mechanisms

Theme G – Motivation and Emotion

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 DP11/W11 **597.01** (Dynamic Poster) Putting on the brakes: An EEG investigation of inhibitory control and action monitoring in HIV+ abstinent substance users. K. WAKIM-TAKAKI*; N. VIEYTO; C. J. MOLLOY; Z. CAO; E. G. FREEDMAN; J. J. FOXE. *Univ. of Rochester, Trinity Col., Univ. of Rochester - Neurosci., Univ. of Rochester Sch. of Med.*

2:00 W12 **597.02** Cocaine cue-induced brain activations in recreational cocaine users. S. G. SCALA*; S. M. L. COX; M. LEYTON. *McGill Univ., McGill Univ.*

3:00 W13 **597.03** ● Conditioned place preference with low dose mixtures of 3,4-methylenedioxypyrovalerone (MDPV) and 3,4-methylenedioxymethamphetamine (MDMA) in male and female Sprague-Dawley rats. H. I. RISCA*; C. N. CONWAY; J. D. SHAYKIN; L. E. BAKER. *Western Michigan Univ.*

4:00 W14 **597.04** Blockade of hypocretin/orexin receptors prevents sleep deprivation-induced enhancement of cocaine conditioned place preference. T. E. BJORNESS*; R. W. GREENE. *VA Med. Ctr. of North Texas, Univ. of Texas Southwestern, UTSW, Peter O'Donnell Brain Inst.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 W15 **597.05** Effects of aromatase inhibition on cocaine-seeking behavior in male rats. J. K. ALVARADO TORRES*; F. MONTALVO-LOPEZ; J. WILSON; J. PLA-TENORIO; A. ECHEVARRIA-RIVERA; M. T. SEPULVEDA-ORENGO; D. MUELLER. *Ponce Hlth. Sci. Univ., Ponce Hlth. Sci. Univ., Kent State Univ.*

2:00 W16 **597.06** The role of serotonin 5-HT_{2C} receptors at the RMTg in cocaine conditioned avoidance. Y. S. CHAO*; J. PARRILLA-CARRERO; M. EID; P. J. VENTO; T. C. JHOU. *Med. Univ. of South Carolina.*

3:00 W17 **597.07** Behavioral and biochemical studies of novel allosteric modulators of the dopamine transporter with therapeutic potential. C. D. RICE*; S. LEWANDOWSKI; X. LIU; S. AGGARWAL; J. SALVINO; O. V. MORTENSEN*. *Drexel Univ. Col. of Med., Wistar Inst.*

4:00 W18 **597.08** Effects of indirect cocaine exposure and early postnatal fostering on epigenetic DNA modification and behavioural phenotypes of drug naive mice. D. C. AJONIJEBU*; M. V. MABANDLA; W. M. DANIELS. *Nelson Mandela Univ., Univ. of Kwazulu Natal, Univ. of the Witwatersrand.*

1:00 W19 **597.09** Cocaine-induced structural brain changes in rhesus monkeys: Lasting changes and regions of recovery after two years of abstinence. H. P. JEDEMA*; X. SONG; H. J. AIZENSTEIN; E. A. STEIN; Y. YANG; C. W. BRADBERRY. *NIH, Univ. of Pittsburgh.*

2:00 W20 **597.10** Sex differences in cocaine reward and estradiol-mediated hypersensitivity to cocaine cues are associated with changes in ERK activity within the mesolimbic reward pathway. S. S. KOKANE*; A. C. HOCH; R. J. ARMANT; L. I. PERROTTI. *The Univ. of Texas at Arlington.*

3:00 W21 **597.11** The role of Gadd45b in striatal physiology and cocaine reward. M. E. ZIPPERLY*; F. SULTAN; G. GRAHAM; N. A. SIMPKINS; K. E. SAVELL; J. S. REVANNA; J. J. DAY. *Univ. of Alabama at Birmingham.*

4:00 W22 **597.12** The role of fragile X mental retardation protein in striatal plasticity and drug-related behavior. J. HUEBSCHMAN*; L. N. SMITH. *Texas A&M Hlth. Sci. Ctr., Texas A&M Univ. Hlth. Sci. Ctr.*

1:00 W23 **597.13** Correlation among striatum coexpression networks and drug-related sensation-seeking behaviors in diversity outbred mice. M. C. SAUL*; P. E. DICKSON; L. H. GAGNON; T. WILCOX; T. ROY; U. DATTA; E. J. CHESLER. *The Jackson Lab.*

2:00 W24 **597.14** Novelty facilitates formation of long-term extinction memory of cocaine-associated context. J. LIU*; R. WU; J. LI. *SUNY At Buffalo.*

3:00 W25 **597.15** The effects of escalated cocaine intake on decision-making dynamics. M. J. STEPHENS*; J. S. BECKMANN. *Univ. of Kentucky.*

4:00 W26 **597.16** Activation of GABA projection neurons from the ventral tegmental area to the nucleus accumbens attenuates incubation of cocaine craving. M. SUAREZ*; E. CANTRELL; C. E. BASS. *Univ. at Buffalo, Univ. at Buffalo, Univ. at Buffalo SUNY.*

1:00 W27 **597.17** Posterior parietal cortex inactivation abolishes the acquisition of cocaine reward-context association. S. JEONG*; S. XU; U. KANG; J. KOO. *Korea Brain Res. Inst., Med. Res. Center, Seoul Natl. Univ., Seoul Natl. University, Col. of Med.*

2:00 W28 **597.18** Histone deacetylase 5 (HDAC5) in the prelimbic cortex regulates cocaine self-administration and seeking behaviors. S. M. BARRY*; N. AGNIHOTRI; J. D. WOLFE; M. TANIGUCHI; C. W. COWAN. *Med. Univ. of South Carolina, Col. of Charleston, Wesleyan Univ.*

3:00 W29 **597.19** The cell type-specific role of nucleus accumbens NPAS4 in cocaine-conditioned behaviors. B. W. HUGHES*; M. TANIGUCHI; C. W. COWAN. *Med. Univ. of South Carolina.*

1:00 DP15/W30 **597.20** (Dynamic Poster) Double dissociation of two PPTg neuron populations mediating prepulse inhibition and reward. N. FULCHER*; E. AZZOPARDI; C. DE OLIVEIRA; R. HUDSON; S. LAVIOLETTE; S. SCHMID. *Univ. of Western Ontario.*

POSTER

598. Neural Mechanisms Underlying Cocaine Use and Abuse

Theme G – Motivation and Emotion

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 W31 **598.01** Lower insula gray matter volumes in females (but not males) with cocaine use disorder: Data from the Enigma Addiction Working Group. R. A. RABIN*; S. MACKEY; M. A. PARVAZ; H. GARAVAN; C. R. LI; G. PEARLSON; L. SCHMAAL; R. SINHA; E. A. STEIN; D. VELTMAN; N. ALIA-KLEIN; R. GOLDSTEIN. *Icahn Sch. of Med. at Mount Sinai, Univ. of Vermont, Icahn Sch. of Med. at Mount Sinai, Univ. of Vermont, Yale Univ., Yale Univ., VU Univ. Med. Ctr., Yale Univ. Sch. Med., Nat'l Inst. Drug Abuse-IRP, Vrije Univ., Mount Sinai Sch. of Med.*

2:00 W32 **598.02** Psychophysiological and neural correlates of cognitive reappraisal mediated down-regulation of attention to drug-related cues in addicted individuals and the role of negative emotionality. P. MALAKER*; R. A. RABIN; N. ALIA-KLEIN; R. Z. GOLDSTEIN; M. A. PARVAZ. *Icahn Sch. of Med. At Mount Sinai.*

3:00 W33 **598.03** Lorcaserin inhibits cocaine-induced changes in brain functional connectivity. S. J. KOHUT*; M. L. ROHAN; F. B. MOURA. *Harvard Med. Sch.*

4:00 W34 **598.04** Tmod2 is a regulator of cocaine responses through control of striatal and cortical excitability, and drug-induced plasticity. V. KUMAR*; A. MITRA; S. P. DEATS; P. E. DICKSON; B. J. NIEMAN; J. ZHU; N. TSAI; E. J. CHESLER; Z. ZHANG. *Jackson Lab., The Jackson Lab., Hosp. For Sick Children, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign.*

1:00 W35 **598.05** Prior cocaine self-administration differentially alters state encoding in distinct dorsomedial striatal neuron populations in rats. L. MUELLER*; A. M. WIKENHEISER; M. SHARPE; D. M. DIETZ; T. A. STALNAKER; G. SCHOENBAUM. *Natl. Inst. on Drug Abuse, State Univ. of New York, The Univ. of California Los Angeles.*

2:00 W36 **598.06** Role of anterior dorsal lateral hypothalamic area perineuronal nets in VTA neuron excitability. J. M. BLACKTOP*; B. A. SORG; J. T. WILLIAMS; S. L. INGRAM. *Washington State Univ. Vancouver, Washington State Univ., Oregon Hlth. Sci. Univ., Oregon Hlth. & Sci. Univ.*

3:00 W37 **598.07** Perineuronal net removal in the rat medial prefrontal cortex alters cocaine reinstatement and fast-spiking interneuron excitability. E. T. JORGENSEN*; A. N. TOURTELLOT; J. A. AADLAND; T. E. BROWN. *Univ. of Wyoming, Univ. of Wyoming.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
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* Indicates abstract's submitting author

4:00 W38 **598.08** Acute restraint stress augments the rewarding effect of cocaine through the activation of α1 adrenoceptors in the medial prefrontal cortex of mice. S. WADA; J. YANAGIDA; H. SASASE; T. ZHANG; H. KAMII; M. DOMOTO; X. LI; S. DEYAMA; E. HINOI; A. YAMANAKA; N. NISHITANI; K. NAGAYASU; S. KANEKO; M. MINAMI; K. KANEDA*. *Kanazawa Univ., Res. Inst. of Envrn. Medicine, Nagoya Univ., Kyoto Univ., Hokkaido Univ.*

1:00 W39 **598.09** Cocaine extinction induces dendritic spine alterations in projection-specific sub-populations in the rat infralimbic cortex. K. NETT*; S. A. ROMIG-MARTIN; J. J. RADLEY; R. T. LALUMIERE. *Univ. of Iowa, Univ. of Iowa.*

2:00 W40 **598.10** Neuronal activity-based brain-wide profiling of relapse-promoting and relapse-suppressing afferents to the infralimbic cortex in rats trained to self-administer cocaine or ethanol. H. NEDELESCU*; G. E. WAGNER; H. C. CHANG; G. DE NESS; A. CARROLL; Y. LIU; A. THAN; C. RICHIE; B. T. HOPE; F. WEISS; N. SUTO. *The Scripps Res. Inst., NIH/NIDA, NIH/NIDA.*

3:00 W41 **598.11** ▲ The effects of cocaine self-administration and ceftriaxone on nucleus accumbens GLT-1 trafficking. Y. PADOVAN HERNANDEZ*; L. A. KNACKSTEDT. *Univ. of Florida.*

4:00 W42 **598.12** Characterization of infralimbic cortical neurophysiological dynamics during the extinction of cocaine-seeking behavior in rats. V. A. MULLER EWALD*; J. KIM; R. T. LALUMIERE. *Univ. of Iowa.*

1:00 W43 **598.13** Escalation of cocaine self administration requires norepinephrine. H. BELDJOUD*; G. DE GUGLIELMO; M. KALLUPI; O. GEORGE. *The Scripps Res. Inst.*

2:00 W44 **598.14** Epigenetic effects of sex and early-life stress on cocaine addiction vulnerability. D. ROCKS; I. JARIC; D. SHOSHAN; J. M. GREALLY; M. SUZUKI; M. KUNDAKOVIC*. *Dept. of Biol. Sciences, Fordham Univ., Ctr. for Epigenomics, Dept. of Genetics, Albert Einstein Col. of Med.*

3:00 X1 **598.15** Single cell Ca^{2+} activity of dopamine D1 and D2 receptor expressing medium spiny neurons of the nucleus accumbens core during extinction and relapse of cocaine seeking. R. M. CHALHOUB*; C. GARCIA-KELLER; J. A. HEINSBROEK; A. BOBADILLA; P. W. KALIVAS. *Med. Univ. of South Carolina, Univ. of Colorado.*

4:00 X2 **598.16** Dissecting the influence of D_2 dopamine and $GABA_B$ receptor signaling pathways in ventral tegmental area dopamine neurons on drug-induced behavior. M. C. DEBAKER*; E. MARRON; N. M. MCCALL; A. M. LEE; K. WICKMAN. *Univ. of Minnesota Twin Cities.*

1:00 X3 **598.17** Cocaine conditioning induces alterations in ventral hippocampal synaptic function and plasticity mediated by the presence of calcium-permeable AMPA receptors during abstinence. C. J. PRESTON*; K. A. BROWN; J. J. WAGNER. *Univ. of Georgia, Univ. of Georgia.*

2:00 X4 **598.18** The role of RMTg-mediated cocaine aversion in addiction. M. EID*; J. PARRILLA-CARRERO; H. LI; A. THOMAS; T. C. JHOU. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*

3:00 X5 **598.19** Histone Deacetylase Inhibitors (HDACi) modulate biophysical properties of DA neurons in the VTA in cocaine-sensitized rats. C. A. JIMENEZ-RIVERA*; D. CONSUEGRA-GARCIA; C. CALO-GUADALUPE; K. Y. BOSQUE- CORDERO; F. ARENCIBIA-ALBITE; C. YOU; M. S. BRODIE. *Univ. of Puerto Rico, Univ. of Puerto Rico- Rio Piedras Campus, Univ. of Sacred Heart, Univ. of Illinois at Chicago, Univ. Illinois-Chicago.*

4:00 X6 **598.20** Cell type-specific knockdown of hypocretin receptor 1 in ventral tegmental area neurons leads to contrasting effects on dopamine responses to cocaine. E. M. BLACK*; D. L. BERNSTEIN; J. R. BARSON; C. E. BASS; R. A. ESPAÑA. *Drexel Univ. Col. of Med., Temple Univ. Lewis Katz Sch. of Med., Univ. At Buffalo SUNY.*

1:00 X7 **598.21** Dynamic dopaminergic activity during abstinence from extended- and limited-access of cocaine self-administration. A. SALIN*; V. LARDEUX; M. SOLINAS; P. BELUJON. *Univ. de Poitiers.*

2:00 X8 **598.22** Cocaine reshapes the physiology of ventral CA1 afferents to nucleus accumbens that underlie drug seeking and reward. A. L. EAGLE*; K. L. BRANDEL-ANKRAPP; M. A. DOYLE; E. S. WILLIAMS; C. E. MANNING; R. M. BASTLE; I. S. MAZE; A. J. ROBISON. *Michigan State Univ., Michigan State Univ., Michigan State Univ., Icahn Sch. of Med. at Mount Sinai.*

3:00 X9 **598.23** ▲ Cocaine alters gene expression in ventral ca1 afferents to nucleus accumbens that underlie drug seeking and reward. K. L. BRANDEL-ANKRAPP*; A. L. EAGLE; M. A. DOYLE; R. M. BASTLE; I. S. MAZE; A. J. ROBISON. *Michigan State Univ., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. At Mount Sinai.*

4:00 X10 **598.24** ▲ Dopamine receptor dependence of cocaine-mediated plasticity in specific excitatory synapses onto midbrain dopamine neurons. A. R. KARLA*; C. Y. GUO; L. D. MUZYKA; A. C. TOLER; A. J. DAVIS; G. M. BEAUDOIN, III. *Trinity Univ., Trinity Univ.*

1:00 X11 **598.25** ▲ Cocaine-induced structural and functional changes of input-specific excitatory synapses on nigral dopaminergic neurons. J. F. MORENO; S. R. RODRIGUEZ; K. E. WINDSOR; A. C. TOLER; P. VOIT; A. B. LITCH; A. R. KARLA; C. Y. GUO; S. HEMANI; G. M. BEAUDOIN*, III. *Trinity Univ., Trinity Univ.*

2:00 X12 **598.26** Blood mitochondrial copy number as a biomarker for altered motivational states in mouse models of stress and drug addiction. C. A. CALARCO*; R. CHANDRA; S. VAN TERHEYDEN; M. E. FOX; M. ENGELN; G. MORAIS-SILVA; M. F. PAGLIUSI, JR; M. TURNER; M. LOBO. *Univ. of Maryland Sch. of Med., Sao Paulo State Univ., State Univ. of Campínas.*

3:00 X13 **598.27** Transcriptional adaptations in the ventral pallidum following cocaine self-administration. M. ENGELN*; R. CHANDRA; S. THOMAS; H. QADIR; R. HERMAN; H. NAM; M. E. FOX; M. LOBO. *Univ. of Maryland Baltimore.*

4:00 X14 **598.28** Optically induced CRISPR tool for epigenome editing in cocaine abuse. E. Y. CHOI*; R. CHANDRA; M. MCGLINCY; A. CHOW; M. LOBO. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

1:00 X15 **598.29** Cocaine impacts CNS innate immune responses via MAVS and STING regulation during HIV-1. C. EZEOMAH; A. L. PERSONS; T. NAPIER; I. E. CISNEROS*. *Univ. of Texas Med. Br., Rush Univ. Med. Ctr., Rush Univ. Med. Ctr.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

599. Decision Making and Action Selection

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 X16 **599.01** Cortical and subcortical local field potencials involved in a go/no-go task in rats. C. MUÑOZ REDONDO*; A. GRUART; J. DELGADO-GARCIA. *Div. of Neuroscience, Pablo de Olavide Univ.*

2:00 X17 **599.02** Neuronal activity in the primate gustatory cortex during economic choices. A. JEZZINI*; C. PADOA-SCHIOPPA. *Washington Univ. in St Louis.*

3:00 X18 **599.03** Afferent projections of frontal cortical area 12o in rhesus macaques. C. CLEVELAND; M. MOYER; E. MURRAY; R. C. SAUNDERS*. *NIMH.*

4:00 X19 **599.04** A modified actor-critic learning model suggests anterior cingulate cortex maintains eligibility traces for learning. D. R. SCHUWEILER*; D. VAZQUEZ; M. R. ROESCH. *Univ. of Maryland.*

1:00 X20 **599.05** The effect of ventral striatum lesions on choices based on reward availability versus desirability in rhesus macaques. M. S. PUJARA*; B. M. BASILE; V. D. COSTA; B. B. AVERBECK; E. A. MURRAY. *NIH, Natl. Inst. of Mental Health, NIH, OHSU/ONPRC, NIMH/NIH, NIMH, NIH.*

2:00 X21 **599.06** Hippocampal-related memory deficits in Sprague-Dawley rats with spontaneous ventriculomegaly. D. GASCA-MARTINEZ; L. CONCHA; L. C. MARQUEZ-BRAVO; H. LUNA-MUNGUIA*. *Inst. de Neurobiologia UNAM, Inst. de Neurobiologia UNAM.*

3:00 X22 **599.07** Stimulus specific value coding in motivational circuits is not a bug, it's a feature. V. D. COSTA*. *Oregon Hlth. & Sci. Univ.*

4:00 X23 **599.08** Investigating the role of the gut microbiome in decision-making in mice. S. L. THOMPSON*; S. M. GROMAN; J. H. MEYERS; G. HUANG; J. R. TAYLOR. *Yale Univ. Sch. of Med.*

1:00 X24 **599.09** Prefrontal cortico-amygdalar interactions are required for social associations to guide operant behavior. H. W. KIETZMAN; S. L. GOURLEY*. *Emory Univ.*

2:00 X25 **599.10** Signal dynamics corresponding to transformation from value to choice in midbrain dopamine neurons and orbitofrontal neurons during economic decision-making in monkeys. M. YUN*; T. KAWAI; M. NEJIME; H. YAMADA; M. MATSUMOTO. *Univ. of Tsukuba, Univ. of Tsukuba.*

3:00 X26 **599.11** Value and choice representations in the primate ventral striatum during economic decision-making. M. NEJIME*; M. YUN; T. KAWAI; H. YAMADA; M. MATSUMOTO. *Univ. of Tsukuba, Univ. of Tsukuba.*

4:00 X27 **599.12** Representations and causal contributions of multiple brain regions during context-dependent accumulation of evidence. M. PAGAN*; V. D. TANG; C. D. BRODY. *Princeton Univ., HHMI / Princeton Univ.*

1:00 X28 **599.13** Connecting the dots: The role of striatal projections from frontal orienting fields during perceptual decision-making. D. GUPTA*; T. Z. LUO; C. D. KOPEC; C. D. BRODY. *Princeton Univ., Princeton Univserity, Howard Hughes Med. Inst.*

2:00 X29 **599.14** Large scale dynamics during evidence accumulation in freely moving rats using functional ultrasound imaging. A. EL HADY*; D. TAKAHASHI; Y. ZHANG; A. URBAN; G. MONTALDO; C. BRODY. *Princeton Neurosci. Inst., Brain Insitute, Federal Univ. of Rio Grande do Norte, Neuro-Electronics Res. Flanders.*

3:00 X30 **599.15** Mesoscale cortical dynamics during parametric working memory in freely moving rats using wide-field imaging. E. J. DENNIS*; A. EL HADY; C. BRODY. *Princeton Univ.*

4:00 X31 **599.16** Chronic recording using Neuropixels probes in freely moving rats accumulating auditory evidence. T. Z. LUO*; A. G. BONDY; C. D. BRODY. *Princeton Univ., HHMI / Princeton Univ.*

1:00 X32 **599.17** Anterior and posterior dorsal striatum play distinct roles in evidence accumulation. A. G. BONDY*; T. Z. LUO; C. D. BRODY. *Princeton Univ., Princeton Univ., HHMI / Princeton Univ.*

2:00 X33 **599.18** Neural basis of dynamic risk preferences in rats. C. M. CONSTANTINOPLE*; A. PIET; P. BIBAWI; A. AKRAMI; C. D. KOPEC; C. D. BRODY. *New York Univ., Allen Brain Inst., Princeton Univ., Princeton Neurosci. Inst. (PNI), HHMI / Princeton Univ.*

3:00 X34 **599.19** The medial and lateral subregions of the orbitofrontal cortex play dissociable and opposing roles in cue-guided risk/reward decision making. M. VAN HOLSTEIN; P. MACLEOD; N. L. JENNI*; S. B. FLORESCO. *Univ. of British Columbia, Univ. of Britsh Columbia, Univ. British Columbia.*

4:00 X35 **599.20** The abused inhalant toluene disrupts activity of medial prefrontal cortex (mPFC) glutamatergic neurons under conditions of uncertainty. K. M. BRAUNSCHEIDEL*; M. P. OKAS; M. HOFFMAN; P. J. MULHOLLAND; S. B. FLORESCO; J. J. WOODWARD. *Med. Univ. of South Carolina, Univ. British Columbia.*

1:00 X36 **599.21** Mesocortical dopamine modulation of cue-guided, risk/reward decision making. J. D. SCHUMACHER*; M. VAN HOLSTEIN; S. B. FLORESCO. *Univ. of British Columbia, Univ. British Columbia.*

2:00 X37 **599.22** Increased corticotropin releasing factor signaling increases ventral tegmental area dopamine neuron activity. C. A. BRYCE*; M. TSE; S. B. FLORESCO. *Univ. of British Columbia, Univ. British Columbia.*

3:00 X38 **599.23** Oscillatory phase-locking within the primate anterior cingulate gyrus and basolateral amygdala in social decision-making. C. C. J. CHU*; O. DAL MONTE; N. A. FAGAN; S. W. CHANG. *Yale Univ.*

4:00 X39 **599.24** Exploring shared neural codes across social gaze and reward value in the primate brain. O. DAL MONTE*; S. FAN; N. FAGAN; C. C. J. CHU; S. W. CHANG. *Yale Univ.*

1:00 X40 **599.25** Neuronal coordination across primate prefrontal regions and the amygdala in spontaneous social gaze interaction. S. FAN*; O. DAL MONTE; N. A. FAGAN; C. C. J. CHU; S. W. CHANG. *Yale Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

600. Working Memory, Aging, and the Hippocampus

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 X41 **600.01** Enriched environment restores cognition and reverses aging-associated transcriptional changes in the hippocampus of old c57bl/6 mice. C. FRAHM*; M. GÜNTHER; S. SCHMIDT; C. KALETA; O. W. WITTE. *Univ. Hosp. Jena, Christian-Albrechts-University Kiel (UKSH Campus).*

2:00 X42 **600.02** ▲ Shifts in lactate during learning and memory with age from the hippocampus to the striatum: A focus on within trial extracellular lactate levels. N. SHUKLA*; D. ELENDU; C. GAHN; L. A. NEWMAN; P. E. GOLD; D. L. KOROL. *Vassar Col., Vassar Col., Vassar Col., Vassar Col., Syracuse Univ.*

3:00 X43 **600.03** Retinoic acid signalling differences in the hippocampus of aged rats with and without memory impairment. M. U. WOLOSZYNOWSKA-FRASER*; S. L. ROSSI; J. M. LONG; P. J. MCCAFFERY; P. R. RAPP. *Natl. Inst. on Aging, Univ. of Aberdeen.*

4:00 X44 **600.04** ▲ Sexual behavior can improve memory consolidation in young and adult male rats. L. RODRIGUEZ-SERRANO*; L. HERNÁNDEZ-GONZÁLEZ; A. RAMÍREZ-MAZÓN; M. MATA ESQUIVIAZ; A. TAPIA; P. ESPINOSA MIRELES DE VILLAFRANCA; O. GALICIA-CASTILLO; M. H. BUENROSTRO-JAUREGUI. *Univ. Iberoamericana, Univ. Iberoamericana. Tecnológico de Monterrey Campus Estado de México, Univ. Iberoamericana.*

1:00 X45 **600.05** Age-dependent changes in innate neuroimmunity affect hippocampal function. A. F. SMITH; A. ROT; M. A. WHITTINGTON*. *Univ. of York, Barts and The London.*

2:00 X46 **600.06** Effects of age, diet and histone deacetylase inhibition on hippocampal memories. G. GUILLAZO-BLANCH*; A. VALE-MARTÍNEZ; M. PORTERO-TRESSERRA; M. MARTÍ-NICOLOVIUS. *Univ. Autónoma de Barcelona.*

3:00 Y1 **600.07** Neuroprotective effects of thymoquinone on the learning and memory mechanisms and hippocampal neurogenesis in aged rats. B. ELIBOL*; S. TERZIOGLU-USAK; M. BEKER. *Bezmialem Vakif Univ.*

4:00 Y2 **600.08** Role of prefrontal-hippocampal interactions in age-related deficits in spatial working memory. S. V. SRIVATHSA*; S. O. KHATTAB; A. W. LESTER; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

1:00 Y3 **600.09** Spatial eye-blink learning but not age predicts theta-gamma coupling in the CA1 region of the hippocampus. L. CROWN*; D. T. GRAY; L. A. SCHIMANSKI; C. A. BARNES; S. L. COWEN. *Univ. Of Arizona, Univ. of Arizona, Univ. of Arizona, Simon Fraser Univ., Univ. of Arizona, Univ. of Arizona.*

2:00 Y4 **600.10** Quantification of neuronal and astrocytic cells in the locus coeruleus of cognitively assessed, young and aged nonhuman primates. W. PYON*; D. T. GRAY; R. SCHWYHART; E. WALLACE; N. M. DE LA PENA; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

3:00 Y5 **600.11** Perineuronal nets in the cerebral cortex of cognitively-assessed aged macaque monkeys. D. T. GRAY*; W. PYON; N. M. DE LA PENA; R. SCHWYHART; E. WALLACE; J. PUCHTA; W. HARTIG; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Leipzig, Univ. of Arizona.*

4:00 Y6 **600.12** Estimation of non-rigid warps during 3D serial-section histology reconstruction optimization increases accuracy. C. KYLE*; J. STOKES; J. MELTZER; M. R. PERMENTER; J. VOGT; A. D. EKSTROM; C. A. BARNES. *Univ. of Arizona, UC Davis, Univ. of California Davis, Univ. of California Davis, Univ. of California Davis, Univ. of Arizona, Univ. of Arizona.*

1:00 Y7 **600.13** Effects of induced hypertension in middle aged CYP1A1-REN2 transgenic rats. M. ZEMPARE*; N. J. CAREY; A. DALMENDRAY; K. YOUNG; K. M. BOHNE; L. DO; T. TROUARD; K. D. MITCHELL; M. K. CHAWLA; M. J. HUENTELMAN; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Tulane Univ. Hlth. Sci. Ctr., The Translational Genomics Res. Inst., Univ. of Arizona.*

2:00 Y8 **600.14** Effects of NPTX2 knockout on behavior, brain volume by MRI and CA1 hippocampal single unit properties. A. TERRAZAS*; W. PYON; M. ZEMPARE; K. F. YOUNG; A. DALMENDRAY; L. DO; B. DAVID; K. M. BOHNE; N. J. CAREY; M. K. CHAWLA; T. P. TROUARD; J. ZHOU; P. F. WORLEY; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Johns Hopkins Sch. Med., Univ. of Arizona.*

3:00 Y9 **600.15** Age-related, specific changes in expression of several central melanocortin receptor subtypes in the rat. M. K. CHAWLA*; M. ZEMPARE; V. HRUBY; C. A. BARNES; M. CAI. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

4:00 Y10 **600.16** A computational model of aged head direction network updating in the presence of sudden spatial cue mismatch. A. W. LESTER*; A. J. KAPELLUSCH; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

1:00 Y11 **600.17** ▲ Rna stress granule components are dynamically expressed during aging and stress conditions in rats and fruit flies. R. ECK; M. K. CHAWLA; B. BAGEVALU SIDDEGOWDA; N. J. CAREY; M. ZEMPARE; C. NGUYEN; D. BILLHEIMER; C. A. BARNES*; D. C. ZARNESCU. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

2:00 Y12 **600.18** Sex differences in exercise-induced extracellular vesicle release and cognitive enhancement. B. YEGLA*; K. ESSER; T. C. FOSTER. *Evelyn F. and William L. McKnight Brain Inst. Univ. of Florida, Univ. of Florida, Genet. and Genomics Program, Univ. of Florida.*

3:00 Y13 **600.19** Impaired pattern separation during aging is associated with altered hippocampal gene transcription. G. SMITH*; A. RANI; A. KUMAR; T. C. FOSTER. *Dept. of Neuroscience, McKnight Brain Institute, Univ. of Florida, Dept. of Neuroscience, McKnight Brain Inst. and Genet. and Genomics Program, Univ. of Florida.*

4:00 Y14 **600.20** Age and sex influence the hippocampal response and recovery following sepsis. J. D. BARTER*; A. KUMAR; J. STORTZ; M. HOLLEN; D. NACIONALES; P. EFRON; L. MOLDAWER; T. C. FOSTER. *Univ. of Florida, Dept. of Surgery, Univ. of Florida, Dept. of Neuroscience-McKnight Brain Inst. and Genet. and Genomics Program, Univ. of Florida.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 Y15 **600.21** Longitudinal characterization of sex differences in functional and cognitive decline during aging. A. RANI*; B. YEGLA; J. BARTER; A. KUMAR; M. FEBO; K. ESSER; T. C. FOSTER. *Dept. of Neuroscience, McKnight Brain Institute, Univ. of Florida, Gainesville, Dept. of Psychiatry, McKnight Brain Institute, Univ. of Florida, Gainesville, Dept. of Physiol. and Functional Genomics, Inst. of Myology, Univ. of Florida, Dept. of Neuroscience, McKnight Brain Institute, and Genet. and Genomics Program, Univ. of Florida, Gainesville.*

2:00 Y16 **600.22** Does systemic inflammation contribute to the senescent synapse? A. KUMAR*; J. BARTER; A. RANI; T. C. FOSTER. *Univ. of Florida, Dept. of Neuroscience-McKnight Brain Institute, and Genet. and Genomics Program.*

3:00 Y17 **600.23** Effect of age and estrogen on whole genome DNA methylome profiling of CpGs in CA1 region of the hippocampus. P. SINHA*; A. KUMAR; A. RANI; T. C. FOSTER. *McKnight Brain Institute, Univ. of Florida, Dept. of Neurosci. McKnight Brain Inst. & Genet. and Genomics Program, Univ. of Florida.*

4:00 Y18 **600.24** Low dose of THC improves age-related cognitive impairments. R. DORON*; R. TOLEDANO; L. RACHMANY; E. SASSON; Y. SARNE. *The Open Univ., Tel Aviv Univ.*

POSTER

601. Neural Circuits for Learning and Memory

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 Y19 **601.01** Steady stream of complex traveling waves underlying cortical up-down states in sedated mice. Y. LIANG*; C. SONG; L. MIANXIN; T. KNOPFEL; P. GONG; C. ZHOU. *Hong Kong Baptist Univ., Imperial Col. London, HKBU, Imperial Col. London, The Univ. of Sydney, HKBU.*

2:00 Y20 **601.02** ● The medial septum enhances cognitive flexibility via actions on ventral tegmental area and substantia nigra dopamine neurons. D. M. BORTZ*; K. L. GAZO; A. A. GRACE. *Univ. of Pittsburgh.*

3:00 Y21 **601.03** Mechanisms of stress-induced memory generalization. L. Y. REN*; J. M. RADULOVIC. *Northwestern Univ. - Chicago, Northwestern Univ.*

4:00 Y22 **601.04** Mechanisms underlying sharpening of visual response dynamics with familiarity. S. LIM*. *New York Univ. Shanghai.*

1:00 Y23 **601.05** There and back again: Identification of distinct neural circuits for associative recognition memory encoding and retrieval. G. R. I. BARKER*; Z. I. BASHIR; E. C. WARBURTON. *Univ. of Bristol.*

2:00 Y24 **601.06** Cortical and subcortical information processing during a context-association task. M. MOAZAMI GOUDARZI*; E. K. MILLER. *MIT.*

3:00 Y25 **601.07** Tracing of glutamatergic afferents and efferents of dorsal hippocampus and retrosplenial cortex. P. GAO*; M. MEYER; L. Y. REN; J. M. RADULOVIC. *Northwestern Univ., Northwestern Univ. - Chicago, Northwestern Univ.*

4:00 Y26 **601.08** New non-canonical circuit connections between the subicular complex and hippocampal CA3. X. LIN*; R. TAFLA; C. BLANTON; Y. WU; D. A. NITZ; X. XU. *Univ. of California Irvine, Univ. of California San Diego.*

1:00 Y27 **601.09** The lateral septum drives sex differences in fear memory encoding. S. BASU*; E. K. LUCAS. *North Carolina State University, Col. of Vet. Med.*

2:00 Y28 **601.10** The primate subthalamic nucleus encodes both current and historical values of visual objects in the experience-based learning. H. JIANG*; H. F. KIM. *Seoul Natl. Univ.*

3:00 Y29 **601.11** ▲ A two-stage model of landmark processing in retrosplenial cortex. Y. YAN; A. BICANSKI*; N. BURGESS. *UCL.*

4:00 Y30 **601.12** The role of VTA-infralimbic circuits in mediating estrous-dependent fear extinction learning. P. RUBIO ARZOLA*; N. SHEPARD; R. SHANSKY. *Northeastern Univ., Northeastern Univ., Northeastern Univ.*

1:00 Y31 **601.13** Functional connectivity between the nucleus basalis and the dorsolateral prefrontal cortex during visual-motor associative learning. N. J. KILLIAN*; E. N. ESKANDAR. *Albert Einstein Col. of Med.*

2:00 Y32 **601.14** Transformation of motor memory. G. SULLENS*; K. GILLEY; M. J. SEKERES. *Baylor Univ., Baylor Univ., Baylor Univ.*

3:00 Y33 **601.15** Effects of amygdala lesions on stimulus vs. action based learning. B. H. HARRIS*; N. MANEM; C. A. TASWELL; E. A. MURRAY; B. B. AVERBECK. *Natl. Instituteof Hlth., NIH/NIMH.*

4:00 Y34 **601.16** Fast cholinergic prediction errors track conditioned behavior during reversal learning. J. F. STURGILL*; A. SIEBELS; S. LI; B. HANGYA; A. KEPECS. *Cold Spring Harbor Lab., Inst. of Exptl. Med.*

1:00 Y35 **601.17** Synaptic correlates of contextual fear memory consolidation in prefrontal neocortical circuit. W. KIM; E. PARK; J. CHO*. *Univ. of California, Riverside.*

2:00 Y36 **601.18** Specific reorganization of striatal network dynamics during habit formation. N. BADREDDINE*; G. ZALCMAN; F. APPAIX; G. BECQ; N. TREMBLAY; F. SAUDOU; S. ACHARD; E. FINO. *Grenoble Inst. of Neuroscience, GIN, Univ. Grenoble Alpes, GIPSA-lab, CHU Grenoble Alpes, CNRS.*

3:00 Y37 **601.19** Medial septum cholinergic signaling regulates gastrointestinal-derived vagus sensory nerve communication to the hippocampus. A. N. SUAREZ*; C. M. LIU; A. M. CORTELLA; E. N. NOBLE; S. E. KANOSKI. *USC, USC.*

4:00 Y38 **601.20** The role of coordinated activation between insular cortex and basolateral amygdala during taste-aversion association learning to recruit a memory trace. K. ABE*; M. KURODA; Y. NARUMI; Y. KOBAYASHI; S. ITOHARA; T. FURUICHI; Y. SANO. *Tokyo Univ. of Sci., RIKEN Ctr. for Brain Sci.*

1:00 Y39 **601.21** Prefrontal neural ensembles develop selective code for event associations within minutes of novel experiences. K. TAKEHARA-NISHIUCHI*; M. D. MORRISSEY; M. PILKIW. *Univ. of Toronto, Univ. of Toronto.*

2:00 Y40 **601.22** Event-locked cholinergic signal in the medial prefrontal cortex has opposing effects on temporal associative learning depending on event types. G. TU*; S. GILLMAN; X. YU; A. HALAWA; K. TAKEHARA-NISHIUCHI. *Univ. of Toronto, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto.*

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▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 Y41 **601.23** Excitation of medial prefrontal cortex during conditioning enhances fear memory formation. N. SHIBANO; M. YAMAZAKI; M. KURODA; K. ABE; T. ARIMA; Y. KOBAYASHI; S. ITOHARA; T. FURUICHI; Y. SANO*. *Tokyo Univ. of Sci., RIKEN Ctr. for Brain Sci.*

4:00 Y42 **601.24** *Danionella translucida: A novel fish species for systems neuroscience.* A. PENALVA-TENA*; A. D. DOUGLASS; J. BEDKE; J. P. BARRIOS; E. P. L. BERTRAM; W. WANG; E. S. B. COOK. *Univ. of Utah.*

1:00 Y43 **601.25** Cognitive enhancement of perceptual decision making through vagus nerve stimulation. N. SUBRAMANIAN*; B. GOOLSBY; H. KIM; P. NAVARRO; M. BRODSKY; M. MANSY; K. OWEISS. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

2:00 Y44 **601.26** All-optical functional mapping of association cortex subserving working memory and perceptual decision making. B. GOOLSBY; H. J. KIM; J. CANZANO; K. G. OWEISS*. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

3:00 Z1 **601.27** Simultaneous two-photon calcium imaging and cell-targeted optogenetic stimulation shapes somatosensory cortex plasticity. J. S. CANZANO*; B. GOOLSBY; H. KIM; R. CASTRO; K. G. OWEISS. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

4:00 Z2 **601.28** Differential task coding between the prelimbic and rostral anterior cingulate cortices during spatial working memory. J. J. STOUT*, Jr; A. L. GRIFFIN. *Grad. Student, Univ. Delaware.*

POSTER

602. Learning and Memory: Genes and Signaling

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 Z3 **602.01** Odor preference training in week-old rat pups is associated with changes in protein and non-protein coding messenger ribonucleic acids in odor-encoding mitral cells. C. W. HARLEY*; M. N. NARTEY; L. PEÑA-CASTILLO; M. LEGROW; J. DORÉ; A. DARBY-KING; S. J. CAREW; Q. YUAN; J. H. MCLEAN. *Mem. Univ. of Newfoundland.*

2:00 Z4 **602.02** Cornichon homolog-3 (CNIH3) modulates hippocampal synapses and memory in female mice. H. E. FRYE*; C. TROUSDALE; J. D. DOUGHERTY; E. C. NELSON; J. MORON-CONCEPCION. *Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis.*

3:00 Z5 **602.03** Conditional deletion of CC2D1A impairs hippocampal synaptic plasticity and cognitive function through Rac1 hyperactivation. C. YANG*; T. YU; W. WEN; P. LING; K. HSU. *Col. of Medicine, Natl. Cheng Kung Universit, Col. of Medicine, Natl. Cheng Kung Universit, Col. of Medicine, Natl. Cheng Kung Universit.*

4:00 Z6 **602.04** Pin1 gene deficient mice impair spatial memory and show small brain volume. H. OHTAKI*; Y. TANAKA; T. UCHIDA; K. KIRIYAMA; K. ONO; K. HONDA. *Showa Univ. Sch. of Med., Tohoku Univ., Showa Univ. Sch. of Med., Showa Univ.*

1:00 Z7 **602.05** Synaptogenesis and neuronal activation dependent on MeCP2/CaMK2A phosphorylation signaling pathway. L. LEE*; M. SU; H. HUANG; Y. CHO; T. YEH; C. CHANG. *Sci. Educ. Center, Natl. Taiwan Normal Univ., Natl. Taiwan Normal Univ., Natl. Taiwan Normal Univ.*

2:00 Z8 **602.06** Mice deficient in Akain1, a novel protein kinase A-binding protein, exhibit decreased pain sensitivity and impaired context discrimination. K. FUJII; Y. KOSHIDAKA; M. ADACHI; Y. YANAGIBASHI; M. MATSUO; H. NISHIZONO; Y. AIZAWA; K. TAKAO*. *Grad. Sch. of Innovative Life Science, Univ. of Toyama, Life Sci. Res. Center, Univ. of Toyama, Sch. of Life Sci. and Technology, Tokyo Inst. of Technol.*

3:00 Z9 **602.07** miR-195 affects cognitive function in the aging-associated changes by targeting semaphorin 3A. Y. CHAO*; J. Y. H. CHAN. *Kaohsiung Chang Gung Mem. Hosp.*

4:00 Z10 **602.08** Neuronal cannabinoid receptor 2 plays a role in anxiety and memory. J. KOMOROWSKA; A. BILKEI-GORZO; A. ZIMMER; B. SCHURMANN*. *Univ. of Bonn.*

1:00 Z11 **602.09** Subregion-specific expression of the endogenous nicotinic receptor modulator Lynx1 and relation to cognitive function in mice. Y. SHERAFAT*; M. BAUTISTA; J. FOWLER; C. D. FOWLER. *Univ. of California of Irvine, Univ. of California Irvine, Univ. of California Irvine.*

2:00 Z12 **602.10** The E3 ubiquitin ligase ITCH is critical for learning and memory. Y. DU*; R. ZHENG; J. XU; J. LUO. *Zhejiang Univ. Sch. of Med., Zhejiang Univ. Sch. of Med.*

POSTER

603. Memory and Cognition

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 Z13 **603.01** Acute administration of methamphetamine impairs higher cognitive functions in C57BL/6J mice through cortico-striatal circuits. J. LIAO*; T. NAGAI; B. WULAER; T. NABESHIMA; K. YAMADA. *Nagoya Univ. Grad. Sch. of Med., Nagoya Univ. Grad Sch. Med., Fujita Hlth. University, Grad. Sch. of Hlth. Sci.*

2:00 Z14 **603.02** Alpha lipoic acid and metformin alleviates experimentally induced insulin resistance and cognitive deficit by modulation of TLR2 signalling. A. UNIYAL*; S. P. SAH. *Indian Inst. of Technol., Panjab Univ.*

3:00 Z15 **603.03** Centrally administered scopolamine impairs spatial memory retrieval and alters hippocampal matrix metalloproteinase levels. M. L. OLSON*; A. BENSON; C. BUCHING; H. GLEWWE. *Concordia Col.*

4:00 Z16 **603.04** GR receptor activation in dorsolateral striatum enhanced extinction of a response memory. A. FUENTES-IBAÑEZ; N. SERAFÍN; R. A. PRADO-ALCALÁ; G. L. QUIRARTE*. *Inst. de Neurobiología-UNAM.*

1:00 Z17 **603.05** 5-HT_6 receptor and forgetting process. A. MENESES*; I. PAZ; K. GRYCHOWSKA; V. CANALE; P. ZAJDEL. *Cinvestav - IPN, Cinvestav - IPN, Jagiellonian Univ. Med. Col.*

2:00 Z18 **603.06** Bradykinin B2 receptor, a novel drug target for vascular dementia: *In-silico and in-vivo* evidence. S. KUMAR*; S. IVANOV; A. LAGUNIN; R. K. GOEL. *Punjabi Univ., Inst. of Biomed. Chem., Punjabi Univ.*

3:00 Z19 **603.07** Vitamin E prevents the cognitive impairments in post-traumatic stress disorder rat model: Behavioral and molecular study. K. H. ALZOUBI*; M. AHMED; O. F. KHABOUR. *Jordan Univ. of Sci. & Technol., Sorbonne Univ., Jordan Univ. of Sci. and Technol.*

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* Indicates abstract's submitting author

4:00 Z20 **603.08** Exploring the persistence of learned sexual behavior in male Japanese quail conditioned on a Pavlovian partial schedule: Behavioral and opioid antagonist effects. T. K. BAK; R. L. FISHER; J. M. GRANATO; D. R. C. HAGOOD; L. M. PRICE; B. A. SULAMAN; K. S. HOLLOWAY*. *Vassar Col.*

1:00 Z21 **603.09** The serotonin 1A1B receptor agonist RU24969 on behavioral flexibility in mice. B. OLIVER; A. PAHUA; S. PETERSON; S. SANCHEZ; R. POSADAS; D. A. AMODEO*. *California State Univ. San Bernardino.*

2:00 Z22 **603.10** ● Investigating the effects of methylphenidate on cue salience and strategy set-shifting: Role of D_2 receptors. M. MCWATERS*; A. L. BLAKER; S. B. FLORESCO; B. K. YAMAMOTO; L. MATUSZEWICH. *Northern Illinois Univ., Indiana Univ. Sch. of Med., Univ. of British Columbia.*

3:00 Z23 **603.11** Addiction potential in methylphenidate treated rats after chronic drug exposure. S. D. GEORGE; P. B. YANG; D. J. FELLEMAN*; N. DAFNY. *McGovern Med. Sch. -UTHealth.*

4:00 Z24 **603.12** Delta-9-tetrahydrocannabinol regulates memory, anxiety, and sensorimotor gating via dissociable modulation of the Wnt and mTOR signalling pathways in the nucleus accumbens shell. C. NORRIS*; R. M. HUDSON; H. J. SZKUDLAREK; D. KHAN; W. J. RUSHLOW; S. R. LAVIOLETTE. *Univ. of Western Ontario, Univ. of Western Ontario, Univ. of Western Ontario, Univ. of Western Ontario.*

1:00 Z25 **603.13** Influence of habituation and NMDA receptor antagonism on novel object recognition and object location tasks in zebrafish. K. V. GASPARY; G. K. REOLON; D. GUSSO; C. D. BONAN*. *Pontificia Univ. Catolica Rio Grande do Sul.*

2:00 Z26 **603.14** ● Potent, highly selective and brain penetrant adrenergic alpha 1a antagonists for improvement of cognition in neuropsychiatric disorders and Alzheimer's disease. H. H. SCHIFFER*; S. KIKUCHI; J. RUSSO; Y. CHEN; J. BLIESATH; B. LAM; S. OLSEN; K. MA; S. SAILLET; J. J. PALOP; J. RAY; H. MONENSCHEIN; S. HITCHCOCK. *Takeda California Inc., Gladstone Inst. and Univ. of California San Francisco.*

3:00 Z27 **603.15** Role of α7nAChR agonist (GTS-21) on ICV-STZ induced altered central insulin signaling leading to cognition deficits. Y. PERUMAL*; R. RAY; K. CHOPRA. *Univ. Inst. of Pharmaceut. Sci., Indian Pharmacopoeia Commission.*

4:00 Z28 **603.16** ● Fractionating aberrant salience in rodent models of psychosis. T. BLACKMORE*; L. B. STAHR; V. SAMBORSKA; G. GILMOUR; M. E. WALTON; D. M. BANNERMAN; M. C. PANAYI. *Univ. of Oxford, Eli Lilly & Co. Ltd.*

1:00 Z29 **603.17** CART peptide protects the behavioral deficits in rat model of Huntington's disease. M. A. UPADHYA*; H. M. UPADHYA; N. SUBHEDAR; D. KOKARE. *Indian Inst. of Sci. Educ. and Res., Dept. of Pharmaceut. Sci.*

2:00 Z30 **603.18** Inhibition of cellular palmitoylation impairs the formation and maintenance of spatial memory and synaptic plasticity. O. URREGO MORALES*; I. DELINT-RAMÍREZ; F. BERMUDEZ-RATTONI. *Inst. De Fisiologia Celular - UNAM, UT Southwestern Med. Ctr., UNAM.*

3:00 Z31 **603.19** Neuroprotective effects of chronic memantine treatment on okadaic acid (ICV) induced neurotoxicity at behavioral, structural and molecular level in rats. G. BESELIA*; M. DASHNIANI; M. BURJANADZE; N. CHKHIKVISHVILI; L. KRUASHVILI. *I. Beritashvili Ctr. of Exptl. Biomedicine, Petre Shotadze Tbilisi Med. Acad.*

4:00 Z32 **603.20** Influence of maternal deprivation on recognition memory and global DNA methylation in adult rats: How epigenetics modulation can contributes to vulnerability or resilience to stress. M. N. M. DE LIMA*; B. S. DE FREITAS; K. C. R. RAPACH; M. A. FREYMUTH; R. B. M. SILVA; N. SCHRODER. *Pontifical Catholic Univ. of Rio Grande do Sul, Federal Univ. of Rio Grande do Sul.*

1:00 Z33 **603.21** Effect of lateral cerebellar nucleus inactivation on supra-second interval timing performance across changing task demands in rats. K. A. HESLIN*; B. J. DE CORTE; S. J. FARLEY; H. HALVERSON; K. L. PARKER. *Univ. of Iowa.*

2:00 Z34 **603.22** The effects of nutritional supplementation on memory in adolescent male rats exposed to cannabinoids. L. M. BUYNACK*; L. M. PACK; H. M. PARRISH; C. E. YULE; R. D. LUNDY, III; G. D. MEDLEY; D. M. HAYES; P. A. JACKSON. *Radford Univ., Radford Univ.*

3:00 Z35 **603.23** Development of novel and selective Kv3.1/3.2 channel modulators with improved potency for the treatment of social and cognitive deficits in schizophrenia. N. IDRIS*; J. C. NEILL; B. GRAYSON; G. PODDA; M. BURGESS; L. WATSON; S. MUNNI; A. MARASCO; G. ALVARO; C. LARGE. *Univ. Of Manchester, Autifony Therapeut. Ltd.*

4:00 Z36 **603.24** ▲ The newly synthesized compound CN-PYB2 and a knock-in mice for the Na^+/Ca^{2+} exchanger 1 (NCX1) show the involvement of the antiporter in hippocampal-dependent spatial learning and memory. S. NATALE; P. MOLINARO; S. ANZILOTTI; T. PETROZIELLO; R. CICCONE; A. SERANI; L. CALABRESE; F. FRECENTESE; A. SECONDO; A. PANNACCIONE; L. D'ESPOSITO; A. G. SADILE*; S. CABIB; G. DI RENZO; L. ANNUNZIATO. *"federico II" Univ. of Naples, IRCCS SDN, "federico II" Univ. of Naples, Univ. of Campania "Luigi Vanvitelli", Sapienza Univ.*

1:00 Z37 **603.25** ▲ Acute acetaminophen exposure impairs object recognition memory in female mice. C. A. STAPF*; A. A. WISLOTSKY; P. T. ORR. *Univ. of Scranton, Univ. of Scranton.*

2:00 Z38 **603.26** ▲ The effects of AM4113, a neutral cannabinoid antagonist, on object recognition memory in male mice. F. A. WALTER*, III; M. R. JOHNS; P. T. ORR. *Univ. of Scranton, Univ. of Scranton.*

POSTER

604. Cortical and Cortico-Hippocampal Circuits: Spatial Navigation III

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 Z39 **604.01** Behavioral state interactions with single neuron and population-wide spatial representations in medial entorhinal cortex. I. I. C. LOW*; A. H. WILLIAMS; L. M. GIOCOMO. *Stanford Univ.*

2:00 Z40 **604.02** Coding of medial entorhinal cortex during navigational decision making. A. GONZALEZ*; L. GIOCOMO. *Stanford Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 Z41 **604.03** Large scale recordings reveal algorithms for combining landmark and self-motion cues in entorhinal cortex. M. G. CAMPBELL*; A. ATTINGER; S. A. OCKO; S. GANGULI; L. M. GIOCOMO. *Stanford Univ., Stanford Univ., Stanford Univ., Sloan-Swartz Ctr. For Theoretical Neurobiology, UCSF.*

4:00 Z42 **604.04** Leveraging neuropixels probes and virtual reality in order to identify the mechanisms underlying ketamine's effect on spatial coding. F. K. MASUDA*; L. M. GIOCOMO. *Stanford Univ., Stanford Univ.*

1:00 AA1 **604.05** Entorhinal cortex encodes a wide repertoire of self-motion signals. C. S. MALLORY*; K. HARDCASTLE; J. L. RAYMOND; L. M. GIOCOMO. *UC Berkeley, Stanford Univ., Stanford Univ. Sch. of Med.*

2:00 AA2 **604.06** Re-organization of long-term spatial representations during methamphetamine place conditioning. Y. SUN*; L. M. GIOCOMO. *Stanford Univ.*

3:00 AA3 **604.07** Experience drives discrete representations of continuous stimuli in the hippocampus. M. H. PLITT*; L. M. GIOCOMO. *Stanford Univ., Stanford Univ.*

4:00 AA4 **604.08** Entorhinal velocity signals reflect environmental geometry. R. G. K. MUNN*; C. S. MALLORY; K. HARDCASTLE; D. M. CHETKOVICH; L. M. GIOCOMO. *Stanford Univ., Vanderbilt Univ.*

1:00 AA5 **604.09** Functional network topography of the medial entorhinal cortex revealed by miniaturized large-field-of-view two-photon microscopy in freely moving mice. H. A. OBENHAUS*; W. ZONG; T. ROSE; F. DONATO; L. CHEN; H. CHENG; T. BONHOEFFER; M. MOSER; E. I. MOSER. *Kavli Inst. for Systems Neurosci., Max Planck Inst. of Neurobio., Inst. of Mol. Medicine, Peking Univ.*

2:00 AA6 **604.10** Stereotyped network waves in the medial entorhinal cortex. F. DONATO*; S. GONZALO COGNO; H. A. OBENHAUS; R. JACOBSEN; M. MOSER; E. I. MOSER. *Kavli Inst. for Systems Neurosci., Kavli Inst. For Systems Neurosci., The Norwegian Univ. of Sci. and Technol., Kavli Inst. Systems Neurosci.*

3:00 AA7 **604.11** Mixed selectivity in outputs from the medial entorhinal cortex to non-hippocampal targets. D. C. ROWLAND*; H. A. OBENHAUS; E. I. MOSER; M. MOSER. *NTNU, Kavli Inst. For Systems Neurosci., Kavli Inst. Systems Neurosci.*

4:00 AA8 **604.12** Similar firing properties of neurons in the medial entorhinal cortex in male and female mice. M. MOSER*; D. C. ROWLAND; E. I. MOSER. *Kavli Inst. Systems Neurosci, NTNU.*

1:00 AA9 **604.13** A novel directional signal expressed during grid-cell theta sequences. R. J. GARDNER*; A. Z. VOLLAN; M. MOSER; E. I. MOSER. *Kavli Inst. For Systems Neurosci.*

2:00 AA10 **604.14** Early postnatal ablation of Cajal-Retzius cells affects hippocampal circuit development. G. QUATTROCOLO*; E. I. MOSER. *NTNU.*

3:00 AA11 **604.15** Ontogenesis of stereotyped network waves in the medial entorhinal cortex. S. GONZALO COGNO*; F. DONATO; H. A. OBENHAUS; R. JACOBSEN; M. MOSER; E. I. MOSER. *Kavli Inst. For Systems Neurosci., Kavli Inst. For Systems Neurosci., The Norwegian Univ. of Sci. and Technol., Kavli Inst. Systems Neurosci.*

4:00 AA12 **604.16** The mammillary bodies convey the ingredients for path integration. G. VIEJO*; A. PEYRACHE. *McGill Univ.*

1:00 AA13 **604.17** Head direction and place cells interaction during wake and sleep. S. ANGELES-DURAN*; G. VIEJO; A. J. DUSZKIEWICZ; A. PEYRACHE. *McGill Univ., McGill Univ., Univ. of Edinburgh.*

2:00 AA14 **604.18** Thalamic reticular nucleus controls the gain of the thalamic head-direction signal. A. J. DUSZKIEWICZ*; E. BROWN; E. R. WOOD; A. PEYRACHE. *McGill Univ., Univ. of Edinburgh.*

3:00 AA15 **604.19** Representation of goal location in rat prefrontal cortex. R. BASU*; S. KOLB; T. HERFURTH; T. TCHUMATCHENKO; H. ITO. *Max Planck Inst. For Brain Res.*

4:00 AA16 **604.20** Sensory integration of environmental features in rat retrosplenial cortex to compute spatial information of boundaries. J. VAN WIJNGAARDEN*; S. BABL; H. ITO. *Max Planck Inst. For Brain Res.*

1:00 AA17 **604.21** A role of nucleus reuniens in goal-directed navigation. H. KIM*; H. ITO. *Max Planck Inst. For Brain Res.*

2:00 AA18 **604.22** Interaction of place and gaze representations in the hippocampus of food-caching birds. H. L. PAYNE*; D. ARONOV. *Columbia Univ.*

3:00 AA19 **604.23** Imaging activity of large neuronal populations in the hippocampus of freely behaving food-caching birds. E. L. MACKEVICIUS*; H. L. PAYNE; D. ARONOV. *Columbia Univ.*

4:00 AA20 **604.24** Development of a hippocampus-dependent memory task for neural recordings in food-caching birds. M. C. APPLEGATE*; D. F. SCHECK; D. ARONOV. *Columbia Univ.*

1:00 AA21 **604.25** Long-term changes to the hippocampal place code as a function of experience and reactivation. A. O'LEARY*; L. MUESSIG; T. WILLS; F. CACUCCI; C. BARRY. *Univ. Col. London.*

2:00 AA22 **604.26** Investigation of medial septal cholingergic activity using calcium fibre photometry across behavioural states. K. A. YOUNG*. *Boston Univ.*

3:00 AA23 **604.27** The scale of grid cell firing patterns is modulated by spatial uncertainty in rodent virtual reality. G. CASALI*; S. J. SHIPLEY; C. BARRY. *UCL, Univ. of Cambridge.*

4:00 AA24 **604.28** Effect of appetitive and aversive intracranial stimulation on place cell reactivations during sleep. D. BRYZGALOV*; S. LAVENTURE; T. BALENBOIS; K. BENCHENANE. *MOBs team, Lab. Plasticité du Cerveau, ESPCI, PSL Univ.*

POSTER

605. Cortical Oscillations II

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 AA25 **605.01** Sex differences and effects of estrous stage on the ventral hippocampal-prefrontal anxiety circuit. K. J. SCHOEPFER*; Y. XU; W. WU; A. A. WILBER; M. KABBAJ. *Florida State Univ.*

2:00 AA26 **605.02** Amphetamine-like stimulants promote cortical up state: Role of adrenergic receptors. G. SHEN*; W. SHI. *Loma Linda Univ., Loma Linda Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 AA27 **605.03** Assessing the impact of excessive alcohol consumption on corticostriatal function in mice. C. ARDINGER*; D. N. LINSENBARDT. *Indiana University-Purdue Univ. Indianapolis.*

4:00 AA28 **605.04** Neural activity in the medial prefrontal cortex and hippocampus that encodes novel object recognition. C. WANG*; R. MAREK; T. M. FURLONG; P. STRATTON; P. SAH. *Univ. of Queensland, Univ. of New South Wales.*

1:00 AA29 **605.05** Gamma oscillations in basolateral amygdala during escape behaviors: Observations in a group. J. KIM*; C. KIM; W. YOUM; S. LEE; J. CHOI. *Korea Inst. of Sci. and Technol., Korea Univ., Univ. of Sci. & Technol., Electronics and Telecommunications Res. Inst., Univ. of Sci. & Technol.*

2:00 AA30 **605.06** Frequency-specific sinusoidal optogenetic stimulation of hippocampal-prefrontal circuit differentially alters locomotion and avoidance behavior. R. M. MIKOFSKY*; E. ALWAY; N. PADILLA-COREANO; M. V. MYROSHNYCHENKO; J. PASSECKER; S. HUPALO; D. A. KUPFERSCHMIDT; J. A. GORDON. *NIH, The Salk Inst. for Biol. Studies, NIH.*

3:00 AA31 **605.07** Maternal microchimeric cells shape the functional development of offspring prefrontal-hippocampal networks. S. SCHEPANSKI*; M. CHINI; K. THIELE; V. STERNEMANN; C. URBSCHAT; D. ZAZARA; I. L. HANGANU-OPATZ; P. C. ARCK. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Med. Ctr. Hamburg-Eppendorf.*

4:00 AA32 **605.08** Scopolamine and medial frontal stimulus-processing during interval timing. Q. ZHANG*; D. Y. JUNG; T. LARSON; Y. KIM; N. S. NARAYANAN. *Univ. of Iowa Hosp. and Clinics, Univ. of Rochester, Univ. of Iowa, Hosp. and Clinics, Univ. of Iowa, Univ. of Iowa Roy J and Lucille A Carver Col. of Med.*

1:00 AA33 **605.09** Midfrontal cortical signatures of lower-limb movement in Parkinson's disease. A. SINGH*; R. C. COLE; A. ESPINOZA; N. NARAYANAN. *Univ. of Iowa.*

2:00 AA34 **605.10** Susceptibility to distraction in Parkinson's disease mediated by midfrontal theta oscillations and basal ganglia spiking activity. R. C. COLE*; A. SINGH; A. ESPINOZA; J. R. WESSEL; J. F. CAVANAGH; J. D. GREENLEE; N. S. NARAYANAN. *Univ. of Iowa Carver Col. of Med., Univ. of Iowa, Univ. of New Mexico, Univ. of Iowa Carver Col. of Med.*

3:00 AA35 **605.11** Temporal processing and probability in nigrostriatal dopamine circuits. R. A. BRUCE*; M. A. WEBER; C. INMAN; N. S. NARAYANAN. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa.*

4:00 AA36 **605.12** Prefrontal D1 dopamine-receptor neurons in delayed non-matching task. Y. KIM*; M. A. KENNEDY; A. ESPINOZA; N. S. NARAYANAN. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa Roy J and Lucille A Carver Col. of Med.*

1:00 AA37 **605.13** Gamma oscillations as a potential cortical signature for Parkinson's disease-related depression. A. I. ESPINOZA*; A. SINGH; R. C. COLE; N. S. NARAYANAN. *Univ. of Iowa.*

2:00 AA38 **605.14** Dopamine depletion in the ventral tegmental area impairs interval timing precision. M. A. WEBER*; R. A. BRUCE; N. S. NARAYANAN. *The Univ. of Iowa, Univ. of Iowa, Univ. of Iowa.*

3:00 AA39 **605.15** ● Towards unified EEG dynamics of anesthesia-induced altered brain arousal states. S. CHAMADIA; J. PEDEMONTE; E. HAHM; J. MEKONNEN; R. IBALA; J. GITLIN; B. ETHRIDGE; J. QU; R. VAZQUEZ; J. RHEE; E. LIAO; E. BROWN; O. AKEJU*. *Massachusetts Gen. Hosp., Pontificia Univ. Católica de Chile, Massachusetts Gen. Hosp., Tulane Univ. of Med., Inst. for Med. Engin. and Sciences, Picower Inst. for Learning and Memory.*

4:00 AA40 **605.16** Stabilization of cortical population firing rate by paradoxical response to GABA modulation. W. L. SHEW*; V. AGRAWAL; P. KELLS; J. LI; S. GAUTAM. *Univ. of Arkansas, Univ. of Arkansas-Fayetteville, NIH, Univ. of Arkansas.*

1:00 AA41 **605.17** A physiological basis for communication through coherence in the rodent striatum. J. E. CARMICHAEL*; M. A. A. VAN DER MEER. *Dartmouth Col.*

2:00 AA42 **605.18** When random variation among cortical neurons results in functional significance. J. BARFIELD*; P. KELLS; J. LI; S. GAUTAM; W. L. SHEW. *Univ. of Arkansas, Univ. of Arkansas, Univ. of Arkansas Fayetteville.*

3:00 AA43 **605.19** Testing the mechanisms of cortical fragmentation with propofol induced loss of consciousness and large scale cortical recordings in the non human primate. A. M. BASTOS*; J. DONOGHUE; C. SHVARTSMAN; J. YANAR; M. LUNDQVIST; J. TAUBER; M. MAHNKE; A. WAITE; E. N. BROWN; E. K. MILLER. *MIT.*

4:00 AA44 **605.20** Thalamic stimulation reverses GABAergic but not anti-glutamatergic general anesthesia in monkeys. J. A. DONOGHUE; J. YANAR*; M. M. KOWALSKI; S. KORNBLITH; M. K. MAHNKE; M. LUNDQVIST; J. E. ROY; A. BASTOS; N. J. KOPELL; E. N. BROWN; E. K. MILLER. *MIT, MIT, Harvard Med. Sch., Boston Univ., Boston Univ.*

1:00 BB1 **605.21** Coherent alpha dynamics during recovery from traumatic coma detected using global coherence analysis. D. W. ZHOU*; C. CHATELLE; E. N. BROWN; B. L. EDLOW. *MIT, Univ. Hosp. of Liège, Massachusetts Gen. Hosp.*

2:00 BB2 **605.22** Dynamic spike-field relationships in the rat nucleus accumbens. J. M. GMAZ*; J. E. CARMICHAEL; M. A. VAN DER MEER. *Dartmouth Col.*

3:00 BB3 **605.23** A comprehensive characterization of rhythmic spiking activity in the rat ventral striatum. M. A. VAN DER MEER*; J. GMAZ; J. E. CARMICHAEL. *Dartmouth Col.*

4:00 BB4 **605.24** Central lateral thalamus causally influences states of consciousness by regulating neural interactions within and between areas in fronto-parietal cortex. M. J. REDINBAUGH*; J. M. PHILLIPS; N. A. KAMBI; S. MOHANTA; S. ANDRYK; G. DOOLEY; A. RAZ; Y. B. SAALMANN. *Univ. of Wisconsin-Madison, Rambam Hlth. Care Campus, Univ. of Wisconsin-Madison.*

1:00 BB5 **605.25** ● Electrophysiological differences between unconscious states induced by gabaergic agonists and glutamatergic antagonists. F. J. FLORES*; S. B. GONCALVES; I. C. RICE; J. AN; O. AKEJU; J. SCHOLVIN; E. S. BOYDEN; E. N. BROWN. *Massachusetts Gen. Hosp., Harvard Med. Sch., Univ. of Minho, Harvard Univ. and MIT, Harvard Univ. and MIT, Massachusetts Gen. Hosp., MIT.*

2:00 BB6 **605.26** Aging increases time to recovery from anesthesia but does not affect power and coherence of cortical rhythms in rats. E. D. MELONAKOS*; K. NIKOLAEVA; M. SIEGMANN; E. N. BROWN; K. SOLT; C. NEHS. *Massachusetts Gen. Hosp., MIT.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

606. Decisions: Action and Corticostriatal Circuits

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 BB7 **606.01** Chemogenetic inactivation using double virus vector infection reveals the inhibitory function of the prefronto-striatal pathway in the macaque brain. M. OGUCHI*; S. TANAKA; X. PAN; T. KIKUSUI; K. MORIYA-ITO; S. KATO; K. KOBAYASHI; M. SAKAGAMI. *Tamagawa Univ., Niigata Univ. Sch. of Med., East China Univ. of Sci. and Technol., Azabu Univ., Tokyo Metropolitan Inst. of Med. Sci., Fukushima Med. Univ., Tamagawa Univ. Brain Sci. Inst.*

2:00 BB8 **606.02** Viral strategies to target frontostriatal circuits for the investigation of action control. Z. JÄCKEL*; S. HARDUNG; B. DE LA CROMPE; I. DIESTER. *Albert Ludwig Univ. of Freiburg.*

3:00 BB9 **606.03** Neural correlates of dorsolateral striatum under HDAC5 overexpression during a decision-making task. H. J. PRIBUT*; D. VAZQUEZ; A. D. WEI; S. TENNYSON; I. R. DAVIS; M. R. ROESCH; X. LI. *Univ. of Maryland, Univ. of Maryland.*

4:00 BB10 **606.04** The activity of nucleus accumbens shell neurons during target-directed locomotion correlates with kinetic parameters and is influenced by motivational factors. A. H. SUGI*; D. LEVCIK; J. A. POCHAPSKI; G. BALTAZAR; L. PULIDO; C. VILLAS BOAS; M. AGUILAR-RIVERA; R. A. FUENTES; S. M. NICOLA; C. DA CUNHA. *Univ. Federal do Paraná, Univ. Federal do Paraná, Univ. Federal do Paraná, Inst. of Physiol. CAS, UCSD, Univ. de Chile, Albert Einstein Coll Med.*

1:00 BB11 **606.05** Deletion of beta2* nicotinic acetylcholine receptors expressed by striatal interneurons leads to behavioral alterations. H. JANICKOVA*; A. ABBONDANZA; J. HÖFFLIN; J. ELIAS; P. KASPAREK; R. SEDLACEK. *Inst. of Physiol. CAS, Rheinische Friedrich-Wilhelms-Universität Bonn, Inst. of Mol. Genet. of the ASCR, Inst. of Mol. Genet. of the ASCR.*

2:00 BB12 **606.06** Modulation of value and error signals using caudate electrical stimulation. S. R. SANTACRUZ*; E. L. ZIPPI; J. M. CARMENA. *Univ. of Texas At Austin, Univ. of Texas at Austin, Univ. of California, Berkeley, Univ. of California, Berkeley.*

3:00 BB13 **606.07** Roles for ventral pallidum GABA neurons in appetitive and aversive motivation during risky decision making. M. R. FARRELL*; J. ESTEBAN; S. V. MAHLER. *Univ. of California Irvine, Univ. of California, Irvine, Univ. of California Irvine Dept. of Neurobio. and Behavior.*

4:00 BB14 **606.08** Glutamatergic regulation of reward-related timing in the dorsolateral striatum. S. A. YOUSEFZADEH*; S. WEN; S. PRAKASH; W. H. MECK. *Duke Univ.*

1:00 BB15 **606.09** ▲ Chemogenetic inhibition of ventral tegmental area projections to the medial prefrontal cortex affects decision-making. M. D. SINGSTOCK*; D. TAPP; B. KLEIN; M. S. MCMURRAY. *Miami Univ.*

2:00 BB16 **606.10** The neurobiology of interval timing is epigenetically regulated. M. FALAPPA*; V. TUCCI. *Italian Inst. of Technol.*

3:00 BB17 **606.11** The posterior tail of striatum plays an important role in tonal associative learning. M. LIU*; H. WANG; T. LI; Y. WANG; D. CAI; K. YUAN. *Inst. of Neural Engin., Tsinghua Univ., Inst. of Neural Egineering, USC, Tsinghua Univ.*

4:00 BB18 **606.12** *In vivo* striatal neural activity during motor skill learning in Huntington's disease mice. E. T. KOCH*; M. D. SEPERS; L. A. RAYMOND. *Univ. of British Columbia.*

1:00 BB19 **606.13** A computational model of cortico-basal ganglia circuits for deciding between reaching actions. D. THURA*; P. E. CISEK. *Inserm, Univ. of Montreal.*

2:00 BB20 **606.14** Striatal glutamatergic signaling elicited by turn cues, but not stop cues. M. SARTER*; C. AVILA. *Univ. of Michigan, Univ. of Michigan.*

3:00 BB21 **606.15** ● M_1 muscarinic receptor agonist treatment differentially modulates dorsolateral and dorsomedial striatal glutamate during repetitive behaviors in the BTBR mouse. M. E. RAGOZZINO*; K. E. NISBETT; P. TENEQEXHI; R. OCAMPO; O. ATHNAIEL; W. S. MESSER, JR. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Toledo.*

4:00 BB22 **606.16** Functional characterization of cortical D2 dopamine receptor in adult mice. C. QUINTANA*; M. BEAULIEU. *Univ. of Toronto.*

1:00 BB23 **606.17** Prefrontal adrenergic and cholinergic fluctuations define global arousal after stress. J. CRESSY; A. P. KAYE; M. G. RAO; J. FENG; J. KIM; S. LEE; Y. LI; A. C. KWAN*. *Yale Univ., Peking Univ., KAIST, KAIST, Peking Univ.*

2:00 BB24 **606.18** Prefrontal tDCS of the primate brain has diverse effects on LFP power spectra across cortical and subcortical areas. S. E. SEIDL*; C. RANGANATH; W. M. USREY; E. G. ANTZOULATOS. *Univ. of California, Davis, Univ. of California Davis.*

3:00 BB25 **606.19** Chemogenetic inhibition reveals regional specificity of direct pathway control of action sequencing. E. GARR*; A. R. DELAMATER. *The Grad. Center, CUNY, Brooklyn College, CUNY.*

4:00 BB26 **606.20** Inactivation of the prelimbic cortex attenuates operant responding in both physical and behavioral contexts. C. M. P. THOMAS*; E. A. THRAILKILL; M. E. BOUTON; J. T. GREEN. *Univ. of Vermont.*

1:00 BB27 **606.21** Separating goal-directed action from habit: Role of the context in which taste aversion learning occurs in creating the reinforcer devaluation effect. M. E. BOUTON*; S. ALLAN; A. TAVAKKOLI; M. STEINFELD; E. THRAILKILL. *Univ. Vermont, Dartmouth Col.*

2:00 BB28 **606.22** A signal for the bayesian update of a learned preference in the macaque prefrontal cortex. R. BARTOLO*; R. C. SAUNDERS; A. R. MITZ; B. B. AVERBECK. *NIMH/NIH.*

3:00 BB29 **606.23** Dopamine signals in ventral striatum code reward prediction errors but not cue values in reinforcement learning. H. TANG*; V. COSTA; R. BARTOLO; A. MITZA; M. ELDRIDGE; B. AVERBECK. *NIH, NIMH.*

4:00 BB30 **606.24** Quantification of heterogeneous afferent connections across the ventrolateral prefrontal cortex: Functional implications. L. R. TRAMBAIOLLI*; W. TANG; S. N. HABER. *McLean Hosp. - Harvard Med. Sch., Univ. of Rochester.*

Tues. PM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 BB31 **606.25** A connectional hub in the rostral anterior cingulate cortex links areas of emotion and cognitive control. W. TANG*; S. JBABDI; Z. ZHU; M. COTTAAR; G. GRISOT; J. F. LEHMAN; A. YENDIKI; S. N. HABER. *McLean Hosp., Univ. of Oxford, Univ. of Rochester, Massachusetts Gen. Hosp.*

POSTER

607. Human Long-Term Memory: Encoding and Retrieval III

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 BB32 **607.01** Effects of cortisol reactivity and REM theta activity on emotional memory consolidation. S. Y. KIM*; S. M. KARK; R. T. DALEY; S. E. ALGER; E. A. KENSINGER; J. D. PAYNE. *Univ. of Notre Dame, Boston Col.*

2:00 BB33 **607.02** Medial prefrontal cortex plays a causal role in selectively enhancing consolidation of emotional memories: A TMS-EEG study. N. YEH*; N. S. ROSE; J. D. KOEN; S. Y. KIM; E. A. KENSINGER; J. PAYNE. *Univ. of Notre Dame, Boston Col.*

3:00 BB34 **607.03** Neural representations underlying acquisition of category knowledge. C. R. BOWMAN*; D. ZEITHAMOVA. *Univ. of Oregon.*

4:00 BB35 **607.04** Generalized memory representations emerge across paired-associate training. S. R. ASHBY*; C. R. BOWMAN; D. ZEITHAMOVA. *Univ. of Oregon.*

1:00 BB36 **607.05** Eye fixation frequency affects visual episodic memory. B. FEHLMANN*; D. COYNEL; N. SCHICKTANZ; A. MILNIK; P. HOFMANN; L. GSCHWIND; A. PAPASSOTIROPOULOS; D. J. DE QUERVAIN. *Univ. of Basel.*

2:00 BB37 **607.06** Spared perception of the structure of scenes after hippocampal damage. Z. J. URGOLITES*; R. O. HOPKINS; L. R. SQUIRE. *Veterans Affairs San Diego Healthcare Syst., UCSD, Brigham Young Univ., Pulmonary and Critical Care Division, Intermountain Med. Ctr., UCSD, UCSD*.

3:00 BB38 **607.07** Neural pattern similarity is moderated by age and subsequent memory in scene-selective but not face-selective cortical regions. S. SROKOVA*; P. F. HILL; J. D. KOEN; D. R. KING; M. D. RUGG. *Univ. of Texas at Dallas, Univ. of Notre Dame.*

4:00 BB39 **607.08** Differential effects of age and task load on the neural correlates of retrieval monitoring revealed by modulation of univariate fMRI BOLD amplitude and functional connectivity. E. D. HORNE*; M. DE CHASTELAINE; M. D. RUGG. *Univ. of Texas At Dallas.*

1:00 BB40 **607.09** Age-invariant, overlapping pre- and post-stimulus subsequent memory effects in dorsal medial prefrontal cortex. E. S. LIU*; J. D. KOEN; M. D. RUGG. *Univ. of Texas At Dallas, Univ. or Notre Dame, Univ. of Texas at Dallas Ctr. for Vital Longevity.*

2:00 BB41 **607.10** A phenomenological model of power-law forgetting. A. GEORGIOU*; M. KATKOV; M. TSODYKS. *Weizmann Inst. of Sci.*

3:00 BB42 **607.11** Free recall of common facts. M. KATKOV*; M. NAIM; M. V. TSODYKS. *Weizmann Inst. of Sci.*

4:00 BB43 **607.12** Epilepsy patients with verbal memory deficits demonstrate differential transcript expression in the temporal lobe compared to those with intact memory. R. M. BUSCH*; L. YEHIA; M. SEYFI; I. BLUMCKE; B. HERMANN; I. NAJM; C. ENG. *Cleveland Clin., Univ. Hosp. Erlangen, Univ. of Wisconsin.*

1:00 BB44 **607.13** Effects of HD-tDCS on item and associative encoding are modulated by individual differences in self-reported side effects of stimulation. A. M. GAYNOR*; E. F. CHUA. *Mem. Sloan Kettering Cancer Ctr., Brooklyn Col., The Grad. Center, CUNY.*

2:00 BB45 **607.14** The subsequent memory effects of associative memory before and during memory encoding period of scalp EEG. D. KIM*; W. JEONG; J. KIM; C. CHUNG. *Seoul Natl. Univ., Seoul Natl. Univ. Hosp., Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ.*

3:00 BB46 **607.15** Contributions of semantic relatedness, distinctiveness, and emotion to enhanced emotional memory: An event-related potential study. V. C. ZARUBIN; T. K. PHILLIPS; E. G. ROBERTSON; K. R. MICKLEY STEINMETZ*. *Univ. of California, Davis, Wofford Col.*

4:00 BB47 **607.16** ▲ Novelty influences coupling across multiple learning systems during post-task rest. M. R. FAIN*; I. O'SHEA; I. C. BALLARD; L. ELLMAN; V. P. MURTY. *Temple Univ., Northeastern Univ., Univ. of California, Berkeley, Dr.*

1:00 BB48 **607.17** ▲ Differential effects of visuospatial interference on consolidation of emotional and neutral episodic-like memory in virtual reality. S. FLASH*; S. BARHOUM; J. DENGLER; K. SHAH; V. CASTILLO; G. HANSON GOTTHARD. *Muhlenberg Col.*

2:00 BB49 **607.18** Oscillatory activity supports contextual binding in young and old adults. A. E. KARLSSON*; M. C. SANDER. *Max-Planck Inst. For Human Develop.*

3:00 BB50 **607.19** Reward motivation during encoding influences free recall accuracy and dynamics. E. A. EBERTS*; B. KATERMAN; S. DUBROW; V. P. MURTY. *Temple Univ., Univ. of Oregon.*

4:00 BB51 **607.20** ▲ Heart (EKG) and brain (ERP) activity as predictors of subsequent memory for emotional images. T. J. BUNGE*; P. G. BOLTON SWAFFORD; D. P. AGUILLARD; V. C. ZARUBIN; C. M. MARTSBERGER; K. R. MICKLEY STEINMETZ. *Wofford Col., Univ. of California, Davis.*

POSTER

608. Human Decision-Making and Reasoning: Cognition and Computations II

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 BB52 **608.01** Neural implementation of behavioral models of working memory tasks. Z. TIGANJ*; N. A. CRUZADO; M. W. HOWARD. *Boston Univ.*

2:00 BB53 **608.02** Pseudo-reward processing during human reinforcement learning. S. D. MCDOUGLE*; A. G. E. COLLINS. *Univ. of California, Berkeley.*

3:00 BB54 **608.03** The neural link between subjective value and decision entropy. S. BOBADILLA SUAREZ*; O. GUEST; B. C. LOVE. *Univ. Col. London.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 BB55 **608.04** Theta phase synchronization underlays intuitive calculation in an arithmetic task. A. OKUWA*; A. FUNASE; H. NAKATANI; I. TAKUMI. *Nagoya Inst. of Technol., The Univ. of Tokyo, Grad. Sch. of Arts a.*

1:00 BB56 **608.05** Temporal expectation drives proactive preparation in simple response tasks. M. WANG*; H. ZHANG. *Peking Univ., Peking Univ., Peking Univ.*

2:00 BB57 **608.06** Behavioral modeling and temporal dynamics of intertemporal choice. W. YI*; Q. LIU; B. M. TURNER. *The Ohio State Univ.*

3:00 BB58 **608.07** Cognitive basis of reasoning: A flexible analogical access (FAA) model. N. C. CATANZARITE*; K. N. DUNBAR. *Univ. of Maryland.*

4:00 BB59 **608.08** Predicting trial-wise choices from multi-modal data in a new environment. H. PARK*; J. YANG; W. AHN. *Seoul Natl. Univ.*

1:00 DP12/BB60 **608.09** (Dynamic Poster) Dynamics of evidence accumulation in a visual motion direction discrimination task containing change-points. A. E. RADILLO*; J. I. GOLD. *Univ. Pennsylvania.*

2:00 BB61 **608.10** Individual decision-making underlying the tragedy of the commons. M. CHAWLA*; M. R. PIVA; S. AHAMMAD; R. JIA; I. LEVY; S. W. CHANG. *Yale Univ., Yale Univ., Yale Univ., Yale Univ.*

3:00 BB62 **608.11** A combination of perceptual and reward information predicts choice and individual differences in optimality. M. GHANE*; S. A. JAPEE; J. A. RICHEY; L. G. UNGERLEIDER. *Natl. Inst. of Mental Hlth., Virginia Tech.*

4:00 BB63 **608.12** Model comparison with multimodal data: Bayesian inference on integrated models of behavioural and imaging data. D. CUSTOVIC*; C. CLOPATH; A. HAMPSHIRE. *Imperial Col. London, Imperial Col. London.*

1:00 BB64 **608.13** Modafinil effects on inhibitory control in methamphetamine-dependent individuals: A Bayesian model-based fMRI study. H. WANG*; D. GHAHREMANI; D. GUO; A. J. YU; E. D. LONDON*. *UCLA, Univ. of California San Diego, UCLA, UCLA.*

2:00 BB65 **608.14** Bounded rationality and temporally extended actions shape optimal perceptual decisions. J. R. CASTIÑEIRAS*; A. RENART. *Champalimaud Fndn.*

3:00 BB66 **608.15** Uncertainty-based arbitration between incremental and episodic control over decisions. J. NICHOLAS*; N. D. DAW; D. SHOHAMY. *Columbia Univ., Princeton Univ.*

4:00 BB67 **608.16** Dopamine and serotonin in reward and addiction. C. SCHMIDT; V. VOON; A. MOLLER*. *Dept. of Nuclear Med. and PET Ctr., Univ. of Cambridge, Aarhus Univ. Hosp.*

1:00 BB68 **608.17** How do monetary gains and losses affect the arbitration between reinforcement-learning strategies in adolescents and adults? F. BOLENZ*; B. EPPINGER. *Technische Univ. Dresden, Concordia Univ.*

2:00 BB69 **608.18** Evidence accumulation and optimal stopping in stochastic choice. S. F. BUCHER*; P. W. GLIMCHER. *New York Univ., New York Univ.*

3:00 BB70 **608.19** Relating human substantia nigra neural activity to eye movement. A. G. RAMAYYA; B. J. MCSHANE*; L. Y. BUCH; M. DONELEY-FLETCHER; L. DING; J. I. GOLD; G. H. BALTUCH. *Pennsylvania Hosp., Univ. of Pennsylvania, Univ. Pennsylvania.*

4:00 BB71 **608.20** Differences between learners and non-learners during visual category learning. B. REUVENI*; B. FEINSTEIN; P. J. REBER. *Northwestern Univ.*

1:00 BB72 **608.21** The role of perceptual uncertainty in value learning and naturalistic stimulus categorization. A. GEANA*; W. MAHAPHANIT; M. J. FRANK. *Brown Univ., Carney Inst. for Brain Sci.*

2:00 BB73 **608.22** Reward structure regulates belief update strategy during hierarchical reasoning. M. SARAFYAZD*, Jr; M. JAZAYERI. *MIT, Massachusetts Inst. of Technol. Dept. of Brain and Cognitive Sci.*

POSTER

609. Decision Making II

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 BB74 **609.01** Inhibitory selectivity and choice performance in a circuit model of perceptual decision making. J. P. ROACH*; A. K. CHURCHLAND; T. A. ENGEL. *Cold Spring Harbor Lab.*

2:00 BB75 **609.02** A neurocognitive architecture for audio-visual signal detection. J. M. EGAN*; S. KELLY; R. G. O'CONNELL. *Univ. Col. Dublin, Trinity Col. Dublin.*

3:00 BB76 **609.03** Neural activity in the human subthalamic nucleus during stochastic decision making depends on presented evidence. Z. E. PATAI; T. FOLTYNIE; P. LIMOUSIN; M. I. HARIZ; L. ZRINZO; R. BOGACZ; V. LITVAK*. *Univ. of Oxford, UCL Queen Square Inst. of Neurol.*

4:00 BB77 **609.04** Choice history biases subsequent evidence accumulation. A. E. URAI; J. W. DE GEE; K. TSETSOS; T. H. DONNER*. *Cold Spring Harbor Lab., Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Med. Ctr. Hamburg Eppendorf, Univ. Med. Ctr. Hamburg-Eppendorf.*

1:00 BB78 **609.05** Probing sensory evidence accumulation and decision-related signals using human intracranial EEG. S. BICKEL*; N. MARKOWITZ; J. L. HERRERO; E. ESPINAL; S. GHERMAN; R. G. O'CONNELL; A. D. MEHTA; S. KELLY. *Feinstein Inst. for Med. Res., Hofstra Northwell Sch. of Med., Feinstein Inst. for Med. Res., Trinity Col. Dublin, Univ. Col. Dublin.*

2:00 BB79 **609.06** Evidence accumulation in abstract decisions cued by varying perceptual information. M. L. NEWTON*; A. S. KAYSER. *Univ. of California Berkeley, Univ. of California San Francisco, Univ. of California San Francisco.*

3:00 BB80 **609.07** Neural representations of number across semantic, phonological, visual, and manual formats. G. E. KOCH*; R. LIU; M. E. LIBERTUS; J. A. FIEZ; M. N. COUTANCHE. *Univ. of Pittsburgh.*

4:00 BB81 **609.08** Influence of repetitive transcranial magnetic stimulation of the posterior medial frontal cortex on the behavioral and electrophysiological measures of cognitive dissonance. E. RYBINA*; A. SHESTAKOVA; V. KLUCHAREV. *Natl. Res. Univ. Higher Sch. of Econ., Natl. Res. Univ. Higher Sch. of Econ.*

1:00 BB82 **609.09** ▲ Reinforcer devaluation in humans using task delays as reinforcers. H. LIN*; S. ZIMMERMAN; C. LONG; C. L. PICKENS. *Kansas State Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 BB83 **609.10** Neuro - computational process for deciding with predicting others' decision. N. MA*; N. HARASAWA; K. UENO; N. ICHINOHE; M. HARUNO; K. CHENG; H. NAKAHARA. *RIKEN Ctr. for Brain Sci., RIKEN Ctr. for Brain Sci., Natl. Inst. of Neuroscience, Natl. Ctr. of Neurol. and Psychiatry, Natl. Inst. of Information and Communication Technol., RIKEN Ctr. for Brain Sci.*

3:00 BB84 **609.11** Phasic arousal suppresses suboptimal decision biases in mice and humans. J. W. DE GEE*; K. TSETSOS; L. SCHWABE; A. E. URAI; A. BERGT; D. A. MCCORMICK; M. J. MCGINLEY; T. H. DONNER. *Baylor Col. of Med., Univ. Med. Ctr. Hamburg, Univ. of Hamburg, Cold Spring Harbor Lab., Univ. of Oregon, Univ. Med. Ctr. Hamburg-Eppendorf.*

4:00 BB85 **609.12** Helping or punishing: The influence of testosterone and acute stress. H. WANG*; C. LIU; R. ZHU; S. ZHANG. *Beijing Normal Univ., State Key Lab. of Cognitive Neurosci. and Learning.*

1:00 CC1 **609.13** The neural correlate of legal judgment: Do legal expertise and a trust in the law make a difference ? T. ASAMIZUYA; H. SAITO; S. OTA; J. KATO*. *The Univ. of Tokyo, Meiji Univ.*

2:00 CC2 **609.14** Trait level influences on political preference shifts differ between Democratic- and Republican-supported laws. B. B. LU*; J. ZIMMERMANN; J. J. VAN BAVEL; P. W. GLIMCHER. *New York Univ., Univ. of Minnesota Twin Cities, New York Univ.*

POSTER

610. Schizophrenia Models and Drug Development

Theme H – Cognition

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 CC3 **610.01** Inhibition of fast glycine re-uptake restores deficits in mismatch negativity caused by depletion of GluA1 from parvalbumin interneurons. R. SPRENGEL*; M. ZONOUZI; V. MACK; H. ROSENBROCK; N. SCHUELERT. *Max Planck Inst. for Med. Res., Boehringer Ingelheim Pharma GmbH & Co. KG.*

2:00 CC4 **610.02** Neuroprotective effect of ethyl acetate fraction of terminalia macroptera leaf against ketamine-induced schizophrenia related behaviour in mice. O. O. SUNDAY*; L. IOR. *Univ. of Jos, Univ. of Jos.*

3:00 CC5 **610.03** *In-vivo* optogenetic stimulation of prefrontal PV+ interneurons has a recovering role in a rat model of schizophrenia-like cognitive inflexibility. E. PATRONO*; K. HRUZOVA; J. CHVOJKA; H. BROZKA; D. RADOSTOVA; J. SVOBODA; P. JIRUSKA; A. STUCHLIK. *Inst. Of Physiol. CAS, Inst. Of Physiol. CAS.*

4:00 CC6 **610.04** ● The NMDA receptor antagonist ketamine exerts biphasic effects on mismatch negativity in the rat. S. KANTOR*; B. LAURSEN; N. UPTON; J. F. BASTLUND. *Transpharmation LTD., Lundbeck, H. Lundbeck A/S.*

1:00 CC7 **610.05** GPR52 agonists represent a novel approach to treat unmet medical need in schizophrenia. A. J. GROTTICK; B. GRAYSON; G. PODDA; N. IDRIS; J. C. NEILL; S. HOBSON*. *Beacon Discovery Inc., Univ. of Manchester, BI Pharma Gmbh & Co. KG.*

2:00 CC8 **610.06** ● Rapid augmentation of antipsychotic drugs by sodium nitroprusside. Behavioral assessment and effect on brain dopaminergic transmission in rats. J. TITULAER*; A. MALMERFELT; M. MARCUS; A. PERRONE; G. ALKEN; J. P. LOWRY; T. H. SVENSSON. *Karolinska Institutet, Uppsala Univ., BDD Berolina Drug Devolopment, Maynooth Univ.*

3:00 CC9 **610.07** ● Discovery of TAK-041: A potent and selective GPR139 agonist for the treatment of negative symptoms associated with schizophrenia. R. HODGSON*; J. ATIENZA; H. REICHARD; V. MULLIGAN; J. CILIA; H. MONENSCHEIN; D. COLLIA; J. RAY; N. L. BRICE; G. KILPATRICK; M. CARLTON; S. HITCHCOCK; G. CORBETT; H. H. SCHIFFER. *Takeda, Takeda Pharmaceuticals, Takeda Pharmaceuticals, UT M D Anderson Cancer Ctr., Cerevance, Takeda California Inc.*

4:00 CC10 **610.08** Acute restraint stress differently alters prepulse inhibition of the acoustic startle reflex and social interaction in male wistar rats. The role of the inferior colliculus in the modulation of these responses. R. SILVA*; P. SILVA; A. WERDER; R. DE OLIVEIRA; J. SIMOES; D. ORTOLANI; I. CESPEDES; R. SPADARI; M. B. VIANA. *Univ. Federal de São Paulo.*

1:00 CC11 **610.09** ● SUVN-1702012 a multimodal molecule demonstrating separation between antipsychotic and motor side effects. A. K. SHINDE*; J. TADIPARTHI; J. FERNANDES; R. MEDAPATI; A. VYURU; S. PETLU; V. MEKALA; R. SUBRAMANIAN; S. EDULA; M. SRIRANGAVARAM; R. ABRAHAM; P. ACHANTA; J. THENTU; N. MUDDANA; R. NIROGI. *Suven Life Sci.*

2:00 CC12 **610.10** Nasal respiration drives high frequency oscillations after ketamine in the rat olfactory bulb. J. J. WROBEL*; W. SREDNIAWA; D. K. WOJCIK; M. J. HUNT. *Nencki Inst. of Exptl. Biol. PAS, Univ. of Warsaw.*

3:00 CC13 **610.11** Obsessive-compulsive disorder-like behaviors in clozapine-treated mice. S. KANG*; H. NOH; C. KIM. *Yonsei Univ. Col. of Medecine.*

4:00 CC14 **610.12** Therapeutic potential and underlying mechanism of sarcosine (N-methylglycine) in N-methyl-D-aspartate (NMDA) receptor hypofunction models of schizophrenia. J. PEI*; W. HUNG; B. LIN; M. SHIH; L. LU; D. LUO; H. TAI; V. STUDER; M. MIN; W. LAI. *Natl. Taiwan Univ., Interdisciplinary Inst. for Neuroscience, Univ. of Bordeaux, F-33077, French Natl. Ctr. for Scientific Res. (CNRS), UMR 5297, F-33077.*

1:00 CC15 **610.13** Disruption of CA1 sharp-wave ripples by the nonbenzodiazepine hypnotic eszopiclone. L. A. BECKER; H. PENAGOS; D. S. MANOACH; M. A. WILSON; C. VARELA*. *Stony Brook Univ., MIT, Massachusetts Gen. Hospital, Harvard Med. Sch., Florida Atlantic Univ.*

2:00 CC16 **610.14** Cerebrolisyn treatment improves behavioral deficits and neuronal changes in a prenatal immune challenge. G. TELLEZ*; F. DE LA CRUZ; G. FLORES. *Inst. Politécnico Nacional, Inst. de Fisiología Benemérita Univ. Autónoma de Puebla.*

3:00 CC17 **610.15** Nicotine pre-exposure alters PCP-induced hyperlocomotion in adolescent C57BL/6 mice: The impact of the dopaminergic system. A. C. DUTRA-TAVARES*; V. H. DUARTE-PINHEIRO; J. O. SILVA; A. BANDEIRA-MARTINS; C. C. FILGUEIRAS; A. C. MANHAES; Y. ABREU-VILLAÇA. *Univ. Do Estado Do Rio De Janeiro, State Univ. of Rio de Janeiro.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 CC18 **610.16** ● Serpentine and AJC-61 effects on cognitive deficit, locomotor activity and social interaction in phencyclidine (PCP)-treated mice and other behaviors are blocked by the 5-HT_{2C} receptor antagonist, SB242084. H. Y. MELTZER*; K. SCHEIDT; A. J. CSAKAI; J. MCCORVY; L. RAJAGOPAL; M. HUANG. *Northwestern Univ. Sch. of Med., Northwestern Univ., Med. Col. of Wisconsin, Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med.*

1:00 CC19 **610.17** Schizophrenia-like cognitive control failure after NMDAR blockade reflects disrupted interactions between prefrontal cortex and MD thalamus. A. L. DENICOLA*; M. PARK; D. A. CROWE; M. V. CHAFEE. *Univ. of Minnesota, Veterans Affairs Hosp., Augsburg Univ.*

2:00 CC20 **610.18** Disrupting NMDAR synaptic transmission changes causal relationships between cell and network level physiological signals in the prefrontal-parietal network. E. KUMMERFELD; S. MA; D. A. CROWE*; R. K. BLACKMAN; M. V. CHAFEE. *Univ. of Minnesota, Univ. of Minnesota, Augsburg Univ., Brown Univ., Univ. Minnesota.*

3:00 CC21 **610.19** ● Administration of rapastinel on multiple dose schedule enhances its antidepressant and cognitive enhancing properties: Evidence for a 5-HT_{1A} dependent mechanism of action. M. HUANG*; L. RAJAGOPAL; A. M. ELZOKAKY; C. A. RYAN; P. BANERJEE; H. Y. MELTZER. *Northwestern Univ. Feinberg Sch. of Med., Allergan Plc.*

4:00 CC22 **610.20** ● Bumetanide rescue of phencyclidine-induced deficits in cognition, positive and negative symptoms in mice implicates NKCC1/KCC2-mediated changes in GABAA function in the pathophysiology and treatment of schizophrenia. L. RAJAGOPAL*; H. R. KIM; M. MARTINA; H. Y. MELTZER. *Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ., Northwestern Univ. Med. Sch., Northwestern Univ. Sch. of Med.*

1:00 CC23 **610.21** Increased NKCC1 expression in mPFC pyramidal cells of the subchronic phencyclidine (scPCP) mouse model of schizophrenia causes a depolarizing shift of $GABA_A$ current reversal potential and mediates cognitive impairment. H. KIM; L. RAJAGOPAL; H. Y. MELTZER; M. MARTINA*. *Northwestern Univ. Med. Sch.*

2:00 CC24 **610.22** Epistatic interaction between dopamine D3 receptor and dysbindin modulates cortical functions and behavior related to schizophrenia in human and mice. S. SALOMONE*; G. LEGGIO; S. A. TORRISI; F. DRAGO; F. PAPALEO. *Univ. of Catania, Fondazione Inst. Italiano Di Tecnologia.*

3:00 CC25 **610.23** NLRP3 may not be related to the pathological specific features of schizophrenia. N. KAJITANI*; T. YAMAUCHI; M. IWATA; A. MIURA; T. YAMANASHI; N. KAMIYA; K. TSUNETOMI; M. NAGATA; A. SHIBUSHITA; R. MATSUO; T. NISHIGUCHI; K. WATANABE; K. KANEKO. *Tottori Univ., Nara Med. Univ., Tottori Univ., Tottori Univ., Tottori Univ., Tottori Univ., Tottori Univ., Tottori Univ., Tottori Univ., Watanabe Hosp., Fac Med. Tottori Univ.*

4:00 CC26 **610.24** ▲ Vesicle trafficking mechanisms in BLOC-1 deficiencies. R. DZVURUMI; S. HATCHER; A. LOMBARDO; R. THOMPSON; A. WAGNER; S. CORDERO ROMERO; J. L. LARIMORE*. *Agnes Scott Col.*

1:00 CC27 **610.25** Ndel1 neuropeptidase activity as a potential biomarker of early and late stages of schizophrenia. M. F. H. HAYASHI*. *Unifesp.*

2:00 CC28 **610.26** mTOR complex specific abnormalities in schizophrenia brain. R. CHADHA*; J. H. MEADOR-WOODRUFF. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*

3:00 CC29 **610.27** Treatment of pregnant rats with N-acetylcysteine does not alter kynurenic acid levels in the fetal brain. K. V. SATHYASAIKUMAR*; M. A. R. THOMAS; R. SCHWARCZ. *MPRC, Univ. of Maryland Sch. of Med.*

4:00 CC30 **610.28** Mitigating role of antioxidant supplementation in N-methyl-D-aspartate receptor hypofunction in a Wistar rat model of schizophrenia. O. O. AFOLAYAN*; A. OLAIBI; I. O. ISHOLA; A. O. OKANLAWON. *Univ. of Lagos, Univ. of Lagos.*

1:00 CC31 **610.29** ● MAP2 pathology in schizophrenia: Postmortem patterns and functional consequences. R. A. DEGIOSIO*; R. KELLY; M. GRUBISHA; A. M. DEDIONISIO; J. T. NEWMAN; K. N. FISH; A. R. SAMPSON; D. A. LEWIS; R. A. SWEET. *Univ. of Pittsburgh, Univ. of Pittsburgh, VA Pittsburgh Healthcare Syst., Univ. of Pittsburgh.*

2:00 CC32 **610.30** Olanzapine administration improvement social interaction and reduced neuronal abnormalities in prefrontal cortex and basolateral amygdala induced by animal model of schizophrenia in the rat. R. A. VAZQUEZ-ROQUE*, Sr; D. J. APAM-CASTILLEJOS; H. TENDILLA; A. J. VÁZQUEZ HERNÁNDEZ; G. FLORES. *Benemeita Univ. Autonoma De Puebla, Benemeita Univ. Autonoma De Puebla, Inst. De Fisiología, Benemérita Univ. Autónoma De Puebla, Inst. De Fisiología - BUAP, Univ. Autonoma de Puebla / Inst. de Fisiologia.*

POSTER

611. Spatial Transcriptomics Techniques

Theme I – Techniques

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 CC33 **611.01** ● Spatial gene expression: Resolving the mammalian brain by combining anatomical and sequencing data. C. R. UYTINGCO*; Y. YIN; J. CHEW; M. FREY; S. ZIRALDO; F. MESCHI; A. HARTNETT; E. R. IYER; S. GIACOMELLO; A. JUREK; J. CHELL; S. CHATTERJEE; A. PULEO; J. ABOUSOUD; S. WILLIAMS; E. BORGSTROM; A. HE; N. DSHKHUNYAN; N. WEISENFELD; N. DELANEY; Z. BENT; J. HERSCHLEB; T. S. MIKKELSEN. *10X Genomics.*

2:00 CC34 **611.02** Pairing gene expression and spatial location to learn whole brain patterns of transcription. S. LU*; D. FÜRTH; A. ZADOR; J. GILLIS. *Cold Spring Harbor Lab.*

3:00 CC35 **611.03** Spatial cell type analysis in tissue sections by next generation *in situ* sequencing. M. KÜHNEMUND*; X. QIAN. *CARTANA, Sci. for Life Laboratory, Stockholm Univ.*

4:00 CC36 **611.04** ● ▲ Using *in situ* sequencing to map spatial distribution of brain cell types. X. QIAN*; D. GYLLBORG; M. NILSSON. *Stockholm Univ.*

1:00 CC37 **611.05** Genome-wide *in situ* sequencing. A. PAYNE*; Z. CHIANG; P. REGINATO; E. MURRAY; S. MANGELIMELI; C. YAO; G. CHURCH; J. BUENROSTRO; F. CHEN; E. S. BOYDEN. *MIT, Harvard Univ., Broad Inst., Harvard Med. Sch.*

2:00 CC38 **611.06** Targeted and untargeted *in situ* sequencing in thick, physically magnified brain tissue. A. SINHA*; D. GOODWIN; S. ALON; A. WASSIE; F. CHEN; Y. CUI; Y. BANDO; A. KAJITA; A. PAYNE; C. YAO; A. H. MARBLESTONE; G. M. CHURCH; E. S. BOYDEN. *MIT, MIT, Toshiba Memory America, Inc., Fixstars Solutions Inc., MIT Media Lab., Harvard Med. Sch.*

Tues. PM

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 CC39 **611.07** Slide-seq: A scalable technology for measuring genome-wide expression at high spatial resolution. S. G. RODRIQUES*; R. R. STICKELS; A. GOEVA; C. A. MARTIN; E. MURRAY; C. R. VANDERBURG; J. WELCH; L. CHEN; F. CHEN; E. MACOSKO. *MIT, Harvard University/ Broad Inst., Broad Inst. of Harvard and MIT, The Broad Inst. of Harvard and MIT, Harvard Med. Sch.*

4:00 CC40 **611.08** ● Mixed long-range projections of transcriptomic subtypes of intratelencephalic neurons revealed by *in situ* barcode sequencing. X. CHEN*; Y. SUN; A. M. ZADOR. *Cold Spring Harbor Lab., Cold Spring Harbor Lab.*

1:00 CC41 **611.09** ● Correlation between combinatorial cadherin expressions and neuronal projections revealed by targeted *in situ* sequencing. Y. SUN*; X. CHEN; A. M. ZADOR. *Cold Spring Harbor Lab., Cold Spring Harbor Lab.*

2:00 CC42 **611.10** A spatial-temporal map of the protocadherin expression code in the CNS. W. X. WANG*; J. L. LEFEBVRE. *Hosp. for Sick Children Res. Inst.*

3:00 CC43 **611.11** A spatial census of transcriptomically defined cortical cells. Z. M. MALTZER; T. NGUYEN; E. J. GARREN; R. D. HODGE; J. A. MILLER; T. BAKKEN; J. L. CLOSE*; B. R. LONG; R. NICOVICH; B. TASIC; H. ZENG; E. LEIN. *Allen Inst. for Brain Sci., Allen Inst. For Brain Sci., Allen Inst. For Brain Sci., Allen Inst. For Brain Sci., Allen Inst. For Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

4:00 CC44 **611.12** A high-throughput pipeline for addressing the correspondence problem through spatial transcriptomics in intact tissue. R. NICOVICH*; M. TAORMINA; M. GORHAM; K. BERRY; T. NGUYEN; E. GARREN; B. R. LONG; E. THOMSEN; B. P. LEVI; C. A. BAKER; B. TASIC; J. L. CLOSE; E. LEIN; H. ZENG. *Allen Inst. For Brain Sci., Allen Inst. for Brain Sci., Allen Inst. For Brain Sci., Allen Inst. For Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

1:00 CC45 **611.13** Confirmation and spatial mapping of diverse striatal cells identified by single cell RNA sequencing in the mouse brain at single-cell resolution with a multiplex *in situ* hybridization technology. J. PHATAK; H. LU; L. WANG*; H. ZONG; M. ROUAULT; C. MAY; C. ANDERSON; B. ZHANG; X. MA. *Advanced Cell Diagnostics.*

2:00 CC46 **611.14** Cellular compartment analysis of temporal activity by fluorescent *in situ* hybridization (catFISH) in the rat transcardially perfused brain. A. GHEIDI*; V. KUMAR; C. J. FITZPATRICK; R. ATKINSON; J. D. MORROW. *Univ. of Michigan, Univ. of Michigan.*

POSTER

612. Optic Methods: Development and Applications

Theme I – Techniques

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 CC47 **612.01** Selective behavioral and circuit deficits in adulthood following widespread postnatal excitation of neocortical pyramidal cells. A. BJOREFELDT*; W. E. MEDENDORP; A. PAL; M. L. WADDELL; C. I. MOORE; U. HOCHGESCHWENDER. *Brown Univ., Central Michigan Univ., Central Michigan Univ., Brown Univ., Central Michigan Univ.*

2:00 CC48 **612.02** A new approach to anatomical and functional imaging: Recording and labelling of insect auditory neurons through the intact neurolem. B. HEDWIG*; M. D. ISAACSON; K. KOSTARAKOS. *Univ. of Cambridge, Howard Hughes Med. Institute, Univ. of Graz.*

3:00 CC49 **612.03** Bioluminescence driven control of photosensory proteins. E. L. CRESPO*; G. LAMBERT; N. C. SHANER; U. HOCHGESCHWENDER. *Central Michigan Univ., UCSD, Central Michigan Univ.*

4:00 CC50 **612.04** Modular family of readily interchangeable head-post attachments for drug delivery, imaging, electrophysiology and brain maintenance in awake, behaving mice. J. W. MURPHY*; N. G. FRIEDMAN; D. CELINSKIS; D. LIPSCOMBE; N. C. SHANER; U. HOCHGESCHWENDER; M. GOMEZ-RAMIREZ; C. I. MOORE. *Brown Univ., Brown Univ., Univ. of California at San Diego, Central Michigan Univ.*

1:00 CC51 **612.05** Transsynaptic neuronal activation via bioluminescent optogenetics. R. SCHUMAKER*; M. PRAKASH; A. PAL; E. CRESPO; U. HOCHGESCHWENDER. *Central Michigan Univ.*

2:00 CC52 **612.06** Behavioral outcomes after cerebral ischemic stroke of young adult and aged mice receiving transplantation of iPSC-derived neural progenitor cells and optochemogenetics treatment. Z. Z. WEI; M. J. H. LEE; W. W. ZHONG; A. WU; S. P. YU; L. WEI*. *Anesthesiol./Neurol., Emory Univ. Sch. Med.*

3:00 CC53 **612.07** Use of bioluminescent optogenetics (BL-OG) to enhance motor axon regeneration after peripheral nerve transection and repair. O. C. MISTRETTA; A. J. LOPEZ; C. WYNANS; K. BERGLUND; A. W. ENGLISH*. *Emory Univ. Sch. of Med., Emory Univ., Emory Univ.*

4:00 CC54 **612.08** Chemogenetic activation of GABAergic neurons in dorsal and ventral hippocampus reduces epileptiform discharges in a mouse pentylenetetrazole seizure model. A. M. FERNANDEZ*; S. PARK; K. BERGLUND; C. N. GUTEKUNST; R. E. GROSS. *Emory Univ. Sch. of Med., Georgia Inst. of Technol., Emory Univ., Emory Univ. Sch. of Med., Emory Univ. Sch. Med.*

1:00 CC55 **612.09** Improved membrane trafficking of luminopsins for more efficient optogenetic and chemogenetic control of neuronal activity. K. BERGLUND*; J. Y. ZHANG; J. K. TUNG; Z. WANG; S. YU; R. E. GROSS; L. WEI. *Emory Univ. Sch. of Med.*

2:00 CC56 **612.10** AAV engineering by multiplexed-create selection and rational peptide insertion yields variants with enriched targeting of CNS astrocytes upon systemic delivery. X. CHEN*; S. RAVINDRA KUMAR; X. DING; V. GRADINARU. *Caltech.*

3:00 CC57 **612.11** Approaches towards engineering the neuronal Arc capsid for efficient and targeted RNA delivery. T. DOBREVA*; A. TAIBI; M. FLYNN; X. DING; M. ELOWITZ; J. SHEPHERD; V. GRADINARU. *Caltech, Univ. of Utah.*

4:00 CC58 **612.12** Deep brain optical imaging uncovers motivational salience and prediction error encoding by dorsal raphe dopamine neurons. J. CHO*; X. CHEN; A. KAHAN; D. A. WAGENAAR; V. GRADINARU. *Caltech, Caltech, Caltech.*

1:00 CC59 **612.13** VIP neurons in the suprachiasmatic nucleus of female mice underline the bidirectional influence between estrus cycle and circadian rhythm. A. KAHAN*; G. M. COUGHLIN; V. GRADINARU. *Caltech.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 CC60 **612.14** Development of a two-channel head mounted miniscope for imaging two colors simultaneously in freely moving mice. D. M. KIRCHER*; Z. DONG; T. SHUMAN; D. KLEINFELD; D. B. AHARONI; D. J. CAI; P. A. SLESINGER. *Icahn Sch. of Med. at Mount Sinai, Mount Sinai, Univ. of California at San Diego, UCLA, Mount Sinai, Icahn Sch. of Med. At Mount Sinai.*

3:00 CC61 **612.15** Minian: An open-source miniscope analysis pipeline with interactive visualization tools. Z. DONG*; Y. FENG; W. MAU; L. CHEN; Z. T. PENNINGTON; Y. ZAKI; K. RAJAN; T. SHUMAN; D. AHARONI; D. J. CAI. *Icahn Sch. of Med. At Mount Sinai, Boston Univ., UCLA.*

4:00 CC62 **612.16** FPGA-based real-time processing for integrated electrophysiology and calcium imaging with the UCLA miniscope. Z. CHEN*; G. BLAIR; D. AHARONI; P. GOLSHANI; J. CONG; H. T. BLAIR. *UCLA, UCLA, UCLA.*

1:00 CC63 **612.17** Ccr5 closes the window for contextual memory linking by regulating neuronal ensemble overlap. Y. SHEN*; M. ZHOU; D. CAI; Y. CAI; A. LAVI; D. NECULA; A. LIU; X. KANG; S. HUANG; T. SILVA; A. J. SILVA. *UCLA, Western Univ. of Hlth. Sci., Icahn Sch. of Med.*

2:00 CC64 **612.18** Miniscope neuronex hub: Miniaturized open source devices for calcium imaging, electrophysiology, and real-time control of neural activity. D. AHARONI*; P. ZHAO; M. SEHGAL; L. YANG; Z. CHEN; G. BLAIR; R. RESHEF; S. W. HUR; Y. CAI; F. SANGIULIANO JIMKA; R. CHANG; T. NOEBAUER; A. J. SILVA; A. VAZIRI; H. T. BLAIR, IV; J. CONG; S. C. MASMANIDIS; P. GOLSHANI. *UCLA, Univ. of California Los Angeles, UCLA, Univ. of California Los Angeles, UCLA, UCLA, The Rockefeller Univ., UCLA Med. Ctr., UCLA, UCLA, UCLA, UCLA Dept. of Neurol.*

3:00 CC65 **612.19** Eztrack, an open-source video analysis pipeline for the investigation of animal behavior. Z. T. PENNINGTON*; Z. DONG; R. BOWLER; Y. FENG; L. M. VETERE; T. SHUMAN; D. J. CAI. *Mount Sinai Sch. of Med.*

4:00 CC66 **612.20** MiniFAST (miniscope with a fast and sensitive image sensor and fast locking baseplate). J. JUNEAU*; G. DURET; A. V. RODRIGUEZ; S. MOROZOV; D. AHARONI; J. T. ROBINSON; F. ST-PIERRE; C. KEMERE. *Rice Univ., UCLA, Baylor Col. of Med.*

1:00 CC67 **612.21** Temporal dynamics of spatial information encoding within retrosplenial cortex. M. SEHGAL*; S. MARTIN; A. PEKCAN; D. AHARONI; S. HUANG; A. LAVI; D. J. CAI; A. J. SILVA. *Univ. of California Los Angeles, UCLA, UCLA, Univ. of California, Los Angeles (UCLA), Mount Sinai, UCLA Med. Ctr.*

2:00 CC68 **612.22** ● Registration across *in vivo* neuronal imaging modalities: Miniature microscopes to high resolution microscopy. P. S. XU; S. GULATI; A. M. STAMATAKIS*. *Inscopix.*

3:00 CC69 **612.23** An open source, wireless, miniature microscope for monitoring neuronal activity in macaque monkeys. D. AHARONI; A. FABRO; C. GUO; J. CHOI; D. A. LEOPOLD; R. C. SAUNDERS; B. PESARAN; P. GOLSHANI; M. A. BASSO*. *UCLA, UCLA, UCLA, New York Univ., NIMH, UCLA.*

4:00 CC70 **612.24** Projection specific medial prefrontal cortex and nucleus accumbens neural dynamics underlying social interactions. P. ZHAO*; X. CHEN; W. HONG; D. AHARONI; A. ARAC; P. GOLSHANI. *UCLA, UCLA.*

1:00 CC71 **612.25** The aging hippocampus- Loss of learning-induced excitability in CA1. L. CHEN*; S. RAMIREZ; R. L. CLEM; D. J. CAI. *Icahn Sch. of Med. at Mount Sinai, Boston Univ.*

2:00 CC72 **612.26** ● Large-scale cellular-resolution calcium imaging in 4D during free behavior. K. ZITELLI*; S. XU; S. GULATI; A. STAMATAKIS. *Inscopix, Inc.*

3:00 CC73 **612.27** ● SynTagMA: A new tool for mapping active synapses. B. C. FEAREY*; A. PEREZ-ALVAREZ; C. SCHULZE; R. J. O'TOOLE; W. YANG; I. ARGANDA-CARRERAS; P. J. LAMOTHE-MOLINA; B. MOEYAERT; E. R. SCHREITER; J. S. WIEGERT; C. E. GEE; M. B. HOPPA; T. G. OERTNER. *Univ. Med. Ctr. Hamburg-Eppendorf (UKE), Dartmouth Col., Univ. Med. Ctr. Hamburg-Eppendorf (UKE), Basque Fndn. for Sci., Howard Hughes Med. Institute, Janelia Farm Res. Campus.*

POSTER

613. Physiological Methods: Novel Assays

Theme I – Techniques

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 CC74 **613.01** ● Phenotyping mouse sociability using fully-automatic scoring of social interactions. C. K. E. JUNG*; N. SCHWAERZLER; A. SCHATZ; A. I. ISTUDOR; M. RIVALAN; Y. WINTER. *PhenoSys GmbH, Humboldt Univ. Berlin, Charité - Universitätsmedizin Berlin.*

1:00 DP13/CC75 **613.02** (Dynamic Poster) Continuous recordings of whole-body kinematics across the rodent behavioral repertoire. J. D. MARSHALL*; D. E. ALDARONDO; T. W. DUNN; W. WANG; G. BERMAN; B. OLVECZKY. *Harvard Univ., Duke Univ., Emory Univ.*

1:00 DP14/CC76 **613.03** (Dynamic Poster) Simultaneous pupillometry, calcium recording and fMRI to track brain state changes in the rat. P. PAIS-ROLDÁN*; K. TAKAHASHI; Y. CHEN; H. ZENG; Y. JIANG; X. YU. *Max Planck Inst. For Biol. Cybernetics.*

4:00 CC77 **613.04** A fully automated location bi-conditional spatial memory task using floor projection. V. J. ESTELA*; R. D. BURWELL. *Brown Univ.*

1:00 CC78 **613.05** A novel approach to evaluating social distance processing in rats: Implications for understanding the posterior parietal cortex. T. B. WISE*; R. D. BURWELL; V. L. TEMPLER. *Brown Univ., Providence Col.*

2:00 DD1 **613.06** Characterization of marine gelatin films for potential application in dermal wound healing. D. L. MEDINA BUENO*; A. ESPADAS ALVAREZ; G. VALVERDE AGUILAR; M. ALVAREZ PEREZ; C. QUIROZ REYES; E. GARCIA RAMIREZ; P. VERGARA ARAGON; E. RODRIGUEZ PEREZ. *IPN. CICATA LEGARIA., UNAM, IPN, CICATA LEGARIA.*

3:00 DD2 **613.07** An *in vitro* 3D platform for functional and structural interrogation of neuronal circuits. B. MOLINA MARTINEZ*; P. D. JONES; L. JENTSCH; P. CESARE. *NMI, NMI.*

4:00 DD3 **613.08** ● Gauging relevance and reproducibility of human iPSC-derived 3D neuralspheroids for high throughput neuroscience drug discovery and toxicology testing. A. WHITE; C. CARROMEU; B. D. ANSON*; C. CHAPMAN; C. TOMARO-DUCHESNEAU; M. JOHNSON; J. SEELKE; N. PAIDIMUKKALA; F. ZANELLA; M. PERIS. *Stemonix.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 DD4 **613.09** Analyzing individual neuronal connectomes of cultured network using micropattern. J. KIM*; J. RYU; W. SUN. *Korea University, Col. of Med., Korea University, Col. of Med.*

2:00 DD5 **613.10** Conductive polymer based fiber-eledtrode for bioactivity measurement. K. TORIMITSU*; K. MIURA. *Tohoku Univ.*

3:00 DD6 **613.11** Synaptic E/I receptor ratio preservation during extremely long post-mortem interval. P. SCADUTO*; D. PANDYA; A. LIMON. *UTMB, UTMB.*

4:00 DD7 **613.12** Real time monitoring of the human blood-brain barrier modeled on a microfluidic chip. I. MATTHIESEN*; T. E. WINKLER; D. VOULGARIS; P. NIKOLAKOPOULOU; A. HERLAND. *KTH Royal Inst. of Technol., Karolinska Inst.*

1:00 DD8 **613.13** ● 3D bioprinting of human motor neurons in CELLINK LAMININK. I. REDWAN; J. BLELL; N. DUONG; E. GATENHOLM; K. LAHA; B. DUNGAR*. *CELLINK, Brainxell, Inc., Brainxell.*

2:00 DD9 **613.14** ● A novel tubular neural electrode with a dissolvable core for adaptable flexibility - biocompatibility aspects. J. AGORELIUS*; L. GÄLLENTOFT; L. M. PETTERSSON; C. J. ERIKSSON LINSMEIER; P. THORBERGSSON; J. SCHOUENBORG. *Lund Univ., Lund Univ.*

3:00 DD10 **613.15** Multi dry electrode plate sensor for noninvasive assessment of the role of central nervous system in cardiac autonomic control in response to emotional and physical stressors. S. SATO*. *Akita Univ. Grad. Sch. of Med.*

4:00 DD11 **613.16** ▲ Polymer modified carbon-fiber microelectrodes for the simultaneous detection of neurotransmitters. A. G. ZESTOS*; D. RAJU; P. WONNENBERG. *American Univ.*

1:00 DD12 **613.17** Amygdalo-cortical networks revealed by high-field fmri during infrared neural stimulation of amygdalar subnuclei in the macaque monkey. Y. RUI*; A. XU; J. WANG; S. SHI; A. EDATHODATHIL; K. M. GOTHARD; A. W. ROE. *Interdisciplinary Inst. of Neurosci. and Technology, Zhejiang Univ. Sch. of Med., Key Lab. of Biomed. Engin. of Ministry of Education, Col. of Biomed. Engin. and Instrument Science, Zhejiang Univ., Univ. Arizona, Col. Med.*

POSTER

614. Biomarker and Drug Discovery: Neurodegenerative Diseases

Theme I – Techniques

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 DD13 **614.01** Human iPSC-derived neural 3D cultures provide a novel high-throughput screening platform for drug discovery. C. B. ANDERSEN*; A. FENTON; T. CHU; R. GORDON; F. ZANELLA; O. GUICHERIT; C. CARROMEU. *Stemonix.*

2:00 DD14 **614.02** Human 2D neural cells and 3D brain organoids resembling neuronal networks for high throughput assays. J. FAN*; A. WANG; T. ZOU; Q. LIU; F. REN; Y. YAN; Z. LU; J. XU. *Hopstem Biotech. Co. Ltd.*

3:00 DD15 **614.03** *In vivo* monitoring of cholinergic neurotransmission with a microelectrochemical choline biosensor. S. DOYLE; M. M. DORAN; K. L. BAKER; C. CUNNINGHAM; J. P. LOWRY*. *Maynooth Univ., Trinity Col. Dublin.*

4:00 DD16 **614.04** Skin-brain biomarkers. R. A. NORMAN*; M. JIMENEZ-CAPDEVILLE; I. RODRÍGUEZ-LEYVA. *Robert A. Norman, D.O., P.A., Univ. Autónoma de San Luis Potosí, Hosp. "Ignacio Morones Prieto".*

1:00 DD17 **614.05** ● Non-invasive peripheral nerve interfacing platform for reliable and quantitative tracking of nerve function. A. HARRISON; M. SONNTAG; E. BROWN; A. J. PREYER; I. P. CLEMENTS*. *BioCircuit Technologies, Axion BioSystems.*

2:00 DD18 **614.06** Sensitivity of the MRI water proton resonance to myelin. S. FOXLEY*; G. WILDENBERG; V. SAMPATHKUMAR; P. BRUGAROLAS; B. J. POPKO; N. B. KASTHURI. *Univ. of Chicago, Univ. of Chicago, Harvard Med. Sch., Univ. of Chicago.*

3:00 DD19 **614.07** An MR tractography-based study of the impaired white matter integrity along medial longitudinal fasciculus in MS patients with internuclear ophthalmoplegia. A. GHAYOOR*; X. WANG; K. KANHAI; O. R. THON; J. HESTERMAN; A. VERMA; G. J. GROENEVELD; K. C. EVANS. *Invicro, LLC, Ctr. for Human Drug Res., Drexel Univ. Col. of Med., Precision for Med., Biogen.*

4:00 DD20 **614.08** Magnetic resonance imaging corresponds to worsening behavior and gross demyelination in MOG_{35-55} induced experimental autoimmune encephalomyelitis. C. L. PATEL; M. D. MEADOWCROFT; P. J. MCLAUGHLIN*. *The Pennsylvania State Univ. Col. of Med., The Pennsylvania State Univ. - Col. of Med., Penn State Univ. Coll Med.*

1:00 DD21 **614.09** Improved experimental autoimmune encephalomyelitis mice recovery by intravenous injection of conditioned culture medium of induced mesenchymal stem/stromal cells derived from human iPSCs. R. DENG*; A. LAW; Q. DU; K. R. BOHELER; G. CHAN; J. SHEN. *The Univ. of Hong Kong, The Univ. of Hong Kong, The Univ. of Hong Kong.*

2:00 DD22 **614.10** Advancing Alzheimer's disease and related dementias research via a multiple-pronged human biospecimen collection initiative. M. W. VONDRAN*; S. SHAD; Z. MOURELATOS; G. KOPEN; T. J. BELL. *Natl. Dis. Res. Interchange, Univ. of Pennsylvania, Perelman Sch. of Med.*

3:00 DD23 **614.11** Structure based design and molecular docking studies for phosphorylated tau inhibitors in Alzheimer's disease. J. PRADEEPKIRAN*; P. HEMACHANDRA REDDY. *Texas Tech. Hlth. Sci. Ctr.*

4:00 DD24 **614.12** Apelin reduces amyloid β generation by attenuating endoplasmic reticulum stress-induced BACE1 expression. Y. WU*; X. WANG; H. LU; Q. ZHAO; Y. ZAI. *Jining Med. Univ., Jining Med. Univ.*

1:00 DD25 **614.13** Cerebrospinal fluid ecto-GPR37 in Parkinson's disease. F. CIRUELA*; X. MORATÓ; P. GARCIA-ESPARCIA; V. FERNÁNDEZ-DUEÑAS; I. FERRER; P. SVENNINGSSON. *IDIBELL-Universitat de Barcelona, Dept. of Clin. Neuroscience; Karolinska Institutet.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 DD26 **614.14** ▲ Identification of dopamine and 5-S-cysteinyl-dopamine as Parkinson's disease biomarkers in complex simulated body fluids and their detection by surface enhanced Raman spectroscopy. I. BADILLO-RAMÍREZ*; J. M. SANIGER; A. MÜHLIG; D. CIALLA-MAY; J. POPP. *Univ. Nacional Autónoma de México, Leibniz Inst. of Photonic Technol., Inst. of Physical Chem. and Abbe Ctr. of Photonics, Friedrich-Schiller-University Jena.*

3:00 DD27 **614.15** Development of a novel positron emission tomographyradioligand for neuroimaging in preclinical Parkinson's disease. S. SUBBURAJU*; A. W. SROMEK; P. SEEMAN; J. L. NEUMEYER. *McLean Hospital, Harvard Med. Sch., McLean Hospital, Harvard Med. Sch., Univ. of Toronto.*

4:00 DD28 **614.16** ● Assessment of disease progression in early onset Parkinson's disease (EOPD) patients using transcranial sonography (TCS) and hemisphere specific neuropsychological testing. S. RAVI*; B. MULLEN; V. SHIVKUMAR; D. WAGNER; D. DANG; M. P. SUBRAMANIAN; T. GILMOUR; J. WANG; P. ESLINGER; K. VENKITESWARAN; T. SUBRAMANIAN. *Pennsylvania State Univ. Col. of Med., Penn State Col. of Med., Marshall Univ. Med. Ctr., Penn State Col. of Med., Penn State Col. of Med., John Brown Univ., Penn State Col. of Med.*

1:00 DD29 **614.17** Longitudinal magnetic resonance imaging of an alpha-synuclein pathology mouse model. W. T. CHU*; J. C. DESIMONE; C. J. RIFFE; H. LIU; P. CHAKRABARTY; B. I. GIASSON; D. E. VAILLANCOURT. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

2:00 DD30 **614.18** ▲ Development of a novel ELISA methods for quantification of phosphorylated S^{129}-α-synuclein in biological samples. K. BIGGS*; S. HORNUNG; S. DUTTA; G. BITAN. *UCLA, Tech. Univ. of Munich, UCLA, UCLA.*

3:00 DD31 **614.19** ● A mobile platform to assess cognition in amyotrophic lateral sclerosis. T. KANGARLOO*; A. GUPTA; S. PAGANONI; S. CHEW; E. COLLINS; A. STEINMAN; J. SEVERSON; J. BERRY; J. D. COSMAN. *Biogen, Massachusetts Gen. Hosp., Digital Artefacts.*

4:00 DD32 **614.20** RNA sequencing of cerebellar white matter reveals a potential role of APP and endothelial cell genes in cerebellar multiple system atrophy pathogenesis. I. S. PIRAS*; C. BLEUL; I. SCHRAUWEN; J. S. TALBOOM; M. DE BOTH; M. NAYMIK; G. M. HALLIDAY; J. HOLTON; G. E. SERRANO; L. I. SUE; T. G. BEACH; M. J. HUENTELMAN. *Translational Genomics Res. Inst., Columbia Univ. Med. Ctr., The Univ. of Sydney, Queen Square Brain Bank for Neurolog. Disorders, Banner Sun Hlth. Res. Inst.*

1:00 DD33 **614.21** Immune response in ischemic stroke and intracerebral hemorrhage in neutrophils and whole blood. P. CARMONA-MORA*; B. P. ANDER; G. JICKLING; X. ZHAN; B. KNEPP; F. HAMADE; H. HULL; E. FERINO; H. AMINI; F. R. SHARP; B. STAMOVA*. *Univ. of California, Davis Sch. of Med.*

2:00 DD34 **614.22** Development of a quantitative approach for comprehensive analysis of rare disease biomarkers and progression in a preclinical model for CLN2 Batten disease. L. LANGIN*; K. LEHTIMÄKI; T. BRAGGE; J. BRUDVIG; T. B. JOHNSON; D. TIMM; A. J. NURMI; D. A. PEARCE; J. T. PUOLIVALI; J. M. WEIMER. *Sanford Res., Charles River Discovery, Sanford Res., Sanford Res., Sanford Res. Ctr., Sanford Res.*

3:00 DD35 **614.23** Exogenous flupirtine and flupirtine aromatic carbamate derivative as a potential treatment for CLN3 disease. J. MAKOUKJI*; K. MAALOUF; S. SAAB; B. VAIDYA; A. CARMONA; P. C. TRIPPIER; R. BOUSTANY. *American Univ. of Beirut, Texas Tech. Univ. Hlth. Sci. Ctr.*

4:00 DD36 **614.24** Magnetization transfer imaging in the adrenomyeloneuropathy spinal cord shows potential suitability as a longitudinal biomarker for clinical trial. B. R. TURK*; R. LAWLESS; M. KAUFMAN; J. L. KELLER; K. M. ZACKOWSKI; G. V. RAYMOND; A. J. BASTIAN; A. FATEMI; S. A. SMITH. *Kennedy Krieger Inst., Vanderbilt Inst. of Imaging Sci., Penn State Children's Hosp.*

1:00 DD37 **614.25** ● Bruteforcing hard targets in neuroscience with computational immuno engineered SuperHuman 2.0 and Tungsten 1.0 VHH. S. YOUSSEF; S. IVES; D. MAURER; V. CHIOU; C. PETTUS; R. NEWLAND; S. DARAEIKIA; C. JONES; K. HERVOLD; G. DAY; C. SMITH; C. S. PERITORE*; I. WADDELL; J. GLANVILLE. *Distributed Bio, Charles River Labs, Charles River Labs.*

POSTER

615. Neuronal Models of Activity and Disease

Theme I – Techniques

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 DD38 **615.01** Improved multi-objective optimization for large-scale neuron models. A. ABOUZEID*; W. KATH. *Northwestern Univ.*

2:00 DD39 **615.02** Minimum number of voltage-gated channels in a biophysical conductance-based model that can predict spike-timing in neurons with short-term adaptation. A. R. ASILADOR*; R. RATNAM. *Univ. of Illinois at Urbana-Champaign, Ahmedabad Univ.*

3:00 DD40 **615.03** Automating development of biophysical single cell models. Q. WEI*; T. BANKS; B. LATIMER; Z. CHEN; S. S. NAIR. *Univ. of Missouri - Columbia, Univ. of Missouri, Univ. of Missouri Columbia, Univ. of Missouri Columbia.*

4:00 DD41 **615.04** Combined biophysical and statistical modeling pipeline for investigating roles of ion channels in stimulus encoding. N. G. GLASGOW*; Y. CHEN; A. KORNGREEN; R. E. KASS; N. N. URBAN. *Univ. of Pittsburgh, Carnegie Mellon Univ., Bar-Ilan Univ., Carnegie Mellon Univ.*

1:00 DD42 **615.05** Using convolutional neural networks to predict ion-channels densities in single neuron biophysical models. R. BEN-SHALOM*; J. BALEWSKI; V. BARATHAM; A. SITHTHARANJAN; H. KYOUNG; K. KIM; K. J. BENDER; K. E. BOUCHARD. *UCSF, Lawrence Berkeley Natl. Labs, Univ. of California, UCSF.*

2:00 DD43 **615.06** Identifying and mitigating statistical biases in neural models of tuning and functional coupling. P. SACHDEVA*; M. DOUGHERTY; S. BHATTACHARYYA; K. E. BOUCHARD. *Univ. of California, Berkeley, Lawrence Berkeley Natl. Lab., Oregon State Univ.*

3:00 DD44 **615.07** ● Striatal population models of ionic conductances reveal mechanisms for conversion among healthy, disease, and drug-treated phenotypes. S. ALLAM*; T. RUMBELL; T. M. HOANG TRONG; J. KOZLOSKI. *IBM Res.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 DD45 **615.08** Investigation of factors affecting burst firing patterns of a thalamocortical neuron: Computational NEURON model study. S. PARK*; J. CHO; Y. HUH. *Catholic Kwandong Univ.*

1:00 DD46 **615.09** ● Dopamine neuron population modeling and intracellular pathway modulation in a nigrostriatal model. T. RUMBELL*; T. M. HOANG TRONG; S. ALLAM; J. KOZLOSKI. *IBM Res., IBM - TJ Watson Resch Ctr.*

2:00 DD47 **615.10** Efficient *in silico 3D intracellular neuron simulation.* A. J. H. NEWTON; C. CONTE; L. EGGLESTON; E. BLASY; M. L. HINES; W. W. LYTTON; R. A. MCDOUGAL*. *Yale Sch. of Med., Yale Univ., Yale Univ., SUNY Downstate.*

3:00 DD48 **615.11** Particle swarm optimization of a nonlinear cable model of an autonomic c-fiber axon. B. THIO*; N. A. PELOT; D. CATHERALL; W. M. GRILL. *Duke Univ.*

4:00 DD49 **615.12** Modulation of slow gating kinetics of ion channels causes a gradual change in neuron excitability. J. A. BROEK*; G. DRION. *Univ. Liege, Univ. of Liege.*

1:00 DD50 **615.13** ● Computational model of neural recordings in dorsal root ganglia. M. KADWANI*; R. D. GRAHAM; Z. J. SPERRY; S. F. LEMPKA; T. M. BRUNS. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

2:00 DD51 **615.14** Anatomo-functional description and computer modeling of topographically organized fiber clusters in the rat vagus nerve. M. I. ROMERO-ORTEGA*; M. A. GONZÁLEZ-GONZÁLEZ; A. WELLS; A. M. CASSARA; N. KUSTER; E. NEUFELD. *Univ. of Texas at Dallas, The Univ. of Texas at Dallas, The Univ. of Texas At Austin, IT'IS Fndn., ETH Zurich & IT'IS Fndn., IT'IS Fndn.*

3:00 DD52 **615.15** Agent based modeling of neural development with NeuroMaC. E. DE SCHUTTER*; M. KATO. *Okinawa Inst. of Sci. and Technol.*

4:00 DD53 **615.16** Homeostasis and spreading depolarization in multiscale simulation of in ischemic stroke. A. J. H. NEWTON*; M. L. HINES; W. W. LYTTON; R. A. MCDOUGAL. *Yale Sch. of Med., Yale Sch. of Med., SUNY Downstate, SUNY Downstate, Kings County Hosp. Ctr.*

1:00 DD54 **615.17** A multiscale modeling framework to understand and optimize ultrasound neuromodulation. T. LEMAIRE*; E. NEUFELD; S. MICERA. *Ecole Polytechnique Federale De Lausanne, IT'IS Fndn.*

2:00 DD55 **615.18** ▲ Modular software for drift diffusion model tested with striatal neuronal populations. E. LARA-GONZALEZ*; M. DUHNE; M. GARCÍA-MATA. *Univ. Nacional Autónoma de México, Inst. De Fisiologia Celular UNAM, Facultad de Ciencias, Univ. Nacional Autónoma de México.*

3:00 DD56 **615.19** State-dependent effects of electrical stimulation on populations of excitatory and inhibitory neurons. C. CAKAN*; K. OBERMAYER. *Technische Univ. Berlin.*

4:00 DD57 **615.20** ● Employing support vector machines to identify functionally distinct fMRI resting state networks. R. T. PHILIPS*; S. TORRISI; M. ERNST; C. GRILLON. *NIH, UC Berkeley and Advanced MRI Technologies, LLC.*

1:00 DD58 **615.21** A comprehensive biophysical model of substantia nigra pars compacta cells for understanding Parkinsonian neurodegeneration. V. R. MUDDAPU*; S. V. CHAKRAVARTHY. *IIT Madras.*

2:00 DD59 **615.22** Computational modeling of neural activation during transcranial photothermal stimulation. M. BHATTACHARYA*; A. DUTTA. *Univ. at Buffalo.*

POSTER

616. Network Modeling and Application

Theme I – Techniques

Tue. 1:00 PM – *McCormick Place, Hall A*

1:00 DD60 **616.01** Multiplicative modulations enhance unique hue representation in V4. P. MEHRANI*; J. K. TSOTSOS. *York Univ.*

2:00 DD61 **616.02** The BEL model, a literature data-based approach with a new concept of target identification. K. BORNEMANN*; M. VON HEIMENDAHL; N. LAWLESS; T. SCHWEIKARDT; A. EMON; D. DOMINGO-FERNANDEZ; S. SPRINGSTUBBE; M. HOFMANN-APITIUS; B. HENGERER. *Boehringer Ingelheim Pharma GmbH & Co. KG, Fraunhofer Inst. for Scientific Computing and Algorithms.*

3:00 DD62 **616.03** Model-based multivariate mapping of the visual hierarchy with image synthesis. J. D. WAMMES*; D. L. K. YAMINS; K. A. NORMAN; N. B. TURK-BROWNE. *Yale Univ., Stanford Univ., Princeton Univ., Yale Univ.*

4:00 DD63 **616.04** An ultra-low complexity of the transcriptional profile of the human brain. J. HUA*; Z. YANG; T. JIANG; S. YU. *Inst. of Automation, Chinese Acad. of Sci.*

1:00 DD64 **616.05** Contribution of noise, chaos and network topology to the emergence of multi-stable dynamics in neuronal networks. P. ORIO*; C. CORONEL; J. PALMA-ESPINOSA; M. GATICA; S. CASTRO. *Univ. De Valparaiso, Univ. de Valparaiso.*

2:00 DD65 **616.06** Semibalanced networks and inhibitory plasticity implement nonlinear computations. C. BAKER*; R. ROSENBAUM. *Univ. of Notre Dame, Univ. of Notre Dame.*

3:00 DD66 **616.07** Hierarchical levels of predictive coding play different roles in second-language learning. Z. TANG*; Z. KE; H. WEI; X. MIN. *Shenzhen Univ., Beijing Normal Univ., Educational Res. Ctr. of Nanshan Educ. Bureau.*

4:00 DD67 **616.08** ▲ An autoregressive mathematical model for reproducing neuronal responses with respect to various types of spiking. S. HIRAI*; A. MASAOKA; T. KOHAMA. *Kindai Univ., Tamagawa Univ., Kindai Univ.*

1:00 DD68 **616.09** ● A rapid online learning network derived from biological olfaction. A. BORTHAKUR*; T. A. CLELAND. *Cornell Univ., Cornell Univ.*

2:00 DD69 **616.10** Exploring the redundancy of resting-state functional network connectivity. K. M. OUDYK*; Z. QI; R. MARKELLO; E. DUPRE; B. MISIC; J. POLINE. *McGill Univ.*

3:00 DD70 **616.11** Deep learning based activity recognition of daily livings with wearable sensors for stroke survivors and non-disabled controls. S. KIM*; Y. SHIN; S. CHOI; J. LIM; Y. OH. *Jeonju Univ., Dankook Univ., Samsung Electronics.*

4:00 DD71 **616.12** Biophysical model of IL-BLA network to study DBS-induced changes in theta coherence. Z. CHEN*; Z. CHEN; F. FENG; E. BLACKWOOD; M. LO; A. S. WIDGE; S. S. NAIR. *Univ. of Missouri Columbia, Univ. of Missouri Columbia, Univ. of Minnesota.*

1:00 DD72 **616.13** *In vivo* swine model for developing and validating acoustoelectric brain imaging: Towards noninvasive, real-time 4D electrical brain mapping. C. WILHITE; A. ALVAREZ; A. BURTON; C. PRESTON; D. MUSTACICH; A. FUGLEVAND; K. GOTHARD; S. COWEN; R. S. W. WITTE*. *Univ. of Arizona.*

2:00 DD73 **616.14** Human brain-to-brain entanglement states during eye contact. R. LEE*. *Columbia Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 DD74 **616.15** Optimal force production via flexible neural control of motor units. N. J. MARSHALL*; L. ABBOTT; M. M. CHURCHLAND. *Columbia Univ.*

• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

Conflict of Interest Statements

The following presenters, signified by a dot (•) in the program, indicated a real or perceived conflict of interest. Presenters listed without a dot in the program had no financial relationships to disclose.

PRESENTATION NUMBER	STATEMENT
436.05	**C.A. Walsh:** F. Consulting Fees (e.g., advisory boards); Third Rock Ventures.
437.03	**M. Gandal:** A. Employment/Salary (full or part-time); UCLA/ Semel-Institute.
438	**A.T. Schaefer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Paradromics, Inc..
438.02	**A.T. Schaefer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Paradromics, Inc..
438.05	**M. Nilsson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cartana AB.
439.07	**P.A. Starr:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); free implantable devices supplied by Medtronic Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); US patent 9,295,838. Methods and systems for treating neurological movement.
441	**N. Hogan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); I own stock in Bionik Laboratories, which manufactures technology for robot-aided neuro-rehabilitation. F. Consulting Fees (e.g., advisory boards); I am a member of the scientific advisory board of Bionik Laboratories.
443	**L. Tsai:** A. Employment/Salary (full or part-time); Massachusetts Institute of Technology. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Scientific co-Founder of Cognito Therapeutics. F. Consulting Fees (e.g., advisory boards); Scientific Advisory Board Member of Cognito Therapeutics.
444.07	**B.J. Connor:** A. Employment/Salary (full or part-time); The University of Auckland. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; The University of Auckland. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The University of Auckland.
445.05	**M. Masnaghetti:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Neurona Therapeutics. **J. Leedy:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Neurona Therapeutics. **S. Mehrabani:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **J. Spatazza:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **L.C. Fuentealba:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **S. Lee-Sertorio:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Neurona Therapeutics. **M. Bershteyn:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **H. Nethercott:** A. Employment/ Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **S. Kriks:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **C.A. Priest:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Neurona Therapeutics. **C.R. Nicholas:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics.
445.06	**S.C. Broeer:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Neurona Therapeutics. **M.B. Parekh:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **L.C. Fuentealba:** A. Employment/ Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **J. Spatazza:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Neurona Therapeutics. **W. Blankenberger:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **J. Leedy:** A. Employment/ Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **M. Masnaghetti:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Neurona Therapeutics. **A. Spasova:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **H. Nethercott:** A. Employment/ Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **S. Kriks:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **S. Lee:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **C.A. Priest:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/

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	patent holder, excluding diversified mutual funds); Neurona Therapeutics. **C.R. Nicholas:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics.
445.07	**W. Blankenberger:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **S.C. Broeer:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **M.B. Parekh:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **L.C. Fuentealba:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **J. Spatazza:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **J. Leedy:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **M. Masnaghetti:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **C. Abilay:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **C.R. Nicholas:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. **C.A. Priest:** A. Employment/Salary (full or part-time); Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics.
446.11	**J.F. Abisambra:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Contract with GlaxoSmithKline who especially provided the drug used in the study..
446.12	**E.M. Sigurdsson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on a patent application assigned to NYU.
447.05	**K.V. Kastanenka:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NeuroBo, Boston, United States, Dong-A, Seoul, Korea. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NeuroBo, Boston, United States, Dong-A, Seoul, Korea. **M. Sohn:** A. Employment/Salary (full or part-time); Dong-A. **S. Choi:** A. Employment/Salary (full or part-time); Dong-A. **H. Go:** A. Employment/Salary (full or part-time); Dong-A. **B.J. Bacskai:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NeuroBo, Boston, USA, Dong-A, Seoul, Korea. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NeuroBo, Boston, USA, Dong-A, Seoul, Korea.
447.09	**E.J. Davidowitz:** A. Employment/Salary (full or part-time); Oligomerix, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oligomerix, Inc. **P. Lopez:** A. Employment/Salary (full or part-time); Oligomerix, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oligomerix, Inc. **P. Davies:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oligomerix, Inc. **J.G. Moe:** A. Employment/Salary (full or part-time); Oligomerix, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oligomerix, Inc..
449.07	**K. Koshibu:** A. Employment/Salary (full or part-time); PMI (full time). **J. Ho:** A. Employment/Salary (full or part-time); PMI (full time). **W. Xia:** A. Employment/Salary (full or part-time); PMI (full time). **A. Kondylis:** A. Employment/Salary (full or part-time); PMI (full time). **L. Garcia:** A. Employment/Salary (full or part-time); PMI (full time). **K. Luettich:** A. Employment/Salary (full or part-time); PMI (full time). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PMI, Vertex Pharmaceuticals. **B. Phillips:** A. Employment/Salary (full or part-time); PMI (full time). **J. Hoeng:** A. Employment/Salary (full or part-time); PMI (full time). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PMI. **M. Peitsch:** A. Employment/Salary (full or part-time); PMI (full time). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PMI.
453.02	**A. Bobadilla:** A. Employment/Salary (full or part-time); MUSC. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIDA 1K99DA046522-01A1. **E. Dereschewitz:** A. Employment/Salary (full or part-time); MUSC. **M.D. Scofield:** A. Employment/Salary (full or part-time); MUSC. **P.W. Kalivas:** A. Employment/Salary (full or part-time); MUSC. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH DA 003906 and DA12513.
456.10	**G.A. Devenyi:** F. Consulting Fees (e.g., advisory boards); MIAC AG.
458.04	**M. Chiesa:** A. Employment/Salary (full or part-time); Neurochlore. **B. Riffault:** A. Employment/Salary (full or part-time); Neurochlore. **H. Rabiei:** A. Employment/Salary (full or part-time); Neurochlore. **D.C. Ferrari:** A. Employment/Salary (full or part-time); Neurochlore. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurochlore. **Y. Ben-Ari:** A. Employment/Salary (full or part-time); Neurochlore. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurochlore.
459.14	**E. Arnold:** A. Employment/Salary (full or part-time); The Ohio State University Wexner Medical Center. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Curemark, Forest, Lilly, Neuropharm, Novartis, Noven, Shire, Supernus, Roche, YoungLiving, Autism Speaks. F. Consulting Fees (e.g., advisory boards);

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	Gowlings, Neuropharm, Organon, Pfizer, Sigma Tau, Shire, Tris Pharma, Waypoint, Arbor, Ironshore, Novartis, Noven, Otsuka, Pfizer, Roche, Seaside Therapeutics.
464.14	**P.L. Purdon:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on patents pending on brain monitoring technologies assigned to Massachusetts General Hospital, Inventor on a patent assigned to Massachusetts General Hospital and licensed non-exclusively to Masimo Corporation. Other; Co-Founder of PASCALL Systems, Inc., a start-up company developing closed-loop physiological control systems.
464.15	**E.N. Brown:** A. Employment/Salary (full or part-time); Massachusetts General Hospital, Massachusetts Institute of Technology. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; National Institutes of Health (Bethesda, MD): R01 GM104948 (to E.N.B.) and P01GM118269 (to E.N.B.), Department of Anesthesia, Critical Care and Pain Medicine,Massachusetts General Hospital, Boston, MA, Picower Institute for Learning and Memory, Massachusetts Institute of Technology, Cambridge, MA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Massachusetts General Hospital has licensed intellectual property for EEG monitoring developed by Drs. Brown and Purdon to Masimo, Drs. Brown and Purdon hold interests in PASACALL, a start-up company developing EEG-based anesthetic state control systems for anesthesiology. **P.L. Purdon:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on patents pending on brain monitoring technologies assigned to Massachusetts General Hospital, Inventor on a patent assigned to Massachusetts General Hospital and licensed non-exclusively to Masimo Corporation, Co-Founder of PASCALL Systems, Inc., a start-up company developing closed-loop physiological control systems.
464.17	**M.A. Wilson:** A. Employment/Salary (full or part-time); Massachusetts Institute of Technology. **P.L. Purdon:** A. Employment/Salary (full or part-time); Massachusetts General Hospital. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PASCALL Systems, Inc., IP licensed to Masimo Corporation, IP for brain monitoring assigned to MGH. **E.N. Brown:** A. Employment/Salary (full or part-time); Massachusetts General Hospital, Massachusetts Institute of Technology. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PASCALL Systems, Inc., IP licensed to Masimo Corporation. **F.J. Flores:** A. Employment/Salary (full or part-time); Massachusetts General Hospital.
464.18	**E.N. Brown:** A. Employment/Salary (full or part-time); MGH, MIT. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; R01GM104948, P01GM118269, Department of Anesthesia, Critical Care and Pain Medicine, MGH, Boston, MA, The Picower Institute for Learning and Memory, MIT, Cambridge, MA.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Receipt of intellectual property: Massachusetts General Hospital has licensed intellectual property for EEG monitoring developed by Drs. Brown and Purdon to Masimo. Drs. Brown and Purdon hold interest. **P.L. Purdon:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); —Inventor on patents pending on brain monitoring technologies assigned to Massachusetts General Hospital —Inventor on a patent assigned to Massachusetts General Hospital and licensed non-exclusively t.
465.04	**C.G. McNamara:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent pending. **A. Sharott:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent pending.
465.05	**H. Cruces_Solis:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma GmbH & Co. KG. **H. Rosenbrock:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma GmbH & Co. KG. **N. Schuelert:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma GmbH & Co. KG.
465.06	**G.A. Worrell:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Worrell and Mayo Clinic have a financial interest related to technologies licensed to Cadence Neuroscience Inc. and NeuroOne Inc..
465.10	**M.W. Slutzky:** F. Consulting Fees (e.g., advisory boards); Strategic Advisory Board for Battelle.
465.17	**L.C. Parra:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); City college of new york. **M. Bikson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); City college of new york.
468.03	**A.K. Ghosh:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); K&P Scientific LLC, EyeNOS Inc., Experimentica Ltd.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); EyeNOS Inc.. F. Consulting Fees (e.g., advisory boards); K&P Scientific LLC. **S. Kaja:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Experimentica Ltd., K&P Scientific LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Experimentica Ltd., K&P Scientific LLC.
468.14	**T. Subramanian:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH R01, Penn State College of Medicine. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Adamas, Teva, Acadia, US World Meds. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Tyler Francis Publishing, Adamas, Teva, Acadia, US World Meds.
468.16	**T. Liston:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Astrocyte Pharmaceuticals inc. **J.D. Lechleiter:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Astrocyte Pharmaceuticals inc..
469.14	**N.V. Dos Santos:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; FAPESP (16/22793-0), CNPq. **P.H. Saldiva:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; FAPESP (13/21728-2; 16/23129-7, 16/22793-0, 16/03461-7), CNPq.
470.05	**E. Wang:** Other; Advanced Genomic Technology LLC, during the conduct of the study.

PRESENTATION NUMBER	STATEMENT
470.07	**L. Aguilar Hernández:** A. Employment/Salary (full or part-time); CONACYT.
471.01	**B.F. O'Hara:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Jazz Pharmaceuticals; Signal Solutions LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Signal Solutions LLC; Gismo Therapeutics. F. Consulting Fees (e.g., advisory boards); Gismo Therapeutics. **M.P. Murphy:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; GISMO Therapeutics.
471.14	**B. Koopmans:** A. Employment/Salary (full or part-time); Sylics (Synaptologics BV). **M.E. Schoenberg:** A. Employment/Salary (full or part-time); Sylics (Synaptologics BV). **M. Loos:** A. Employment/Salary (full or part-time); Sylics (Synaptologics BV).
471.20	**S.G. Lacoursiere:** A. Employment/Salary (full or part-time); University of Lethbridge. **M.H. Mohajerani:** A. Employment/ Salary (full or part-time); University of Lethbridge. **D.A. Westaway:** A. Employment/Salary (full or part-time); University of Alberta. **R.J. Sutherland:** A. Employment/ Salary (full or part-time); University of Lethbridge.
472.01	**M. Loos:** A. Employment/Salary (full or part-time); Sylics (Synaptologics BV). **R. Crespo:** A. Employment/ Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson and Johnson. **J. van Ameijde:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson and Johnson. **B. Ziere:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson and Johnson. **M. Verhage:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sylics (Synaptologics BV). **A.B. Smit:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Sylics (Synaptologics BV). **A. Apetri:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson and Johnson.
472.05	**H. Demuth:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Probiodrug AG, Halle.
472.10	**S.M. Strittmatter:** Other; holds intellectual property rights related to Prion protein, mGluR5, Fyn and Pyk2 in Alzheimer Disease treatment and is a founder of Allyx Therapeutics with equity ownership.
472.11	**H. Patel:** A. Employment/Salary (full or part-time); Abbvie. **N. Venkat:** A. Employment/Salary (full or part-time); Abbvie. **J. Wu:** A. Employment/Salary (full or part-time); Abbvie. **T. Kwon:** A. Employment/Salary (full or part-time); Abbvie. **J. Manos:** A. Employment/Salary (full or part-time); Abbvie. **K. Titterton:** A. Employment/Salary (full or part-time); Abbvie. **C. Preiss:** A. Employment/Salary (full or part-time); Abbvie. **H. Wu:** A. Employment/Salary (full or part-time); Abbvie. **X. Langlois:** A. Employment/Salary (full or part-time); Abbvie. **K. Yanamandra:** A. Employment/ Salary (full or part-time); Abbvie.
472.18	**D.J. Baker:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Unity Biotechnology.
473.11	**C. Moussa:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Charbel Moussa is an inventor on issued US Georgetown University patents to use USP13 inhibitors as a treatment for neurodegenerative diseases..
473.12	**G. Chen:** Other; Co-founder of NeuExcell.
474.01	**D.F. Fischer:** A. Employment/Salary (full or part-time); Charles River. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Charles River on behalf of CHDI. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Charles River. **M. Atalar:** A. Employment/Salary (full or part-time); Charles River. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Charles River on behalf of CHDI. **L. van Beek:** A. Employment/ Salary (full or part-time); Charles River. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Charles River on behalf of CHDI. **L. Bishop-Currey:** A. Employment/Salary (full or part-time); Charles River. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Charles River on behalf of CHDI. **H. Li:** A. Employment/Salary (full or part-time); Charles River. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Charles River on behalf of CHDI. **Z. Day:** A. Employment/Salary (full or part-time); Charles River. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Charles River on behalf of CHDI. **M. Fokkelman:** A. Employment/Salary (full or part-time); Charles River. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Charles River on behalf of CHDI. **A. Zuurmond:** A. Employment/Salary (full or part-time); Charles River. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Charles River on behalf of CHDI. **J. DeGroot:** A. Employment/Salary (full or part-time); Charles River. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Charles River on behalf of CHDI. **P. Mitchell:** A. Employment/Salary (full or part-time); Charles River. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Charles River on behalf of CHDI. **J. Greene:** A. Employment/Salary (full or part-time); Rancho Biosciences. B. Contracted Research/ Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Rancho Biosciences on behalf of CHDI. **G. McAllister:** A. Employment/Salary (full or part-time); CHDI Foundation. **D. Macdonald:** A. Employment/Salary (full or part-time); CHDI Foundation. **C. Dominguez:** A. Employment/Salary (full or part-time); CHDI Foundation. **T.F. Vogt:** A. Employment/ Salary (full or part-time); CHDI Foundation. **I. Munoz-**

PRESENTATION NUMBER	STATEMENT
	Sanjuan: A. Employment/Salary (full or part-time); CHDI Foundation. **S. Jang:** A. Employment/Salary (full or part-time); CHDI Foundation.
474.06	**L.M.S. Stanek:** A. Employment/Salary (full or part-time); Sanofi. **S. Mueller:** A. Employment/Salary (full or part-time); Evotec. **C. Lafon:** A. Employment/Salary (full or part-time); Evotec. **A. Roth:** A. Employment/Salary (full or part-time); Evotec. **A. Grabbe:** A. Employment/Salary (full or part-time); Evotec. **N. Michaelsen:** A. Employment/Salary (full or part-time); Evotec. **A. Schlueter:** A. Employment/Salary (full or part-time); Evotec. **M. Varban:** A. Employment/Salary (full or part-time); Sanofi. **S. Eyquem:** A. Employment/Salary (full or part-time); Sanofi. **F. Marguet:** A. Employment/Salary (full or part-time); Sanofi. **L.S. Shihabuddin:** A. Employment/Salary (full or part-time); Sanofi. **R. Godemann:** A. Employment/Salary (full or part-time); Evotec.
474.20	**F.M. Longo:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PharmatrophiX.
475.03	**H.J. Wobst:** A. Employment/Salary (full or part-time); AstraZeneca. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AstraZeneca. **M. Aikio:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); AstraZeneca. **D.G. Brown:** A. Employment/Salary (full or part-time); AstraZeneca. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); AstraZeneca. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AstraZeneca. **N.J. Brandon:** A. Employment/Salary (full or part-time); AstraZeneca. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AstraZeneca. **S.J. Moss:** A. Employment/Salary (full or part-time); Tufts. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); AstraZeneca. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AstraZeneca. F. Consulting Fees (e.g., advisory boards); AstraZeneca.
475.04	**D.G. Brown:** A. Employment/Salary (full or part-time); AstraZeneca Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AstraZeneca Pharmaceuticals. **H.J. Wobst:** A. Employment/Salary (full or part-time); AstraZeneca Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AstraZeneca Pharmaceuticals. **C. Bardelle:** A. Employment/Salary (full or part-time); AstraZeneca Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AstraZeneca Pharmaceuticals. **D. Murray:** A. Employment/Salary (full or part-time); AstraZeneca Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AstraZeneca Pharmaceuticals. **I. Feierberg:** A. Employment/Salary (full or part-time); AstraZeneca Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AstraZeneca Pharmaceuticals. **L. Leach:** A. Employment/Salary (full or part-time); AstraZeneca Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AstraZeneca Pharmaceuticals. **K. Mack:** A. Employment/Salary (full or part-time); University of Pennsylvania. **R. Cupo:** A. Employment/Salary (full or part-time); University of Pennsylvania. **E. Barbieri:** A. Employment/Salary (full or part-time); University of Pennsylvania. **A.D. Gitler:** A. Employment/Salary (full or part-time); Stanford University. **N. Kramer:** A. Employment/Salary (full or part-time); Stanford University. **J. Shorter:** A. Employment/Salary (full or part-time); University of Pennsylvania. **K. Abiraman:** A. Employment/Salary (full or part-time); Tufts University. **S. Moss:** A. Employment/Salary (full or part-time); Tufts University. **N.J. Brandon:** A. Employment/Salary (full or part-time); AstraZeneca Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AstraZeneca Pharmaceuticals.
475.06	**M.L. Hendrickson:** A. Employment/Salary (full or part-time); BrainXell, Inc. **P. Guyett:** A. Employment/Salary (full or part-time); BrainXell, Inc. **Z. Du:** A. Employment/Salary (full or part-time); BrainXell, Inc..
475.08	**P. Guyett:** A. Employment/Salary (full or part-time); BrainXell, Inc. **M.L. Hendrickson:** A. Employment/Salary (full or part-time); BrainXell, Inc. **Z. Du:** A. Employment/Salary (full or part-time); BrainXell, Inc..
475.14	**P. Avalos:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cedars-Sinai Medical Center.
475.20	**V. Lingappa:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Prosetta Biosciences.
476.11	**R. Krauss:** A. Employment/Salary (full or part-time); Disarm Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Disarm Therapeutics. **T. Bosanac:** A. Employment/Salary (full or part-time); Disarm Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Disarm Therapeutics. **T.M. Engber:** A. Employment/Salary (full or part-time); Disarm Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Disarm Therapeutics. **R. Devraj:** A. Employment/Salary (full or part-time); Disarm Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Disarm Therapeutics. **R. Hughes:** A. Employment/Salary (full or part-time); Disarm Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Disarm Therapeutics.
476.18	**R. Padilla:** A. Employment/Salary (full or part-time); StemoniX. **A. Fanton:** A. Employment/Salary (full or part-time); StemoniX. **C. Andersen:** A. Employment/Salary (full or part-time); StemoniX. **O. Guicherit:** A. Employment/Salary (full or part-time); StemoniX. **C. Carromeu:** A. Employment/Salary (full or part-time); StemoniX. **F. Zanella:** A. Employment/Salary (full or part-time); StemoniX.
477.14	**R.C. Gruber:** A. Employment/Salary (full or part-time); Sanofi. **L. Woodworth:** A. Employment/Salary (full or part-time); Sanofi. **J. Gans:** A. Employment/Salary (full or part-time); Sanofi. **J. Chambard:** A. Employment/Salary (full or part-time); Sanofi. **K. Singh:** A. Employment/Salary (full or part-time); Sanofi. **D. Bangari:** A. Employment/Salary (full or part-time); Sanofi. **T. Samad:** A. Employment/Salary (full or part-time); Sanofi. **D. Ofengeim:** A. Employment/Salary (full or part-time); Sanofi.
477.17	**B. Astry:** A. Employment/Salary (full or part-time); Bio-Techne. **R. Grant:** A. Employment/Salary (full or part-time); Bio-Techne. **K. Bradley:** A. Employment/Salary (full or part-time); Bio-Techne. **K. Brumbaugh:** A. Employment/Salary (full or part-time); Bio-Techne. **J. Rivard:** A. Employment/Salary (full or part-time); Bio-Techne. **M. Carlson-Habegger:** A. Employment/Salary (full or part-time); Bio-Techne. **M. Larson:** A. Employment/Salary (full or part-time); Bio-Techne. **J. Kirk:** A. Employment/Salary (full or part-time); Bio-Techne. **A. Hudacek:** A. Employment/Salary (full or part-time); Bio-Techne. **G. Wegner:** A. Employment/Salary (full or part-time); Bio-Techne.

PRESENTATION NUMBER	STATEMENT
478.05	**A. Van de Winckel:** A. Employment/Salary (full or part-time); AVDW was paid part-time as PI on the mentioned grant (PI AVDW; co-PI TJK), MicroTransponder, Inc.. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AVDW is PI on clinical trial (MicroTransponder, Inc. had no responsibility for analysis/interpretation of data, or for writing/submitting abstract.), MicroTransponder, Inc.'s Vivistim System. **S. Gonzales:** A. Employment/Salary (full or part-time); SG was paid part-time as study staff on the mentioned grant (PI AVDW; co-PI TJK), MicroTransponder, Inc. **D.K. Kline:** A. Employment/Salary (full or part-time); DK was paid part-time as study staff on the mentioned grant (PI AVDW; co-PI TJK), MicroTransponder, Inc. **C.N. Prudente:** A. Employment/Salary (full or part-time); employee, MicroTransponder, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); stock options, MicroTransponder, Inc. **T. Bisson:** A. Employment/Salary (full or part-time); TB was paid part-time as study staff on the mentioned grant (PI AVDW; co-PI TJK), MicroTransponder, Inc. **K.L. Frost:** A. Employment/Salary (full or part-time); KF was paid part-time as study staff on the mentioned grant (PI AVDW; co-PI TJK), MicroTransponder, Inc. **D. Pierce:** A. Employment/Salary (full or part-time); employee, MicroTransponder, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); stock options, MicroTransponder, Inc. **B. Tarver:** A. Employment/Salary (full or part-time); employee, MicroTransponder, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); stock options, MicroTransponder, Inc. **N.D. Engineer:** A. Employment/Salary (full or part-time); employee, MicroTransponder, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); stock options, MicroTransponder, Inc. **T.J. Kimberley:** A. Employment/Salary (full or part-time); TJK was paid part-time as co-PI on the mentioned grant (PI AVDW; co-PI TJK), MicroTransponder, Inc.. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; TJK is co-PI on clinical trial (MicroTransponder, Inc. had no responsibility for analysis/interpretation of data, or for writing/submitting abstract.), MicroTransponder, Inc.'s Vivistim System.
478.12	**M. Marosi:** A. Employment/Salary (full or part-time); Femtonics.
479.03	**I.B. Wanner:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Dana Foundation. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Astrocyte Pharmaceuticals Inc.
479.10	**C.R. Butson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); IntelectMedical. F. Consulting Fees (e.g., advisory boards); NeuroPace, Advanced Bionics, Boston Scientific, IntelectMedical, Abbott, Functional Neuromodulation.
479.12	**F. Schweser:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; SynchroPET Inc. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); GE Healthcare, SynchroPET Inc. F. Consulting Fees (e.g., advisory boards); Toshiba Canada Medical Systems Limited, Canon Medical Systems Corporation Japan, Goodwin Procter LLP. **D. Poulsen:** F. Consulting Fees (e.g., advisory boards); NeuroTrauma Sciences.
479.16	**C.F. Ferris:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Animal Imaging Research.
481.03	**J.D. Guest:** A. Employment/Salary (full or part-time); University of Miami. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aceso Therapeutics. F. Consulting Fees (e.g., advisory boards); Abbvie. **A.V. Ovechkin:** A. Employment/Salary (full or part-time); University of Louisville. **B. Legg Ditterline:** A. Employment/Salary (full or part-time); University of Louisville. **J. Fisher:** A. Employment/Salary (full or part-time); University of Louisville. **S. Wade:** A. Employment/Salary (full or part-time); University of Louisville. **J.M. Wecht:** A. Employment/Salary (full or part-time); Bronx VA Medical center. **S.J. Harkema:** A. Employment/Salary (full or part-time); University of Louisville.
482.09	**L.F. Medeiros:** A. Employment/Salary (full or part-time); La Salle University. **A. Souza:** A. Employment/Salary (full or part-time); Universidade La Salle.
483.03	**E. Sokolowska:** A. Employment/Salary (full or part-time); Transpharmation Ltd. **J. Prenderville:** A. Employment/Salary (full or part-time); Transpharmation Ltd. **M. Bianchi:** A. Employment/Salary (full or part-time); Transpharmation Ltd. **A. Thomas:** A. Employment/Salary (full or part-time); Transpharmation Ltd. **A. Fisher:** A. Employment/Salary (full or part-time); Transpharmation Ltd. **N. Upton:** A. Employment/Salary (full or part-time); Transpharmation Ltd..
483.08	**V. Goura:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **P. Jayarajan:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **A. Kishore:** A. Employment/Salary (full or part-time); Manipal Academy of Higher Education. **R. Abraham:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **A. Vuyyuru:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Nirogi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd.
483.09	**A. Zanon:** A. Employment/Salary (full or part-time); ANS Biotech. **V. Maffre:** A. Employment/Salary (full or part-time); ANS Biotech. **Y. Darbaky:** A. Employment/Salary (full or part-time); ANS Biotech. **L. Diop:** A. Employment/Salary (full or part-time); ANS Biotech.
483.10	**J.A. Prenderville:** A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd. **E. Sokolowska:** A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd. **M. Bianchi:** A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd. **A.L. Thomas:** A. Employment/Salary (full or part-time); Transpharmation Ltd. **A.S. Fisher:** A. Employment/Salary (full or part-time); Transpharmation Ltd. **N. Upton:** A. Employment/Salary (full or part-time); Transpharmation Ltd.
483.20	**P. Karila:** A. Employment/Salary (full or part-time); Cellectricon AB. **C. Nodin:** A. Employment/Salary (full or part-time); Cellectricon AB. **S. Lardell:** A. Employment/Salary (full or part-time); Cellectricon AB. **M. Karlsson:** A. Employment/Salary (full or part-time); Cellectricon AB.
483.25	**M. Dourado:** A. Employment/Salary (full or part-time); Genentech, Inc. **K.L. Stark:** A. Employment/Salary (full or part-time); Genentech, Inc. **R.M. Reese:** A. Employment/Salary (full or part-time); Genentech, Inc. **P. Karila:** A. Employment/Salary (full or part-time); Cellectricon AB. **S. Lardell:** A. Employment/Salary (full or part-time); Cellectricon AB. **K. Anderson:** A. Employment/Salary (full or part-time); Genentech, Inc. **S. Warming:** A. Employment/Salary (full or part-time); Genentech, Inc. **D.H. Hackos:** A. Employment/Salary (full or part-time); Genentech, Inc.
484.09	**G.J. Bennett:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); A founder of

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485.10	**S. Kuroki:** A. Employment/Salary (full or part-time); NTT Communication Science Laboratories.
489.16	**E. Gülbetekin:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Akdeniz University Research Grant.
490.23	**G.M. Rose:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Arrowsmith School.
492.01	**D.Y. Henriques:** A. Employment/Salary (full or part-time); NSERC.
492.02	**D.Y. Henriques:** A. Employment/Salary (full or part-time); NSERC.
492.04	**D.Y.P. Henriques:** A. Employment/Salary (full or part-time); NSERC.
492.07	**A.M. Sloan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vulintus Inc.
492.11	**A.M. Sloan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vulintus, Inc..
493.07	**S.V. Chakravarthy:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; MHRD Ucchatar Avishkar Yojana - BIO-18/19-309-MUAY-VSRV. **S. Jayakumar:** A. Employment/Salary (full or part-time); MHRD Ucchatar Avishkar Yojana - BIO-18/19-309-MUAY-VSRV. **R. Narayanamurthy:** A. Employment/Salary (full or part-time); MHRD Ucchatar Avishkar Yojana - BIO-18/19-309-MUAY-VSRV.
495.05	**A. Cimolato:** A. Employment/Salary (full or part-time); Politecnico of Milano, Istituo Italiano di Tecnologia. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Italian National Institute for Insurance against Accidents at Work (INAIL). **M. Laffranchi:** A. Employment/Salary (full or part-time); Istituto Italiano di Technologia. **E. De Momi:** A. Employment/Salary (full or part-time); Politecnico of Milano. **S. Raspopovic:** A. Employment/Salary (full or part-time); ETH Zürich. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; ERC Starting Grant 759998. Other; CTO SensArs Neuroprosthetics sarl.
495.14	**J. Letizi:** A. Employment/Salary (full or part-time); Delsys & Altec Inc. **B. Shiwani:** A. Employment/Salary (full or part-time); Delsys & Altec Inc. **J.C. Kline:** A. Employment/Salary (full or part-time); Delsys & Altec Inc. **S. Roy:** A. Employment/Salary (full or part-time); Delsys & Altec Inc. **G. De Luca:** A. Employment/Salary (full or part-time); Delsys & Altec Inc. **P. Contessa:** A. Employment/Salary (full or part-time); Delsys & Altec Inc..
500.13	**C.A. Lowry:** F. Consulting Fees (e.g., advisory boards); CAL serves on the Scientific Advisory Board of Immodulon Therapeutics, Ltd..
501.09	**D. Okuda:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Biogen. F. Consulting Fees (e.g., advisory boards); Acorda, Genzyme, TEVA Neuroscience, EMD Serono, Genentech.
501.11	**M. Sorenson:** A. Employment/Salary (full or part-time); Blackrock Microsystems (full). **R. Franklin:** A. Employment/Salary (full or part-time); Blackrock Microsystems. **M. Gerhardt:** A. Employment/Salary (full or part-time); Blackrock Microsystems. **F. Solzbacher:** A. Employment/Salary (full or part-time); Blackrock Microsystems.
501.16	**C. Ferris:** Other; Craig Ferris has a financial interest in Animal Imaging Research the company that makes the rat imaging equipment..
502.07	**G. Bhyrapuneni:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **V. Benade:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Daripelli:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **V. Kamuju:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **A. Shinde:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Abraham:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Nirogi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **V. Jasti:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd..
502.16	**R.E. Gonzalez-Castañeda:** A. Employment/Salary (full or part-time); Universidad de Guadalajara. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; CONACyT.
502.19	**J.T. McKenna:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Merck MISP. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Merck MISP.
502.22	**J.H. Harkness:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rewire Neuroscience.
508.04	**E.M. Mohr:** A. Employment/Salary (full or part-time); Osher Center for Integrative Medicine. **T. Brandmeyer:** A. Employment/Salary (full or part-time); Osher Center for Integrative Medicine. **R. Hecht:** A. Employment/Salary (full or part-time); Osher Center for Integrative Medicine. **R.S. Gupta:** A. Employment/Salary (full or part-time); Osher Center for Integrative Medicine. **P.L.A. Schoenberg:** A. Employment/Salary (full or part-time); Osher Center for Integrative Medicine. **D.R. Vago:** A. Employment/Salary (full or part-time); Osher Center for Integrative Medicine.
508.16	**T. Ishii:** A. Employment/Salary (full or part-time); T.I. are employed Sumitomo Dainippon Pharma. Co., Ltd. **K. Fujimori:** A. Employment/Salary (full or part-time); K.F are employed by Sumitomo Dainippon Pharma Co., Ltd. **N. Ozaki:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; N.O. are supported by a research grant from Sumitomo Dainippon Pharma Co., Ltd. **H. Okano:** A. Employment/Salary (full or part-time); H.O. is a founding scientist of SanBio Co. Ltd. and K Pharma Inc.. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; H.O. are supported by a research grant from Sumitomo Dainippon Pharma Co., Ltd.
508.19	**G. Takamatsu:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Takeda Pharmaceutical.
509.02	**R. Medapati:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **J. Tadiparthi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **N. Ganuga:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **G. Ramalingayya:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **P. Jayarajan:** A. Employment/Salary (full or part-time); Suven

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509.17	**T. Kato:** A. Employment/Salary (full or part-time); Sumitomo Dainippon Pharma Co., Ltd. **P. Banerjee:** A. Employment/Salary (full or part-time); Allergan Inc., New Jersey.
510.06	**R.F. Tyndale:** F. Consulting Fees (e.g., advisory boards); Quinn Emmanual, Apotex.
511.13	**W. Chen:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mitsubishi Tanabe Pharma. **X.H. Zhu:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mitsubishi Tanabe Pharma. **M.J. Thomas:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mitsubishi Tanabe Pharma.
515.05	**R. Wyler:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche. **M. Haman:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche. **B. Kuennecke:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche. **E.C. O'Connor:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche.
515.17	**Y. Winter:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); owns PhenoSys equity.
516.21	**R.J. Schafer:** A. Employment/Salary (full or part-time); Lumos Labs. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs. **N.F. Ng:** A. Employment/Salary (full or part-time); Lumos Labs. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs. **A.M. Osman:** A. Employment/Salary (full or part-time); Lumos Labs.
517.10	**R.S. Prakash:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Funding from NIH and NMSS. Other; Sanofi Genzyme (speaking honoraria).
517.19	**T.J. Covey:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Co-PI NMSS Research Grant, Co-PI NIJ Research Grant. F. Consulting Fees (e.g., advisory boards); Biogen Consulting Fee.
519.02	**S. Clark:** A. Employment/Salary (full or part-time); Storm Biosciences Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Storm Biosciences Inc. **A. Abi-Dargham:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Storm Biosciences Inc..
519.06	**A. Grace:** Other; Lundbeck, Pfizer, Otsuka, Lilly, Roche, Asubio, Abbott, Autofony, Janssen, Alkermes, Newron, Takeda.
519.12	**A. Lee:** A. Employment/Salary (full or part-time); Rush University Medical Center. **S. Lokey:** A. Employment/ Salary (full or part-time); Rush University Medical Center. **K. Haut:** A. Employment/Salary (full or part-time); Rush University Medical Center. **S. Pridgen:** A. Employment/ Salary (full or part-time); Rush University Medical Center.

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	C.I. Hooker: A. Employment/Salary (full or part-time); Rush University Medical Center. B. Contracted Research/ Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Posit Science.
519.17	**J. Ji:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-inventor on submitted patent application. **G. Repovs:** F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. **J.D. Murray:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-inventor on submitted patent application. F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. **A. Anticevic:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-inventor on submitted patent application. F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics.
520.07	**K. Chung:** A. Employment/Salary (full or part-time); LifeCanvas Technologies.
520.12	**H.R. Ueda:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Part of this study was done in collaboration with Olympus Corporation and Medical & Biological Laboratories CO., LTD. (MBL).
520.15	**T. Mano:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); T.M. and H.R.U. hold intellectual copyrights on CUBIC-Cloud software. **H.R. Ueda:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); T.M. and H.R.U. hold intellectual copyrights on CUBIC-Cloud software..
522.16	**N.R. Halper:** A. Employment/Salary (full or part-time); Blackrock Microsystems. **C. Dryden:** A. Employment/ Salary (full or part-time); Blackrock Microsystems. **M. Sorenson:** A. Employment/Salary (full or part-time); Blackrock Microsystems. **M. Gerhardt:** A. Employment/ Salary (full or part-time); Blackrock Microsystems. **F. Solzbacher:** A. Employment/Salary (full or part-time); University of Utah. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Blackrock Microsystems. **R. Franklin:** A. Employment/Salary (full or part-time); Blackrock Microsystems.
523.08	**N. Mayakkannan:** A. Employment/Salary (full or part-time); Department of Biotechnology , Ministry of Science and Technology (DBT) - BIO/17-18/303/DBTX/SRIN. **S.V. Chakravarthy:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Department of Biotechnology , Ministry of Science and Technology (DBT) - BIO/17-18/303/DBTX/SRIN.
525.01	**J. Rubenstein:** A. Employment/Salary (full or part-time); Neurona. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona. F. Consulting Fees (e.g., advisory boards); Neurona.
525.03	**M. Nouhoum:** A. Employment/Salary (full or part-time); Iconeus. **J. Ferrier:** A. Employment/Salary (full or part-time); Iconeus. **B. Osmanski:** A. Employment/Salary (full or part-time); Iconeus. **M. Tanter:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Iconeus. **T. Deffieux:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Iconeus. F. Consulting Fees (e.g., advisory boards); Iconeus.
525.08	**H. Gonzalez:** A. Employment/Salary (full or part-time); BlackThorn Therapeutics. **M.E. Kollada:** A. Employment/ Salary (full or part-time); BlackThorn Therapeutics. **M.S. Mellem:** A. Employment/Salary (full or part-time); BlackThorn Therapeutics. **Y. Liu:** A. Employment/Salary

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	(full or part-time); BlackThorn Therapeutics. **O. Rodriguez:** A. Employment/Salary (full or part-time); BlackThorn Therapeutics. **P. Ahammad:** A. Employment/Salary (full or part-time); BlackThorn Therapeutics.
525.12	**W.D. Pack:** A. Employment/Salary (full or part-time); MBF Bioscience. **N. Roussel:** A. Employment/Salary (full or part-time); MBF Bioscience. **A.D. LeDuc:** A. Employment/Salary (full or part-time); MBF Bioscience. **B.S. Eastwood:** A. Employment/Salary (full or part-time); MBF Bioscience. **C.R. Bates:** A. Employment/Salary (full or part-time); MBF Bioscience. **H.L. Kessler:** A. Employment/Salary (full or part-time); MBF Bioscience. **J. McMullen:** A. Employment/Salary (full or part-time); MBF Bioscience. **S.J. Tappan:** A. Employment/Salary (full or part-time); MBF Bioscience. **P.J. Angstman:** A. Employment/Salary (full or part-time); MBF Bioscience. **F. Du:** A. Employment/Salary (full or part-time); FD NeuroTechnologies, Inc. **M. Liu:** A. Employment/Salary (full or part-time); FD NeuroTechnologies, Inc. **J.R. Glaser:** A. Employment/Salary (full or part-time); MBF Bioscience.
531.03	**F. Frohlich:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIMH. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pulvinar Neuro LLC.
533	**N. Farahany:** F. Consulting Fees (e.g., advisory boards); Illumina, Inc., Helix, Inc..
537.02	**C.E.H. Moussa:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder.
537.04	**S. Kortagere:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Polycore Therapeutics LLC.
537.07	**E.M. Sigurdsson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); I am an inventor on a patent application assigned to NYU covering the sequences of the sdAb clones..
537.08	**C. Holscher:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder.
538.03	**D.M. Holtzman:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); C2N Diagnostics, AbbVie. F. Consulting Fees (e.g., advisory boards); C2N Diagnostics, Denali, Genentech, and Proclara. **C. Iadecola:** F. Consulting Fees (e.g., advisory boards); Broadview Ventures.
538.04	**S.M. Massa:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PharmatrophiX. **F.M. Longo:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PharmatrophiX.
539.05	**S.I. Sollars:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Plexxikon Inc..
540.02	**S. Tomlinson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Admirx.
543.03	**A.M. Jacobi:** A. Employment/Salary (full or part-time); Integrated DNA Technologies. **S.S. Rose:** A. Employment/ Salary (full or part-time); Integrated DNA Technologies. **M.A. Behlke:** A. Employment/Salary (full or part-time); Integrated DNA Technologies.
543.04	**H.S. An:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); U&I Inc, Medyssey Inc. F. Consulting Fees (e.g., advisory boards); Bioventus Inc.
543.06	**M.I. Nemenov:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); LasMed LLC.
543.07	**R. Khanna:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regulonix Holding Inc..
543.08	**V. Gokhale:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regulonix Holding Inc. **M. Khanna:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regulonix Holding Inc. **R. Khanna:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regulonix Holding Inc..
544.01	**M.J. Lowe:** F. Consulting Fees (e.g., advisory boards); Siemens Healthineers, Inc.
544.03	**A.G. Machado:** F. Consulting Fees (e.g., advisory boards); St. Jude. Other; Enspire, ATI, Cardionomics, Medtronic.
544.04	**A.G. Machado:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); fellowship support from Medtronic. . F. Consulting Fees (e.g., advisory boards); functional neuromodulation at St JudeF. Other; Distribution rights at Enspire, ATI, and Cardionomics.
544.05	**A.G. Machado:** F. Consulting Fees (e.g., advisory boards); functional neuromodulation at St Jude. Other; distribution rights at Enspire, ATI, and Cardionomics; having fellowship support from Medtronic.
547.01	**A.E. Cohen:** A. Employment/Salary (full or part-time); Howard Hughes Medical Institute. Other; AEC is a founder of Q-state Biosciences.
547.05	**A. Bollimunta:** A. Employment/Salary (full or part-time); Inscopix, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inscopix, Inc. **J.J. Nassi:** A. Employment/Salary (full or part-time); Inscopix, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inscopix, Inc..
547.10	**C.A. Werley:** A. Employment/Salary (full or part-time); Q-State Biosciences. **J. Ferrante:** A. Employment/Salary (full or part-time); Q-State Biosciences. **J.J. Fink:** A. Employment/Salary (full or part-time); Q-State Biosciences. **H. Shroff:** A. Employment/Salary (full or part-time); Q-State Biosciences. **G.B. Borja:** A. Employment/Salary (full or part-time); Q-State Biosciences. **G.T. Dempsey:** A. Employment/Salary (full or part-time); Q-State Biosciences.
548.05	**A. Hierlemann:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; ERC Advanced Grant 694829 “neuroXscales”.
549.13	**D.A. White:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; BioMarin Pharmaceutical Inc. F. Consulting Fees (e.g., advisory boards); BioMarin Pharmaceutical Inc. **S.E. Christ:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; BioMarin Pharmaceutical Inc. F. Consulting Fees (e.g., advisory boards); BioMarin Pharmaceutical Inc.
549.20	**L.A. Gabel:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Provisional Patent. **E. Johnson:** F. Consulting Fees (e.g., advisory boards); CEO, Lee Pesky Learning Center.

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550.04	**J. Ricetto:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boehringer Ingelheim Pharma. **J. Scarborough:** B. Contracted Research/ Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boehringer Ingelheim Pharma. **R. Arban:** A. Employment/ Salary (full or part-time); Boehringer Ingelheim Pharma. **C. Dorner-Ciossek:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. **H. Rosenbrock:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. **U. Meyer:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boehringer Ingelheim Pharma.
552.10	**B.A. Orser:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Orser is an inventor named on a Canadian patent (2,852,978), a US patent (9,517,265) and a pending US patent (62/268,137)..
552.11	**S.J. Moss:** F. Consulting Fees (e.g., advisory boards); SAGE Therapeutics, AstraZeneca.
555.02	**J.M. Rho:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; non-paid consultant for Cypralis Ltd.
557.11	**K. Taylor:** A. Employment/Salary (full or part-time); Stanford University.
557.16	**J. Sun:** A. Employment/Salary (full or part-time); Stanford Medicine. **S. Nagpal:** A. Employment/Salary (full or part-time); Stanford Medicine. **C. Patel:** A. Employment/Salary (full or part-time); Stanford Medicine. **M. Merchant:** A. Employment/Salary (full or part-time); Stanford Medicine. **T. Jang:** A. Employment/Salary (full or part-time); Stanford Medicine. **A.R. Diers:** A. Employment/Salary (full or part-time); BERG LLC. **S. Kazerounian:** A. Employment/Salary (full or part-time); BERG LLC. **S. Gesta:** A. Employment/ Salary (full or part-time); BERG LLC. **N.R. Narain:** A. Employment/Salary (full or part-time); BERG LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG LLC. **R. Sarangarajan:** A. Employment/Salary (full or part-time); BERG LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG LLC. **L. Recht:** A. Employment/Salary (full or part-time); Stanford Medicine.
558.14	**R.H. Patel:** A. Employment/Salary (full or part-time); Part-time, University of South Florida. **S.S. Alahmari:** A. Employment/Salary (full or part-time); Part-time, University of South Florida. **D.B. Goldgof:** A. Employment/Salary (full or part-time); Full-time, University of South Florida. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; National Science Foundation (NSF). **H.A. Phoulady:** A. Employment/Salary (full or part-time); Full-time, University of Southern Maine. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; National Science Foundation (NSF). **P. Dave:** A. Employment/Salary (full or part-time); Part-time, University of South Florida. **L.O. Hall:** A. Employment/ Salary (full or part-time); Full-time, University of South Florida. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; National Science Foundation (NSF). **P.R. Mouton:** A. Employment/Salary (full or part-time); Full-time, SRC Biosciences. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; National Science Foundation (NSF). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Intellectual Property- SRC Biosciences.
559.23	**E.D. Roberson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); EDR is an owner of intellectual property relating to Tau..
559.24	**E.D. Roberson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); EDR is an owner of intellectual property relating to Tau..
559.25	**S.A. Lipton:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Royalty sharing agreement with Harvard Medical School/Boston Children's Hospital, Scientific Founder of Adamas Pharmaceuticals, Inc..
559.28	**S. Illes:** A. Employment/Salary (full or part-time); Cellectricon AB, Mölndal, Sweden. **A. Karlsson:** A. Employment/Salary (full or part-time); Cellectricon AB, Mölndal, Sweden. **P. Karila:** A. Employment/Salary (full or part-time); Cellectricon AB, Mölndal, Sweden. **J. Pihl:** A. Employment/Salary (full or part-time); Cellectricon AB, Mölndal, Sweden. **M. Karlsson:** A. Employment/Salary (full or part-time); Cellectricon AB, Mölndal, Sweden.
560.05	**C.G. Parsons:** A. Employment/Salary (full or part-time); Galimedix. **G. Rammes:** F. Consulting Fees (e.g., advisory boards); Galimedix.
560.13	**M. Chauhan:** A. Employment/Salary (full or part-time); Full time. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Deparment of Biotechnology, India.
560.18	**D.A. Heller:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); LipidSense, Inc, Goldilocks Therapeutics, Inc. F. Consulting Fees (e.g., advisory boards); Oncorus, Inc.
562.11	**A. Francois:** A. Employment/Salary (full or part-time); full time employee of SERVIER. **G. Das Dores:** A. Employment/Salary (full or part-time); full time employee of SERVIER. **F. Iop:** A. Employment/Salary (full or part-time); full time employee of SERVIER. **R. Billiras:** A. Employment/Salary (full or part-time); full time employee of SERVIER. **V. Pasteau:** A. Employment/Salary (full or part-time); full time employee of SERVIER. **F. Panayi:** A. Employment/Salary (full or part-time); full time employee of SERVIER. **R. Jeggo:** A. Employment/Salary (full or part-time); full time employee of SERVIER.
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563.08	**R.V. Nirogi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **J. Ravula:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Jetta:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **V. Goyal:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Pandey:** A. Employment/ Salary (full or part-time); Suven Life Sciences Ltd. **G. Bhyrapuneni:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **P. Jayarajan:** A. Employment/ Salary (full or part-time); Suven Life Sciences Ltd. **A. Shinde:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **K. Mudigonda:** A. Employment/Salary

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563.11	**M.W. McNerney:** F. Consulting Fees (e.g., advisory boards); Tahoe Institute for Rural Health Research.
564.01	**C. Wang:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; This work was funded by a grant from BrightFocus (CW). **D. Holtzman:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; This work was funded by a grant from AbbVie (DMH). F. Consulting Fees (e.g., advisory boards); DMH co-founded and is on the scientific advisory board of C2N Diagnostics, LLC. DMH is on the scientific advisory board of Denali and Genentech..
564.02	**C. Tai:** A. Employment/Salary (full or part-time); APRINOIA Therapeutics Inc. **H. Ma:** A. Employment/Salary (full or part-time); APRINOIA Therapeutics Inc. **S. Huang:** A. Employment/Salary (full or part-time); APRINOIA Therapeutics Inc. **C. Li:** A. Employment/Salary (full or part-time); APRINOIA Therapeutics Inc. **M. Wu:** A. Employment/Salary (full or part-time); APRINOIA Therapeutics Inc. **C. Wu:** A. Employment/Salary (full or part-time); APRINOIA Therapeutics Inc. **S. Lin:** A. Employment/Salary (full or part-time); APRINOIA Therapeutics Inc. **M. Jang:** A. Employment/Salary (full or part-time); APRINOIA Therapeutics Inc..
564.10	**M.G.T. Tansey:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Xencor Inc..
564.14	**G. Vitaliano:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ExQor Technologies. **F. Vitaliano:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ExQor Technologies.
565.11	**B. Elmer:** A. Employment/Salary (full or part-time); Sanofi. **L.S. Shihabuddin:** A. Employment/Salary (full or part-time); Sanofi. **L.M. Stanek:** A. Employment/Salary (full or part-time); Sanofi.
566.09	**N. Kaya:** A. Employment/Salary (full or part-time); University of Georgia.
566.11	**E.H. Jensen:** A. Employment/Salary (full or part-time); Sanofi Genzyme. **E. McGuirk:** A. Employment/Salary (full or part-time); Sanofi Genzyme. **A. Bialas:** A. Employment/Salary (full or part-time); Sanofi Genzyme. **J. Yu:** A. Employment/Salary (full or part-time); Sanofi Genzyme. **L. Shihabuddin:** A. Employment/Salary (full or part-time); Sanofi Genzyme. **J. Dodge:** A. Employment/Salary (full or part-time); Sanofi Genzyme.
566.21	**S. Ibarburu:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; The research was founded by EOLO Pharma.
567.03	**S. Ganesh:** A. Employment/Salary (full or part-time); Indian Institute of Technology Kanpur. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Department of Biotechnology India.
568.04	**A.D. Snow:** A. Employment/Salary (full or part-time); Cognitive Clarity Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cognitive Clarity Inc. **J.A. Cummings:** A. Employment/Salary (full or part-time); Cognitive Clarity Inc. **T. Lake:** A. Employment/Salary (full or part-time); Cognitive Clarity Inc. **R.E. Tanzi:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cognitive Clarity Inc..
569.03	**K. Ennis:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **D. Nagy:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **S. Su:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **A. Thomas:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **J. Mahoney:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **A. Nelson:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **D. Murphy:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **G. Marsh:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **T. Reynolds:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **S. Hamann:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **C. Ehrenfels:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **R. Massol:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **M. Arnold:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **M. Hajos:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen. **L.C. Burkly:** A. Employment/Salary (full or part-time); Biogen. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen.
570.12	**S. Tomlinson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder,

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	excluding diversified mutual funds); Stephen Tomlinson is an inventor on a licensed patent for CR2-targeted complement inhibition..
570.13	**L.P. Cacheaux:** A. Employment/Salary (full or part-time); Aptinyx Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Aptinyx Inc. **K. Leaderbrand:** A. Employment/Salary (full or part-time); Aptinyx Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Aptinyx Inc. **R.J. Wilson:** A. Employment/Salary (full or part-time); Aptinyx Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Aptinyx Inc. **J.S. Burgdorf:** A. Employment/Salary (full or part-time); Aptinyx Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Aptinyx Inc. **M.E. Schmidt:** A. Employment/Salary (full or part-time); Aptinyx Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Aptinyx Inc. **J.R. Moskal:** A. Employment/Salary (full or part-time); Aptinyx Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx Inc..
571.07	**M. Roberts:** A. Employment/Salary (full or part-time); Frazier Rehab Institute. **D. Stout:** A. Employment/Salary (full or part-time); Frazier Rehab Institute. **S. Bickel:** A. Employment/Salary (full or part-time); Dept of Pediatrics, University of Louisville. **M. Calvery:** A. Employment/Salary (full or part-time); Dept of Pediatrics, University of Louisville. **K. Brothers:** A. Employment/Salary (full or part-time); Dept of Pediatrics, University of Louisville. **K. McNamara:** A. Employment/Salary (full or part-time); Frazier Rehab Institute. **G. Singh:** A. Employment/Salary (full or part-time); Dept. of Neurosurgery, University of Louisville. **A. Behrman:** A. Employment/Salary (full or part-time); Dept. of Neurosurgery, University of Louisville. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; PI: Kosair Charities Center for Pediatric NeuroRecovery, co-Director, Reeve Foundation NeuroRecovery Network. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oxford University Press, royalties. Other; President, NeuroRecovery Learning, Inc..
571.08	**A.L. Behrman:** A. Employment/Salary (full or part-time); Dept of Neurosurgery, University of Louisville.. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; PI: Kosair Charities Center for Pediatric NeuroRecovery, Co-Director, Reeve Foundation NeuroRecovery Network. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oxfor University Press, royalties. Other; President, NeuroRecovery Learning, Inc..
571.09	**K.C. McNamara:** A. Employment/Salary (full or part-time); Frazier Rehabilitation Institute, Kentucky One Health. **K. Brothers:** A. Employment/Salary (full or part-time); Department of Pediatrics, University of Louisville. **M.L. Calvery:** A. Employment/Salary (full or part-time); Department of Pediatrics, University of Louisville. **A.L. Behrman:** A. Employment/Salary (full or part-time); Department of Neurosurgery, University Of Louisville. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Kosiar Charities Center for Pediatric NeuroRecovery. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oxfor University Press, royalties. Other; President, NeuroRecovery Learning, Inc..
572.03	**A. Watrin:** A. Employment/Salary (full or part-time); GTXmedical. **M. Caban:** A. Employment/Salary (full or part-time); GTXmedical. **M. D´Ercole:** A. Employment/Salary (full or part-time); GTXmedical. **E. Paoles:** A. Employment/ Salary (full or part-time); GTXmedical. **D. Ganty:** A. Employment/Salary (full or part-time); GTXmedical. **M. van´t Klooster:** A. Employment/Salary (full or part-time); GTXmedical. **J. Bakker:** A. Employment/Salary (full or part-time); GTXmedical. **V. Delattre:** A. Employment/Salary (full or part-time); GTXmedical. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); holds various patents in relation to the present work, founder and shareholder of GTXmedical. **H. Lambert:** A. Employment/ Salary (full or part-time); GTXmedical. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); founder and shareholder of GTXmedical. **N. Kuster:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); founder and shareholder of ZMT ZurichMedTech. **E. Neufeld:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); shareholder of ZMT ZurichMedTech. **M. Capogrosso:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); holds various patents in relation to the present work. **J. Bloch:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); hold various patents in relation to the present work, founder and shareholder of GTXmedical. **G. Courtine:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); hold various patents in relation to the present work, founder and shareholder of GTXmedical.
572.04	**M. D'Ercole:** A. Employment/Salary (full or part-time); GTXmedical. **M. Caban:** A. Employment/Salary (full or part-time); GTXmedical. **A. Yulzari:** A. Employment/ Salary (full or part-time); GTXmedical. **M. van 't Klooster:** A. Employment/Salary (full or part-time); GTXmedical. **A. Watrin:** A. Employment/Salary (full or part-time); GTXmedical. **R. Buschman:** A. Employment/Salary (full or part-time); Medtronic. **J. von Zitzewitz:** A. Employment/ Salary (full or part-time); GTXmedical. **V. Delattre:** A. Employment/Salary (full or part-time); GTXmedical. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTXmedical. **H. Lambert:** A. Employment/Salary (full or part-time); GTXmedical. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTXmedical. **J. Bloch:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTXmedical. **G. Courtine:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTXmedical.
572.08	**J. Bloch:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTXmedical. **G. Courtine:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTXmedical.
573.03	**R. Gutierrez:** A. Employment/Salary (full or part-time); CINVESTAV-IPN. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Problemas Nacionales 464, Productos Medix 3247.

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574.23	**J.G. Turner:** A. Employment/Salary (full or part-time); Turner Scientific.
574.25	**M. Dougherty:** A. Employment/Salary (full or part-time); Lawrence Berkeley National Lab.
574.26	**C.K. Kovach:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Methods described in this work are the subject of U.S. Provisional Patent Application No: 62/695,586.
579.22	**F. Frohlich:** Other; FF is the founder, CSO, and majority owner of Pulvinar Neuro LLC..
580.17	**C. McNamara:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent pending. **A. Sharott:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent pending.
581.07	**S.L. Gorniak:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; American Heart Association.
581.08	**S. Hssain-Khalladi:** Other; LABEX SMART, Sorbonne Université, Paris, France.
582.02	**K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); Neurolink.
582.07	**A.M. Sloan:** A. Employment/Salary (full or part-time); Vulintus, Inc.. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; PI - 1R43AG059509, PI - 1R43MH119734. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Vulintus, Inc. **D.K. Born:** A. Employment/Salary (full or part-time); Vulintus, inc..
584.06	**G. Schlaug:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; R01MH111874-01. **A.B. Shinde:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; R01MH111874-01.
584.08	**J.E. Huggins:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH grant R41DC015142. **R.T. Cross:** A. Employment/Salary (full or part-time); Prentke Romich Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH grant R41DC015142. **K. Hill:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH grant R41DC015142.
584.11	**S.P. Lacour:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Holds various patents in relation to the present work., Founder and shareholder of GTX medical. **J. Bloch:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Holds various patents in relation to the present work., Founder and shareholder of GTX medical. **G. Courtine:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Holds various patents in relation to the present work., Founder and shareholder of GTX medical. **M. Capogrosso:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Holds various patents in relation to the present work..
584.13	**S.P. Lacour:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Founder and shareholder of GTX medical., Holds various patents in relation to the present work. **J. Bloch:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Founder and shareholder of GTX medical., Holds various patents in relation to the present work. **G. Courtine:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Founder and shareholder of GTX medical., Holds various patents in relation to the present work. **M. Capogrosso:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Holds various patents in relation to the present work.
584.20	**N. Murovec:** A. Employment/Salary (full or part-time); g.tec medical engineering GmbH. **A. Heilinger:** A. Employment/ Salary (full or part-time); g.tec medical engineering GmbH. **R. Xu:** A. Employment/Salary (full or part-time); g.tec Guger Technologies OG. **G. Edlinger:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); g.tec neurotechnology GmbH. **C. Guger:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); g.tec neurotechnology GmbH.
585.23	**D.J. Weber:** F. Consulting Fees (e.g., advisory boards); Battelle Memorial Institute.
589.02	**D.T. Okuda:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Biogen. F. Consulting Fees (e.g., advisory boards); Celgene, EMD Serono, Genentech, Genzyme, and Novartis.
589.25	**B. Roy:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NHI Grant 1R01NR017190-01A1.
589.28	**K. Intson:** A. Employment/Salary (full or part-time); University of Toronto.
590.06	**I. Topchiy:** F. Consulting Fees (e.g., advisory boards); Signal Solutions, LLC. **M.W. Calik:** F. Consulting Fees (e.g., advisory boards); Signal Solutions, LLC.
590.10	**S. Izawa:** A. Employment/Salary (full or part-time); JSPS Research Fellowship for Young Scientist, Tokyo, Japan.
590.24	**B.F. O'Hara:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Signal Solutions LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Signal Solutions LLC, GISMO Therapeutics. F. Consulting Fees (e.g., advisory boards); GISMO Therapeutics.
592.09	**C.K. Jones:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CKJ is a patent holder on GCPRs. **C.W. Lindsley:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/

PRESENTATION NUMBER	STATEMENT
	patent holder, excluding diversified mutual funds); CWL is a patent holder on GPCRs. **P.J. Conn:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PJC holds a patent on GPCRs..
592.10	**C.W. Lindsley:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor of GPCR patents. **P.J. Conn:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor of GPCR patents.
593.04	**A. Leow:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Keywise. **O. Ajilore:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Keywise. F. Consulting Fees (e.g., advisory boards); Embodied Labs, Blueprint.
594.12	**W. Kuo:** A. Employment/Salary (full or part-time); YangMing University.
594.16	**J.S. James:** A. Employment/Salary (full or part-time); The Royal's Institute of Mental Health Research.
595.06	**D.J. de Quervain:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); University of Basel Spin-off company GeneGuide AG. **A. Papassotiropoulos:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Basel Spin-off company GeneGuide AG.
595.07	**P. Glue:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Glue has a contract with Douglas Pharmaceuticals to develop novel ketamine formulations. **N. McNaughton:** F. Consulting Fees (e.g., advisory boards); Dr McNaughton has a confidential disclosure and consulting agreement with Janssen Research & Development, LLC. **N. Medlicott,:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Natalie has a contract with Douglas Pharmaceuticals to develop novel ketamine formulations..
595.17	**T. Goltser:** A. Employment/Salary (full or part-time); The Herman-Danna Division of Pediatric Psychiatry, Department of Psychiatry, Hadassah - Hebrew University Medical Center; Jerusalem Israel, Molecular Psychiatry Laboratory - Department of Psychiatry, Hadassah - Hebrew University Medical center, Jerusalem, Israel..
596.02	**E.C. O'Connor:** A. Employment/Salary (full or part-time); Roche. **E.P. Prinssen:** A. Employment/Salary (full or part-time); Roche.
596.03	**T. Izumi:** D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Mochida Pharmaceutical, Asahi Kasei Pharma, Yoshitomiyakuhin Corporation.
597.03	**H.I. Risca:** A. Employment/Salary (full or part-time); Western Michigan University (part-time). B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NIDA Drug Control Supply. **L.E. Baker:** A. Employment/Salary (full or part-time); Western Michigan University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NIDA Drug Control Supply.
601.02	**A.A. Grace:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Lundbeck, Pfizer, Otsuka, Lilly, Roche, Asubio, Abbott, Autofony, Janssen, Alkermes, Newron.
603.10	**B.K. Yamamoto:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH Grant DA042737.
603.14	**H.H. Schiffer:** A. Employment/Salary (full or part-time); Takeda. **S. Kikuchi:** A. Employment/Salary (full or part-time); Takeda. **J. Russo:** A. Employment/Salary (full or part-time); Takeda. **Y. Chen:** A. Employment/Salary (full or part-time); Takeda. **J. Bliesath:** A. Employment/Salary (full or part-time); Takeda. **B. Lam:** A. Employment/Salary (full or part-time); Takeda. **S. Olsen:** A. Employment/Salary (full or part-time); Takeda. **H. Monenschein:** A. Employment/ Salary (full or part-time); Takeda. **S. Hitchcock:** A. Employment/Salary (full or part-time); Takeda.
603.16	**T. Blackmore:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly & Co. Ltd. **G. Gilmour:** A. Employment/Salary (full or part-time); Eli Lilly & Co. Ltd..
605.15	**E. Brown:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIGMS P01GM118269. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); speaker's honoraria from Masimo Corporation, inventors on pending patents on EEG monitoring that are assigned to Massachusetts General Hospital, ENB is a cofounder of PASCALL. **O. Akeju:** A. Employment/Salary (full or part-time); Massachusetts General Hospital. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH NIA R01AG053582, NIH NIGMS P01GM118269. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); speaker's honoraria from Masimo Corporation, inventors on pending patents on EEG monitoring that are assigned to Massachusetts General Hospital, ENB is a cofounder of PASCALL.
605.25	**F.J. Flores:** A. Employment/Salary (full or part-time); Massachusetts General Hospital. **O. Akeju:** A. Employment/Salary (full or part-time); Massachusetts General Hospital. **J. Scholvin:** A. Employment/Salary (full or part-time); Massachusetts Institute of Technology. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-owner Neural Dynamics Technologies (SBIR phase 1 company). **E.S. Boyden:** A. Employment/Salary (full or part-time); Massachusetts Institute of Technology. **E.N. Brown:** A. Employment/ Salary (full or part-time); Massachusetts General Hospital, Massachusetts Institute of Technology. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Licensed IP for EEG monitoring to Masimo. Holds interst in PASCALL, a company to develop state control systems for anesthesia.
606.15	**M.E. Ragozzino:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/

PRESENTATION NUMBER	STATEMENT
	patent holder, excluding diversified mutual funds); Co-Patent Holder on Muscarinic Agonists as Enhancers of Cognitive Flexibility. **W.S. Messer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-Patent Holder on Muscarinic Agonists as Enhancers of Cognitive Flexibility.
610.04	**S. Kantor:** A. Employment/Salary (full or part-time); Transpharmation Ltd. **B. Laursen:** A. Employment/ Salary (full or part-time); H. Lundbeck A/S. **N. Upton:** A. Employment/Salary (full or part-time); Transpharmation Ltd.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Transpharmation Ltd. **J.F. Bastlund:** A. Employment/Salary (full or part-time); H. Lundbeck A/S. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); H. Lundbeck A/S.
610.06	**T.H. Svensson:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Swedish Research Council, The Swedish Brain Foundation, AstraZeneca, Organon, Schering-Plough, Merck Sharp and Dome, Lundbeck, Astellas, Intra-Cellular Therapies. F. Consulting Fees (e.g., advisory boards); AstraZeneca, Janssen, Lundbeck, Otsuka, Merck Sharp and Dome, Organon, Pfizer, Carnegie Health care Funds.
610.07	**R. Hodgson:** A. Employment/Salary (full or part-time); Takeda Pharmaceuticals. **J. Atienza:** A. Employment/ Salary (full or part-time); Takeda Pharmaceuticals. **H. Reichard:** A. Employment/Salary (full or part-time); Takeda Pharmaceuticals. **V. Mulligan:** A. Employment/ Salary (full or part-time); Takeda Pharmaceuticals. **J. Cilia:** A. Employment/Salary (full or part-time); Takeda Pharmaceuticals. **H. Monenschein:** A. Employment/ Salary (full or part-time); Takeda Pharmaceuticals. **D. Collia:** A. Employment/Salary (full or part-time); Takeda Pharmaceuticals. **J. Ray:** A. Employment/ Salary (full or part-time); Takeda Pharmaceuticals. **G. Kilpatrick:** A. Employment/Salary (full or part-time); Takeda Pharmaceuticals. **M. Carlton:** A. Employment/ Salary (full or part-time); Takeda Pharmaceuticals. **S. Hitchcock:** A. Employment/Salary (full or part-time); Takeda Pharmaceuticals. **G. Corbett:** A. Employment/ Salary (full or part-time); Takeda Pharmaceuticals. **H.H. Schiffer:** A. Employment/Salary (full or part-time); Takeda Pharmaceuticals.
610.09	**A.K. Shinde:** A. Employment/Salary (full or part-time); Suven Life Sciences. **J. Tadiparthi:** A. Employment/Salary (full or part-time); Suven Life Sciences. **J. Fernandes:** A. Employment/Salary (full or part-time); Suven Life Sciences. **R. Medapati:** A. Employment/Salary (full or part-time); Suven Life Sciences. **A. Vyuru:** A. Employment/Salary (full or part-time); Suven Life Sciences. **S. Petlu:** A. Employment/Salary (full or part-time); Suven Life Sciences. **V. Mekala:** A. Employment/Salary (full or part-time); Suven Life Sciences. **R. Subramanian:** A. Employment/ Salary (full or part-time); Suven Life Sciences. **S. Edula:** A. Employment/Salary (full or part-time); Suven Life Sciences. **M. Srirangavaram:** A. Employment/Salary (full or part-time); Suven Life Sciences. **R. Abraham:** A. Employment/ Salary (full or part-time); Suven Life Sciences. **P. Achanta:** A. Employment/Salary (full or part-time); Suven Life Sciences. **J. Thentu:** A. Employment/Salary (full or part-time); Suven Life Sciences. **N. Muddana:** A. Employment/ Salary (full or part-time); Suven Life Sciences. **R. Nirogi:** A. Employment/Salary (full or part-time); Suven Life Sciences.
610.16	**H.Y. Meltzer:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NIDA, Acadia, • Sumitomo Dainippon Pharma , Sunovion, Eli Lilly, Lundbeck.
610.19	**P. Banerjee:** A. Employment/Salary (full or part-time); employee. **H.Y. Meltzer:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Research grant. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); receipt of drugs. F. Consulting Fees (e.g., advisory boards); consulting.
610.20	**H.Y. Meltzer:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NIDA, REPROOF Sumitomo Dainippon Pharma Co., Ltd, Acadia, Allergan, Eli Lilly, Sunovion, Takeda.
610.29	**D.A. Lewis:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Pfizer, Merck.
611.01	**C.R. Uytingco:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); 10X Genomics. **Y. Yin:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); 10X Genomics. **J. Chew:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); 10X Genomics. **M. Frey:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); 10X Genomics. **S. Ziraldo:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); 10X Genomics. **F. Meschi:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); 10X Genomics. **A. Hartnett:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); 10X Genomics. **E.R. Iyer:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); 10X Genomics. **S. Giacomello:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); 10X Genomics. **A. Jurek:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **J. Chell:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **S. Chatterjee:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **A. Puleo:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **J. Abousoud:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **S. Williams:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **E. Borgstrom:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **A. He:**

PRESENTATION NUMBER	STATEMENT
	A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **N. Dshkhunyan:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **N. Weisenfeld:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **N. Delaney:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **Z. Bent:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **J. Herschleb:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics. **T.S. Mikkelsen:** A. Employment/Salary (full or part-time); 10X Genomics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 10X Genomics.
611.04	**X. Qian:** A. Employment/Salary (full or part-time); CARTANA AB. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CARTANA AB. **M. Nilsson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CARTANA AB.
611.08	**A.M. Zador:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); owner and founder of MapNeuro.
611.09	**A.M. Zador:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MapNeuro owner/ founder.
612.22	**P.S. Xu:** A. Employment/Salary (full or part-time); Inscopix. **S. Gulati:** A. Employment/Salary (full or part-time); Inscopix. **A.M. Stamatakis:** A. Employment/Salary (full or part-time); Inscopix.
612.26	**K. Zitelli:** A. Employment/Salary (full or part-time); Inscopix, Inc. **S. Xu:** A. Employment/Salary (full or part-time); Inscopix, Inc. **S. Gulati:** A. Employment/Salary (full or part-time); Inscopix, Inc. **A. Stamatakis:** A. Employment/ Salary (full or part-time); Inscopix, Inc..
612.27	**E.R. Schreiter:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); E.R.S. is an inventor on US patent number 9,518,996 and US patent application 15/335,707.
613.01	**C.K.E. Jung:** A. Employment/Salary (full or part-time); Employee of PhenoSys GmbH. **Y. Winter:** A. Employment/ Salary (full or part-time); CEO of PhenoSys GmbH.
613.08	**A. White:** A. Employment/Salary (full or part-time); StemoniX. **C. Carromeu:** A. Employment/Salary (full or part-time); StemoniX. **B.D. Anson:** A. Employment/Salary (full or part-time); StemoniX. **C. Chapman:** A. Employment/ Salary (full or part-time); StemoniX. **C. Tomaro-Duchesneau:** A. Employment/Salary (full or part-time); StemoniX. **M. Johnson:** A. Employment/Salary (full or part-time); StemoniX. **J. Seelke:** A. Employment/Salary (full or part-time); StemoniX. **N. Paidimukkala:** A. Employment/ Salary (full or part-time); StemoniX. **F. Zanella:** A. Employment/Salary (full or part-time); StemoniX. **M. Peris:** A. Employment/Salary (full or part-time); StemoniX.
613.13	**I. Redwan:** A. Employment/Salary (full or part-time); CELLINK. **J. Blell:** A. Employment/Salary (full or part-time); CELLINK. **N. Duong:** A. Employment/Salary (full or part-time); CELLINK. **E. Gatenholm:** A. Employment/Salary (full or part-time); CELLINK. **K. Laha:** A. Employment/Salary (full or part-time); BrainXell. **B. Dungar:** A. Employment/ Salary (full or part-time); BrainXell.
613.14	**J. Schouenborg:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); share holder in Neuronano Inc. that holds a patent on the electrode design..
614.05	**A. Harrison:** A. Employment/Salary (full or part-time); BioCircuit Technologies. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BioCircuit Technologies. **M. Sonntag:** A. Employment/Salary (full or part-time); BioCircuit Technologies. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BioCircuit Technologies. **E. Brown:** A. Employment/ Salary (full or part-time); BioCircuit Technologies. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BioCircuit Technologies. **A.J. Preyer:** A. Employment/Salary (full or part-time); BioCircuit Technologies. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BioCircuit Technologies. **I.P. Clements:** A. Employment/Salary (full or part-time); BioCircuit Technologies. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BioCircuit Technologies.
614.16	**T. Subramanian:** D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Adamas, Teva, Acadia, US World Meds. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Taylor Francis Publishing. F. Consulting Fees (e.g., advisory boards); Adamas, Teva, Acadia, US World Meds.
614.19	**T. Kangarloo:** A. Employment/Salary (full or part-time); Biogen. **A. Gupta:** F. Consulting Fees (e.g., advisory boards); Biogen. **S. Chew:** F. Consulting Fees (e.g., advisory boards); Biogen. **A. Steinman:** A. Employment/ Salary (full or part-time); Biogen. **J. Severson:** A. Employment/Salary (full or part-time); Digital Artefacts. **J. Berry:** F. Consulting Fees (e.g., advisory boards); Biogen. **J.D. Cosman:** A. Employment/Salary (full or part-time); Biogen.
614.25	**S. Youssef:** A. Employment/Salary (full or part-time); Distributed Bio. **S. Ives:** A. Employment/Salary (full or part-time); Distributed Bio. **D. Maurer:** A. Employment/ Salary (full or part-time); Distributed Bio. **V. Chiou:** A. Employment/Salary (full or part-time); Distributed Bio. **C. Pettus:** A. Employment/Salary (full or part-time); Distributed Bio. **R. Newland:** A. Employment/Salary (full or part-time); Distributed Bio. **S. Daraeikia:** A. Employment/ Salary (full or part-time); Distributed Bio. **C. Jones:** A. Employment/Salary (full or part-time); Distributed Bio. **K. Hervold:** A. Employment/Salary (full or part-time); Distributed Bio. **G. Day:** A. Employment/Salary (full or part-time); Distributed Bio. **C. Smith:** A. Employment/ Salary (full or part-time); Distributed Bio. **C.S. Peritore:** A. Employment/Salary (full or part-time); Charles River Labs. **I. Waddell:** A. Employment/Salary (full or part-time); Charles River Labs. **J. Glanville:** A. Employment/Salary (full or part-time); Distributed Bio.
615.07	**S. Allam:** A. Employment/Salary (full or part-time); IBM Research. **T. Rumbell:** A. Employment/Salary (full or part-time); IBM Research. **T.M. Hoang Trong:** A. Employment/ Salary (full or part-time); IBM Research. **J. Kozloski:** A. Employment/Salary (full or part-time); IBM Research.
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PRESENTATION NUMBER	STATEMENT
615.13	**S.F. Lempka:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Presidio Medical Inc.. F. Consulting Fees (e.g., advisory boards); Presidio Medical Inc..
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616.09	**A. Borthakur:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); US Provisional Patent 8631-01-US. **T.A. Cleland:** B. Contracted Research/ Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Intel INRC Research Grant. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Loihi access (cloud server, hardware loan). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); US Provisional Patent 8631-01-US.

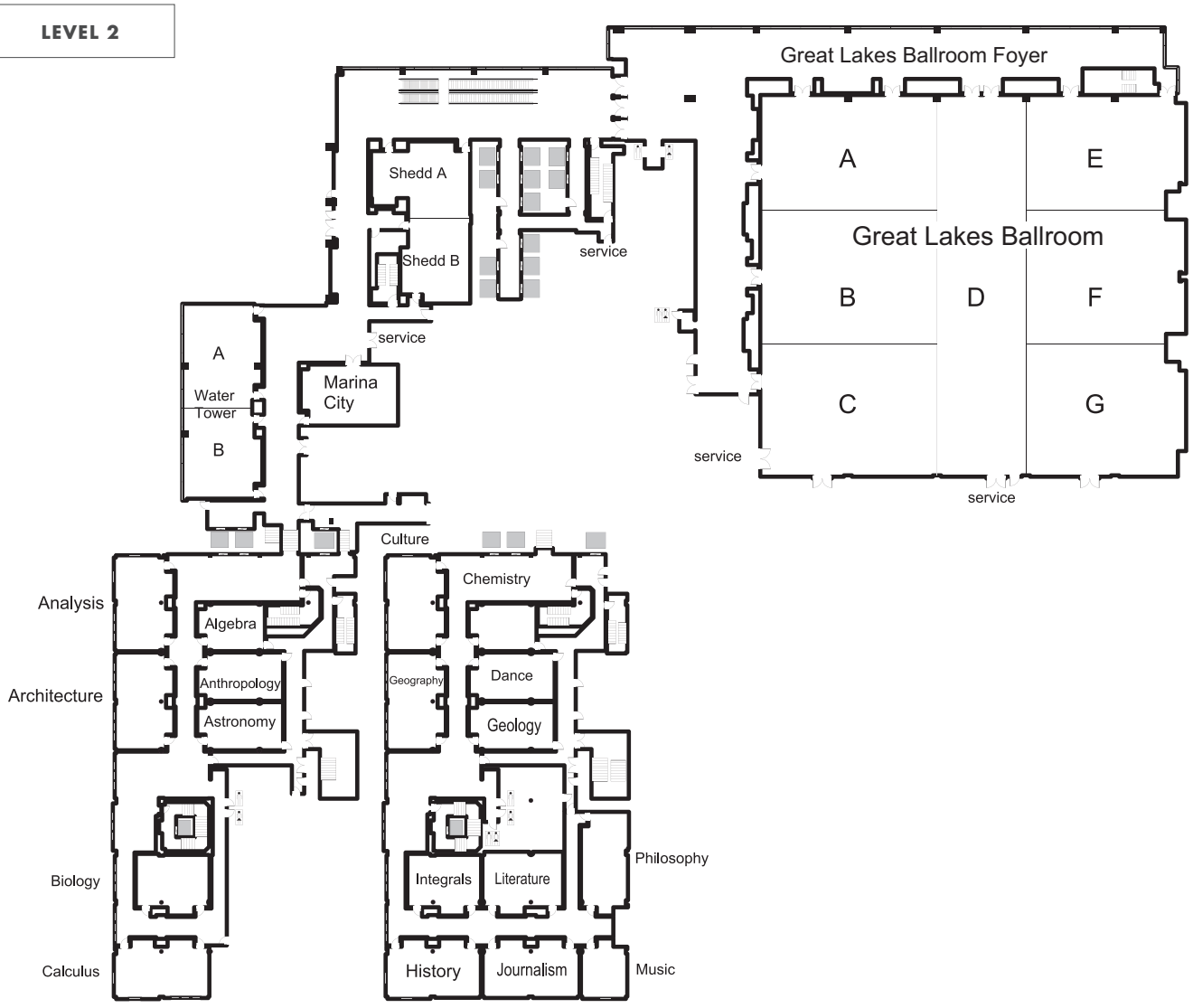
Hotel Floor Plans

MARRIOTT MARQUIS CHICAGO

2121 S. PRAIRIE AVENUE

CHICAGO, ILLINOIS 60616

LEVEL 2



Hotel Floor Plans

HYATT REGENCY McCORMICK PLACE

2233 SOUTH DR. MARTIN LUTHER KING JR. DRIVE

CHICAGO, ILLINOIS 60616

LEVEL 2

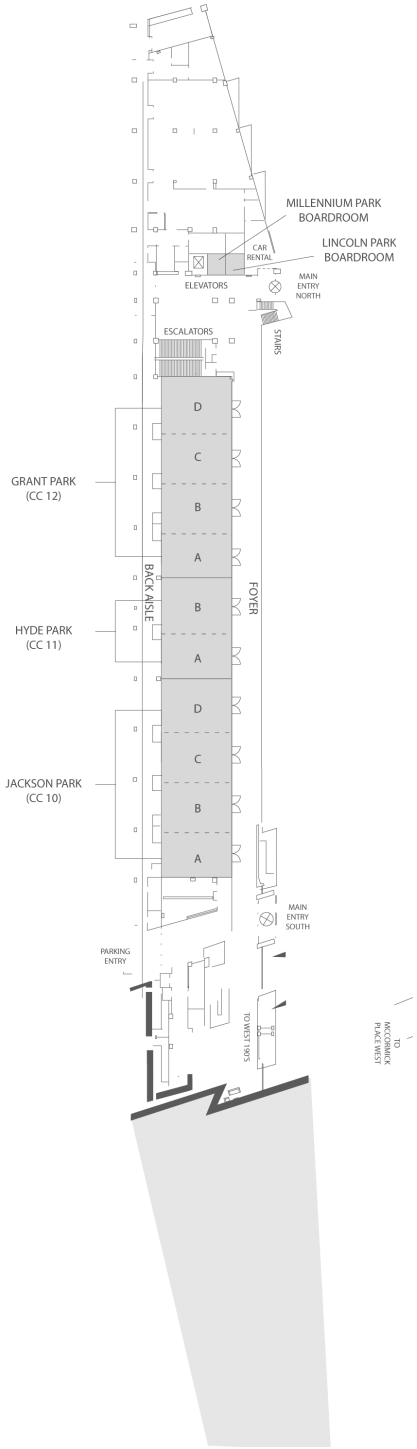
Hotel Floor Plans

HYATT REGENCY McCORMICK PLACE

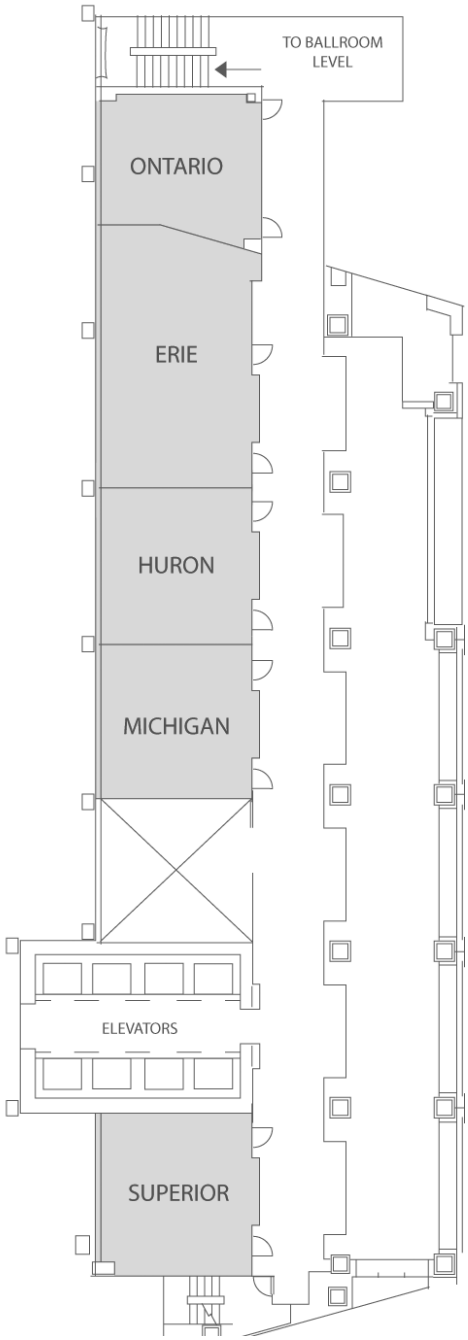
2233 SOUTH DR. MARTIN LUTHER KING JR. DRIVE

CHICAGO, ILLINOIS 60616

LEVEL 1



LEVEL 3



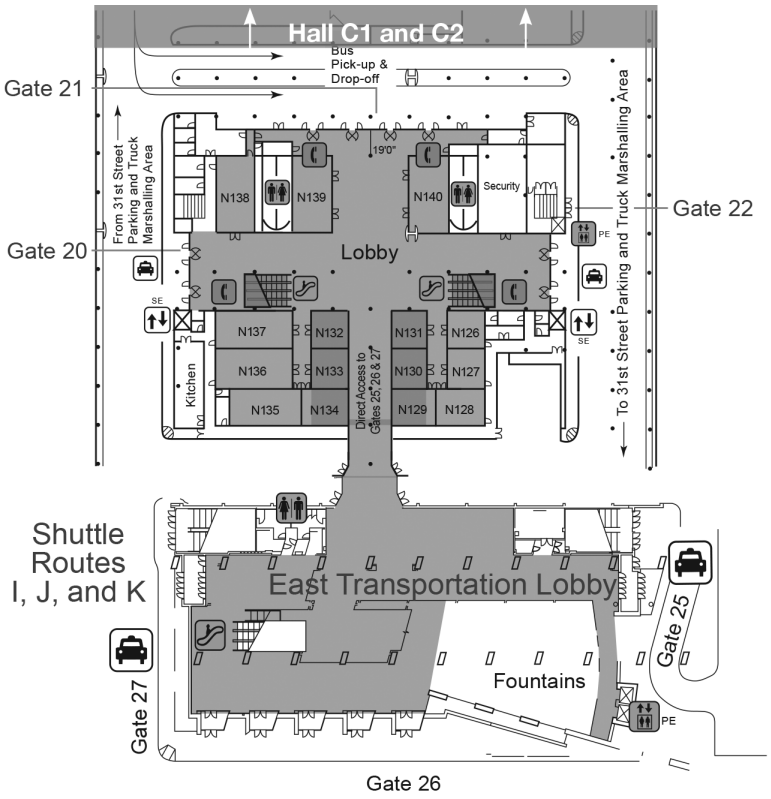
Convention Center Floor Plans

McCORMICK PLACE

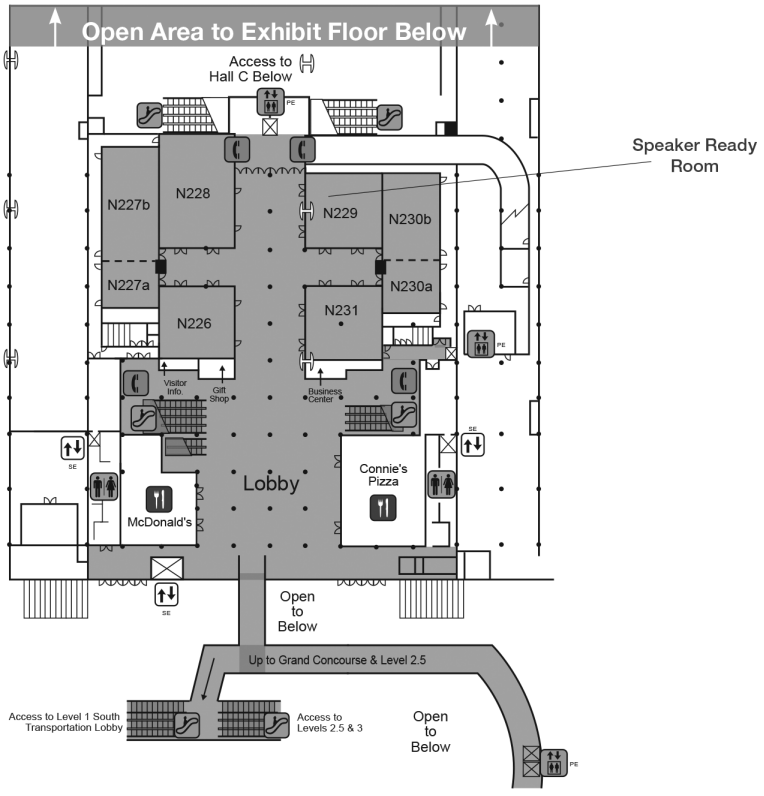
2301 S. MARTIN LUTHER KING DRIVE

CHICAGO, ILLINOIS 60616

LEVEL 1 NORTH



LEVEL 2 NORTH



Convention Center Floor Plans

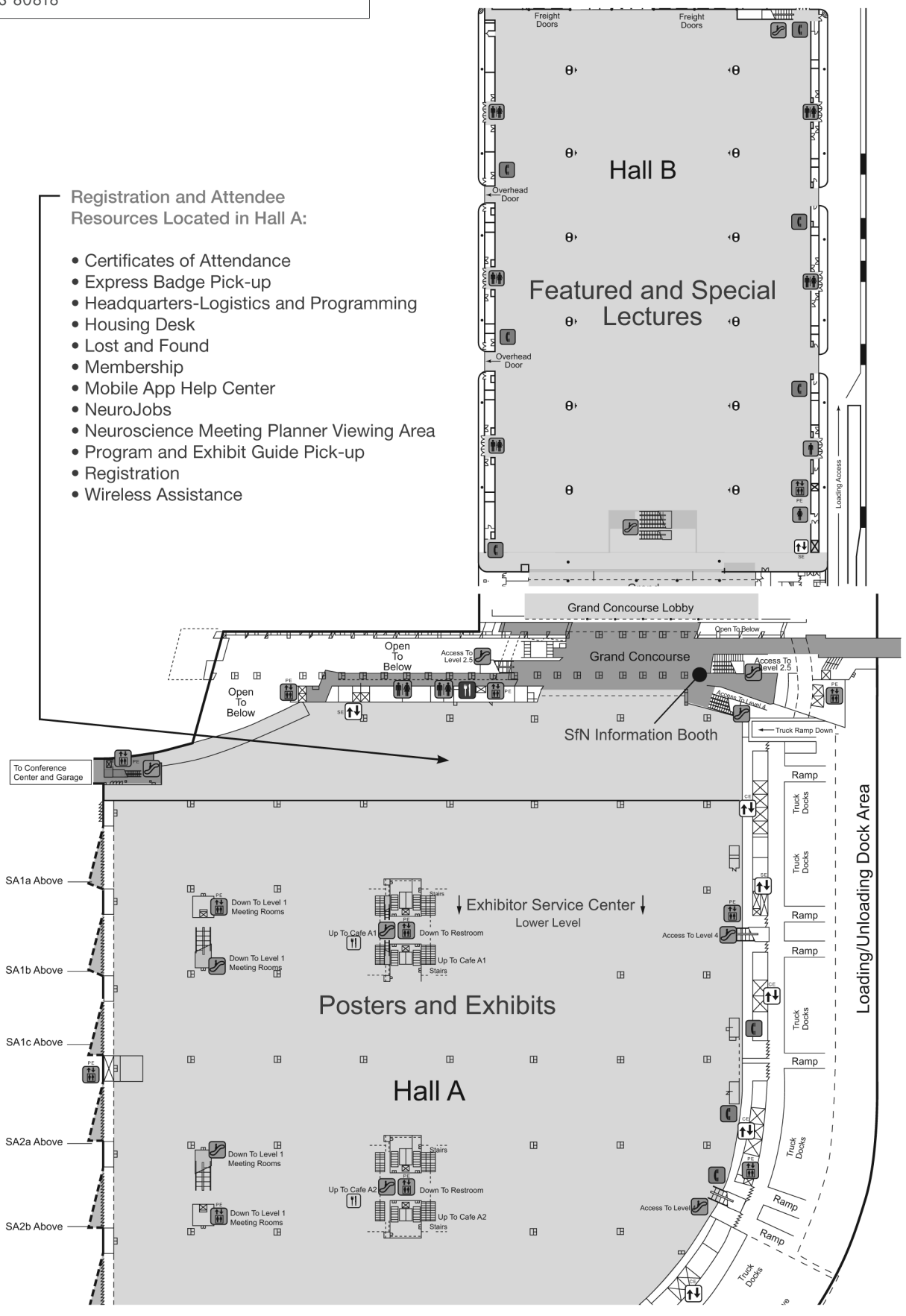
McCORMICK PLACE
2301 S. MARTIN LUTHER KING DRIVE
CHICAGO, ILLINOIS 60616

LEVEL 3 NORTH

Registration and Attendee Resources Located in Hall A:

- Certificates of Attendance
- Express Badge Pick-up
- Headquarters-Logistics and Programming
- Housing Desk
- Lost and Found
- Membership
- Mobile App Help Center
- NeuroJobs
- Neuroscience Meeting Planner Viewing Area
- Program and Exhibit Guide Pick-up
- Registration
- Wireless Assistance

LEVEL 3 SOUTH



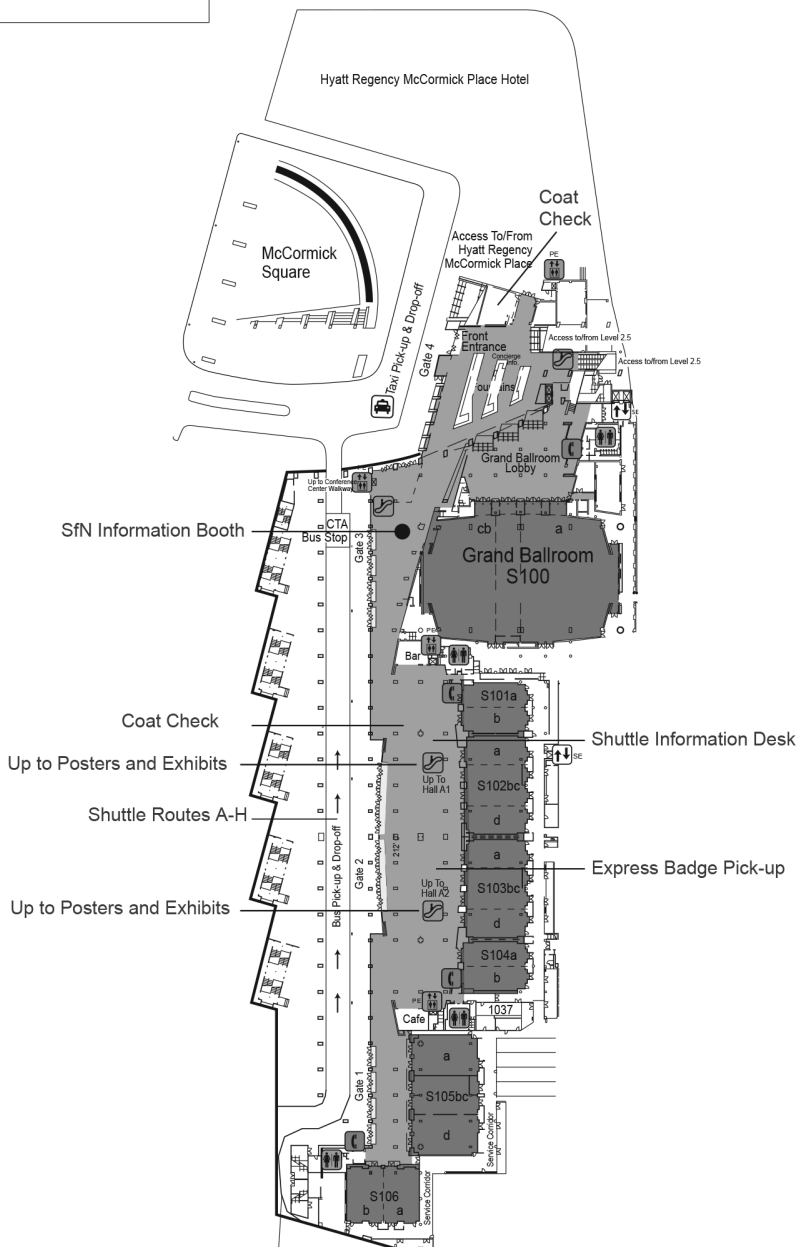
Convention Center Floor Plans

McCORMICK PLACE

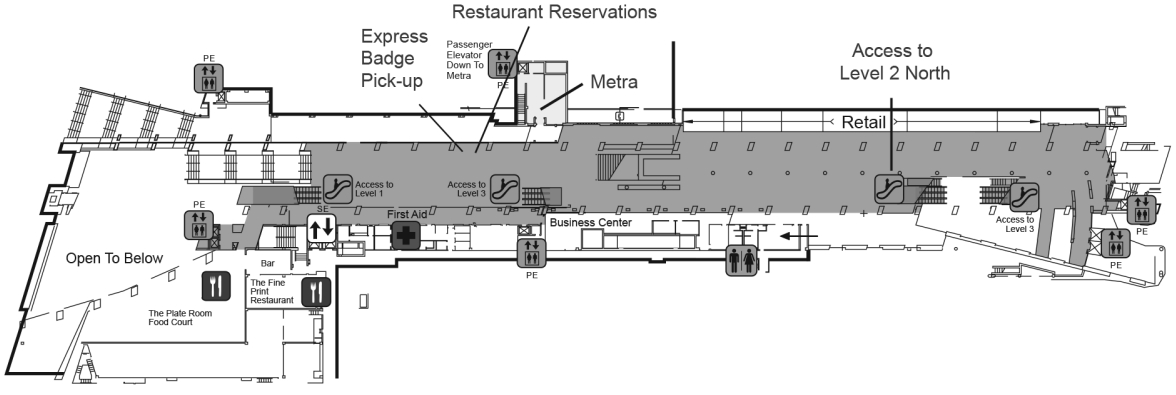
2301 S. MARTIN LUTHER KING DRIVE

CHICAGO, ILLINOIS 60616

LEVEL 1 SOUTH

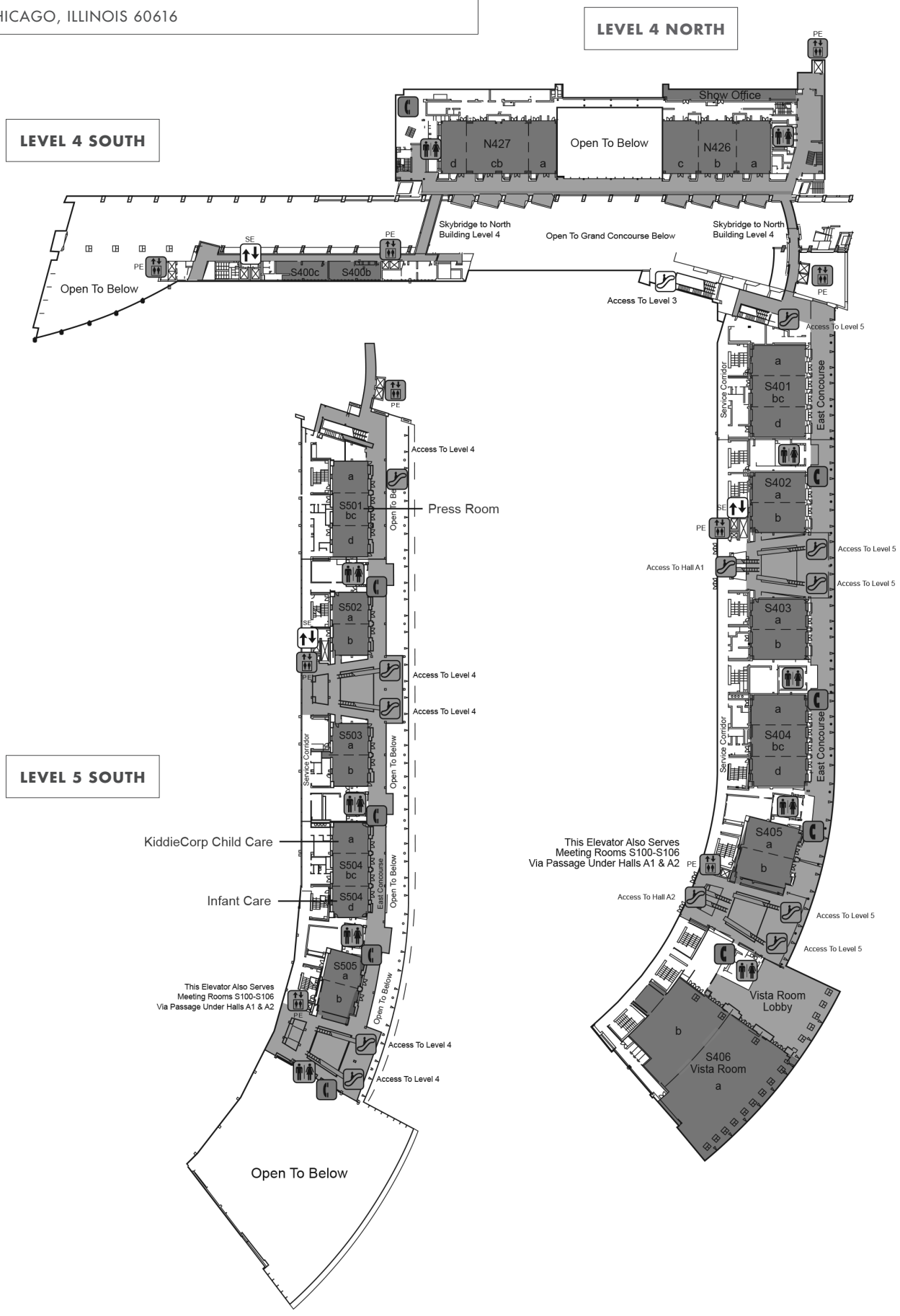


LEVEL 2.5 SOUTH



Convention Center Floor Plans

McCORMICK PLACE
2301 S. MARTIN LUTHER KING DRIVE
CHICAGO, ILLINOIS 60616



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Symposia / Minisymposia: January 7

Abstracts: April 30

NEUROSCIENCE 2020

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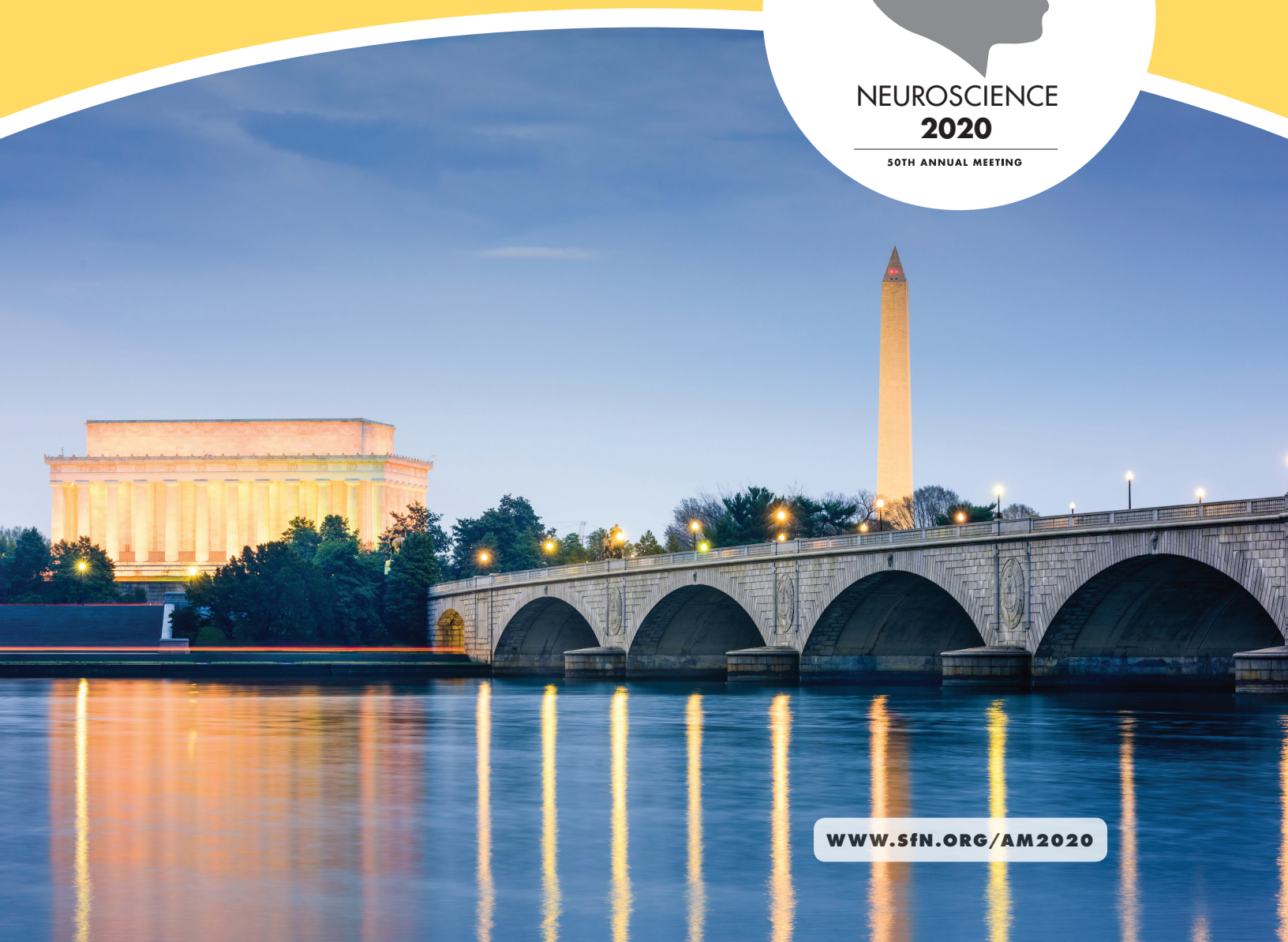

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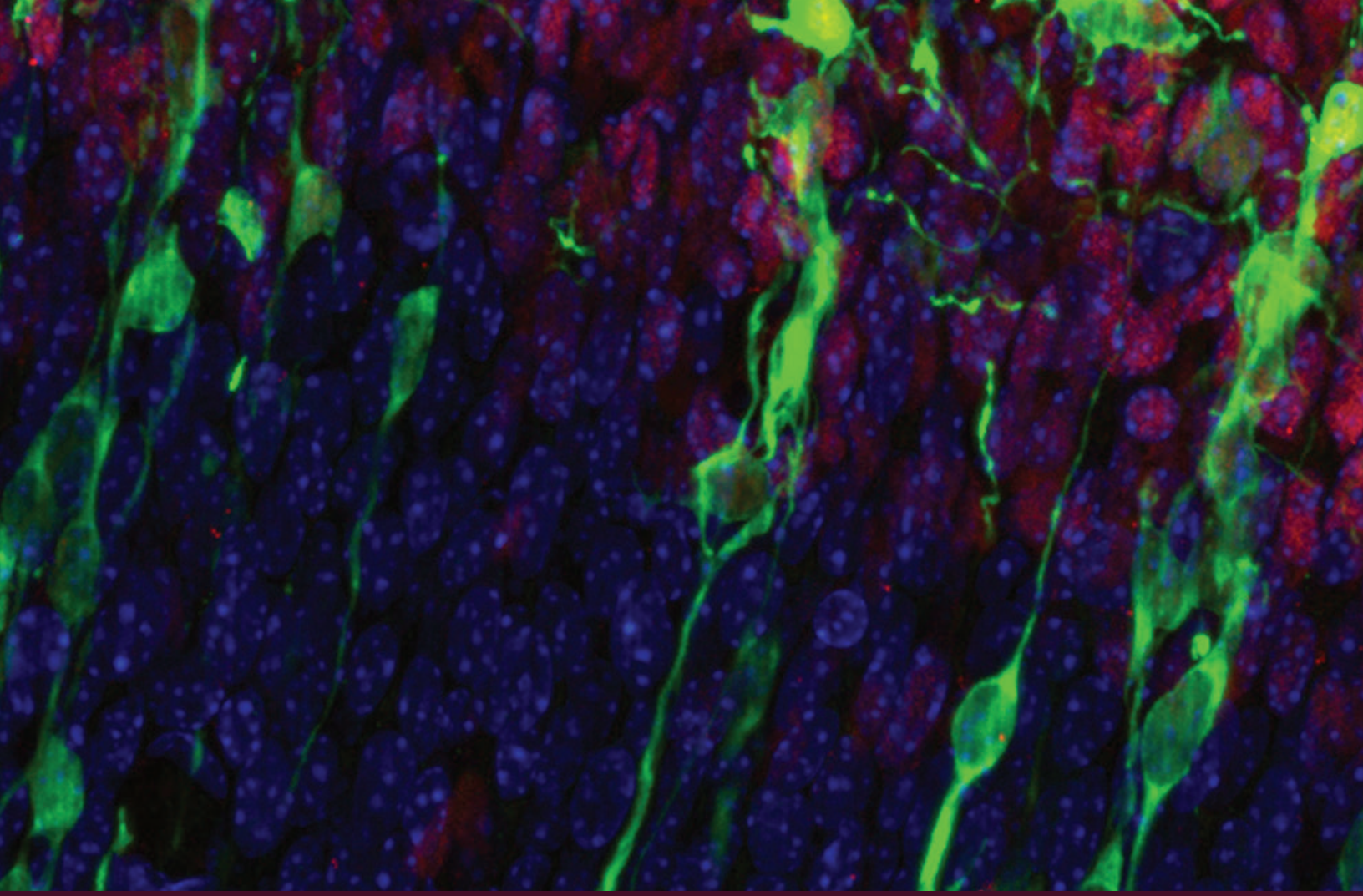

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