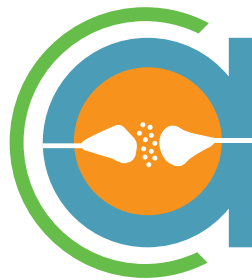


WEDNESDAY



NEUROSCIENCE
2019

SESSION LISTING 618-797

1969-2019



Information at a Glance

GENERAL INFORMATION PROGRAM | WWW.SfN.ORG/AM2019

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

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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

SfN is committed to supporting discovery and scientific dialogue, and to fostering a welcoming community in which all scientists are able to contribute fully. The Society asserts that sexual harassment and other harassing behaviors have no place in a healthy scientific enterprise. We expect all attendees, media, speakers, volunteers, organizers, venue staff, guests, and exhibitors at SfN-organized events to help us ensure a safe and positive environment. At the convention center, onsite medical and security personnel are available directly or through the SfN headquarters office.

If attendees experience unwelcome or unsafe situations anywhere in the city, attendees should swiftly contact local authorities (dial 9-1-1). Additional local social services resources are listed in one convenient location at www.changingourcampus.org.

Any official report of a violation of the code of conduct should be brought to the designated Human Resources Officer in the SfN headquarters office in the convention center or sent via email to hrofficer@sfn.org. The HR officer will facilitate the completion of a report by a complainant.

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Cover Image:

Image of a single transgenically labelled neuron surrounded by several labelled astrocytes. Each structure is color-coded by relative depth (blue is deepest, red most superficial). Note the cloud-like nature of astrocytic structures. Additional technical details: Original data (unpublished) obtained using 3D two-photon imaging in acute cortical brain slices of adult mice, 3D stack data size 335 × 313 × 70 μm (x, y, z; lateral resolution 0.541 μm/voxel, axial 1.0 μm/voxel). *Journal of Neuroscience* 3 January 2018, 38 (1) 3-13.

Courtesy with permission:

Iaroslav Savtchouk and Andrea Volterra.

Complete Session Listing

Wednesday AM

SYMPOSIUM *McCormick Place*

618. New Approaches to Vision Restoration — CME

Wed. 8:30 AM - 11:00 AM — Room: S100A

Chair: J. R. SANES, *Harvard University*

Co-Chair: P. A. SIEVING, *Natl. Eye Institute, NIH*

A variety of translational strategies are being developed to restore vision to those who have blinding diseases. This symposium features premier investigators who will highlight four different approaches by discussing cutting-edge research in gene therapy, cell therapy, retinal prostheses, and optogenetic therapy. It will inform the community about the current state of the science using these approaches and highlight their potential to treat debilitating diseases of the visual system.

8:30 **618.01** Introduction.

8:35 **618.02** Restoring Vision Using Cell-Type-Targeted Optogenetics. B. ROSKA. *Friedrich Miescher Institute.*

9:10 **618.03** Photovoltaic Restoration of Sight in Retinal Degeneration. D. PALANKER. *Stanford Univ.*

9:45 **618.04** Adult RPESCs and the potential of endogenous progenitor cells to repair human retina. S. TEMPLE. *Neural Stem Cell Inst.*

10:20 **618.05** From DNA through FDA and EMA: Development of the first approved gene therapy for an inherited blinding disease. J. BENNETT. *Univ. of Pennsylvania Perelman Sch. of Med.*

10:55 **618.06** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

619. Pleiotropic Mitochondria: The Influence of Mitochondria on Neuronal Development and Disease — CME

Wed. 8:30 AM - 11:00 AM — Room: S102

Chair: J. COURCHET, *INSERM*

Co-Chair: S. KWON, *Korea Inst. of Sci. and Technol. (KIST)*

Mitochondria are a central organelle in the regulation of neuronal metabolism and synaptic transmission. This minisymposium aims to present exciting novel developments regarding mitochondria biology and its role in neuronal development in a physiological and pathological context.

8:30 **619.01** Introduction.

8:35 **619.02** Powering the brain: dissecting the energy supplies of presynaptic and postsynaptic function. V. RANGARAJU. *Max Planck Inst. for Brain research.*

8:55 **619.03** Compartmentalized regulation of mitochondrial fission controls axonal development. T. L. LEWIS, Jr. *Oklahoma Med. Res. Fndn.*

9:15 **619.04** Roles of ER-mitochondria contact in neurons. Y. HIRABAYASHI. *The Univ. of Tokyo.*

9:35 **619.05** Role of mitochondrial dynamics in adult hippocampal neurogenic circuits. M. BERGAMI. *Univ. Hosp. Cologne.*

9:55 **619.06** Elucidating metabolic adaptation to mitochondrial dysfunction in neurodegeneration. E. MOTORI. *Max Planck Inst.*

10:15 **619.07** Mitochondrial positioning: key mechanism for optic nerve physiology and repair. R. CARTONI. *Dept. of Ophthalmology, Duke Eye Center, Duke Univ.*

10:35 **619.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

620. Regulation and Dysregulation of Activity Homeostasis in Central Neural Circuits — CME

Wed. 8:30 AM - 11:00 AM — Room: S406B

Chair: I. SLUTSKY, *Tel Aviv University*

Co-Chair: S. BARNES, *Imperial Col. of London*

A fundamental challenge in the field of neuroscience is to understand how neurons and neural networks maintain stable firing rates in the face of continuous synaptic, metabolic and molecular turnover. This minisymposium will explore how neural homeostasis is implemented at different spatial scales and across diverse brain regions. Importantly, how current findings can be reconciled with other plasticity mechanisms and the disease implications of homeostasis failures will also be discussed.

8:30 **620.01** Introduction.

8:35 **620.02** Functional signatures of subcellular homeostatic plasticity *in vivo*. S. BARNES. *Imperial Col. of London.*

8:55 **620.03** Long-term stability and plasticity of cell assemblies in the mouse auditory cortex. S. RUMPEL. *Univ. Med. Ctr. Johannes Gutenberg Univ. Mainz.*

9:15 **620.04** Functional stability in a dynamic network. Y. LOEWENSTEIN. *Hebrew Univ. of Jerusalem.*

9:35 **620.04** Sleep/wake control of synaptic homeostasis. C. CIRELLI. *Univ. of Wisconsin-Madison.*

9:55 **620.05** Regulation of population activity set-point and its dysregulation in brain disorders. I. SLUTSKY. *Tel Aviv Univ.*

10:15 **620.06** Homeostatic plasticity and network dynamics: long term computational stability in the brain. K. HENGGEN. *WASHINGTON UNIVERSITY.*

10:35 **620.08** Closing Remarks.

Wed. AM

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

MINISYMPOSIUM *McCormick Place*

621. Brain Circuits for the Selection and Scaling of Defensive Behavior — CME

Wed. 8:30 AM - 11:00 AM — Room: S105

Chair: S. MAREN, *Texas A&M University*

Threatening stimuli evoke a range of behavioral responses that are selected and scaled according to the proximity of the danger. This minisymposium will examine the neural circuits that underlie defensive behaviors under threat. Sex, context, threat proximity, and safety signals regulating defensive responses in both rodents and humans will be considered.

- 8:30 **621.01** Introduction.
- 8:35 **621.02** Corticolimbic circuits in the flexible switching between reward seeking and fear behaviors in response to safety cues. S. SANGHA. *Purdue Univ.*
- 8:55 **621.03** Competitive inhibitory circuits for selection of active and passive fear responses. J. P. FADOK. *Tulane Univ.*
- 9:15 **621.04** Threat-related behavioral diversity within and across the sexes. R. SHANSKY. *Northeastern Univ.*
- 9:35 **621.05** Safety and flight decisions in humans. D. Mobbs. *California Institute of Technology*
- 9:55 **621.06** Prefrontal circuits that drive active avoidance. M. M. DIEHL. *Kansas State Univ.*
- 10:15 **621.07** Neural circuits controlling context-dependent defensive behavior. S. MAREN. *Texas A&M Univ.*
- 10:35 **621.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

622. Grid-Like Hexadirectional Modulation of Neural Activity in Humans — CME

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

Chair: N. SUTHANA, *University of California, Los Angeles*

Neurons have been shown to increase in firing rate with a hexagonal grid pattern as an animal navigates an environment. Recently, studies show that population signals of neural activity (i.e., LFP and fMRI) exhibit similar hexadirectional modulation in humans. These findings from human grid-like oscillatory and fMRI signals will be discussed as well as how they relate to each other and rodent studies. This minisymposium will also focus on how findings relate to spatial navigation and memory in humans.

- 8:30 **622.01** Introduction.
- 8:35 **622.02** Hexadirectional modulation of human high frequency electrophysiological activity during navigation. T. STAUDIGL. *Ludwig-Maximilians-University Munich.*
- 8:55 **622.03** Grid-like representations of visual space in human entorhinal cortex. J. B. JULIAN. *Kavli Institute for Systems Neuroscience, NTNU.*
- 9:15 **622.04** Grid cells and transition structures. N. BURGESS. *UCL.*
- 9:35 **622.05** Human low and high theta oscillations related to navigation, memory, and entorhinal grid cells. J. JACOBS. *Columbia University.*

- 9:55 **622.06** Entorhinal theta oscillations show grid-like representation during human spatial navigation. L. WANG. *Institute of Psychology, Chinese Academy of Sciences.*
- 10:15 **622.07** Grid-like hexadirectional modulation of theta oscillations during freely moving spatial navigation in humans. Z. M. AGHAJAN. *UCLA.*
- 10:35 **622.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

623. Timing is Everything: Temporally Irregular Stimulation Patterns for Brain Mapping and Clinical Therapeutics — CME

Wed. 8:30 AM - 11:00 AM — Room: S406A

Chair: A. S. WIDGE, *University of Minnesota*

Brain stimulation therapies have revolutionized movement disorder treatment, hold promise in mental disorders, and are powerful tools for studying the brain. Clinical stimulation is delivered without consideration of how it interacts with ongoing brain activity. This minisymposium explores the growing evidence that when we stimulate is as important as where. New, precisely timed stimulation sequences, each of which has useful physiologic effects, will be described.

- 8:30 **623.01** Introduction.
- 8:35 **623.02** Stimulating at the right time: phase specific deep brain stimulation for essential tremor. H. CAGNAN. *University of Oxford*
- 8:55 **623.03** Optimizing phasic stimulation for treatment of Parkinson's Disease. T. NETOFF. *University of Minnesota*
- 9:15 **623.04** Temporal patterns to understand and advance therapeutic brain stimulation. W. M. GRILL. *Duke University*
- 9:35 **623.05** Coordinated reset stimulation for modulating long-term plasticity in pathological neural networks. P. A. TASS. *Stanford University*
- 9:55 **623.06** Mood decoding and control by identifying input-output brain network dynamics with binary-noise modulated stimulation. M. M. SHANECHI. *University of Southern California*
- 10:15 **623.07** High-precision phase-locked neurostimulation creates and disrupts coherent brain networks. A. S. WIDGE. *University of Minnesota*
- 10:35 **623.08** Closing Remarks.

BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE

McCormick Place

624. Gene Therapy in Neurological Diseases — CME

Wed. 8:30 AM - 11:00 AM — Room: N230b

Speaker: B. L. DAVIDSON, *Children's Hospital of Pennsylvania.*

Speaker: B. BYRNE, *University of Florida.*

Speaker: O. DANOS, *RegenX Bio.*

Speaker: P. KAUFMANN, *Society for Neuroscience.*

Gene therapy has advanced rapidly in the past five years, with technological advances and encouraging early clinical studies. This roundtable will focus on the opportunities and challenges as the field progresses, with a focus on the development of disease-modifying therapies that address urgent unmet needs of patients with neurological disorders. Discussion topics will include: technologies that are driving the field, with a focus on AAV platforms; leveraging advances in neurogenetics to identify validated therapeutic targets and patient subpopulations; rare monogenic disorders and clinical therapeutic strategies; the pursuit of gene therapy approaches for genetically complex disorders; and CNS region- and cell-selective approaches.

8:30 **624** Organizer/Moderator. A. ABELIOVICH. *Prevail Therapeut.*

LECTURE

McCormick Place

625. SPECIAL LECTURE- Aberrant Phase Separation in Neurodegenerative Disease — CME

Wed. 10:30 AM - 11:40 AM — Hall B

Speaker: A. A. HYMAN, *Max Planck Inst. of Cell Biol. & Genet.*

Cells organize many of their biochemical reactions by formation and dissolution of non-membrane-bound compartments. Recent experiments show that a common mechanism for such biochemical organization is phase separation of unstructured proteins to form liquid-like compartments. These liquid-like compartments can be described by principles elucidated from condensed-matter physics and are therefore termed biomolecular condensates. This lecture will cover the relationship between the formation of liquid-like compartments, quality control mechanisms that preserve the liquid-like state, and the onset of aggregated-protein pathology that is commonly observed in neurodegenerative diseases.

NANOSYMPOSIUM

626. Neural Differentiation, Transplantation, and Regeneration

Theme A – Development

Wed. 8:00 AM – McCormick Place, S505

8:00 **626.01** Transplantation of human embryonic stem cell derived retinal sheets improves vision in immunodeficient rats with retinal degeneration. I. O. NASONKIN*; R. SINGH; F. BINETTE; B. LIN; P. A. WINKLER; R. B. ARAMANT; M. J. SEILER. *Biotime, Inc., Stem Cell Res. Center, Univ. of California- Irvine, Michigan State Univ., Dept. of Physical Med. & Rehabilitation, Dept. of Ophthalmology (joint appointment), Sue and Bill Gross Stem Cell Res. Center, Univ. of California, Irvine.*

8:15 **626.02** Calcium imaging for stem cell grafts in mouse neocortex: Continuous tracking and assessment of functional integration. S. S. CHA*; M. E. BUCKLIN; X. HAN. *Boston Univ.*

8:30 **626.03** Neovascularization for optimal survival of neural transplants. J. E. KRZYSPIAK*; J. YAN; B. GALINSKI; P. J. LITUMA; S. WASHBURN; P. E. CASTILLO; D. WEISER; S. ZUKIN; K. KHODAKHAH; J. M. HEBERT. *Albert Einstein Col. of Med., Albert Einstein Coll Med., Albert Einstein Col. Med.*

8:45 **626.04** Poly ADP-ribosylation regulates multiple independent molecular mechanisms to determine whether the injured nervous system achieves functional axon regeneration. M. BELEW; A. B. BYRNE*. *UMass Med. Sch.*

9:00 **626.05** Comparative analysis of single-cell transcriptomes and epigenomics in retinal injuries and glia-mediated regeneration in the vertebrate retina. T. V. HOANG*; J. WANG; P. BOYD; C. SANTIAGO; A. FISCHER; J. D. ASH; D. R. HYDE; J. QIAN; S. BLACKSHAW. *Johns Hopkins Univ., Univ. of Notre Dame, Ohio State Univ., Univ. of Florida.*

9:15 **626.06** Hemovascuogenic origin of the brain vasculature in the developing mouse. M. A. GAMA SOSA*; R. DE GASPERI; G. M. PEREZ; P. R. HOF; G. A. ELDER. *James J. Peters VA Med. Ctr., James J. Peters VA Med. Ctr., Icahn Sch. of Med. at Mount Sinai, James J. Peters VA Med. Ctr.*

9:30 **626.07** Recapitulation of the areal patterning in the cerebral cortex by human ESC/iPSC-derived cortical neurons. K. IMAIZUMI*; H. OKANO. *Dept. of Physiology, Keio Univ.*

9:45 **626.08** Investigation of the mechanisms underlying gyrification of the cerebral cortex using gyrencephalic ferrets. H. KAWASAKI*; Y. SHINMYO; N. MATSUMOTO. *Sch. of Med, Kanazawa Univ.*

10:00 **626.09** The foundations of cerebral gyrification in primates. B. G. RASH*; P. RAKIC. *Yale Univ. Sch. of Med.*

10:15 **626.10** A novel methodology to induce differentiation of a neuronal cell line, cath.a-differentiated cell. E. KHONGKLA*; W. SAENGSAWANG. *Mahidol Univ.*

NANOSYMPOSIUM

627. Genetics and Neural Mechanisms of Developmental Disorders

Theme A – Development

Wed. 8:00 AM – McCormick Place, N228

8:00 **627.01** Characterization of the brain Na-K-Cl importer NKCC1 structure-function relationship. C. PORTIOLI*; M. DE VIVO; M. ZHOU; L. CANCEDDA. *Inst. Italiano di Tecnologia, Baylor Col. of Med., Inst. Italiano di Tecnologia, Dulbecco Telethon Inst.*

8:15 **627.02** Sleep architecture changes in a mouse model of Down syndrome. P. CAIN*; H. WONG; C. BORSKI; A. COOPER SANSONE; L. LAPLANTE; J. LEVENGA; C. HOFFER, Jr. *Univ. of Colorado Boulder, DSM, Univ. of Colorado, Boulder, Anschutz Med. Sch.*

8:30 **627.03** Restoring neuronal chloride homeostasis by anti NKCC1 gene therapy rescues cognitive deficits in a mouse model of Down syndrome. A. CONTESTABILE*; M. PARRINI; S. NASKAR; M. ALBERTI; M. NANNI; G. RONZITTI; F. MINGOZZI; L. CANCEDDA. *Fondazione Inst. Italiano Di Tecnologia, Genethon, Telethon Dulbecco Inst.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:45 **627.04** Generation and characterization of mice harboring Jordan's syndrome alleles causing intellectual disability with autism. R. A. MERRILL*; C. JONG; Y. KONG; G. L. HEALEY; S. STRACK. *Univ. of Iowa, Univ. of Iowa, Univ. Iowa Col. Med.*
- 9:00 **627.05** Disease' mechanism and therapeutic targets for autism-like behavior in a mouse model of mucopolysaccharidosis type IIIA. M. DE RISI*; M. TUFANO; F. G. ALVINO; S. PULCRANO; G. C. BELLENCHI; E. MARROCCO; N. C. SORRENTINO; M. CAIAZZO; A. FRALDI; E. DE LEONIBUS. *Telethon Inst. of Genet. and Med. (TIGEM), Telethon Inst. of Genet. and Med. (TIGEM), Inst. of Genet. and Biophysics, CNR, Utrecht Inst. for Pharmaceut. Sci. (UIPS), Universiteitsweg, Utrecht, The Netherlands, TIGEM, Inst. of Cell. Biol. and Neurobio. (IBCN), Monterotondo (Rome), Natl. Res. Council, Italy.*
- 9:15 **627.06** Impaired neocorticalgenesis and glymphatic-mediated CSF flow in the new genetic rat model of neonatal hydrocephalus. J. GOTO*; S. EMMERT; E. IWASAWA; C. SHULA; D. LINDQUIST; F. MANGANO. *Cincinnati Children's Hosp., Cincinnati Children's Hosp.*
- 9:30 **627.07** Loss of mitochondrial protein interactors through mutation associated with FOXG1 syndrome. D. C. S. TAN; L. M. ITTNER; F. DELERUE. *Macquarie Univ., Macquarie Univ.*
- 9:45 **627.08** Prenatal ultrasound of movement coordination after mild maternal hyperthermia (low grade fever) predicts differences in attachment and impulsivity in guinea pigs. G. A. KLEVEN*; Y. ARGUMEDO; S. GANN. *Wright State Univ.*
- 10:00 **627.09** Myelin and G-ratio imaging in 22q11.2 deletion syndrome: A pilot study. J. VILLALON REINA*; T. M. NIR; L. KUSHAN; C. E. BEARDEN; N. JAHANSHAD; P. M. THOMPSON. *USC Imaging Genet. Ctr., USC, Univ. of California Los Angeles, UCLA, USC, Univ. of Southern California (USC).*

NANOSYMPOSIUM

628. Reactive Astrocytes: Molecular Mechanisms and Disease Models

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 8:00 AM – McCormick Place, S405

- 8:00 **628.01** FITSAR: A novel method to generate cell type-specific protein signatures in human Alzheimer's disease brain. J. S. SADICK*; L. CRAWFORD; H. C. CRAMER; C. FRANCK; S. A. LIDDELOW; E. M. DARLING. *NYU Sch. of Med., Brown Univ., Univ. of Wisconsin-Madison.*
- 8:15 **628.02** A novel druggable mechanism of action of cellular stress in astrocytes as a target for glioprotection. P. KOULEN*; J. C. MEANS; A. A. LOPEZ. *Univ. of Missouri Kansas City.*
- 8:30 **628.03** WNT downstream signalling modulates the neurotrophic versus neurotoxic fates of astrocytes: Implications in the Alzheimer's disease (AD). H. CHOW*; K. CHENG; H. HUNG. *The Chinese Univ. of Hong Kong, The Hong Kong Polytechnic Univ., The Hong Kong Polytechnic Univ.*
- 8:45 **628.04** Programmable modulation of extracellular vesicles. H. WANG*; Y. WANG; R. MELVIN; L. BEMIS; G. WORRELL. *Mayo Clinic/Mayo Fnd, Univ. of Minnesota at Duluth.*

- 9:00 **628.05** Astrocytic proBDNF and tonic GABA distinguish active versus reactive astrocytes in hippocampus. H. CHUN*; H. AN; J. LIM; J. WOO; J. LEE; H. RYU; C. J. LEE. *Inst. of Basic Sci., Baylor Col. of Med., Korea Food Res. Inst., Korea Inst. of Sci. and Technol.*
- 9:15 **628.06** Aberrant neuroglial coupling the in PFC contributes to cocaine-induced cognitive deficits. R. D. COLE*; P. I. ORTINSKI. *Univ. of Kentucky.*
- 9:30 **628.07** Characterization of functional astrogliosis using human induced pluripotent stem cells-derived astrocytes. P. TRINDADE*; L. R. Q. SOUZA; J. D. SALERNO; E. C. LOIOLA; P. L. CARDOZO; S. DEVALLE; I. M. ORNELAS; F. M. RIBEIRO; A. M. VENTURA; D. P. GELAIN; L. O. PORCIÚNCULA; S. K. REHEN. *Univ. Federal do Estado do Rio de Janeiro - UNIRIO, D'Or Inst. for Res. and Educ. (IDOR), D'Or Inst. for Res. and Educ., Univ. Federal do Rio de Janeiro - UFRJ, Univ. Federal de Minas Gerais - UFMG, Univ. Federal de Minas Gerais - UFMG, Univ. Federal Fluminense - UFF, Univ. Federal do Rio Grande do Sul - UFRGS, Univ. Federal do Rio Grande do Sul - UFRGS.*

NANOSYMPOSIUM

629. Parkinson's Disease: Cellular Mechanisms

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, N426

- 8:00 **629.01** Biodegradable pH-responsive nanoparticle acidify lysosomes and modulate autophagy in PC-12 cells. J. ZENG*; A. MARTIN; O. SHIRIHAI; X. HAN; M. GRINSTAFF. *Boston Univ., UCLA.*
- 8:15 **629.02** A mouse model with an endogenous mutation in DNAJC6 with motor phenotypes links altered clathrin trafficking to Parkinson's disease. D. A. ROOSEN; N. LANDECK; M. CONTI; N. SMITH; S. SAEZ-ATIENZAR; J. DING; J. DU HOFFMANN; A. BEILINA; R. KUMARAN; A. KAGANOVICH; L. BONET-PONCE; C. BLECK; C. LIU; J. BONIFACINO; Y. LI; P. LEWIS; M. R. COOKSON*. *Natl. Inst. Aging, NIH, Natl. Inst. on Aging, Univ. of Nebraska Lincoln, Natl. Inst. of Mental Hlth., Natl. Heart Lung and Blood Inst., Natl. Inst. of Child Hlth. and Develop., Natl. Inst. of Neurolog. Dis. and Stroke, Univ. of Reading.*
- 8:30 **629.03** c-Abl activation and cell death caused by alpha-synuclein aggregates are mediated by oxidative stress and blocked by n-acetyl cysteine. S. GHOSH*; S. WON; N. J. M. BUTLER; R. FONG; C. WONG; L. WU; J. SANCHEZ; J. WANG; J. PAN; F. P. MANFREDSSON; R. A. SWANSON. *Univ. of California, San Francisco, Michigan State Univ.*
- 8:45 **629.04** The dopamine oxidation product HOCD may account for the dopaminergic selectivity of both Parkinsonism and manganism. P. MARWAH; C. ISSA; M. QURESHI; D. NJUS*. *Wayne State Univ.*
- 9:00 **629.05** S-nitrosylation of p62 attenuates autophagic flux in models of Parkinson's disease. C. OH*; T. NAKAMURA; S. A. LIPTON. *The Scripps Res. Inst., The Scripps Res. Inst. and UC San Diego.*
- 9:15 **629.06** Oxidative injury and DNA damage are mediated by the interaction of alpha-synuclein aggregates with metal ions. E. CASTILLO*; J. WANG; R. SWANSON. *Univ. of California, San Francisco.*

- 9:30 **629.07** Immunogenic CD8⁺ T cell-mediated neuronal death as an initiator and progressor of Parkinson's disease: A histological study of T cell subsets including iLBD post-mortem tissue. J. GALIANO-LANDEIRA*; A. TORRA; C. PARIENTE; M. VILA; J. BOVÉ. *Vall d'Hebron Res. Inst.*
- 9:45 **629.08** Endocytic trafficking of alpha-synuclein fibrils through the lysosomal pathway and the induction of cytoplasmic pS129 aggregates. L. RODRIGUEZ; F. SAMUEL; A. TANDON*. *Univ. of Toronto.*
- 10:00 **629.09** Misregulation of mitochondria - lysosome contact sites in mutant GBA (beta-glucocerebrosidase) Parkinson's patient neurons. S. KIM*; Y. C. WONG; L. F. BURBULLA; D. KRAINC. *Northwestern Univ.*
- 10:15 **629.10** • The role of glycosphingolipids in the progression of synucleinopathies *in vivo*. S. AIVAZIDIS*; K. FREDRIKSEN; F. ZUNKE; E. GELYANA; J. MAZZULLI. *Northwestern University, Feinberg Sch. of Med.*
- 10:30 **629.11** Cdk5-mediated phosphorylation of TFEB prevents its nuclear translocation and inhibits autophagy in MPP⁺-induced Parkinson's disease model. F. JIAO*; X. LI; X. WANG; Y. WU. *Sch. of Mental Health, Jining Med. Univ.*
- 10:45 **629.12** Loss of SATB1 induces a p21 dependent cellular senescence phenotype in dopaminergic neurons. M. RIESSLAND*; B. KOLISNYK; T. KIM; J. CHENG; J. NI; J. A. PEARSON; E. J. PARK; K. DAM; D. ACEHAN; L. S. RAMOS-ESPIRITU; W. WANG; J. ZHANG; J. SHIM; G. CICERI; L. BRICHTA; L. STUDER; P. GREENGARD. *Rockefeller Univ., Mem. Sloan-Kettering Cancer Ctr., Soonchunhyang Inst. of Medi-bio Sci.*
- 11:00 **629.13** Lysosomal and glucocerebrosidase dysfunction promotes the spread of pathology in Parkinson's disease. H. YU*; K. CHUNG; U. HENGST; A. LI. *Columbia Univ., Columbia Univ., Mt Sinai Sch. of Med.*
- 11:15 **629.14** • Gba1 dysfunction in novel isogenic Parkinson's disease iPSC models that harbor the SNCA triplication mutation. I. STOJKOVSKA*; F. ZUNKE; N. R. BELUR; J. R. MAZZULLI. *Northwestern Univ.*

NANOSYMPOSIUM

630. LRRK2 Function in Health and Disease

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, S401

- 8:00 **630.01** Contribution of the Roc-COR tandem domain to dimerization and activity of LRRK2. L. A. WYMAN*; D. J. MOORE. *Van Andel Inst. Grad. Sch., Van Andel Inst.*
- 8:15 **630.02** The scaffold domains of the Parkinson's disease protein leucine-rich repeat kinase 2 (LRRK2) are key in the regulation of its autophagic function. S. COGO*; C. MANZONI; D. TRABZUNI; L. CIVIERO; L. BUBACCO; E. KEVEL; P. LEWIS; E. GREGGIO. *Univ. of Padova, Univ. of Reading, UCL Queen Square Inst. of Neurol.*
- 8:30 **630.03** LRRK2 regulates AP2 phosphorylation cycles to mediate endocytosis. Q. LIU; J. YU; Y. XIONG*. *Kansas State Univ.*
- 8:45 **630.04** • LRRK2: Lurking between the brain and gut. M. HERRICK*; M. HOUSER; C. KEATING; L. SNIFFEN; J. CHANG; M. G. TANSEY. *Emory Univ.*
- 9:00 **630.05** Discovery of novel kinase-activating LRRK2 mutations in emerging genome-wide sequencing datasets. N. BRYANT-GARNER*; A. B. WEST. *Duke Univ., Duke Univ.*

- 9:15 **630.06** Regulation of levodopa-induced dyskinesia by leucine-rich repeat kinase 2 in a mouse model of Parkinson's disease. R. MARONGIU*; L. VELAZQUEZ; J. L. JOYCE; M. G. KAPLITT. *Weill Cornell Med.*
- 9:30 **630.07** LRRK2 GTP-binding inhibitors increase Lewy body-like inclusions. X. WANG; J. M. THOMAS; G. GUO; F. C. NUCIFORA JR; L. G. NUCIFORA; X. SUN; F. XUE; C. A. ROSS; W. SMITH*. *John Hopkins Univ. Sch. of Med., Univ. of Maryland Sch. of Pharm.*

NANOSYMPOSIUM

631. Cellular Mechanisms of Tauopathies

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, S103

- 8:00 **631.01** Internalized prion-like tau seeds are aberrantly processed resulting in a distinct post-translational signatures. J. TSENG*; T. J. COHEN. *Univ. of North Carolina at Chapel Hill.*
- 8:15 **631.02** • Adenosine A1 receptor antagonist rolofylline reverses synaptopathy in a mouse model of Tau pathology. T. SAMADDAR; E. MANDELKOW. *DZNE (Deutsches Zentrum Für Neurodegenerative Erkrankung), CAESAR (Center of Advanced European Studies and Research).*
- 8:30 **631.03** Proteomics and computational modelling reveals master sites in tau hyperphosphorylation involved in Alzheimer's disease. K. STEFANOSKA*; M. GAJWANI; T. MUELLER; J. BERTZ; G. R. WHITE; A. POLJAK; L. ITTNER; A. ITTNER. *Macquarie Univ., Indiana Univ., The Univ. of New South Wales.*
- 8:45 **631.04** Onset of neuronal network aberrations and memory deficits in P301S tau transgenic mice is linked to a signature of immediate early genes. M. PRZYBYLA; J. VAN EERSEL; J. VAN DER HOVEN; A. VAN HUMMEL; C. STEVENS; A. HARASTA; J. MULLER; Y. KE; J. POWER; G. HOUSLEY; T. KARL; M. KASSIOU; A. ITTNER; L. ITTNER. *Dementia Res. Ctr. and Dept. of Biomed. Sciences, Fac. of Med. and Hlth. Sciences, Macquarie Univ., Illawarra Hlth. and Med. Res. Institute, Univ. of Wollongong, The Jenner Institute, Univ. of Oxford, Translational Neurosci. Facility, Dept. of Physiology, Sch. of Med. Sciences, Fac. of Medicine, Univ. of New South Wales, Sch. of Medicine, Univ. of Western Sydney, Dept. of Chemistry, Univ. of Sydney.*
- 9:00 **631.05** Ppiases have divergent effects on tau aggregation and toxicity. J. D. BAKER; S. RODRIGUEZ OSPINA; L. J. BLAIR*. *Univ. of South Florida.*
- 9:15 **631.06** The role of tau interactome in the neurotoxicity and propagation of tau oligomers in neurodegenerative tauopathies. Y. YOU; S. XIANG; A. PERKINS; Y. YOU; E. ALLMAN; P. CISTERNAS; A. OBLAK; J. C. TRONCOSO; J. ZHANG; C. A. LASAGNA-REEVES*. *Indiana Univ. Sch. of Med., Johns Hopkins University, Sch. of Med.*
- 9:30 **631.07** Single nucleus RNAseq identifies cell type-specific effects of LDLR overexpression or Apoe knockout corresponding with attenuated tau-dependent neurodegeneration. Y. SHI; P. ANDHEY; I. CHRISTINA; K. YAMADA; K. ZAITSEV; J. LONG; M. MANIS; J. REMOLINA-SERRANO; R. HOYLE; M. ARTYOMOV; J. D. ULRICH*; D. M. HOLTZMAN. *Washington Univ. of St Louis.*

* Indicates a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:45 **631.08** • Elucidating cellular mechanisms of neurodegenerative diseases with CRISPR-based genetic screens in iPSC-derived neurons and glia. R. TIAN; A. SAMELSON; K. LENG; N. DRÄGER; E. LI; G. MOHL; M. KAMPMANN*. *UCSF*.
- 10:00 **631.09** Cooperative hydrogen bonding induced amyloid formation: Implications of carbamylation towards neurodegenerative disorders. S. GUPTA*; J. GADHAVI; P. HIVARE. *Indian Inst. of Technol. Gandhinagar*.
- 10:15 **631.10** Pathological tau species coordinate dysregulated ribosomal selectivity: A novel mechanism of dysproteostasis in tauopathies. S. KOREN; M. HAMM; H. ZHU; S. D'ALTON; J. F. ABISAMBRA*. *Univ. of Florida, Univ. of Florida, Univ. of Kentucky*.

NANOSYMPOSIUM

632. HIV-Associated Neurocognitive Disorders

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, S403

- 8:00 **632.01** HIV-associated cognitive deficits; altered synaptic proteins and spine density correlate with changes in activity-regulated cytoskeleton (Arc) expression. Y. K. HAHN*; S. R. NASS; W. D. MARKS; A. H. LICHTMAN; P. E. KNAPP. *Virginia Commonwealth University*.
- 8:15 **632.02** Cortico-basal ganglia-thalamo-cortical synaptic circuitry, sociability, and daily life behaviors are affected by HIV-1 Tat and morphine. S. R. NASS*; Y. K. HAHN; V. D. MCLANE; T. TIAN; N. N. ELHAI; K. F. HAUSER. *Virginia Commonwealth Univ., Virginia Commonwealth Univ.*
- 8:30 **632.03** Microglia-specific p38α knockout affects CNS gene expression in transgenic NeuroHIV model. D. BHULLAR*; R. MAUNG; U. IRFAN; D. OJEDA-JUÁREZ; M. KAUL. *Univ. of California, Riverside, Sanford Burnham Prebys Med. Discovery Inst., Sanford Burnham Prebys Med. Discovery Inst., UCSD*.
- 8:45 **632.04** HIV and morphine induce GABAergic deficits through dysregulation of KCC2. A. J. BARBOUR*; A. R. MCQUISTON; P. E. KNAPP. *Virginia Commonwealth Univ.*
- 9:00 **632.05** Dynamic shifts in HIV-1 Tat-induced excitability and heightened sensitivity to morphine in dopamine D1 receptor-expressing striatal medium spiny neurons. A. R. S. LARK*; L. K. SILVA; W. D. MARKS; K. F. HAUSER. *Virginia Commonwealth Univ., UT Southwestern Med. Ctr.*
- 9:15 **632.06** Gut and blood-brain barriers in a rat model of methamphetamine abuse by HIV-infected humans. M. OHENE-NYAKO*; A. L. PERSONS; T. CELESTE NAPIER. *Rush Univ. Med. Ctr.*
- 9:30 **632.07** HIV-1 Tat and morphine promote neuroendocrine dysfunction that may involve disruption of mitochondrial complexes I and II. J. J. PARIS*; F. MAHDI; M. SALAHUDDIN; A. N. QRAREYA; Z. SHARIAT-MADAR. *The Univ. of Mississippi*.

NANOSYMPOSIUM

633. Spinal Cord Injury: Non-Pharmacological Therapeutic Strategies

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, N227

- 8:00 **633.01** Timing of decompression in cervical spinal cord injury. B. AARABI*; T. CHRYSSIKOS; G. SCHWARTZBAUER; C. SANSUR; K. SHANMUGANATHAN; N. AKHTARDANESH; J. SIMARD; N. CAFFES; J. OLIVER; M. SCARBORO. *Univ. of Maryland Sch. of Med., McMaster Univ.*
- 8:15 **633.02** • Tissue engineering for spinal cord repair - Approaches to enhance olfactory ensheathing cell transplantation. R. D. BARTLETT*; V. ROBERTON; D. CHOI; J. B. PHILLIPS. *Univ. Col. London*.
- 8:30 **633.03** Inducing neural plasticity after spinal cord injury to recover impaired voluntary movement. J. A. BORRELL*; B. J. LAMB, Jr.; D. GATTOZZI; D. KRIZSAN-AGBAS; R. J. NUDO; S. B. FROST. *Univ. of Kansas, Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr.*
- 8:45 **633.04** Nanoscript-based non-viral transient repression of PTEN for axonal regeneration in the CNS. S. D. CHUENG*; X. QIU; D. SUN; W. YOUNG; K. LEE. *Rutgers Univ., The Second Affiliated Hosp. of Xi'an Jiaotong Univ.*
- 9:00 **633.05** Vascular endothelial growth factor: Molecular target of trans-spinal direct current stimulation (tsDCS). S. SAMADDAR*; Z. AHMED. *Col. of Staten Island / CUNY*.
- 9:15 **633.06** Transplantable neural circuitry for spinal cord injury. Z. T. OLMSTED; C. STIGLIANO; J. CIBELLI; P. J. HORNER; J. L. PALUH*. *SUNY Polytechnic Inst., HMRI, Michigan State Univ., SUNY Polytechnic Inst.*
- 9:30 **633.07** Pediatric constraint induced movement therapy for children with brachial plexus injury: Cognitive, upper and lower extremity function changes. T. KARAKOSTAS*; E. KING; S. HSIANG. *Rehabil. Inst. of Chicago, Ann & Robert H. Lurie Children's Hosp. of Chicago, Univ. of North Carolina Charlotte*.

NANOSYMPOSIUM

634. Novel Insights Into Neuropathic Pain

Theme D – Sensory Systems

Wed. 8:00 AM – McCormick Place, S104

- 8:00 **634.01** • Activators of two-pore-domain potassium channels as novel treatments for pain and migraine. P. D. WRIGHT*. *Lifearc*.
- 8:15 **634.02** • Single-cell transcriptional profiling of peripheral somatosensory neurons in animal models of neuropathic pain. I. TOCHITSKY*; W. RENTHAL; Y. CHENG; L. YANG; M. E. GREENBERG; C. J. WOOLF. *Harvard Med. School/ Boston Children's Hosp., Harvard Med. Sch., Boston Children's Hosp., Harvard Med. Sch., Harvard Med. Sch., Children's Hosp. Boston*.

- 8:30 **634.03** Single cell RNA seq of a model of rodent nerve injury: A comprehensive resource for the exploration of cellular interactions underlying the emergence and persistence of neuropathic pain. D. LOVATT*; A. TAMBURINO; R. SANOJA; A. KRASOWSKA-ZOLADEK; L. LI; K. ZHANG; K. Q. TANIS; V. PETERSON; X. WANG; J. M. USLANER. *Merck & Co., Inc., Merck & Co., Inc., Merck & Co., Inc.*
- 8:45 **634.04** Mas-related G protein-coupled receptor D as a potential therapeutic target for painful diabetic neuropathy. D. S. GEORGE*; N. D. JAYARAJ; D. REN; A. BELMADANI; S. HACKELBERG; R. J. MILLER; D. M. MENICHELLA. *Northwestern, Northwestern, Northwestern Univ., Northwestern Univ. - Chicago, Northwestern Univ.*
- 9:00 **634.05** Dendritic cells-expressing IDO-1 play a crucial role in the maintenance of neuropathic pain. T. M. CUNHA*; G. SOUZA; A. MAGANIN; M. M. FONSECA; A. DAGOSTIN; R. LEAO; J. O'CONNOR; F. CUNHA; J. ALVES-FILHO. *Univ. Sao Paulo-FMRP, Univ. of Sao Paulo, Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*
- 9:15 **634.06** • A novel approach to visceral diabetic neuropathy. R. DEBIAN*; W. NAJJAR; N. LAWAND; A. EID; E. D. AL-CHAER. *American Univ. of Beirut, American Univ. of Beirut, American Univ. of Beirut.*
- 9:30 **634.07** • Perispinal targeting of brain tumor necrosis factor-alpha is antinociceptive for ongoing and evoked pain in rats with chronic constriction injury. T. A. IGNATOWSKI*; Z. M. LAMACCHIA; A. H. ABIDI; M. JAFFARI; T. AHMED; N. SINGH; E. L. TOBINICK; M. GHANDILI; R. N. SPENGLER. *Univ. at Buffalo, Suny, Inst. of Neurolog. Recovery, NanoAxis LLC.*

NANOSYMPOSIUM

635. Mapping Chemosensory Representations

Theme D – Sensory Systems

Wed. 8:00 AM – McCormick Place, S106

- 8:00 **635.01** Biased randomness, a connectivity mechanism for associative brain centers. K. ELLIS; E. AMEMATSRO; S. J. CARON*. *Univ. of Utah.*
- 8:15 **635.02** Adult born neurons improve odor discrimination by mitral cells. H. SHANI NARKISS*; A. VINOGRAD; G. TASAKA; N. YAYON; I. D. LANDAU; S. TERLETSKY; M. GROYSMAN; H. I. SOMPOLINSKY; A. MIZRAHI. *The Hebrew Univ. of Jerusalem.*
- 8:30 **635.03** Odor mixture coding in mouse olfactory receptor neurons. J. D. ZAK*; G. REDDY; M. VERGASSOLA; V. N. MURTHY. *Harvard Univ., UCSD.*
- 8:45 **635.04** Mapping olfactory codes to perceptual spaces with synthetic optogenetic odors. E. CHONG*; M. MORONI; C. WILSON; S. SHOHAM; S. PANZERI; D. RINBERG. *NYU Neurosci. Inst., Inst. Italiano Di Tecnologia, Ctr. for Mind and Brain Sci. (CIMeC), Univ. of Trento.*
- 9:00 **635.05** Odor identification in the presence of novel background odors: Olfactory captchas. Y. LI; T. SHE; A. RAHMAN; D. MOGEL; J. WU; A. AHMED; G. OTAZU ALDANA*. *NYIT-COM.*
- 9:15 **635.06** Spatio-temporal dynamics of odor responses in the lateral and dorsal olfactory bulb. K. L. BAKER*; G. VASAN; A. GUMASTE; V. A. PIERIBONE; J. V. VERHAGEN. *John B Pierce Lab., Yale Univ.*

- 9:30 **635.07** The change of the hedonic value of an odorant can be read from olfactory bulb activation patterns. M. BRETON*; F. KERMEN; N. MANDAIRON; A. DIDIER. *Ctr. De Recherches En Neurosciences De Lyon (CRNL), Norwegian Univ. of Sci. and Technol., Ctr. De Recherches En Neurosciences De Lyon (CRNL).*
- 9:45 **635.08** Encoding odour temporal dynamics in the mouse olfactory bulb. D. DASGUPTA*; T. WARNER; T. ACKELS; A. ERSKINE; A. C. MARIN; A. T. SCHAEFER. *The Francis Crick Inst., The Francis Crick Inst.*
- 10:00 **635.09** Olfactory memory representations are stored in the anterior olfactory nucleus. A. AQRABAWI*; J. KIM. *Univ. of Toronto, MIT, Univ. of Toronto.*
- 10:15 **635.10** Functional long-range specificity of parallel processing loops in the early mammalian olfaction. H. CHAE*; A. BANERJEE; D. F. ALBEANU. *Cold Spring Harbor Lab., Watson Sch. for Biol. Sci., New York Univ. Med. Ctr.*
- 10:30 **635.11** NMDA receptor-dependent dendritic excitability in the piriform cortex *in vivo*. M. L. TANTIRIGAMA*; J. M. BEKKERS. *The Australian Natl. Univ., Charité - Universitätsmedizin Berlin, Humboldt Univ.*
- 10:45 **635.12** Winner-take-all motifs strike a balance between discrimination and learning. S. SRINIVASAN*; S. NAVLAKHA. *Salk Inst. and KIBM, UCSD, The Salk Inst.*
- 11:00 **635.13** The reward system supports spontaneous attraction to odorants. L. CHALENÇON*; M. MIDROIT; M. BRETON; M. THEVENET; J. SACQUET; N. NOURY; J. FOREST; M. RICHARD; A. MILTON; A. FOURNEL; C. FERDENZI; D. W. WESSON; A. DIDIER; M. BENSAFI; N. MANDAIRON. *CRNL, Univ. de Genève, INL, Cleveland, UNIVERSITY OF FLORIDA.*
- 11:15 **635.14** Visualized odor encounters show how navigation is driven by whiff timing. M. DEMIR*; N. KADAKIA; D. A. CLARK; T. EMONET. *Yale Univ., Yale Univ., Yale Univ.*

NANOSYMPOSIUM

636. Sex Differences in Response to Stress

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, N427

- 8:00 **636.01** And the hits just keep on coming: Sex-specific effects of multiple stressor exposures on cognition. S. ECK*; C. ARDEKANI; D. LEE; M. SALVATORE; A. HALL; S. FAMULARO; D. A. BANGASSER. *Temple Univ.*
- 8:15 **636.02** Sex differences in hippocampal afferent excitability underlie anhedonia following stress. C. MANNING*; E. S. WILLIAMS; H. LYNCH; N. DUNQUE-WILKENS; A. EAGLE; A. B. SWIFT-GALLANT; S. CHINNUSAMY; G. M. LEINNINGER; C. L. JORDAN; A. ROBISON. *Michigan State Univ., Michigan State Univ., Univ. of Toronto Mississauga, Michigan State Univ., Michigan State Univ.*
- 8:30 **636.03** Sex and age differences in hippocampal metabolism following aromatase inhibition and forced swim test. N. KOKRAS*; M. KORONAIUO; T. D. CHARLIER; S. P. CARO; C. TURCK; M. FILIOU; C. DALLA. *Med. School, Natl. and Kapodistrian Univ. of Athens, Med. School, Natl. and Kapodistrian Univ. of Athens, Univ. of Rennes 1, Unité Mixte de Recherche CNRS, Max Planck Inst. of Psychiatry, Sch. of Hlth. Sciences, Univ. of Ioannina.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:45 **636.04** Transcriptional profiling of the stressed hippocampus: Does sex make a difference? J. MARROCCO*; N. R. EINHORN; S. G. CARADONNA; C. LE FLOCH; A. LIHAGEN; G. H. PETTY; E. GATTA; H. KHALIL; E. JAŠAREVIĆ; F. S. LEE; B. S. MCEWEN. *The Rockefeller Univ., Linköping Univ., Columbia Univ., Ctr. For Alcohol Res. In Epigenetics, Univ. of Michigan, Univ. of Maryland Sch. of Med., Weill Cornell Med. Col.*
- 9:00 **636.05** Chronic adolescent stress has sex-specific consequences on adult cognitive function. M. M. HYER*; G. A. SHAW; E. SORIANO; D. MUKHARA; C. SALOME-SANCHEZ; G. N. NEIGH. *Virginia Commonwealth Univ.*
- 9:15 **636.06** Early life stress impacts late adulthood anxiety like behavior in a sex specific manner. H. C. HUNSBERGER*; C. A. DENNY. *Columbia Univ.*
- 9:30 **636.07** Of mice and wo/men: Translating the relationship between cytokines and depression associated behavior. J. R. RAINVILLE*; M. SCHNEIDER; F. CATHOMAS; J. W. MURROUGH; G. E. HODES. *Virginia Tech., Icahn Sch. of Med. at Mt. Sinai, Icahn Sch. of Med. at Mount Sinai.*
- 9:45 **636.08** Interrogating the contribution of CB1 receptor signaling to sex differences in context generalization and the activity of the ventral hippocampus-basolateral amygdala circuit. K. A. HUCKLEBERRY*; R. SHANSKY. *Northeastern Univ.*
- 10:00 **636.09** Sex differences in effects of treatment with oxytocin or selective serotonin reuptake inhibitor on behavioral phenotype and receptor expression in socially defeated prairie voles. L. H. HALE; M. C. TICKERHOOF*; A. S. SMITH. *Univ. of Kansas.*
- 10:15 **636.10** Adolescent isolation stress shows sex specific alterations in glutamatergic signaling in the nucleus accumbens. A. U. DEUTSCHMANN*; L. A. BRIAND. *Temple Univ.*
- 10:30 **636.11** Beyond sex differences: Ovarian hormones as determinants of risk and resilience in females. R. S. EID*; S. E. LIEBLICH; P. DUARTE-GUTERMAN; S. J. WONG; J. A. CHAITON; L. A. M. GALEA. *Univ. of British Columbia.*
- 10:45 **636.12** Altered photoperiod exposure during gestation and early life induces psychiatry-relevant behaviors that are sex-specific. M. A. KWIATKOWSKI*; Z. A. COPE; C. J. A. VAN DE CAPPELLE; J. DESLAURIERS; D. DULCIS; J. W. YOUNG. *UCSD, Univ. of California San Diego, Inst. for Pharmaceut. Sciences, Utrecht Univ., Univ. of California San Diego, UCSD.*
- 11:00 **636.13** Insights on generational health consequences of the perceived stress of racism: Maternal preconception stress programs female offspring stress hyper-reactivity. Y. M. CISSE*; S. E. CARTER; T. JOVANOVIĆ; T. L. BALE. *Univ. of Maryland Sch. of Med., Georgia State Univ., Emory Univ., Univ. of Maryland Baltimore.*

NANOSYMPOSIUM

637. The Use of Transcranial Magnetic Stimulation to Modulate Human Memory

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, S402

- 8:00 **637.01** How to use transcranial magnetic stimulation to modulate and measure memories in humans? N. S. ROSE*; N. YEHE; M. WIDHALM. *Univ. of Notre Dame.*

- 8:15 **637.02** Testing cooperation and competition between episodic and procedural memory systems using network-targeted rTMS. M. V. FREEDBERG*; J. A. REEVES; J. L. VOSS; E. M. WASSERMANN. *NIH/NINDS, Northwestern Univ.*
- 8:30 **637.03** Lateral prefrontal goal representations causally influence basolateral amygdala reactivity and behavioral responses to emotional stimuli. R. C. LAPATE*; M. HECKNER; A. TAMBINI; J. SAKKAS; M. D'ESPOSITO. *Univ. of California, Berkeley.*
- 8:45 **637.04** Immediate enhancement of hippocampal memory processing via frequency- and location-targeted TMS-fMRI. M. S. HERMILLER*; R. A. YOUNG; Y. CHEN; T. B. PARRISH; J. L. VOSS. *Northwestern Univ.*
- 9:00 **637.05** Precuneus stimulation alters the spatiotemporal neural dynamics of autobiographical memory. M. HEBSCHEER*; C. IBRAHIM; J. A. MELTZER; A. GILBOA. *Northwestern Univ., Univ. of Toronto, Baycrest.*
- 9:15 **637.06** Site-, timing-, and load-specific effects of online repetitive transcranial magnetic stimulation (RTMS) on working memory (WM). L. BEYNEL*; S. W. DAVIS; C. A. CROWELL; S. A. HILBIG; H. PALMER; A. BRITO; C. HILE; W. LIM; D. NGUYEN; M. DANNHAUER; A. V. PETERCHEV; R. CABEZA; S. H. LISANBY; B. LUBER; L. G. APPELBAUM. *Duke Univ., Natl. Inst. of Mental Hlth.*
- 9:30 **637.07** Assessing cortical networks involved in working memory using combined transcranial magnetic stimulation and electroencephalography. N. ROGASCH*; J. MORROW; N. BAILEY; P. FITZGERALD; A. FORNITO. *Monash Univ.*
- 9:45 **637.08** Oscillatory mechanisms for memory encoding tested in humans. S. M. LURIE*; J. L. VOSS. *Northwestern Univ., Northwestern Univ.*

NANOSYMPOSIUM

638. Genomic Engineering Using Enhancers or CRISPR

Theme I – Techniques

Wed. 8:00 AM – McCormick Place, S404

- 8:00 **638.01** Human single neuron epigenetics delineates enhancers for specific AAV targeting and cell type-disease mapping. J. K. MICH*; E. E. HESS; L. T. GRAYBUCK; Y. DING; J. T. MAHONEY; S. SOMASUNDARAM; J. A. MILLER; N. SHAPOVALOVA; O. FONG; S. YAO; P. N. CHONG; D. BERTAGNOLLI; R. D. HODGE; T. BAKKEN; N. DEE; A. H. CETIN; K. A. SMITH; R. P. GWINN; C. COBBS; A. L. KO; J. G. OJEMANN; C. D. KEENE; D. L. SILBERGELD; V. GRADINARU; S. M. SUNKIN; H. ZENG; E. LEIN; B. TASIC; J. T. TING; B. P. LEVI. *Allen Inst. for Brain Sci., Swedish Neurosci. Inst., Univ. of Washington Sch. of Med., Dept. of Neurolog. Surgery, Univ. of Washington, Dept. of Pathology, Univ. of Washington, Dept. of Neurolog. Surgery and Alvord Brain Tumor Center, Univ. of Washington, CALTECH.*
- 8:15 **638.02** Cell type specific chromatin accessibility profiles in the developing human cerebral cortex. R. ZIFFRA*; N. AHITUV; T. J. NOWAKOWSKI. *Univ. of California San Francisco.*

- 8:30 **638.03** Neocortical cell class-specific gene expression from AAVs using novel human enhancers. Y. DING*; J. K. MICH; J. T. MAHONEY; E. E. HESS; L. T. GRAYBUCK; S. SOMASUNDARAM; J. A. MILLER; N. V. SHAPOVALOVA; O. FONG; S. YAO; P. N. CHONG; D. BERTAGNOLLI; R. D. HODGE; T. E. BAKKEN; N. DEE; A. H. CETIN; K. A. SMITH; R. P. GWINN; C. COBBS; A. L. KO; J. G. OJEMANN; C. KEENE; D. L. SILBERGELD; V. GRADINARU; S. M. SUNKIN; H. ZENG; E. S. LEIN; B. TASIC; J. T. TING; B. P. LEVI. *Allen Inst. For Brain Sci., Swedish Neurosci. Inst., Regional Epilepsy Ctr., Harborview Med. Ctr., Univ. of Washington, Univ. of Washington, Univ. of Washington, Caltech.*
- 8:45 **638.04** Identification of enhancers that bestow subtype specific expression of rAAVs in specific neuronal populations. D. VORMSTEIN-SCHNEIDER; J. LIN; S. SAKOPOULOS; L. ALI IBRAHIM MAROSH; O. DEVINSKY; J. REYNOLDS; G. FENG; G. FISHELL; J. DIMIDSCHSTEIN*. *Broad Inst., Harvard Med. Sch., NYU, Salk, MIT.*
- 9:00 **638.05** Parallel functional testing of enhancers in mouse brain. L. SU-FEHER*; J. T. LAMBERT; J. L. HAIGH; I. ZDILAR; L. C. T. BYRNE; A. S. NORD. *Univ. of California, Davis, Univ. of Pittsburgh.*
- 9:15 **638.06** Comparison and optimization of peak calling software for human temporal cortex single nucleus ATAC-seq data. S. SOMASUNDARAM*; J. K. MICH; L. T. GRAYBUCK; E. HESS; N. SHAPOVALOVA; R. D. HODGE; T. BAKKEN; S. M. SUNKIN; R. GWINN; C. COBBS; A. KO; J. OJEMANN; C. KEENE; D. SILBERGELD; H. ZENG; B. TASIC; E. LEIN; J. T. TING; J. A. MILLER; B. P. LEVI. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., blubird bio, Allen Inst. for Brain Sci., Swedish Neurosci. Inst., Univ. of Washington Sch. of Med., Univ. of Washington, Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*
- 9:30 **638.07** Nuclear lamina-associated genome organization mapping in developing mouse and human brain. S. HAMID*; R. N. DELGADO; E. GILL; S. HONG; A. R. KRIEGSTEIN; T. NOWAKOWSKI; D. LIM. *Univ. of California San Francisco, UCSF, UCSF, Univ. of California San Francisco, Univ. of California, San Francisco.*
- 9:45 **638.08** Expansive CRISPR/Cas9 mediated genome editing in CNS: A proof of principle for single-neuron genetic labeling and correction of a human gene copy-number variation (CNV). M. B. EL-SAAD; X. TIAN; A. D. RICHARD; M. REN; K. R. BARTLEY; H. SUN; R. L. KLEIN; X. LU*. *Louisiana State Univ. Hlth. Sci. Ctr., Louisiana State Univ. Hlth. Sci. Ctr., Louisiana State Univ. Hlth. Sci. Ctr.*
- 10:00 **638.09** CRISPR based platform for multimodal genetic screens in human iPSC-derived neurons. R. TIAN*; M. GACHECHILADZE; C. LUDWIG; J. HONG; M. WARD; M. KAMPMANN. *UCSF, NIH.*
- 10:15 **638.10** Epigenetic editing to restore MeCP2 in Rett syndrome. S. LIU*; R. JAENISCH. *Whitehead Inst. For Biomed. Res. / MIT, Whitehead Inst. for Biomed. Res. / MIT.*

POSTER

639. Neuronal Differentiation

Theme A – Development

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 A1 **639.01** The systemic administration of histamine H1 receptor antagonist chlorpheniramine to pregnant rats impairs offspring nigrostriatal dopaminergic innervation and function. B. M. VALADEZ*; G. AQUINO-MIRANDA; M. QUINTERO-ROMERO; H. PAPACOSTAS-QUINTANILLA; C. LOPEZ-RUBALCAVA; N. DÍAZ-MARTÍNEZ; J. ARIAS-MONTANO; A. MOLINA-HERNÁNDEZ. *CINVESTAV, UAM - Xochimilco, Inst. Nacional de Perinatología, CINVESTAV-IPN, Cinvestav-IPN.*
- 9:00 A2 **639.02** Mismatched Sox: differential partner proteins & downstream targets of Sox11 in neural development. K. S. SINGLETON*; P. SILVA RODRIGUEZ; E. M. SILVA. *Georgetown Univ., Georgetown Univ.*
- 10:00 A3 **639.03** ▲ Possible implication of histamine H1 receptor on impaired motor cortex cytoarchitecture and function in diabetic rat offspring's. R. VALLE-BAUTISTA*; G. HERRERA-LOPEZ; E. GRIEGO-MELO; E. GALVÁN; N. DÍAZ; J. ARIAS-MONTAÑO; A. MOLINA-HERNÁNDEZ. *Inst. Nacional De Perinatología, Cinvestav Norte, Cinvestav Sur.*
- 11:00 A4 **639.04** The transcription factor Sp9 represses the identity of the D1 MSN and promotes the identity of the D2 MSN in the striatum. H. DU*; Z. LI; Z. XU; Y. YOU; Z. ZHANG; Z. YANG. *Fudan Univ.*
- 8:00 A5 **639.05** Trim71 links an ancient microrna pathway to neural stem cell development and human congenital hydrocephalus. D. Q. PHAN*; D. FOSTER; B. JUX; E. LAKE; T. CONSTABLE; W. KOLANUS; F. SLACK; K. KAHLE. *Yale Univ. Sch. of Med., Harvard Med. Sch., Univ. of Bonn, Yale Univ. Sch. of Med.*
- 9:00 A6 **639.06** R-loops as mechanisms governing neural differentiation and cell-type specific transcription. E. A. LAMARCA*; S. ESPESO-GIL; N. M. TSANKOVA; K. BRENNAND; S. AKBARIAN. *Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*
- 10:00 A7 **639.07** Classification, diversification and maturation of mouse retinal ganglion cells using single-cell transcriptomics. K. SHEKHAR*; I. E. WHITNEY; W. YAN; Y. PENG; X. ADICONIS; J. Z. LEVIN; A. REGEV; J. R. SANES. *Broad Inst. of MIT and Harvard, Harvard Univ., Harvard Univ., Harvard Univ., Harvard Univ.*
- 11:00 A8 **639.08** The neurodevelopmental consequences of genomic stress. N. MICHEL*; U. B. MAJUMDAR; J. LANNIGAN; M. MCCONNELL. *Univ. of Virginia, Mount Sinai, Univ. of Virginia.*
- 8:00 A9 **639.09** Global effects of Parkinson's disease risk-SNP rs356182 at the SNCA locus. J. D. PRAHL*; T. TYSON; S. PIERCE; J. VANDERSCHANS; G. COETZEE. *Van Andel Inst.*
- 9:00 A10 **639.10** Accelerated expression of functional NMDA receptors on mature hiPSC-derived neurons. J. B. RUDEN*; M. DIXIT; L. L. DUGAN. *Vanderbilt Univ., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr.*
- 10:00 A11 **639.11** The effects of metformin on early cortical development. W. ALSANIE*; H. HABEEBALLAH; O. BAHRİ; M. ALHOMRANI; A. GABER; K. ALSWAT. *Taif Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 A12 **639.12** Premature birth results in dysmaturation of dentate granule neurons and cognitive deficits. D. R. SHARMA*; B. CHENG; D. SINGH; N. PARIKH; S. MAMTANI; S. YADAV; M. K. JAISWAL; P. BALLABH. *Albert Einstein Col. of Med., Icahn Sch. of Med. At Mount Sinai.*
- 8:00 A13 **639.13** Dual-specificity phosphatase 15 (DUSP15) modulates notch signaling through enhancing the stability of notch protein. N. BHORE*; B. WANG; P. WU; Y. CHEN; Y. LIAO. *Academia Sinica.*
- 9:00 A14 **639.14** Automated neonatal and adult mouse brain dissociation and magnetic isolation of neurons increases efficiency and sensitivity for single-cell gene expression profiling. S. REISS; R. KLÄVER; S. TOMIUK; J. SOYKA; M. DELSO VALLEJO; C. JONES; A. BOSIO*; M. JUNGBLUT. *Miltenyi Biotec, 10x Genomics.*
- 10:00 A15 **639.15** Novel roles of BMP signalling in cerebellar granule cell neurogenesis. V. ROOK*; R. J. WINGATE; T. BUTTS. *Queen Mary Univ. London, King's Col. London, Univ. of Liverpool.*
- 11:00 A16 **639.16** Bisphenol A induces neurite extension in PC12 cells. K. SHIMOKE*; K. MATSUURA; H. MARUOKA. *Kansai Univ.*
- 8:00 A17 **639.17** Repetitive transcranial magnetic stimulation reverses the alterations in the hippocampal neurogenic niche caused by chronic mild stress. G. B. RAMIREZ-RODRIGUEZ*; D. MENESES-SAN JUAN; J. J. GONZÁLEZ-OLVERA; L. ORTIZ-LOPEZ; D. REYES-HARO. *Natl. Inst. of Psychiatry Lab. of Neurogenesis, Natl. Inst. of Psychiatry, Inst. Nacional de Psiquiatria, Natl. Inst. of Psychiatry, Inst. de Neurobiología.*
- 9:00 A18 **639.18** RhoA functions in late embryonic apical neural stem cells in the mammalian cerebral cortex. A. COSSARD*; Y. JOSSIN. *Univ. Catholique De Louvain.*
- 10:00 A19 **639.19** Pax6 regulates the development of morphology and electrophysiological properties of the mouse embryonic prethalamic neurons. T. TIAN*; I. QUINTANA-URZAINQUI; Z. KOZIC; T. PRATT; D. PRICE. *Univ. of Edinburgh.*
- 11:00 A20 **639.20** Novel mediators of prenatal alcohol effects in neural stem cells: Gag-like proteins as RNA chaperones for intercellular communication. M. PINSON*; A. TSENG; V. NAIR; R. C. MIRANDA. *Texas A&M Hlth. Sci. Ctr, Col. of Med.*
- 8:00 A21 **639.21** Neuron-specific alternative mRNA splicing is required for SYNGAP1 protein expression. X. FENG; X. ZHANG*. *The Univ. of Chicago, Univ. of Chicago.*
- 9:00 A22 **639.22** Early neurogenesis in the human cephalic ectoderm and the cranial sensory placodes. I. BYSTRON*. *Univ. of Oxford.*
- 10:00 A23 **639.23** The generation of the mystery cells of the male depends on HLH-3 function in *C.elegans*. L. PEREZ*; L. MARQUEZ; Z. IBRAHIM; A. ALFONSO. *Univ. of Illinois at Chicago.*
- 11:00 A24 **639.24** Effects of the organophosphorus insecticide chlorpyrifos on neuronal differentiation of the SH-SY5Y cell line: Involvement of cannabinoid type 1 receptors. S. W. TODD; E. W. LUMSDEN; W. R. RANDALL; B. K. KRUEGER; E. X. ALBUQUERQUE; E. F. R. PEREIRA*. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*
- 8:00 A25 **639.25** ▲ Differentiation character of HT22 cell line. A. BATU ÖZTÜRK*; D. YETKIN; N. C. ÖZTÜRK. *Mersin University, Hlth. Sci. Inst., Mersin University, Health Sci. Institute, Mersin University, Sch. of Med.*
- 9:00 A26 **639.26** *In vitro* modeling of the disruptive effects of the organophosphorus insecticide chlorpyrifos on synaptic transmission in the developing hippocampus. E. W. LUMSDEN*; R. D. BURKE; E. X. ALBUQUERQUE; E. F. PEREIRA. *Univ. of Maryland Sch. of Med.*
- 10:00 A27 **639.27** Characterization of fiber layers in the developing cerebral cortex of ferrets and mice. K. SAITO*; K. MIZUGUCHI; T. HORIIKE; T. A. DINH DUONG; Y. SHINMYO; H. KAWASAKI. *Kanazawa Univ.*
- 11:00 A28 **639.28** ● Nanodendrimer-n-acetylcysteine enhances survival and *in vivo* migration of transplanted allogeneic glial restricted precursor cells. S. N. TOMLINSON*; C. L. NEMETH; M. ROSEN; A. WOLFE; A. SHARMA; R. SHARMA; M. V. JOHNSTON; R. M. KANNAN; S. KANNAN; A. FATEMI. *Kennedy Krieger Inst., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ.*
- 8:00 A29 **639.29** Growth cone molecular machinery in development vs. regeneration: Subcellular transcriptome mapping in corticospinal neurons. A. K. ENGMANN*; J. HATCH; J. KIM; C. WINTER; J. D. MACKLIS. *Harvard Univ.*

POSTER

640. Stem Cell Reprogramming and Screening *In Vitro*

Theme A – Development

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 A30 **640.01** Rat adipose stem cells: Relevance of VEGF signalling for pain relief. A. VONA*; L. DI CESARE MANNELLI; L. MICHELI; C. GHELARDINI; P. FAILLI. *Univ. of Florence.*
- 9:00 A31 **640.02** Light-induced inhibition of human primary neurons by human stem cell-derived GABAergic neurons *in vitro*. A. GONZALEZ-RAMOS*; E. WALOSCHKOVA; M. LEDRI; M. ANDERSSON; M. KOKAIA. *Epilepsy Centre, Lund Univ.*
- 10:00 A32 **640.03** A novel pseudogene-encoded long noncoding RNA mediates fetal alcohol effects. N. A. SALEM*; A. M. TSENG; A. H. MAHNKE; C. GARCIA; H. JAHROMI; R. C. MIRANDA. *Texas A&M Hlth. Sci. Ctr., Texas A&M Inst. for Neurosci.*
- 11:00 A33 **640.04** Activation of innate immune responses inhibits neurogenesis. P. XU*; J. GAO; C. SHAN; X. XIE; T. DUNN; N. VASILAKIS; P. SHI; S. WEAVER; P. WU. *Univ. of Texas Med. Branch, Univ. of Texas Med. Branch, Univ. of Texas Med. Branch, Univ. of Texas Med. Branch.*
- 8:00 DP01/A34 **640.05** (Dynamic Poster) Studying functional neurogenic plasticity from genes to spikes on a-multiscale-CMOS-chip. H. AMIN*; G. KEMPERMANN. *German Ctr. for Neurodegenerative Dis. (DZNE), Ctr. for Regenerative Therapies Dresden (CRTD), Technische Univ. Dresden.*
- 9:00 A35 **640.06** ● Identification and characterisation of authentic dopaminergic neurons at single cell resolution in human ventral midbrain patterned organoids. M. BIRTELE*; A. FIORENZANO; Y. SHARMA; J. NELANDER; B. MATSSON; M. P. PARMAR. *Lund Univ.*

- 10:00 A36 **640.07** Sex differences in ethanol's effects on fetal neural stem and progenitor cells. A. H. MAHNKE*; H. M. AL-MUHISEN; A. M. TSENG; N. A. SALEM; R. C. MIRANDA. *Texas A&M Univ. Hlth. Sci. Ctr.*
- 11:00 A37 **640.08** Alcohol effects on the proteome of fetal neural stem cell-derived extracellular vesicles. D. CHUNG*; A. TSENG; M. PINSON; L. DANGOTT; S. WEINTRAUB; R. C. MIRANDA. *Texas A&M Hlth. Sci. Ctr., Texas A&M Univ., UT Hlth. San Antonio, Texas A&M Hlth. Sci. Ctr., Col. of Med.*
- 8:00 A38 **640.09** Effects of cocaine on an *in vitro* model of human pluripotent stem cell derived ventral midbrain neurons. K. THANGAMANI*; J. A. GOMEZ; C. HUTCHINSON; A. M. MAROOF. *Univ. of Texas San Antonio, Univ. of Texas San Antonio.*
- 9:00 A39 **640.10** Diversity of inhibitory neurons and glial cells in human cortical organoids generated from stem cell-derived single neural rosettes. L. A. BELL*; Y. WANG; C. RUSSELL; Y. WU; C. ARMSTRONG; G. YANG; A. SHCHEGLOVITOV. *Univ. of Utah.*
- 10:00 A40 **640.11** Ruta graveolens stimulates neural plasticity of human and mouse embryonic mesencephalic neuronal cell progenitors. G. CIMAGLIA*; M. T. GENTILE; O. PASTORINO; L. COLUCCI-D'AMATO. *Univ. of Campania "Luigi Vanvitelli".*
- 11:00 A41 **640.12** Micrnas and histone deacetylase inhibition mediated differentiation of human mesenchymal stem cells into neuronal lineage. S. JANG*; H. JEONG; H. CHO; S. PARK; J. PARK; S. PARK. *Chonnam Natl. Univ. Med. Sch., CNUH Biomed. Res. Inst., Chonnam Natl. Univ. Med. Sch.*
- 8:00 A42 **640.13** Effects of CO1, an active compound from Chinese medicine, on modulating neural stem cells fate decision via mitochondrial metabolism. Q. DU*; R. DENG; C. GAO; J. SHEN. *The Univ. of HK.*
- 8:00 A47 **641.05** Structural integrity of cholinergic neurons in the NBM-cortical pathway following behavioral intervention in adulthood in a rodent model of fetal alcohol spectrum disorders (FASD). K. A. MILBOCKER*; N. K. GINN; Z. H. GURSKY; A. Y. KLINTSOVA. *Univ. of Delaware, Univ. of Delaware.*
- 9:00 A48 **641.06** Understanding the neurodevelopmental basis of DDX3X syndrome. D. C. UNG*; A. BOITNOTT; D. MENDONCA; K. NIBLO; E. DRAPEAU; S. DE RUBEIS. *Icahn Sch. of Med., The Seaver Autism Ctr. for Res. and Treatment, The Mindich Child Hlth. and Develop. Inst.*
- 10:00 A49 **641.07** Age and sex differences in behaviors relevant to schizophrenia and addiction. E. R. CULLITY*; A. A. GUÉRIN; H. B. MADSEN; C. J. PERRY; J. H. KIM. *Florey Inst. of Neurosci. and Mental Hlth.*
- 11:00 A50 **641.08** The role of Crb complex in hydrocephalus pathogenesis. M. LEE*; S. CHO; S. KIM. *Shriners Hosp. Pediatric Res. Center, Lewis Katz Sch. of Med. at Temple Univ.*
- 8:00 A51 **641.09** ▲ Glia characterization in BLOC-1 deficient mice. J. WEBSTER*; J. LARIMORE. *Agnes Scott Col., Agnes Scott Col.*
- 9:00 A52 **641.10** RHEB1 activating mutations can cause aberrant neuronal development, cortical malformations and epilepsy in mouse models generated using *in utero* electroporation. M. PROIETTI ONORI*; Y. ELGERSMA; G. M. VAN WOERDEN. *Erasmus MC, ENCORE Expertise Ctr. for Neurodevelopmental Disorders.*
- 10:00 A53 **641.11** Early postnatal alcohol exposure at both high and moderate doses reduces neuron, but not glial, number in thalamic nucleus reuniens of rat. Z. H. GURSKY*; A. Y. KLINTSOVA. *Univ. of Delaware.*
- 11:00 A54 **641.12** Unraveling how gut microbiota influence form and function in the developing enteric nervous system of zebrafish. M. A. ODEM*; N. PEREZ-SOTO; S. DOWNING; L. THOMPSON; E. SINGLETON; A. KRACHLER; R. A. URIBE. *McGovern Med. Sch. at UTHealth, Rice Univ.*
- 8:00 A55 **641.13** TAF1-gene editing alters the morphology and function of the cerebellum. U. JANAKIRAMAN*; Y. JIE; M. AUBIN; S. BATCHELOR; A. ANNADURAI; K. RAJESH; M. NELSON. *Univ. of Arizona, Univ. of Arizona.*
- 9:00 A56 **641.14** The visual system as a biomarker in a mouse model of CDKL5 deficiency disorder: Functional substrates and behavioral correlates. L. LUPORI*; G. SAGONA; C. FUCHS; R. MAZZIOTTI; A. STEFANOV; E. PUTIGNANO; D. NAPOLI; V. MARTINI; G. RICCI; E. STRETTOI; E. CIANI; T. PIZZORUSSO. *Scuola Normale Superiore, IRCCS Stella Maris Fdn., Univ. of Bologna, Univ. of Florence, CNR.*
- 10:00 A57 **641.15** Behavioral characterization of a full UBE3A deletion rat model. E. L. BERG*; S. P. PETKOVA; Y. SHEN; S. HARRIS; H. A. BORN; A. E. ANDERSON; S. V. DINDOT; E. J. WEEBER; D. J. SEGAL; M. WÖHR; J. L. SILVERMAN. *Univ. of California Davis Sch. of Med., Univ. of California Davis Sch. of Med., Univ. of California Davis Sch. of Med., Baylor Col. of Med., Texas A&M Hlth. Sci. Ctr., Univ. of South Florida, Univ. of California Davis, Philipps-University of Marburg.*

POSTER

641. Animal Models of Developmental Disorders

Theme A – Development

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 A43 **641.01** Slc52a3 gene disruption affected the development of cerebral cortex in mice. C. JIN*; A. YONEZAWA; H. YOSHIMATSU; S. IMAI; M. KOYANAGI; K. YAMANISHI; S. NAKAGAWA; T. OMURA; T. NAKAGAWA; K. MATSUBARA. *Kyoto Univ. Hosp., Kyoto Univ.*
- 9:00 A44 **641.02** Visualizing neural correlates of Tourette's-like motor tics in brain slices with genetically encoded voltage indicators. J. RHEE*; B. J. BAKER. *Korea Inst. of Sci. and Technol., Korea Univ. of Sci. and Technol.*
- 10:00 A45 **641.03** Sexually-dimorphic dopamine signaling dictates the penetrance and behavioral trajectory of human dopamine transporter coding variation as revealed in studies of DAT Val559 mice. A. STEWART*; R. GOWRISHANKAR; R. PEART; M. J. RABIL; K. SPIESS; M. K. HAHN; R. D. BLAKELY. *Florida Atlantic Univ., Vanderbilt Univ., Vanderbilt Univ., Florida Atlantic Univ., Florida Atlantic Univ.*
- 11:00 A46 **641.04** Characterisation of William's syndrome zebrafish mutants: fzd9b and baz1b. J. TORRES PEREZ*; C. H. BRENNAN. *Queen Mary Univ. of London.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 A58 **641.16** Latrophilin-3 (LPHN3) knockout and heterozygous Sprague Dawley rats show hyperactivity, response to ADHD medication, and cognitive deficits. S. L. REGAN*; C. SUGIMOTO; M. T. WILLIAMS; C. V. VORHEES. *Univ. of Cincinnati, Cincinnati Childrens Hosp., Cincinnati Children's Res. Found, Cincinnati Children's Hosp & Univ. of Cincinnati.*
- 8:00 A59 **641.17** Increased maternal extracellular serotonin levels beneficially influences offspring's brain morphology and anxiety- and anhedonia-like behavior. S. I. HANSWIJK*; G. SBRINI; P. BRIVIO; L. HELTZEL; W. LI; M. PERONI; D. CANTORE; B. NATALE; M. SPOELDER; M. M. VERHEIJ; D. PEETERS; A. MIDDELMAN; C. LIU; J. K. BUITELAAR; F. CALABRESE; J. R. HOMBERG. *Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ. Med. Ctr., Univ. of Milan, Radboud Ctr. for Mitochondrial Medicine, Radboud Univ. Med. Ctr., Radboud Ctr. for Mitochondrial Medicine, Radboud Univ. Med. Ctr., Dalian Med. Univ.*
- 9:00 A60 **641.18** • Characterization of a novel porcine model of CLN3 Batten disease. T. B. JOHNSON*; P. NEGRAO DE ASSIS; V. SWIER; K. A. WHITE; D. A. STURDEVANT; A. V. DRACK; S. BHATTARAI; C. ROGERS; J. D. COOPER; D. A. PEARCE; J. M. WEIMER. *Sanford Res., Univ. of Iowa, Exemplar Genet., Washington Univ. Sch. of Med., Sanford Res.*
- 10:00 A61 **641.19** Effects of developmental alcohol exposure on brain activation and functional connectivity. S. TANG; A. TARASIEWICZ; R. P. GULLAPALLI; A. E. MEDINA*. *Univ. of Maryland Sch. of Med., Ctr. for Advanced Imaging Res. (umCAIR), Univ. of Maryland, Univ. of Maryland Sch. of Med.*
- 11:00 A62 **641.20** Dissecting the mechanism and function of DNMT3A in neural development and disease. D. CHRISTIAN*; D. Y. WU; R. LIU; J. MARTIN; A. CLEMENS; J. R. MOORE; J. DOUGHERTY; D. WOZNIAC; H. W. GABEL. *Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis.*
- 8:00 A63 **641.21** Uncovering the effect of MgSO₄ on the NRG-ErbB pathway in embryos of maternal immune activation rat dam at different gestational days. A. SHAMIR*; F. DABBAH-ASSADI; I. GOLANI; R. BELOOSESKY. *Psychobiology Res. Laboratory, Mazor Mental Hlth. Ctr. and The Ruth and Bruce Rappaport Fac. of Medicine, Technion – Israel Inst. of Technol., Psychobiology Res. Laboratory, Mazor Mental Hlth. Ctr. and The Ruth and Bruce Rappaport Fac. of Medicine, Technion – Israel Inst. of Technol., Dept. of Biotech. Engineering, ORT Braude College, Karmiel, Israel, Dept. of Obstetrics and Gynecology, Rambam Med. Ctr. and The Ruth and Bruce Rappaport Fac. of Medicine, Technion – Israel Inst. of Technol.*
- 9:00 A64 **641.22** Inflammation exacerbates intrauterine growth restriction-induced cognitive deficits in juvenile rats. L. FAN*; L. TIEN; J. W. LEE; S. LU; N. DANKHARA; V. PRAKASH; I. ARGUELLO; Y. PANG; A. J. BHATT; R. D. SAVICH; N. B. OJEDA. *Univ. of Mississippi Med. Ctr., Fu Jen Catholic Univ., Univ. of Mississippi Med. Ctr.*
- 10:00 A65 **641.23** Role of serotonin in synaptic signaling and plasticity in tuberous sclerosis. R. SRINIVASAN*; W. FRANCESCONI; R. KIRCHNER; F. BERTON; K. P. KOSTER; J. BENEDICT MICHAEL; A. YOSHII. *Univ. of Illinois at Chicago, Rosalind Franklin Univ. of Med. and Scien, Harvard Chan Sch. of Publ. Hlth., Rosalind Franklin Univ. of Med. and Scien, Univ. of Illinois at Chicago, Univ. of Illinois, UIC.*
- 11:00 A66 **641.24** Neurofibromatosis type 1 haploinsufficient mice exhibit reduced female-induced social communicative behaviors, which were associated with abnormalities within key social brain regions. S. F. KARATHANASIS*; J. L. LUKKES; A. R. R. ABREU; D. W. CLAPP; A. SHEKHAR; A. I. MOLOSH. *IU Sch. of Med., Indiana Univ. Sch. of Med., Herman B Wells Ctr. for Pediatric Research, Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., IU Sch. of Medicine.*
- 8:00 A67 **641.25** Effect of developmental alcohol exposure on layer 2/3 neurons in primary visual cortex. D. KEUM*; T. E. KRAHE; N. S. PULIMOOD; A. E. MEDINA. *Univ. of Maryland Sch. of Med., Pontifical Catholic Univ. of Rio de Janeiro.*
- 9:00 A68 **641.26** Moderate prenatal alcohol exposure and housing manipulations alter spatial navigation behavior in adult rodents. C. M. MAGCALAS*; S. DAVIES; D. D. SAVAGE II; D. A. HAMILTON. *Univ. of New Mexico, Univ. of New Mexico Sch. of Med.*
- 10:00 A69 **641.27** Altered patterning and HLH transcription factors that control neurogenesis and gliogenesis in retinoic-acid-induced spina bifida in rat model. M. ORIA*; Z. LI; B. PATHAK; K. BAKRI; J. L. PEIRO. *Cincinnati Children's Hosp. Med. Ctr.*
- 11:00 A70 **641.28** Complex behavioral assessment of preterm brain injury models. D. BAKALAR*; H. LACAILLE; C. M. VACHER; J. O'REILLY; J. SALZBANK; P. KRATIMENOS; S. SEBAOUI; A. PENN. *Children's Natl. Hlth. Syst.*
- 8:00 A71 **641.29** Deficiency of Amotl1 leads to schizophrenia-like phenotype in mice. J. KRZEMIEN; K. O. ROJEK; M. WINIARSKI; P. BOGUSZEWSKI; E. KNAPSKA; T. J. PROSZYNSKI*. *Nencki Inst. of Exptl. Biol. PAS.*

POSTER

642. Autism: Neurons, Circuits, and Behavior

Theme A – Development

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 A72 **642.01** • The effects of maternal high fat diet on ultrasonic vocalizations during maternal separation by BTBR and B6 mouse pups. Y. NIE; R. FEINGOLD; K. K. CHADMAN*. *NYS Inst. Basic Res.*
- 9:00 A73 **642.02** Comprehensive profiling and localization of gene expression in the cerebral cortex and striatum of BTBR mice, a mouse model of autism spectrum disorder by comparing with those of C57BL6/J, a highly social mouse strain. S. MIZUNO*; J. HIROTA; H. IWASAKI; S. OKABE; Y. SANO; T. FURUICHI. *Tokyo Univ. of Sci., Gunma Univ. Grad. Sch. of Med., Grad. Sch. of Medicine, Univ. of Tokyo.*
- 10:00 A74 **642.03** Overexpression of metabotropic glutamate receptor 5 in the striatum and prefrontal cortex of BTBR mouse model of autism spectrum disorder. F. MATRISCIANO; V. LOCCI; E. DONG; D. R. GRAYSON*; A. GUIDOTTI. *Univ. of Illinois Chicago, Univ. of Illinois at Chicago.*
- 11:00 A75 **642.04** Perinatal fluoxetine exposure results in social deficits and reduced monoamine oxidase gene expression in mice. C. M. BOND; J. C. JOHNSON; V. CHAUDHARY; M. L. MCWHORTER; N. S. WOEHRL*. *Wittenberg Univ.*

- 8:00 A76 **642.05** The role of cerebellar granule cells in autism spectrum disorder related behaviors. B. DENTEL*; E. GIRMASH; E. OH; L. ANGELES-PEREZ; P. TSAI. *UT Southwestern*.
- 9:00 A77 **642.06** Impacts of social and environmental deprivation on fine motor development in mice: Implications for ASD. S. PICKERNELL; K. CLARK; A. PELLE; D. P. DEVINE*. *Univ. of Florida*.
- 10:00 A78 **642.07** ▲ Developmental trajectories in social reward and salience brain networks: A combined behavioral and structural MRI study in infant rhesus macaques. S. E. SAAVEDRA*; M. WALLACE; T. JONESTELLER; M. BAUTISTA; J. WESSON; M. H. KYLE; L. LI; M. A. STYNER; J. RAPER; J. BACHEVALIER; M. SANCHEZ; Z. KOVACS-BALINT. *Emory Univ., Emory Univ., Children's Healthcare of Atlanta, Univ. of North Carolina at Chapel Hill, Emory Univ., Emory Univ.*
- 11:00 A79 **642.08** ▲ A new objective electrophysiological technique as a measure of central auditory processing in a rat model of autism spectrum disorder. S. A. PENA*; R. MITTAL; D. MISHRA; D. SHAHAL; T. YASSA; J. MITTAL; J. BOHORQUEZ; A. ESHRAGHI. *Univ. of Miami Miller Sch. of Med., Univ. of Miami Dept. of Otolaryngology, Univ. of Miami Dept. of Biomed. Engin.*
- 8:00 A80 **642.09** The role of Foxp1 and Foxp2 in striatal D1 spiny projection neurons. N. I. AHMED*; A. G. ANDERSON; G. KONOPKA. *Univ. of Texas Southwestern Med. Ctr.*
- 9:00 A81 **642.10** Modulation of ASD-like behavior in the MIA mouse model. M. D. REED*; S. KIM; Y. YIM; H. KIM; H. KING; G. WELCH; M. T. HARNETT; A. WAISMAN; L. TSAI; J. H. HUH; G. B. CHOI. *The Picower Inst. for Learning and Memory, MIT, Harvard Med. Sch., MIT, Univ. Med. Ctr. of the Johannes Gutenberg-University Mainz.*
- 10:00 A82 **642.11** Altered RNA processing in CHD8 haploinsufficient mice. A. A. WADE*; C. P. CANALES; I. ZDILAR; A. L. GOMPERS; L. SU-FEHER; A. S. NORD. *Univ. of California, Davis.*
- 11:00 A83 **642.12** Altered gene expression in the embryonic rat brain following maternal poly I:C exposure during pregnancy. E. KAMIMURA; H. ZHU; A. SAEFULLOH; S. HORIKE; S. YOKOYAMA*. *Res. Ctr. for Child Mental Development, Kanazawa Univ., Advanced Sci. Res. Center, Kanazawa Univ., Div. of Socio-Cognitive-Neuroscience, United Grad. Sch. of Child Development, Osaka University, Kanazawa University, Hamamatsu Univ. Sch. of Medicine, Chiba Univ. and Univ. of Fukui.*
- 8:00 A84 **642.13** Dysregulation of the blood-brain barrier and neurovasculature induced by prenatal immune disturbances. H. MOON*; B. A. BABINEAU; J. UMANS; H. NGUYEN; T. D. PALMER. *Stanford Univ.*
- 9:00 A85 **642.14** ● Pyramidal neuron growth and increased hippocampal volume during labor and birth in autism. R. CLOAREC; B. RIFFAULT*; A. DUFOUR; H. RABIEL; L. GOUTY-COLOMER; C. DUMON; D. GUIMOND; P. BONIFAZI; S. EFTEKHARI; N. LOZOVAYA; D. C. FERRARI; Y. BEN-ARI. *Neurochlore, Ben-Ari Inst. of Neuroarcheology (IBEN), Biocrucis Hlth. Res. Inst., IKERBASQUE: The Basque Fndn. for Sci.*
- 10:00 A86 **642.15** Effects of cannabinoid drugs in preclinical models of autism spectrum disorder. S. SCHIAVI; A. MANDUCA; V. TREZZA*. *Roma Tre Univ.*
- 11:00 B1 **642.16** Single-cell analysis of Foxp1-driven mechanisms essential for striatal development. A. ANDERSON*; A. KULKARNI; M. HARPER; G. KONOPKA. *UT Southwestern Med. Ctr.*
- 8:00 B2 **642.17** Sex differences in infant processing of social cues in the valproic acid-induced autism-like rat phenotype. A. M. WHITE*; X. AN; J. DEBIEC. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Yangzhou Univ.*
- 9:00 B3 **642.18** Neuroanatomical consequences of prenatal exposure to ASD-specific maternal antibodies in rat's offspring. M. WOLF-OCHOA*; C. FALCONE; M. R. BRUCE; M. D. BAUMAN; J. VAN DE WATER; V. MARTÍNEZ CERDEÑO. *Univ. of California - Davis, Univ. of California - Davis Sch. of Med., Univ. of California - Davis Sch. of Med., Med. Investigation of Neurodevelopmental Disorders (MIND) Inst.*
- 10:00 B4 **642.19** Therapeutic potential of granulocyte-colony stimulating factor for core autism behaviors. G. G. GOULD*; S. FEDORCHAK; L. F. FERREIRA; B. RICE; N. PATHAPATTI; B. SAYGIN; M. LEONARD; S. T. SCHULTZ; E. B. KRAIG; L. C. DAWS. *U Texas Hlth. Sci. Ctr. at San Antonio, U Texas Hlth. Sci. Ctr. at San Antonio, U Texas Hlth. Sci. Ctr. at San Antonio.*
- 11:00 B5 **642.20** Effects of prenatal stress and/or forebrain Atrx deficiency in C57BL/6 male mice on maternal care, brain development, and emotional, cognitive and social behaviors in the adult offspring. G. J. RODRIGUES*; K. LEE; H. MAILLET; D. GOGUEN; I. C. G. WEAVER. *Dalhousie, Dalhousie Univ.*
- 8:00 B6 **642.21** The basolateral amygdala plays an integral role in modulating social memory deficits in neurofibromatosis type 1 mice. H. P. DROZD*; J. L. LUKKES; A. R. ABREU; E. T. DUSTRUDE; D. W. CLAPP; A. SHEKHAR; A. I. MOLOSH. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Medicine.*
- 9:00 B7 **642.22** Set shifting deficits in valproic acid model of autism in Long Evans rats. Z. MCKINNELL*; B. CHALLANS; T. MAZE; A. RAMOS; A. PRITCHARD; B. PLAKKE. *Kansas State, Kansas State Univ., Kansas State Univ.*
- 10:00 B8 **642.23** Behavioral characterization of mice deficient for the mammal-specific microRNA 379-410 cluster. A. Ö. SUNGUR*; M. LACKINGER; L. STEMMLER; R. GROSSE; R. K. W. SCHWARTING; G. SCHRATT; M. WÖHR. *Philipps Univ. Marburg, Philipps Univ. Marburg, Philipps Univ. Marburg, Swiss Federal Inst. of Technol.*
- 11:00 B9 **642.24** ▲ Study of post-pubertal social vocalization in pre-adolescent males and females coming from maternal hypothyroidism: Link for neurodevelopmental aspects in autism-related conditions? D. M. SANTOS*; J. D. SILVA; G. GIANNOCO; M. RIBEIRO; C. A. PENATTI. *Univ. Nove de Julho - UNINOVE, Federal Univ. of São Paulo - UNIFESP, Mackenzie Presbyterian Univ., UNINOVE - Univ. Nove De Julho.*
- 8:00 B10 **642.25** The role of maternal anti-CASPR2 antibody in autism spectrum disorder: A second hit model. C. BAGNALL-MOREAU*; R. BERLIN; P. T. HUERTA; B. T. VOLPE; L. BRIMBERG; B. DIAMOND. *The Feinstein Inst. For Med. Res., Feinstein Inst. for Med. Res., Feinstein Inst. For Med. Res., The Feinstein Inst. for Med. Res.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:00 B11 **642.26** Early-life developmental profile of ultrasonic vocalizations in the valproic acid model of autism. R. S. BESSA*; R. N. ROMCY-PEREIRA. *Federal Univ. of Rio Grande do Norte*.
- 10:00 B12 **642.27** Shank3b loss in the mouse results in deficits to motivation for social reward. K. B. MCCULLOUGH*; S. E. MALONEY; C. WEICHSELBAUM; J. DOUGHERTY. *Washington Univ.*
- 11:00 B13 **642.28** Shank3 is required for late-phase juvenile ocular dominance plasticity in mice. C. GROVES KUHNLE*; V. TATAVARTY; S. D. VAN HOOSER; G. TURRIGIANO. *Brandeis Univ., Brandeis Univ.*
- 8:00 B14 **642.29** Development of a quantitative measure of social motivation in mice and its regulation by oxytocin. S. E. MALONEY*; K. B. MCCULLOUGH; C. T. WEICHSELBAUM; J. D. DOUGHERTY. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*

POSTER

643. Sensorimotor Development and Disorders

Theme A – Development

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 B15 **643.01** Unable to Attend Assessment of somatosensory development after neonatal pain. V. S. FAZAN*; L. S. SANADA; E. C. CARMO; N. L. B. MACHADO. *Sch. of Med. of Ribeirao Preto*.
- 9:00 B16 **643.02** Relation between movement and respiration in preterm infants. I. ZUZARTE*; D. PAYDARFAR; D. STERNAD. *Northeastern Univ., The Univ. of Texas At Austin, Dell Med. Sch., Northeastern Univ. Dept. of Biol.*
- 10:00 B17 **643.03** Dynamic connectivity and changes in coordination during walking. J. N. KERKMAN*; A. BEKIUS; A. DAFFERTSHOFER; N. DOMINICI. *Vrije Univ. Amsterdam*.
- 11:00 B18 **643.04** ● Assessing the impact of chewing on motor function in children and adolescents. J. PREBOR*; B. SAMULSKI; S. MORRISON. *Old Dominion University, Old Dominion Univ., Old Dominion Univ.*
- 8:00 B19 **643.05** Motor drive to the paretic lower limb in children with hemiplegic cerebral palsy: A pilot study. V. GOYAL*; T. SUKAL-MOULTON; J. P. A. DEWALD. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*
- 9:00 B20 **643.06** A novel two-body sensor system to study spontaneous movements in infants during caregiver physical contact. P. PATEL*; Y. SHI; F. HAJIAGHAJANI; S. BISWAS; M. LEE. *Michigan State Univ., Michigan State Univ.*
- 10:00 B21 **643.07** ▲ Acetaminophen exposure during the juvenile period impairs motor coordination in C57Bl/6 mice. J. V. GEORGE*; G. GUNAWAN; A. A. WISLOTSKY; P. T. ORR. *Univ. of Scranton, Univ. of Scranton*.
- 11:00 B22 **643.08** ▲ Prenatal acetaminophen exposure alters FAAH expression in newborn C57Bl/6 mice. G. GUNAWAN; S. N. WIERBOWSKI; P. T. ORR*. *Univ. of Scranton, Univ. of Scranton*.

- 8:00 B23 **643.09** Cerebellar GluRδ2 deficiency in mice recapitulates key clinical features of essential tremor. C. NI*; M. PAN; Y. LI; S. WANG; E. P. CORTES; J. G. VONSATTEL; E. D. LOUIS; P. L. FAUST; S. KUO. *Columbia Univ., Natl. Taiwan Univ. Hosp., Taipei Tzu Chi Hosp., Icahn Sch. of Med. at Mount Sinai, Columbia Univ., Yale Univ.*
- 9:00 B24 **643.10** Maternal care impact spontaneous and dopaminergic-induced yawning and penile erection frequencies in Sprague-Dawley rats. J. EGUIBAR*; C. CORTES; A. TRUJILLO; A. UGASTE; M. DORANTES-NIETO. *Benemerita Univ. Autonoma De Puebla, Benemerita Univ. Autonoma De Puebla, Benemerita Univ. Autonoma De Puebla*.

POSTER

644. Nicotinic Acetylcholine Receptors: Structure and Regulation

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 B25 **644.01** TMEM35/NACHO recognizes α7 nicotinic receptor transmembrane domains but cannot rescue mixed chimeras. R. H. LORING*; S. K. IYER; K. ADHIKARI; Z. WANG; S. ORUGANTI; L. HANSEN; V. RAMESH. *Northeastern Univ.*
- 9:00 B26 **644.02** ● Expressing extracellular domain α4β2 nicotinic acetylcholine receptors depends on proximal proline of first transmembrane domain. A. M. PERSON; G. B. WELLS*. *Texas A&M Univ. Col. of Med.*
- 10:00 B27 **644.03** Effects of nicotine + morphine on reward-related behavior and nicotinic acetylcholine receptor regulation in mouse midbrain. A. J. AVELAR*; A. T. AKERS; S. Y. COOPER; B. J. HENDERSON. *Marshall Univ., Marshall Univ.*
- 11:00 B28 **644.04** ● Identification of multiple accessory proteins for nAChR alpha6 containing receptors. S. GU*; J. A. MATTA; W. B. DAVINI; G. B. DAWE; B. LORD; D. S. BREDET. *Janssen Pharmaceuticals of Johnson & Johnson*.
- 8:00 B29 **644.05** A stably transfected, doxycycline inducible, HEK-293 model for the characterization and screening of alpha3 beta2 neuronal nicotinic acetylcholine receptors. A. SEGO; R. RICHTER; M. WRIGHT; R. WAGNER; C. MERRILL; M. KROPELICKI; R. JOHNSON; S. N. SUDWEEKS*. *Brigham Young Univ.*
- 9:00 B30 **644.06** Identifying determinants of agonist selectivity in nicotinic acetylcholine receptors: Impact of non-aromatic residues. T. MINGUEZ*; A. S. F. OLIVEIRA; D. K. SHOEMARK; B. E. NIELSEN; C. BOUZAT; R. B. SESSIONS; A. J. MULHOLLAND; S. WONNACOTT; T. GALLAGHER; I. BERMUDEZ. *Oxford Brookes Univ., Univ. of Bristol, Univ. of Bristol, CONICET, Univ. of Bath*.
- 10:00 B31 **644.07** Effects of MMB4 and 2-PAM on alpha1-, alpha7-, and alpha3-type nicotinic acetylcholine receptors. S. E. WOLFE*; P. M. BODNER; M. G. KRITCHON; J. B. MACHAMER; P. M. MCNUTT. *USAMRICD*.
- 11:00 B32 **644.08** ▲ An investigation into the effects of two epilepsy-implicated point mutations within human nicotinic acetylcholine receptors containing accessory subunits. J. MCKAY*; T. J. SMITH; M. M. WELTZIN. *Univ. of Alaska Fairbanks*.

- 8:00 B33 **644.09** A functionally conserved mechanism of modulation via a vestibule site in pentameric ligand-gated ion channels. D. C. BERTRAND; K. KAMBARA; M. BRAMS; K. PRICE; S. C. LUMMIS; E. PARDON; A. GHARPURE; C. GOVAERTS; J. STEYAERT; R. E. HIBBS; C. ULENS*. *Hiqscreen, Hiqscreen Sarl, KULeuven, Univ. of Cambridge, Vrije Univ. Brussel - VUB VIB, UTSouthwestern, Univ. Libre Bruxelles, UT Southwestern Med. Ctr., KU Leuven.*
- 9:00 B34 **644.10** Structural foundations for ionic current stability and gating efficiency in cys-loop receptors. J. R. STRIKWERDA*; S. M. SINE. *Mayo Clin.*
- 10:00 B35 **644.11** ▲ A study of a dog-variant rabies virus glycoprotein derived peptide interactions with nicotinic receptors subtypes. S. THAO*; C. SPAIN; K. HUEFFER; M. WELTZIN. *UAF.*
- 11:00 B36 **644.12** Heteromeric neuronal nicotinic acetylcholine receptors with mutant beta subunits acquire sensitivity to alpha7-selective positive allosteric modulators. C. STOKES*; S. GARAI; A. R. KULKARNI; L. N. CANTWELL; C. M. NOVIELLO; R. E. HIBBS; N. A. HORENSTEIN; K. A. ABOUD; G. A. THAKUR; R. L. PAPKE. *Univ. of Florida, Northeastern Univ., UT Southwestern Med. Ctr., Univ. of Florida.*
- 8:00 B37 **644.13** Allosteric and orthosteric activation of alpha7 nicotinic acetylcholine receptors by tri-substituted 2-aminopyrimidines. R. L. PAPKE*; G. A. CAMACHO HERNANDEZ; C. STOKES; M. QUADRI; L. CORRIE; N. A. HORENSTEIN; P. W. TAYLOR. *Univ. Florida, UCSD, Marta Quadri, Lu W Corrie, Univ. of Florida.*
- 9:00 B38 **644.14** Expression of $\alpha 3\beta 2\beta 4$ nicotinic acetylcholine receptors by rat adrenal chromaffin cells determined using novel conopeptide antagonists. A. J. HONE*; J. GAJEWIAK; S. CHRISTENSEN; T. DYHRING; J. MCINTOSH. *Univ. of Utah, Saniona A/S, Univ. of Utah, George E. Whalen Veterans Affairs Med. Ctr.*
- 10:00 B39 **644.15** Lead α -conotoxins for development of novel, highly selective, $\alpha 3\beta 2^*$ -nicotinic acetylcholine receptor antagonists. B. EATON*; E. JAISWAL; R. J. LUKAS; T. GORDON; A. J. HONE; J. MCINTOSH; P. WHITEAKER. *Barrow Neurolog. Inst., Univ. of Utah, Univ. of Utah, George E. Whalen Veterans Affairs Med. Ctr., Univ. of Utah.*
- 11:00 B40 **644.16** Novel α -conopeptide derivatives of peia maintain $\alpha 3\beta 2$ vs. $\alpha 6\beta 2$ nicotinic receptor selectivity across species. E. JAISWAL*; B. EATON; P. WHITEAKER; J. MCINTOSH; A. HONE. *Barrow Neurolog. Inst., Univ. Utah.*
- 8:00 B41 **644.17** Importance of fluidic control in high-throughput studies of acetylcholine and GABA receptors. A. YEHAIA*; C. IONESCU-ZANETTI. *Fluxion Biosci.*
- 9:00 B43 **645.02** ● Development of a next generation of GABAergic compounds for anesthesia and epilepsy. M. F. DAVIES*; A. JAHANGIR; M. SHAMLOO; R. K. LAM; H. S. MCCARREN; B. S. BARKER; E. J. BERTACCINI. *Stanford Univ. Sch. Med., Stanford Univ. Sch. of Med., Stanford Univ., US Army Med. Res. Inst. of Chem. Def., USAMRICD, Stanford Univ. Sch. of Med.*
- 10:00 B44 **645.03** Alcohol enhances hops modulation of GABA_A receptors. A. Y. BENKHEROUF*; S. L. SOINI; M. UUSI-OUKARI. *Univ. of Turku - Inst. of Biomedicine.*
- 11:00 B45 **645.04** Structural pharmacology of native brain GABA-A receptors. R. W. OLSEN*; A. K. LINDEMEYER; M. WALLNER; X. R. LI; K. W. HUYNH; Z. H. ZHOU. *Geffen Sch. of Med. At UCLA, California NanoSystems Inst. at UCLA.*
- 8:00 B46 **645.05** Modulation of recombinant and cortical GABA_A receptors by the alkaloid gelsemine. A. M. MARILEO*; J. A. GAVILAN; C. O. LARA; C. F. BURGOS; V. P. SAN MARTIN; A. SAZO; J. FUENTEALBA; L. GUZMÁN; P. A. CASTRO; L. G. AGUAYO; G. MORAGA-CID; G. E. YÉVENES. *Univ. De Concepción.*
- 9:00 B47 **645.06** Functional modulation of the glycine receptor alpha3 subunit by tropeines. V. P. SAN MARTÍN*; C. F. BURGOS; A. M. MARILEO; C. O. LARA; A. E. SAZO; J. FUENTEALBA; L. GUZMÁN; P. A. CASTRO; L. AGUAYO; G. MORAGA-CID; G. YÉVENES. *Univ. De Concepción.*
- 10:00 B48 **645.07** A novel highly alpha5-subunit selective benzodiazepine. P. SCHOLZE*; X. SIMEONE; F. KONIUSZEWSKI; M. MÜLLEGGGER; A. SMETKA; F. STEUDLE; R. PUTHENKALAM; M. ERNST. *Med. Univ. of Vienna.*
- 11:00 B49 **645.08** ● Human and dog $\alpha 4\beta 3\delta$ GABA_A receptors display differential sensitivity to GABA and positive allosteric modulators. A. L. ALTHAUS*; K. KAMBARA; S. BERTRAND; D. C. BERTRAND; M. A. ACKLEY. *SAGE Therapeut., Hiqscreen.*
- 8:00 B50 **645.09** ● Characterizing negative allosteric modulators of $\alpha 5$ GABA_A receptors in primary hippocampal neurons. M. A. MANZO*; W. W. LI; D. WANG; B. A. ORSER. *Univ. of Toronto, Univ. of Toronto, Sunnybrook Hlth. Sci. Ctr.*
- 9:00 B51 **645.10** Comparison of Z-drugs on the three gamma subunits of GABA_A receptors. G. A. RICHTER*; P. K. AHRING; V. W. Y. LIAO; N. ABSALOM; P. VAN NIEUWENHUIJZEN; M. CHEBIB. *The Univ. of Sydney.*
- 10:00 B52 **645.11** A role for entropic forces in tuning a ligand gated ion receptor function. K. KAMBARA*; P. M. SELZER; S. NOACK; Y. MORENO; J. HARRINGTON; D. BERTRAND. *Hiqscreen Sarl, Boehringer Ingelheim Vetmedica GmbH, Boehringer Ingelheim Animal Hlth. USA Inc.*
- 11:00 B53 **645.12** Photomodulation of alpha1beta3gamma2 GABA_A receptors expressed in *Xenopus laevis* oocytes using a tethered propofol photoswitch. C. M. BORGHESE*; E. J. BERTACCINI; J. R. TRUDELL; R. A. HARRIS. *Univ. of Texas at Austin, Stanford Univ.*

POSTER

645. GABA(A) and Glycine Receptor Pharmacology

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 B42 **645.01** The underlying mechanism of propofol-induced intracellular calcium elevation. N. SAKAI*; T. URABE; S. MOTOIKE; K. HARADA; I. HIDE; S. TANAKA. *Grad Sch. of Biomed & Hlth. Sci, Hiroshima Univ., Dept. of Anesthesiol. and Critical Care, Grad. Sch. of Biomed. and Hlth. Sciences, Hiroshima Univ., Dept. of Dent. Anesthesiology, Grad. Sch. of Biomed. & Hlth. Sciences, Hiroshima Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 B54 **645.13** Azobenzen/nitrazepam-based light-controllable modulators of inhibitory brain receptors. G. MALEEVA*; D. WUTZ; K. RUSTLER; A. GOMILA; A. NIN-HILL; E. PETUKHOVA; M. ALFONSO-PRIETO; P. SCHOLZE; F. PEIRETTI; C. ROVIRA; B. KONIG; P. GOROSTIZA; P. BREGESTOVSKI. *Inst. for Bioengineering of Catalonia, Univ. of Regensburg, ICREA/UB, Kazan State Med. Univ., Inst. for Advanced Simulations IAS-5 and Inst. of Neurosci. and Med. INM-9, Cécile and Oskar Vogt Inst. for Brain Research, Heinrich Heine Univ., Med. Univ. of Vienna, Aix Marseille Université, INSERM 1263, INRA 1260, C2VN, Institució Catalana de Recerca i Estudis Avançats (ICREA), Inst. for Bioengineering of Catalonia (IBEC), The Barcelona Inst. of Sci. and Technol. (BIST), Network Biomed. Res. Ctr. in Biomaterials, Bioengineering and Nanomedicine, Aix-Marseille University, INSERM, INS, Inst. de Neurosciences des Systèmes, Inst. of Neurosciences, Kazan State Med. Univ.*
- 9:00 B55 **645.14** The alpha-6 subunit-containing GABA_A receptor is a novel therapeutic target for schizophrenia and migraine. L. CHIOU*; H. LEE; M. LEE; H. TZENG; P. FAN; H. KUBOTA; A. MOURI; D. E. KNUTSON; J. COOK; M. ERNST; W. SIEGHART; T. NABESHIMA. *Col. of Medicine, Natl. Taiwan Univ., Col. of Medicine, Natl. Taiwan Univ., China Med. Univ., Col. of Medicine, Natl. Taiwan Univ., Fujita Hlth. Univ., Univ. of Wisconsin-Milwaukee, Med. Univ. Vienna.*
- 10:00 B56 **645.15** • Preclinical and clinical studies with GT-002, a novel GABA_A receptor ligand with putative antipsychotic and pro-cognitive effects. M. R. WITT*; C. RYAN; S. REHNMARK; M. NIELSEN. *Gabather AB.*
- 11:00 B57 **645.16** Development and characterisation of a panel of 19 GABA_A receptor cell lines to facilitate the identification of subtype specific GABA compounds. L. HUTCHISON*; P. MADAU; L. MCCracken; A. DICKSON; C. KADI; H. J. TRACEY; D. E. SMITH; C. BROWN; L. GERRARD; P. CONWAY; D. DALRYMPLE; I. MCPHEE; D. PAU. *SB Drug Discovery.*
- 8:00 B58 **645.17** Mapping the binding site mediating carisoprodol's direct activation of GABA_A receptors. M. C. CLAUDIO*; H. HAYATSHAHI; N. M. MISHRA; G. H. DILLON; K. A. EMMITTE; J. LIU; R. HUANG. *UNT Hlth. Sci. Ctr., UNT Hlth. Sci. Ctr., UNT Hlth. Sci. Ctr.*
- 9:00 B59 **645.18** Effects of the diazepam binding inhibitor on GABA-mediated currents. J. S. BORCHARDT*; N. GIEZENDANNER; R. A. PEARCE; C. M. CZAJKOWSKI. *Univ. of Wisconsin-Madison, Univ. Wisconsin-Madison, Univ. of Wisconsin.*
- 10:00 B60 **645.19** Allopregnanolone potentiates and prolongs phasic inhibition of dorsal vagal motor neurons via the protein kinase C pathway. E. LITTLEJOHN*; L. ESPINOZA; C. BOYCHUK. *UT Hlth. San Antonio.*
- 9:00 B62 **646.02** Somatostatin receptors on inhibitory SST, VIP and PV interneurons in the barrel cortex. A. LUKOMSKA*; G. DOBRZANSKI; M. LIGUZ-LECZYNAR; M. KOSSUT. *Nencki Inst. of Exptl. Biol. PAS.*
- 10:00 B63 **646.03** A2A adenosine receptors blockade reverts synaptic and memory in aged rats. R. A. CUNHA*; C. SOUZA; J. GUTIERREZ; H. B. SILVA; P. M. CANAS. *CNC -Center For Neurosci. and Cell Biol., CNC-Center for Neurosci. and Cell Biol., CNC-Center for Neurosci. and Cell Biol.*
- 11:00 B64 **646.04** The neuropeptide FF1 receptor/rfamide-related peptide 3 system modulates nociception, opioid analgesia, inflammatory pain and luteinizing hormone release in rodents. F. SIMONIN*; R. QUILLET; S. SCHNEIDER; V. UTARD; A. DRIEU LA ROCHELLE; M. GERUM; K. ELHABAZI; J. B. HENNINGSEN; P. GIZZI; V. KUGLER; T. SORG-GUSS; V. M. SIMONNEAUX; B. ILIEN; F. BIHEL. *CNRS-University of Strasbourg, Inst. of Cell. and Integrative Neurosci., CNRS-INSERM-University of Strasbourg, Inst. Des Neurosciences Cellulaires Et Intégratives CNRS UMR 3212.*
- 8:00 B65 **646.05** Identification of the key molecules involved in GPCR-mediated primary cilium shortening. Y. KOBAYASHI; S. TOMOSHIGE; D. MIKI; T. MIYAMOTO; Y. SAITO*. *Hiroshima Univ., Hiroshima Univ.*
- 9:00 B66 **646.06** Lysophosphatidic acid activates satellite glia cells and Schwann cells. C. I. CIOTU*; L. GEBHARDT; T. WEISS; A. KREMER; M. J. FISCHER. *Med. Univ. of Vienna, Friedrich-Alexander-University of Erlangen-Nürnberg, Friedrich-Alexander-University of Erlangen-Nürnberg, Med. Univ. of Vienna.*
- 10:00 B67 **646.07** G-protein-coupled estrogen receptor 1 (GPER1)-mediated enhancement of excitatory synaptic transmission in layer II of the entorhinal cortex. A. A. BATALLÁN BURROWES*; A. SUNDARAKRISHAN; C. A. CHAPMAN. *Concordia Univ.*
- 11:00 B68 **646.08** Interaction between dopamine and type 2 corticotropin releasing factor receptors modulates the basolateral amygdalar transmission to the medial prefrontal cortex. H. E. YARUR; J. A. ZEGERS; I. VEGA-QUIROGA; K. GYSLING*. *Pontificia Univ. Católica de Chile.*
- 8:00 B69 **646.09** Loss of trace amine-associated receptor 2 function results in impairments in hippocampus-dependent behavior and hippocampal synaptic function. A. G. ALMONTE*; A. DEAL; J. K. KONSTANTOPOULOS; J. L. WEINER; E. A. BUDYGIN. *Wake Forest Sch. of Med., Wake Forest Sch. of Med.*
- 9:00 B70 **646.10** Role of type-2 corticotrophin-releasing factor receptors in nucleus accumbens neurotransmitter levels after basolateral amygdala stimulation. J. A. ZEGERS; H. E. YARUR*; C. P. BASTIAS; K. GYSLING. *Pontificia Univ. Católica De Chile.*
- 10:00 B71 **646.11** Structural and pharmacological characterization of the μ-opioid-galanin Gal₁ receptor heterodimer. P. A. DE OLIVEIRA*; N. CASAJUANA-MARTÍN; H. ZHU; C. NING-SHENG; E. MORENO; A. BONIFAZI; A. GONZÁLEZ; V. CASADÓ-ANGUERA; S. PITTENGER; A. NEWMAN; V. CASADÓ; M. HALL; L. PARDO; S. FERRE. *Natl. Inst. on Drug Abuse, IRP, Autonomous Univ. of Barcelona, Natl. Ctr. for Advancing Translational Sci., Univ. of Barcelona.*

POSTER

646. Metabotropic Receptors for Other Transmitters and Peptides

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 B61 **646.01** Comparison of the pharmacological signatures of arginine vasopressin and oxytocin analogs at marmoset, macaque, and human vasopressin 1a and oxytocin receptors. M. L. PIERCE*; J. A. FRENCH; T. F. MURRAY. *Creighton Univ., Univ. of Nebraska Omaha.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 B72 **646.12** Possibility to recover from anorexia: A disorganized synaptic network in the prefrontal cortex did not block the ability to restore hypophagia in adult stressed 5-HT₄ knockout. M. EL OUAHLI; M. NAJIMI; F. CHIGR; V. COMPAN*. *Nimes Univ., Beni Mellal Univ.*
- 8:00 B73 **646.13** Mechanisms for pituitary adenylate cyclase-activating polypeptide-induced increase in excitability in adrenal medullary chromaffin cells. M. INOUE*; H. MATSUOKA; K. HARADA. *UOEH Sch. of Med.*
- 9:00 B74 **646.14** NECAB2 is a major calcium-binding protein of GPR3-positive neurons in various regions of the mouse brain. F. IKAWA*; S. TANAKA; K. HARADA; I. HIDE; N. SAKAI. *Hiroshima Univ. Grad. Sch. of Biomed. and Hlth. Sci.*
- 10:00 B75 **646.15** PI 4-kinase and PIP 5-kinase cooperate to replenish PI(4,5)P₂ after receptor-mediated depletion. L. DE LA CRUZ*; J. B. JENSEN; B. HILLE. *Univ. of Washington, Univ. of Washington Dept. of Physiol. and Biophysics.*
- 11:00 B76 **646.16** Characterizing distinct subsets of hippocampal CA2 neurons through afferent and efferent circuit mapping and electrophysiological recording in vasopressin 1b-Cre transgenic mice. N. I. CILZ*; S. WILLIAMS; A. J. HOWLEY; E. SHEPARD; S. YOUNG. *Natl. Inst. of Mental Hlth.*
- 8:00 B77 **646.17** Structure-activity relationships of psilocybin analogs at serotonin 5-HT₂ receptor subtypes. A. K. KLEIN*; J. D. MCCORVY; S. D. BRANDT; A. L. HALBERSTADT. *UCSD Med. Ctr., Med. Col. of Wisconsin, Liverpool John Moores Univ.*
- 9:00 B78 **646.18** EEG correlates of the head twitch response induced by 5-HT_{2A} receptor agonist 25I-NBOH. A. CONTRERAS*; M. KHUMNARK; R. M. HINES; D. J. HINES. *Univ. of Nevada, Las Vegas.*
- 10:00 B79 **646.19** The effects of cannabinoid-type 1 receptor biased agonism on cellular signaling. H. K. ANDERSEN*; K. B. WALSH. *Univ. of South Carolina - Sch. of Med.*
- 11:00 B80 **646.20** C-terminal phosphorylation of latrophilin-1 regulates the interaction between its fragments. O. BENLAOUER*; M. ATIQUUR RAHMAN; C. MANSER; J. SILVA; Y. USHKARYOV. *Univ. of Kent, Imperial Col. London, UCB-Pharma.*
- 8:00 B81 **646.21** Clinical study of the expression of cannabinoid receptors in temporal lobe epilepsy: Role of cannabinoid receptors in the regulation of α -synuclein expression in neuronal cells. G. A. CARRASCO*; S. VIMAWALA; J. KUSUSKY; N. PARIPATI; T. N. FERRARO; R. J. BUONO. *Cooper Med. Sch. of Rowan Univ.*
- 9:00 B82 **646.22** ▲ Glutamate receptors interactions and Alzheimer's disease. M. V. VASEFI*; K. MEEUWSEN; P. WARWICK; A. HAMILTON; S. FERGUSON. *Lamar Univ., Univ. of Ottawa, Univ. of Ottawa.*
- 10:00 B83 **646.23** Molecular mechanisms of superagonism elicited by synthetic cannabinoid actions on CB1 receptors. H. YANO*; A. F. HOFFMAN; C. R. LUPICA; M. H. BAUMANN; L. SHI. *Natl. Inst. on Drug Abuse IRP, Natl. Inst. on Drug Abuse IRP, Natl. Inst. on Drug Abuse IRP.*

- 11:00 B84 **646.24** Distinct phosphorylation sites/clusters in the carboxyl terminus regulate α 1D-adrenergic receptor subcellular localization and signaling. G. CARMONA ROSAS*; D. HERNANDEZ ESPINOSA; R. ALCANTARA HERNANDEZ; M. ALFONZO MENDEZ; J. GARCIA SAINZ. *Univ. of Chicago, UNAM, NIH.*
- 8:00 B85 **646.25** Characterization of an intranuclear β 1-adrenergic receptor signaling pathway in astrocytes. K. C. BENTON*; D. S. WHEELER; M. B. ANSARI; B. KURTOGLU; A. DOOHAN; S. KHURSHEED; R. KNORR; J. MAGLASANG; D. C. LOBNER; P. J. GASSER. *Marquette Univ.*
- 9:00 B86 **646.26** ▲ Phosphorylation of STAT3 by human serotonin 2C receptor in ID1 and IN1 isoforms. Z. MILETIC LANAGHAN; M. MAISHA; M. CURTIS; L. FEARS; M. IVY; H. M. FENTRESS*. *Tennessee State Univ.*
- 10:00 B87 **646.27** Differential modulation of L-type channel activity by G-protein coupled receptors. K. N. MAN*; J. W. HELL. *Univ. of California, Davis, UC Davis.*
- 11:00 B88 **646.28** ▲ The effect of Resveratrol on ocular regeneration on *Dugesia dorotocephala*. N. FERRARO*; A. CICCOTTO. *St. Joseph By the Sea HS.*
- 8:00 B89 **646.29** ● Using receptor kinetics to quantitatively measure agonist bias at G-protein coupled receptors. S. MARTINKA; S. HOARE; K. HARLEN; A. QUINN; P. TEWSON; T. E. HUGHES*. *Montana Mol., Pharmaceutics.*
- 9:00 B90 **646.30** Engineered zinc binding in the orthosteric binding site of β 2-adrenergic receptor and trace amine-associated receptor 1 (TAAR1). T. RUEDLIN; A. ZEGLEN; C. KARL; Y. NORIMATSU*. *A. T. Still Univ., Truman State Univ.*

POSTER

647. Synaptic Transmission: Modulation and Mechanisms III

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 B91 **647.01** ▲ Pharmacological identification of cholinergic receptor subtypes in modulation of neural circuits in *Drosophila melanogaster*. U. BHUTTO*; E. SOMASUNDARAM; C. MALLOY; R. L. COOPER. *Univ. of Kentucky, Univ. of Kentucky, Natl. Inst. of Hlth. Office of Intramural, Univ. of Kentucky Dept. of Biol.*
- 9:00 B92 **647.02** Ziram, a pesticide associated with Parkinson's disease, increases excitability in aminergic and glutamatergic neurons through inhibition of the eag potassium channel. J. HARRIGAN*; D. F. BRAMBILA; F. E. SCHWEIZER; D. E. KRANTZ. *UCLA, UCLA, David Geffen Sch. of Med., UCLA, UCLA, David Geffen Sch. of Med., UCLA.*
- 10:00 B93 **647.03** Molecular and circuit mechanisms underlying sustained anti-depression effects of subanesthetic ketamine. X. QIAO*; S. GRIECO; X. XU. *Univ. of California Irvine, UCI, Univ. California, Irvine.*
- 11:00 B94 **647.04** Potential novel treatments for the nicotinic effects of nerve agent poisoning. C. L. WHITMORE; A. C. GREEN; J. E. H. TATTERSALL*. *Dstl.*

* Indicates a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 B95 **647.05** Acetylcholine activates NMethylDAspartate receptormediated currents in absence of glycine in medium spiny neurons of rat. J. L. FLORES-HERNANDEZ*; O. TORRES-RAMIREZ; L. ARROYO-RIOS; A. LUNA-LEAL; B. SORIA PEREZ; D. VAZQUEZ-CANDANEDO; G. LOPEZ-LOPEZ; E. MANJARREZ-LOPEZ. *Benemerita Univ. Autonoma De Puebla*.
- 9:00 B96 **647.06** Regulation of membrane insertion of the AMPA-type glutamate receptor via $\beta 2$ adrenergic receptor signaling. B. LEE*; E. A. HAMMES; J. W. HELL. *Univ. of California, Davis*.
- 10:00 B97 **647.07** Developmental NMDA receptor dysregulation in the infantile neuronal ceroid lipofuscinosis mouse model. K. P. KOSTER*; W. FRANCESCONI; F. BERTON; A. YOSHII. *Univ. of Illinois at Chicago, Rosalind Franklin Univ. of Med. and Scien.*
- 11:00 B98 **647.08** Cannabinoid-induced swimming-induced paralysis in the nematode *Caenorhabditis elegans*. S. H. SHRADER*; Y. G. TONG; J. H. FREEDMAN; Z. H. SONG. *Univ. of Louisville Sch. of Med.*
- 8:00 B99 **647.09** Social isolation combined with nicotine exposure alters the dopaminergic response to cocaine. N. B. PAIGE*; J. F. COMSTOCK; R. A. PENNELLA; S. A. TOWERS; J. P. MANUS; L. A. ROBINSON; D. B. LESTER. *Univ. of Memphis*.
- 9:00 B100 **647.10** Alterations in addiction-related behaviors and dopamine functioning in C57BL/6J mice following social isolation and environmental enrichment. J. F. COMSTOCK*; S. A. TOWERS; N. B. PAIGE; A. M. BYRN; P. E. DICKSON; D. B. LESTER. *Univ. of Memphis, The Jackson Lab*.
- 10:00 B101 **647.11** Effects of subchronic oxytocin treatment on social behavior following social isolation in juvenile mice. K. BERRY; M. K. ESTES; N. B. PAIGE; M. MEADOWS; D. B. LESTER; T. D. ROGERS*. *Middle Tennessee State Univ., The Univ. of Memphis*.
- 11:00 B102 **647.12** Systemic oxytocin treatment reverses the effect of social isolation on mesolimbic dopamine release. M. K. ESTES*; N. B. PAIGE; M. N. MILLS; T. D. ROGERS; D. B. LESTER. *Univ. of Memphis, Middle Tennessee State Univ.*
- 8:00 C1 **647.13** Effect of the levetiracetam on the synaptic plasticity in the dentate gyrus of the hippocampus of rats in the chronic phase of the temporal lobe epilepsy. G. GONZÁLEZ-HERNÁNDEZ*; I. J. CONTRERAS-GARCÍA; K. B. SÁNCHEZ-HUERTA; L. R. GALLARDO-GUDIÑO; J. G. MENDOZA-TORREBLANCA; C. M. QUEIROZ; S. R. ZAMUDIO-HERNÁNDEZ. *Inst. Politécnico Nacional, Univ. Autónoma Metropolitana, Inst. Nacional de Pediatría, Inst. Nacional de Pediatría, Univ. Federal de Rio Grande del Norte*.
- 9:00 C2 **647.14** Cholecystokinin released from GABAergic neurons enhances inhibition function in the auditory cortex. H. LING*. *Biomed. Sci. (BMS), Col. of Vet Med. &*.
- 10:00 C3 **647.15** Allopregnanolone: A biomarker candidate for mood disorders. G. PINNA*. *The Psychiatric Institute, Dept. of Psychiatry, Univ. of Illinois at Chicago*.
- 11:00 C4 **647.16** Altered GABA_A receptor subunit expression and neurosteroid biosynthesis in subjects with alcohol use disorder. E. GATTA*; A. GUIDOTTI; D. ASPESI; D. R. GRAYSON; S. C. PANDEY; G. PINNA. *Ctr. for Alcohol Res. in Epigenetics, Dept. of Psychiatry, Univ. of Illinois at Chicago, The Psychiatric Institute, Dept. of Psychiatry, Univ. of Illinois at Chicago, Jesse Brown Veterans Affairs Med. Ctr.*

POSTER

648. Transcription and Translation in Plasticity I

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 C5 **648.01** ▲ Dynamical physical interaction between RCOR2 and SC35 in nuclear speckles. implications for regulating alternative splicing in neurons. F. A. GUZMÁN; C. RIVERA; D. ARANCIBIA; M. E. ANDRES*. *Pontificia Univ. Católica de Chile*.
- 9:00 C6 **648.02** Self-cleaving CPEB3 ribozyme regulates pre-mRNA processing and modulates polyadenylation in the mouse hippocampus. C. CHEN*; L. TONG; M. NIKAN; C. W. COTMAN; E. SWAYZE; M. A. WOOD; A. LUPTAK. *Univ. of California Irvine, Ionis Pharmaceuticals, Univ. of California Irvine, Univ. of California Irvine*.
- 10:00 C7 **648.03** Isoform specific transcriptional regulation of lipophorin receptors generate functional diversity. J. YIN; E. SPILLMAN*; J. SHORT; C. SHENG; M. GIBBS; Q. YUAN. *NIH*.
- 11:00 C8 **648.04** Increased neuropeptide VGF expression through post-transcriptional auto-feedback mechanisms improves cognitive functions. W. LIN*; C. JIANG; J. WU; Y. ZHAO; X. YE; S. R. SALTON. *Sun Yat-Sen Mem. Hospital, Sun Yat-Sen Univ., Icahn Sch. of Med. at Mount Sinai, Sun Yat-Sen Univ., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai*.
- 8:00 C9 **648.05** Differential role of presynaptic translation in evoked and spontaneous release. H. H. WONG*; P. J. SJÖSTRÖM. *McGill Univ.*
- 9:00 C10 **648.06** Characterization of the mTORC1 effector PDCD4 in activity dependent translation and memory. I. KATS*; F. LONGO; E. KLANN. *New York Univ., New York Univ.*
- 10:00 C11 **648.07** Mitochondria dependent metabolic programming drives long term potentiation and synaptic maturation. H. ROLYAN*; P. MIRANDA; H. PARK; S. SACCHETTI; K. ALAVIAN; N. MNATSAKANYAN; P. LICZNERSKI; H. IMAMURA; H. NOJI; J. SHEPHERD; A. CHAVEZ; S. ZUKIN; E. JONAS. *Yale Univ., Yale Univ., Imperial Col. London, Yale Univ. Sch. of Med., Kyoto Univ., Univ. of Tokyo, Univ. of Utah, Albert Einstein Col. of Med., Albert Einstein Col. of Med., Yale Univ.*
- 11:00 C12 **648.08** ● In vivo imaging of the coupling between neuronal and CREB activity in the mouse brain. T. LAVIV*; B. SCHOLL; P. PARRA-BUENO; B. FOOTE; C. ZHANG; L. YAN; J. CHU; R. YASUDA. *Max Planck Florida Inst., CAS Key Lab. of Hlth. Informatics & Res. Lab. for Biomed. Optics and Mol. Imaging, Shenzhen Inst. of Advanced Technol.*
- 8:00 C13 **648.09** Genome-wide gene expression profiling of spinal cord in a mouse model of neuropathic pain. S. UTTAM*; M. PARISIEN; S. JAFARNEJAD; M. AMIRI; F. BEAUDRY; L. DIATCHENKO; A. KHOUTORSKY. *McGill Univ., McGill Univ., Queen's Univ. Belfast, Univ. de Montreal, McGill Univ.*
- 9:00 C14 **648.10** ● ▲ Brain-wide measurement of neuronal activity at cellular resolution. C. LO; R. AZEVEDO; A. A. KEISER; M. PETERS; M. A. WOOD; S. P. GANDHI; D. G. WHEELER*. *Ctr. for the Neurobio. of Learning and Memory, Univ. of California, Irvine, Translucence Biosystems LLC, Dart Neuroscience, LLC, Activity Signaling LLC*.

- 10:00 C15 **648.11** Cell-specific recruitment of unique patterns of activity-regulated genes in individual neurons. C. V. NGUYEN*; E. A. PATTIE; M. TIPPANI; D. J. HILER; S. R. SRIPATHY RAO; Y. WANG; N. J. EAGLES; B. J. MAHER; A. E. JAFFE; S. C. PAGE; K. M. MAYNARD; K. MARTINOWICH. *The Lieber Inst. For Brain Develop., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med.*
- 11:00 C16 **648.12** Proteomic landscape of genetically targeted neural systems. V. DUMRONGPRECHACHAN*; L. BUTLER; Y. KOZOROVITSKIY. *Northwestern Univ.*
- 8:00 C17 **648.13** • Sex differences in estradiol regulation of local protein synthesis and synaptic proteome. D. P. SRIVASTAVA*; P. RAVAL; S. MOSS; N. BRANDON. *Inst. of Psychiatry, Psychology and Neuroscien, Inst. of Psychiatry Psychology and Neuroscience, King's Col. London, Tufts Univ., AstraZeneca.*
- 9:00 C18 **648.14** Expression of mitochondrial uncoupling protein 4 in association with ATP-dependent K⁺ channel opening in neuron. Y. FUKUSHI*; C. SUN; S. YAMAMOTO. *Hamamatsu Univ. Sch. of Med.*
- 10:00 C19 **648.15** Transcript-specific BDNF expression defines unique activity-induced neuronal ensembles: Impact on neural plasticity. E. PATTIE*; A. S. KARDIAN; C. V. NGUYEN; S. V. BACH; M. TIPPANI; A. JAFFE; J. J. DAY; K. R. MAYNARD; S. C. PAGE; K. MARTINOWICH. *Lieber Inst. for Brain Develop., Univ. of Alabama at Birmingham, Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med.*
- 11:00 C20 **648.16** Distinct roles of Bdnf 1 and Bdnf 4 transcript variant expression in hippocampal neurons. S. V. BACH*; D. HOSEIN; D. WILLIAMS; L. IANOV; N. CARULLO; C. G. DUKE; J. J. TUSCHER; B. W. HENDERSON; J. H. HERSKOWITZ; J. J. DAY. *Univ. of Alabama at Birmingham, UAB, Univ. of Alabama At Birmingham, The Univ. of Alabama At Birmingham, Univ. of Alabama At Birmingham.*
- 8:00 C21 **648.17** Physiological stimuli-dependent BDNF promoter activity in cortical cells revealed by live imaging with luciferase assay. Y. MIYASAKA*; N. YAMAMOTO*. *Osaka Univ, Grad Sch. Frontier Biosci.*
- 9:00 C22 **648.18** Gene expression levels of the BDNF pathway in glutamatergic neurons from animal models with social deficits. M. FAIN*; B. BEASLEY; R. ABENS; K. SCOTT; G. WESLEY; M. CHANDLEY. *East Tennessee State Univ., East Tennessee State Univ.*
- 10:00 C23 **648.19** • Neuronal activation can modulate enhancer activity through *de novo* DNA methylation. T. KAMEDA*; T. IMAMURA; T. TAKIZAWA; F. MIURA; T. ITO; K. NAKASHIMA. *Kyushu Univ., Grad. Sch. of Medicine, Gunma Univ.*
- 11:00 C24 **648.20** Activity dependent regulation of CaMKII and local RNA translation machinery in the postsynaptic density. Y. JOO*; D. R. BENAVIDES. *Univ. of Maryland Sch. of Med.*
- 8:00 C25 **648.21** Presynaptic protein synthesis supports structural and functional plasticity at excitatory hippocampal mossy fiber synapses. H. R. MONDAY*; Y. J. YOON; R. H. SINGER; P. E. CASTILLO. *Albert Einstein Col. of Med., Albert Einstein Col. of Med.*

- 8:00 DP02/C26 **648.22** (Dynamic Poster) Real-time imaging of activity-regulated arc gene transcription in acute hippocampal slices. S. DAS*; P. J. LITUMA; P. E. CASTILLO; R. H. SINGER. *Albert Einstein Col. of Med., Albert Einstein Col. of Med., Janelia Res. Campus.*

- 10:00 C27 **648.23** Two functionally distinct signaling cascades are required to efficiently couple neuronal activity with immediate early gene transcription. R. N. SAHA*; B. GUTIERREZ; R. POSTON; C. DUNN. *Univ. of California Merced, Univ. of California, Merced, Univ. of California Merced, Univ. of California.*

POSTER

649. In Vivo Analyses of Epilepsy Models

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 C28 **649.01** Contrasting effects of pathologic and experimentally induced dentate granule cell hyperactivity on spatial tuning specificity in hippocampal CA1 cells. S. A. PARK*; H. TAKANO; J. B. KAHN; D. A. COULTER. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania.*
- 9:00 C29 **649.02** Differential neural activities in multiple rats brain regions in Lithium-pilocarpine-induced state epilepsy model. Q. WANG*; W. SHAN; H. YANG; A. GUO; J. WU. *Beijing Tiantan Hospital, Capital Med. Univ., Natl. Ctr. for Clin. Med. of Neurolog. Dis., Beijing Institute for Brain Disorders, Advanced Innovation Ctr. for Human Brain Protection, Capital Med. Univ.*
- 10:00 C30 **649.03** Enhanced susceptibility to pentylenetetrazol-induced seizure in forebrain excitatory neuron-specific connective tissue growth factor knockout mice. C. TSAO*; C. CHEN; L. LEE. *Natl. Taiwan Univ.*
- 11:00 C31 **649.04** Global correlates of local epileptiform activity in a chemically-induced seizure model. P. J. STEFFAN*; D. A. MCCORMICK. *Univ. of Oregon.*
- 8:00 C32 **649.05** Single seizure induced retrograde amnesia in mice: Mechanisms. A. A. NAIK*; J. KAPUR. *Univ. of Virginia.*
- 9:00 C33 **649.06** Losartan affects seizure threshold and progression by decreasing blood brain barrier disruption. S. MCDERMOTT*; G. LANGUREN; N. P. SABETFAKHRI; J. M. RAKOTOMAMONJY; A. D. GUEMEZ-GAMBOA. *Northwestern Univ., Northwestern University, Feinberg Sch. of Medici, Northwestern Univ.*
- 10:00 C34 **649.07** Effect of deep microelectrodes implantation surgery on physiological and pathological behaviors in rats: A temporal analysis. G. A. CHIPRESTINAJERO*; M. A. NUNEZ-OCHOA; L. H. SAT-DÁVILA; G. M. CAMBEROS-CAMARENA; L. G. MEDINA-CEJA. *Univ. De Guadalajara.*
- 11:00 C35 **649.08** Profiling of neuronal and microglial argonaute-2 bound microrna during epileptogenesis and in chronic epilepsy reveals cell-type specific contribution to disease. G. P. BRENNAN*; N. NGUYEN; T. HILL; E. BRINDLEY; M. DIVINEY; M. HEILAND; A. BATOOL; D. C. HENSHALL. *Royal Col. of Surgeons Ireland, Royal Col. of Surgeons Ireland.*
- 8:00 C36 **649.09** Comparison of the effects of three antiepileptic substances in a genetic animal model of absence seizure. E. ESNEAULT*; A. SOYER; G. PEYON; V. CASTAGNE. *Porsolt.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:00 C37 **649.10** Tracking neurometabolic markers during seizure activity in awake rodents. A. LEDO*; C. F. LOURENÇO; G. A. GERHARDT; J. LARANJINHA; R. M. BARBOSA. *Fac. of Pharmacy, Univ. of Coimbra, Ctr. for Neurosci. and Cell Biol., Univ. of Kentucky Med. Ctr.*
- 10:00 C38 **649.11** Electric field orientation-dependence of evoked seizures and foci localisation using temporal interference and implantable electrodes. E. RUSINA*; S. SAFIEDDINE; R. POULKOURAS; F. MISSEY; B. BOTZANOWSKI; E. ACERBO; Y. ZILBERTER; M. DONAHUE; A. WILLIAMSON. *Aix-Marseille Univ., Mines Saint-Etienne.*
- 11:00 C39 **649.12** Continuous *in-vivo* tissue oxygen recording for spontaneous seizure and spreading depolarization. J. LIU*; F. BAHARI; S. LÓPEZ; C. CURAY; B. J. GLUCKMAN. *The Pennsylvania State Univ.*
- 8:00 C40 **649.13** Evaluation of modulation of cannabinoid receptor 1 (CB1R) for the alleviation of organophosphate-induced status epilepticus and mortality. B. M. WINNER*; S. W. O'BRIEN; P. B. DUBEE; S. E. WOLFE; K. E. KELLY; C. H. PHUNG; K. T. PAGARIGAN; M. R. EISEN; P. M. BODNER; M. R. NELSON; P. M. MCNUTT. *USAMRICD.*
- 9:00 C41 **649.14** Diabetic hyperglycemia increases the severity of lithium-pilocarpine-induced SE in male Wistar rats. C. V. MERIDA PORTILLA*; F. CHENA BECERRA; K. P. RAMOS RIERA; C. MORGADO-VALLE; L. BELTRAN-PARRAZAL; L. LOPEZ-MERAZ. *Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana, Cice, Univ. Veracruzana.*
- 10:00 C42 **649.15** Optogenetic dissection of striatal outputs modulates absence-like spike and wave discharges. S. HYDER*; P. FORCELLI. *Georgetown Univ.*
- 11:00 C43 **649.16** ▲ Spectral correlates of loss of responsiveness during partial vs. secondarily generalized seizures. C. PAPANTONATOS; C. KOZMA; U. GORSKA; T. BUGNON; A. STRUCK; G. TONONI; M. BOLY; E. JUAN*. *Univ. of Wisconsin-Madison, Donders Inst. of Neurosci., UW Hosp. and Clinics.*
- 8:00 C44 **649.17** ▲ Dissecting the role of temporal lobe epilepsy related parvalbumin+ and somatostatin+ interneuron loss in place cell dysfunction. C. YANG*; I. MOLLINEDO GAJATE; L. CHEN; L. PAGE-HARLEY; D. J. CAI; D. AHARONI; T. SHUMAN; P. GOLSHANI. *UCLA, Univ. of the Basque Country UPV/EHU, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Mount Sinai, UCLA, Mount Sinai, UCLA Dept. of Neurol.*
- 9:00 C45 **649.18** Deficits in place cell stability and precision have distinct time courses during the progression of pilocarpine-induced epilepsy. L. PAGE-HARLEY*; Y. FENG; L. M. VETERE; C. R. LEE; D. J. CAI; P. GOLSHANI; D. B. AHARONI; T. SHUMAN. *Icahn Sch. of Med. at Mount Sinai, UCSD, UCLA.*
- 10:00 C46 **649.19** The ketogenic diet attenuates post-ictal hypoxia. R. C. GOM*; D. BHATT; R. M. MYCHASIUK; J. M. RHO; G. TESKEY. *Univ. of Calgary, Univ. of Calgary, Alberta Children's Hospital, Univ. of Calgary, Univ. of Calgary.*
- 11:00 C47 **649.20** Dynamic changes in hippocampal oxygen levels following febrile seizures. S. HARRIS*; A. GEORGE; K. BARRETT; M. H. SCANTLEBURY; G. TESKEY. *Univ. of Calgary, Univ. of Calgary, Univ. of Calgary.*
- 8:00 C48 **649.21** ▲ Expression of Scn1a in brain regions related to sexual motivation. A. CROCKETT*; H. MARTIN; S. SANCHEZ; S. B. DUTTON. *Agnes Scott Col., Agnes Scott Col.*
- 9:00 C49 **649.22** Early postnatal cellular and network perturbations in the hippocampus of mice with a genetic Na_v1.2 channelopathy. K. ULRICH*; Y. LIU; M. BARBONI; M. SAMEHNI; S. MARGUET; R. M. NEVES; I. JAKOVCEVSKI; M. STOCKEBRAND; B. ENGELAND; H. BECK; H. LERCHE; T. KELLY; D. ISBRANDT. *German Ctr. For Neurodegenerative Dis., Zentrum für Neurologie Hertie-Institut, Life & Brain - Inst. for Exptl. Epileptology and Cognition Res.*
- 10:00 C50 **649.23** Loss of I_h in forebrain during a critical period of striatal synaptogenesis results in somatomotor dysfunctions and antipsychotic-responsive hyperactivity. A. MERSEBURG*; S. SANDKE; I. JAKOVCEVSKI; A. NEU; Z. HUANG; M. SHAH; S. MARGUET; R. MELO NEVES; J. ROEPER; F. MORELLINI; D. ISBRANDT. *Univ. of Cologne/DZNE Bonn, Ctr. for Mol. Neurobio. Hamburg, Univ. Clin. Hamburg Eppendorf, Univ. Col. London, Goethe Univ. Frankfurt.*
- 11:00 C51 **649.24** *In vivo* optical imaging and simultaneous electrophysiological recording from hippocampal CA1 neurons with transparent graphene electrodes arrays. N. DRISCOLL; B. MURPHY; F. VITALE; H. TAKANO*. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania, Children's Hosp. of Philadelphia.*
- 8:00 C52 **649.25** *In vivo* 2-photon assessment of dentate gyrus network function in the kainate mouse model of medial temporal lobe epilepsy. F. T. SPARKS*; Z. LIAO; I. SOLTESZ; A. LOSONCZY. *Columbia Univ., Columbia Univ., Stanford Univ.*
- 9:00 C53 **649.26** Ca²⁺ imaging in seized brain of novel zebrafish model. L. SHIGEMITSU*; K. OGINO; H. HIRATA. *Aoyama Gakuin Univ.*
- 10:00 C54 **649.27** Using zebrafish as a tool to study SLC7A5, a gene implicated in autism spectrum disorder and epilepsy. A. COLON-RODRIGUEZ*; J. M. URIBE SALAZAR; A. SRIRAM; P. LEIN; L. JAO; M. Y. DENNIS. *Univ. of California Davis, Univ. of California Davis, Univ. of California Davis, Univ. of California Davis.*

POSTER

650. Tau: Animal and Cellular Models II

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 C55 **650.01** Anatomical staging of a rat pretangle model of sporadic Alzheimer's disease. S. G. WALLING*; M. WASEF; A. GHOSH; G. MARTIN; C. W. HARLEY; Q. YUAN; D. M. SKINNER. *Mem. Univ. Newfoundland, Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland.*
- 9:00 C56 **650.02** Behavioural staging of a rat pretangle model of sporadic Alzheimer's disease (AD): Longitudinal effects of locus coeruleus htauE14 on tests of pattern separation. D. M. SKINNER*; M. WASEF; T. CASSELL; V. HARVEY; H. BAKER; H. DICKS; A. POMROY; A. GHOSH; G. M. MARTIN; C. W. HARLEY; Q. YUAN; S. G. WALLING. *Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland.*

- 10:00 C57 **650.03** Behavioural staging of a rat pretangle model of sporadic Alzheimer's disease (AD): Longitudinal testing of AD phenotype. M. A. WASEF*; A. GHOSH; G. MARTIN; C. W. HARLEY; Q. YUAN; D. M. SKINNER; S. G. WALLING. *Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland.*
- 11:00 C58 **650.04** Study of spatial memory impairment and hippocampal neurodegeneration in okadaic acid induced rat model of Alzheimer's disease. M. CHIGHLADZE*; G. BESELIA; M. DASHNIANI; M. BURJANADZE; N. CHKHIVISHVILI; L. KRUASHVILI; T. NANEISHVILI. *I. Beritashvili Ctr. of Exptl. Biomedicine, I. Beritashvili Ctr. of Exptl. Biomedicine, Georgian Natl. Acad. of Sci.*
- 8:00 C59 **650.05** Generation of human iPSC derived cerebral organoids to model Alzheimer's disease. D. LEE*; J. PARK; S. HAN; M. BYUN; D. YI; J. LEE; D. LEE; I. MOOK-JUNG. *Seoul Natl. Univ. Col. of Med., Neurosci. Res. Institute, Seoul Natl. Univ., Inst. of Human Behavioral Medicine, Med. Res. Center, Seoul Natl. Univ., Seoul Natl. Univ. Hosp., Seoul Natl. Univ. Col. of Med.*
- 9:00 C60 **650.06** Characterization of the molecular interplay between amyloid, nuclear splicing proteins and tau isoforms in Down syndrome hiPSC cortical neurons. S. E. PEREZ*; I. LORENZINI; J. LEVY; C. BURCIU; R. SATTler; E. J. MUFSON. *Barrow Neurolog. Inst.*
- 10:00 C61 **650.07** Tauopathy induced degradation of Per2 leads to circadian rhythm disruption in Alzheimer's disease. H. KIM*; A. KIM; J. PARK; S. CHO; I. MOOK-JUNG. *Seoul Natl. Univ. (college of Medicine), Col. of Medicine, Seoul Natl. Univ., Kyung Hee Univ., Kyung Hee University, Col. of Med., Seoul Natl. Univ. Col. Med.*
- 11:00 C62 **650.08** $\alpha\beta$ accelerates uptake of extracellular tau via endocytic pathway. K. SUH*; D. KIM; I. MOOK-JUNG. *Seoul Natl. Univ., Seoul Natl. University, Grad. Sch., Seoul Natl. Univ. Col. Med.*
- 8:00 C63 **650.09** Transfer of a healthy microbiota reduces amyloid and tau pathology in an Alzheimer's disease animal model. H. CHOI*; M. KIM; Y. KIM; W. KIM; S. PARK; D. LEE; D. KIM; H. KIM; H. CHOI; D. HYUN; J. LEE; E. CHOI; D. LEE; J. BAE; I. MOOK-JUNG. *Seoul Natl. Univ., Chungnam Natl. Univ., Kyung Hee Univ., Seoul Natl. University, Col. of Med., Seoul Natl. University, Col. of Med.*
- 9:00 C64 **650.10** ▲ Examination of olfactory dysfunction in the 3xTg-AD model of Alzheimer's disease. D. A. MITRANO*; P. PEARCE; S. HOULE; B. LOCKHART; I. CONTRERAS; R. SCHENDZIELOS; R. QUINTANILLA; L. S. WEBB. *Christopher Newport Univ., Christopher Newport Univ.*
- 10:00 C65 **650.11** Tau alters temporoammonic pathway via GABAergic transmission in early tauopathy. E. JUNG*; S. CHOI; S. LEE; S. CHANG; S. CHOI; I. MOOK-JUNG. *Seoul Natl. University, Col. of Med., Seoul Natl. University, Neurosci. Res. Inst., Seoul Natl. Univ. Sch. of Dent., Seoul Natl. University, Col. of Natural Sci., Seoul Natl. Univ. Col. of Med.*
- 11:00 C66 **650.12** Tau uptake is mediated by muscarinic receptors. V. MOROZOVA; L. S. COHEN; A. E. MAKKI; A. SHUR*; G. R. PILAR; A. EL IDRISSI; A. ALONSO. *Col. of Staten Island, Col. of Staten Island, CUNY Grad. Ctr., Case Western Reserve Univ., Col. of Staten Island, CUNY.*
- 8:00 C67 **650.13** The effect of synaptic adhesion molecules on *in vitro* tau propagation model. Y. NEMOTO*; Y. HORI; T. TOMITA. *The Univ. of Tokyo.*
- 9:00 C68 **650.14** Blood transfusion from young wildtype mice alters behavior in old Alzheimer's disease mice with hTau. C. M. HERNANDEZ*; K. A. PEDEMONTE; R. E. BARKEY; J. O. SANCHEZ; B. JOHNSON; J. M. FLINN. *George Mason Univ.*
- 10:00 C69 **650.15** You are what you eat: High methionine and western diet impacts on Alzheimer's disease mouse model cognition and MRI. K. S. STEED*; M. L. HARRIS; B. HUTCHINSON; R. ADHIKARI; S. CIESLAK; P. COX; I. NWOSU; K. A. NOORDA; K. NOORDA; J. LOVELAND; J. J. WISCO. *California Hlth. Sci. Univ., Mayo Clin., Brigham Young Univ., Brigham Young Univ., Boston Univ. Sch. of Med., Univ. of Utah.*
- 11:00 C70 **650.16** Effect of treadmill exercise training on anxious-depressive-like behavior in transgenic Alzheimer rat. L. YANG*; C. WU; Y. LI; Y. DONG; L. DONOVAN TUCKER; Q. ZHANG. *Augusta Univ.*
- 8:00 C71 **650.17** Harnessing intramolecular rotation to enhance two-photon imaging of A β plaques through minimizing background fluorescence. H. CHOI*; J. SHIN; P. VERWILST; S. KANG; J. HAN; N. KIM; J. CHOI; M. OH; J. HWANG; D. KIM; J. KIM; I. MOOK-JUNG. *Seoul Natl. Univ., Korea Univ., Kyung Hee Univ., Hyupsung Univ., Daegu-Gyeongbuk Med. Innovation Fndn.*
- 9:00 C72 **650.18** ●▲ The dog as a preclinical species for the evaluation of Tau antibodies. H. BORGHYS*; D. DHUYVETTER; C. THEUNIS; K. VAN KOLEN; M. H. MERCKEN. *Janssen Res. & Develop., Janssen Res. @ Develop., Janssen Pharmaceutica, Janssen PRD.*

POSTER

651. Alzheimer's Disease: Energy Homeostasis

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 C73 **651.01** Allopregnanolone potentiates bioenergetic capacity and restructures mitochondrial reticulum in neurons and astrocytes. T. WANG*; S. CHEN; Z. MAO; R. D. BRINTON. *Univ. of Arizona.*
- 9:00 C74 **651.02** Nobiletin effect on brain mitochondria as a neuroprotective mechanism. N. SHARIKADZE*; N. JOJUA; M. SEPASHVILI; E. ZHURAVLIOVA; D. MIKELADZE. *Natl. Inst. of Drug Abuse, Iliia State Univ., I. Beritashvili Ctr. of Exptl. Biomedicine.*
- 10:00 C75 **651.03** ● The role of synaptic vesicle protein 2a on mitochondrial morphology and autophagy. J. REICHERT*; M. CHRIST; M. JÖRG; A. KERN; C. W. BEHL; K. FRIEDLAND. *Johannes Gutenberg Univ., Inst. For Pathobiochemistry.*
- 11:00 C76 **651.04** Apoe isoforms differentially regulate neuronal- and astrocytic mitochondrial bioenergetic capacity and fuel dependency. G. QI*; Y. MI; S. CHEN; R. D. BRINTON; F. YIN. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 8:00 C77 **651.05** APOE and chromosomal sex shows significant effect on the lipid pathways from multiple scale analysis of aged mice. Y. SHANG*; A. MISHRA; M. K. DESAI; T. WANG; R. D. BRINTON. *Univ. of Arizona, USC.*
- 9:00 C78 **651.06** ApoE2-mediated neuroprotective mechanism through regulation of glycolysis. X. ZHANG*; L. WU; L. ZHAO. *Univ. of Kansas, Univ. of Kansas.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 C79 **651.07** Beta-amyloid monomers promote glucose uptake and aerobic glycolysis in neurons. R. SANTANGELO; M. GIUFFRIDA; C. SATRIANO; F. NICOLETTI; A. G. COPANI*. *Univ. of Catania, CNR, Univ. of Catania, Univ. Sapienza.*
- 11:00 C80 **651.08** Wnt induced activation of glucose metabolism mediates the *in vivo* neuroprotective roles of Wnt signaling. P. CISTERNAS*; J. GUTIERREZ; C. GHERARDELLI; N. C. INESTROSA. *Ctr. de Envejecimiento y Regeneración (CARE-UC), Dept. de Biología Celular y Molecular, Facultad de Ciencias Biológicas, Pontificia Univ. Católica de Chile, Santiago, Chile, Ctr. de Envejecimiento y Regeneración (CARE-UC), Dept. de Biología Celular y Molecular, Facultad de Ciencias Biológicas, Pontificia Univ. Católica de Chile, Santiago, Chile.*
- 8:00 C81 **651.09** ● Alzheimer-related pathology impairs peripheral glucose tolerance by disrupting glucose transporter 1 localization and cerebral glucose delivery. S. W. BARGER*; R. D. HENDRIX; Y. OU; J. E. DAVIS; A. R. ALLEN; G. V. CHILDS. *Univ. of Arkansas for Med. Sci., Washington Univ. Sch. of Med., Univ. of Arkansas for Med. Sci., Univ. of Arkansas for Med. Sci., Univ. of Arkansas for Med. Sci.*
- 9:00 C82 **651.10** Allopregnanolone prevent the loss of neuronal differentiative capacity in 3xTgAD mice. S. CHEN*; T. WANG; R. D. BRINTON. *Univ. of Arizona.*
- 10:00 C83 **651.11** The role of diet and exosomes in the pathophysiology of Alzheimer's disease. L. M. WISE*; J. YANG; R. LALONDE; K. FUKUCHI. *Univ. of Illinois Col. of Med. at Peor, Univ. of Rouen Normandy.*
- 11:00 C84 **651.12** Genetic and dietary iron overload in the pathogenesis of type-2-diabetes and Alzheimer's disease. D. A. RUBINOW*; S. SINK; A. ODELADE; C. GOLIAS; A. SNIPES; S. M. DAY; D. MCCLAIN; J. HAN; S. L. MACAULEY. *Wake Forest Sch. of Med., Wake Forest Sch. of Med., North Carolina A&T State Univ., Wake Forest Sch. of Med.*
- 8:00 C85 **651.13** ▲ Determination of low density lipoprotein receptor-related protein 1 (LRP1) and receptor for advanced glycation end products (RAGE) in the hippocampus of rats subjected to the consumption of hypercaloric diets. F. HERNANDEZ-LANDERO*; E. MARTINEZ-ABUNDIS; E. N. DE LA CRUZ-HERNANDEZ; N. P. GOMEZ-CRISOSTOMO. *Univ. Juarez Autonoma De Tabasco, Univ. Juarez Autonoma De Tabasco.*
- 9:00 C86 **651.14** Endoplasmic reticulum calcium pump is modulated by binding to phosphatidylinositol trisphosphate; disruption by Alzheimer- and diet-derived conditions. S. AYYADEVARA*; A. GANNE; R. HENDRIX; M. BALASUBRAMANIAM; S. T. GRIFFIN; R. J. SHMOOKLER REIS; S. W. BARGER. *Univ. of Arkansas for Med. Sci., Central Arkansas Veterans Healthcare Syst., Univ. of Arkansas at Little Rock, Washington Univ. Sch. of Med., Univ. of Arkansas for Med. Sci., Univ. of Arkansas for Med. Sci., Univ. of Arkansas for Med. Sci.*
- 10:00 C87 **651.15** Midlife obesity and metabolic dysfunction in the AD-BXD mouse model of Alzheimer's disease. K. O'CONNELL; A. DUNN; N. HADAD; C. C. KACZOROWSKI*. *The Jackson Lab.*
- 11:00 C88 **651.16** Dynamic metabolic aging of the female brain during endocrinological and chronological aging. Y. WANG*; Y. SHANG; A. MISHRA; E. BACON; F. YIN; R. BRINTON. *Univ. of Arizona, USC.*
- 8:00 C89 **651.17** The immuno-metabolic crisis in the aging female brain: Implications for Alzheimer's disease. A. MISHRA*; Y. SHANG; Y. WANG; F. YIN; R. D. BRINTON. *USC, Univ. of Arizona, USC.*
- 9:00 C90 **651.18** Emergence of an Alzheimer's disease bioenergetic endophenotype in mid-life: Preclinical model. Z. MAO*; Y. SHANG; J. BERGHOUT; Y. LUSSIER; F. YIN; R. D. BRINTON. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 10:00 C91 **651.19** Inhibition of adenylyl cyclase type 5, a novel model for protection against Alzheimer's disease. D. BABICI; J. ZHANG; R. YAN; J. ZHANG; S. C. MADDILA; T. BERKMAN; D. E. VATNER; M. M. MOURADIAN*; S. V. VATNER. *Rutgers - New Jersey Med. Sch., Rutgers-Robert Wood Johnson Med. Sch.*
- 11:00 C92 **651.20** Increasing neuronal NAD(P)H pool protects Alzheimer's disease neurons from oxidative stress. P. MARTIN-MAESTRO*; Y. GANAT; A. SPROUL; D. PAQUET; S. NOGGLE; A. STARKOV. *Weill Cornell Med., New York Stem Cell Fdn., Columbia Univ., Inst. for Stroke and Dementia Res.*
- 8:00 D1 **651.21** Protein expression and activity levels of UCP2 in Alzheimer's disease brain tissue. T. A. CLEMONS*. *Spelman Col.*
- 9:00 D2 **651.22** Tissue plasminogen activator reduction mediates neurovascular dysfunction produced by amyloid- β peptides. A. ANFRAY*; J. ZHOU; P. ZHOU; J. SEO; J. ANRATHER; C. IADECOLA; L. PARK. *Weill Cornell Med., Weill Cornell Med., Weill Cornell Med., Weill Med. Col. Cornell Univ., Weill Cornell Med.*
- 10:00 D3 **651.23** Aging and pathology cause sleep disruptions and altered metabolism in mouse models of Alzheimer's disease. C. M. CARROLL*; M. STANLEY; M. PAIT; D. A. RUBINOW; D. M. HOLTZMAN; S. L. MACAULEY. *Wake Forest Sch. of Med., Univ. of British Columbia, Washington Univ., Wake Forest Sch. of Med.*
- 11:00 D4 **651.24** Comprehensive phenotyping of patient-derived fibroblasts from patients with sporadic Alzheimer's disease. G. L. BRANIGAN*; L. WHITMAN; M. J. CORENBLUM; L. MADHAVAN; R. D. BRINTON. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

POSTER

652. Alzheimer's Disease Biomarkers

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 D5 **652.01** TREM1 mRNA expression in leukocytes and cognitive function in patients with Alzheimer's disease. J. IGA*; T. SAO; Y. YOSHINO; K. YAMAZAKI; Y. OZAKI; Y. MORI; S. OCHI; T. YOSHIDA; T. MORI; S. UENO. *Ehime Univ.*
- 9:00 D6 **652.02** ▲ Reduced expression of antioxidant enzymes in postmortem tissues of subjects with Alzheimer's disease and prior depression. W. LUO*; E. H. BIGIO; S. WEINTRAUB; M. MESULAM; E. E. REDEI. *Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med.*

- 10:00 D7 **652.03** Identifying subsets of subjects with mild cognitive impairment and cardiovascular risk factors based on differential expression of angiogenic and inflammatory biomarkers. Z. S. WINDER*; T. L. SUDDUTH; D. FARDO; Q. CHENG; L. B. GOLDSTEIN; P. T. NELSON; F. A. SCHMITT; G. A. JICHA; D. M. WILCOCK. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky.*
- 11:00 D8 **652.04** Identification of cathepsin D as a plasma biomarker candidate for Alzheimer's disease. Y. KIM*; S. JUNG; S. LEE; J. CHANG. *Dept. of Biomed. Sciences, Ajou Univ. Sch. of Med., Dept. of Anat. and Hypoxia-related Dis. Res. Center, Col. of Medicine, Inha Univ., Dept. of Brain Science, Ajou Univ. Sch. of Med.*
- 8:00 D9 **652.05** Phosphorylation of specific serine sites on hippocampal insulin receptor substrate 1 is associated with Alzheimer's disease-unrelated memory deficit and -related pathology. D. TANOKASHIRA; W. WANG; Y. FUKUI; M. MARUYAMA; C. KUROIWA; T. SAITO; T. C. SAIDO; A. TAGUCHI*. *Natl. Ctr. for Geriatrics and Gerontology, RIKEN Ctr. For Brain Sci.*
- 9:00 D10 **652.06** Down syndrome-Alzheimer's disease related increases in polyamines causes decreased mitochondrial motility. D. FUDGE*; S. MELGAR; C. HICKS; A. SANDBERG; S. HARVEY; D. PATTERSON; G. VACANO; A. LEDREUX; P. CAVIEDES; D. LINSEMAN; L. HERNANDEZ; L. GRANHOLM-BENTLEY; Y. QIN; D. PAREDES. *Univ. of Denver, Univ. of Denver, Univ. of Denver, Univ. of Chile, Univ. of Chile, Univ. of Denver, Univ. of Miami.*
- 10:00 D11 **652.07** Developing a method for detection of mitochondrial oxidative stress in a mouse model of amyloidogenesis. L. J. OUILLETTE*; S. J. MOORE; T. STEVENSON; V. A. CAZARES; R. PARENT; G. G. MURPHY. *Univ. of Michigan, Univ. of Michigan.*
- 11:00 D12 **652.08** • Levels of newly generated soluble amyloid precursor proteins in human cerebrospinal fluid. J. A. DOBROWOLSKA ZAKARIA*; R. J. BATEMAN; B. W. PATTERSON; R. J. VASSAR. *Northwestern Univ. Feinberg Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*
- 8:00 D13 **652.09** Autoradiographic characterization of novel tau PET tracer [18F]-PI-2620 in human postmortem brain tissue. M. DHAYNAUT*; C. AGUERO; R. NEELAMEGAM; M. D. NORMANDIN; G. EL FAKHRI; M. P. FROSCH; T. GÓMEZ-ISLA. *Massachusetts Gen. Hosp., Gordon Ctr. for Med. Imaging, Pitié-Salpêtrière Hospital, Sorbonne University, UPMC Paris 06, CNRS UMR 7371, INSERM U1146, Massachusetts Gen. Hosp., MassGeneral Inst. for Neurodegenerative Dis., Massachusetts Gen. Hosp.*
- 9:00 D14 **652.10** Blood-brain barrier breakdown predicts early cognitive dysfunction in APOE4 carriers independent of $\alpha\beta$ and tau. M. D. SWEENEY*; A. MONTAGNE; D. A. NATION; A. CHAKHOYAN; A. P. SAGARE; M. PACHICANO; F. SEPEHRBAND; M. G. HARRINGTON; D. P. BUENNAGEL; J. M. RINGMAN; E. JOE; L. S. SCHNEIDER; J. PA; V. D. BUCKLES; T. L. S. BENZINGER; A. M. FAGAN; J. C. MORRIS; M. LAW; H. C. CHUI; A. W. TOGA; B. V. ZLOKOVIC. *USC, Huntington Med. Res. Inst., Washington Univ. Sch. of Med.*
- 10:00 D15 **652.11** Treatment GSK3-beta inhibitor Tideglusib improves memory performance, regulate tau phosphorylation and amyloid beta peptide in a type 2 diabetics rats. T. PONCE-LOPEZ*; M. ABASCAL-DÍAZ. *Anahuac Univ. Mexico.*
- 11:00 D16 **652.12** Olfactory impairment is associated with *in vivo* tau and amyloid- β accumulation in Alzheimer's disease spectrum. M. BAEK*; C. LYOO; H. CHO. *Gangnam Severance Hospital, Yonsei Univ. Col. of Med.*
- 8:00 D17 **652.13** Type 2 diabetes alters CSF but not plasma metabolomic and AD risk profiles in vervet monkeys. S. M. DAY*; M. PAIT; W. MORTIZ; C. NEWGARD; O. ILKAYEVA; D. MCCLAIN; K. KAVANAGH; S. L. MACAULEY. *Wake Forest Sch. of Med., Washington Univ. Sch. of Med., Duke Univ. Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med., Univ. of Tasmania.*
- 9:00 D18 **652.14** Multi site electrode recordings in an Alzheimer's disease mouse model based on presenilin 2. A. LEPARULO; M. MAHMUD*; E. SCREMIN; S. VASSANELLI; C. FASOLATO. *Univ. of Padova, Nottingham Trent Univ.*
- 10:00 D19 **652.15** Improving diagnostic accuracy and patients stratification in neurodegenerative diseases by machine learning: Mining clinical and laboratory data. M. D'ONOFRIO*; I. ARISI; R. BRANDI; M. SONNESSA; F. MALERBA; R. FLORIO; R. MACCIONI; G. CONFESSORE; P. BERTOLAZZI; M. TORTI; M. CANEVELLI; L. VACCA; M. TSOLAKI; P. MECOCCHI; G. BRUNO; F. STOCCHI; A. CATTANEO. *Genomics Laboratory, European Brain Res. Inst. (EBRI), IFT, Natl. Res. Council CNR, Bioinformatics Laboratory, European Brain Res. Inst. (EBRI), Genomics Laboratory, European Brain Res. Inst. (EBRI), Neurotrophic Factors and Neurodegenerative Dis. Lab, European Brain Res. Inst. (EBRI), ACT Operations Res. IT srl, Natl. Res. Council CNR, Inst. of Systems Analysis and Computer Sci. 'A. Ruberti', Natl. Res. Council, Inst. for Res. and Med. Care, Dept. of Neurology, IRCCS San Raffaele La Pisana, Dept. of Human Neuroscience, Sapienza Univ. of Roma, 3rd Dept. of Neurology- Memory and Dementia Unit, Aristotle Univ. of Thessaloniki, Inst. of Gerontology and Geriatrics, Univ. of Perugia, Bio@SNS Laboratory, Scuola Normale Superiore.*
- 11:00 D20 **652.16** Inflammatory markers related to liver function predict longitudinal brain atrophy. C. P. BOYLE*; C. CHING; S. THOMOPOULOS; A. ZAVALIANGOS-PETROPULU; A. MEZHER; P. M. THOMPSON. *Imaging Genet. Ctr. @ Univ. of Southern C, USC, USC, USC, Univ. of Southern California (USC).*
- 8:00 D21 **652.17** Profiles of amyloid, tau and neurofilament light chain in plasma from Alzheimer's patients. M. CHEN; L. MOO; W. XIA*. *Bedford VA Med. Ctr., Bedford VA Hospital, Boston Univ.*
- 9:00 D22 **652.18** Classification of Alzheimer's disease patients using MRI-based cortical phenotyping 1 to 2 years before dementia onset. F. PIZZAGALLI*; S. P. GADEWAR; S. I. THOMOPOULOS; Q. YANG; P. KOCHUNOV; P. M. THOMPSON; N. JAHANSHAD. *USC, Univ. of Maryland Sch. of Med., Univ. of Southern California (USC), USC.*
- 10:00 D23 **652.19** Alzheimer's disease biomarkers in exosomes isolated from the cerebrospinal fluid of rhesus monkeys injected with amyloid- β oligomers. N. M. LYRA E SILVA*; S. E. BOEHNKE; E. L. ROBERTSON; B. HYDUK; R. G. WITHER; A. WINTERBORN; V. BODART-SANTOS, SR; P. FRASER; F. G. DE FELICE; D. P. MUNOZ. *Queen's Univ., Queen's Univ., Univ. Federal Do Rio De Janeiro, Univ. of Toronto, Fed Univ. Rio De Janeiro, Queens Univ.*
- 11:00 D24 **652.20** Convergence of miRNAs involved in gene expression regulation of biological pathways associated with Alzheimer's and diabetes diseases. K. CONTRERAS-RÁMIREZ; V. SERRATOS-LARIOS; D. DRAGO-GARCÍA; A. VARELA-ECHAVARRIA; C. ANGULO-ROJO; K. AVIÑA-PADILLA*. *INB UNAM, Inst. Politécnico Nacional, Weitzman Inst. of Sci., UNAM, CIASAP UAS, UNAM.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 D25 **652.21** The physiological activity and expression of neurotransmitters in the retinal ganglion cell of the 5xFAD Alzheimer's disease mouse. J. ARAYA*; C. DURAN-ANIOTZ; M. ACOSTA; C. HETZ; M. CHACÓN; A. PALACIOS. *Programa De Doctorado En Neurociencia, Ctr. Interdisciplinario de Neurociencias de Valparaíso, Biomed. Neurosci. Inst., Sch. of Optometry and Vision Science, Ctr. for Brain Research, Brain Res. New Zealand, Dept. of Engin. Informatics.*
- 9:00 D26 **652.22** Alzheimer's disease fluid biomarkers related gray matter covariance patterns in healthy older adults. P. K. BHARADWAJ*; J. R. ANDREWS-HANNA; P. H. KUO; G. E. ALEXANDER. *Univ. of Arizona, Evelyn F. McKnight Brain Inst., Univ. of Arizona, Univ. of Arizona, Banner Univ. Med. Ctr., Banner Univ. Med. Ctr., Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Arizona Alzheimers Consortium.*
- 10:00 D27 **652.23** Quantitative analysis of calbindin-D28K immunoreactivity in locus coeruleus neurons of young and aged human brains. S. LAMERAND*; R. SHAHIDEHPOUR; I. AYALA; M. MESULAM; E. BIGIO; C. GEULA. *Northwestern Univ., Northwestern Univ.*
- 11:00 D28 **652.24** • High sensitivity detection of misfolded protein aggregates implicated in Alzheimer's and Parkinson's disease by prion-like seeding assays. S. PRITZKOW*; M. SHAHNAWAZ; M. PINHO; N. MENDEZ; C. SOTO. *UTHealth Sci. Ctr.*
- 8:00 D29 **652.25** Detection and quantification of free brain levels of cholesterol in freely moving mice utilizing *in vivo* microdialysis. J. ROESER*; C. CIARDIELLO; E. WEBER; M. VAN DER HART; H. B. JANSSENS; A. RASSOULPOUR. *Charles River Labs.*
- 9:00 D30 **652.26** Methods for diagnosing Alzheimer's disease based on cell growth rate, size and protein amount. F. V. CHIRILA*; D. L. ALKON. *NeuroDiagnostics LLC.*
- 10:00 D31 **652.27** Transcranial magnetic stimulation neurophysiology in patients with Alzheimer's disease: A systematic review and meta-analysis. Y. MIMURA*; H. NISHIDA; S. TSUGAWA; S. MORITA; K. YOSHIDA; F. MASUDA; K. OGYU; M. WADA; T. MIYAZAKI; S. L. NAKAJIMA; M. MIMURA; Y. NODA. *Dept. of Neuropsychiatry, Keio Univ. Sch. of Med., Campbell Family Mental Hlth. Res. Institute, Ctr. for Addiction and Mental Hlth., Multimodal Imaging Group, Res. Imaging Centre, Ctr. for Addiction and Mental Hlth.*
- 11:00 D32 **652.28** Identification of plasma cytokine biomarkers of disease severity for the lysosomal storage disorder mucopolipidosis IV. L. WOOD*; L. WEINSTOCK; A. FURNESS; A. MISKO; Y. GRISHCHUK. *Georgia Inst. of Technol., Georgia Inst. of Technol., Massachusetts Gen. Hosp., Massachusetts Gen. Hospital/Harvard Med. Sch.*
- 8:00 D33 **652.29** Retinal pathology correlates with brain pathology in MCI and AD patients. Y. KORONYO*; A. RENTSENDORF; D. FUCHS; J. SHEYN; G. C. REGIS; H. SHI; N. MIRZAEI; E. BARRON; K. L. BLACK; D. R. HINTON; C. A. MILLER; M. KORONYO-HAMAOUI. *Cedars-Sinai Med. Ctr., Doheny Eye Inst., Keck Sch. of Medicine, Univ. of Southern California, Keck Sch. of Medicine, Univ. of Southern California, Cedars-Sinai Med. Ctr.*
- 9:00 D34 **652.30** Dynamic bayesian model to study the sequential belief updates in early Alzheimer's disease. Q. LIU*; H. WU; D. PUNIA; X. ARAKAKI; A. N. FONTEH; M. G. HARRINGTON. *Caltech, Inst. of Psychology Chinese Acad. of Sci., Huntington Med. Res. Inst.*
- POSTER**
- 653. Genetic Models of Parkinson's Disease**
- Theme C – Neurodegenerative Disorders and Injury**
- Wed. 8:00 AM – McCormick Place, Hall A
- 8:00 D35 **653.01** • μ Opioid receptor agonism, not antagonism, for the treatment of L-DOPA-induced dyskinesia in Parkinson's disease. E. Y. PIOLI*; Q. LI; H. HULME; E. FRIDJONSDOTTIR; A. NILSSON; P. ANDREN; A. CROSSMAN; E. BEZARD. *MOTAC, Uppsala Univ., Inst. of Neurodegenerative Dis.*
- 9:00 D36 **653.02** ▲ Beta-synuclein as treatment for Parkinson's disease in *drosophila*. G. D. PAUL*; D. FLORES; M. CUNNINGHAM; S. KHOO. *Grand Valley State Univ., Grand Valley State Univ.*
- 10:00 D37 **653.03** Single intrathecal administration of Resiniferatoxin, TRPV1 agonist, rescue motor deficits in AAV-A53T-induced mouse model of Parkinson's disease. A. NAHAMA; R. RAMACHANDRAN; J. TOIVANEN; T. BRAGGE; J. RYTKÖNEN; A. SUHONEN; T. T. AHTONIEMI*; D. MISZCZUK. *Sorrento Therapeut., Charles River Discovery.*
- 11:00 D38 **653.04** • Combined anti-alpha-synuclein therapy for disease modification in multiple system atrophy. M. LEMOS*; V. REFOLO; D. WECKBECKER; A. HERAS-GARVIN; P. GRUBER; G. STAFFLER; C. GRIESINGER; A. GIESE; G. K. WENNING; N. STEFANOVA. *Med. Univ. of Innsbruck, MODAG GmbH, AFFiRiS AG, Max Planck Inst. for Biophysical Chem., Ludwig-Maximilians-Universität.*
- 8:00 D39 **653.05** Targeting alpha synuclein and amyloid beta proteins by a multifunctional brain penetrant dopamine agonist D520: Potential therapeutic application in Parkinson's disease with dementia. A. K. DUTTA*; D. YEDLAPUDI; D. LUO; G. JOSHI; L. XU; G. MARSH; S. V. TODI. *Wayne State Univ., Wayne State Univ.*
- 9:00 D40 **653.06** Investigation of neuroinflammation in the brain of Parkinsonian monkeys with and without L-DOPA treatment and dyskinesias. M. MORISSETTE; L. GRÉGOIRE; N. MORIN; T. DIPAOLO*. *Ctr. de Recherche du CHU de Québec (CHUL), Univ. Laval.*
- 10:00 D41 **653.07** • DT095435: A novel "pan" group III metabotropic glutamate receptor positive allosteric modulator for Parkinson's disease. M. FRAULI*; A. BARRE; S. MAYER; A. COURTIN; L. DESHONS; M. HEYER; C. FRANCHET; M. BOURQUE; T. DI PAOLO; S. SCHANN. *Domain Therapeut., Axe Neurosciences, Ctr. de Recherche du CHU de Québec-Université Laval and Faculté de Pharmacie, Univ. Laval.*
- 11:00 D42 **653.08** Unilateral implantation of SIO2/DA loaded hydrogel attenuate motor abnormalities in model of hemiparkinsonism. E. A. RODRIGUEZ PEREZ*; A. ESPADAS ALVAREZ; D. MEDINA BUENO; P. VERGARA ARAGON; A. ZAPATA ARENAS; E. GARCIA RAMIREZ; B. HERNANDEZ TELLEZ; G. REYNOSO GALVEZ, MS; R. BUSTAMANTE GARCIA; A. GOMEZ MARTINEZ. *Univ. Nacional Autonoma De Mexico, UNAM, IPN, CICATA LEGARIA, UNAM.*
- 8:00 D43 **653.09** Thalidomide and analogues attenuate L-DOPA-induced dyskinesia in a rat model of Parkinson's disease. L. BOI*; A. PISANU; N. H. GREIG; M. SCERBA; D. TWEEDIE; G. MULAS; S. FENU; E. CARBONI; S. SPIGA; A. CARTA. *Univ. of Cagliari, Natl. Research Council, Intramural Res. Program, Natl. Inst. On Aging, NIH, NIA / NIH.*

- 9:00 D44 **653.10** RGS4 inhibition potentiates the antidyskinetic effect of NOP receptor agonist AT-403. C. A. PISANO*; D. MERCATELLI; I. MORELLA; J. LEIPPRANDT; S. FASANO; K. BEHIRDA; N. T. ZAVERI; R. BRAMBILLA; R. R. NEUBIG; M. MORARI. *Univ. of Ferrara, Univ. of Ferrara, Cardiff Univ., Michigan State Univ., Astraea Therapeutics, LLC, Michigan State Univ., Univ. Ferrara.*
- 10:00 D45 **653.11** Evaluation of carnosine intervention in the Thy1-aSyn mouse model of Parkinson's disease. M. BERMUDEZ; K. B. SEROOGY*; M. B. GENTER. *Univ. of Cincinnati, Univ. of Cincinnati.*
- 11:00 D46 **653.12** Exploiting functional selectivity of dopamine D₁ receptors as therapeutics for Parkinson's disease in mice. V. M. POGORELOV; C. RAY; M. L. MARTINI; R. CHANDRASEKHAR; N. M. URS; J. JIN; M. G. CARON; W. C. WETSEL*. *Duke Univ. Med. Ctr., Duke Univ. Med. Ctr., Icahn Sch. of Med. at Mount Sinai, Univ. of FL.*
- 8:00 E1 **653.13** A potent, highly selective and brain penetrant orphan receptor GPR6 inverse agonist as symptomatic treatment for Parkinson's disease. N. KAUSHAL*; J. RUSSO; Y. CHEN; N. ENGLISH; H. SUN; S. KIKUCHI; H. REICHARD; J. BROWN; M. HOPKINS; J. RAY; S. HITCHCOCK; H. H. SCHIFFER. *Takeda California Inc.*
- 9:00 E2 **653.14** • Nonimmunosuppressive mitochondria-localizing FTY720-mitoxy reverses behavioral impairment and enhances GDNF expression while reducing synucleinopathy and neuroinflammation in multiple system atrophy mice. G. VIDAL-MARTINEZ; I. SEGURA-ULATE; B. YANG; V. DIAZ-PACHECO; J. VARGAS-MEDRANO; R. G. PEREZ*. *Texas Tech. Univ. Hlth. Sci. Cntr El Paso, Texas Tech. Univ. Hlth. Sci. Ctr. El Paso.*
- 10:00 E3 **653.15** • Effects of nociceptin/orphanin FQ (NOP) receptor antagonism with BTRX-246040 in animal models of Parkinson's disease. T. L. WALLACE*; E. BEZARD; E. PIOLI; W. J. MARTIN. *Blackthorn Therapeut., Inst. of Neurodegenerative Dis., Motac Neurosci.*
- 11:00 E4 **653.16** A metabolically stable PACAP analog with PAC1/PAC2 receptor selectivity crosses the blood-brain barrier and protects dopaminergic neurons in the substantia nigra of MPTP-treated mice. I. J. MERCHENTHALER*; M. LANE; B. DUDAS; W. BANKS. *Univ. of Maryland Baltimore, Lake Erie Osteo. Med., Univ. of Washington.*
- 8:00 E5 **653.17** • A LRRK2 kinase inhibitor, PFE360, reduces behavioural and striatal dopaminergic deficits in a rat model of Parkinson's disease alpha-synucleinopathy. J. B. KOPRICH*; S. JAFRI; V. OMANA; T. H. JOHNSTON; M. P. HILL; T. PARKKARI; N. MOORE; M. A. BAPTISTA; J. M. BROTCHE. *Atuka Inc., Charles River Discovery, Charles River Discovery Services, Michael J. Fox Fndn.*
- 9:00 E6 **653.18** • Preclinical pharmacology of IRL752, a novel compound to treat postural instability and cognitive deficits in Parkinson's disease. S. WATERS; C. SONESSON; N. WATERS; J. TEDROFF; P. SVENSSON; S. HJORTH*. *Integrative Res. Labs. AB, Sahlgrenska Univ. Hosp., Karolinska Inst., Pharmacilator AB (Inc.).*
- 10:00 E7 **653.19** Screening of non-electrophilic Bach1 inhibitors in *in vitro* and *in vivo* models of neuroprotection. M. AHUJA*; N. AMMAL KAIDERY; I. GAISINA; K. IGARASHI; I. PINA GOMEZ; M. HAMANN; O. ATTUCKS; S. SHARMA; B. THOMAS. *Med. Univ. of South Carolina, Univ. of Illinois, Tohoku Univ. Grad. Sch. of Med., Med. Univ. of South Carolina, vTv Therapeut. LLC, Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 11:00 E8 **653.20** Neuroprotective effects of beta-caryophyllene in the striatal 6-OHDA mouse model of Parkinson's disease. A. VALENTE-AMARAL*; R. D. M. GOMES; V. S. L. CARDOSO; L. L. AMADO; E. T. COSTA; E. S. YAMADA. *Federal Univ. of Pará.*
- 8:00 E9 **653.21** Feasibility of using deep brain stimulation electrodes coated with polypyrrole/iodine in a model of MPP+ hemi-parkinsonian rat model. F. D. RUIZ DÍAZ*; J. MORALES CORONOA; J. MANJARREZ MARMOLEJO; L. C. RIOS CASTAÑEDA; R. OLAYO GONZÁLEZ; A. DIAZ-RUIZ. *Univ. Autonoma Metropolitana, Inst. Nacional de Neurología y Neurocirugía.*
- 9:00 E11 **653.23** Relevance of choice of brain region and time point of analysis after MPTP lesioning in wildtype mice. J. KEHR*; V. SCHIFFER; S. YOSHITAKE; T. LOEFFLER; V. NIEDERKOFER; S. FLUNKERT; E. AUER; T. YOSHITAKE; B. HUTTER-PAIER. *Pronexus Analytical AB, QPS Austria GmbH, Karolinska Institutet.*
- 10:00 E10 **653.22** Analysis of hippocampal synapses in the PINK1-deficient rats. A. A. MEMON*; R. B. CREED; A. W. AMARA; M. S. GOLDBERG; M. BAMMAN; L. L. MCMAHON. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*
- 11:00 E12 **653.24** Increased glutamatergic transmission at the corticostriatal synapse of PINK1 KO rats. R. B. CREED*; C. B. FARMER; R. C. ROBERTS; L. L. MCMAHON; M. S. GOLDBERG. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*

POSTER

654. Animal Models of Ataxia

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 E13 **654.01** Ataxin-3 isoforms confer differential toxicity in *Drosophila melanogaster*. J. R. BLOUNT*; S. L. JOHNSON; K. LIBOHOVA; B. RANXHI; W. TSOU; S. V. TODI. *Wayne State Sch. of Med.*
- 9:00 E14 **654.02** Repeat associated non aug initiated translation as a disease factor in spinocerebellar ataxia type 3. S. JOHNSON*; K. LIBOHOVA; W. TSOU; S. TODI. *Wayne State Univ.*
- 10:00 E15 **654.03** Disruption of polyamine catabolism causes purkinje cell damage and severe ataxia. K. ZAHEDI; M. BROOKS; S. BARONE; N. RAHMATI; T. MURRAY-STEWART; C. DESTEFANO-SHIELDS; M. DUNWORTH; N. DASGUPTA; S. DAVIDSON; D. M. LINDQUIST; C. E. FULLER; R. D. SMITH; J. L. CLEVELAND; R. A. CASERO, Jr.; M. SOLEIMANI*. *Univ. of Cincinnati Med. Ctr., Veterans Affairs Med. Ctr., Massachusetts Gen. Hosp. and Harvard Med. Sch., Johns Hopkins Univ. Sch. of Med., Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati, Cincinnati Children's Hosp. Med. Ctr., Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati Med. Ctr., Moffitt Cancer Ctr. and Res. Inst., The Scripps Res. Inst.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 E16 **654.04** • Activation of eIF2B for the treatment of vanishing white matter disease. R. N. SADOWSKI*; A. M. BASSO; A. E. TOVCIMAK; D. L. DONNELLY-ROBERTS; A. L. NIKKEL; H. ROBB; E. G. MOHLER; M. M. SHEEHAN; V. A. RODERWALD; B. A. HOOKER; X. ZHANG; X. XU; Y. TONG; J. M. FROST; S. RIEDMAIER; H. S. OBEROI; A. M. SWENSEN; M. J. DART; C. SIDRAUSKI; K. MARTIN. *AbbVie, Calico Life Sci. LLC.*
- 8:00 E17 **654.05** Cerebellar neurodegeneration and neuronal circuit remodeling in Golgi pH regulator-deficient mice. Y. SOU; S. KAKUTA; Y. KAMIKUBO; K. NIISATO; T. SAKURAI; L. K. PARAJULI; I. TANIDA; H. SAITO; N. SUZUKI; K. SAKIMURA; Y. MAEDA; T. KINOSHITA; Y. UCHIYAMA; M. KOIKE*. *Juntendo Univ. Grad. Sch. of Med., Juntendo Univ. Grad. Sch. of Med., Mie Univ., Brain Res. Ins Niigata Univ., Osaka University.*
- 9:00 E18 **654.06** Knockdown of Rubicon, a negative regulator of autophagy, suppresses polyglutamine-induced toxicity in *Drosophila*. M. OBA*; Y. NAGAI; K. FUKUI; K. SANGO; M. SUZUKI. *Tokyo Metropolitan Inst. of Med. Sci., Shibaura Inst. of Technol., Osaka Univ. Grad. Sch. of Med.*
- 10:00 E19 **654.07** Neuromagnetic resting state functional connectivity in Friedreich ataxia. G. NAEIJE; V. WENS; M. SJOGARD; M. VAN DER GHINST; S. GOLDMAN; M. PANDOLFO; X. DE TIÈGE*. *ULB Neurosci. Inst. (UNI), Univ. Libre de Bruxelles (ULB, Unité De Magnetoencephalographie, ULB-Hôpital Erasme.*
- 11:00 E20 **654.08** Identification of biphasic effects of frataxin deficiency on TID1 protein levels in Friedreich ataxia cellular models. Y. DONG; N. A. WARREN; E. MERCADO AYON; D. R. LYNCH*. *Univ. of Pennsylvania Perelman Sch. of Med.*
- 8:00 E21 **654.09** The novel protein FAM171B is recruited into intracellular polyQ aggregates. J. KIRLIN; G. M. GOELLNER*. *Minnesota State Univ.*
- 9:00 E22 **654.10** Inertial sensor-based tremor and bradykinesia quantification and potential for early disease identification in fragile X-associated tremor/ataxia syndrome (FXTAS). D. BANG*; J. M. JOYCE; B. OUYANG; Y. LIU; E. ROBERTSON; D. A. HALL; J. A. O'KEEFE. *Rush Univ., Rush Univ.*
- 10:00 E23 **654.11** Blocking ran translation enhances FMRP and reduces toxicity in unmethylated full mutation fragile X stem cells. S. E. WRIGHT*; C. RODRIGUEZ; J. HAENFLER; F. RIGO; M. A. SUTTON; S. BARMADA; J. M. PARENT; P. K. TODD. *Univ. of Michigan, Ionis Pharmaceuticals, Univ. of Michigan, Univ. of Michigan Dept. of Neurol., Univ. of Michigan.*
- 11:00 E24 **654.12** Assessing benefits of antisense oligonucleotide therapy in a pre-symptomatic mouse model of spinocerebellar ataxia type 3. A. J. ZALON*; K. C. O'DONNELL; H. L. PAULSON; H. S. MCLOUGHLIN. *Univ. of Michigan, Univ. of Michigan Dept. of Neurol., Univ. of Michigan.*
- 8:00 E25 **654.13** Movement initiation and motor output error in SCA6. S. DELMAS*; A. CASAMENTO-MORAN; B. YACOBI; S. SUBRAMONY; D. E. VAILLANCOURT; E. A. CHRISTOU. *Univ. of Florida, Univ. of Florida.*
- 9:00 E26 **654.14** Factors associated with functional mobility and falls of individuals with hereditary degenerative cerebellar diseases. V. F. GIANGIARDI*; M. PERRACINI; M. SILVA; G. B. R. SETTI; M. VEGAS; S. ALOUCHE. *Univ. Cidade De Sao Paulo.*
- 10:00 E27 **654.15** Ataxic phenotype with altered Ca_v3.1 channel property in a mouse model for spinocerebellar ataxia 42. H. DOI*; S. HASHIGUCHI; M. KUNII; Y. NAKAMURA; M. SHIMUTA; E. SUZUKI; M. OKUBO; T. SASAOKA; H. TAKEUCHI; T. ISHIKAWA; F. TANAKA. *Yokohama City Univ. Sch. of Med., The Jikei Univ. Sch. of Med., Brain Res. Institute, Niigata Univ.*
- 11:00 E28 **654.16** New knock in mouse models with hyper-expansion of the murine polyQ tract show massive progressive aggregate formation and moderate motor phenotype. E. HAAS; R. INCEBACAK; Y. MARINGER; N. CASADEI; T. HENTRICH; J. SCHULZE-HENTRICH; T. SCHMIDT; O. RIESS*; J. HUEBENER-SCHMID. *Univ. of Tuebingen.*
- 8:00 E29 **654.17** Analyzing the ubiquitin-proteasome system in SCA3 *in vivo*. J. SCHMIDT; A. GRUN; M. PRADELA; O. RIESS; T. SCHMIDT*. *Med. Genetics, Univ. of Tuebingen, Ctr. for Rare Dis. ("ZSE"), Univ. Hosp. Tuebingen, NGS Competence Ctr. Tuebingen (NCCT).*
- 9:00 E30 **654.18** Blood-brain barrier dysfunction in spinocerebellar ataxia type 3 (Machado-Joseph disease): Results from mouse and human brain tissues. R. J. NOBRE*; D. LOBO; C. O. MIRANDA; D. PEREIRA; J. CASTELHANO; J. SERENO; M. CASTELO-BRANCO; L. PEREIRA DE ALMEIDA. *Ctr. For Neurosci. and Cell Biol. (CNC), Inst. for Interdisciplinary Res. (III), Viravector - Viral Vector for Gene Transfer Core facility, Ctr. for Innovative Biomedicine and Biotech. (CIBB), Inst. of Nuclear Sci. Applied to Hlth. (ICNAS), Coimbra Inst. for Clin. and Biomed. Res. (iCBR), Fac. of Pharm. (University of Coimbra).*
- 10:00 E31 **654.19** Characterization of molecular and clinical phenotypes in a rat model for Griscelli syndrome type 1. D. R. MICHAUD*; P. P. NGHIEM; G. STOICA; R. SRINIVASAN; S. MATA LOPEZ; C. BALOG-ALVAREZ. *Texas A&M Univ., Texas A&M Univ., Texas A&M Univ. Col. of Med.*
- 11:00 E32 **654.20** Cerebellar dysfunction in spinocerebellar ataxia type 3. K. PALARZ*; A. CARVALHO; P. E. MACIEL; K. KHODAKHAH. *Albert Einstein Col. of Med., Life and Hlth. Sci. Res. Inst. (ICVS), Albert Einstein Col. Med.*
- 8:00 E33 **654.21** Elucidating the mechanism underlying stress and caffeine induced attacks in episodic ataxia type 2. H. D. SNELL*; A. VITENZON; E. TARA; K. KHODAKHAH. *Albert Einstein Col. of Med., Albert Einstein Col. of Medicine, Albert Einstein Col. Med.*
- 9:00 E34 **654.22** Exploring drivers of regional vulnerability in spinocerebellar ataxia type 1 reveals diverse functions of ataxin-1 and the mechanisms underlying neurodegeneration. C. J. ADAMSKI*; V. GENNARINO; E. CRAIGEN; A. DE MAIO; H. YALAMANCHILI; A. JAIN; S. YUN JUNG; H. T. ORR; H. Y. ZOGHBI. *Jan and Dan Duncan Neurolog. Inst., Jan and Dan Duncan Neurolog. Inst., Baylor Col. of Med., Univ. of Minnesota, Jan and Dan Duncan Neurolog. Res. Inst.*
- 10:00 E35 **654.23** AnkyrinR is required for cerebellar Purkinje cell survival. S. R. HA; M. N. RASBAND*. *Baylor Col. of Med.*
- 11:00 E36 **654.24** Exercise and 4-AP work as an effective combination therapy in a mouse model of spinocerebellar ataxia type 6. A. A. COOK*; S. JAYABAL; T. S. LEUNG; K. VIEIRA-LOMASNEY; A. J. WATT. *McGill Univ., Stanford Univ.*
- 8:00 E37 **654.25** Assessment of locomotion, learning, and memory post-seizure recovery in *Drosophila melanogaster*. S. CHEN*; D. LENT. *California State University, Fresno.*

- 9:00 E38 **654.26** Structural magnetic resonance imaging measures of neurodegeneration in a spinocerebellar ataxia type 7 cohort. J. PARKER*; S. MERCHANT; S. ATTARIPOUR ISFAHANI; P. MCGURRIN; L. A. HURYIN; M. HALLETT; S. G. HOROVITZ. *NIH, Med. Univ. of South Carolina, NIH.*
- 10:00 E39 **654.27** Developmental characterization of brain structure and motor function in SCA1^{154Q/2Q} mice. J. HESKJE*; L. SPENCER NOAKES; S. NOPOULOS; A. JYOTIS; T. KOSCIK; D. THEDENS; E. AXELSON; L. DUVICK; H. T. ORR; P. C. NOPOULOS; K. L. PARKER. *Univ. of Iowa, The Hosp. for Sick Children, Univ. of Iowa, Univ. of Minnesota.*
- 11:00 E40 **654.28** The contribution of the cerebello-thalamo-cortical circuit to interval timing performance in rats. J. R. LEWIS*; H. E. HALVERSON; B. J. DECORTE; K. L. PARKER. *Univ. of Iowa.*

POSTER

655. Neurodegeneration and Neuromuscular Diseases

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 E41 **655.01** Transcranial direct current stimulation (tDCS) in multiple sclerosis: Is one application of 2 ma before or during a 6 minute walk test sufficient to improve walking distance? C. D. WORKMAN*; B. J. POSTON; E. JESTER; J. SMITH; V. SMITH; K. MCALLISTER; J. KAMHOLZ; T. RUDROFF. *Univ. of Iowa, Univ. of Nevada Las Vegas.*
- 9:00 E42 **655.02** Analysis of tongue strength and swallowing in COPD and healthy ageing. I. EPIU*; C. BOSWELL-RUYS; S. GANDEVIA; J. E. BUTLER; A. HUDSON. *Neurosci. Res. Australia - UNSW, Neurosci. Res. Australia, Neurosci. Res. Australia.*
- 10:00 E43 **655.03** Neuro-cardio-autonomic modulations in children with Duchenne muscular dystrophy. T. N. SATHYAPRABHA*; A. MEGHANA; V. PREETHISH-KUMAR; A. JOHN; P. PRATHUYSHA; T. R. RAJU; A. NALINI. *NIMHANS.*
- 11:00 E44 **655.04** • Incretin hormones attenuate motor axon dysfunction in a mouse model of type 2 diabetes mellitus. C. KRARUP*; C. HOLSCHER; M. MOLDOVAN. *Rigshospitalet, Henan Univ. of Chinese Med., Univ. of Copenhagen.*
- 8:00 F1 **655.05** Vulnerability of fast- and slow-twitch motor units in a mouse model of spinal and bulbar muscular atrophy. E. MOLOTSKY*; A. PLUCIENNIK; D. E. MERRY. *Thomas Jefferson Univ., Thomas Jefferson Univ., Thomas Jefferson Univ.*
- 9:00 F2 **655.06** Brain derived neurotrophic factor is an important factor for pudendal nerve motor branch functional recovery. B. M. BALOG*; T. L. ASKEW; D. LI; B. HANZLICEK; M. S. DAMASER. *Cleveland Clin. Lerner Res. Inst., Louis Stokes VA Med. Ctr., Univ. of Akron, Cleveland Clin., Cleveland Clin., Cleveland Clin.*
- 10:00 F3 **655.07** Glyceryl tribenzoate, a flavoring ingredient, inhibits glycine encephalopathy. M. KUNDU*. *Rush Univ. Med. Ctr.*
- 11:00 F4 **655.08** Activation of the integrated stress response contributes to the disease mechanism of tRNA-synthetase related peripheral neuropathy. R. W. BURGESS*; E. L. SPAULDING; T. J. HINES. *Jackson Lab.*

- 8:00 F5 **655.09** A novel mouse Tubb4a^{D249N/D249N} to model hypomyelination and atrophy of basal ganglia and cerebellum and development of potential therapeutic strategies. S. SASE*; A. ALMAD; A. BOECKER; P. GUEDES-DIAS; J. LI; A. TAKANOHASHI; T. MCCAFFREY; D. SIRDESHPANDE; Q. PADIATH; E. HOLZBAUR; S. SCHERER; A. VANDERVER. *CHOP, Children's Hosp. of Philadelphia, Univ. of Pennsylvania, Fac. of Pharmacy, Univ. of Porto, Univ. of Pittsburgh, Univ. of Pennsylvania, Univ. of Penn, Children's Hosp. of Philadelphia.*
- 9:00 F6 **655.10** Forced expression of MuSK in dystrophic (mdx) mouse muscles partially restores expression of utrophin and beta-dystroglycan to the sarcolemma. J. BAN; J. HUANG; W. D. PHILLIPS*. *The Univ. of Sydney.*
- 10:00 F7 **655.11** Kinase inhibitors improve neurofilament distribution in Charcot-Marie-Tooth 2E human motor axons. R. MACIEL*; R. CORREA; J. BOSSO TANIGUCHI; I. P. ARAUJO; M. A. SAPORTA. *Univ. of Miami.*
- 11:00 F8 **655.12** Quality of life in individuals on verge to completely locked-in state. A. RANA*; A. TONIN; A. JARAMILLO GONZALEZ; M. KHALILI ARDALI; N. BIRBAUMER; U. CHAUDHARY. *Eberhard Karls Univ. of Tuebingen, Wyss Ctr. for Bio and Neuroengineering.*
- 8:00 F9 **655.13** Label free imaging of abnormal lipid accumulation in muscle fibers from inclusion body myositis patients using Raman spectroscopy. Y. NAGASHIMA*; J. SHIMIZU; A. IWATA; K. YOSHIOKA; J. OMACHI; J. YUMOTO; M. KUWATA-GONOKAMI; T. TODA. *The Univ. of Tokyo Hosp., Tokyo Univ. of Technol., The Univ. of Tokyo, Kansai Gakuin Univ., The Univ. of Tokyo.*
- 9:00 F10 **655.14** Dissecting the transcriptome of the myotonic dystrophy type 1 CNS. B. A. OTERO*; T. KIMURA; K. A. HAGERMAN; J. B. SAMPSON; J. W. DAY; C. A. THORNTON; E. T. WANG. *Univ. of Florida, Hyogo Col. of Med., Stanford Univ., Stanford Univ., Univ. of Rochester.*
- 10:00 F11 **655.15** Increased white matter volume may explain resting motor threshold maintenance in individuals with a history of traumatic musculoskeletal injury. S. D. FLANAGAN*; F. PROESSL; A. J. STERCZALA; A. Z. BEETHE; C. DUNN-LEWIS; B. C. NINDL; W. J. KRAEMER. *Univ. of Pittsburgh, The Ohio State Univ.*
- 11:00 F12 **655.16** Social isolation and loss of physical function: Defining a novel neuromuscular phenotype. D. CHUGH*; C. IYER; P. BOBBILL; M. L. HALLEY; W. ARNOLD. *The Ohio State Univ.*

POSTER

656. Neurotoxicity, Inflammation, and Neuroprotective Mechanisms: Preclinical

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 F13 **656.01** RANTES-induced increased trafficking of Th17 cells in substantia nigra potentiates dopaminergic cell loss in MPTP-induced mouse model of Parkinson's disease. D. DUTTA*; M. KUNDU; S. MONDAL; A. ROY; K. PAHAN. *Rush Univ. Med. Ctr., Jesse Brown Veterans Affairs Med. Ctr.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:00 F14 **656.02** PET imaging studies of neuroinflammation in a nonhuman primate model of Parkinson. H. LIU; Y. ZHOU; Z. LUO; J. GU; Y. YU; H. WHITE; S. A. NORRIS; H. FLORES; L. L. DUGAN; Z. TU; J. S. PERLMUTTER*. *Washington Univ. Sch. of Med., Vanderbilt Univ. Med. Ctr.*
- 10:00 F15 **656.03** Imaging microglia and astrocytes activation using diffusion MRI. S. DE SANTIS*; R. GARCIA-HERNANDEZ; N. TOSCHI; C. MAINERO; S. CANALS. *Inst. de Neurociencias de Alicante, A. A. Martinos Ctr. for Biomed. Imaging, Univ. of Rome 'Tor Vergata'.*
- 11:00 F16 **656.04** Peripheral inflammation induced cognitive impairment is attenuated by the regulation of activated glial cells and histone deacetylase. N. TAKADA; Y. NAKAMURA*; K. NAKASHIMA; N. MORIOKA. *Hiroshima Univ.*
- 8:00 F17 **656.05** Apobec1 knockout is a genetic risk factor that exacerbates effect of mild traumatic brain injury (mTBI). E. M. O'CONNIDE*; K. GAGNIDZE; J. MARROCCO; N. F. PAPAVALIOU; K. BULLOCH. *The Rockefeller Univ., Bluebird bio, The Rockefeller Univ., German Cancer Res. Ctr.*
- 9:00 F18 **656.06** Time-restricted feeding prevents neuronal cell death in the hippocampus by diminishing active gliosis in lithium-pilocarpine-induced seizure model. V. ARRIAGA-AVILA*; O. F. MERCADO-GOMEZ; J. SANTILLAN-CIGALES; R. GUEVARA-GUZMAN. *Univ. Nacional Autonoma de Mexico, Natl. Autonomous Univ. of Mexico, Univ. Nacional Autonoma De Mexico, FM, Univ. Nacional Autónoma De México (UNAM).*
- 10:00 F19 **656.07** Relevance of scavenger receptor-A for the neurotoxic outcome of the inflammatory activation of glial cell. R. VON BERNHARDI*; F. MANZUR; L. F. VELASQUEZ; P. MUNOZ; E. PONCE; S. BELTRAN; J. J. TRIVINO; V. RODRIGUEZ; S. MARCA; C. ZUNIGA-TRASLAVINA; M. TRIOLO-MIESES; F. NOVILLO; J. EUGENIN. *Pontificia Univ. Catolica de Chile, USACH.*
- 11:00 F20 **656.08** Activating Nrf2/HO-1 pathway alleviates inflammatory activation of microglia in the optic nerves and protects retinal ganglion cells from ischemia-reperfusion injury in acute intraocular hypertension model of glaucoma. L. SHENG; B. LU; C. CHEN; W. CAI; Y. YANG; Y. ZHOU; Y. DU; W. YIN; S. LIN*; G. YAN. *Dept. of Pharmacology, Zhongshan Sch. of Medicine, Sun Yat-sen Univ., Dept. of Biochemistry, Zhongshan Sch. of Medicine, Sun Yat-sen Univ., Guangzhou Cellprotek Pharmaceut. Co. Ltd.*
- 8:00 F21 **656.09** Optogenetic modulation of hippocampal microglia influences cortical and hippocampal network activity and intensify epileptiform activity in anesthetized mice. B. VILLASANA-SALAZAR*; R. HERNÁNDEZ-SOTO; B. ORDAZ; F. PENA-ORTEGA. *Univ. Nacional Autónoma De México, Univ. Nacional Autónoma de México, Inst. De Neurobiología, UNAM, Inst. de Neurobiología, UNAM.*
- 9:00 F22 **656.10** Microglia mediated neuroinflammation and endogenous regeneration. Are they connected? P. NIKOLAKOPOULOU*; D. VOULGARIS; I. MATTHIESEN; T. E. WINKLER; A. HERLAND. *Karolinska Inst., Div. of Micro and Nanosystems, KTH Royal Inst. of Technol.*
- 10:00 F23 **656.11** The inflammatory responses in aging brain of rats. J. WANG*; C. CHEN; S. CHEN. *Dept Nursing (Basic Med. Sci), Hungkuang Univ., Li-Shin Hosp.*
- 8:00 DP03/F24 **656.12** (Dynamic Poster) TNF decreases GFAP+ human neural stem cells and upregulates inflammasome component AIM2 in 3D hydrogel cultures. H. CELIKKAYA*; M. I. COSACAK; U. FREUDENBERG; C. WERNER; C. KIZIL. *German Ctr. for Neurodegenerative Dis. (DZNE), Ctr. for Regenerative Therapies (CRTD), TU Dresden, Leibniz Inst. of Polymer Res. Dresden, Max Bergmann Ctr. of Biomaterials Dresden.*
- 8:00 F25 **656.13** Necroptosis activation and low-grade chronic inflammation in age-associated neurodegeneration. M. S. ARRÁZOLA*; F. COURT. *Univ. Mayor.*
- 9:00 F26 **656.14** Cannabidiol prevents microglial inflammatory-type reactions by inhibiting ROS-dependent NF-κB activation and glucose consumption. P. P. MICHEL*; M. DOS-SANTOS-PEREIRA; F. S. GUIMARÃES; E. DEL-BEL; R. RAISMAN-VOZARI. *Inst. du Cerveau et de la Moelle Epinière, Faculdade de Odontologia, Univ. de São Paulo, Faculdade de Medicina, Univ. de São Paulo.*
- 10:00 F27 **656.15** Production of purified fractions from garcinia mangostana L. (mangosteen) pericarp containing bioactive compounds and testing in anti-inflammatory cellular *in-vitro* assays (C8-B4 cell line). A. LEUNG*; C. BARROW; M. BERK; O. DEAN; A. NEALE; C. BORTOLASCI; K. WALDER; S. DODD; B. HARVEY. *Deakin Univ., Deakin Univ., North-West Univ.*
- 11:00 F28 **656.16** Anti-neuroinflammation effects of neurosteroids. S. J. MENNERICK*; M. KEISER; A. BENZ; D. COVER; C. ZORUMSKI; H. SHU. *Washington Univ. Sch. of Med., Washington Univ. in St Louis, Washington Univ. in St Louis.*
- 8:00 F29 **656.17** Inhibition of microglial activation differently affects hormone secretion during sepsis. L. H. A. COSTA*; N. N. SANTOS-JUNIOR; C. H. R. CATALÃO; M. J. A. ROCHA. *Ribeirão Preto Med. School, Univ. of Sao Paulo, Sch. of Dent. of Ribeirão Preto, Univ. of Sao Paulo.*

POSTER

657. Stroke III

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 DP04/F30 **657.01** (Dynamic Poster) Impaired visuomotor adaptation following stroke. R. T. MOORE*; S. P. DUKELOW; T. CLUFF. *Univ. of Calgary.*
- 9:00 F31 **657.02** Voluntary activation deficits contribute to post stroke lingual weakness in a rat model. M. J. CULLINS*; J. A. RUSSELL; N. P. CONNOR. *Univ. of Wisconsin Madison.*
- 10:00 F32 **657.03** Quantifying the effect of trunk postural control deficits on arm reaching in hemiparetic stroke. K. C. SUVADA*; J. DEOL; A. ACOSTA; J. P. A. DEWALD. *Northwestern Univ.*
- 11:00 F33 **657.04** Cognitive impairments mediated by the non-injured hippocampus after focal cortical ischemic stroke in mice. W. ZHONG*; Y. YUAN; X. GU; M. QU; M. R. MCCRARY; A. WU; L. WEI; S. YU. *Emory Univ., Atlanta VA Med. Ctr.*
- 8:00 F34 **657.05** Monoaminergic drive modulates post-stroke flexion synergy expression. J. R. PATTERSON*; C. HECKMAN; J. P. DEWALD. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*

- 9:00 F35 **657.06** Transcutaneous cranial nerve stimulus in individuals with a chronic hemiparetic stroke. J. A. BEAUCHAMP*; J. YAO; J. P. A. DEWALD. *Northwestern Univ., Northwestern Univ.*
- 10:00 F36 **657.07** Silent stroke to the medial dorsal nucleus of the thalamus impairs olfactory circuitry. H. VAN DER GIESSEN; D. BARWICK; A. N. CLARKSON*. *Univ. of Otago, Univ. of Otago.*
- 11:00 F37 **657.08** Examining the interplay between movement control and resting posture after stroke. A. M. HADJIOSIF*; S. T. ALBERT; K. KITA; R. SHADMEHR; J. W. KRAKAUER. *Johns Hopkins Univ., Johns Hopkins Univ.*
- 8:00 F38 **657.09** • Passive ankle joint stiffness compensation by a novel ankle-foot-orthosis: Improving spastic paretic ankle motor control after stroke. K. E. RODRIGUEZ*; J. H. DE GROOT; F. BAAS; M. STJINTJES; F. C. VAN DER HELM; H. VAN DER KOOIJ; W. MUGGE. *Delft, Univ. of Technol., Leiden Univ. Med. Ctr., InteSping, Delft Univ. of Technol.*
- 9:00 F39 **657.10** Reinforcement motor learning is impaired in acute stroke patients. M. BRANSCHIEDT; A. M. HADJIOSIF; M. A. ANAYA; J. KELLER; K. D. RUNNALLS; M. WIDMER; A. R. LUFT; J. W. KRAKAUER; A. J. BASTIAN; P. A. CELNIK*. *Univ. Hosp. Zuerich, Johns Hopkins Univ., Johns Hopkins Univ., Kennedy Krieger Inst., Cereneo Advanced Rehabil. Inst. (CARING).*
- 10:00 F40 **657.11** The relationship between stroke-induced changes in motor unit firing behavior and the expression of motor deficits. A. S. HASSAN*; M. Q. CUMMINGS; C. K. THOMPSON; F. NEGRO; R. K. POWERS; C. HECKMAN; L. M. MCPHERSON; J. P. DEWALD. *Northwestern Univ., Temple Univ., Dept. of Clin. and Exptl. Sci., Univ. Washington, Northwestern Univ., Florida Intl. Univ., Washington Univ. in St. Louis, Northwestern Univ.*
- 11:00 F41 **657.12** Characterization of reaching distance and velocity in individuals with childhood-onset hemiplegia. N. M. HILL*; J. P. A. DEWALD. *Northwestern Univ., Northwestern Univ.*
- 8:00 F42 **657.13** Asymmetry of reflex thresholds between contralateral limbs in hemispheric stroke survivors and dominant limbs in neurologically intact individuals. T. AFZAL; M. K. CHARDON; N. L. SURESH; W. Z. RYMER*. *Shirley Ryan Ability Lab., Northwestern Univ., Shirley Ryan Ability Lab., Shirley Ryan Ability Lab.*
- 9:00 F43 **657.14** Event related cortical activity during simple motor task post stroke. P. BALASUBRAMANIAN*; S. Z. ALQAHTANI; A. S. HYGSTROM; B. D. SCHMIT. *Marquette Univ., Marquette Univ.*
- 10:00 F44 **657.15** ▲ Coordinated asymmetrical bimanual reaching strategies used by C57/BL6 mice in a novel bimanual skilled reaching task. D. MIRANDA-SOHRABJI*; S. KUMAR; E. NUDI; N. DONLAN; T. A. JONES. *Univ. of Texas at Austin, The Univ. of Texas at Austin, Univ. Texas Austin.*
- 11:00 F45 **657.16** Robotic assessment of upper limb function in a nonhuman primate model of chronic stroke. Y. CHEN*; M. C. POOLE; J. Y. NASHED; A. CHAMPAGNE; D. J. COOK. *Queen's Univ., Queen's Univ., Queen's Univ.*
- 8:00 F46 **657.17** Entrainment of stepping frequency to vertical motion of walking surface in stroke and age-matched controls. D. GOBESKI*; B. ROBERTSON-DICK; T. ONUSHKO; S. C. RAAB; L. RIEM; N. GREGG; A. S. HYGSTROM; B. D. SCHMIT. *Marquette Univ., Med. Col. of Wisconsin, Marquette Univ.*
- 9:00 G1 **657.18** An *in vivo* model of microglia phagocytosis of aged red blood cells in the mouse brain. J. WAN*; J. WANG. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ.*
- 10:00 G2 **657.19** Inhibition of NBCs activity protects hippocampus CA1 delayed neuronal death induced by transient global cerebral ischemia in gerbils. J. WU*; W. SHAN; S. LIU; N. CHEN; A. GUO; Q. WANG; Y. WANG. *Beijing Tiantan Hospital, Capital Med. Univ., Beijing Advanced Innovation Ctr. for Human Brain Protection, Beijing Med. Univ., China Natl. Clin. Res. Ctr. for Neurolog. Dis., Wuhan Univ. of Technol. Sch. of Chemistry, Chem. Engin. and Life Sci.*
- 11:00 G3 **657.20** Investigating the molecular and cellular basis of moyamoya disease using patient derived induced pluripotent stem cells. S. P. RAO*; Q. ZHANG; H. UCHINO; A. PENDHARKAR; M. Y. CHENG; G. K. STEINBERG. *Stanford Univ.*
- 8:00 G4 **657.21** Automated assessment of motor deficits after experimental stroke using Erasmus Ladder. T. C. CHIANG*; S. HARVEY; A. PENDHARKAR; Z. CAO; M. Y. CHENG; G. K. STEINBERG. *Stanford Univ.*
- 9:00 G5 **657.22** Center of mass fluctuations in stroke survivors as a response to unexpected lateral support surface perturbations during gait. S. C. RAAB*; L. I. RIEM; T. ONUSHKO; N. GREGG; D. GOBESKI; A. S. HYGSTROM; B. D. SCHMIT. *Marquette Univ., Marquette Univ.*
- 10:00 G6 **657.23** The role of cofilin in intracerebral hemorrhage-induced neuroinflammation. D. A. ALMARGHALANI*; M. AMIRA; D. TA; A. KONDAKA; Z. A. SHAH. *Col. of Pharm. and Pharmaceut. Sciences, The Univ. of Toledo, Col. of Pharm. and Pharmaceut. Sciences, The Univ. of Toledo.*
- 11:00 G7 **657.24** Effect of genistein on age-dependent differences in cerebral ischemia in ovariectomized rats. A. OPPONG-GYEBI*; D. METZGER; N. SUMIEN; D. A. SCHREIHOFFER. *Univ. of North Texas Hlth. Sci. Ctr., Univ. of North Texas Hlth. Sci. Ctr., Univ. of North Texas Hlth. Sci. Ctr. At.*
- 8:00 G8 **657.25** The role of microglia cell-specific estrogen receptor alpha (ERα) signaling in an ischemic stroke model. T. RODRIGUEZ*; J. KYLE; C. MELIAN; A. HO; S. TSYRKA; M. ACOSTA-MARTÍNEZ. *Stony Brook Univ. Med. Ctr., Stony Brook Univ., Stony Brook Univ. Med. Ctr.*
- 9:00 G9 **657.26** Pathophysiological characterization of stroke-induced skeletal muscle injury. M. BALCH*; H. HARRIS; D. CHUGH; W. ARNOLD; C. L. RINK. *The Ohio State Univ. Wexner Med. Ctr.*
- 10:00 G10 **657.27** The stroke paradox: Hypertonicity with weakness. D. G. KAMPER*; A. BARRY; M. STOYKOV; K. TRIANDAFILOU; N. J. SEO; N. BANSAL; M. GHASSEMI; L. VIDA KOVIC; E. ROTH. *North Carolina State Univ., Shirley Ryan Abilitylab, Univ. of Wisconsin-Milwaukee, Marquette Univ.*
- 11:00 G11 **657.28** Endogenous zinc protoporphyrin formation critically contributes to hemorrhagic stroke-induced brain damage. R. PAN*; G. TIMMINS; Y. YANG; X. ZHOU; K. LIU. *Univ. of New Mexico, Univ. of New Mexico Hlth. Sci. Ctr.*
- 8:00 G12 **657.29** Critical role of formyl peptide receptor 1 on activated splenocytes in brain ischemic injury. J. LI*; M. CHORDIA; D. PAN; Z. ZUO. *Univ. of Virginia.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

9:00 G13 **657.30** Muscle spasticity and motor performance after botulinum neurotoxin injection in stroke subjects with spastic hemiplegia. Y. CHEN*; C. ZHANG; E. MAGAT; M. VERDUZCO-GUTIERREZ; P. ZHOU; Y. ZHANG; S. LI. *Univ. of Texas Hlth. Sci. Ctr. - Houston, Univ. of Houston.*

POSTER

658. Traumatic Brain Injury: Biomarkers

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, Hall A

8:00 G14 **658.01** Post-acute white matter diffusion predicts post-concussive symptom severity at six-months following mild traumatic brain injury in children. A. L. WARE*; A. SHUKLA; N. GOODRICH-HUNSAKER; E. A. WILDE; T. J. ABILDSKOV; E. D. BIGLER; D. COHEN; L. K. MIHALOV; A. BRAVEVICE; B. A. BANGERT; H. G. TAYLOR; K. O. YEATES. *Univ. of Calgary, Univ. of Utah, Erin D. Bigler Ph.D., The Ohio State Univ., Case Western Reserve Univ.*

9:00 G15 **658.02** Ocular motor abnormalities and shortened telomeres in collision sport athletes. S. R. SHULTZ*; G. FULLER SYMONS; R. M. MYCHASIUK. *Monash Univ., Univ. of Calgary.*

10:00 G16 **658.03** Circulating microRNAs as biomarkers of concussion in amateur Australian rules footballers. W. T. O'BRIEN*; C. J. TAYLOR; G. A. NEOCLEOUS; G. H. FULLER SYMONS; A. A. HARDIKAR; M. V. JOGLEKAR; S. R. SHULTZ; S. J. MCDONALD. *Monash Univ., La Trobe Univ., The Univ. of Sydney.*

11:00 G17 **658.04** Investigation of the relationship of vocal, eye-tracking, and fMRI ROI time-series measures with preclinical mild traumatic brain injury. D. E. STURIM*; T. F. QUATIERI; H. M. RAO; J. WILLIAMSON; A. LAMMERT; T. TALAVAGE. *MIT Lincoln Lab., MIT Lincoln Lab., Purdue Univ.*

8:00 G18 **658.05** Monitoring axonal damage in neurological disorders: detection and quantification of neurofilaments light and heavy chain (NF-L/ pNF-H) as potential biomarkers of neurodegeneration. Y. NOAM*; T. A. LIBERMANN; S. T. DILLON; V. SHEEN; S. KARUMANCHI; E. SCHOELL; D. PERREGAUX; T. MUNN; P. YOUNGE; I. O'BRIEN; N. STEERE; M. ANDERSON. *ProteinSimple, Bio-Techne, Beth Israel Deaconess Med. Center, Harvard Med. Sch., Cedars-Sinai Med. Ctr., R&D Systems, Bio-Techne.*

9:00 G19 **658.06** Eeg evidence of phonemic processing is severely brain-injured patients. P. JAIN*; M. M. CONTE; J. D. VICTOR; N. D. SCHIFF. *Weill Cornell Grad. Sch. of Med. Sci., Weill Cornell Med. Col.*

10:00 G20 **658.07** Osteopathic manipulative treatment changes cerebral blood flow after concussion injury. L. D. HENDERSON*; R. KALKAT; S. K. GILL; D. J. GORBET; L. E. SERGIO; L. M. HYNES. *York Univ., Canadian Col. of Osteopathy, York Univ., York Univ.*

11:00 G21 **658.08** An exploration of biological markers of post-concussion syndrome using transcranial magnetic stimulation. M. B. LOCKE*; S. L. TOEPP; C. V. TURCO; D. HARASYM; M. P. RATHBONE; M. D. NOSEWORTHY; A. J. NELSON. *McMaster Univ., McMaster Univ., McMaster Univ.*

8:00 G22 **658.09** Exosomal and plasma biomarkers relate to chronic symptoms in veterans with history of mild traumatic brain injury. V. DE ALVARENGA GUEDES*; C. LAI; C. DEVOTO; B. QU; K. KENNEY; J. M. GILL. *NIH, Uniformed Services Univ. of the Hlth. Sci.*

9:00 G23 **658.10** Cognition, mood, and cortisol circadian profiles following mild traumatic brain injury in college students: Confirmation of subjective reports of impairment with objective cognitive measures. E. VILLEGAS*, Jr; B. ABEN; M. J. HARTSOCK; M. VALDEZ; M. MCQUEEN; R. L. SPENCER; T. D. HERNANDEZ. *Univ. of Colorado Boulder, Univ. of Colorado Boulder, Univ. of Colorado at Boulder.*

10:00 G24 **658.11** Acute effects of sport-related concussion on neuroactive kynurenine pathway metabolites and their association with post-concussion mood symptoms. T. B. MEIER*; M. E. NITTA; T. K. TEAGUE; J. B. HOELZLE; L. D. NELSON; M. A. MCCREA; J. SAVITZ. *Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin, Marquette Univ., Univ. of Oklahoma Sch. of Community Med., Univ. of Oklahoma Col. of Pharm., Oklahoma State Univ. Ctr. for Hlth. Sci., Med. Col. of Wisconsin, Laureate Inst. for Brain Res., Univ. of Tulsa.*

11:00 G25 **658.12** • Measurement of inflammatory cytokines and neurodegenerative/injury biomarkers in acute concussion/mild traumatic brain injury (c/mTBI) serum and saliva samples. A. CHENNA*; C. J. PETROPOULOS; J. W. WINSLOW. *Monogram Biosci. Inc/Labcorp.*

8:00 G26 **658.13** Auditory sensory processing is impaired following mild traumatic brain injury. M. C. DUGGINS*; Y. KIM; J. DAVIS; K. PAULSON; R. THOMA; J. D. LEWINE. *The Mind Res. Network.*

9:00 G27 **658.14** Anxiety-related alterations of resting-state networks in mild traumatic brain injury. Y. LEE; C. LU; N. CHEN; L. HSIEH; S. CHENG; Y. J. KAO; C. CHEN. *Translational Imaging Res. Ctr. Taipei Med. Univ. Hosp., Natl. Yang-Ming Univ., Taipei Med. Univ. Hosp., Dept. of Radiology, Sch. of Medicine, Col. of Med. Taipei Med. Univ., Taipei Med. Univ.*

10:00 G28 **658.15** Functional connectivity patterns of the lesioned default mode network. A. RIVERA-DOMPENCIEL*; J. E. BRUSS; D. TRANEL; M. VOSS. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa.*

11:00 G29 **658.16** Brain structural connectivity predicts cognitive performance in TBI patients. P. LI*; W. SCHNEIDER. *Univ. of Pittsburgh.*

8:00 G30 **658.17** Chemical and microstructural brain biomarkers of traumatic brain injury-related chronic pain. L. E. ROBAYO*; V. GOVIND; S. SHERIFF; L. FLEMING; A. A. MAUDSLEY; E. WIDERSTROM-NOGA. *Univ. of Miami, Univ. of Miami, Univ. of Miami, Dept. of Veterans Affairs Med. Ctr.*

9:00 G31 **658.18** Relationship between serum-based biomarkers and MRI measures following mild traumatic brain injury in collegiate athletes post return-to-play. T. R. SUSA*; M. T. MOORE; J. M. CARLSON. *Northern Michigan Univ., Northern Michigan Univ.*

10:00 G32 **658.19** ▲ Evaluation of biomarkers of oxidative stress in orbitofrontal cortex of suicide victims. A. A. ORDUÑA*; A. J. VÁZQUEZ HERNÁNDEZ; L. ARROYO GARCÍA, SR; R. A. VÁZQUEZ, SR; S. DURAN; F. E. TAKAJASHI; H. TENDILLA; F. GARCIA-DOLORES; G. FLORES. *Benemerita Univ. Autonoma De Puebla, Inst. De Fisiología - BUAP, Inst. Politecnico Nacional, Benemerita Universidad Autonoma de Puebla, Inst. de Ciencias Forenses, Inst. De Fisiología, Benemerita Univ. Autónoma De Puebla, Inst. De Ciencias Forenses, Univ. Autonoma de Puebla / Inst. de Fisiología.*

- 11:00 G33 **658.20** ▲ Anti-saccade and sub-concussive loading: Changes in initial and end gain task metrics following head impact exposure in a high school football season. W. J. PRITZLAFF*, B. M. BLASS; M. Z. ABRAMS; D. O'CONNELL; M. PAITHANE; C. HILE; E. HSIEH; K. KHYLYSTOVA; A. MEHLENBACHER; B. CAPEHART; C. R. BASS; J. F. LUCK. *Duke Univ., Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*

POSTER

659. Brain Injury and Trauma II

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 G34 **659.01** ▲ The role of protein in shunt flow and obstruction. K. BEHARRY*; N. GORELICK; R. SERRA; B. TYLER; H. BREM; M. LUCIANO. *Johns Hopkins Med.*
- 9:00 G35 **659.02** Intermediate-term survival of transplanted bioengineered neural tissue grafts with pharmacological intervention. G. MAN*; D. JGAMADZE; V. LIAUDANSKAYA; D. KAPLAN; H. I. CHEN. *Univ. of Pennsylvania, Tufts Univ.*
- 10:00 G36 **659.03** Awareness detection in patients with unresponsive wakefulness syndrome. Y. OKAHARA*; K. TAKANO; M. ODAKI; K. KANSAKU. *Chiba Cerebral and Cardiovasc. Ctr., Res. Inst. Natl. Rehab Cent, Ryogo Ctr., Dokkyo Med. Univ. Sch. of Med., Univ. of Electro-Communications.*
- 11:00 G37 **659.04** Hierarchical linguistic sequence processing in disorders of consciousness patients. Y. JIANG*; P. GUI; D. ZANG; J. JIANG; Y. WEN; N. DING; X. WU; L. WANG. *Inst. of Neuroscience, CAS, Huashan Hospital, Fudan Univ., Zhejiang Univ.*
- 8:00 G38 **659.05** Colocalization of HGFR/Met and phosphorylated forms this tyrosine-kinase receptor in glioblastoma. A. E. KALYUZHNY*; J. TAYLOR; J. HAGEN; A. PTAK; J. COOPER; J. HATLER; M. LEVIN; D. SCHWARTZ. *Bio-Techne, Cell IDx, Inc.*
- 9:00 G39 **659.06** Characterization and classification of glioblastoma multiforme using the novel multiparametric cyclic immunofluorescence analysis system MACSima. S. REISS*; S. TOMIUK; J. KOLLET; J. DREWES; W. BRÜCK; M. JUNGBLUT; A. BOSIO. *Miltenyi Biotec GmbH, Universitätsmedizin Göttingen.*
- 10:00 G40 **659.07** Overcoming 5-FU resistance of GBM by spliceosome inhibitor Pladienolide-B. Y. LEE*; D. CHANG; J. JUNG; H. WOO; H. SUH-KIM; S. KIM. *Ajou Univ. Sch. of Med.*
- 11:00 G41 **659.08** ● The prevalence and impact of preserved functional connectivity within glioblastoma. A. G. DANIEL*; K. PARK; J. L. ROLAND; D. DIERKER; J. GROSS; J. HUMPHRIES; C. D. HACKER; J. SHIMONY; E. C. LEUTHARDT. *Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*
- 8:00 G42 **659.09** ● Open science medicinal chemistry: Towards a treatment for DIPG a rare brain cancer. C. SCHLUMBERGER*; S. CRAMP; N. HAMBLIN; A. EDWARDS; O. ROBERTS; A. BULLOCK; P. BRENNAN. *Charles River, Charles River, Ontario Inst. of Cancer Res., Meds4Kids Pharma, Structural Genomics Consortium, Univ. of Oxford.*

- 9:00 G43 **659.10** Spatial and temporal profile of intracranial vascular calcification in a mouse model with endothelial upregulation of tissue-nonspecific alkaline phosphatase. R. L. RAMOS*; A. UTS; P. SINGLA; E. KAMPTON; Y. MAYR; C. ROCHON; J. MILLAN; O. SAVINOVA. *NYIT-COM, NYIT Col. of Osteo. Med., New York Inst. of Technol., Sanford Children's Hlth. Res. Ctr.*
- 10:00 G44 **659.11** ▲ The effect of repeated anesthesia on learning at different ages. B. N. VENKAT; C. J. DIXON*; D. P. AKSENOV. *Niles West High Sch., Northshore Univ. Healthsystem.*
- 11:00 H1 **659.12** Sedation with brexanolone produces markedly less neurotoxicity compared to midazolam in the developing rodent brain. J. N. HUFFMAN*; K. M. KAPRAL; S. L. WILLIAMS; B. S. SWINEY; R. MORELAND; K. K. NOGUCHI. *Washington Univ. in St. Louis Med. Sch., Univ. of Missouri-St. Louis.*
- 8:00 H2 **659.13** Unrestricted somatic stem cell (USSC) administration reduces post hemorrhagic hydrocephalus (PHH) and alters expression of aquaporin channels (AQP1 & 4) and toll-like receptor-2. G. VINUKONDA*; D. PUROHIT; Y. LIAO; L. IVANOVA; F. HU; D. A. FINKEL; S. SHAH; G. M. KLEINMAN; M. S. CAIRO; E. F. LAGAMMA. *New York Med. Col., Maria Fareri Children's Hosp. of Westchester Med. Ctr., New York Med. Col., Maria Fareri Children's Hosp. of Westchester Med. Ctr., Westchester Med. Ctr., Westchester Med. Ctr., New York Med. Col., New York Med. Col. and Maria Fareri Children's Hosp. of Westchester Med. Ctr.*
- 9:00 H3 **659.14** Interhemispheric relationships in multiple sclerosis. J. T. DAVIS*; I. BELOVARSKI; C. FORD; K. PAULSON; J. LEWINE. *The Mind Res. Network, Univ. of New Mexico, The Mind Res. Network.*
- 10:00 H4 **659.15** Pericytes accumulate at EAE lesion sites and concurrently mediate vascular sprouting as well as fibrosis. E. SEKERDAG; D. ATAK; C. ULUSOY; A. B. YILMAZ; S. SEYAJ; G. DENIZ; M. ZEYBEL; Ö. Ö. ÇAKMAK; A. VURAL; C. & KUCUKALI; A. TUNCER; E. TÜZÜN; Y. GURSOY-OZDEMIR*. *Koç Univ., Istanbul Univ. DETAE, Koç University, KUTTAM, Koç Univ., Hacettepe Univ.*
- 11:00 H5 **659.16** AAV9 gene therapy rescue of an eEF1A2 knockout mouse model. J. NG; H. CHU; M. BERTI; M. TIJANI; J. ANTINAO DIAZ; C. ABBOTT; S. SCHORGE; S. N. WADDINGTON; R. KARDA*. *Univ. Col. London, Univ. of Edinburgh, Univ. Col. London.*

POSTER

660. Spinal Cord Injury III

Theme C – Neurodegenerative Disorders and Injury

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 H6 **660.01** Effects of a single sequence of acute intermittent hypoxia (AIH) on motor function in healthy able-bodied persons. A. Q. TAN*; A. N. CORSTEN; S. A. BARTH; R. D. TRUMBOWER. *Harvard Med. Sch., Spaulding Res. Inst.*
- 9:00 H7 **660.02** Western diet drives CNS insulin resistance and impairs recovery after spinal cord injury. H. N. KIM*; M. LANGLEY; H. YOON; L. KLEPPE; A. MATVEYENKO; I. A. SCARISBRICK. *Mayo Clin., Mayo Clin.*

* Indicates a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 H8 **660.03** Spinal cord injury in neonatal rats: Understanding the pathways that facilitate spontaneous recovery of forelimb function. R. D. SMIT*; T. J. CAMPION; J. B. MADRAK; G. M. SMITH. *Temple University Sch. of Med.*
- 11:00 H9 **660.04** Modulation of integrin signaling in the hydrogel-induced extracellular matrix to facilitate axonal ingrowth following spinal cord injury. H. PARK*; D. HWANG; Y. OH; H. KIM; B. KIM. *Ajou Univ. Sch. of Med.*
- 8:00 H10 **660.05** Lasting disruption of eccentric neural control after human spinal cord injury. D. BASSO*; K. O'BRIEN; T. FAW; S. JANSE; G. BROCK; L. WORTHEN-CHAUDHARI; J. SCHMIEDELER. *Ohio State Univ., Univ. of Notre Dame, Ohio State Univ., Ohio State Univ., Ohio State Univ.*
- 9:00 H11 **660.06** Defining boundaries of expected normal variability in outcome measures on the CatWalk gait analysis system. M. ACEVES*; V. A. DIETZ; J. N. DULIN; N. D. JEFFERY. *Texas A&M Univ., Texas A&M Inst. for Neurosci., Texas A&M Univ.*
- 10:00 H12 **660.07** Multisite activity-dependent spinal stimulation to promote motor recovery in chronic cervical spinal cord injury. R. L. MURPHY*; R. B. ROBINSON; A. J. WIDMAN; K. GILCHRIST; B. R. KONDILES; S. I. PERLMUTTER; S. LEE. *Univ. of Washington, Univ. of Washington, Electronics and Telecommunications Res. Inst.*
- 11:00 H13 **660.08** An innovative suppressor of cytokine signaling-3 (SOCS3) reduction peptide (SRP) to repair spinal cord injury. Y. LEE; K. LI; A. KIM; C. LIN*. *Cleveland Clin.*
- 8:00 H14 **660.09** The susceptibility of cardiac disorders after spinal cord crush injury in rats. S. FERNANDES; J. WEINBERGER; I. W. IREDIA; V. TOM; S. HOU*. *Drexel Univ. Col. of Med.*
- 9:00 H15 **660.10** ▲ Enhancing functional recovery from spinal cord injury in neonatal rats with the application of excitatory DREADDs. J. MADRAK*; R. SMIT; T. CAMPION; G. M. SMITH. *Shriners Pediatric Res. Ctr., Temple Univ.*
- 10:00 H16 **660.11** Surface functionalized nanoparticles targeting corticospinal tract neurons through the high affinity cell surface receptor binding of brain-derived neurotrophic factor. M. CAO*; D. L. HYND; S. GHOSH. *Texas Woman's Univ., Southeast Missouri State Univ.*
- 11:00 H17 **660.12** Extent of corticospinal tract sprouting does not predict behavioral recovery following cervical spinal cord injury in the macaque monkey. M. CROWLEY*; J. GARNER; C. DARIAN-SMITH. *Stanford Univ. Sch. of Med.*
- 8:00 H18 **660.13** Long term adaptation of dorsal horn circuitry after spinal cord injury in macaques. K. M. FISHER*; J. GARNER; C. J. DARIAN-SMITH. *Stanford Univ.*
- 9:00 H19 **660.14** Somatosensory deafferentation produces deficits in predictive control of bilateral upper limb coordination and asymmetries in postural stabilization. J. SCHAFFER*; S. JAYASINGHE; C. MAENZA; F. R. SARLEGNA; R. L. SAINBURG. *The Pennsylvania State Univ., Penn State Col. of Med., CNRS and Aix-Marseille Univ., Penn State Univ.*
- 10:00 H20 **660.15** Large fiber sensory neuropathy produces asymmetrical deficits in limb movement and stabilization: in the absence of vision, the dominant arm drifts, while the non-dominant arm does not. S. A. L. JAYASINGHE*; J. E. SCHAFFER; C. MAENZA; F. R. SARLEGNA; R. A. SCHEIDT; R. L. SAINBURG. *The Pennsylvania State Univ., The Pennsylvania State Univ., CNRS and Aix-Marseille Univ., Marquette Univ.*
- 11:00 H21 **660.16** Is transcranial magnetic stimulation a reliable tool for studying neurophysiological changes associated with functional recovery in individuals with incomplete tetraplegia? T. ARORA*; K. A. POTTER-BAKER; K. O'LAUGHLIN; X. WANG; E. B. PLOW. *Cleveland Clin. Fndn.*
- 8:00 H22 **660.17** Intentional modulation of spinal motor output during treadmill stepping enabled by epidural electrical stimulation in humans with severe spinal cord injury. M. GILL*; C. LOPEZ; M. LINDE; P. GRAHN; J. S. CALVERT; K. D. ZHAO; I. LAVROV; D. SAYENKO; K. H. LEE. *Mayo Clin., Mayo Clin., Mayo Clin. Dept. of Physiol. and Biomedica, Mayo Clin., Houston Methodist Res. Inst.*
- 9:00 H23 **660.18** Comparison of transcutaneous and epidural electrical stimulation evoked motor responses during functional tasks in humans with spinal cord injury. J. S. CALVERT*; P. GRAHN; M. GILL; C. LOPEZ; I. LAVROV; M. LINDE; J. STROMMEN; L. BECK; D. VEITH; Y. P. GERASIMENKO; V. EDGERTON; D. SAYENKO; K. D. ZHAO; K. H. LEE. *Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin., Pavlov Inst. of Physiol, Univ. of California Los Angeles, Houston Methodist Res. Inst., Mayo Clin. Dept. of Physiol. and Biomedica.*
- 10:00 H24 **660.19** Human apolipoprotein E isoforms influence neurite outgrowth and regeneration *in vitro* and serotonergic sprouting *in vivo*. R. S. J. MAGGARD*; C. M. CALULOT; E. E. HUFFMAN; D. R. STOLTZ; L. E. STRATTAN; K. J. RITTER; B. N. TURBA; A. L. SILVERSTEIN; J. D. HOFFMAN; G. NATION; A. LIN; L. A. JOHNSON; W. J. ALILAIN. *Univ. of Kentucky, Univ. of Kentucky.*
- 11:00 H25 **660.20** Apolipoprotein E modulates respiratory motor plasticity following cervical spinal cord injury. L. STRATTAN*; A. L. SILVERSTEIN; D. R. STOLTZ; K. J. RITTER; C. M. CALULOT; E. E. HUFFMAN; W. J. ALILAIN. *Univ. of Kentucky, Univ. of Kentucky.*
- 8:00 H26 **660.21** Longitudinal analysis of gut microbiome composition after experimental cervical spinal cord injury. J. S. NEWTON*; R. S. MAGGARD; L. HAGER; D. R. STOLTZ; A. L. SILVERSTEIN; E. E. HUFFMAN; C. CALULOT; W. J. ALILAIN. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky.*
- 9:00 H27 **660.22** ▲ Investigating the link between cervical spinal cord injury and lung injury/ respiratory distress syndrome. E. E. HUFFMAN*; J. S. NEWTON; D. R. STOLTZ; L. HAGER; R. S. MAGGARD; A. L. SILVERSTEIN; C. CALULOT; W. J. ALILAIN. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky.*

POSTER

661. Somatosensation: Non-Opioid Treatment of Pain

Theme D – Sensory Systems

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 H28 **661.01** ● Antinociceptive properties of highly potent and selective state-independent inhibitors of Nav1.7. J. T. BECKLEY*; H. PAJOUHESH; G. LUU; S. KLAS; D. MONTELEONE; X. ZHOU; A. DELWIG; D. C. YEOMANS; J. C. HUNTER; J. V. MULCAHY. *SiteOne Therapeut., SiteOne Therapeut., Stanford Univ.*

- 9:00 H29 **661.02** ● GPR160 as a novel target for the treatment of chronic neuropathic pain. C. M. HARADA*; Z. CHEN; L. A. GIANCOTTI; T. M. DOYLE; W. K. SAMSON; G. L. C. YOSTEN; D. SALVEMINI. *St. Louis Univ. Sch. of Med.*
- 10:00 H30 **661.03** Pepducins derived from the intracellular loops of the neurotensin type 1 receptor relieve pain. R. L. BROUILLETTE*; É. BESSERER-OFFROY; C. MONA; M. CHARTIER; S. LAVENUS; J. CÔTÉ; M. SOUSBIE; J. LONGPRÉ; É. MARSAULT; M. GRANDBOIS; P. SARRET. *Univ. de Sherbrooke, McGill Univ., Univ. of California, Los Angeles (UCLA).*
- 11:00 H31 **661.04** GPR183 as a novel target for the treatment of neuropathic pain. K. I. BRADEN*; L. A. GIANCOTTI; Z. CHEN; J. ZHANG; G. YOSTEN; D. SALVEMINI. *St. Louis Univ.*
- 8:00 H32 **661.05** Frequency-dependent modulation of action potential transmission in afferent axons by DRG stimulation. L. CHEN*; T. GUO; S. SIRI; B. FENG. *Univ. of Connecticut.*
- 8:00 DP05/H33 **661.06** ● (Dynamic Poster) The effect of music on the pain of adults in the intensive care unit: A systematic review of randomized controlled trials. M. RICHARD-LALONDE*; C. GÉLINAS; M. BOITOR; E. GOSSELIN; N. FEELEY; S. COSSETTE; L. L. CHLAN. *McGill Univ., Jewish Gen. Hosp., Univ. de Montréal, Mayo Clin.*
- 10:00 H34 **661.07** Development of selective kappa opioid receptor antagonists for the treatment of chronic neuropathic pain. M. HOSSAIN*; G. JI; T. J. ABBRUSCATO; V. NEUGEBAUER; N. A. GERMAN. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*
- 11:00 H35 **661.08** Spinal electromagnetic stimulation results in immediate pain reduction and induces long-lasting functional improvements in patients with chronic low back pain (LBP). A pilot study. H. PETROSYAN*; M. FAHMY; A. TESFA; L. LIANG; V. ARVANIAN. *Stony Brook Univ., Northport VAMC.*
- 8:00 H36 **661.09** Development of a NTS2-selective macrocyclic neurotensin (8-13) analog showing a good analgesic benefit/adverse effect profile. M. CHARTIER*; M. DESGAGNÉ; L. HAROUNE; M. DANSEREAU; J. LONGPRÉ; E. MARSAULT; P. SARRET. *Inst. De Pharmacologie - Univ. De Sherbrooke.*
- 9:00 H37 **661.10** Efficacy of tramadol is lost in the late phase of the MIA-induced OA joint pain model in rat. H. RASHID; J. DOUVILLE*; R. SAMADFAM. *Charles River Labs. Montreal.*
- 10:00 H38 **661.11** Role of 5-HT_{2A} receptor in potentiation of oxycodone antinociception. S. SIERRA; X. CUNO LAVILLA; D. STEVENS; K. CONTRERAS; M. DAMAJ; W. DEWEY; J. GONZALEZ-MAESO. *Virginia Commonwealth Univ., Virginia Commonwealth Univ.*
- 11:00 H39 **661.12** ▲ Sex differences in THC-induced recovery of activity in rats with hindpaw inflammation. A. WILSON-POE; A. A. BARADAR*; J. STICKNEY; M. M. MORGAN. *Washington State Univ. Vancouver.*
- 8:00 H40 **661.13** Dextramipexole blocks Na_v1.8 sodium channels and affords analgesia in multiple nociceptive and neuropathic pain models. M. URRU*; M. MUZZI; E. COPPI; G. RANIERI; D. BUONVICINO; E. CAMAIONI; A. PUGLIESE; B. S. TANAKA; M. ESTACION; S. G. WAXMAN; S. D. DIB-HAJJ; A. CHIARUGI. *Univ. of Florence, Dept. of Hlth. Sci., Univ. of Florence, Neurofarba, Univ. of Perugia, Yale University, Neurosci. and Regeneration Res. Ctr.*
- 9:00 H41 **661.14** ● Potent analgesic activity of the novel M1/M4-selective muscarinic agonist NSX-0527. J. OCKULY*; J. BECK; S. HANSON; M. HENDRICKSON. *NeuroSolis, Inc.*
- 10:00 H42 **661.15** ● Non-viral delivery of OPRM1 gene and F2RL1 RNAi for oral cancer pain. K. INOUE*; N. H. TU; J. DOLAN; K. IMAMURA; S. YAMANO; B. L. SCHMIDT. *New York University, Col. of Dent., New York University, Col. of Dent., Tokyo Dent. Col., New York University, Col. of Dent.*
- 11:00 H43 **661.16** Prevention of opioid-self administration by agmatine-based analogues. C. PETERSON*; K. PFLEPSEN; K. KITTO; G. L. WILCOX; C. A. FAIRBANKS. *Univ. of Minnesota, Univ. Minnesota Med. Sch., Univ. Minnesota.*
- 8:00 H44 **661.17** ● Virtual embodiment treats chronic pain and improves function. A. F. ALVAREZ; J. PETROS; L. NGUYEN; M. S. TRUJILLO*. *Karuna Labs.*
- 9:00 H45 **661.18** Therapeutic scFv antibody for the treatment of neuropathic pain and anxiety. A. KUNAMNENI*; M. MONTERA; K. GOTT; M. KUO; N. SURI; R. DURVASULA; K. WESTLUND. *Loyola Univ. Med. Ctr., Univ. of New Mexico.*
- 10:00 H46 **661.19** ● Antiallodynic effects of abobotulinumtoxinA (Dysport) in a rat model of MRMT-1-induced bone cancer pain. V. MAFFRE; C. FAVRE-GUILMARD; M. KALINICHEV*; Y. DARBAKY; L. DIOP. *ANS Biotech, Ipsen.*
- 11:00 I1 **661.20** Influence of strategically substituted agmatines on opioid-induced neuroplasticity. B. M. CLEMENTS*; C. D. PETERSON; K. F. KITTO; G. L. WILCOX; C. A. FAIRBANKS. *Univ. of Minnesota, Univ. of Minnesota, Univ. Minnesota Med. Sch., Univ. Minnesota.*
- 8:00 I2 **661.21** Non-opioid analgesics to treat chronic pain through the cannabinoid-binding site in glycine receptors. J. CAPOROSSO*; M. WELLS; L. JIANG; M. MOSES; K. KOPER; Q. CHEN; P. TANG; Y. XU. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 9:00 I3 **661.22** Generation and characterization of highly potent and efficacious scFv antibodies against P2X4 receptor for the treatment of pain. N. SURI*; M. MONTERA; R. DURVASULA; K. WESTLUND; A. KUNAMNENI. *Loyola Univ. Med. Ctr., Univ. of New Mexico.*
- 10:00 I4 **661.23** Sphingosine-1-phosphate type 1 receptors in the central nervous system contribute to the antinociceptive effects of FTY720 (fingolimod) in a mouse model of nerve injury-induced neuropathy. D. E. SELLEY*; G. DONVITO; V. D. MCLANE; S. SPIEGEL; K. F. HAUSER; A. H. LICHTMAN; L. J. SIM-SELLEY. *Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

POSTER

662. Touch: Neocortex Networks and Models

Theme D – Sensory Systems

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 I5 **662.01** Wiring specificity for output generation in the neocortex. J. M. GUEST*; A. BAST; M. SEETHARAMA; M. OBERLAENDER. *Ctr. of Advanced European Studies and Res.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:00 I6 **662.02** Simple rules for complex wiring of neocortical networks. D. UDVARY*; V. J. DERCKSEN; P. HARTH; H. HEGE; C. P. J. DE KOCK; B. SAKMANN; M. OBERLAENDER. *Ctr. of Advanced European Studies and Res., Zuse Inst. Berlin, Ctr. for Neurogenomics and Cognitive Research, VU Amsterdam, Max Planck Inst. of Neurobio.*
- 10:00 I7 **662.03** Depth-specific relationships between the molecular identity, intrinsic physiology and morphology of inhibitory interneurons in the rat neocortex. F. YANEZ*; D. UDVARY; J. M. GUEST; B. SAKMANN; D. FELDMAYER; M. OBERLAENDER. *Ctr. of Advanced European Studies and Res., Max Planck Inst. of Neurobio., Res. Ctr. Juelich.*
- 11:00 I8 **662.04** Cell type-specific structure and *in vivo* function of excitatory neurons in rat vibrissal motor cortex. R. T. NARAYANAN*; M. SEETHARAMA; J. M. GUEST; A. JAVADOVA; M. OBERLAENDER. *Caesar, In Silico Brain Sci.*
- 8:00 I9 **662.05** ▲ Electrophysiological characterization of sensorimotor cortex neurons projecting to mesencephalic nuclei. V. LOPEZ-VIRGEN*; R. OLIVARES-MORENO; G. ROJAS-PILONI. *Inst. de Neurobiologia, UNAM.*
- 9:00 I10 **662.06** Relationship between morphology, *in-vivo* electrophysiology, molecular identity and thalamocortical input of cortical inhibitory neurons. F. MESSORE*; J. M. GUEST; R. T. NARAYANAN; A. BAST; M. OBERLAENDER. *Ctr. of Advanced European Studies and Res.*
- 10:00 I11 **662.07** Synaptic properties can dominate cortical output computations. A. BAST*; R. EGGER; M. OBERLAENDER. *Ctr. of Advanced European Studies and Res., NYU Sch. of Med.*
- 11:00 I12 **662.08** Reconstruction of whisker-related neuronal networks throughout the rat brain. A. MAHARJAN*; J. M. GUEST; M. M. SEETHARAMA; M. OBERLAENDER. *Ctr. of Advanced European Studies and Res.*
- 8:00 I13 **662.09** An approach towards visualizing airflow around animal faces and whiskers. T. L. JANSSEN*; J. M. THOMAS; M. J. HARTMANN; V. GOPAL. *Northwestern Univ., Elmhurst Col.*
- 9:00 I14 **662.10** A robotic pinniped: Using biomimetic robotic whiskers to sense fluid flow. H. M. EMNETT*; K. J. KLECZKA; T. L. JANSSEN; M. J. Z. HARTMANN. *Northwestern Univ., Northwestern Univ.*
- 10:00 I15 **662.11** Animals can use optogenetic-induced brain modulations as a conditioned stimulus, regardless of the cell type, type of modulations (activation or inhibition), and brain region opto-stimulated. J. LUIS-ISLAS*; G. B. FLORAN; R. GUTIERREZ. *CINVESTAV, CINVESTAV - IPN.*
- 11:00 I16 **662.12** A 3D model for precise registration of neuronal morphologies. M. M. SEETHARAMA*; R. NARAYANAN; J. M. GUEST; M. OBERLAENDER. *Caesar.*
- 8:00 I17 **662.13** Swimming alters dynamics of lateral line afference in larval zebrafish. D. A. SKANDALIS*; E. T. LUNSFORD; J. C. LIAO. *Univ. of Florida.*

POSTER

663. Chemosensory Processing III

Theme D – Sensory Systems

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 I18 **663.01** Inhibitory control of sparse odor-coding in an insect olfactory-circuit. S. RAY*; Z. N. ALDWORTH; M. A. STOPFER. *NIH.*
- 9:00 I19 **663.02** Odor valence encoding in the antennal lobe and its behavioral correlates. R. CHANDAK*; M. TRANER; B. RAMAN. *Washington Univ. In St. Louis, Washington Univ. In St. Louis.*
- 10:00 I20 **663.03** Concentration-dependent switch in neural ensembles in the locust antennal lobe. S. NIZAMPATNAM*; D. SAHA; B. RAMAN. *Washington Univ. In St. Louis.*
- 11:00 I21 **663.04** Cell type specific mechanisms for spike frequency modulation in the insects olfactory system. J. E. RADERMACHER; J. M. KLUSSMANN; D. FUSCA; S. CORNELIUSSEN; P. KLOPPENBURG*. *Univ. of Cologne.*
- 8:00 DP06/I22 **663.05** (Dynamic Poster) Mapping the *Aedes aegypti* antennal lobes. S. SHANKAR*; C. J. MCMENIMAN. *Johns Hopkins Univ.*
- 9:00 I23 **663.06** Sensitivity, specificity, and plasticity in the honeybee antennal lobe. S. HANEY*; H. LEI; B. H. SMITH; M. BAZHENOV. *UCSD, Arizona State Univ.*
- 10:00 I24 **663.07** Electrophysiological examination of neurons in the palp olfactory pathway of locusts. Z. N. ALDWORTH*; M. A. STOPFER. *NIH-NICHD, NIH.*
- 11:00 I25 **663.08** Chronic exposure to La₂O₃ nanoparticles impairs honeybee's olfactory learning ability by damaging nervous system. Y. LIU*; Y. ZHANG; L. YIN. *Inst. of Apicultural Research, CAAS, Univ. of California, Irvine.*
- 8:00 I26 **663.09** Effects of odor exposure on peripheral and central olfactory processing in *Drosophila*. Z. GUGEL*; E. J. HONG. *Caltech, Caltech.*
- 9:00 I27 **663.10** Characterization of odor-evoked response dynamics in three different neural populations in the fly olfactory system using light-sheet microscopy. H. RONG; L. ZHANG; C. J. GREER; S. PARK; R. DESHPANDE; F. BROOKS; T. E. HOLY; M. ANASTASIO; B. RAMAN*. *Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis, Univ. of Illinois, Washington Univ. Sch. of Med., Univ. of Illinois, Washington Univ. In St. Louis.*
- 10:00 I28 **663.11** Octopaminergic neurons have multiple targets in *Drosophila* larval mushroom body calyx and regulate behavioral odor discrimination. L. M. MASUDA-NAKAGAWA*; A. D. MCLACHLAN; J. H. WONG; B. A. WAN; M. MONTAGNESE; S. ZHANG. *Univ. of Cambridge.*
- 11:00 I29 **663.12** Beyond sensory representations: Primary olfactory cortex reflects non-olfactory task-related variables. N. FEDERMAN; S. A. ROMANO; M. AMIGO DURAN; A. MARIN-BURGIN*. *IBioBA-Conicet-Max Planck partner Inst.*
- 8:00 I30 **663.13** Calretinin expressing interneurons are increased in olfaction and aggression related brain regions in forebrain specific-connective tissue growth factor knockout mice. H. CHANG*; L. LEE. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ.*

- 9:00 I31 **663.14** Cell-type-specific whole-brain monosynaptic afferent inputs to the anterior and posterior piriform cortex. L. WANG*; Z. ZHANG; J. CHEN; Q. LIU; F. XU. *Huazhong Univ. of Sci. and Technol., Wuhan Inst. of Physics and Mathematics, Chinese Acad. of Sci., Wuhan Univ., Ctr. for Excellence in Brain Sci. and Intelligence Technology, Chinese Acad. of Sci.*
- 10:00 I32 **663.15** Computational characterization of feedforward inhibitory neurons of anterior piriform cortex. F. CAVARRETTA*; T. A. CLELAND; C. LINSTER. *Cornell Univ., Cornell Univ.*
- 11:00 I33 **663.16** Age-dependent increase of bouton-like structures in the mouse lateral olfactory tract. T. SATO; F. M. SEIBT; R. HOMMA; F. IMAMURA; S. NAGAYAMA*. *McGovern Med. Sch. at UTHHealth, Pennsylvania State Univ. Col. of Med.*
- 8:00 I34 **663.17** Neural circuit mechanisms of information routing in the mouse olfactory cortex. S. DASTE*; S. REZAEI-MAZINANI; W. A. MENA OROSTICA; A. FLEISCHMANN. *Brown Univ., Collège de France.*
- 9:00 I35 **663.18** ● The role of olfactory landmarks in place cell formation and navigation. W. FISCHLER*; N. R. JOSHI; L. J. KITCH; M. J. SCHNITZER; L. ABBOTT; R. AXEL. *Columbia Univ., Harvard Med. Sch., Stanford Univ., Stanford Univ. Dept. of Biol., Columbia Univ.*
- 10:00 I36 **663.19** Three-dimensional reconstruction of the layers of the main olfactory bulb and hippocampus proper in the allen mouse brain common coordinate framework. Q. WANG*; J. ROYALL; M. NAEEMI; K. HIROKAWA; L. NG; H. ZENG; J. A. HARRIS. *Allen Inst. for Brain Sci.*
- 11:00 I37 **663.20** A molecular atlas of cortical chemosensation. J. R. HOWE*; VI; C. L. CHAN; D. LEE; C. M. ROOT. *UCSD, UCSD.*
- 8:00 DP07/I38 **663.21** (Dynamic Poster) Towards characterizing brain-wide neural circuitry dynamics underlying chemosensory avoidance in larval zebrafish. K. SY*; D. CHAN; H. LAI; Z. LI; J. CHOI; V. MOK; H. KO. *The Chinese Univ. of Hong Kong.*
- 9:00 I39 **663.22** Unstable odor responses in piriform cortex. C. E. SCHOONOVER*; A. P. FINK; R. AXEL. *Columbia Univ., Columbia Univ., Columbia Univ.*
- 10:00 I40 **663.23** Normative modeling of sensory network dynamics for stimulus tracking. S. MALLIK*; D. SAHA; B. RAMAN; S. CHING. *Washington Univ. In St. Louis, Washington Univ. In St. Louis.*
- 11:00 I41 **663.24** Mapping *in vivo* olfactory network connections in the human brain. S. L. COOPER*; D. SMITH; G. ZHOU; C. ZELANO; F. PESTILLI; T. B. PARRISH; T. KAHNT. *Northwestern Univ., Feinberg Sch. of Medicine, Northwestern Univ., Indiana Univ., Northwestern Univ.*
- 8:00 I42 **663.25** Satiety alters sensitivity: Effects of food intake on olfactory processing in humans. L. K. SHANAHAN*; T. KAHNT. *Northwestern Univ., Northwestern Univ.*
- 9:00 I43 **663.26** ▲ Resting state fMRI study of the olfactory region in autism. M. L. LAWRENCE*; T. IKUTA. *Univ. of Mississippi.*
- 10:00 I44 **663.27** Primacy model and the evolution of the olfactory receptor repertoire. H. GIAFFAR; D. RINBERG; A. KOULAKOV*. *Cold Spring Harbor Laboratory, Watson Sch. of Biol. Sci., New York Univ., Cold Spring Harbor Lab.*

- 11:00 J1 **663.28** A physicochemical model of odor sampling. T. A. CLELAND*; M. E. GRONOWITZ; A. LIU. *Cornell Univ., Cornell Univ.*

POSTER

664. Selective Attention

Theme D – Sensory Systems

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 J2 **664.01** Influence of static magnetic field stimulation on the accuracy of tachystoscopically presented line bisection. H. KIRIMOTO*; T. MIMA; K. OGATA; H. NAKAZONO; D. TSURU; N. KUBO; X. CHIN; S. TOBIMATSU. *Hirosima Univ., Ritsumeikan Univ., Intl. Univ. of Hlth. and Welfare, Fukuoka, Fukuoka Intl. Univ. of Hlth. and Welfare, Kyushu Univ, Grad Sch. Med. Sci.*
- 9:00 J3 **664.02** fMRI guided electrophysiology of spatial attention shifts in the macaque superior parietal lobule. M. DE VITIS*; P. F. BALAN; C. GALLETI; P. FATTORI; R. VOGELS; W. VANDUFFEL. *KU Leuven, Univ. of Bologna, Leuven Brain Inst., MGH Martinos Ctr., Harvard Med. Sch.*
- 10:00 J4 **664.03** Isolating subcomponents of the N2pc: item-, feature-, and space-based selection. M. V. BARTSCH*; H. STRUMPF; C. TEICHMANN; M. A. SCHOENFELD; J. HOPF. *Leibniz Inst. for Neurobio., Univ. of Magdeburg, Kliniken Schmieder Heidelberg.*
- 11:00 J5 **664.04** Isolating attentional modulation in superior colliculus associated with behavioral sensitivity, decision criterion and motor preparation. S. GHOSH*; J. H. R. MAUNSELL. *Univ. of Chicago.*
- 8:00 J6 **664.05** Properties of saccade vergence eye movements in athletes. Y. YOSHIMURA*; T. KIZUKA; K. MATSUDA; S. ONO. *Univ. of Tsukuba, Univ. of Tsukuba, AIST, Univ. of Tsukuba.*
- 9:00 J7 **664.06** Visual awareness modulates visuospatial attention. A. I. WILTERSON*; N. KIM; C. KEMPER; M. S. A. GRAZIANO. *Princeton Univ.*
- 10:00 J8 **664.07** Multifaceted visual search reveals separate cortical subsystems for different aspects of the task. S. SLIVKOFF*; L. WEHBE; J. GALLANT. *Univ. of California, Berkeley, Carnegie Mellon.*
- 11:00 J9 **664.08** Top-down retinotopic coordination of cortical state across V1, V4 and FEF of the Macaque. J. VAN KEMPEN*; M. BOYD; M. A. GIESELMANN; N. A. STEINMETZ; T. MOORE; T. A. ENGEL; A. THIELE. *Newcastle Univ., Univ. of Washington, Howard Hughes Med. Inst. - Stanford Univ., Cold Spring Harbor Lab.*
- 8:00 J10 **664.09** Linking noise correlations to spatiotemporal population dynamics and network structure. Y. SHI*; N. A. STEINMETZ; T. MOORE; K. BOAHEN; T. A. ENGEL. *Cold Spring Harbor Lab., Univ. of Washington, Howard Hughes Med. Inst. - Stanford Univ., Stanford Univ.*
- 9:00 J11 **664.10** Effects of local and global attention states on mouse superior colliculus activity during a visuospatial selection task. S. E. BROOKE*; E. G. MCBRIDE; E. M. CALLAWAY. *Salk Inst.*
- 10:00 J12 **664.11** Humans can attend to complex latent image dimensions. H. SCOTT*; A. SNYDER; I. FRUEND. *Univ. of Rochester, Univ. of Rochester, Univ. of Rochester, York Univ., York Univ., York Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 J13 **664.12** Attention modulation of visual responses in cortical area V4 is cell-class and layer specific. X. WANG; A. S. NANDY; M. P. JADI*. *Yale Univ.*
- 8:00 J14 **664.13** Rapid learning of a fixation-based visual selective attention task and its effects on V1 firing rates. J. R. DOWDALL*; M. L. SCHOLVINCK; Y. ZHANG; A. PETER; J. VEZOLI; P. FRIES. *Ernst Struengmann Inst. (ESI).*
- 9:00 J15 **664.14** Dynamic neural reconstructions of attended object features using EEG. J. CHEN*; M. D. STARKS; J. D. GOLOMB. *Ohio State Univ.*
- 10:00 J16 **664.15** The effect of visual attention on the responses of dorsal lateral prefrontal cortex neurons in virtual environments. B. W. CORRIGAN*; R. A. GULLI; M. ROUSSY; R. LUNA; A. J. SACHS; J. C. MARTINEZ-TRUJILLO. *Univ. of Western Ontario, Western Univ., The Ottawa Hosp., Brain and Mind Institute, Univ. of Western On.*
- 11:00 J17 **664.16** Multivariate analysis of electrophysiological signals reveals task-dependent attentional modulation of shape and surface features. N. LEE*; L. GUO; A. NESTOR; M. NIEMEIER. *Univ. of Toronto.*
- 8:00 J18 **664.17** Behavioral and neuronal effects of large-scale bilateral optogenetic inactivation of the lateral prefrontal cortex during feature attention and working memory. D. MENDOZA-HALLIDAY*; H. XU; F. AZEVEDO; R. DESIMONE. *MIT, Harvard Med. Sch., McGovern Inst. Brain Res.*
- 9:00 J19 **664.18** Holographic imprinting of novelty detection. Y. SHYMKIV*; S. BAIR; J. P. HAMM; R. YUSTE. *Columbia Univ., Georgia State Univ.*
- 10:00 J20 **664.19** Attention maintains the neural-representational structure of primary visual cortex across the cortical hierarchy. J. CHUNG*; D. YI. *Yonsei Univ.*
- 11:00 J21 **664.20** Incongruency between visual saliency and task-based relevance: Effect on intraparietal sulcus and inferior parietal lobule. T. JAMOULLE; P. DUPONT; R. R. VANDENBERGHE*. *KU Leuven, KU LEUVEN, Univ. Hosp Gasthuisberg.*
- 8:00 J22 **664.21** A stable population code for attention in prefrontal cortex drives a dynamic code in visual cortex. A. C. SNYDER; B. M. YU; M. A. SMITH*. *Univ. of Rochester, Carnegie Mellon Univ., Univ. of Pittsburgh.*
- 9:00 J23 **664.22** Attentional bias is mediated by oscillatory communication between PFC and V4. B. SAHOO*; A. C. SNYDER. *Univ. of Rochester, Univ. of Rochester, Univ. of Rochester.*
- 10:00 J24 **664.23** Feature based attention modulates BOLD signals of parvocellular layers in human lateral geniculate nucleus. W. LIN; P. ZHANG*. *Inst. of Biophysics, CAS.*
- 11:00 J25 **664.24** Frequency-specific effects of directed attention on the gating of somatosensory responses. A. I. WIESMAN*; T. W. WILSON. *Univ. of Nebraska Med. Ctr.*
- 8:00 J26 **664.25** In through the out door: Inactivation of primate superior colliculus alters spatial preferences of neurons in the caudate nucleus. J. P. HERMAN*; F. ARCIZET; R. J. KRAUZLIS. *Natl. Eye Inst., Inst. De La Vision.*

POSTER

665. Cross-Modal Processing in Humans I

Theme D – Sensory Systems

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 J27 **665.01** • The neurophysiological priming effect of vibro kinetic stimulation during a digital multisensory entertainment experience- A NeuroIS study. J. BOASEN*; F. GIROUX; M. DUCHESNEAU; J. MÉNARD; M. PAQUETTE; P. LEGER. *Tech3lab, HEC Montréal, Hokkaido Univ., D-Box Technologies Inc.*
- 9:00 J28 **665.02** Tech3lab adaptive systems group for the research and development of neuroadaptive information systems (neuroIS). A. J. KARRAN*; S. SENECAI; T. DEMAZURE; A. SURI; E. FREVE-GUERIN; E. DE-CELLES; M. FREDETTE. *HEC Montreal.*
- 10:00 J29 **665.03** An ERP approach to measuring mind wandering during learning multimedia use. C. CONRAD*; A. J. NEWMAN. *Dalhousie Univ., Dalhousie Univ.*
- 11:00 J30 **665.04** Exploring the association between belief in misinformation and neural correlates of System 1: An EEG study. M. MIRHOSEINI*; S. BAKHTIARI; N. E. SHAMY; G. CALIC; K. HASSANEIN. *McMaster Univ., McGill Univ., McMaster Univ.*
- 8:00 J31 **665.05** Short-term training with a mu-based brain-computer interface indicates enhancement of motor skills. A. INGRAHAM; A. B. RANDOLPH*. *Kennesaw State Univ.*
- 9:00 J32 **665.06** Attentional habituation to non-essential computer notifications generalizes to security warnings: An fMRI study. B. KIRWAN*; B. ANDERSON; D. EARGLE; J. JENKINS; A. VANCE. *Brigham Young Univ., Univ. of Colorado, Boulder, Temple Univ.*
- 10:00 J33 **665.07** Impact of extended training on vibrotactile feedback guided reaching. V. SHAH*; A. THOMAS; G. BALLARDINI; M. CASADIO; L. A. MROTEK; R. A. SCHEIDT. *Marquette Univ. and Med. Col. of Wisconsin, Univ. of Genova, Northwestern Univ., Natl. Sci. Fndn.*
- 11:00 J34 **665.08** Musicians show better auditory and tactile identification of emotions in music. A. SHARP*; M. HOUDE; B. BACON; F. CHAMPOUX. *Univ. De Montréal, Carleton Univ.*
- 8:00 J35 **665.09** Decoding melodic contours in early visual areas. J. HA; I. KIM; W. SHIM*. *Ctr. For Neurosci. Imaging Research, IBS, Sungkyunkwan Univ.*
- 9:00 J36 **665.10** The neural basis of olfactory-trigeminal interaction. P. KARUNANAYAKA; L. JIAMING; Q. X. YANG; K. SATHIAN*. *Penn State Col. of Med., Drum Tower Hospital, Med. Sch. of Nanjing Univ., Milton S. Hershey Med. Ctr. & Penn State COM.*
- 10:00 J37 **665.11** Cross-modal suppression of auditory cortex by visual speech as a mechanism for audiovisual speech perception. B. A. METZGER*; E. A. NESBITT; J. F. MAGNOTTI; Z. WANG; P. J. KARAS; D. YOSHOR; M. S. BEAUCHAMP. *Baylor Col. of Med., Rice Univ.*
- 11:00 J38 **665.12** Assessing the contribution of visual speech features to audiovisual speech perception in noise. A. E. O'SULLIVAN*; A. R. NIDIFFER; E. C. LALOR. *Trinity Col. Dublin, Univ. of Rochester.*
- 8:00 J39 **665.13** Abcam monoclonal Egr-1 is an effective primary antibody replacement for Santa Cruz polyclonal Egr-1 in songbirds. E. N. SCULLY; J. M. SANCHEZ; C. B. STURDY*. *Univ. of Alberta.*

9:00 J40 **665.14** Shape and texture detection using haptic sensation delivered through transcutaneous nerve stimulation. L. VARGAS*; Y. ZHU; H. HUANG; X. HU. *North Carolina State Univ. and Univ. of North Carolina-Chapel Hill, North Carolina State Univ., North Carolina State Univ. and Univ. of North Carolina-Chapel Hill, Univ. of North Carolina at Chapel Hill.*

POSTER

666. Cross-Modal Processing in Humans II

Theme D – Sensory Systems

Wed. 8:00 AM – McCormick Place, Hall A

8:00 J41 **666.01** Audio-visual interactions in the primary visual and auditory cortex. A. M. WONG KEE YOU*; S. NICHOLAS; A. LOTZE; H. SIMON; C. HOU. *Smith-Kettlewell Eye Res. Inst.*

9:00 J42 **666.02** Contribution of subjective body midline to estimating body orientation in space. K. TANI; S. UEHARA*; S. TANAKA. *Hamamatsu Univ. Sch. of Med., Fujita Hlth. Univ.*

10:00 J43 **666.03** Seeing a face in a crowd of emotional voices: Changes in perception and cortisol in response to emotional information across the senses. S. C. IZEN*; H. E. LAPP; D. A. HARRIS; R. G. HUNTER; V. M. CIARAMITARO. *Univ. of Massachusetts Boston, Univ. of Toronto.*

11:00 J44 **666.04** Distinct light dependent human magnetoreception in geomagnetic food orientation. K. CHAE*; S. KIM; H. KWON. *Kyungpook Natl. Univ., Hankyong Natl. Univ.*

8:00 J45 **666.05** ● Peripheral nerve stimulation is processed at a preconscious level. N. CHOWDHURY*; D. J. TYLER. *Case Western Reserve Univ.*

9:00 J46 **666.06** ▲ Thinking outside the neurotypical box: Synesthesia and creativity. C. DABBY*; T. A. DOTY; D. L. LARRANAGA; R. MORALES; A. KANGAVARY; J. GLUCK; D. LEVATON; A. M. RUTCHICK; S. A. DREW. *California State Univ. Northridge, Cal State Northridge, VISN Lab. At California State University, Northridge, California State Univ. Northridge, California State Univ. Northridge, California State University, Northridge.*

10:00 K1 **666.07** ▲ Human vibrotactile discrimination thresholds for sequential and simultaneous stimuli at four different locations on the body. E. L. CORRIGAN*; V. A. SHAH; A. THOMAS; J. MAJ; M. CASADIO; L. A. MROTEK; R. A. SCHEIDT. *Marquette Univ. and Med. Col. of Wisconsin, Univ. of Genova, Northwestern Univ., Natl. Sci. Fndn.*

11:00 K2 **666.08** Multisensory associative learning by classical conditioning of unique audiovisual stimulus combinations in the MEG. T. R. SCHNEIDER*; K. MÜSCH; A. K. ENGEL. *Univ. Med. Ctr. Hamburg-Eppendorf, Johns Hopkins Univ.*

8:00 K3 **666.09** ● Impact of auditory cross modal plasticity on vision restoration. T. G. MOWAD*; A. E. WILLETT; A. DOUGAL; M. MAHMOUDIAN; M. DUONG; M. LIPIN; A. MAGUIRE; J. BENNETT; M. ASHTARI. *Univ. of Pennsylvania, Edward Via Col. of Osteo. Med. - Virginia Campus.*

9:00 K4 **666.10** Modulation of bistable visual perception by auditory stimuli in a multisensory environment with controlled attention. G. BUCCI*; M. CONCHA-MIRANDA; C. JOANA; P. MALDONADO. *Univ. de Chile, Univ. of Louvain.*

10:00 K5 **666.11** The contribution of consciousness in the multisensory integration of sound with a bistable visual stimulus. S. VICENCIO*; G. BUCCI; M. CONCHA-MIRANDA; N. SANTANDER; F. DANNEMANN; N. PONCE-ROBLES. *BNI, Fac. of Medicine, Univ. De Chile., Univ. Alberto Hurtado, Hearing Neurobio. Laboratory, Fac. of Medicine, Univ. de Chile, Neurosystems Laboratory, Fac. of Medicine, Univ. de Chile.*

11:00 K6 **666.12** Posterior superior temporal sulcus is involved in segregative and integrative cortical information processing underlying cross-modal perception, but not necessarily multisensory processing. S. SINGH*; A. MUKHERJEE; D. RAY; P. RAGHUNATHAN; A. BANERJEE. *Natl. Brain Res. Ctr.*

8:00 K7 **666.13** Vestibular training promotes adaptation of the vestibular system in postural control among healthy adults. K. O. APPIAH-KUBI*; A. GALGON; R. TIERNEY; R. LAUER; W. WRIGHT. *Temple Univ., Univ. of the Sci.*

9:00 K8 **666.14** Memory consolidation and aesthetic judgments in sound-form symbolism (bouba-kiki). V. RAMACHANDRAN; P. BHATTACHARYYA; Z. MARCUS; R. SEN; K. VON-KLEIST; C. CHUNHARAS*. *UCSD.*

10:00 K9 **666.15** Effects of dominant eye and head direction on locomotion trajectory. H. JOO*; S. KIM; J. RYU; K. LEE. *Seoul Natl. Univ., Neurosci. Res. Inst., Gachon Univ., Seoul Natl. Univ., Seoul Natl. Univ. Hosp.*

11:00 K10 **666.16** Functional connectivity between 'visual' and language areas in the blind predicts braille reading performance. R. WANG*; J. GONG; C. ZHAO; Y. XU; B. HONG. *Dept. of Biomed. Engineering, Sch. of Medicine, Tsinghua Univ., Dept. of Information Art and Design, Tsinghua Univ.*

8:00 K11 **666.17** The causal role of the pSTS in auditory-visual speech integration: A voxel-based lesion-symptom mapping study. O. G. WIESE*; S. KAKAIZADA; C. VALDIVIA; S. HERVEY-JUMPER; D. BRANG. *Univ. of Michigan, Univ. of California San Francisco, Univ. of California San Francisco, Univ. of Michigan.*

9:00 K12 **666.18** Motor interference in the rubber hand illusion correlates with the perception of the real hand disappearing. A. T. READER*; H. H. EHRSSON. *Karolinska Institutet.*

10:00 K13 **666.19** Visual selection is influenced by natural auditory dynamics. M. K. SMITH*; M. GRABOWECKY; S. SUZUKI. *Northwestern Univ., Northwestern Univ.*

11:00 K14 **666.20** Integration of simultaneous artificial sensory percepts to identify prosthetic hand postures. I. CUBEROVIC*; J. L. SEGIL; E. L. GRACZYK; R. F. F. WEIR; D. J. TYLER. *Case Western Reserve Univ., Univ. of Colorado Boulder, Case Western Reserve Univ.*

8:00 K15 **666.21** Stiffness-dependent sensory weighting of position and force feedback during pinching. J. E. GEELLEN*; A. C. SCHOUTEN; N. F. RAMSEY; F. C. T. VAN DER HELM; W. MUGGE. *Delft Univ. of Technol., Brain Ctr. Rudolf Magnus, Univ. of Utrecht.*

9:00 K16 **666.22** Short term monocular deprivation in adult humans influences multisensory interactions. C. OPOKU-BAAH*; J. E. OLSEN; B. HOU; M. T. WALLACE. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ.*

10:00 K17 **666.23** Audio-visual interactions during motion adaptation modulates the perceived duration of the motion aftereffect and the brain activity in hMT+. M. PARK*; C. KIM. *Korea Univ., Korea Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 K18 **666.24** Defining the time course of multisensory object processing: A three stage model. T. VERCILLO*; E. G. FREEDMAN; S. MOLHOLM; J. J. FOXE. *Univ. of Rochester Sch. of Med., Albert Einstein Col. of Med.*
- 8:00 K19 **666.25** Characterizing auditory responses in human low-level visual cortex using ECoG. J. PLASS*; E. AHN; A. SHERMAN; V. TOWLE; W. STACEY; V. WASADE; J. TAO; S. WU; N. ISSA; M. GRABOWECKY; S. SUZUKI; D. BRANG. *Univ. of Michigan, Occidental Col., Univ. of Chicago, Henry Ford Hosp., Northwestern Univ.*
- 9:00 K20 **666.26** fMRI response to transcutaneous vagus nerve stimulation. D. BORGMANN*; B. KUZMANOVIC; L. RIGOUX; H. FENSELAU; M. TITTEMEYER. *Max-Planck-Institute for Metabolism Res., Univ. Hosp. of Cologne, Max-Planck-Institute for Metabolism Res.*
- 10:00 K21 **666.27** You or me? Defining the boundaries of self-other peripersonal space. F. GARBARINI*; C. FOSSATARO; M. GALIGANI; A. ROSSI SEBASTIANO; V. BRUNO; I. RONGA. *Univ. of Turin.*
- 11:00 K22 **666.28** The effect of free manipulation on bimanual integration in the haptic perception of the size of boxes and pliers. Q. XU; G. RISSO; G. BAUD-BOVY*. *Inst. Italiano di Tecnologia, Univ. degli studi di Genova, Vita-Salute San Raffaele Univ.*
- 8:00 K23 **666.29 ▲** The optometric effects of virtual reality. C. MCGINNIS*; A. KANGAVARY; M. F. AWAD; J. A. ARMENDARIZ; K. LERCH; J. HINKEL-LIPSKER; S. A. DREW. *California State Univ. Northridge, California State Univ. Northridge, California State University, Northridge, California State University, Northridge.*
- 9:00 K24 **666.30** Visual reorientation illusions on earth - Comparison of different assessment techniques. N. BURY*; M. HUSSAIN; M. MCMANUS; L. R. HARRIS. *York Univ.*

POSTER

667. Basal Ganglia: Cellular and Systems Physiology

Theme E – Motor Systems

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 K25 **667.01** Inputs to neurons in layer 1 of mouse cerebral cortex. E. LAI*; G. W. ARBUTHNOTT. *OIST Grad. Univ.*
- 9:00 K26 **667.02** Involvement of choline metabolism in short latency afferent inhibition: MRS and TMS study. D. SATO*; K. YAMASHIRO; N. KODAMA; N. OTSUKU; Y. YAMAZAKI; K. IKARASHI; H. ONISHI. *Niigata Univ. of Hlth. and Welfare, Niigata Univ. of Hlth. and Welfare, Niigata Univ. of Hlth. and Welfare.*
- 10:00 K27 **667.03** Crossed corticostriatal projections in the macaque brain. E. BORRA; G. LUPPINO*. *Dept. Med. and Surgery, Univ. of Parma.*
- 11:00 K28 **667.04** Weight related sex differences in insular and striatal connectivity. L. A. MAAYAN*; A. LARR; P. REISS; M. J. HOPTMAN; J. NIERENBERG; K. HERNANDEZ; A. TIMKO; B. LEVENTHAL. *Children's Hosp. of Philadelphia, NCI, Univ. of Haifa, Nathan Kline Inst., Duke Univ., UCSF.*
- 8:00 K29 **667.05** Electrical activity of the thalamic reticular nucleus is controlled in a differential way by the globus pallidus. A. ALATORRE*; A. OVIEDO-CHÁVEZ; J. R. MARTINEZ-ESCUADERO; E. QUEREJETA. *Escuela Superior De Medicina, IPN, Escuela Superior de Medicina, IPN.*
- 9:00 K30 **667.06** Movement-related single unit activities in the external segment of the globus pallidus in a step-tracking movement task. T. ISHIKAWA*; S. KAKEI. *Tokyo Metropolitan Inst. of Med. Sci.*
- 10:00 K31 **667.07** Movement related oscillatory activities within corticobasal ganglia circuit predict motor performance. J. CHOI*; M. MALEKMOHAMMADI; S. NIKETEGHAD; N. POURATIAN. *Univ. of California, Univ. of California.*
- 11:00 K32 **667.08** Preferential dopamine release in the caudolateral striatum from substantia nigra pars lateralis neurons receiving subthalamic nucleus input. P. S. FREESTONE*; K. L. TODD; J. LIPSKI. *Univ. of Auckland.*
- 8:00 K33 **667.09** Functional organization of basal ganglia thalamocortical projections. A. D. LIEN*; A. C. KREITZER. *Gladstone Inst. of Neurolog. Dis.*
- 9:00 K34 **667.10** Movement related activity in ventral pallidum and dopaminergic midbrain is gated by behavioral state. R. CHEN*; V. GADAGKAR; P. A. PUZEREY; J. H. GOLDBERG. *Cornell Univ.*
- 10:00 K35 **667.11** Functional innervation of the dorsal striatum by the rostral intralaminar thalamus. K. K. COVER*; B. N. MATHUR. *Univ. of Maryland Sch. of Med.*
- 11:00 K36 **667.12** A nano-to-milliscala imaging pipeline for detailing how multiple brain regions communicate with the striatum. S. SHIGENO*; V. SAMPATHKUMAR; R. VESCOVI; H. LI; A. J. MILLER; S. M. SHERMAN; N. B. KASTHURI. *Univ. of Chicago.*
- 8:00 K37 **667.13** Mouse external pallidum harbours complex neuron subtypes. B. L. BERCEAU*; Z. A. ABECASSIS; J. P. WIN; D. GARCIA; H. S. XENIAS; Q. CUI; A. PAMUKCU; V. M. HERNÁNDEZ; C. S. CHAN. *Northwestern Univ.*
- 9:00 K38 **667.14** Pallidal PV+ neurons and Npas1+ neurons have distinct input and function. A. PAMUKCU*; Q. CUI; E. C. AUGUSTINE; I. B. FAN; B. L. BERCEAU; H. S. XENIAS; T. N. LERNER; S. C. CHAN. *Northwestern Univ., Northwestern University, Northwestern, Northwestern University, Feinberg Sch. of Med.*
- 10:00 K39 **667.15** Neuronal activity in the internal (GPI) and external globus pallidus (GPe) during proactive motor inhibition. F. HADJ-IDRIS; J. MUNUERA; I. AMEQRANE; M. ROUSTAN; M. GAY; C. KARACHI; B. LAU*. *Inst. du Cerveau et de la Moelle Épinière.*
- 11:00 K40 **667.16 ●** Diminished dendritic excitability of indirect pathway striatal projection neurons in the Sapap3 knockout mouse model of compulsive behavior. J. M. MALGADY*; E. M. PRAGER; Z. B. HOBEL; Q. ZHANG; G. FENG; J. L. PLOTKIN. *Stony Brook Univ. Renaissance Sch. of Med., MIT.*
- 8:00 L1 **667.17** Responses of substantia nigra pars reticulata neurons to direct and indirect pathway GABAergic projections depend on intracellular chloride dynamics: computational analysis based on mouse data. R. S. PHILLIPS; J. E. RUBIN*. *Univ. of Pittsburgh.*
- 9:00 L2 **667.18** Altered intrinsic electrophysiological properties of spiny projection neurons in LRRK2 mutant mice. H. XENIAS*; C. CHEN; S. KANG; S. CHERIAN; S. CHAN; L. PARISIADOU. *Northwestern University, Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med.*

- 10:00 L3 **667.19** Topological diversity of cell types in the subthalamic nucleus using single-molecule fluorescence *in situ* hybridization (smFISH). J. KIM*; H. JEON; H. LEE; L. FENG; K. TANAKA-YAMAMOTO; J. KIM. *Korea Inst. of Sci. and Technol. (KIST), Univ. of Sci. and Technol. (UST)*.
- 11:00 L4 **667.20** Motivation-related dopamine release in nucleus accumbens correlates with cholinergic interneuron activity. A. MOHEBI*; A. HAMID; J. D. BERKE. *UCSF, HHMI and Brown Univ.*
- 8:00 L5 **667.21** Dorsolateral striatum regulates movement oppositely to dorsomedial striatum via complex striatopallidal subcircuits. Q. CUI*; X. DU; V. LILASCHAROEN; A. PAMUKCU; D. GARCIA; B. BERCEAU; D. HONG; V. CHALASANI; B. LIM; S. CHAN. *Northwestern Univ., Qingdao Univ., UCSD.*
- 9:00 L6 **667.22** Proactive behavioral inhibition engages increase-type neurons in substantia nigra pars reticulata. B. GU*; J. BERKE. *UCSF.*
- 10:00 L7 **667.23** Dopamine neurons multiplex components of goal-directed actions. Y. KREMER; J. FLAKOWSKI*; C. ROHNER; C. LUSCHER. *Univ. of Geneva.*
- 11:00 L8 **667.24** Nucleus accumbens neuronal population dynamics during cocaine associated behaviors. R. VAN ZESSEN*; J. FLAKOWSKI; C. LUSCHER. *Univ. of Geneva, Geneva Univ. Hosp.*
- 8:00 L9 **667.25** Unique contributions of parvalbumin and cholinergic interneurons in organizing striatal networks during movement. H. GRITTON; W. M. HOWE; M. ROMANO; A. G. DIFELICEANTONIO; M. A. KRAMER; V. SALIGRAMA; M. BUCKLIN; D. ZEMEL; X. HAN. *Boston Univ., Icahn Sch. of Med. at Mt Sinai, Yale Univ. Sch. of Med., Boston Univ., Boston Univ., Boston Univ., Boston Univ.*
- 9:00 L10 **667.26** Classification, characterization and connectivity of Chrna2-expressing striatal interneurons. A. TOKARSKA*; G. SILBERBERG. *Karolinska Institutet, Karolinska Inst.*
- 10:00 L11 **667.27** Presence and relevance of GIRK channel activity in parvalbumin interneurons in the mouse nucleus accumbens. T. ROSE*; E. MARRON; K. D. WICKMAN. *Univ. of Minnesota.*
- 11:00 L12 **667.28** Dendrite specific inhibition facilitates rebound firing in SNc dopamine neurons. R. C. EVANS*; E. TWEDELL; Z. M. KHALIQ. *NIH, NIH/NINDS.*
- 8:00 L13 **667.29** Direct axonal recordings identify a role of GABA-A receptors on subthreshold and suprathreshold control of axonal action potentials and dopamine release. P. F. KRAMER*; E. L. TWEDELL; Z. M. KHALIQ. *NIH/NINDS.*
- 9:00 L14 **667.30** Reversal potential of GABA-A synapses in neurons of basal ganglia receiving motor thalamus. E. K. BICHLER*; D. JAEGER. *Emory Univ.*
- 9:00 L16 **668.02** Visuomotor adaptation and retention during balance-challenged reaching and walking tasks. A. BAKKUM*; J. M. DONELAN; D. S. MARIGOLD. *Simon Fraser Univ.*
- 10:00 L17 **668.03** Does factorization facilitate reward-based motor learning? K. VAN DER KOOIJ*; N. M. VAN MASTRIGT; J. B. SMEETS. *Vrije Univ. Amsterdam, The Netherlands, Vrije Univ., Vrije Univ. Amsterdam.*
- 11:00 L18 **668.04** Strategic compensation in mirror-reversal adaptation tasks. S. A. WILTERSON*; J. A. TAYLOR. *Princeton Univ.*
- 8:00 L19 **668.05** Lateralization in motor learning of a *de novo* shuffleboard task. J. YUK*; J. B. DINGWELL; J. P. CUSUMANO; R. L. SAINBURG. *Pennsylvania State Univ., Penn State Univ.*
- 9:00 L20 **668.06** Learning and retrieving motor memories depending on gaze-reach coordination. N. ABEKAWA*; H. GOMI. *NTT Communication Sci. Labs.*
- 10:00 L21 **668.07** • Learning and generalization of complex visuomotor priors are context specific. C. L. HEWITSON*; M. J. CROSSLEY; D. M. KAPLAN. *Macquarie Univ.*
- 11:00 L22 **668.08** Holding the arm still through integration of cortical commands. S. T. ALBERT*; A. M. HADJIOSIF; J. JANG; A. J. ZIMNIK; M. M. CHURCHLAND; J. W. KRAKAUER; R. SHADMEHR. *Johns Hopkins Sch. of Med., Johns Hopkins Univ., Columbia Univ., Columbia Univ., Johns Hopkins Univ., Johns Hopkins Univ. Dept. of Biomed. Engin.*
- 8:00 L23 **668.09** Anterograde interference develops from a transient reduction in error sensitivity. S. T. ALBERT; G. LERNER; P. CAFFARO; J. VILLALTA; F. JACOBACCI; R. SHADMEHR; V. M. DELLA MAGGIORE*. *Johns Hopkins Sch. of Med., Sch. of Medicine, Univ. of Buenos Aires, IF, Johns Hopkins Univ. Dept. of Biomed. Engin., IFIBIO Houssay, Sch. of Medicine, UBA.*
- 9:00 L24 **668.10** Exposing chronic, severe/moderate stroke survivors to startle during reach training improves voluntary reaching distance, final position error, and muscle activity. M. RAHIMI*; C. F. HONEYCUTT. *Arizona State Univ.*
- 10:00 L25 **668.11** Delineating the neural basis of flexible versus rigid skills. S. KONDAPAVULUR*; S. M. LEMKE; K. GANGULY. *Univ. of California, San Francisco.*
- 11:00 L26 **668.12** Greater neural responses to others' errors is associated with motor learning by observing. H. R. MCGREGOR*; E. REUTER; P. L. GRIBBLE; T. J. CARROLL. *Univ. of Florida, Univ. of Queensland, Western University, Canada, The Univ. of Queensland.*
- 8:00 L27 **668.13** Generalizing movement patterns following shoulder fixation. R. S. MAEDA*; J. ZDYBAL; P. L. GRIBBLE; A. PRUSZYNSKI. *Western Univ., Western Univ., Western University, Canada, Western Univ.*
- 9:00 L28 **668.14** Characterizing *de novo* learning of continuous motor skill. C. S. YANG*; N. J. COWAN; A. M. HAITH. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*
- 10:00 L29 **668.15** Time course of the long latency feedback response during short term motor adaptation. S. K. COLTMAN*; P. L. GRIBBLE. *Univ. of Western Ontario.*
- 11:00 L30 **668.16** Motor cortex neurotransmitters predict retention, but not adaptation. C. R. NETTEKOVEN*; S. BRADY; J. LEVENSTEIN; U. EMIR; N. JENKINSON; C. J. STAGG. *Univ. of Oxford, Purdue Univ., Univ. of Birmingham.*

POSTER

668. Sensorimotor Learning II

Theme E – Motor Systems

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 L15 **668.01** Top-down attentional modulation of steady-state somatosensory evoked potentials characterizing individual optimal attentional strategy for motor learning. T. SAKURADA*; K. NAGAI. *Ritsumeikan Univ., Jichi Med. Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 L31 **668.17** Neuroanatomical correlates of motor learning and visuospatial processes in cognitively-intact older adults. J. LINGO VANGILDER*; M. C. FITZHUGH; C. ROGALSKY; S. Y. SCHAEFER. *Arizona State Univ., Arizona State Univ.*
- 9:00 L32 **668.18** Computational analyses of chunking strategies in young and older adults to determine age-related differences. P. MACEIRA-ELVIRA*; J. E. TIMMERMAN; A. SCHMID; M. J. WESSEL; M. ZIMMERMAN; T. POPA; F. C. HUMMEL. *Defitech Chair of Clin. Neuroengineering, Ctr. for Neuroprosthetics and Brain Mind Institute, EPFL Valais, Defitech Chair of Clin. Neuroengineering, Ctr. for Neuroprosthetics and Brain Mind Institute, EPFL, Dept. of Neurology, UKE, INECO, Clin. Neuroscience, Univ. of Geneva Med. Sch.*
- 10:00 L33 **668.19** Conscious aiming strategies override implicit adaptation to opposing visuomotor perturbations. M. N. AYALA*; D. Y. HENRIQUES. *York Univ., York Univ.*
- 11:00 L34 **668.20** Distance control and proprioceptive localization of lower limb in patients with cerebellar disease. Y. SONG*; S. CHEON; C. LIM. *Pukyong Natl. Univ., Korea Univ.*
- 8:00 L35 **668.21** Desensitization upon relearning for implicit sensorimotor adaptation. G. AVRAHAM*; D. E. PARVIN; H. E. KIM; J. R. MOREHEAD; R. B. IVRY. *Univ. of California, Berkeley, Univ. of California, Berkeley, Univ. of Delaware, Harvard Univ.*
- 9:00 L36 **668.22 ▲** Deficits in motor learning of older adults is correlated to delays in the reticulospinal system. J. J. SCHREIBER; K. ELLIOTT; S. Y. SCHAEFER; C. F. HONEYCUTT*. *Arizona State Univ., Arizona State Univ.*
- 10:00 L37 **668.23** Comparing latencies of information processing supporting feedforward and feedback control of reaching. K. KITA*; C. YANG; Y. DU; A. M. HAITH. *Johns Hopkins Univ., Johns Hopkins Sch. of Med.*
- 11:00 L38 **668.24** Spiking neuron model of motor control with adaptation to visuomotor rotation. N. VAIDYANATHAN*; C. ELIASMITH. *Univ. of Waterloo.*
- 8:00 L39 **668.25** Punishment, but not reward, impairs retention and decreases cortical feedback related potentials during motor learning. C. M. HILL*; M. STRINGER; D. E. WADDELL; A. J. DEL ARCO. *Northern Illinois Univ., The Univ. of Mississippi, Univ. of Mississippi, The Univ. of Mississippi.*
- 9:00 L40 **668.26** Improved motor timing enhances time perception. J. GUO*; Z. ZHANG; D. STERNAD; J. SONG. *Brown Univ., Northeastern Univ., Northeastern Univ., Brown Univ.*
- 10:00 L41 **668.27** Cracking a whip: Motor control beyond reach? A. KROTOV*; Z. ZHANG; M. RUSSO; N. HOGAN; D. STERNAD. *Northeastern Univ., Columbia Univ., Northeastern Univ., MIT, Northeastern Univ.*

POSTER

669. Brain-Computer Interface: EMG

Theme E – Motor Systems

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 L42 **669.01 ●** Portable control system enables dexterous home use of an advanced bionic arm. M. R. BRINTON*; E. L. BARCIKOWSKI; T. S. DAVIS; J. A. GEORGE; M. D. PASKETT; D. J. WARREN; C. C. DUNCAN; D. T. HUTCHINSON; G. A. CLARK. *Univ. of Utah, Ripple Neuro, Univ. of Utah, Univ. of Utah, Univ. of Utah.*
- 9:00 L43 **669.02 ●** Shared controllers improve control and performance of upper-limb prostheses. T. C. HANSEN; H. DANTAS; J. A. GEORGE; G. A. CLARK; D. J. WARREN*; V. MATHEWS. *Univ. of Utah, Oregon State Univ.*
- 10:00 L44 **669.03** A wearable EMG-based hand gesture recognition system with real-time on-board incremental learning and classification. A. MOIN*; A. ZHOU; S. BENATTI; A. RAHIMI; A. MENON; G. ALEXANDROV; S. TAMAKLOE; J. K. TING; N. A. D. YAMAMOTO; Y. KHAN; F. L. BURGHARDT; A. C. ARIAS; L. BENINI; J. M. RABAEY. *Univ. of California, Berkeley, Univ. of Bologna, ETH Zurich.*
- 11:00 L45 **669.04** A synergy-model-based regression for simultaneous, intuitive, proportional, high degree-of-freedom control in a prosthetic hand from chronically implanted EMG evaluated in virtual reality. P. LUKYANENKO*; H. DEWALD; J. LAMBRECHT; R. F. KIRSCH; D. J. TYLER; M. WILLIAMS. *Case Western Reserve Univ.*
- 8:00 L46 **669.05** Combining data-driven and modeling-based approaches to improve myoelectric motor decoding. R. M. HINSON*, Jr; H. HUANG. *North Carolina State Univ., North Carolina State Univ. and Univ. of North Carolina-Chapel Hill.*
- 9:00 M1 **669.06** Different motor unit recruitment pattern between peripheral nerve stimulation and motor point stimulation. K. NAKAGAWA*; K. L. FOK; K. MASANI. *Toronto Rehabil. Inst. - Univ. Hlth. Network, Japan Society for the Promotion of Sci., Univ. of Toronto.*
- 10:00 M2 **669.07** Compound muscles action potential (CMAP) as a new outcome measurement in SOD1 mouse model of ALS and oxaliplatin-induced polyneuropathy in mice. R. O. PUSSINEN*; T. BOLKVADZE; J. TOIVANEN; A. KÄRKKÄINEN; M. DUDEK; D. MISZCZUK. *Charles River Discovery.*
- 11:00 M3 **669.08** Electromyography device for effective communication in spastic cerebral disease. G. LOPEZ-ARMAS*; J. MARGAIN-MORENO; A. ARENAS-PEREZ; Y. NAVA-RAZO; D. GONZÁLEZ-MORALES. *Ctr. De Enseñanza Técnico Industrial.*
- 8:00 M4 **669.09** Development of a wearable sensor array for performing high-density electromyography in ambulatory subjects. C. N. SCHOENEWALD*; J. E. TING; D. SARMA; D. J. WEBER. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 9:00 M5 **669.10** Neuromuscular fatigue and sex differences in patellofemoral joint control. Z. WANG*; A. CHEN; A. JOHNSON; L. GRIFFIN. *The Univ. of Texas at Austin, The Univ. of Texas at Austin, The Univ. of Texas at Austin.*
- 10:00 M6 **669.11** Spatio-temporal organization of mutual information between high-gamma neural envelope and muscle activity. W. LIANG*; V. PAPADOURAKIS; N. HATSOPOULOS. *Univ. of Chicago.*

- 11:00 M7 **669.12** Improving the repeatability of MUNIX using multi-channel surface electromyography. Y. CAO*; C. ZHANG; F. GAO; Y. ZHANG. *Hangzhou Dianzi Univ., Univ. of Houston.*
- 8:00 M8 **669.13** Facilitation from the anterior and middle parts of the deltoid to biceps brachii motoneurons in humans. T. YOSHIMOTO*; M. NITO; M. JIMENJI; W. HASHIZUME; A. NAITO. *Yamagata Univ.*
- 9:00 M9 **669.14** • A wearable neural interface for detecting and decoding spared motor units in a person with tetraplegia. J. TING*; A. DEL VECCHIO; D. FRIEDENBERG; M. F. LIU; C. SCHOENEWALD; D. SARMA; J. L. COLLINGER; S. COLACHIS, IV; G. SHARMA; D. FARINA; D. J. WEBER. *Univ. of Pittsburgh, Imperial Col. London, Battelle Mem. Inst., Univ. of Pittsburgh, Dept. of Veterans Affairs, Battelle Mem. Inst.*
- 10:00 M10 **669.15** Wavelet-based analysis of plantar flexor muscle recruitment strategies while hopping at different frequencies. H. KIM*; K. KIPP. *Marquette Univ.*
- 11:00 M11 **669.16** Decoding of motor unit firing behavior across postures during isolated finger extension. N. RUBIN*; H. HUANG; X. HU; C. DAI; Y. ZHENG. *NC State Univ., UNC Chapel Hill, Univ. of North Carolina at Chapel Hill.*
- 8:00 M12 **669.17** • Implantable multichannel wireless recording with support for custom electrode configurations. J. C. LANDES*; B. CROFTS; S. HIATT; D. MCDONNALL; A. M. WILDER. *Ripple Neuro.*
- 9:00 M13 **669.18** • Decoding hand motion intent using novel ultrasound imaging of the forearm muscles. B. MUKHERJEE; A. DHAWAN; S. PATWARDHAN; W. M. JOINER; S. SIKDAR*. *George Mason Univ., Univ. of California, Davis.*
- 10:00 M14 **669.19** Using novel imaging techniques to examine selective control of the residual musculature of upper-extremity amputees. S. PATWARDHAN*; A. DHAWAN; B. MUKHERJEE; W. M. JOINER; S. SIKDAR. *George Mason Univ., George Mason Univ., Univ. of California, Davis, George Mason Univ.*
- 11:00 M18 **670.04** Dimensionality of neural subspaces for the control of natural and stereotyped movements. E. ALTAN*; K. L. BODKIN; J. A. GALLEGGO; A. FARSHCHIANSADEGH; X. MA; F. A. MUSSA-IVALDI; S. A. SOLLA; E. J. PERREAULT; L. E. MILLER. *Northwestern Univ., Ctr. De Automatica Y Robotica.*
- 8:00 M19 **670.05** Uncovering de-noised EMG representations using deep learning models of muscle population dynamics. L. N. WIMALASENA*; J. F. BRAUN; M. R. KESHTKARAN; C. ALESSANDRO; J. A. GALLEGGO; L. E. MILLER; M. C. TRESCH; C. PANDARINATH. *Emory Univ. / Georgia Tech., Tech. Univ. of Munich, Northwestern Univ., Ctr. for Automation and Robotics CSIC-UPM, Northwestern Univ., Emory Univ.*
- 9:00 M20 **670.06** Modeled muscle spindle primary afferents predict firing rates of cuneate nucleus neurons in the awake monkey. C. VERSTEEG*; K. P. BLUM; J. WALLNER; S. SNYDER; R. H. CHOWDHURY; J. ROSENOW; L. E. MILLER. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Northwestern Univ. Med. Sch., Northwestern Univ.*
- 10:00 M21 **670.07** Lateral connectivity may underlie cortical organization of proprioception. K. P. BLUM*; Y. WU; R. H. CHOWDHURY; A. A. FAISAL; L. E. MILLER. *Northwestern Univ., Northwestern Univ., Imperial Col. London, Imperial Col. London, Northwestern Univ., Shirley Ryan AbilityLab.*
- 11:00 M22 **670.08** Closed-loop interface for inducing cortical plasticity in humans. H. JO*; S. KELLIS; L. BASHFORD; M. JAFARI; K. PEJSA; D. J. KRAMER; B. LEE; C. LIU; E. E. FETZ; R. A. ANDERSEN. *Caltech, Keck Sch. of Med. of USC, Tianqiao and Chrissy Chen Brain-Machine Interface Ctr. at Caltech, Neurorestoration Ctr. of USC, Univ. of Washington.*
- 8:00 M23 **670.09** Quantitative scanning electron microscopy analysis of intracortical microelectrode arrays after five years in human neocortex. S. KELLIS*; L. RIETH; B. BAKER; L. BASHFORD; K. PEJSA; B. LEE; C. LIU; R. ANDERSEN. *Caltech, USC, Caltech, Keck Sch. of Med. of USC, Feinstein Inst. for Med. Res., Univ. of Utah, Univ. of Utah.*
- 9:00 M24 **670.10** • Improvement and quantitative analysis of tip metal stability for Utah slanted arrays in long-term clinical studies with a sensorimotor prosthesis. L. RIETH*; B. BAKER; R. SHARMA; R. B. CALDWELL; D. T. KLUGER; J. A. GEORGE; A. HARDING; D. J. WARREN. *Feinstein Inst. for Med. Res., Univ. of Utah, Avanos Med., Blackrock Microsystems, Univ. of Utah, Univ. of Utah, Univ. of Utah.*
- 10:00 M25 **670.11** Neuroprosthetic control via cortical sequence generation. W. A. LIBERTI*, III; R. M. COSTA; J. M. CARMENA. *Univ. of California Berkeley, Columbia Univ., UC Berkeley.*
- 11:00 M26 **670.12** Isolating cell-type specific subpopulations of motor cortex neurons during neuroprosthetic learning. N. VENDRELL LLOPIS*; C. FANG; A. J. QU; R. M. COSTA; J. M. CARMENA. *Univ. of California-Berkeley, Univ. of California-Berkeley, Columbia Univ., Univ. of California-Berkeley.*
- 8:00 M27 **670.13** • The sheep (*Ovis aries*) as a clinical translational model for intracortical microelectrodes. I. N. MCNAMARA*; M. STRAKA; M. HANNA; K. SAHASRABUDDHE; K. BOERGENSE; R. J. EDGINGTON; Y. KONG; H. S. SOHAL; M. R. ANGLE. *Paradromics Inc., Paradromics Inc.*

POSTER

670. Sensorimotor Control, Movements, and Motor Cortex

Theme E – Motor Systems

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 M15 **670.01** Probing the relationship between motor cortex and upper limb muscles during spontaneous natural movements. X. MA*; K. L. BODKIN; A. FARSHCHIAN; E. ALTAN; M. E. FRACOL; L. E. JANES; F. A. MUSSA-IVALDI; L. E. MILLER. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Northwestern Univ.*
- 9:00 M16 **670.02** Development of a comprehensive brain-computer interface decoder of natural movements. A. FARSHCHIAN*; X. MA; E. ALTAN; K. BODKIN; M. E. FRACOL; L. E. JANES; E. PERREAULT; S. SOLLA; F. MUSSA-IVALDI; L. MILLER. *Northwestern Univ.*
- 10:00 M17 **670.03** Reaction times in response to multi-electrode intracortical microstimulation are faster than to limb perturbations. J. SOMBECK*; L. E. MILLER. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Shirley Ryan AbilityLab.*

* Indicates a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:00 M28 **670.14** • The Argo: A 65,536 channel preclinical neural recording system by Paradromics, Inc. H. SOHAL*; M. STRAKA; M. HANNA; K. SAHASRABUDDHE; I. MCNAMARA; K. BOERGENS; R. J. EDGINGTON; A. KHAN; Y. KONG; M. R. ANGLE. *Paradromics, Inc.*
- 10:00 M29 **670.15** • Histological confirmation of contents of neurotrophic electrode after recording for a decade. P. R. KENNEDY*; M. GEARING. *Neural Signals Inc, Emory Univ.*
- 11:00 M30 **670.16** Grasp force task reveals onset-offset response in ECoG high-frequency band. M. P. BRANCO*; S. GEUKES; E. J. AARNOUTSE; M. J. VANSTEENSEL; Z. V. FREUDENBURG; N. F. RAMSEY. *Univ. Med. Ctr. Utrecht.*
- 8:00 M31 **670.17** Demonstration of an optimized, large-scale optogenetic interface for non-human primates. D. J. GRIGGS*; W. K. S. OJEMANN; K. KHATEEB; M. CHU; A. YAZDAN-SHAHMORAD. *Univ. of Washington, Univ. of Washington, Univ. of Washington.*
- 9:00 M32 **670.18** • Laminar decoding of the rat forelimb during a knob supination task. J. O. USORO*; C. KUNG; W. E. VOIT; S. A. HAYS; J. J. PANCRAZIO. *The Univ. of Texas at Dallas, The Univ. of Texas at Dallas.*
- 10:00 M33 **670.19** The effects of frontal cortex lesions on sensorimotor BCI control features. Z. V. FREUDENBURG*; M. J. VANSTEENSEL; E. J. AARNOUTSE; K. J. MILLER; N. F. RAMSEY. *Univ. Med. Ctr. Utrecht, Univ. Med. Ctr. Utrecht, Univ. Med. Ctr. Utrecht, Univ. Med. Ctr. Utrecht.*
- 11:00 M34 **670.20** • Performance of wireless Utah slanted electrode arrays in cat: The SARA-USEA. D. R. HILGART*; D. J. WARREN; S. J. BARRUS; G. A. CLARK. *Univ. of Utah, Ripple LLC.*
- 8:00 M35 **670.21** Sub-cortical human brain modulation during response conflicts in a modified Stroop task. K. CHEN*; R. MARTIN DEL CAMPO-VERA; R. SEBASTIAN; D. R. KRAMER; S. KELLIS; B. LEE. *Univ. of Southern California, Keck Sch. of Med., USC, Caltech, Caltech.*
- 9:00 M36 **670.22** Neuromodulatory assessment of depth-EEG oscillations in reaching arm movements. R. MARTIN DEL CAMPO VERA*; K. CHEN; R. SEBASTIAN; D. R. KRAMER; S. KELLIS; B. LEE. *USC, USC, Caltech, Caltech.*
- 10:00 M37 **670.23** Calcium signals from layer 2/3 of motor cortex encode lever movement. J. HAN*; S. ZHANG; R. WANG; Y. REN. *Zhejiang Univ. Sch. of Med., Qiushi Acad. for Advanced Studies of Zhejiang Univ.*
- 8:00 DP08/M38 **670.24** (Dynamic Poster) Recording neural activity with a battery-free wireless neurosensor. C. MONCION*; J. BORGES; D. BORREGO; L. BALACHANDAR; S. BOJJA-VENKATAKRISHNAN; J. L. VOLAKIS; J. RIERA DIAZ. *Florida Intl. Univ., Florida Intl. Univ., Florida Intl. Univ., Florida Intl. Univ.*
- 8:00 M39 **670.25** Evidence of a memory trace in motor cortex after short term learning. D. M. LOSEY*; J. A. HENNIG; E. R. OBY; M. D. GOLUB; P. T. SADTLER; K. M. QUICK; S. RYU; E. C. TYLER-KABARA; A. P. BATISTA; B. M. YU; S. M. CHASE. *Carnegie Mellon Univ., Carnegie Mellon Univ., Univ. of Pittsburgh, Stanford Univ., Carnegie Mellon Univ., Palo Alto Med. Fndn., Univ. of Pittsburgh, Univ. of Pittsburgh, Carnegie Mellon Univ.*

POSTER

671. Reflexes

Theme E – Motor Systems

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 M40 **671.01** Transcutaneous spinal cord stimulation of the cervical cord modulates lumbar locomotor networks. T. S. BARSS; B. PARHIZI; V. K. MUSHAHWAR*. *Univ. of Alberta.*
- 9:00 M41 **671.02** Duration dependence of the medium-latency M2 stretch reflex in the ankle plantarflexors. R. C. VAN 'T VELD*; E. H. F. VAN ASSELDONK; A. C. SCHOUTEN. *Univ. of Twente, Delft Univ. of Technol.*
- 10:00 M42 **671.03** Development of dual vestibulospinal pathways responsible for trunk postural control in *Xenopus*. D. LE RAY*; A. OLECHOWSKI-BESSAGUET; F. M. LAMBERT; R. GRANDEMANGE; L. CARDOIT; G. BARRIOS; E. COURTU. *Univ. Bordeaux CNRS Umr5287 - INCIA.*
- 11:00 M43 **671.04** Alteration of sensory-motor reflex gain in different environmental contexts. E. WITTS; M. MATHEWS; S. THOMPSON; A. J. MURRAY*. *Univ. Col. London.*
- 8:00 M44 **671.05** Comparison of femoral nerve and quadriceps muscle stimulation onto soleus motor output: Potential role for Golgi tendon organ feedback. M. A. LYLE*; E. JOHNSON; F. KIRKLAND; D. LUO; C. VARAN. *Emory Univ.*
- 9:00 N1 **671.06** Evidence for non-linear summation of inhibitory inputs from the length and force-dependent feedback sources onto feline ankle extensor muscle. E. KAJTAZ*; S. F. MCMURTRY; A. M. DE BOEF; L. R. MONTGOMERY; D. R. HOWLAND; T. NICHOLS. *Georgia Inst. of Technol., Univ. of Louisville, Univ. of Louisville, Robley Rex VA Med. Ctr.*
- 10:00 N2 **671.07** Effects of age' vestibular and visual systems on the soleus H reflex. A. CELIK*; F. J. ROJAS; M. CEPERO GONZALEZ; D. M. KOCEJA; K. KITANO. *Indiana Univ.*
- 11:00 N3 **671.08** Treadmill perturbations to evoke stretch reflexes during gait in children with cerebral palsy. E. FLUX*; L. SLOOT; J. HARLAAR; A. I. BUIZER; M. M. VAN DER KROGT. *Amsterdam UMC, Heidelberg Univ., Delft Univ. of Technol.*
- 8:00 N4 **671.09** Modulation of human soleus H-reflex induced by visual perturbation. K. KITANO*; A. M. PHIPPS; D. M. KOCEJA. *Indiana Univ.*
- 9:00 N5 **671.10** 4d-EEG: Signal propagation through the brain based on EEG and diffusion MRI. F. C. T. VAN DER HELM*; O. G. FILATOVA; Y. YANG; P. MACEIRA-ELVIRA; R. TIAN; G. KWAKKEL; Y. TAKEDA; O. YAMASHITA; J. P. DEWALD. *Delft Univ. of Technol., Delft Univ. of Technol., Vrije Univ. Med. Ctr., ATR, Northwestern Univ.*
- 10:00 N6 **671.11** ▲ Contributions of extrinsic tail muscles to the rat tail nociceptive withdrawal response through reconstruction: Role of non-linearity. A. M. BRAZELL*; J. Q. NGUYEN; C. L. CLELAND. *James Madison Univ.*
- 11:00 N7 **671.12** ▲ Patterns of activity of intrinsic tail muscles during the heat evoked nociceptive withdrawal response in the rat. A. B. PEROE*; S. M. EVANS; H. IZADPANAH; C. L. CLELAND. *James Madison Univ.*

- 8:00 N8 **671.13** ▲ Dependence of the nociceptive withdrawal response on stimulus location in the intact, unanesthetized rat. B. SIMPSON*; M. FERLAZZO; M. RUGGERI; C. EVANS; C. L. CLELAND. *James Madison Univ.*
- 9:00 N9 **671.14** Neural excitability during single-limb balance following a lateral ankle sprain. K. KIM*; J. KIM; O. DAHMAN; Y. AN; K. KIM. *Univ. of Miami, New Mexico State Univ., KBRwyle.*

POSTER

672. Neural and Contextual Modulation of Sexual Behavior

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 N10 **672.01** Exposure to genistein in male and female Long-Evans rats affects reproductive physiology and behavior. F. A. GUARRACI*; M. ALI; M. BROYLES; L. K. DAVIS; C. M. GONZALEZ; D. LUCERO; L. STARY. *Southwestern Univ.*
- 9:00 N11 **672.02** Perinatal SSRI exposure and rat sexual behavior. E. M. S. SNOEREN*; J. HEGSTAD; D. J. HOUWING; J. D. OLIVIER; R. HEIJKOOP. *UiT the Arctic Univ. of Norway, The Arctic Univ. of Norway, Univ. of Groningen, Univ. of Groningen/ GELIFES.*
- 10:00 N12 **672.03** A novel function of fibroblast growth factor 5 (FGF5)—The critical role in central regulation of mouse sociosexual behavior. K. MATSUDA*; K. NAKAMURA; A. MUNETOMO; T. HAMADA; J. IMAKI; Y. KONDO. *Teikyo Univ. of Sci., Natl. Inst. for Child Hlth. and Develop., Univ. of Tokyo, Teikyo Heisei Univ., Natl. Def. Med. Col.*
- 11:00 N13 **672.04** Effect of sexual behavior and denervation on the expression of adrenergic, cholinergic, androgens and prolactin receptors in major pelvic ganglion. A. MATEOS-MORENO*; V. SÁNCHEZ-ZAVALA; F. ROJAS-DURÁN; G. ARANDA-ABREU; D. HERRERA-COVARRUBIAS; J. MANZO; M. HERNÁNDEZ-AGUILAR. *Univ. Veracruzana, Univ. Veracruzana.*
- 8:00 N14 **672.05** Sexual behavior induces morphometric changes in major pelvic ganglion and prostate. V. SÁNCHEZ-ZAVALA*; A. MATEOS-MORENO; G. E. ARANDA-ABREU; D. HERRERA-COVARRUBIAS; J. MANZO; R. TOLEDO-CÁRDENAS; J. SUÁREZ-MEDELLIN; M. E. HERNÁNDEZ-AGUILAR. *Univ. Veracruzana, Univ. Veracruzana.*
- 9:00 N15 **672.06** Sex-specific regulation of central vasopressin in mouse sociosexual behavior. K. SHIMIZU*; K. NAKAMURA; Y. KONDO. *Univ. of Tsukuba, Teikyo Univ. of Sci., Natl. Res. Inst. Child Hlth. & Develop.*
- 10:00 N16 **672.07** ▲ The effects of a long-acting gonadotropin-releasing hormone receptor antagonist on sexual reward in male rats. L. E. KAPP*; H. A. DUFALA; C. M. DINGLE; W. R. HAWLEY. *Edinboro Univ. of Pennsylvania.*
- 11:00 N17 **672.08** ▲ Administration of a gonadotropin-releasing hormone receptor antagonist reduces sexual incentive motivation in male rats: The role of sociosexual stimulation. P. A. GREEN; L. E. KAPP; H. A. DUFALA; J. L. BARNES; J. L. BARWELL; W. R. HAWLEY*. *Edinboro Univ.*
- 8:00 N18 **672.09** ▲ Insulin improves sexual motivation in diabetic female rats evaluated in two paradigms. A. K. HERNÁNDEZ-MUNIVE*; D. REBOLLEDO-SOLLEIRO; A. FERNÁNDEZ-GUASTI. *Ctr. De Investigación Y Estudios Avanzados, Univ. Nacional Autónoma de México.*
- 9:00 N19 **672.10** Modulating sexual behavior in female rats with tibial nerve electrical stimulation. L. L. ZIMMERMAN*; G. MENTZELOPOULOS; H. J. PARRISH; B. D. LUMA; J. B. BECKER; T. M. BRUNS. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*
- 10:00 N20 **672.11** Lateral hypothalamic control of male and female sexual motivation. K. J. JENNINGS*; W. J. GIARDINO; L. DE LECEA. *Stanford Univ.*
- 11:00 N21 **672.12** Sexual motivation throughout adolescence in the female rat and its c-Fos expression correlate. D. AGRATI*; M. ARMAS; G. MARIN; G. BEDO. *Facultad De Ciencias, Univ. De La Republica.*
- 8:00 N22 **672.13** The facilitating effects of acute oxytocin treatment on pacing and proceptive sexual behaviours are dose-dependent. C. E. MAC CIONNAITH*; E. GOMEZ-PERALES; J. G. PFAUS; W. BRAKE. *Concordia Univ., Univ. Veracruzana.*
- 9:00 N23 **672.14** Potential progesterone regulated dopaminergic projections to β -endorphin neurons in the arcuate nucleus. D. LE*; C. E. CARLSON; S. BERMANI; M. LA FOREST; T. CHUON; M. ESKANDER; K. SINCHAK. *California State University, Long Beach.*
- 10:00 N24 **672.15** ▲ From pheromone sensation to reproductive behavior: Identifying the pathway of prostaglandin sensation into the GnRH system in the zebrafish. G. N. MCHUGH*; A. MARCHAND; S. RAMAKRISHNAN. *Univ. of Puget Sound, Univ. of Puget Sound.*
- 11:00 N25 **672.16** Too much of a good thing: The effect of aversive distributed clitoral stimulation on odour conditioned partner and 50-kHz ultrasonic vocalizations. C. A. GERSON*; C. E. MAC CIONNAITH; M. RIVEST-BEAUREGARD; E. GOMEZ-PERALES; P. S. B. CLARKE; J. G. PFAUS; U. SHALEV. *Concordia Univ., McGill Univ., Univ. Veracruzana.*
- 8:00 N26 **672.17** Neuroendocrinological mechanisms that mediate the coordinated regulation of reproduction and sexual behavior. S. TOMIHARA*; D. KAYO; S. KANDA; Y. OKA. *Grad. Sch. of Sci., Univ. Tokyo, AORI, Univ. Tokyo.*
- 9:00 N27 **672.18** Sexually dimorphic neuropeptide B neurons in the ventral telencephalon, a leading candidate for the regulator of female reproductive behavior, show estrogen dependence and diurnal changes in their neuronal activities. M. NAKAJO*; T. HIRAKI-KAJIYAMA; K. OKUBO. *The Univ. of Tokyo, RIKEN Ctr. for Brain Sci., The Univ. of Tokyo.*
- 10:00 N28 **672.19** Steroid-independent spatial working memory is associated with steroid-independent sexual behavior in b6d2f1 male mice. C. D. DAVID*; B. N. WYROSDIC; H. WAN; S. YITBAREK; J. PARK. *Univ. of Massachusetts Boston, Univ. of Massachusetts-Boston, Univ. of Massachusetts, Boston.*
- 11:00 N29 **672.20** ▲ Influence of maternal conditions in sexual preference of male progeny. A. HERNANDEZ-GONZALEZ*; A. FERNANDEZ-GUASTI. *Ctr. De Investigacion y Estudios Avanzados Del I.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

8:00 N30 **672.21** Rapid changes in sociosexual behaviors around transition to and from behavioral estrus, in female rats housed in a seminatural environment. O. LE MOENE*; E. HERNANDEZ-ARTEAGA; X. CHU; A. AGMO. *Univ. of Tromsø, Univ. de Guadalajara, Norwegian Univ. of Sci. and Technol., Univ. of Tromsø.*

POSTER

673. Hormone Modulation of Behavior and Physiology IV

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 N31 **673.01** Proestrus evokes transcriptional changes in genes encoding ion channel and calcium homeostasis-regulating proteins in GnRH neurons of mice. Z. LIPOSITS*; N. SOLYMOSI; I. FARKAS; C. VASTAGH. *Inst. of Exptl. Medicine, HAS, Pázmány Péter Catholic Univ., Univ. of Vet. Med., Inst. of Exptl. Medicine, HAS, Inst. of Exptl. Med.*
- 9:00 N32 **673.02** Coexpression of glutamate and multiple neuropeptides in the midbrain GnRH neurons suggests various neuromodulatory functions. C. UMATANI*; S. KANDA; T. KARIGO; Y. OKA. *The Univ. of Tokyo, AORI, Univ. Tokyo, Caltech.*
- 10:00 N33 **673.03** Secretin regulates excitatory gabaergic neurotransmission to GnRH neurons via retrograde no signaling pathway in mice. V. CSILLAG*; I. FARKAS; C. VASTAGH; Z. LIPOSITS. *Roska Tamas Doctoral Sch. of Sci. and Technology, Pazmany Peter Catholic Univ., Hungarian Acad. of Sci., Inst. of Exptl. Medicine, Hungarian Acad. Inst. of Exptl. Med., Inst. of Exptl. Medicine, HAS, Pazmany Peter Catholic University, Fac. of Information Technol. and Bionics.*
- 11:00 N34 **673.04** Modulation of luteinizing hormone pulse frequency by optogenetic stimulation of arcuate nucleus kisspeptin neurones along the oestrus cycle. M. VOLIOTIS*; X. LI; R. DE BURGH; G. LASS; K. T. O'BYRNE; K. TSANEVA-ATANASOVA. *Univ. of Exeter, King's Col. London, Univ. of Exeter.*
- 8:00 N35 **673.05** Excitatory GABAergic inputs to GnRH neurons are required for female reproduction. M. WATANABE*; A. FUKUDA. *Dept Neurophysiol, Hamamatsu Univ. Sch. Med.*
- 9:00 N36 **673.06** Feed restriction reduces neurokinin B expression in young male sheep. A. N. RENWICK; J. R. SOMMER; C. M. MERKLEY; C. C. NESTOR*. *North Carolina State Univ.*
- 10:00 N37 **673.07** Synaptic input to kisspeptin/neurokinin B/dynorphin (KNDy) neurons is reduced in a mouse model of polycystic ovarian syndrome. A. M. MOORE*; L. M. COOLEN; M. N. LEHMAN. *Kent State Univ.*
- 11:00 N38 **673.08** ▲ Physiological characterization of GnRH neurons derived from human embryonic stem cells. B. I. FORDYCE; C. R. JOHNSTON; K. L. KEEN; E. TERASAWA*. *Univ. of Wisconsin, Univ. of Wisconsin Madison.*
- 8:00 N39 **673.09** Projections of suprachiasmatic nucleus vasopressin neurons regulate preoptic kisspeptin neuron electrical activity. B. B. JAMIESON*; R. E. CAMPBELL; R. PIET. *Univ. of Otago.*
- 9:00 N40 **673.10** Asymmetries on the estradiol receptors, kisspeptin and GnRH content between the left and right hypothalamus during the estrous cycle of the rat. C. C. SILVA-MENDEZ*; E. OLVERA; A. FLORES; R. LIBRADO; I. ARRIETA; R. GUTIÉRREZ; R. DOMÍNGUEZ; M. CRUZ. *Univ. Nacional Autónoma De México, Facultad de Estudios Superiores Zaragoza, UNAM, Facultad de Estudios Superiores Zaragoza, UNAM.*
- 10:00 N41 **673.11** Unraveling the subsets of MCH neurons associated with reproductive control. B. G. BEEKLY*; C. F. ELIAS. *Univ. of Michigan.*
- 11:00 N42 **673.12** Relation of firing to release in gonadotropin-releasing hormone (GnRH) neurons. X. CHEN*; R. A. DEFAZIO; S. M. MOENTER. *Univ. of Michigan, Univ. of Michigan.*
- 8:00 N43 **673.13** Corticotropin-releasing hormone (CRH) has no effect on arcuate kisspeptin neuron firing activity in female mice. C. PHUMSATITPONG*; S. M. MOENTER. *Univ. of Michigan, Univ. of Michigan.*
- 9:00 N44 **673.14** Three types of voltage-gated potassium currents in AVPV kisspeptin neurons. J. R. STARRETT*; S. M. MOENTER. *Univ. of Michigan, Univ. of Michigan.*
- 10:00 N45 **673.15** ▲ Sex-specific consequences of post-weaning social isolation on social behavior, affective behavior, and kisspeptin neural circuitry in Long Evans rats. B. L. KINLEY*; D. M. WALKER; R. F. KYNE; N. VENTURA; E. J. NESTLER; M. J. PAUL. *Univ. at Buffalo, SUNY, Icahn Sch. of Med. at Mount Sinai.*
- 11:00 N46 **673.16** Kisspeptin and the neuroendocrine regulation of growth hormone release. C. D. FORADORI*; B. K. WHITLOCK; J. A. DANIEL; A. D. ZIMMERMAN; L. O. MACKAY; C. C. READ; B. P. STEELE; J. T. SMITH; I. J. CLARKE; T. H. ELSASSER; D. H. KEISLER; J. L. SARTIN. *Auburn Univ. Col. of Vet. Med., Univ. of Tennessee, Berry Col., The Univ. of Western Australia, Monash Univ., US Dept. of Agriculture, Agr. Res. Service, Univ. of Missouri.*
- 8:00 O1 **673.17** Colocalization of NK3R and KOR mRNA in KNDy and non-KNDy neurons in the ovine arcuate nucleus. W. HE*; L. M. COOLEN; R. L. GOODMAN; M. N. LEHMAN. *Kent State Univ., West Virginia Univ.*
- 9:00 O2 **673.18** Morphological characterization of the intrinsic neurons in the ovary of young and senescent rats. J. M. BRAVO*; A. ESPINOSA; Y. CRUZ; C. MORAN. *Univ. Autonoma De Tlaxcala, Benemérita Univ. Autonoma de Puebla, Univ. Autonoma Tlaxcala.*
- 10:00 O3 **673.19** ▲ Prolactin and testosterone regulate the activity of MMP9 in LNCaP cells. M. JIMÉNEZ BUENDÍA*; J. LARA REYES; M. HERNANDEZ; G. E. ARANDA-ABREU; J. MANZO; J. M. SUÁREZ MEDELLÍN; D. HERRERA-COVARRUBIAS; C. A. PÉREZ ESTUDILLO; A. AQUINO GÁLVEZ; M. MENDOZA; F. ROJAS-DURÁN. *Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana., Univ. Veracruzana, Inst. Nacional de Enfermedades Respiratorias y Pulmonares, CINVESTAV.*

- 11:00 O4 **673.20** Effect of prolactin and estradiol in MMP2 activity in conditioned medium from MCF-7 cells. J. LARA REYES*; M. G. JIMENEZ BUENDIA; M. HERNÁNDEZ AGUILAR; G. E. ARANDA-ABREU; J. MANZO DENES; D. HERRERA COVARRUBIAS; J. SUAREZ MEDELLIN; C. A. PEREZ-ESTUDILLO; C. SAMPIERI RAMIREZ; A. AQUINO GÁLVEZ; F. ROJAS-DURÁN. *Doctorado en Investigaciones Cerebrales, Univ. Veracruzana, Univ. Veracruzana/Centro De Investigaciones Cerebrales, Univ. Veracruzana/Centro De Investigaciones Cerebrales, Inst. de Salud Publica, Inst. Nacional de Enfermedades Respiratorias y Pulmonares, Univ. Veracruzana.*
- 8:00 O5 **673.21** Estradiol rapidly modulates excitatory synapse properties in a sex and region specific manner in the nucleus accumbens core and caudate putamen. A. A. KRENTZEL*, L. BARRETT; J. MEITZEN. *North Carolina State Univ.*
- 9:00 O6 **673.22** Estrogen controls the electrical properties of mouse tuberoinfundibular dopamine (TIDA) neurons: A novel substrate for sex hormone control of prolactin secretion. J. FERRARIS; R. AMMARI; C. BROBERGER*. *Karolinska Institutet, Stockholm Univ.*
- 10:00 O7 **673.23** ▲ Characterization of phoenixin and thimet oligopeptidase (EP24.15) in neural circuits associated with the regulation of neuroendocrine processes. J. Z. GLUCKSMAN; M. R. DEJOSEPH; K. D. PHILIBERT; J. H. URBAN*. *Rosalind Franklin Univ. of Med. and Scien, Chicago Med. Sch/Rosalind Franklin Univ. Med. & Sci., Chicago Med. Sch/Rosalind Franklin Univ. Med. & Sci.*
- 11:00 O8 **673.24** ▲ Gabaergic cells expressing estrogen receptors in limbic and hypothalamic regions are sensitive to testosterone levels. L. ZAVALA*; V. S. HERNANDEZ; O. R. HERNANDEZ; L. E. EIDEN; L. ZHANG. *Natl. Autonomus Univ. of Mexico, NIH, NIMH-IRP.*
- 8:00 O9 **673.25** Effects of social closeness on the menstrual synchronization in young college females. K. CAO; X. ZHANG; R. ZHANG*. *NorthWest Univ., Childrens Hospital, Harvard Med. Sch.*
- 9:00 O10 **673.26** ▲ Association of the vaginal microbiota with menstruation, mood, and diet in healthy, young women. S. D. SONG*; K. ACHARYA; C. DEVENEY; M. R. WALTHER-ANTONIO; M. J. TETEL; N. CHIA. *Wellesley Col., Wellesley Col., Mayo Clin., Mayo Clin.*
- 10:00 O11 **673.27** Genomic profiling of spontaneous X chromosome nondisjunction mice reveals Turner syndrome relevant pathways. U. DATTA*; M. SAUL; V. PHILIP; E. CHESLER. *The Jackson Lab.*
- 9:00 O13 **674.02** Toll-like receptor 4 expressed on LysozymeM⁺ immune cells mediates neuropathic mechanical hypersensitivity development in male, but not female mice. T. A. SZABO-PARDI*; L. R. BARRON; N. M. AGALAVE; M. D. BURTON. *Univ. of Texas at Dallas.*
- 10:00 O14 **674.03** Gut microbiota derived dietary polyphenol metabolites promote cognitive resilience to anxiety and depression through immunological mechanisms of the gut-brain-axis. S. WESTFALL*; F. CARACCI; T. FROLINGER; U. IQBAL; G. M. PASINETTI. *Icahn Sch. of Med. At Mount Sinai.*
- 11:00 O15 **674.04** Investigating GM-CSF as a mediator of gut-brain signaling in addiction-like behaviors. K. E. LUCERNE*; E. S. CALIPARI; A. GODINO; D. D. KIRALY. *Icahn Sch. of Med. At Mount Sinai, Vanderbilt Univ. Sch. of Med., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*
- 8:00 O16 **674.05** Neuroinflammatory modulation of nicotine dependence. E. L. ANDERSON*; A. O. ADELUYI; J. R. TURNER. *Univ. of South Carolina, Univ. of Kentucky.*
- 9:00 O17 **674.06** microRNAs in inflammatory neurodegeneration and multiple sclerosis. I. WINKLER*; J. ENGLER; G. SALINAS; L. BAL; B. SCHATTLING; O. PLESS; M. FRIESE. *Ctr. for Mol. Neurobio. Hamburg (ZMNH), Univ. of Göttingen, Fraunhofer Inst. for Mol. Biol. and Applied Ecology IME.*
- 10:00 O18 **674.07** Characterization of a unique microglia subtype in secondary thalamic injury after ischemic stroke. Z. CAO*; S. HARVEY; T. C. CHIANG; M. Y. CHENG; G. K. STEINBERG. *Stanford Univ., Stanford Stroke Ctr.*
- 11:00 O19 **674.08** Long-term high fat diet precipitates peripheral sensitization independent of obesity in female mice. J. A. TIERNEY*; M. D. BURTON. *Univ. of Texas at Dallas, Univ. of Texas at Dallas.*
- 8:00 O20 **674.09** Gut-brain interactions in a mouse model of Phelan-McDermid syndrome. A. OSMAN*; N. MERVOSH; D. D. KIRALY. *Ichan Sch. of Med. At Mount Sinai.*
- 9:00 O21 **674.10** ● Optogenetic stimulation of glutamatergic and cholinergic potentials in the vagus nerve mediating peripheral neuroimmune signaling. E. H. CHANG*; T. TSAAVA; A. M. KRESSEL; S. S. CHAVAN; K. J. TRACEY. *Feinstein Inst. For Med. Res., Feinstein Inst. at Northwell Hlth., Feinstein Inst. of Med. Res., Feinstein Inst. For Med. Res., Feinstein Inst. For Med. Res.*
- 10:00 O22 **674.11** The role of microglia in the sculpting of developing stress circuits by early-life adversity. J. L. BOLTON*; M. SHAO; S. OTHY; J. BECK; X. BAI; C. KOOIKER; I. PARKER; M. D. CAHALAN; T. Z. BARAM. *Univ. of California-Irvine, Univ. of California- Irvine, Univ. of California- Irvine.*
- 11:00 O23 **674.12** Hypothalamic and pulmonary vasopressin production during tuberculosis: A link to pathogenesis. M. A. ZETTER*; J. BARRIOS; B. MARQUINA-CASTILLO; D. MATA; A. QUINTANAR-STEPHANO; R. HERNANDEZ-PANDO. *Inst. Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Autonomus Univ. of Aguascalientes.*
- 8:00 O24 **674.13** Inflammatory signals from the periphery to the brain can mediate fatigue-like behavior in a mouse model of radiation therapy. B. S. WOLFF*; S. A. ALSHAWI; L. N. SALIGAN. *NIH.*

POSTER

674. Neuroinflammation: Pathophysiological Consequences

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 O12 **674.01** Neuroimmune mechanisms of latent pain sensitization after chemotherapy. G. LAUMET*; K. B. CLARK; J. D. EDRALIN; X. HUO; B. PENG; R. DANTZER; C. J. HEIJNEN; L. GENDRON; A. KAVELAARS. *Michigan State Univ., UT MD Anderson Cancer Ctr., Univ. of Texas MD Anderson Cancer Ctr., Univ. of Texas MD Anderson Cancer Ctr., Univ. De Sherbrooke, Univ. of Texas MD Anderson Cancer Ctr.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:00 O25 **674.14** Inflammatory biomarkers in depression and schizophrenia -comparison in patients and healthy control participants. F. KLAUS*; F. CATHOMAS; K. GÜTTER; M. HARTMANN-RIEMER; R. SCHLEGEL; E. SEIFRITZ; S. KAISER. *Psychiatric Hospital, Univ. of Zurich, Geneva Univ. Hosp.*
- 10:00 O26 **674.15** Irritability and its associations with immuno-vascular risk factors in the aging brain. D. COTTER*; M. YOU; S. WEINER-LIGHT; N. DJUKIC; M. ALTENDAHLE; S. M. WALTERS; C. A. LINDBERGH; A. M. STAFFARONI; W. RIVERA-CONTRERAS; A. KARYDAS; Y. COBIGO; A. WOLF; J. KRAMER; F. ELAHI; K. CASALETTO. *Univ. of California, San Francisco.*
- 11:00 O27 **674.16** Toll-like receptor 4 contributes to sex-specific cocaine-induced behaviors. J. S. ARCEAUX*; D. T. KASHIMA; C. A. GRUETER; B. A. GRUETER. *Meharry Med. Col., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ.*
- 8:00 O28 **674.17** Hippocampal neuroimmune signaling mediates heroin-conditioned suppression of peripheral nitric oxide. J. E. PANICCIA*; C. L. LEBONVILLE; S. V. PAREKH; M. E. JONES; D. T. L. LYSLE*. *The Univ. of North Carolina at Chapel Hill.*
- 9:00 O29 **674.18** Cytokine alterations differentially influence context-dependent amphetamine locomotor sensitization in female Long Evans rats. B. PLOTKIN*; C. A. CALHOUN; B. M. MASON; J. GALINDO; C. VALENCIA; S. DONALDSON. *Umass Boston, Univ. of Massachusetts Boston, Univ. of Massachusetts Boston, UMass Boston, Univ. of Massachusetts.*
- 10:00 O30 **674.19** Neutrophil-mediated effects at the meningeal barrier following chronic stress. S. L. KIGAR*; C. T. HIGHAM; N. E. WRIGLEY; V. H. SUN; M. L. LEHMANN; A. ELKAHLOUN; M. HERKENHAM. *Natl. Inst. of Mental Hlth., MIT, Natl. Human Genome Res. Inst.*
- 11:00 O31 **674.20** ▲ Developmental consequences of prenatal electronic cigarette aerosol exposure on offspring behavior and neuroinflammation. F. CHACE-DONAHUE*; A. KAZAKOVA; J. S. CHURCH; J. L. BLUM; J. R. RATNER; J. T. ZELIKOFF; J. J. SCHWARTZER. *Mount Holyoke Col., New York Univ. Sch. of Med.*
- 8:00 O32 **674.21** Breast cancer hijacks the brain to impair memory in mice. S. KENT*; S. N. DE LUCA; A. ARMSTRONG; A. K. WALKER. *La Trobe Univ., Neurosci. Res. Australia.*
- 9:00 O33 **674.22** A20: A predisposing factor for neurolupus? C. DAEMS*; Z. CALLAERTS-VEGH; G. VAN LOO; R. D'HOOGE; P. CALLAERTS. *Univ. of Leuven, Univ. of Leuven, Univ. of Gent.*
- 9:00 O35 **675.02** The effects of bacterial endotoxin LPS on neural function in various animal models. R. L. COOPER*; M. MCNABB; C. SAELINGER; C. BALLINGER BOONE; A. GREENHALGH; O. ISTAS; M. STANBACK; A. STANBACK; O. ANYAGALIGBO; J. BERNARD; M. L. DANLEY; S. M. BIERBOWER; A. GHOWERI; O. THIBAUT. *Univ. of Kentucky Dept. of Biol., William Paterson Univ., Univ. of Kentucky.*
- 10:00 O36 **675.03** Optogenetic activation of dopaminergic neurons in ventral tegmental area induces peripheral immune responses. T. KAYAMA*; Y. IKEGAYA; T. SASAKI. *The Univ. of Tokyo.*
- 11:00 O37 **675.04** The endogenous neurosteroid (3 α ,5 α)3-hydroxypregnan-20-one (3 α ,5 α -THP) inhibits pro-inflammatory toll-like receptor (TLR)-MyD88-dependent signaling in immune cells and brain. I. BALAN*; T. O'BUCKLEY; R. SCHLEICHER; G. BOERO; L. AURELIAN; L. A. MORROW. *Univ. of North Carolina, Stanford Univ. Sch. of Med.*
- 8:00 O38 **675.05** Levels of pituitary adenylate cyclase-activating polypeptide (PACAP) in traumatic stress and the modulatory effect of noninvasive cervical vagus nerve stimulation (nVNS). Y. JIAO; Y. KO; N. Z. GUREL; A. HANKUS; S. L. LADD; M. T. WITTBRODT; L. SHALLENBERGER; N. MURRAH; M. HUANG; A. HAFFER; J. ALKHALAF; H. JUNG; O. LEVANTSEVYCH; J. A. NYE; M. H. SHANDHI; V. VACCARINO; A. J. SHAH; O. T. INAN; J. D. BRENNER; B. D. PEARCE*. *Emory (RSPH), Rollins Sch. of Publ. Hlth., Georgia Inst. of Technol., Emory (RSPH), Emory Univ. Sch. of Med., Emory Univ. Sch. of Med., Rollins Sch. of Publ. Hlth., Emory, Emory (RSPH), Emory Univ. Sch. of Med., Rollins Sch. of Publ. Health, Emory Univ. Sch. of Med., Rollins Sch. of Publ. Health, Emory Univ. Sch. of Med., Emory Univ.*
- 9:00 O39 **675.06** Inflammatory challenges inflict dramatic transcriptional responses in pituitary gland at single-cell level. T. YAN*; R. WANG; R. LIN; M. LUO. *Natl. Inst. of Biol. Sci.*
- 10:00 O40 **675.07** ▲ Pimilio in hemocytes regulate sleep behavior. N. M. DIAZ RODRIGUEZ*; Y. ORTIZ-CASTELLANO; O. MENDEZ; M. R. FRANCIA; L. O. MARRERO RAMOS; A. GHEZZI; J. L. AGOSTO. *Univ. of Puerto Rico Rio Piedras, Univ. of Puerto Rico Rio Piedras, Univ. of Puerto Rico, Rio Piedras, Univ. of Puerto Rico, Rio Piedras Campus.*
- 11:00 O41 **675.08** Adeno-associated virus (AAV) persistently alters cortical expression of immune genes that can regulate circuit structure and function. C. M. SURIANO*; J. VERPEUT; L. M. BOULANGER. *Princeton Univ., Princeton Univ.*
- 8:00 O42 **675.09** A circadian gated spinal reflex circuit regulates LPS sensing and subsequent inflammation. E. SOTO-TINOCO*; E. SANTACRUZ; R. M. BUIJS. *Nacional Autónoma De México, Univ. Nacional Autónoma de México.*
- 9:00 O43 **675.10** Severe neonatal anemia in mice causes poor growth and neuroinflammation that are modulated by erythropoietin treatment. G. SINGH*; M. K. GEORGIEFF; T. GISSLEN. *Univ. of Minnesota.*
- 10:00 O44 **675.11** ▲ Effects of sensory denervation on the proliferation of testicular cells. G. LEON*; J. C. FLORES-ALONSO; U. QUIRÓZ-LÓPEZ; R. REYES-LUNA. *Benemerita Univ. Autonoma De Puebla, Inst. Mexicano del Seguro Social, Benemérita Univ. Autónoma de Puebla.*

POSTER

675. Neuroinflammation: Neurophysiological Responses

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 O34 **675.01** ▲ Differential effects of TLR4 deficiency on hippocampal neurogenesis in male and female adult and aged mice. M. G. CONNOLLY*; O. L. YOST; M. E. GIEDRAITIS; O. V. POTTER; L. S. MATHENY; C. E. RINDOKS; R. A. KOHMAN. *Univ. of North Carolina Wilmington, Rutgers, Wake Forest Sch. of Med.*

- 11:00 P1 **675.12** New insight into the neuro-immune dialogue: A role for the $\alpha 7$ nicotinic acetylcholine receptor in mediating monocyte-derived macrophage migration. V. YAKUBENKO; K. CUI; M. M. ADDORISIO; D. L. WILLIAMS; V. A. PAVLOV*. *Quillen Col. of Medicine, Ctr. of Excellence in Inflammation, Infectious Dis. and Immunity, East Tennessee State Univ., The Feinstein Inst. For Med. Res.*
- 8:00 P2 **675.13** Optogenetic stimulation of cholinergic neurons in the brainstem induces splenic nerve activity and attenuates systemic inflammation. A. M. KRESSEL; T. TSAAVA; E. H. CHANG; Q. CHANG; V. A. PAVLOV; K. J. TRACEY; S. S. CHAVAN*. *Feinstein Inst. for Med. Res.*
- 9:00 P3 **675.14** Trpv1 sensory nerves modulate antigen specific immune responses. A. TYNAN*; M. GUNASEKARAN; T. TSAAVA; E. KARA; S. S. CHAVAN; K. J. TRACEY. *Feinstein Inst. for Med. Res., Elmezzi Grad. Sch. of Mol. Med., Donald and Barbara Zucker Sch. of Med. at Hofstra/Northwell.*
- 10:00 P4 **675.15** Investigating subcortical regulation of systemic immunity with mass cytometry. J. C. BORNIGER*; E. GANIO; B. GAUDILLIERE; L. DE LECEA. *Stanford Univ., Stanford Univ. Dept. of Psychiatry and Behavioral Sci.*
- 11:00 P5 **675.16** Individual differences in aggression mediated by temporal changes in cytokine signaling in the dorsal raphe nucleus. A. TAKAHASHI*; H. ALEYASIN; M. A. STAVARACHE; M. FLANIGAN; A. BRANCATO; C. MENARD; M. L. PFAU; V. KANA; J. WANG; G. E. HODES; S. OGAWA; B. S. MCEWEN; S. J. RUSSO. *Univ. of Tsukuba, Icahn Sch. of Med. Mount Sinai, Weill Cornell Med. Coll., Icahn Sch. of Med. At Mount Sinai, Rockefeller Univ., Icahn Sch. of Med. at Mount Sinai.*
- 8:00 P6 **675.17** The vagus nerve is critical for the rapid and widespread fos response in the brain following oral administration of a physiologically active bacteria. A. BHARWANI*; C. WEST; K. CHAMPAGNE-JORGENSEN; K. MCVEY NEUFELD; J. RUBERTO; W. KUNZE; J. BIENENSTOCK; P. FORSYTHE. *McMaster Univ., McMaster Univ.*
- 9:00 P7 **675.18** Sex differences in fibroblast growth factor 9 expression and function in dopamine neurons. K. G. WALLIN-MILLER*; M. L. KIELHOLD; D. R. KLIAMOVICH; B. MOGHADDAM. *Oregon Hlth. and Sci. Univ., OHSU, OHSU.*
- 10:00 P8 **675.19** CCL2/CCR2 chemokine system in embryonic hypothalamus: Involvement in sexually dimorphic stimulatory effects of prenatal ethanol exposure on peptide-expressing neurons in embryo. G. Q. CHANG; O. KARATAYEV; D. S. S. K. BOORGU; S. F. LEIBOWITZ*. *The Rockefeller Univ.*
- 11:00 P9 **675.20** Fractalkine signaling mediates postoperative neuroinflammation and cognitive dysfunction in tibial fracture-induced model. B. KOO*; I. CHO; E. KAM. *Dept. of Anesthesiol. and Pain Medicine, Yonsei Univ. Col. of Med., Anesthesia and Pain Res. Institute, Yonsei Univ. Col. of Med.*
- 8:00 P10 **675.21** Regulation of plasma cell formation by splenic nerve-dependent neural activities. X. ZHANG*; B. LEI. *Tsinghua Univ.*
- 9:00 P11 **675.22** Prenatal allergic inflammation affects striatal microglia, monoamine turnover, synaptic patterning, and behavioral inhibition. K. M. LENZ*; C. N. DYE; C. DODSON; R. GILFARB; A. JOSHI; A. I. SAULSBERY. *The Ohio State Univ.*
- 10:00 P12 **675.23** Stretching does not improve behavioral and immune responses during sickness behavior, after stress challenge, and in healthy rats. M. C. GALVÃO*; A. C. S. SAMPAIO; P. S. RODRIGUES; C. R. SALMON; N. MOREIRA; M. M. BERNARDI; T. B. KIRSTEN. *Paulista Univ.*
- 11:00 P13 **675.24** Sex differences in the association between temperament and immune response to antigen challenge in rats. K. C. MICHAEL*; K. KING. *Univ. of Minnesota Morris, Univ. of Minnesota Morris.*
- 8:00 P14 **675.25** Pathogenic infection in male mice changes sperm small RNA profiles and transgenerationally alters offspring behaviour. S. TYEBJI*; S. SEIZOVA; A. J. HANNAN; C. J. TONKIN. *The Walter and Eliza Hall Inst. of Med. Res., The Univ. of Melbourne, Florey Inst. of Neurosci. and Mental Hlth., The Univ. of Melbourne.*
- 9:00 P15 **675.26** Revealing repair roles for inflammatory leukocytes in neurovascular dysfunction caused by chronic social defeat. M. L. LEHMANN*; C. POFFENBERGER; S. KIGAR; M. HERKENHAM. *NIH.*
- 10:00 P16 **675.27** Effects of estrogen on host gut microbial population and their metabolites in rats with chronic restraint stress. M. XU*; K. KROLICK; J. ZHU; H. SHI. *Miami Univ., Miami Univ., Ohio State Univ., Miami Univ.*
- 11:00 P17 **675.28** Maternal overfeeding primes ghrelin sensitivity in the hypothalamus leading to hyperphagia in the offspring. R. MALDONADO-RUIZ*; M. CÁRDENAS-TUEME; L. MONTALVO-MARTÍNEZ; D. RESÉNDEZ-PÉREZ; R. VIDAL-TAMAYO; L. GARZA-OCAÑAS; A. CAMACHO. *Univ. Autonoma De Nuevo Leon, Univ. Autonoma de Nuevo Leon, Univ. Autonoma De Nuevo Leon, Univ. de Monterrey.*

POSTER

676. Neuroinflammation: Cognition and Behavioral Responses

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 P18 **676.01** Is the fountain of (brain) youth in the gut microbiome? Impact of fecal microbiota transplantation from young to aged mice on brain, behavior and immunity. M. BOEHME*; K. E. GUZZETTA; A. GUAL-GRAU; T. F. S. BASTIAANSEN; M. VAN DE WOUW; L. OLAVARRÍA-RAMÍREZ; G. M. MOLONEY; E. MORILLAS; C. S. COWAN; N. RITZ; S. SPICHAK; O. O'LEARY; H. SCHELLEKENS; T. G. DINAN; J. F. CRYAN. *Univ. Col. Cork, Univ. Col. Cork.*
- 9:00 P19 **676.02** The impact of the microbiota on acute stress induced monocyte trafficking. G. M. MOLONEY*; M. VAN DE WOUW; J. M. LYTE; M. BOEHME; T. DINAN; J. CRYAN; G. CLARKE. *Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork.*
- 10:00 P20 **676.03** The impact of strain, sex, and early life stress on microbiota diversity, composition, and behaviour. C. FRANCELLEA; J. LAI; K. RILETT; J. A. FOSTER*. *McMaster Univ.*
- 11:00 P21 **676.04** The impact of age-associated microbiota on neuroimmunity, physiology, and behavior in germ-free mice. K. E. GUZZETTA*; M. BOEHME; A. GUAL-GRAU; T. F. S. BASTIAANSEN; E. MORILLAS; M. JAGGAR; J. PEREIRA; M. VAN DE WOUW; G. M. MOLONEY; N. RITZ; T. G. DINAN; O. O'LEARY; J. F. CRYAN. *Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 P22 **676.05** ● The influence of the gut microbiome on fundamental synaptic neurophysiology. K. J. O'RIORDAN*; H. DARCH; B. BUTLER; R. O'CONNOR; T. G. DINAN; J. CRYAN. *Univ. Col. Cork*.
- 9:00 P23 **676.06** ● Sex- and timing-specific effects of antibiotic-induced microbiota depletion during murine early life: Are there critical windows in microbiota-gut-brain axis development? C. S. COWAN*; A. VENTURA-SILVA; M. VAN DE WOUW; M. SCHVERER; E. TEICHMAN; M. G. CODAGNONE; T. DINAN; J. CRYAN. *Univ. Col. Cork*.
- 10:00 P24 **676.07** Polyphenols reverse anxious and depressive-like behaviours in the maternal separation model: A role for the gut microbiome? F. DONOSO*; S. EGERTON; P. FITZGERALD; S. GITE; C. STANTON; T. G. DINAN; J. F. CRYAN. *Univ. Col. Cork, APC Microbiome Ireland, Teagasc Food Res. Ctr.*
- 11:00 P25 **676.08** Inducible co-stimulatory molecule (ICOS) alleviates astrogliosis and attenuates chemotherapy induced-peripheral neuropathy in mice. I. SANKARANARAYANAN*; D. FERREIRA-TAVARES; G. L. MEJIA, JR; C. PAIGE; M. D. BURTON; T. J. PRICE. *Univ. of Texas At Dallas, Univ. of Texas At Dallas, Univ. of Texas At Dallas, UTD*.
- 8:00 P26 **676.09** ▲ Impact of zinc supplementation associated with cafeteria diet on recognition memory in rats. S. D. OLIVEIRA*; J. P. NETO; G. S. FEIJÓ; J. JANTSCH; R. M. ARENA; B. F. DENIZ; M. GIOVENARDI; M. PORAWSKI; R. P. GUEDES. *UFCSA, UFCSA*.
- 9:00 P27 **676.10** Effects of BCAA or Zinc supplementation on neuroinflammatory parameters of obese rats. R. P. GUEDES*; G. S. FEIJÓ; S. DE OLIVEIRA; J. JANTSCH; L. F. DE CASTRO; B. FERRARY DENIZ; A. C. DE MOURA; M. GIOVENARDI; M. PORAWSKI. *Federal Univ. of Hlth. Sci. of Porto Alegre*.
- 10:00 P28 **676.11** ▲ Omega-3 supplementation decreases anxiety-like behavioral in obese rats. J. JANTSCH*; J. P. NETO; S. DE OLIVEIRA; G. FEIJÓ; M. F. BRAGA; B. F. DENIZ; M. GIOVENARDI; M. P. GARRIDO; R. P. GUEDES. *Federal Univ. of Hlth. Sci. of Porto Alegre*.
- 11:00 P29 **676.12** Social enrichment attenuates chemotherapy induced neuroinflammation and affective behavior via oxytocin signaling. W. H. WALKER*, II; A. C. DEVRIES. *West Virginia Univ., West Virginia Univ.*
- 8:00 P30 **676.13** Prenatal immune activation via TLR7 induces sex-dependent behavioral and neurophysiological alterations. G. MISSIG*; J. O. ROBBINS; E. L. MOKLER; N. MEHTA; C. J. MCDUGLE; W. A. CARLEZON, Jr. *McLean Hosp., Harvard Med. Sch.*
- 9:00 P31 **676.14** The limited bedding and nesting paradigm as a naturalistic model of postpartum depression. R. DELLA VALLE*; J. M. SCHWARZ. *Univ. of Delaware*.
- 10:00 P32 **676.15** Behavioral changes associated with Zika infection in adult mouse. A. T. KHOO*; S. WATANABE; M. FUKUDA*; K. W. K. CHAN; S. VASUDEVAN; H. S. JE. *Duke-NUS Med. Sch., Duke-NUS Med. Sch., Natl. Univ. of Singapore*.
- 11:00 P33 **676.16** ▲ Formation of pathogenic antibodies by immunization with *Toxoplasma gondii* induces behavioural impairments. E. ROMERO NUÑEZ*; K. SÓSTENES MARTÍNEZ; B. PINEDA OLVERA; D. F. GONZALEZ ESQUIVEL; A. JIMENEZ-ANGUIANO; M. MENDEZ ARMENTA; C. NAVA RUIZ; S. MUÑIZ HERNANDEZ; V. PEREZ DE LA CRUZ. *Inst. Nacional de Neurología y Neurocirugía, Inst. Nacional de Neurología y Neurocirugía, Univ. Autonoma Metropolitana-Iztapalapa, Inst. Nacional de Neurología y Neurocirugía, Inst. Nacional de Cancerología*.
- 8:00 P34 **676.17** Fkbp5 deficiency increases anxiety susceptibility involving inhibition of hippocampal GR and GAD65 upregulation in mice after transient peripheral inflammation. Y. GAN*; C. WANG; R. HE; P. HSU; P. SUNG; C. JENG; M. HUANG; Y. LEE. *Natl. Yang-Ming Univ., Natl. Yang-Ming Univ., Brain Res. Center, Natl. Yang-Ming Univ., Taipei City Psychiatric Center, Taipei City Hosp., Sch. of Medicine, Col. of Medicine, Taipei Med. Univ., Psychiatric Res. Center, Taipei Med. Univ. Hosp.*
- 9:00 P35 **676.18** Behavior and gut microbiota changes in mice with simultaneous deficit in multiple pro-inflammatory pathways. M. WONG*; J. LICINIO; A. INSERRA; J. CHOO; M. D. LEWIS; G. B. ROGERS. *SUNY Upstate Med. Univ., South Australian Hlth. and Med. Res. Inst., South Australian Hlth. and Med. Res. Inst.*
- 10:00 P36 **676.19** The role of gut microbiota in chemotherapy-induced anxiety-like behavior. A. LAHOUD; K. JORDAN; B. HAYNES; S. VICKERY; J. KAUR; K. A. SULLIVAN; L. M. PYTER*. *Ohio State Univ., The Ohio State Univ.*
- 11:00 P37 **676.20** Chronic inhaled corticosteroids during development minimize allergic asthma symptoms but exacerbate comorbid anxiety symptoms. S. A. CAVIGELLI*; J. CAULFIELD; H. KAMENS. *Pennsylvania State Univ.*
- 8:00 P38 **676.21** The impact of developmental chronic variable social stress and asthma on anxiety-like brain gene expression, anxiety-like behavior, and stress response. J. I. CAULFIELD*; H. M. KAMENS; S. A. CAVIGELLI. *The Pennsylvania State Univ.*
- 9:00 P39 **676.22** Investigation of early exposure to clomipramine on central inflammatory markers in maternal and non-maternal Sprague-Dawley rats. C. M. RAGAN*; B. N. REGULA; L. M. GIELDA. *Purdue Univ. Northwest*.
- 10:00 P40 **676.23** Circadian dysregulation of behavior and physiology by tumor biology and chemotherapy in mice. K. A. SULLIVAN*; S. R. BEVER; L. D. STREHLE; K. L. G. RUSSART; K. JORDAN; A. PATEL; K. M. WENTWORTH; A. LAHOUD; J. KAUR; K. H. OBRIETAN; L. M. PYTER. *The Ohio State Univ., The Ohio State Univ., UC Berkeley, The Ohio State Univ., Oregon Hlth. and Sci. Univ., The Ohio State Univ.*
- 11:00 P41 **676.24** ▲ Lipopolysaccharide induces motivational deficits like behavior mediated by alteration of brain metabolites in mice. K. ADACHI*; M. MARUI; T. HAYASHI; M. NAGASAWA. *Meijo Univ.*

POSTER

677. Blood-Brain Barrier: Control and Mechanisms

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 P42 **677.01** The role of choroid plexus in health and disease. V. OLIVEIRA MOREIRA*; A. PLANQUES; K. ARNAUD; A. PROCHIANTZ; A. DI NARDO. *Col. De France, Inst. Jacques Monod.*
- 9:00 Q1 **677.02** VEGF-C induced meningeal lymphangiogenesis in C57BL/6J mice enhances small molecular weight solute drainage from brain into lymphatics associated with the nasal conchae: A quantitative *in vivo* MRI study. Y. XUE; L. S. B. BOISSERAND; X. LIU; H. LEE; J. THOMAS; H. BENVENISTE*. *Yale Sch. of Med., Yale Sch. of Med.*
- 10:00 Q2 **677.03** Endothelial LRP1 controls cerebrovascular integrity and neuronal survival via the CycA-MMP9-NFkB pathway. A. M. NIKOLAKOPOULOU*; Y. WANG; Q. MA; A. SAGARE; A. MONTAGNE; M. HUUSKONEN; Z. ZHAO; B. ZLOKOVIC. *USC, Loma Linda Univ.*
- 11:00 Q3 **677.04** NMDA receptor signaling regulates function and integrity of the blood brain barrier. C. LEE; D. KIM*. *Korea Brain Res. Inst.*
- 8:00 Q4 **677.05** Magnetic resonance-guided focused ultrasound-mediated gene therapy delivery to brain tissue post-surgical resection. M. A. STAVARACHE*; G. M. WINSTON; M. YUAN; A. ZANELLO; E. M. JURGENS; M. G. KAPLITT. *Weill Cornell Med. Col.*
- 9:00 Q5 **677.06** Hyperinsulinemia induced brain microvessel insulin resistance correlates with reduced insulin transport. L. S. WATSON*; C. J. SMITH; A. S. WILLIAMS; C. SIMS-ROBINSON. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 10:00 Q6 **677.07** Pericyte loss leads to circulatory failure and pleiotrophin depletion causing neuron loss. B. V. ZLOKOVIC*; A. M. NIKOLAKOPOULOU; A. MONTAGNE; K. KISLER; Z. DAI; Y. WANG; M. HUUSKONEN; A. P. SAGARE; D. LAZIC; M. D. SWEENEY; Z. ZHAO. *Keck Sch. of Med. of the Univ. of Southern California.*
- 11:00 Q7 **677.08** Regulation of blood-brain/spinal cord barrier integrity by Hedgehog-responsive astrocytes in the adult mouse CNS. H. WANG; Z. XU; Z. XIA; M. RALLO; M. P. MATISE*. *Rutgers-RWJMS.*
- 8:00 Q8 **677.09** • Transport of macromolecules from CSF-to-brain: Biodistribution of endogenous IgG and intrathecal antibodies or oligonucleotides reveals the importance of perivascular pathways. B. WILKEN-RESMAN; M. E. PIZZO*; R. THORNE. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*
- 9:00 Q9 **677.10** Chronic exposure to electronic cigarettes or cigarette smoke causes BBB compromise and neuroinflammation in mice. N. A. HELDT*; S. GAJGHATE; A. SELIGA; M. WINFIELD; N. REICHENBACH; S. ROM; Y. PERSIDSKY. *Lewis Katz Sch. of Med. At Temple Univ., Lewis Katz Sch. of Med. At Temple Univ.*
- 10:00 Q10 **677.11** What are the mechanisms of blood-brain barrier dysfunction in disease? C. P. PROFACI*; K. BAJC; J. P. MILLER; T. Z. ZHANG; R. DANEMAN. *Univ. of California San Diego.*

- 11:00 Q11 **677.12** • ▲ Blood brain barrier contributing to brain changes in patients with obstructive sleep apnea. L. EHLERT*; B. ROY; E. DANIEL; M. LAI; D. KANG; R. AYSOLA; E. WEN; M. WOO; R. M. HARPER; 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.*

- 8:00 Q12 **677.13** Research of brain extracellular space in China. H. HAN*. *Peking Univ. Third Hosp., Beijing Key Lab. of Magnetic Resonance Imaging (MRI) Equipment and Technique.*

POSTER

678. Sleep Mechanisms and Function

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 Q13 **678.01** • Identification of vigilance states in freely behaving animals using thalamocortical activity and Deep Belief networks. J. HARROD*; P. L. PURDON; E. N. BROWN; F. J. FLORES. *Harvard-MIT Hlth. Sci. and Technol., Massachusetts Gen. Hosp., MIT, Massachusetts Gen. Hosp.*
- 9:00 Q14 **678.02** Interhemispheric connectivity during sleep arousals measured by scalp EEG. J. V. LIU*; H. K. YAGGI. *Yale Sch. of Med.*
- 10:00 Q15 **678.03** Competing roles of slow waves and delta waves on memory consolidation. K. GANGULY*; T. GULATI; J. K. KIM. *UCSF, Cedars Sinai Med. Ctr., Univ. of California San Francisco.*
- 11:00 Q16 **678.04** Sleep attenuates late neuronal auditory responses in rat perirhinal cortex. Y. SELA*; A. J. KROM; L. BERGMAN; N. REGEV; Y. NIR. *Tel Aviv Univ., Tel Aviv Univ., Hadassah Hebrew Univ. Hosp.*
- 8:00 Q17 **678.05** Chronic sleep deprivation and circadian disruptions differently affect the brain's resting state functional connectivity, impulsivity and attentional performance. R. ZHANG*; D. TOMASI; G. WANG; N. D. VOLKOW. *Natl. Inst. on Alcohol Abuse and Alcoholism, Lab. of Neuroimaging, Natl. Inst. of Hlth., Natl. Inst. on Drug Abuse, Natl. Inst. of Hlth.*
- 9:00 Q18 **678.06** Interlinked electrophysiological, hemodynamic, and cerebrospinal fluid oscillations appear in the human brain during sleep. N. FULTZ; G. BONMASSAR; K. SETSOMPPOP; R. STICKGOLD; B. R. ROSEN; J. R. POLIMENI; L. D. LEWIS*. *Boston Univ., Harvard Med. Sch., Massachusetts Gen. Hosp. / Harvard Med. Sch., Ctr. For Sleep and Cognition, Massachusetts Gen. Hosp., MGH/ Harvard Med. Sch.*
- 8:00 DP09/R1 **678.07** (Dynamic Poster) Ancestral neural signatures of sleep. L. C. LEUNG*; G. X. WANG; R. MADELAINE; G. SKARIAH; K. KAWAKAMI; K. DEISSEROTH; A. E. URBAN; P. MOURRAIN. *Stanford Univ., Natl. Inst. of Genet., Stanford Univ., Stanford Univ.*
- 11:00 R2 **678.08** Dynamic alterations in spontaneous neural activity at the sleep onset period: A simultaneous EEG-fMRI study. T. ISHII*; T. KOIKE; E. NAKAGAWA; M. SUMIYA; T. ASO; N. SADATO. *Human Brain Res. Center, Kyoto Univ. Grad. Sch. of Med., Natl. Inst. for Physiological Sci.*

Wed. AM

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 R3 **678.09** Firing dynamics of identified parietal cortical pyramidal cells and interneurons in nonREM sleep. S. BORDÉ*; R. G. AVERKIN; J. HORVÁTH; V. DASHKOVSKIY; B. BOZSÓ; V. SZEMENYEI; G. TAMAS. *Univ. of Szeged*.
- 9:00 R4 **678.10** ● Functionally related brain areas exhibit a higher proportion of simultaneous sleep spindles. F. KATSUKI*; J. T. MCKENNA; Y. BOLORTUYA; J. M. MCNALLY; R. E. BROWN. *VA Boston Healthcare System/Harvard Med. Sch.*
- 10:00 R5 **678.11** Cortical sleep rhythms drive coordinated corticostriatal activity during motor skill learning. S. M. LEMKE*; D. RAMANATHAN; K. GANGULY. *UCSF, UCSD*.
- 11:00 R6 **678.12** Decoding electrophysiological arousal state from fast fMRI data. S. D. WILLIAMS*; U. AGRAWAL; J. CHEN; B. SETZER; N. FULTZ; L. D. LEWIS. *Boston Univ., Harvard Med. Sch., Athinoula A. Martinos Ctr. for Biomed. Imaging, Massachusetts Gen. Hosp., Boston Univ.*
- 8:00 R7 **678.13** Temporal organization of brain electrical activity in obstructive sleep apnea: Sex differences. Z. MUNOZ-TORRES*; U. JIMÉNEZ-CORREA. *Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México*.
- 9:00 R8 **678.14** Strong cortical activation of task related neural activity during REM and SWS sleep precedes rapid learning of a motor skill. M. J. ECKERT; B. L. MCNAUGHTON; M. TATSUNO*. *The Univ. of Lethbridge, The Univ. of California, Irvine*.
- 10:00 R9 **678.15** Modulation of the cortical population dynamics by phasic activation of the locus coeruleus. E. DURÁN*; M. YANG; R. NEVES; N. K. LOGOTHETIS; O. ESCHENKO. *Max Planck Inst. For Biol. Cybernetics*.
- 11:00 R10 **678.16** Sleep spindle quality reflects spatio-temporal dynamics of oscillatory activity within cortical networks in mice. C. BLANCO DUQUE*; L. KRONE; M. C. KAHN; P. ACHERMANN; D. M. BANNERMAN; E. OLBRICH; V. V. VYAZOVSKIY. *Univ. of Oxford, Univ. of Zurich, Univ. of Oxford, Max Planck Inst. for Mathematics in the Sci.*
- 8:00 R11 **678.17** Optogenetic activation of medial prefrontal cortex fibers in the dorsal raphe (DR) increases dark phase sleep-like behavior and requires hypocretin/orexin (OX) neuropeptides. N. E. MOLINA*; E. A. BERRY; K. THOMPSON; M. ISHIBASHI; C. S. LEONARD. *New York Med. Col., New York Med. Col., NYMC, Hamamatsu Univ. Sch. of Med., New York Med. Coll.*
- 9:00 R12 **678.18** Effects of learning and sleep on ribosome phosphorylation and ribosome-associated mRNAs in different hippocampal neuronal populations. J. DELORME*; V. K. KODOTH; S. J. ATON. *Univ. of Michigan, Univ. of Michigan*.
- 10:00 R13 **678.19** Sleep spindles and gamma brain connectivity during NREM sleep: An insight from intracranial electrodes. V. ZAPATA; D. HENAO; L. MAYOR; M. NAVARRETE; M. LE VAN QUYEN; M. VALDERRAMA*. *Univ. of Los Andes, Cardiff Univ., Lab. d'Imagerie Biomédicale - INSERM*.
- 11:00 R14 **678.20** Simultaneous measurements of the brainstem sleep-wake neuronal activity indicates non-discrete state transitions. F. BAHARI*; M. W. BILLARD; C. CURAY; J. KIMBUGWE; K. D. ALLOWAY; B. J. GLUCKMAN. *Pennsylvania State Univ.*
- 8:00 R15 **678.21** Aberrant homeostatic sleep processes following exposure to chronic social defeat stress. B. M. RADWAN*; G. JANSEN; A. YANEZ; S. HAMMAMI; S. DEMAS; R. KHALIL; D. CHAUDHURY. *New York Univ. Abu Dhabi, Univ. of Cambridge, American Univ. of Sharjah*.
- 9:00 R16 **678.22** Deep-brain imaging of lateral hypothalamic vGAT neurons during sleep. C. BLANCO-CENTURION; S. LUO; A. VIDAL-ORTIZ; Y. SUN; M. LIU; P. J. SHIROMANI*. *Med. Univ. of South Carolina, Ralph H Johnson VA Med. Ctr.*
- 10:00 R17 **678.23** High-density EEG investigation of sleep in REM sleep behavior disorder. A. VALOMON*; B. A. RIEDNER; S. G. JONES; K. P. NAKAMURA; G. TONONI; D. T. PLANTE; R. M. BENCA; M. BOLY. *Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison, UW Hlth., Univ. of California, Irvine*.
- 11:00 R18 **678.24** ▲ Daily rhythm of orexin immunoreactivity and release in a diurnal rodent model of seasonal affective disorder. A. MOODY*; K. GEORGE; K. LINNING-DUFFY; J. LONSTEIN; L. YAN. *Michigan State Univ., Michigan State Univ.*
- 8:00 R19 **678.25** Too sad to sleep? Sleep patterns in a rodent SAD model analyzed by the piezoelectric system. S. D. PHILLIPS*; H. XIONG; K. DONOHUE; B. F. O'HARA; J. S. LONSTEIN; L. YAN. *Michigan State Univ., Univ. of Kentucky, Michigan State Univ.*
- 9:00 R20 **678.26** Effect of closed-loop auditory stimulations on sleep homeostasis and delta waves dynamics. K. EL KANBI*; K. BENCHENANE. *CNRS, MOBS Team, Brain Plasticity Unit, UMR CNRS ESPCI*.

POSTER

679. Circadian Clocks

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 S1 **679.01** *In vivo* cell specific characterization of AVP neurons in the mouse suprachiasmatic nucleus. A. C. STOWIE*; I. ELLIS; D. CAMACHO; M. BENVENISTE; A. J. DAVIDSON. *Morehouse Sch. of Med.*
- 9:00 S2 **679.02** Implantable microimaging CMOS sensor for deep brain gene expression analysis in freely behaving mice. J. OLOROCISIMO*; J. BRIONES; R. REBUSI; Y. OHTA; M. HARUTA; K. SASAGAWA; Y. NAKAHATA; Y. BESSHO; J. OHTA. *Nara Inst. of Sci. and Technol.*
- 10:00 S3 **679.03** Characterization of SynGAP circadian expression within the murine suprachiasmatic nucleus. S. ATEN*; K. R. HOYT; K. OBRIETAN. *Ohio State Univ., Ohio State Univ., Ohio State Univ. Dept. of Neurosci.*
- 11:00 S4 **679.04** Somatostatin contributes to light-driven plasticity of circadian behavior and master clock function. D. A. JOYE*; M. ARZBECKER; T. INDA; A. WUORINEN; N. O'NEILL; A. TELEGA; E. HERFF; J. A. EVANS. *Marquette Univ.*
- 8:00 S5 **679.05** Circadian circuits underlying daily rhythms in corticosterone release. J. R. JONES*; E. D. HERZOG. *Washington Univ. in St. Louis*.
- 9:00 S6 **679.06** Tonic and synaptic GABA_A receptor-mediated currents in suprachiasmatic nucleus neurons. M. MOLDAVAN; O. CRAVETCHI; C. N. ALLEN*. *Oregon Hlth. Sci. Univ.*

- 10:00 S7 **679.07** Colocalization of Na⁺/Ca²⁺ exchanger NCX1 and L-type Ca²⁺ channel Ca_v1.2 with neuropeptides in the rat suprachiasmatic nucleus. Y. CHEN; R. HUANG*. *Chang Gung Univ. Col. of Med.*
- 11:00 S8 **679.08** Functional network of suprachiasmatic nucleus in the human brain using independent component optimization. B. KIM; Y. JUNG; J. BAE; H. KIM; M. BYUN; Y. LEE; Y. SON*; D. LEE. *Gachon Advanced Inst. for Hlth. Sci. & Technol., Gachon Univ., Seoul Natl. Univ. Hosp.*
- 8:00 S9 **679.09** Gene expression rhythms in the suprachiasmatic nucleus are changed during timed daily restricted feeding. T. D. NIEPOKNY*; A. RASTOGI; E. M. MINTZ. *Kent State Univ., Kent State Univ., Kent State Univ.*
- 9:00 S10 **679.10** ▲ Regional specializations of arginine vasopressin neurons in the suprachiasmatic nucleus. Y. CARBAJAL*; R. HOLT; J. LESAUTER; R. SILVER. *Barnard Col., Barnard Col., Columbia Univ.*
- 10:00 S11 **679.11** Integration of neuropeptide signaling sets the phase of the master circadian clock. K. E. ROHR*; J. A. EVANS. *Marquette Univ.*

POSTER

680. Central Regulation of Thirst and Water Balance

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 S12 **680.01** Electrophysiological effects of secretin among distinct neural populations of subfornical organ. F. ZHANG*; L. ZHANG; W. YUNG; B. K. C. CHOW. *The Univ. of Hong Kong, Jinan Univ., The Chinese Univ. of Hong Kong.*
- 9:00 S13 **680.02** Sodium palatability in spontaneously hypertensive rats with angiotensin type 1 receptor blockade in the brain. E. D. PEREIRA JR; G. M. F. ANDRADE-FRANZÉ; J. V. MENANI*; L. A. DE LUCA JR; C. A. F. ANDRADE. *Dent. School, UNESP.*
- 10:00 S14 **680.03** Estimation of current and future physiological states by insular cortex. Y. LIVNEH*; A. U. SUGDEN; J. C. MADARA; V. I. FLORES; L. A. SUGDEN; J. M. RESCH; B. B. LOWELL; M. L. ANDERMANN. *BIDMC, Harvard Med. Sch., Brown Univ.*
- 11:00 S15 **680.04** AT₂ angiotensin receptor involved on sucrose intake induced by water deprivation. M. H. PAES; L. M. CARDOSO; L. B. DE OLIVEIRA*. *Fed. Univ. Ouro Preto - UFOP.*
- 8:00 S16 **680.05** Distinct neural circuits for food- and water-related presystemic regulation of vasopressin release. A. KIM*; J. C. MADARA; M. L. ANDERMANN; B. B. LOWELL. *BIDMC, Harvard Med. Sch.*
- 9:00 S17 **680.06** Brattleboro rats are more sensitive to the glucagon-like peptide-1 receptor agonist, exendin-4. D. J. BRAKEY*; K. C. SCHATZ; M. J. PAUL; D. DANIELS. *State Univ. of New York at Buffalo.*
- 10:00 S18 **680.07** Adult drinking behavior is altered by early life exclusive access to sucrose solution. K. L. VOLCKO*; D. J. BRAKEY; J. T. PRYZBYZ; D. DANIELS. *Univ. at Buffalo SUNY.*
- 11:00 T1 **680.08** Pre-locus coeruleus in rat and mouse. S. GASPARINI*; A. M. GORE; L. PELTEKIAN; J. C. GEERLING. *Univ. of Iowa.*

- 8:00 T2 **680.09** ▲ Giot1 participates in the modulation of ingestive behavior. A. R. TERRA DOS SANTOS*; W. L. REIS; J. B. LIMA; J. T. DOMINGUES; L. D. DE ARAUJO; M. GREENWOOD; M. GREENWOOD; L. L. K. ELIAS; D. MURPHY; J. ANTUNES-RODRIGUES. *Univ. of Sao Paulo, Univ. Bristol.*
- 9:00 T3 **680.10** Angiotensin II-responsive brain areas relay with structures involved in associative learning. Q. E. CARROLL*; D. DANIELS. *Univ. at Buffalo - The State Univ. of Ne.*
- 10:00 T4 **680.11** The effects of MDMA on central circuits mediating fluid balance in rodents. J. C. WYROSDIC*; C. W. BOURQUE. *McGill Univ. Hlth. Ctr.*
- 11:00 T5 **680.12** Anatomical organization of the subfornical organ. A. HICKS*; S. KOBRINSKY; M. PRAGER-KHOUTORSKY. *McGill Univ., McGill Univ., McGill Univ.*

POSTER

681. Development: Diet and Metabolism

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 T6 **681.01** Gender-specific regulation of brain inflammation and metabolism by erythropoietin in mice. S. DEY; M. GASSMANN; C. T. NOGUCHI*. *Natl. Inst. of Diabetes and Digestive and Kidney Dis., Univ. of Zurich.*
- 9:00 T7 **681.02** Dietary oleic acid modulates feeding behavior by controlling OEA response. M. IGARASHI*; K. IWASA; K. YOSHIKAWA; T. TSUDUKI; I. KIMURA. *Tokyo Univ. of Agr. and Technol., Saitama Med. Univ., Tohoku Univ.*
- 10:00 T8 **681.03** Dietary interventions during reproductive period affects metabolic profile in dam's mice and the behavioral parameters of the offspring in a long-term. J. FISCH; V. FEISTAUER; A. A. ANDRADE; V. B. BOLLIS; C. K. S. OLIVEIRA; A. DE MOURA; R. P. GUEDES; A. G. BARSCHAK*; M. GIOVENARDI. *Univ. Federal de Ciências da Saúde de Porto Alegre.*
- 11:00 T9 **681.04** Maternal consumption of sugar-sweetened beverages in pregnancy and lactation alters food preferences in the Wistar rat offspring. D. OLIVO RAMIREZ*; C. QUINTERO NARANJO; L. ROJAS ROSAS; G. LÓPEZ RODRÍGUEZ; M. GALVÁN. *Univ. Autónoma del Estado de Hidalgo.*
- 8:00 T10 **681.05** Estradiol-mediated protection from diet-induced obesity in female mice is associated with changes in gut microbiota. K. D. ACHARYA*; M. GRAHAM; H. NOH; S. SUK; R. FRIEDLINE; J. CHEN; J. KIM; M. TETEL. *Wellesley Col., Univ. of Massachusetts Med. Sch., Mayo Clin.*
- 9:00 T11 **681.06** The role of CAPS1 RNA editing in energy homeostasis. K. M. SHUMATE*; R. B. EMESON. *Vanderbilt Univ.*
- 10:00 T12 **681.07** High fat diet modifies the feeding behavior and induces brain, colon and liver alterations which is not exacerbated by E17. D. DIAZ-URBINA*; E. I. MEDINA REYES; N. L. DELGADO BUEN-ROSTRO; V. E. LÓPEZ ALONSO; R. E. ESCARTIN PÉREZ; J. M. MANCILLA DÍAZ; J. L. REYES; M. I. GONZALES; Y. I. CHIRINO LÓPEZ. *Facultad de Estudios Superiores Iztacala-Unam, Facultad de Estudios Superiores Iztacala-Unam.*

Wed. AM

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 T13 **681.08** Human umbilical derived mesenchymal stem cell transplant in adipose tissue improve fear conditioning memory in a diet-induced obese mouse model. S. SAIIEVA*; B. KRISHNAN; N. ABATE; G. TAGLIALATELA. *Univ. of Texas Med. Br., Univ. of Palermo, Univ. of Texas Med. Br.*
- 8:00 T14 **681.09** Sensitivity to ghrelin is increased in female offspring of rat model of vertical sleeve gastrectomy. R. A. SPANN*; B. A. WELCH; B. E. GRAYSON. *Univ. of Mississippi Med. Ctr.*
- 9:00 T15 **681.10** The conundrum of gaining weight: Blame it on genetics? Z. YING*; G. ZHANG; X. YANG; F. GOMEZ-PINILLA. *UCLA, UCLA Brain Injury Res. Ctr.*
- 10:00 T16 **681.11** Sex differences in the metabolic and cognitive outcomes of high fat diet preference and exercise in rats. T. Y. YANG*; Z. GAO; F. NAJERA; G. PETRUS; N. LIANG. *Univ. of Illinois-Urbana Champaign, Univ. of Illinois-Urbana Champaign.*
- 11:00 T17 **681.12 ▲** Access to snacks in female rats from weaning onward causes weight gain and signs of metabolic syndrome but does not alter hypothalamic POMC and NPY. H. R. ARCHER; R. A. CURTO; C. L. RODRIGUEZ; L. F. SMITH; M. A. SAMUEL; C. A. EASTERLIN; A. N. MINUTILLO; R. C. CLAWSON; K. A. BEZOLD; H. I'ANSON*. *Washington & Lee Univ.*
- 8:00 T18 **681.13** Early hypercaloric diet exposure reduces brain BDNF content and impacts on episodic memory in Wistar rats. K. BERTOLDI*; R. P. PALAZZO; A. GREFFENHAGEN; B. B. DA SILVA; L. C. F. DE MEIRELES; I. L. S. TORRES; I. R. SIQUEIRA. *Univ. Federal Do Rio Grande Do Sul, Univ. Regional Integrada do Alto Uruguai e das Missões.*
- 9:00 T19 **681.14** Hypercaloric-induced obesity is influenced by chronic stress and can be modulated by transcranial direct-current stimulation (tDCS) in male wistar rats. D. J. STEIN*; J. S. DE FREITAS; C. DE OLIVEIRA; I. C. MACEDO; I. L. S. TORRES. *Univ. Federal do Rio Grande do Sul, Hosp. de Clínicas de Porto Alegre, Univ. Federal do Rio Grande do Sul, Faculdade São Francisco de Assis, Univ. Federal do Pampa.*
- 10:00 T20 **681.15** Maternal food restriction reduces cocaine and amphetamine regulated transcript (CART) neurons in the lateral hypothalamic area of aged rats. C. M. MACHADO*; M. G. MARTINS; I. Z. GUIATI; J. C. BITTENCOURT; J. C. HORTA, Jr. *Inst. of Biosci. of Botucatu, Faculdades Integradas de Bauru, Inst. of Biosci. of Botucatu, Sch. of Dent., Inst. of Biomed. Sci.*
- 11:00 U1 **681.16 ▲** Gestational exposure to high fat diet in mice alters hypothalamic MeCP2 expression in a sexually dimorphic way. S. BISHOP; J. FRAYRE; P. FRAYRE; C. MANI; M. J. MORRIS; E. NA*. *Texas Woman's Univ.*
- 8:00 U2 **681.17 ▲** Dietary augmentation with monosodium glutamate: Behavioral and neurophysiological correlates in a rat model. F. LI*; E. P. WIERTELAK. *Macalester Col., Macalester Col.*
- 9:00 U3 **681.18** Hypercaloric diet in juvenile rats induced adult overweight, decreased striatal and increased hypothalamic monoamines activities in adulthood. N. MOREIRA*; J. M. DACLÉ; P. R. SILVA; T. B. KIRSTEN; J. C. FLÓRIO; T. M. REIS-SILVA; A. C. S. SAMPAIO; M. C. GALVÃO; K. E. KIATAQUI; E. F. BONDAN; L. V. BONAMIN; M. M. BERNARDI. *Paulista Univ., Univ. of São Paulo.*
- 10:00 U4 **681.19** Effects of chronic central insulin infusion on food intake of offspring from mild hyperglycemic rats. A. C. KISS*; M. G. MARTINS; G. P. OLIVEIRA; A. G. CRUZ; B. C. WOODSIDE. *Sao Paulo State University, Campus Botucatu, Univ. of São Paulo, Concordia Univ.*
- 11:00 U5 **681.20** Knockout of SNAT10 (SLC38A10) in mice causes a lowered body weight in adolescent and adult mice, along with altered levels of amino acids in plasma, but do not give rise to a behavioural phenotype. F. A. LINDBERG*; K. NORDENANKAR; R. FREDRIKSSON. *Uppsala Univ.*
- 8:00 U6 **681.21 ▲** Hypertensive and arrhythmogenic effects of an energizing naturist supplement in young university students in the state of Hidalgo, Mexico. J. ARIAS-RICO*; O. A. JARAMILLO-MORALES; E. V. RAMIREZ-JIMENEZ; M. BAUTISTA-AVILA; E. RAMIREZ-MORENO; R. C. JIMENEZ-SANCHEZ; R. BARRERA-GALVEZ. *Univ. Autonoma Del Estado De Hidalgo, Univ. Autonoma del Estado de Hidalgo, Univ. Autonoma del Estado de Hidalgo.*
- 9:00 U7 **681.22** Identification of exercise-specific functional brain network and its exercise-intensity dependency. N. KUBOTA*; H. KASAHARA; S. AMEMIYA; T. NISHIJIMA; I. KITA. *Tokyo Metropolitan Univ.*

POSTER

682. Food Reward

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 U8 **682.01** Activation of the lateral hypothalamus GABAergic neurons enhance hedonic value to nearest stimuli and promotes consummatory behavior. D. A. GARCIA*; J. LUIS ISLAS; A. I. HERNANDEZ-COSS; L. PURON SIERRA; R. GUTIERREZ. *UNAM, CINVESTAV.*
- 9:00 U9 **682.02 ●** Opposite codification of sucrose palatability by GABAergic and glutamatergic lateral hypothalamus neurons. A. HERNANDEZ-COSS*; M. HERNANDEZ LUNA; R. GUTIERREZ. *CINVESTAV, CINVESTAV, CINVESTAV - IPN.*
- 10:00 U10 **682.03** Nucleus accumbens and lateral hypothalamus neural responses during appetitive and consummatory behaviors in an instrumental task with solid and liquid rewards. B. I. DURAN-SOSA*; R. GUTIERREZ. *CINVESTAV.*
- 11:00 U11 **682.04** Central oxytocin signaling inhibits motivated responding for palatable food. C. M. LIU*; A. N. SUAREZ; R. A. FATEMI; E. E. NOBLE; S. E. KANOSKI. *USC.*
- 8:00 U12 **682.05** MCH neuron activity is sufficient for reward and reinforces feeding. I. AKLAN; N. S. ATASOY*; Y. YAVUZ; D. ATASOY. *Univ. of Iowa.*
- 9:00 U13 **682.06** Getting to the nitty-gritty: Probing the mechanism of interaction between ghrelin and endocannabinoid systems at ventral tegmental area dopamine neurons. A. W. EDWARDS*; L. HYLAND; M. J. CHEE; A. ABIZAID. *Carleton Univ.*
- 10:00 U14 **682.07 ▲** The role of glutamatergic transmission in melanin-concentrating hormone neurons in the lateral hypothalamus. A. S. SANKHE*; D. BORDELEAU; D. M. ALFONSO; G. WITTMANN; M. J. CHEE. *Carleton Univ., Tufts Med. Ctr.*

- 11:00 U15 **682.08** Impact of protein appetite on the dopamine mesolimbic system. F. NANEIX*; G. CHIACCHIERINI; K. Z. PETERS; E. M. S. SNOEREN; J. E. MCCUTCHEON. *Univ. of Leicester, UiT The Arctic Univ. of Norway.*
- 8:00 U16 **682.09** Opioid receptor-mediated physical dependence following sugar intake expressed in a model of withdrawal-suppressed behavior. B. D. FISCHER*; C. KROLL. *Cooper Med. Sch. of Rowan Univ.*
- 9:00 U17 **682.10** The dopamine D4 receptor antagonist L-745,870 decreases body weight gain, food intake and food-reinforced behavior in rats exposed to an energy-dense diet. R. ESCARTIN-PEREZ*; R. CRUZ-TRUJILLO; F. CORTÉS-SALAZAR; D. DÍAZ-URBINA; J. SUÁREZ-ORTÍZ; A. HERNÁNDEZ-GUTIÉRREZ; V. LÓPEZ-ALONSO; J. MANCILLA-DÍAZ. *UNAM, FES Iztacala, Univ. Autónoma de Chiapas, Inst. Politécnico Nacional.*
- 10:00 U18 **682.11** Evolution of neural ensembles coding reward seeking and taking in the medial prefrontal cortex. Y. ZHANG*; G. BARBERA; B. LIANG; L. ZHANG; Y. LI; Y. SHAHAM; D. LIN. *NIDA/NIH, Dept. of Zoology and Physiology, Univ. of Wyoming.*
- 11:00 U19 **682.12** Endocannabinoid modulation of chemosensation underlying altered food preferences in *C. elegans*. A. LEVICHEV*; S. FAUMONT; R. Z. BERNER; Z. PURCELL; S. R. LOCKERY. *Univ. of Oregon, Univ. of Oregon.*
- 8:00 U20 **682.13** Leptin receptor-expressing neurons in lateral hypothalamus regulates food-seeking behavior. Y. LEE*; D. HA; J. PARK; H. SONG; H. CHOI. *Seoul Natl. Univ.*
- 9:00 U21 **682.14** Enhanced incentive motivation, interactions between susceptibility to obesity and NAc CP-AMPA mediated transmission. R. C. DERMAN; F. SANCHEZ CONDE; C. R. FERRARIO*. *The Univ. of Michigan.*
- 10:00 U22 **682.15** Input specific alterations in CP-AMPA mediated transmission in the NAc core following junk-food diet consumption. T. L. FETTERLY*; C. R. FERRARIO. *The Univ. of Michigan.*
- 11:00 U23 **682.16** Effects of the estrous cycle and junk-food diet on nucleus accumbens core medium spiny neuron excitability. Y. ALONSO CARABALLO*; H. PAPACOSTAS QUINTANILLA; C. R. FERRARIO. *Univ. of Michigan, CINVESTAV, The Univ. of Michigan.*
- 8:00 U24 **682.17** Mu opioid receptors in the medial orbital cortex regulate licking microstructure and the expression of reward value. S. R. WHITE*; M. LAUBACH. *American Univ.*
- 9:00 U25 **682.18** Time matters: Effects of instantaneous fluid volume on reward signals in the rat medial frontal and orbitofrontal cortex. L. M. AMARANTE*; M. MITCHELL; J. WILSON; K. ALDENDERFER; J. NEWPORT; M. LAUBACH. *American Univ., American Univ., American Univ.*
- 10:00 U26 **682.19** Sex differences in motivation to consume sucrose following abstinence and environmental enrichment in Long-Evans rats. J. W. GRIMM*; F. SAUTER; D. MACDOUGALL; E. SPAULDING; S. GIADONE; K. STENSGAARD; M. HARDY. *Western Washington Univ.*

- 11:00 U27 **682.20** ▲ Fmri and satiety related hormones pre and post sleeve gastrectomy. S. ENAYET; S. BABOUMIAN; J. HO; M. ZHONG*; S. PANTAZATOS; O. CHINCHWADKAR; A. FLEET; A. GELIEBTER. *Inst. of Human Nutrition, Columbia Univ. Med. Ctr., Icahn Sch. of Med. at Mount Sinai, and St. Luke's Mount Sinai Hosp., St. Luke's Mount Sinai Hosp., New York State Psychiatric Inst. and Dept. of Psychiatry at Columbia Univ., Touro Col. and Univ. Syst.*
- 8:00 U28 **682.21** Brain substrates of hedonic hunger: Cortical-subcortical imbalance and the brain response to food cues. J. ELKIND*; A. R. CHILDRESS; P. S. REGIER; A. M. TEITELMAN; K. JAGANNATHAN. *Univ. of Pennsylvania, Univ. PENN Perelman Sch. Med., Univ. of Pennsylvania, Univ. of Pennsylvania.*

POSTER

683. Central Pathways Controlling Food Intake and Energy Balance

Theme F – Integrative Physiology and Behavior

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 U29 **683.01** Neuroimaging of the sensory and nutrient components of food rewards in humans. P. A. KHORISANTONO*; P. C. FLETCHER; I. S. FAROOQI; F. GRABENHORST. *Univ. of Cambridge, Addenbrooke's Hosp.*
- 9:00 U30 **683.02** Select innervation of target regions by individual arcuate nucleus proopiomelanocortin neurons. M. J. METZ*; S. T. HENTGES. *Colorado State Univ.*
- 10:00 U31 **683.03** Hypothalamic microRNA-7 regulates energy homeostasis *in vivo*. M. P. LAPIERRE*; S. GODBERSEN; M. STOFFEL. *ETH Zürich.*
- 11:00 U32 **683.04** PVN RGS2 is critical for the regulation of energy homeostasis. Y. DENG*; U. SINGH; K. SAITO; H. CUI. *Univ. of Iowa.*
- 8:00 U33 **683.05** Role of p75 in leptin signaling. J. C. RYU; Y. LIU; B. PODYMA; B. XU; A. D. GULER; C. DEPPMANN; S. YOON*. *Ohio State Univ., Univ. of Virginia, Scripps Res. Inst. Florida, Univ. of Virginia.*
- 9:00 U34 **683.06** Identification of leptin-sensitive raphe neuron projections to the hypothalamic nuclei. N. D. MAXWELL*; L. P. REAGAN; J. R. FADEL; F. Z. LOYO-ROSADO; C. A. GRILLO. *Univ. of South Carolina Sch. of Med., WJB Dorn VA Med. Ctr.*
- 10:00 U35 **683.07** Ventromedial hypothalamus neuronal nitric oxide synthase expressing neurons project to the lateral hypothalamus. P. SARKAR*; H. WAJID; B. TRIAS; K. B. KNAPP; A. SINGH; V. H. ROUTH. *RBHS: New Jersey Med. Sch.*
- 11:00 U36 **683.08** Systematic analysis of high-spatial resolution mapping of hypothalamic markers involved in energy homeostasis regulation using Axiome neuroinformatics tools. C. GARCIA-LUNA*; G. SANCHEZ-WATTS; A. J. JOKIAHO; J. D. HAHN; A. G. WATTS. *USC.*
- 8:00 U37 **683.09** Expression of ERα in hippocampus, amygdala, and hypothalamus during altered energy states are dependent on sex. K. KROLICK*; H. SHI; X. LIU. *Miami Univ., Miami Univ.*
- 9:00 U38 **683.10** Functional mapping of the K_{ATP} channel-dependent central glucose regulatory circuit. H. TSAI*; Y. CHEN; S. YANG. *Inst. of Biomed. Sci., Institue of Biomed. Sci.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 U39 **683.11** Sexually dimorphic expression of melanocortin 3 receptors in neural circuits that link control of metabolism with reproductive state. M. N. BEDENBAUGH*; P. R. SWEENEY; K. YAM; R. D. CONE; R. B. SIMERLY. *Vanderbilt Univ., Univ. of Michigan, Univ. of Michigan.*
- 11:00 U40 **683.12 ▲** Dorsal raphe nucleus GABA neurons regulating energy balance. V. M. BHAVE*; M. SCHNEEBERGER; T. D. BANERJEE; L. PAROLARI; P. WANG; J. FRIEDMAN; A. NECTOW. *Princeton Univ., The Rockefeller Univ.*
- 8:00 V1 **683.13** Regulation of food intake and thermogenesis by the dorsal raphe nucleus. T. DAS BANERJEE*; V. M. BHAVE; M. SCHNEEBERGER PANE; A. R. NECTOW. *Princeton Univ., The Rockefeller Univ.*
- 9:00 V2 **683.14** Glutamate release from the PVN-NAc pathway decreases intake of high-fat food. A. E. SMITH*; J. M. KASPER; L. F. OCHOA; J. PERIS; G. VARGAS; J. D. HOMMEL. *Univ. of Texas Med. Br., Univ. of Texas Med. Br., Univ. of Texas Med. Br., Univ. of Florida.*
- 10:00 V3 **683.15** Hypothalamic OPN5 regulates thermogenesis in mammals. K. X. ZHANG*; B. A. UPTON; S. P. D'SOUZA; C. J. MADDEN; S. KERNODLE; A. J. HOLT; S. VEMARAJU; G. NAYAK; S. F. MORRISON; R. J. SEELEY; A. SWEENEY; R. A. LANG. *Cincinnati Children's Hosp. Med. Ctr., Cincinnati Children's Hosp. Med. Ctr., Oregon Hlth. & Sci. Univ., Univ. of Michigan, Univ. of Pennsylvania.*
- 11:00 V4 **683.16** Tachykinin-1-expressing neurons in the paraventricular nucleus (PVN) signal food availability and suppress food consumption. O. BARNHILL; J. SPERBER; F. GULAMALI; J. KIM; T. LEGAN; M. CARTER*. *Williams Col.*
- 8:00 V5 **683.17** Leptin suppresses GLP-1 innervation to the paraventricular nucleus of the hypothalamus and impairs postsynaptic signaling. J. E. BIDDINGER*; R. M. LAZARENKO; M. M. SCOTT; R. B. SIMERLY. *Vanderbilt Univ., Univ. of Virginia.*
- 9:00 V6 **683.18** The hypothalamic chemoarchitecture project, year 5: High-spatial resolution atlas-based mapping of neuronal populations expressing melanin concentrating hormone, hypocretin/orexin, and calbindin in the hypothalamus of the adult male rat. A. MARTINEZ; V. I. NAVARRO; K. ARIAS; J. BARNETT; A. CARREON; B. CASTANEDA; M. FLORES; J. MAGADAN; D. HEREDIA; J. HOOPER; T. LOPEZ; A. LOZANO; S. MENDEZ; N. MERCER; A. MUNOZ; L. ROSARIO MOJICA; R. SANCHEZ; K. SIERRA; D. SOTELO; X. STEVENS; A. TOCCOLI; Y. VERMA; H. VIZCARRA; A. M. KHAN*. *Univ. of Texas at El Paso, Univ. of Texas at El Paso.*
- 10:00 V7 **683.19 ▲** High-spatial resolution atlas-based mapping of chemoarchitecture within the forebrain: Selected studies of the bed nuclei of terminal stria and the ventral tegmental area. K. T. LORENZANA*; E. J. PEREZ; K. J. GALVAN; K. A. S. BURNETT; B. E. PINALES; A. M. KHAN. *The Univ. of Texas at El Paso.*
- 11:00 V8 **683.20 ▲** Distribution of neurons and/or fibers expressing cocaine and amphetamine regulated transcript, dopamine beta-hydroxylase, and alpha-melanocyte stimulating hormone within the hypothalamus: Chemoarchitectural mapping using a standardized rat brain atlas. K. A. S. BURNETT; B. E. PINALES*; E. J. PEREZ; K. T. LORENZANA; K. J. GALVAN; A. M. KHAN. *Univ. of Texas at El Paso.*
- 8:00 V9 **683.21 ▲** Distribution of beta-klotho mRNA within the brain. B. S. BONO*; M. J. CHEE. *Carleton Univ.*
- 9:00 V10 **683.22** Effect of melanin concentrating hormone on neuronal excitability and synaptic input to the lateral septum. M. A. PAYANT*; D. P. SPENCER; M. J. CHEE. *Carleton Univ.*
- 10:00 V11 **683.23** A central catecholaminergic circuit driving glucoprivation-induced feeding. S. BEAS*; X. GU; S. RODRIGUEZ; O. KOITA; A. V. KRAVITZ; B. A. MATIKAINEN-ANKNEY; M. HOON; M. A. PENZO. *Natl. Inst. of Gen. Med. Sci., Natl. Inst. of Mental Hlth., Natl. Inst. of Dent. and Craniofacial Res., Oregon Hlth. & Sci. Univ., Natl. Inst. of Diabetes and Digestive and Kidney Dis.*
- 11:00 V12 **683.24** Linking impaired neural network oscillations in hypothalamus and hippocampus to the hypocretinergic system in high-fat diet-induced obesity in mice. M. STOILJKOVIC; Y. TAN; C. KELLEY; M. HAJOS; T. L. HORVATH; X. GAO*. *Yale Univ. Sch. of Med., Guizhou Provincial People's Hosp., SUNY Downstate/NYU Tandon.*

POSTER

684. Depression: Physiology, Pharmacology, and Treatment

Theme G – Motivation and Emotion

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 V13 **684.01** Altered spatiotemporal dynamics of stimulus-evoked neural responses in clinical depression: An MEG study. V. POGHOSYAN; F. ALDOSARY; F. ALMOHAMMED; T. ALOTAIBI; B. ALQADHEEB; R. ALDOSARI. *King Fahad Med. City, King Fahad Med. City.*
- 9:00 V14 **684.02** Altered spatiotemporal dynamics of emotional neural processing in clinical depression: An MEG study. V. POGHOSYAN; F. ALDOSARY; F. S. ALMOHAMMED*; T. ALOTAIBI; B. ALQADHEEB; R. ALDOSARI. *King Fahad Med. City, King Fahad Med. City.*
- 10:00 V15 **684.03 ●** The effect of ketamine on corticostriatal circuitry in depressed and healthy individuals. A. MKRTCHIAN*; J. W. EVANS; J. P. ROISER; C. A. ZARATE, Jr. *Natl. Inst. of Mental Hlth., Univ. Col. London.*
- 11:00 V16 **684.04** Correlation between decrease of neuronal noise and depressive symptom severity. S. YUN*; B. JEONG. *KAIST.*
- 8:00 V17 **684.05** Normalization of abnormal brain activity of depressed people using a brain-computer interface system based on pattern classification of emotional brain states. S. RUIZ*; J. A. PEREIRA; A. RAY; M. RANA; P. OPAZO; C. BRETT; I. R. THAKKAR; R. TORRES; R. SITARAM. *Escuela de Medicina, Pontificia Univ. Catolica de Chile, Pontificia Univ. Católica De Chile, Univ. of Tuebingen, Univ. of Tuebingen, Pontificia Univ. Catolica De Chile.*
- 9:00 V18 **684.06 ▲** Temporal independent EEG microstates from simultaneous EEG and fMRI measurements and implications for 'big data'. J. H. TANG*; H. YUAN; Y. CHEN; M. PAULUS; J. BODURKA. *Univ. of Oklahoma, Laureate Inst. for Brain Research.*
- 10:00 V19 **684.07** Neural prediction of anxiety and depression when processing negative emotion. S. KIM*; Y. ZOH; S. M. GORKA; K. L. PHAN; W. AHN. *Seoul Natl. Univ., Univ. of Illinois at Chicago, Seoul Natl. Univ.*

- 11:00 V20 **684.08** Cross-sectional analysis of plasma cytokines and brain structure in untreated major depressive disorder. G. GRYGLEWSKI*; R. SEIGER; Z. KÖRNYEI; P. MICHENTHALER; L. RISCHKA; M. B. REED; L. SILBERBAUER; G. M. GODBERSEN; J. UNTERHOLZNER; A. KOMOROWSKI; É. MIKICS; A. DENES; R. LANZENBERGER. *Med. Univ. of Vienna, Inst. of Exptl. Med., Inst. of Exptl. Med.*
- 8:00 V21 **684.09** Precision psychiatry: Development of methodology for personalized therapeutic brain stimulation. R. CASH*; L. COCCHI; P. FITZGERALD; A. ZALESKY. *Melbourne Neuropsychiatry Ctr. & Dept. of Biomed. Engineering, The Univ. of Melbourne, Clin. Brain Networks Group, QIMR Berghofer, Monash Alfred Psychiatry Res. Ctr. & Epworth Healthcare, Melbourne Neuropsychiatry Ctr.*
- 9:00 V22 **684.10** • Machine learning identifies large-scale reward-related activity modulated by dopaminergic enhancement in major depression. Y. LIU*; R. ADMON; E. L. BELLEAU; R. H. KAISER; R. CLEGG; M. BELTZER; F. GOER; G. VITALIANO; P. AHAMMAD; D. A. PIZZAGALLI. *Blackthorn Therapeut., Univ. of Haifa, McLean Hosp., Harvard Med. Sch., Univ. of Colorado, McLean Hosp.*
- 10:00 V23 **684.11** Beneficial effects of physical activity/exercise on mood regulation. B. POPE*; L. WEGMAN-POINTS; A. ZOBEL; S. SAICHELLAPPA; L. YUAN. *Des Moines Univ.*
- 11:00 V24 **684.12** Characterizing the KEOPS complex in the DLPFC in depression. M. E. ABEL*; S. M. O'DONOVAN; E. BENTEA; K. ALGANEM; R. E. MCCULLUMSMITH. *Univ. of Toledo, Univ. of Cincinnati.*
- 8:00 V25 **684.13** Model-based identification of optimal stimulation protocols for treating intractable depression with subcallosal cingulate deep brain stimulation. B. HOWELL*; A. C. WATERS; K. CHOI; A. VEERAKUMAR; M. O. OBATUSIN; H. S. MAYBERG; C. C. MCINTYRE. *Case Western Reserve Univ., Mount Sinai Hlth. Syst., Emory Univ.*
- 9:00 V26 **684.14** • Electrophysiological features of subcallosal cingulate cortex in patients with treatment-resistant depression. S. ALAGAPAN*; V. TIRUVADI; M. ESLAMPANAH SENDI; A. WATERS; A. VEERAKUMAR; M. OBATUSIN; A. CROWELL; P. RIVA POSSE; R. J. BUTERA; H. S. MAYBERG; C. ROZELL. *Georgia Inst. of Technol., Emory Univ., Icahn Sch. of Med. at Mount Sinai.*
- 10:00 V27 **684.15** Recurrent neural network models of adaptive and maladaptive learning across species. M. AFZAL*; A. S. ANDALMAN; A. WATERS; E. CARTER; K. DEISSEROTH; H. S. MAYBERG; K. RAJAN. *Icahn Sch. of Med. At Mount Sinai, Stanford Univ., Stanford Univ. Dept. of Psychology.*
- 11:00 V28 **684.16** • Reinforcement learning makes distinct contributions to predict anhedonia in adults with depression after behavioral activation therapy. J. K. GOLLAN*; T. KAHNT; G. ABITANTE; J. DEARCANGELIS; Q. J. HUYS. *Northwestern Univ., Northwestern Univ., Div. of Psychiatry and Max Planck UCL Ctr. for Computat. Psychiatry and Ageing Res.*
- 8:00 V29 **684.17** Oscillatory mechanisms of electroconvulsive therapy (ECT) for major depressive disorder (MDD). S. E. SMITH*; V. MA; M. JACOBSON; D. PRINTZ; B. VOYTEK; M. SOLTANI. *Univ. of California San Diego, Univ. of California San Diego, VA San Diego Hlth. Syst., Univ. of California San Diego Hlth. Syst., Univ. of California San Diego, VA San Diego Hlth. Syst., Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego Hlth. Syst.*
- 9:00 V30 **684.18** Genetically encoded biosensors for rapidly acting antidepressants (RAADs) inside neurons. K. BERA*; A. KAMAJAYA; A. L. NICHOLS; A. V. SHIVANGE; P. M. BORDEN; B. N. COHEN; A. K. MUTHUSAMY; J. H. JEON; T. CHIN; J. S. MARVIN; C. H. KIM; J. H. WANG; P. DESHPANDE; L. L. LOOGER; H. A. LESTER. *Caltech, Janelia Res. Campus, Howard Hughes Med. Inst.*
- 10:00 V31 **684.19** Involvement of serotonin system in antidepressant like effects of quercetin 4'-O-glucoside in mouse model of unpredictable chronic mild stress induced depression. V. SINGH*; G. CHAUHAN; R. SHRI. *Maharaja Agrasen Univ., Punjabi Univ., Punjabi Univ.*
- 11:00 V32 **684.20** *In vitro* and *in vivo* characterization of group II mGlu receptor negative allosteric modulators as an alternative to ketamine for depression. D. J. SHEFFLER; M. B. BICAKCI; A. ANTWAN; N. PRAKASH; E. M. STANDARD; G. VELICELEBI; R. A. GADIENT; J. H. HUTCHINSON; D. R. PANICKAR; A. S. LIMPET; N. D. P. COSFORD; A. DER-AVAKIAN*. *Sanford Burnham Prebys Med. Discovery Inst., Univ. of California San Diego.*
- 8:00 V33 **684.21** Antidepressant effect of ketamine and (2R,6R)-hydroxynorketamine requires activation of cap-dependent mRNA translation initiation. A. AGUILAR VALLES*; E. MATTA CAMACHO; A. SKALEKA; M. ESLAMIZADE; D. DE GREGORIO; G. GOBBI; J. LACAILLE; N. SONENBERG. *Carleton Univ., McGill Univ., McGill Univ., Univ. De Montreal.*
- 9:00 V34 **684.22** Development of an optimized biosensor for the visualization of the selective serotonin reuptake inhibitor fluoxetine in the endoplasmic reticulum of live cells. L. LUEBBERT*; A. L. NICHOLS; P. M. BORDEN; A. V. SHIVANGE; J. H. WANG; A. K. MUTHUSAMY; J. S. MARVIN; L. L. LOOGER; H. A. LESTER. *Caltech, Leiden Univ., Howard Hughes Med. Inst.*
- 10:00 V35 **684.23** Effects of *in utero* EtOH exposure on biomarkers of depression and anxiety: pDING and the serotonin-dopamine pathway. N. DARBINIAN*; A. DARBINYAN; N. MERABOVA; G. TATEVOSIAN; S. AMINI; M. F. MORRISON; L. GOETZL; M. E. SELZER. *Lewis Katz Sch. of Med. at Temple Univ., Yale Univ. Sch. of Med., Temple Univ., Lewis Katz Sch. of Med. at Temple Univ., Univ. of Texas.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

POSTER

685. Mechanisms Underlying Depression and Anxiety

Theme G – Motivation and Emotion

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 V36 **685.01** Small conductance calcium-activated potassium channels (SKCs) as novel targets for the development of antidepressants. M. G. NASHED*; F. R. BAMBICO; I. GREIG; D. NGUYEN; H. LAU; J. ZHANG; D. OLEINICHENKO; M. BILLYARD; J. N. NOBREGA. *Ctr. For Addiction and Mental Hlth., Ctr. for Addiction and Mental Hlth., Univ. of Aberdeen.*
- 9:00 V37 **685.02** Activating transcription factor 4(ATF4)-dependent activation of the human tryptophan hydroxylase 2 gene is mediated through binding to a CCAAT/enhancer-binding protein(C/EBP)-ATF composite site in its promoter. H. MATSUI*; Y. NAWA; H. KANEKO; M. TSUBONoya; T. HIROI; R. TAKAHASHI. *Dept Mol Behav Neurosci, St. Marianna Univ. Grad Sch. Med., Inst. RI Res, St. Marianna Univ. Grad Sch. Med., Dept Biochem, Fac Pharm Sci, Toho Univ.*
- 10:00 V38 **685.03** Inhibition of K_{ATP} channel activity in brown fat reduces high fat diet-induced depression. Y. KUO*; P. CHEN. *Natl. Cheng Kung Univ., Natl. Cheng Kung Univ.*
- 11:00 V39 **685.04** Characterization of NV-5138, the first selective brain mTORC1 activator. E. GIAIME*; S. SENGUPTA; S. HAHM; G. P. VLASUK; E. SAIHAH. *Navitor Pharmaceuticals Inc.*
- 8:00 V40 **685.05** Distribution of multiple lysophosphatidic acid receptors in adult mouse brain. N. KAJITANI*; M. OKADA-TSUCHIOKA; H. ABE; W. OMORI; K. ITAGAKI; A. MACHINO; M. TAKEBAYASHI. *NHO kure Med. Ctr. and Chugoku Cancer Ctr., NHO kure Med. Ctr. and Chugoku Cancer Ctr., Hiroshima Univ., Kumamoto Univ.*
- 9:00 V41 **685.06** Psychoactive properties of BNN27 in both sexes - A novel neurosteroid derivate. M. G. SOTIROPOULOS*; N. KOKRAS; C. DIOLI; R. PARAVATOU; I. CHARALAMPOPOULOS; A. G. GRAVANIS; C. DALLA. *Med. School, Natl. and Kapodistrian Univ. of Athens, Sch. of Medicine, Univ. of Crete.*
- 10:00 V42 **685.07** In vivo anxiolytic and antidepressant activity of LCGA-17, a new peptide modulator of GABAergic system. A. MALYSHEV*; I. DORONIN; V. PAVSHINTCEV; V. GEDZUN; I. SUKHANOVA; E. RAZUMKINA; M. LOVAT; A. KUCHUMOV; G. BABKIN. *Lactocore, Inc.*
- 11:00 V43 **685.08** • (2R,6R)-hydroxynorketamine acts through a synapse-specific presynaptic mechanism to rapidly potentiate hippocampal glutamatergic transmission. L. M. RIGGS*; Y. ARACA; P. ZANOS; J. FISCHHELL; E. X. ALBUQUERQUE; E. F. R. PEREIRA; S. M. THOMPSON; T. D. GOULD. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*
- 8:00 V44 **685.09** Crosstalk between lysophosphatidic acid and cannabinoid receptor signalling in the regulation of antidepressant activation of MAP kinases in hippocampal neurons. M. C. OLIANAS*; S. DEDONI; P. ONALI. *Univ. of Cagliari, Univ. of Cagliari, Dept Biomed. Sci., Univ. of Cagliari, Dept Biomedical Sci.*
- 9:00 V45 **685.10** • Demonstration of high affinity, reversible JNJ-42226314 binding by monoacylglycerol lipase in brain homogenates and via autoradiography using [³H]SAR-127303. S. W. SUTTON*; B. LORD; T. W. LOVENBERG; P. BONAVENTURE. *Janssen Res. & Development, L.L.C.*
- 10:00 V46 **685.11** An instructive role for eukaryotic elongation factor 2 kinase in rapid antidepressant action. K. SUZUKI*; E. T. KAVALLALI; L. M. MONTEGGIA. *Dept. of Pharmacology, Vanderbilt Brain Institute, Vanderbilt Univ.*
- 11:00 W1 **685.12** Sex differences in the development of anxiodepressive-like behavior in mice with chronic pain. A. M. CARDENAS*; E. DIMITROV. *RFUMS.*
- 8:00 W2 **685.13** Effects of serotonin1A receptor agonist on doxorubicin and cyclophosphamide-induced anxiety-like behavior in rats. Y. KITAMURA*; Y. NAKAMURA; Y. SUMIYOSHI; N. NAITO; Y. WADA; I. MIYAZAKI; M. ASANUMA; T. SENDO. *Okayama Univ. Hosp., Okayama Univ., Okayama Univ. Grad. Sch.*
- 9:00 W3 **685.14** Effects of chronic and acute inhibition of cannabinoid CB2 receptor on anxiety levels and oxytocin activity. L. RODRÍGUEZ; P. MUNOZ; A. RAMOS; V. ENCARNACION; E. OLMEDO; F. GONZALEZ; W. NORZÉ; C. S. MALDONADO-VLAAR*. *Univ. Puerto Rico.*
- 10:00 W4 **685.15** Class II human leukocyte antigen expression influences behavioral manifestations of mild food allergy in mice. D. L. GERMUNDSON*; N. A. SMITH; K. NAGAMOTO-COMBS. *Univ. of North Dakota Sch. of Med. and Hlth. Sci.*
- 11:00 W5 **685.16** ▲ Anxiolytic effects of full-spectrum cannabidiol-rich hemp extracts in mice. J. WAGNER; R. ARVILA; M. BROOKS; H. WEBSTER; K. REID; F. MCGUINNESS; F. GAVIN; T. HARYU; B. PREDOVICH; J. S. KAPLAN*. *Western Washington Univ., Prelabs, LLC.*
- 8:00 W6 **685.17** Anxiolytic properties of Matcha in mice: Contribution of dopamine D1 receptor- and serotonin 5-HT_{1A} receptor-mediated mechanisms. Y. KURAUCHI*; H. PRASAD DEVKOTA; K. HORI; Y. NISHIHARA; T. SEKI; H. KATSUKI. *Dept Chemico-Pharmacol Sci, Grad Sch. Pharm Sci, Kumamoto Univ., Dept Med. Botany, Grad Sch. Pharm Sci, Kumamoto Univ.*
- 9:00 W7 **685.18** Neurotherapeutic effects of closed-loop stimulation in an NHP model of anxiety. S. R. SANTACRUZ; E. L. ZIPPI*; J. M. CARMENA. *Univ. of Texas at Austin, Univ. of California, Berkeley, Univ. of California, Berkeley.*
- 10:00 W8 **685.19** Cannabidiol effects on defensive responses and compulsive-like behaviors in rats considering the influence of sex and estral cycle. D. FABRIS*; K. GENARO; W. A. PRADO; J. S. CRIPPA; A. R. DE OLIVEIRA. *Federal Univ. of Sao Carlos (UFSCar), Univ. of California, Univ. of Sao Paulo.*
- 11:00 W9 **685.20** Anxiety-like behavior is differentially induced in C57BL/6J and BALB/cJ mice as a form of non-anaphylactic response to cow's milk allergy. N. A. SMITH*; D. L. GERMUNDSON; K. NAGAMOTO-COMBS. *Univ. of North Dakota Sch. of Med. and Hlth. Sci.*
- 8:00 W10 **685.21** Therapeutic potential of a single administration of the anticonvulsant pregabalin in extinguishing contextual aversive memory and inducing anxiolytic-like responses in diabetic animals. A. P. FARIAS WALTRICK*; A. H. B. DE LIMA SILVA; J. MENEZES ZANOVELI. *Federal Univ. of Paraná.*
- 9:00 W11 **685.22** Different types of stress affect rodent's performance in attentional set-shifting task. S. MA*; Y. ZUO. *UC Santa Cruz.*

POSTER

686. Psychiatric Disorder: Rodent Models

Theme G – Motivation and Emotion

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 W12 **686.01** Robust and replicable measurement for prepulse inhibition of the acoustic startle response. E. A. MILLER; D. B. KASTNER; M. N. GRZYBOWSKI; M. R. DWINELL; A. M. GEURTS; L. M. FRANK*. *Univ. of California San Francisco, Univ. of California San Francisco, Med. Col. of Wisconsin, HHMI and Univ. of California San Francisco.*
- 9:00 W13 **686.02** • Ethologically based behavioural and neurochemical characterisation of mice with loss of dysbindin-1A. C. M. O'TUATHAIGH*; L. DESBONNET; C. PAYNE; E. PETIT; R. COX; S. LOFTUS; G. CLARKE; O. TIGHE; S. WILSON; B. P. KIRBY; T. DINAN; J. L. WADDINGTON. *Univ. Col. Cork, Natl. Univ. of Ireland Galway, Royal Col. of Surgeons in Ireland, Univ. Col. Cork, GlaxoSmithKline, Royal Col. of Surgeons In Ireland.*
- 10:00 W14 **686.03** Binge eating disorder - Role of accumbal cocaine- and amphetamine-regulated transcript and orexin as well as impulsivity traits in a rat model. J. S. SCHULLER*; M. KOCH. *Univ. Bremen.*
- 11:00 W15 **686.04** Cortical serotonergic dysregulation in Gunn rat: A model for congenital hyperbilirubinemia. A. OH-NISHI*; S. MIURA; K. TSUCHIE; R. ARAUCHI; T. MIYAOKA; M. INAGAKI. *Shimane Univ., Shimane Univ.*
- 8:00 W16 **686.05** Role of microRNAs in impulsive behavior in rats: Implication for impulse control disorders associated with Parkinson's disease. T. DUFOURD*; D. MALLET; C. CARCENAC; S. BOULET; S. CARNICELLA. *Grenoble Inst. of Neurosciences - INSERM U1216.*
- 9:00 W17 **686.06** Prenatal tetrahydrocannabinol exposure causes strong reductions in omega-3 fatty acid levels in mesocorticolimbic brain circuits: Implications for increased neuropsychiatric vulnerability. T. D. JUNG*; M. CHANG KIT; K. YEUNG; D. HARDY; W. J. RUSHLOW; S. R. LAVIOLETTE. *Western Univ., Western Univ.*
- 10:00 W18 **686.07** Cocaine drives schizophrenia-like behaviors via reduced neuronal activity in the nucleus accumbens. S. HAM*; H. IM. *Korea Inst. of Sci. and Technol., Korea Inst. of Sci. & Technol.*
- 11:00 W19 **686.08** Neuroprotective effect of low field magnetic stimulation in cuprizone-induced demyelinated mice. Z. SUN*; Z. ZHANG; Y. HE; J. YANG. *Beijing Anding Hosp.*
- 8:00 W20 **686.09** Age-dependent effects of dentate gyrus inhibition on hippocampal pathology and psychosis-like behaviors in mice. D. SCOTT*; C. A. TAMMINGA. *UT Southwestern, Univ. of Texas Southwestern Med. Ctr. at Dallas.*
- 9:00 W21 **686.10** • Possible mild mitochondrial uncoupling and normal leak activity, with increased striatal complex I-II oxygen consumption in males in a murine, juvenile, two hit model of schizophrenia. O. HUBERT; C. MAURICE-GELINAS; P. SARRET; S. GRIGNON*. *Univ. De Sherbrooke, Philippe Sarret, Univ. De Sherbrooke.*
- 10:00 W22 **686.11** Chronic psychosocial stress during pregnancy affects maternal behavior and neuroendocrine function and modulates hypothalamic CRH signaling pathway. S. ZOUBOVSKY*; S. HOSEUS; J. SCHULKIN; L. MUGLIA. *Univ. of Cincinnati, Univ. of Washington, Cincinnati Children's Hosp. Med. Ctr.*

- 11:00 W23 **686.12** Olanzapine and clozapine differentially influence behavior in GluN1 DG-specific KO mice. F. DYBOWSKI*; C. A. TAMMINGA. *UT Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr. at Dallas.*
- 8:00 W24 **686.13** • Novel insights into purinergic P2X4-dopamine D2 receptor interaction in regulation of sensorimotor gating and underlying signaling molecules: A potential mechanism underlying psychiatric disorders. S. KHOJA*; L. ASATRYAN; M. W. JAKOWEC; D. L. DAVIES. *USC, USC, USC, USC.*
- 9:00 W25 **686.14** Modulation of brain networks by continuous theta burst stimulation in Mal de Debarquement syndrome. Y. CHEN*; D. GLEGHORN; B. DOUDICAN; Y. CHA; L. DING; H. YUAN. *Univ. of Oklahoma, Laureate Inst. of Brain Res., Univ. of Oklahoma, Stephenson Sch. of Biomed. Engin.*
- 10:00 W26 **686.15** ▲ The effect of traumatic brain injury on p300 amplitudes in impulsive vs. non impulsive antisocial personality disorder. A. PEREZ CORTEZ*; R. A. SCHUG. *California State University, Long Beach, California State University, Long Beach.*

POSTER

687. Other Psychiatric Disorders

Theme G – Motivation and Emotion

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 W27 **687.01** miR-19b is increased in peripheral blood of schizophrenic patients and affects proliferation and survival of hippocampal neural progenitor cells. S. BOKU*; T. HORAI; S. OKAZAKI; I. OTSUKA; K. MOURI; A. HISHIMOTO. *Kobe Univ. Grad. Sch. of Med., Kobe Univ. Grad. Sch. of Med.*
- 9:00 W28 **687.02** A genetics-first approach to understanding mechanisms of psychiatric disorders: subcortical alterations in 22q11.2 deletion syndrome and convergence with idiopathic neuropsychiatric illness. C. R. K. CHING*; P. M. THOMPSON; C. E. BEARDEN; E. 22Q11.2 DELETION SYNDROME WORKING GROUP. *Imaging Genet. Center, Univ. of Southern California, USC, UCLA, Dept. of Psychiatry and Biobehavioral Sciences, Semel Inst. for Neurosci. and Human Behavior and Dept. of Psychology; Univ. of California-Los Angeles; Imaging Genet. Center, Univ. of Southern California.*
- 10:00 W29 **687.03** Brain response on game craving according to personal preference for games. J. HA*; L. KIM. *Korea Inst. of Sci. and Technol., Univ. of Hanyang.*
- 11:00 W30 **687.04** Attention-deficit/hyperactivity disorder (ADHD) is a brain disorder marked by an ongoing pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development in order to explore abnormal brain functional connectivity (FC) and network property in ADHD, we calculated FC, global and local network efficiency and compared group differences between 30 ADHD boys and 30 age-matched healthy control using functional near-infrared spectroscopy imaging. We found significant differences between the two groups and we also found the differences were negatively correlated with inattention and hyperactivity/impulsivity symptoms in ADHD. M. WANG*; Y. TAN; Q. QIAN; H. NIU. *State Key Lab. of Cognitive Neurosci. and Learning & IDG/McGovern Inst. for Brain Research, Beijing Normal Univ., Peking Univ. Sixth Hospital/ Inst. of Mental Hlth.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 W31 **687.05** Elevation of complement pathway-related transcripts in midbrain in schizophrenia cases who display cytokine-related high inflammation profiles. T. D. PURVES-TYSON; D. A. ROTHMOND*; K. ROBINSON; C. SHANNON WEICKERT. *Neurosci. Res. Australia, Univ. of New South Wales.*
- 9:00 W32 **687.06** Transcranial direct current stimulation reduced food craving and nucleus accumbens response to high calorie food cues among individuals with obesity. M. LEE; K. LEE; J. KIM; H. BAEK; H. CHOI*. *Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ. Hosp., Korea Basic Sci. Inst.*
- 10:00 W33 **687.07** Forests and brain health: Emerging benefits. S. A. MASINO*. *Trinity Col.*
- 11:00 W34 **687.08** Molecular, cellular, neurodevelopmental, neuroimaging, and neurocognitive consequences of rare variants in the schizophrenia risk gene SETD1A. R. OSHONE*; M. CORTES-GUTIERREZ; A. CASELLA; E. HUMPHRIES; C. COLANTUONI; S. DETERA-WADLEIGH; T. POLLIN; B. MITCHELL; A. SHULDINER; F. MCMAHON; L. HONG; S. AMENT. *Inst. for Genome Sciences, Univ. of Maryland Sch. of Med., Physician Scientist Training Program and Program in Mol. Med., Program in Mol. Epidemiology, Univ. of Maryland Sch. of Med., Departments of Neurol. and Neuroscience, Johns Hopkins Univ. Sch. of Med., Human Genet. Branch, Intramural Res. Program, Natl. Inst. of Mental Hlth., Dept. of Medicine, Univ. of Maryland Sch. of Med., Dept. of Epidemiology and Publ. Health, Univ. of Maryland Sch. of Med., Maryland Psychiatric Res. Center, Univ. of Maryland Sch. of Med., Dept. of Psychiatry, Univ. of Maryland Sch. of Med.*
- 8:00 W35 **687.09** Alteration in resting-state functional connectivity of the anterior cingulate cortex in individuals with greater lifetime history of aggression. M. GOTRA; S. KEEDY*; J. WREN-JARVIS; R. LEE; E. F. COCCARO. *Rosalind Franklin Univ. of Med. and Sci., Univ. of Chicago, Univ. of Chicago.*
- 9:00 W36 **687.10** Sensitivity, biases and multisensory integration in the visual and haptic perception of elliptical shapes in patients with anorexia nervosa. G. RISSO*; R. M. MARTONI; G. CALZONE; L. BELLODI; G. BAUD-BOVY. *Italian Inst. of Technol., Universita' degli studi di Genova, I.R.C.C.S. San Raffaele-Turro, Milan, Italy, Univ. Vita-Salute San Raffaele, Univ. Vita-Salute San Raffaele.*
- 10:00 W37 **687.11** Neural correlates of emotion regulation in adults with ADHD. J. J. CAPELLA*; Y. HUNG; S. D. HOULIHAN; R. HOAGLAND; M. UCHIDA; S. GAILLARD; J. D. GABRIELI; J. BIEDERMAN. *MIT, Massachusetts Gen. Hosp.*
- 11:00 W38 **687.12** High rates of temporal discounting among individuals with heightened dissociative symptomatology. J. C. BASSO*; M. K. SATYAL; A. METPALLY; W. K. BICKEL. *Virginia Tech. Univ.*
- 8:00 W39 **687.13** Graph theory analysis of multimodal neuroimaging data in high-functioning adults with autism spectrum disorder. R. AYUB*; R. FLORES; L. FUNG; M. SAGGAR. *Stanford Univ., Stanford Univ.*

POSTER

688. Mechanisms Underlying Reward Dependence

Theme G – Motivation and Emotion

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 W40 **688.01** OPRM1 genotype-dependent opioid-ethanol interactions in male rhesus monkeys. J. S. OVERTON; T. PAREEK; J. E. COOK; R. ANTONYRAJ; D. M. PLATT*. *Univ. of Mississippi Med. Ctr.*
- 9:00 W41 **688.02** • A model of chronic voluntary oral oxycodone self-administration in female and male rats. G. ZANNI*; M. J. DESALLE; H. M. DETSCH; G. KHABIB; S. J. SIMMONS; A. A. DOUGHER; G. A. BARR; A. J. EISCH. *The Children's Hosp. of Philadelphia (CHOP), Univ. of Pennsylvania, Perelman Sch. of Medicine, Univ. of Pennsylvania.*
- 10:00 W42 **688.03** Balanced opioids provide excellent analgesia and reduced side effects. J. L. WHISTLER*; L. HE; S. W. GOODING; A. GAUR. *Univ. of California Davis, University of California Davis, Univ. of California Davis.*
- 11:00 W43 **688.04** Per2 influences locomotor sensitization and reward effects against morphine through dopamine transporter and opioid receptor activities in mesolimbic pathways. M. KIM*; C. BOTANAS; R. CUSTODIO; L. SAYSON; A. ABIERO; H. LEE; J. CHEONG; H. KIM. *Uimyung Research Inst. For Neurosci.*
- 8:00 W44 **688.05** Next-gen sequencing of RiboTag mRNA from striatal microglia identifies gene sets associated with morphine escalation and naloxone precipitated withdrawal. K. COFFEY*; A. J. LESIAK; R. MARX; E. K. VO; J. F. NEUMAIER. *Univ. of Washington.*
- 9:00 X1 **688.06** Genetic differences in nicotine withdrawal-induced learning deficits and nicotine metabolism across inbred mouse strains. S. M. MOONEY-LEBER*; L. R. SEEMILLER; L. R. GOLDBERG; P. SMITH; Y. TIAN; A. PATTERSON; G. PELTZ; T. J. GOULD. *Penn State Univ., Penn State Univ., Penn State Univ., Stanford Univ.*
- 10:00 X2 **688.07** Behavioral response in cocaine-sensitized female rats is related to lower GABA levels in the medial prefrontal cortex. L. FREESE*; M. FRAGA DE SOUZA; G. CALETTI; M. S. NIN; G. K. CURY; V. F. PERES; R. GOMEZ; H. M. T. BARROS. *Univ. Federal de Ciências da Saúde de Porto Alegre - UFCSPA, Univ. Federal do Rio Grande do Sul - UFRGS, Ctr. Universitário Metodista IPA, Univ. Federal de Ciências da Saúde de Porto Alegre - UFCSPA, Univ. Federal do Rio Grande do Sul - UFRGS, Univ. Federal de Ciências da Saúde de Porto Alegre - UFCSPA.*
- 11:00 X3 **688.08** Effects of environmental enrichment on behavioral measures of sensation/novelty seeking in inbred Fischer 344 and Lewis rats. K. ISHIWARI*; O. POLESSKAYA; A. A. PALMER; J. B. RICHARDS. *Univ. at Buffalo, UCSD.*
- 8:00 X4 **688.09** Behavioral effects of repeated intermittent ethanol access and withdrawal on male and female rats selectively bred for high immobility in the forced swim test. F. B. ALMEIDA*; L. M. B. DA COSTA; N. HEIDRICH; A. R. FONSECA; P. R. FERNANDES; F. F. S. DA SILVA; L. FREESE; M. S. NIN; H. M. T. BARROS. *UFCSPA, UFCSPA, Ctr. Universitário Metodista do IPA, UFRGS, UFCSPA.*

- 9:00 X5 **688.10** Effects of Ibogaine, synthetic indole molecules and environmental enrichment on cocaine-conditioned place preference. N. HEIDRICH*; T. F. BIF; C. FEDDERN; I. A. DA SILVA; S. GOLBSpan; A. R. FONSECA; F. B. ALMEIDA; P. R. FERNANDES; M. N. G. BIAJOLI; L. FREESE; H. M. T. BARROS. *Univ. Federal de Ciências da Saúde de Porto Alegre - UFCSPA, Univ. Federal de Ciências da Saúde de Porto Alegre - UFCSPA, Univ. Federal de Ciências da Saúde de Porto Alegre - UFCSPA.*
- 10:00 X6 **688.11** • The effects of caffeine on alcohol oral self-administration behavior and pre-frontal cortex DANA damage in rats. P. R. FERNANDES; C. FEDDERN; A. STEIMETZ; M. M. VIEIRA DA CUNHA; D. J. DE MOURA; J. SAFFI; L. FREESE; H. M. BARROS*. *UFCSPA, UFCSPA.*
- 11:00 X7 **688.12** Correlations between subunits of GABAA and NMDA receptors in chronic alcohol treated or withdrawal and the effect of taurine in the hippocampus of rats. R. GOMEZ*; A. W. HANSEN; F. B. ALMEIDA; L. F. PAULA; N. A. NIETIEDT; R. R. PULCINELLI; S. BANDIERA; L. D. IZOLAN; M. S. NIN; H. M. T. BARROS. *Univ. Federal do Rio Grande Do Sul (UFRGS), UFCSPA, Ctr. Universitário Metodista - IPA.*
- 8:00 X8 **688.13** Characterization of a post-dependent phenotype of alcohol use disorder. S. G. QUADIR*; C. D. ROHL; A. ZEABI; P. COTTONE; V. SABINO. *Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med.*
- 9:00 X9 **688.14** Modulation of emotional and neurogenic deficits elicited in three models of sucrose dependence. K. BEECHER*; A. JACQUES; S. ALI; N. CHAAYA; A. BELMER; S. BARTLETT. *Queensland Univ. of Technol.*
- 10:00 X10 **688.15** Sugar and expression of neuronal nicotinic receptors in the nucleus accumbens. S. ALI*; K. BEECHER; A. JACQUES; N. CHAAYA; A. BELMER; S. E. BARTLETT. *Queensland Univ. of Technol.*

POSTER

689. Neurobehavioral Effects of Cannabinoids

Theme G – Motivation and Emotion

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 X11 **689.01** Increased sensation seeking behavior is associated with caudate volumes in male adolescent marijuana users. P. SUBRAMANIAM*; E. MCGLADE; D. A. YURGELUN-TODD. *Univ. of Utah.*
- 9:00 X12 **689.02** Sex-related differences in subjective, but not neural, cue-elicited craving response in heavy cannabis users. S. PRASHAD*; R. P. HAMMONDS; A. L. WIESE; A. L. MILLIGAN; F. M. FILBEY. *Univ. of Texas at Dallas.*
- 10:00 X13 **689.03** Sex differences in endocannabinoid system adaptations to noradrenergic depletion in the murine locus coeruleus. E. J. VAN BOCKSTAELE*; J. A. ROSS; M. URQUHART; S. A. THOMAS; K. MACKIE; B. A. REYES. *Drexel Univ. Col. Of Med., Drexel Univ. Col. of Med., Univ. of Pennsylvania, Indiana Univ., Drexel Univ.*
- 11:00 X14 **689.04** • Sex differences on the developmental effects of chronic inhaled marijuana: A multimodal MRI study. J. R. COLEMAN*, Jr; A. KNUDSEN; I. ALKISLAR; M. ATHANASSIOU; X. CAI; D. MADULARU; A. MAKRIYANNIS; P. P. KULKARNI; C. F. FERRIS. *Northeastern Univ., McGill Univ., McGill Univ., Northeastern Univ.*
- 8:00 X15 **689.05** • ▲ Does chronic exposure to marijuana alter brain structure and function: A magnetic resonance imaging study in adult female mice. A. TAYLOR; A. NWEKE; V. VINCENT; M. OKE; C. F. HOHMANN*; J. COLEMAN; P. KULKARNI; C. F. FERRIS. *Morgan State Univ., Morgan State Univ., Northeastern Univ.*
- 9:00 X16 **689.06** Cannabinoid (THC) exposure during adolescence has enduring effects on hippocampal plasticity and learning in females. B. M. COX*; J. QUINTIANILLA; A. A. LE; M. AMANI; S. V. MAHLER; C. M. GALL; G. LYNCH. *Univ. of California Irvine, Univ. of California Irvine.*
- 10:00 X17 **689.07** Effects of oral delta-9-tetrahydrocannabinol (THC) consumption on motor activity and anxiety-like behavior in adolescent and adult Sprague-Dawley rats of both sexes. A. R. BANKS; A. P. CHAMBERS; E. R. CARLSON; K. A. HAMBLIN; L. N. CARNEVALE; A. DAS; N. LIANG; J. M. GULLEY*. *Univ. of Illinois, Urbana-Champaign, Univ. of Illinois, Urbana-Champaign, Univ. of Illinois, Urbana-Champaign.*
- 11:00 X18 **689.08** Sleep disturbances in mice during chronic THC administration and abstinence. A. KESNER*; K. P. ABRAHAO; M. J. PAVA; D. M. LOVINGER. *NIAAA.*
- 8:00 X19 **689.09** ▲ Stress and delta-9-tetrahydrocannabinol exposure in adulthood leads to disinhibited behavior on anxiety related and social tasks. E. KATAQUAPIT; B. REIMER; G. CAMPBELL; R. SIRISKA; T. FOWLER; A. BROUILLETTE; A. STILLAR; A. C. W. WEEKS*. *Nipissing Univ.*
- 9:00 X20 **689.10** • ▲ Preservation of analgesic activity of cannabis sativa after dopamine receptor antagonist in Wistar rats. A. ALHASSAN*; A. S. ISA; A. MUHAMMAD; M. I. A. SALEH. *Ahmadu Bello Univ. Zaria, Ahmadu Bello Univ. Zaria.*
- 10:00 X21 **689.11** Optogenetic dissection of dopamine-related neural mechanisms underlying cannabis reward versus aversion. C. J. JORDAN*; B. A. HUMBURG; Y. HE; X. HAN; G. BI; E. L. GARDNER; X. XIE; Z. XI. *Natl. Inst. of Drug Abuse, Sch. of Pharmacy, Univ. of Pittsburgh.*
- 11:00 X22 **689.12** Pathway-specific modulation of lateral habenula GABAergic inputs by acute and chronic cannabinoids. E. HWANG*; C. R. LUPICA. *NIDA IRP, NIH.*
- 8:00 X23 **689.13** • Differential effects of cannabidiol and a novel cannabidiol analog on oxycodone place preference and analgesia in mice; an opioid abuse deterrent with analgesic properties. H. M. HARRIS*; W. GUL; M. ELSOHLY; K. J. SUFKA. *Univ. of Mississippi, Univ. of Mississippi, Univ. of Mississippi, Univ. of Mississippi.*
- 9:00 X24 **689.14** Development of a mouse model to study the effects of adolescent vaping of Δ-9-tetrahydrocannabinol (THC). T. M. PATTEN*; A. DREIER; E. A. HELLER; M. DE BIASI. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*
- 10:00 X25 **689.15** Intravenous self-administration of Δ⁹-tetrahydrocannabinol by adolescent rats alters reinstatement and working memory behaviors in adulthood. S. J. STRINGFIELD*; M. M. TORREGROSSA. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 11:00 X26 **689.16** ▲ Toxicity of cannabidiol in neuroblastoma and neuroprogenitor stem cells. M. L. QUINTELLA*; S. A. ROMARIZ; B. M. LONGO. *Univ. Federal de São Paulo, Univ. Federal De São Paulo, Univ. Federal de São Paulo.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

POSTER

690. Working Memory: Prefrontal Cortex II

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 X27 **690.01** ▲ Independent subspaces for working memory and motor preparation in the lateral prefrontal cortex. C. TANG*; R. HERIKSTAD; C. LIBEDINSKY; S. YEN. *Inst. of Mol. and Cell Biol., Singapore Inst. for Neurotechnology, Natl. Univ. of Singapore, Dept. of Psychology, Natl. Univ. of Singapore, Dept. of Electrical and Computer Engineering, Natl. Univ. of Singapore.*
- 9:00 X28 **690.02** Functional specialization of primate lateral prefrontal subregions for spatial working memory. P. K. TAN*; S. YEN; C. LIBEDINSKY. *Natl. Univ. of Singapore, Natl. Univ. of Singapore, Natl. Univ. of Singapore, Agency for Science, Technol. and Res.*
- 10:00 X29 **690.03** Dopamine neurons of ventral tegmental area modulate working memory performance and the associated neuronal activity in medial prefrontal cortex. C. GE*; Z. CHEN; H. FAN; C. LI. *Inst. of Neuroscience, Sibs, CAS, Univ. of Chinese Acad. of Sci.*
- 11:00 X30 **690.04** A sensitive period in the postnatal development of prefrontal cortical function and behavior. L. J. BENOIT*; S. BENICH; E. TBOUL; E. HOLT; S. E. CANETTA; C. KELLENDONK. *Columbia Univ., Barnard Col., New York State Psychiatric Inst., Columbia Univ.*
- 8:00 X31 **690.05** Topographic and learning-related patterns of prefrontal neuronal activity during credit assignment. E. LEE*; W. F. ASAAD. *Brown Univ., Carney Inst. for Brain Sci., Norman Prince Neurosciences Inst., Brown Univ.*
- 9:00 X32 **690.06** Delay-period activity of medial prefrontal cortex is critical for working memory specific in learning of both sensory and motor oriented tasks. J. YAO*; R. HOU; Z. HAN; X. ZHANG; C. T. LI. *Inst. of Neurosci., Univ. of Chinese Acad. of Sci.*
- 10:00 X33 **690.07** ▲ Loss of glutamate signaling from the centromedian-parafascicular thalamus to dorsal striatum impairs working memory and cognition in non-human primates. G. J. MASILAMONI*; R. RICHARDSON; Y. SMITH; J. BACHEVALIER. *Yerkes Natl. Primate Res. Center, UDALL Ctr. of Excellence for Parkinson's Dis., Yerkes Natl. Primate Res. Ctr., Yerkes Natl. Primate Res. Center, UDALL Ctr. of Excellence for Parkinson's Dis., Yerkes Natl. Primate Res. Ctr.*
- 11:00 X34 **690.08** Adaptive coding of multiplexed information in primate lateral prefrontal cortex. F. CHIANG*; J. D. WALLIS; E. L. RICH. *Icahn Sch. of Med. at Mount Sinai, UC Berkeley.*
- 8:00 DP10/X35 **690.09** (Dynamic Poster) Cell type specific impairment of naturalistic spatial working memory coding by ketamine in primate lateral prefrontal cortex. M. ROUSSY*; M. KHAKI; N. MORTAZAVI; A. J. SACHS; L. PALANIYAPPAN; J. C. MARTINEZ-TRUJILLO. *Univ. of Western Ontario, Ottawa Hosp. Res. Inst., Brain and Mind Institute, Univ. of Western On.*
- 9:00 X36 **690.10** Reorganization of working memory coding after distraction by switching of target-selective populations in primate prefrontal cortex. X. LIN*; A. NIEDER; S. N. JACOB. *Tech. Univ. of Munich, Ludwig-Maximilians Univ. of Munich, Univ. Tuebingen.*
- 10:00 X37 **690.11** Reference frames for spatial working memory in dorsal and ventral lateral prefrontal cortices of macaques. R. LUNA*; M. P. ROUSSY; A. J. SACHS; S. TREUE; J. C. MARTINEZ-TRUJILLO. *Univ. of Western Ontario, Univ. of Western Ontario, Univ. of Ottawa, German Primate Ctr., Univ. of Western Ontario.*
- 11:00 X38 **690.12** Blockade of connexin43 hemichannels impairs working memory and excitatory synaptic transmission in the prefrontal cortex of rats. X. TAO*; Z. LIU; X. ZHANG. *Inst. of Brain Sci.*
- 8:00 X39 **690.13** High channel count electrophysiological recordings in prefrontal cortex in a novel spatial memory task. C. BÖHM*; A. K. LEE. *Janelia Res. Campus, HHMI Janelia Res. Campus.*
- 9:00 X40 **690.14** Linking selective pharmacological suppression of HCN1 to synaptic integration, prefrontal cortical function and working memory. E. HARDE*; M. WEBER; J. WELLBOURNE-WOOD; P. SCHOENENBERGER; M. PAINA; J. ROLLAND; M. CHERNYSHEVA; B. KOC; R. REDONDO; J. WAMSTEEKER CUSULIN; F. HELMCHEN; E. O'CONNOR; B. HALL. *F. Hoffmann-La Roche, Axxam SpA, Brain Res. Institute, Univ. of Zurich.*
- 10:00 X41 **690.15** High fat diet evokes exaggerated neuroinflammation in prefrontal cortex and impairments in working spatial memory in aged rats. B. M. GONZALEZ OLMO; J. M. JOHNSON; R. M. BARRIENTOS*. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*
- 11:00 X42 **690.16** Distributed dynamic coding for spatial working memory in hippocampal-prefrontal networks. A. E. HERNAN*; M. MAHONEY; S. MAWE; R. C. SCOTT. *Univ. of Vermont Col. of Med., Univ. of Vermont, Univ. of Vermont, Univ. of Vermont Larner Col. of Med.*
- 8:00 X43 **690.17** Maternal skewing of the active X chromosome via Xist deletion induces cognitive deficits in young and aging female mice. S. ABDULAI-SAIKU*; D. WANG; B. PANNING; D. B. DUBAL. *Univ. of California San Francisco, Univ. of California San Francisco.*
- 9:00 X44 **690.18** ● Longevity factor klotho attenuates cognitive and synaptic deficits related to Parkinson's disease. A. J. MORENO*; N. LUTHRA; J. LIN; L. BROESTL; A. BÉTOURNÉ; R. SEHGAL; D. WANG; S. E. LESNÉ; C. TANNER; J. OSTREM; D. B. DUBAL. *Univ. of California San Francisco, Univ. of Minnesota.*
- 10:00 X45 **690.19** The X chromosome factor Kdm6a confers sex-based resilience against Alzheimer's disease-related deficits. E. J. DAVIS*; S. ABDULAI-SAIKU; A. J. MORENO; L. W. BONHAM; G. M. WILLIAMS; D. WANG; A. P. ARNOLD; B. PANNING; J. S. YOKOYAMA; D. B. DUBAL. *UCSF, UCSF, UCSF, UCSF, UCLA, UCSF.*
- 11:00 X46 **690.20** Cellular level functional structures in the monkey prefrontal cortex during working memory. H. ABE*; W. SONG; N. JU; N. ICHINOHE; S. TANG. *Peking Univ. Sch. of Life Sci., RIKEN Ctr. for Brain Sci., Peking-Tsinghua Ctr. for Life Sci., IDG/McGovern Inst. for Brain Res. at Peking Univ., Peking Univ., Natl. Ctr. of Neurol. and Psychiatry.*

POSTER

691. Memory Consolidation and Reconsolidation: Molecular Mechanisms

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 Y1 **691.01** A role for double-strand DNA breaks in epigenetic-mediated transcriptional control during memory reconsolidation. S. V. NAVABPOUR*; J. ROGERS; T. MCFADDEN; S. A. ORSI; T. J. JAROME. *Virginia Tech.*
- 9:00 Y2 **691.02** Evidence that muscarinic receptor activation destabilizes object memories via a mechanism involving CaMKII and synaptic protein degradation. C. E. WIDEMAN*; S. D. CREIGHTON; K. H. JARDINE; K. PEDENKO; V. THAYALAN; K. A. MITCHNICK; B. E. KALISCH; W. S. MESSER, Jr; B. D. WINTERS. *Univ. of Guelph, Univ. of Guelph, Univ. of Toledo.*
- 10:00 Y3 **691.03** ▲ Triggering reconsolidation of an ethanol conditioned place preference (CPP) memory: The role of reactivation's length and dopaminergic receptors. F. Z. BOOS*; C. A. FAVORETTO; F. C. CRUZ; I. M. QUADROS. *Univ. Federal de Sao Paulo, Univ. Federal de Sao Paulo.*
- 11:00 Y4 **691.04** cAMP mediates the impact of sleep deprivation on memory and synaptic plasticity. E. WALSH*; M. S. SHETTY; K. DIBA; T. ABEL. *Univ. of Iowa, Iowa Neurosci. Inst., Univ. of Michigan, Univ. of Iowa.*
- 8:00 Y5 **691.05** The involvement of the hippocampal Rac1 activity in protein synthesis-induced transient amnesia. L. LV*; Y. ZHONG. *Tsinghua Univ., Tsinghua Univ.*
- 9:00 Y6 **691.06** A "synaptic tag and capture"-like mechanism (probably) does not underlie the consolidation of second-order fear. D. M. LEIDL*; B. P. LAY; R. F. WESTBROOK; N. M. HOLMES. *Univ. of New South Wales, Concordia Univ.*
- 10:00 Y7 **691.07** Differential effect of moderate and intense training on expression in phosphorylated CREB protein in dorsal hippocampus. A. C. MEDINA*; H. I. GUILLERMO; P. C. BELLO-MEDINA; G. L. QUIRARTE; R. A. PRADO-ALCALÁ. *Neurobiologia Conductual y Cognitiva. Inst. de Neurobiologia-UNAM.*
- 11:00 Y8 **691.08** Effects of exercise on memory performance and hippocampal gene expression. A. A. KEISER*; C. W. BUTLER; E. A. KRAMAR; D. P. MATHEOS; N. C. BERCHTOLD; S. CHEN; M. SAMAD; C. MAGNAN; P. BALDI; C. W. COTMAN; M. A. WOOD. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine.*
- 8:00 Y9 **691.09** Exercise engages a molecular memory for enhanced cognitive improvement from subsequent physical activity. C. W. BUTLER*; A. A. KEISER; J. L. KWAPIS; N. C. BERCHTOLD; V. L. WALL; M. A. WOOD; C. W. COTMAN. *Univ. of California Irvine, Penn State Univ.*
- 9:00 Y10 **691.10** IGF2 receptor is required for memory consolidation in the hippocampus. X. YU*; K. PANDEY; C. M. ALBERINI. *New York Univ., New York Univ.*
- 10:00 Y11 **691.11** Episodic memory formation in infant rat requires hippocampal regeneration of reduced glutathione. B. BESSIÉRES*; E. CRUZ; C. M. ALBERINI. *Ctr. For Neural Sci.*
- 11:00 Y12 **691.12** Translation-dependent macroautophagy is required for long-term memory formation. K. PANDEY*; X. YU; A. STEINMETZ; C. ALBERINI. *New York Univ.*

- 8:00 Y13 **691.13** Hippocampal PFKFB3 glycolytic activity is required for memory formation during early development. E. CRUZ*; B. BESSIÉRES; C. M. ALBERINI. *New York Univ. Ctr. for Neural Sci.*
- 9:00 Y14 **691.14** Mutation of the HERC 1 ubiquitin ligase impairs learning and synaptic plasticity in the lateral amygdala. J. NEGRETE-DIAZ*; E. JUAREZ-CORTES; H. AGUILAR-ZAVALA; J. ARMENGOL; E. PEREZ-VILLEGAS; A. RODRÍGUEZ-MORENO. *Univ. de Guanajuato, Univ. de Guanajuato, Univ. Pablo de Olavide.*

POSTER

692. Oscillations

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 Y15 **692.01** Modulating social-emotional control by synchronizing rhythmic brain circuits. B. BRAMSON*; I. TONI; K. ROELOFS. *Donders Ctr. For Cognitive Neuroimaging, Donders Inst., Donders Ctr. for Cognitive Neuroimaging.*
- 9:00 Y16 **692.02** Higher order theta harmonics account for the detection of slow gamma. A. P. MAURER*; Y. ZHOU; Y. QIN; J. P. KENNEDY; N. M. DICOLA; S. N. BURKE; A. SHEREMET. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*
- 10:00 Y17 **692.03** Nonlinear interaction of theta and theta harmonics between hippocampus and medial entorhinal cortex. Y. Z. ZHOU*; Y. QIN; K. JACK; B. SARA; A. SHEREMET; M. ANDREW. *Univ. of Florida.*
- 11:00 Y18 **692.04** Theta in the visual cortex. J. P. KENNEDY*; Y. ZHOU; Y. QIN; S. N. BURKE; A. SHEREMET; A. P. MAURER. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*
- 8:00 Y19 **692.05** Bursting activity propagation within homogeneous and isotropic population of neurons. Y. QIN*; A. SHEREMET; A. MAURER. *Univ. of Florida.*
- 9:00 Y20 **692.06** The role of frontal midline theta in reasoning accuracy and conflict detection. A. WEIL*; C. CARABALLO; E. BREWINGTON; C. JAYCOX; M. HASLAM; K. MEHRTENS; J. NGO. *Washington Col.*
- 10:00 Y21 **692.07** Altered hippocampal-prefrontal neural dynamics in mouse models of Down syndrome. P. CHANG; D. BUSH; S. SCHORGE; M. GOOD; T. CANONICA; N. SHING; S. NOY; F. WISEMAN; N. BURGESS; V. TYBULEWICZ; M. C. WALKER; E. M. FISHER*. *Univ. Col. London, UCL Inst. of Cognitive Neurosci., UCL Sch. of Pharm., Cardiff Univ., UCL, Francis Crick Inst., Inst. Neurol, Univ. Col. London, Inst. of Neurology, Univ. Col. London.*
- 11:00 Y22 **692.08** Selective disruption of hippocampal sharp-wave ripples leads to impaired object-place recognition memory. S. DUTTA*; A. K. FELDMAN; C. KEMERE. *Rice Univ., Baylor Col. of Med.*
- 8:00 Y23 **692.09** A metabolic function of the hippocampal sharp-wave ripple. D. TINGLEY*; K. MCCLAIN; G. BUZSAKI. *NYU Neurosci. Inst., New York University, Sch. of Med.*
- 9:00 Y24 **692.10** Inferring long-term changes in spike transmission while accounting for time-varying network drive. R. HUSZAR*; S. A. MCKENZIE; G. BUZSAKI. *New York Univ., NYUMC, New York University, Sch. of Med.*

Wed. AM

* Indicates a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 Y25 **692.11** Sleep dynamics in the dorsal hippocampus and amygdala. B. KHOUADER; I. INEMA; G. BUZSAKI; G. GIRARDEAU*. *Inst. Du Fer-à-Moulin - Inserm, McGill Univ., New York University, Sch. of Med.*
- 11:00 Y26 **692.12** Long-duration spontaneous and optogenetically prolonged hippocampal sharp wave ripples improve memory. A. FERNANDEZ-RUIZ*; A. OLIVA; E. F. OLIVEIRA; F. ROCHA-ALMEIDA; G. BUZSAKI. *New York Univ., Columbia Univ., Albert Einstein Col. of Med., Univ. Pablo De Olavide.*
- 8:00 Y27 **692.13** Firing rate heterogeneity during spontaneous activity reflects a balanced neuronal "ground state". D. LEVENSTEIN*; J. GORNET; M. VALERO; J. M. RINZEL; G. BUZSAKI. *NYU, New York Univ., NYU Neurosci. Inst., New York Univ. Ctr. for Neural Sci., New York University, Sch. of Med.*
- 9:00 Y28 **692.14** Parametric model of hippocampal place cell activity applied to assess speed modulation of firing rates. K. MCCLAIN*; D. J. HEEGER; G. BUZSAKI. *NYU Neurosci. Inst., New York Univ., New York University, Sch. of Med.*
- 10:00 Y29 **692.15** Physiological and network properties of down state-active neurons in neocortex. M. VALERO*; G. BUZSAKI. *NYU Neurosci. Inst.*
- 11:00 Y30 **692.16** Altered cell assembly dynamics in the hippocampus by focal cooling of the medial septum. P. C. PETERSEN*; G. BUZSAKI. *New York Univ.*
- 8:00 Y31 **692.17** Uncovering representations of spatially distributed rodent hippocampal LFPs. L. CAO*; G. BUZSAKI; Z. S. SHEN. *New York Univ., East China Normal Univ., New York Univ., New York Univ.*
- 9:00 Y32 **692.18** Monitoring hippocampo-neocortical interactions using widefield calcium imaging and electrophysiology in behaving mice. R. A. SWANSON*; S. MOUSAVI; J. BASU; G. BUZSAKI. *New York Univ., Fordham Univ., Neurosci. Institute, New York Univ. Sch., New York University, Sch. of Med.*
- 10:00 Y33 **692.19** The effect of sustained inhibition on the generation of hippocampal oscillations. S. ROGERS*; M. VALERO; G. BUZSAKI. *NYU Neurosci. Inst.*
- 11:00 Y34 **692.20** Bimodal representation of information in the hippocampal theta oscillation during reward-associated navigation. M. WANG*; B. E. PFEIFFER. *UT Southwestern Med. Ctr.*
- 8:00 Y35 **692.21** Correlates of behavioral flexibility within the frontal cortex of the macaque during categorization. R. LOONIS*; E. K. MILLER. *MIT.*
- 9:00 Y36 **692.22** Prefrontal oscillations modulate the propagation of neuronal activity required for working memory. J. SHERFEY*; S. ARDID; N. J. KOPELL; E. K. MILLER; M. E. HASSELMO. *Boston Univ., Boston Univ., Boston Univ., Massachusetts Inst. Technol.*
- 10:00 Y37 **692.23** Are oscillatory correlates of working memory preserved across cortex? M. LUNDQVIST*; A. M. BASTOS; E. K. MILLER. *Massachusetts Inst. of Technol.*
- 11:00 Y38 **692.24** Bilateral transfer of working memory traces in prefrontal cortex. S. L. BRINCAT*; J. A. DONOGHUE; M. LUNDQVIST; M. K. MAHNKE; E. K. MILLER. *MIT, MIT, MIT, Massachusetts Inst. Technol.*
- 8:00 Y39 **692.25** A recurrent spiking network model operating on the boundary between asynchronous and oscillatory states explains synchronous (0-lag) spiking deficits observed in primate prefrontal cortex following NMDAR synaptic blockade. D. A. CROWE; M. V. CHAFEE; B. AMIRIKIAN*. *Augsburg Univ., Univ. Minnesota, Brain Sci. Center, Veterans Affairs Med. Ctr. / Dept. of Neuroscience, Univ. of Minnesota.*
- 9:00 Y40 **692.26** • Effect of various anxiolytics in the radial arm maze and corresponding effect on EEG. R. ABRAHAM*; S. DARIPELLI; V. BENADE; C. THIRUMALASETTY; G. BHYRAPUNENI; P. JAYARAJAN; R. NIROGI. *Suven Life Sci., Suven Life Sci., Suven Life Sci.*

POSTER

693. Learning and Memory: Aging

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 Y41 **693.01** Memory function after rTMS in aged rats depends on cognitive status. M. WEILER; H. M. STARNES; P. MORENO-CASTILLA; E. L. R. MELENDEZ; K. C. STIEGER; J. M. LONG*; P. R. RAPP. *NIH.*
- 9:00 Y42 **693.02** Stress vulnerability correlates with shorter lifespan and early cognitive impairments. M. BAIRACHNAYA*; A. SHNAYDER; A. SHEININ; I. MICHAEELEVSKI; A. PINHASOV. *Ariel Univ., Tel-Aviv University, Tel-Aviv. Israel.*
- 10:00 Y43 **693.03** Three year change in cognition, motor function and stress reactivity in aging marmosets (*Callithrix jacchus*). E. S. ROTHWELL; K. P. WORKMAN; A. LACREUSE*. *Univ. of Massachusetts.*
- 11:00 Y44 **693.04** Behavioral comparison of the C57Bl/6 inbred mouse strain and the CB6F1 hybrid line. K. CORDER*; S. N. AUSTAD. *Univ. of Alabama at Birmingham.*
- 8:00 Z1 **693.05** The role of PDE11A4 in age-related decline of social memories. K. PILARZYK*; N. S. PATEL; A. J. SMITH; M. P. KELLY. *Univ. of South Carolina- Sch. of Med.*
- 9:00 Z2 **693.06** ▲ Age, experience, and neurobehavioral domain: Effects of environmental enrichment and social isolation on brain and behavior in middle-aged and aged rats. M. ROJAS-CARVAJAL*; K. RAMÍREZ; A. SEQUEIRA-CORDERO; J. FORNAGUERA; J. C. BRENES. *Univ. of Costa Rica, Univ. of Costa Rica, Univ. of Costa Rica, Univ. of Costa Rica.*
- 10:00 Z3 **693.07** The common marmoset (*Callithrix jacchus*) as a model for age-related cognitive decline. C. GLAVIS-BLOOM*; Z. W. DAVIS; J. H. REYNOLDS. *Salk Inst. for Biol. Studies.*
- 11:00 Z4 **693.08** Illuminating the neurobiological intersection between sleep and cognitive aging. C. MYRUM*; M. E. STELZNER; J. B. HUNT; J. M. LONG; P. R. RAPP. *Natl. Inst. of Health: NIA.*
- 8:00 Z5 **693.09** Impact of high-fat diet and aging on cognitive function: Relation with glial fibrillary acidic protein levels. L. AYALA-GUERRERO*; F. BERMUDEZ-RATTONI; K. GUZMAN-RAMOS. *Inst. De Fisiología Celular, Posgrado en Ciencias Biológicas, UNAM, Univ. Autónoma Metropolitana.*

- 9:00 Z6 **693.10** A new method for discriminating normal versus slow learners in a large population of aged mice. C. DUFFAU; S. HADZIBEGOVIC; V. ANDEKOVIC; I. LAGROYE; B. BONTEMPI; O. NICOLE*. *CNRS, Univ. Bordeaux, UMR-CNRS5293, UMR 5218 Lab. de l'Intégration, du Matériau au Système (IMS)*.
- 10:00 Z7 **693.11** Successful trajectories in aging: Reserve and resilience in RatS (STARRRS) building a resource of longitudinal data for the study of neurocognitive reserve in aging. C. BANUELOS*; J. M. LONG; K. FISHBEIN; R. A. MCDEVITT; K. PERDUE; R. SPENCER; P. R. RAPP. *NIH*.
- 11:00 Z8 **693.12** Intranasal insulin enhances spatial memory and intrinsic excitability of aging hippocampal neurons by altering expression of Ca^{2+} -dependent K^+ channels and of calcium-sensors for Ca^{2+} -dependent K^+ channels. N. R. TANDON*; L. T. THOMPSON. *Univ. of Texas at Dallas, Univ. of Texas at Dallas*.
- 8:00 Z9 **693.13** Linking an increased afterhyperpolarization to cognitive deficits in a mouse model of aging. S. J. MOORE*; V. A. CAZARES; G. G. MURPHY. *Univ. of Michigan, Univ. of Michigan*.
- 9:00 Z10 **693.14** Changes to the structure and function of layer 3 pyramidal neurons and the effects of curcumin intervention in the prefrontal cortex of aging monkeys. W. W. CHANG*; M. MEDALLA; T. L. MOORE; D. L. ROSENE; D. PATHAK; V. TURNBULL; J. GOODLIFFE; T. GUILLAMON-VIVANCOS; J. I. LUEBKE. *Boston Univ. Sch. of Med., Inst. de Neurociencias de Alicante. CSIC-UMH*.
- 10:00 Z11 **693.15** Exercise mitigates chemotherapy-induced cognitive impairment. K. GILLEY*; G. SULLENS; M. J. SEKERES. *Baylor Univ., Baylor Univ.*
- 11:00 Z12 **693.16** Recognition memory is associated with different patterns of regional volumes in young and aged monkeys. C. P. COOPER*; A. T. SHAFER; S. L. ROSSI; N. ARMSTRONG; J. YOUNG; C. HEROLD; Y. YANG; E. A. STEIN; S. M. RESNICK; P. R. RAPP. *NIH, Natl. Inst. on Aging, NIH, Natl. Inst. on Aging, NIH, Natl. Inst. on Drug Abuse, NIH, Natl. Inst. on Drug Abuse*.
- 8:00 Z13 **693.17** Sex differences in the effect of voluntary exercise on cognitive flexibility in older mice. D. ISLAS-PRECIADO*; M. IBRAHIM; N. BLACK; C. K. BARHA; T. LIU-AMBROSE; L. A. GALEA. *Univ. of British Columbia, Univ. of British Columbia*.
- 9:00 Z14 **693.18** Detection of age-specific decline in cognitive and motor performance in baboons using CANTAB and object retrieval task with barrier detour. G. CHOUDHURY; M. DAADI*. *Texas Biomed, Southwest Natl. Primate Res.*
- 9:00 Z16 **694.02** Impaired spatial representation in hippocampal entorhinal circuit of knock in Alzheimer's model. H. JUN*; S. SOMA; A. REDDY; T. SAITO; T. C. SAIDO; K. M. IGARASHI. *Univ. of California Irvine Sch. of Med., RIKEN Ctr. For Brain Sci., Univ. of California Irvine, Univ. of California Irvine*.
- 10:00 Z17 **694.03** Replay as wavefronts and theta sequences as bump oscillations in a grid cell attractor network. L. KANG*; M. R. DEWEESE. *Univ. of California, Berkeley*.
- 11:00 Z18 **694.04** Neural activity in the central complex of the crickets during phonotaxis. K. KAI*; H. SHIDARA; N. ANDO; H. OGAWA. *Hokkaido Univ., The Univ. of Tokyo, Maebashi Inst. of Technol.*
- 8:00 Z19 **694.05** Presubicular layer 3 neurons receive convergent input from anterior thalamus and retrosplenial cortex. L. RICHEVAUX; L. SCHENBERG; M. NASSAR; C. MAUTHE; I. COHEN; M. BERANECK; D. FRICKER*. *CNRS, CNRS, INSERM U1130 / CNRS UMR8246 / UPMC*.
- 9:00 Z20 **694.06** Multimodal encoding of navigation variables in the anterior limbic system. J. LAURENS*; A. ABREGO; H. CHAM; Y. YU; N. ROTDEM; J. AARSE; D. DICKMAN; D. E. ANGELAKI. *Baylor Col. of Med., New York Univ.*
- 10:00 Z21 **694.07** Neural correlates of locomotion, cues, and context in the interactions between hippocampus and lateral septum. H. S. WIRTSHAFTER*; M. A. WILSON. *MIT, MIT*.
- 11:00 Z22 **694.08** A novel function of the thalamic reticular nucleus in the spatial navigation system. G. VANTOMME; Z. ROVÓ; G. KATSIODI; E. BÉARD; V. PERRENOUD; L. M. J. FERNANDEZ; A. LUTHI*. *Univ. of Lausanne*.
- 8:00 Z23 **694.09** Hippocampus, medial prefrontal cortex and nucleus reuniens neuronal patterns predict behavior during a working memory task. A. F. VICENTE*; W. CLAWSON; A. GHESTEM; C. BERNARD; P. P. QUILICHINI. *Aix-Marseille Univ., Aix-Marseille Univ. - Inst. de Neuroscien, INSERM U1106, INSERM U1106 INS*.
- 9:00 Z24 **694.10** Representation of space in the goldfish brain. E. VINEPINSKY*; L. COHEN; O. BEN-SHAHAR; O. DONCHIN; R. SEGEV. *Ben Gurion Univ.*
- 10:00 Z25 **694.11** The nucleus prepositus of mouse encodes eye-related information during passive and active head movement. H. CHANG*; S. ZHU; K. E. CULLEN. *Johns Hopkins Univ., McGill Univ., The Johns Hopkins Univ.*
- 11:00 Z26 **694.12** Mechanistic models of place cell statistics in large environments. M. Y. YIM*; T. TAILLEFUMIER; I. R. FIETE. *The Univ. of Texas at Austin, The Univ. of Texas at Austin, MIT*.
- 8:00 Z27 **694.13** Investigation of directional firing by grid cells. K. Z. GERLEI*; J. PASSLACK; H. STEVENS; M. ALLERHAND; I. PAPASTATHOPOULOS; M. F. NOLAN. *Univ. of Edinburgh, Univ. of Edinburgh, Univ. of Edinburgh*.
- 9:00 Z28 **694.14** A cortico-tectal circuit controls orienting to shelter during instinctive escape. R. VALE*; D. CAMPAGNER; P. IORDANIDOU; V. STEMPEL; S. KESHAVARZI; T. W. MARGIE; R. S. PETERSEN; T. BRANCO. *Sainsbury Wellcome Centre, UCL, MRC Lab. of Mol. Biol., Gatsby Computat. Neurosci. Unit, Univ. of Manchester*.
- 10:00 Z29 **694.15** Evidence against the attractor network hypothesis for grid cell activity in entorhinal cortex. M. B. STEMMLER*. *Ludwig-Maximilians-Universität Munich*.

POSTER

694. Cortical and Cortico-Hippocampal Circuits: Spatial Navigation IV

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 Z15 **694.01** Bidirectional coupling of grid cell and place cells as a mechanism for robust spatial representation across multiple maps. H. AGMON*; Y. BURAK. *Hebrew Univ. of Jerusalem, Hebrew Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 Z30 **694.16** Distance codes in the medial entorhinal cortex during goal directed navigation. S. A. TENNANT*; H. STEVENS; W. YANG; K. Z. GERLEI; J. HUA; H. CLARK; E. R. WOOD; M. F. NOLAN. *Univ. of Edinburgh, Univ. of Edinburgh, Univ. of Edinburgh*.
- 8:00 Z31 **694.17** A novel somatosensory spatial navigation system outside the hippocampal formation. X. LONG; S. ZHANG*. *Xinqiao Hosp., Army Med. Univ.*
- 9:00 Z32 **694.18** A model for the processing of temporal relationships in navigation using phase coding. E. PARRA BARRERO*; S. CHENG. *Ruhr Univ. Bochum*.
- 10:00 Z33 **694.19** Speed cells in the somatosensory cortex. X. LONG*; S. ZHANG. *Xinqiao Hosp., Army Med. Univ.*
- 11:00 Z34 **694.20** Phase coding of spatial trajectories by lateral septum neurons. H. T. BLAIR*; A. G. HOWE; G. BLAIR; R. M. DE GUZMAN. *UCLA, UCLA, UCLA, SUNY Albany*.
- 8:00 Z35 **694.21** Optogenetics-assisted characterization of parvalbumin-expressing interneuron activity in the dentate gyrus of freely behaving mice. L. F. COBAR ZELAYA; K. LIT; A. TASHIRO*. *Nanyang Technological Univ.*
- 9:00 Z36 **694.22** Orienting in a visual world: An intact cortical visual pathway is necessary for landmark anchoring of rat postsubicular head direction cells. J. S. STREET*; K. J. JEFFERY. *Univ. Col. London*.
- 10:00 Z37 **694.23** Scalable landmark-relative path integration sequences in mouse retrosplenial cortex. D. MAO; V. BONIN; B. L. MCNAUGHTON*. *Baylor Col. of Med., Imec NERF, The Univ. of Lethbridge*.
- 11:00 Z38 **694.24** Testing a two-component model of path integration in *Drosophila*. D. TURNER-EVANS*; S. TAKEMURA; S. ALI; K. JENSEN; A. SHERIDAN; T. PATERSON; H. J. HABERKERN; T. WOLFF; C. CHRISTOFOROU; C. MANAGAN; R. RAY; J. S. LAURITZEN; D. BOCK; S. PLAZA; V. JAYARAMAN. *Janelia Res. Campus, HHMI, Cambridge Univ., Univ. of Vermont*.
- 8:00 Z39 **694.25** Hippocampal encoding of space during navigation of an acoustically defined virtual environment. S. GAO*; A. BANTA; J. DE GEE; Z. MRIDHA; W. ZHANG; C. KEMERE; M. J. MCGINLEY. *Rice Univ., Baylor Col. of Med.*
- 9:00 Z40 **694.26** Retrosplenial 'bi-directional' cells become tetra-directional in a fourfold-symmetric environment. N. ZHANG*; K. JEFFERY. *Univ. Col. London*.
- 10:00 Z41 **694.27** The stabilization of the medial entorhinal cortex representation of a novel environment requires normal NMDA receptor function. O. M. CHADNEY*; B. R. KANTER; C. LYKKEN; N. Z. BORGESIU; K. ASUMBISA; C. G. KENTROS. *NTNU*.
- 11:00 Z42 **694.28** Hippocampal correlates of optimal route planning during open field foraging. B. J. JACKSON*; D. H. GIRE. *Univ. of Washington*.
- 8:00 AA1 **694.29** Subiculum firing fields shift systematically to differentiate similar route shapes distributed across environmental locations. R. J. PLACE*; D. A. NITZ. *UCSD, Univ. of California San Diego*.
- 9:00 AA2 **694.30** Spatial view cells and the primate retrosplenial cortex. A. S. MITCHELL*; S. MASON; E. LOMI; B. PERRY. *Univ. of Oxford*.

POSTER

695. Human Perception and Imagery II

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 AA3 **695.01** Functional connectivity during action recognition modulated by top-down goals. X. ZHOU*; D. STEHR; P. HWU; J. A. PYLES; E. D. GROSSMAN. *Univ. of California Irvine, Univ. of California Irvine, Carnegie Mellon Univ.*
- 9:00 AA4 **695.02** Top-down attention guidance shapes action encoding in the pSTS. D. A. STEHR*; X. ZHOU; P. HWU; J. A. PYLES; E. D. GROSSMAN. *Univ. of California, Irvine, Carnegie Mellon Univ.*
- 10:00 AA5 **695.03** Distinct neural mechanisms of speech imagery differentially modulate auditory perception. O. MA*; X. TIAN. *East China Normal Univ., NYU-ECNU Inst. of Brain and Cognitive Sci., New York Univ. Shanghai*.
- 11:00 AA6 **695.04** Neural tracking of speech mental imagery: Evidence from magnetoencephalography and intracranial electroencephalogram. L. LU*; J. SHENG; J. GAO. *Peking Univ., Peking Univ.*
- 8:00 AA7 **695.05** Prior expectations bias early visual processing: A magnetoencephalography study. P. KOK*; G. TURNER; F. AITKEN. *Univ. Col. London*.
- 9:00 AA8 **695.06** Human brain network involved in auditory deviance detection: Evidence from intracranial EEG recordings. A. O. BLENKMANN*; A. SOLBAKK; S. LESKE; J. LUBELL; A. LLORENS; S. COLLAVINI; I. FUNDERUD; P. G. LARSSON; J. IVANOVIC; T. BEKINSCHTEIN; S. KOCHEN; R. T. KNIGHT; T. ENDESTAD. *Univ. of Oslo, Univ. of Oslo, University of Aarhus, Helen Wills Neurosci. Institute, UC Berkeley, Conicet, Oslo Univ. Hosp., Univ. of Cambridge, Conicet, Univ. of California Berkeley*.
- 10:00 AA9 **695.07** Local parts lost itself in the whole: A MEG study. L. LIU*; H. LUO. *Peking Univ.*
- 11:00 AA10 **695.08** A representational similarity analysis examining scene categorization in the brain. E. M. AMINOFF*; A. YOUNG. *Fordham Univ.*
- 8:00 AA11 **695.09** Fear conditioning to imagined percepts and its relationship to standard visual conditioning. L. M. BURLEIGH*; J. OWENS-FRENCH; F. CHAISSON; A. MADDEN; X. JIANG; L. RAGGIO; S. G. GREENING. *Louisiana State Univ., Texas State Univ.*
- 9:00 AA12 **695.10** Fear extinction via mental imagery. X. JIANG*; R. L. LANDRY; P. M. MIZELL; H. J. CRULL; L. M. BURLEIGH; S. M. SALTZMANN; S. G. GREENING. *Louisiana State Univ., Louisiana State Univ.*
- 10:00 AA13 **695.11** Internal distraction in emotion regulation: Efficacy and neural mechanisms of imagined distractors. T. D. ROBINSON*; L. GREGOIRE; K. JACKSON; S. GREENING. *Louisiana State Univ., Texas A&M Univ.*
- 11:00 AA14 **695.12** Decoding prestimulus EEG alpha activity reveals expectancy in the direction of stimulus changes. B. MIN*; J. KIM; D. PANTAZIS; H. KIM. *Korea Univ., MIT, Korea Univ.*
- 8:00 AA15 **695.13** Testing the reproducibility of tDCS effect: Modulating beauty perception by brain stimulation. K. TAKAHASHI*; Y. YOTSUMOTO. *The Univ. of Tokyo*.

- 9:00 AA16 **695.14** Intracranial electrophysiological correlates of binocular rivalry in the human brain. V. RANGARAJAN*; D. KING-STEPHENS; K. D. LAXER; P. WEBER; J. LIN; E. F. CHANG; K. AUGUSTE; R. T. KNIGHT. *Univ. of California, Berkeley, California Pacific Med. Ctr., Univ. of California, Irvine, Univ. of California, San Francisco, UCSF Benioff Children's Hosp., Univ. of California, Berkeley.*
- 10:00 AA17 **695.15** COALIA: A virtual human brain model of EEG for consciousness research. P. BENQUET*; J. MODOLO; S. BENSARD; I. MERLET; F. WENDLING. *INSERM U1099 -LTSI, INSERM U1099, INSERM U1099 LTSI.*
- 11:00 AA18 **695.16** Cognitive processing of viewers while watching different styles of editing in media contents. A. GRUART*; C. ANDREU-SANCHEZ; M. A. MARTIN-PASCUAL; J. M. DELGADO-GARCIA. *Pablo De Olavide Univ., Autonomous Univ.*
- 8:00 AA19 **695.17** Response characteristics of one's own voice in the human auditory cortex. T. HOSAKA*; Y. YOTSUMOTO. *The Univ. of Tokyo.*
- 9:00 AA20 **695.18** Shared frequency-specific coding between auditory perception and auditory imagery revealed by multi-voxel pattern analysis. S. KATSUI*; Y. YOTSUMOTO. *The Univ. of Tokyo.*
- 10:00 AA21 **695.19** The effect of distorted temporal-spatial visual feedback on robot hand illusion. Y. IOKA*; S. SHIMADA. *Meiji Univ.*
- 11:00 AA22 **695.20** ▲ Consistency and strength of grapheme-color associations may be separable aspects of synesthetic experience: Evidence from an individualized implicit association test. N. STEINER; M. MARTINEZ; S. A. LACEY*; L. NYGAARD; K. SATHIAN. *Emory Univ., Rowan Sch. of Osteo. Med., Penn State Col. of Med., Milton S. Hershey Med. Ctr. & Penn State COM.*
- 8:00 AA23 **695.21** Brain tissue electrical conductivity estimation for epilepsy diagnosis. F. WENDLING*; A. CARVALLO; P. BENQUET; S. LAGARDE; F. BARTOLOMEI; J. MODOLO. *InsERM, CHU Timone.*
- 9:00 AA24 **695.22** Neurofunctional relevance of genome-wide supported neuroticism loci. V. FREYTAG*; V. VUKOJEVIC; D. COYNEL; A. HECK; E. LOOS; P. DEMOUGIN; C. VOGLER; A. MILNIK; D. DE QUERVAIN; A. PAPASSOTIROPOULOS. *Univ. of Basel, Transfaculty Res. Platform, Psychiatric Univ. Clinics, Univ. of Basel, Biozentrum.*
- 10:00 AA25 **695.23** Neural habituation enhances novelty detection: An EEG study of rapidly presented words. L. P. L. JACOB*; D. E. HUBER. *Univ. of Massachusetts Amherst.*
- 11:00 AA26 **695.24** Approach biases in cannabis and pornography users. S. M. SKLENARIK*; K. JENKINS; M. FERNANDEZ; R. LIVOTI; S. PELLEGRINO; E. BULKLEY; A. PURINS; K. MILLER; E. LECKY; M. MOURMOURAS; M. GOLA; M. POTENZA; R. ASTUR. *Univ. of Connecticut, Univ. of California, Yale Univ.*
- 8:00 AA27 **695.25** ● The neural correlates of navarasa. Essence of 9 emotions. R. P. REDDY*; J. RAJESWARAN. *NIMHANS.*
- 9:00 AA28 **695.26** Long-term piano training alters the functional connectivity of the core networks. Y. LIAO*; C. YANG; T. HONG; H. YU; L. CHEN; J. HSIEH. *Inst. of Brain Sci., Integrated Brain Res. Unit, Grad. Inst. of Arts and Humanities Education, Brain Res. Ctr.*

POSTER

696. Human Motor and Sequence Learning I

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 AA29 **696.01** Cyclic consolidation of human motor memory. S. J. HUSSAIN*; M. K. VOLLMER; G. NORATO; C. ZRENNER; E. R. BUCH; U. ZIEMANN; L. G. COHEN. *NIH, Univ. Hosp. Tübingen, Eberhard Karls Univ.*
- 9:00 AA30 **696.02** Neural representation of the memory of errors. R. QUENTIN*; E. R. BUCH; I. ITURRATE; L. CLAUDINO; M. K. VOLLMER; J. STIMELY; M. VERNET; L. G. COHEN. *NINDS, NIMH/NIH/DHHS.*
- 10:00 AA31 **696.03** Neural replay during wakeful rest predicts skill learning. E. R. BUCH*; L. M. CLAUDINO; M. BÖNSTRUP; R. QUENTIN; L. G. COHEN. *NINDS.*
- 11:00 AA32 **696.04** Sensorimotor mu phase-dependency of self-paced movement initiation. M. K. VOLLMER; S. J. HUSSAIN; R. QUENTIN; I. ITURRATE; L. G. COHEN*. *NIH, NIH.*
- 8:00 AA33 **696.05** Motor practice elicits sustained neural replay during wakeful rest. L. CLAUDINO*; E. R. BUCH; M. BÖNSTRUP; R. QUENTIN; L. G. COHEN. *NINDS/NIH, NINDS, Natl. Inst. of Neurolog. Disorders and S, NIH.*
- 9:00 AA34 **696.06** Distinct causal roles of DLPFC and M1 in long-term skill learning: A combined TMS-fMRI study. T. G. LEE*; T. J. ADKINS. *Univ. of Michigan.*
- 10:00 AA35 **696.07** Incentives modulate fronto-striatal BOLD representations of skilled action. T. J. ADKINS*; T. G. LEE. *Univ. of Michigan.*
- 11:00 AA36 **696.08** Statistical learning shapes neural sequence representations. S. HENIN*; N. B. TURK-BROWNE; D. FRIEDMAN; A. A. LIU; P. DUGAN; A. FLINKER; W. DOYLE; O. DEVINSKY; L. MELLONI. *New York Univ. Sch. of Med., Yale Univ., Max Planck For Empirical Aesthetics.*
- 8:00 AA37 **696.09** Dissociation of fMRI activities in the caudate nucleus supports reinforcement learning of motor skills. Y. CHOI*; E. Y. SHIN; S. KIM. *Inst. of Basic Sciences, Sungkyunkwan Univ., Sungkyunkwan Univ.*
- 9:00 AA38 **696.10** Using a massive behavioral dataset to investigate the synaptic maintenance of implicit learning. M. R. KRAMER*; P. H. COX; S. R. MITROFF; D. J. KRAVITZ. *George Washington Univ.*
- 10:00 AA39 **696.11** Visual shift and hand compatibility enhance spatial realignment during visuomotor adaptation. C. L. STRIEMER*; A. MORRILL; B. ANGUS-COOK; R. WHITWELL. *Macewan Univ., The Univ. of British Columbia.*
- 11:00 AA40 **696.12** Increased task difficulty accelerates implicit perceptual-motor sequence learning. P. SHU*; Y. C. HAN; P. J. REBER. *Northwestern Univ.*
- 8:00 AA41 **696.13** Neural evidence that reward alters visual statistical learning. S. PARK*; L. L. ROGERS; T. J. VICKERY. *Univ. of Delaware.*
- 9:00 AA42 **696.14** Neural and behavioral signatures of visual statistical learning are shaped by tasks and categories. L. L. ROGERS*; S. PARK; T. J. VICKERY. *Univ. of Delaware.*

Wed. AM

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 AA43 **696.15** ▲ Examining motor abilities and skill transfer within a virtual environment. J. A. ARMENDARIZ*; M. F. AWAD; I. J. LACHIA; A. X. KRAUSE; R. MORALES; J. HINKEL-LIPSKER; S. A. DREW. *California State Univ. Northridge, California State University, Northridge, California State Univ. of Northridge, California State Univ. of Northridge, California State University, Northridge.*
- 11:00 AA44 **696.16** Age-related changes in sleep-dependent procedural learning consolidation. K. A. KAINEC*; A. B. FITZROY; R. M. SPENCER. *The Univ. of Massachusetts Amherst, The Univ. of Massachusetts Amherst, Univ. Massachusetts, Amherst.*
- 8:00 BB1 **696.17** Development of simultaneity detection ability following late sight onset in congenital cataract blinds. T. K. GANDHI*; S. GUPTA; P. GUPTA; P. SINHA. *IIT Delhi, Indian Inst. of Technol. Delhi, Project Prakash Charitable Trust, MIT.*
- 9:00 BB2 **696.18** Learning artificial sensation through long-term home use of a sensory-enabled prosthesis. I. CUBEROVIC; A. GILL; L. J. RESNIK; D. J. TYLER; E. L. GRACZYK*. *Case Western Reserve Univ., Louis Stokes Cleveland VA Med. Ctr., Providence VA Med. Ctr.*

POSTER

697. Human Motor and Sequence Learning II

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 BB3 **697.01** Efficiency of declarative and procedural presentation to the hierarchical motor-sequence-learning. Y. SUGIHARA; S. N. KUDOH*. *Kwansei Gakuin Univ., Kwansei Gakuin Univ.*
- 9:00 BB4 **697.02** Effect of individual modality dominance of working memory on fNIRS-based neuromodulation for the prefrontal cortex. M. MATSUMOTO*; T. SAKURADA; S. YAMAMOTO. *Shibaura Inst. of Technol., Ritsumeikan Univ., Jichi Med. Univ.*
- 10:00 BB5 **697.03** Causal interactions of medial temporal lobe and associative cortex during implicit learning. S. LONG*; F. CHEUNG; A. GUNDUZ. *Univ. of Florida, Univ. of Florida.*
- 11:00 BB6 **697.04** Rapid motor skill learning: Behavioral and neurophysiological evidence. J. HERSZAGE*; H. SHARON; N. CENSOR. *Tel-Aviv Univ., Tel Aviv Sourasky Med. Ctr., Tel Aviv Univ.*
- 8:00 BB7 **697.05** Exploring exploration in reward-based motor learning. N. M. VAN MASTRIGT*; J. B. J. SMEETS; K. VAN DER KOOIJ. *Vrije Univ. Amsterdam.*
- 9:00 BB8 **697.06** The influence of practice conditions on the emergence of habitual action selection. Y. DU*; S. LEE; A. M. HAITH. *Johns Hopkins Univ.*
- 10:00 BB9 **697.07** Investigating the brain regions and circuitry that mediate visual statistical learning. S. KUMAR*; E. KOELE; L. G. UNGERLEIDER. *Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*
- 11:00 BB10 **697.08** Perceptual-motor sequence learning using auditory cues. Y. C. HAN*; P. J. REBER. *Northwestern Univ.*

- 8:00 BB11 **697.09** Computational model of complex combinatorial binding: Neurobiological simulations and hypotheses. R. M. CALMUS*; B. WILSON; Y. KIKUCHI; Z. KOCSIS; H. KAWASAKI; T. D. GRIFFITHS; M. A. HOWARD, III; C. I. PETKOV. *Inst. of Neuroscience, Newcastle Univ., Univ. of Iowa.*
- 9:00 BB12 **697.10** Improved motor control of upper limb movement in healthy subjects after optimized sensory stimulation. R. PANICHI*; S. CONTEMORI; A. BISCARINI. *Univ. of Perugia, Univ. of Queensland.*
- 10:00 BB13 **697.11** Does chronic low back pain affect locomotor learning or retention and is cognition a factor? J. E. GALGANI*; G. E. HICKS; S. M. MORTON. *Univ. of Delaware, Univ. of Delaware.*
- 11:00 BB14 **697.12** Cerebellar transcranial alternating current stimulation in the gamma range applied during the acquisition of a novel motor skill. M. J. WESSEL*; L. R. DRAAISMA; T. MORISHITA; P. J. KOCH; P. MACEIRA-ELVIRA; M. DURAND-RUEL; A. DE BOER; C. PARK; F. C. HUMMEL. *EPFL, EPFL Valais.*
- 8:00 BB15 **697.13** Tonic pupil diameter is modulated by predictability of rapid sound sequences. A. E. MILNE*; C. TAMPAKAKI; S. ZHAO; M. CHAIT. *UCL.*
- 9:00 BB16 **697.14** Motor plasticity revealed by changes in sequence-specific fMRI activity patterns across weeks of training. E. BERLOT*; N. J. POPP; J. DIEDRICHSEN. *Western Univ.*
- 10:00 BB17 **697.15** The use of sensory feedback during the production of fast motor sequences. N. J. POPP*; P. L. GRIBBLE; J. DIEDRICHSEN. *Western Univ.*
- 11:00 BB18 **697.16** Associate learning results in acquiring skill: An fMRI study. C. G. N. NAVANEEDHAN*; T. KAMALANABHAN. *Indian Inst. of Technol.*

POSTER

698. Human Long-Term Memory: Encoding and Retrieval IV

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 BB19 **698.01** Hippocampal oscillations distinguish recollected from recognized memory items in associative recognition memory. S. KOTA*; M. D. RUGG; L. ROBINSON; B. C. LEGA. *UT Southwestern Med. Ctr., Univ. of Texas at Dallas Ctr. for Vital Longevity.*
- 9:00 BB20 **698.02** Gamma oscillations during episodic memory encoding and retrieval reveal reversal of information flow between the hippocampus and prefrontal cortex. S. E. SEGER*; B. C. LEGA. *UT Southwestern, UT Southwestern Med. Ctr.*
- 10:00 BB21 **698.03** Decoding memory: Patient specific models for decoding memory categories from hippocampal spiking activities in epilepsy patients. X. SHE*; D. SONG; B. MOORE; B. M. ROEDER; B. LEE; S. J. SHAW; A. NGUYEN; C. N. HECK; C. Y. LIU; S. A. DEADWYLER; R. E. HAMPSON; T. W. BERGER. *USC, Wake Forest Sch. of Med., USC, Rancho Los Amigos Natl. Rehabil. Ctr.*

- 11:00 BB22 **698.04** Decoding memory - Memory facilitation of category information for up to 75 minutes using hippocampal stimulation via a memory decoding model. R. E. HAMPSON*; B. M. ROEDER; A. S. DAKOS; X. SHE; B. MOORE; D. SONG; T. W. BERGER; S. A. DEADWYLER. *Wake Forest Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med., USC, USC.*
- 8:00 BB23 **698.05** Decoding memory - "Write-in" of category information on ambiguous trials via human hippocampal memory decoding model. S. A. DEADWYLER*; B. M. ROEDER; A. S. DAKOS; X. SHE; B. MOORE; D. SONG; T. W. BERGER; R. E. HAMPSON. *Wake Forest Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med., USC, USC.*
- 9:00 BB24 **698.06** Decoding memory - towards building patient common memory decoding model using a transfer learning approach. D. SONG*; X. SHE; B. MOORE; B. M. ROEDER; G. NUNE; B. LEE; C. N. HECK; C. Y. LIU; S. A. DEADWYLER; R. E. HAMPSON; T. W. BERGER. *USC, Wake Forest Sch. of Med.*
- 10:00 BB25 **698.07** Decoding memory - 24 hour memory facilitation of category information via a memory decoding model of hippocampus. B. M. ROEDER*; A. S. DAKOS; X. SHE; B. MOORE; D. SONG; T. W. BERGER; S. A. DEADWYLER; R. E. HAMPSON. *Wake Forest Sch. of Med., Wake Forest Sch. of Med., USC, USC.*
- 11:00 BB26 **698.08** ● Human intracranial EEG reveals neural correlates of verbal memory processing across the large-scale of brain dynamics. V. S. MARKS*; K. SABOO; Ç. TOPÇU; G. A. WORRELL; M. T. KUCEWICZ. *Mayo Clin. Grad. Sch. of Biomed. Sci., Univ. of Illinois, Gdansk Univ. of Technol. Fac. of Electronics, Telecommunications and Informatics, Mayo Clin., Mayo Clin.*
- 8:00 BB27 **698.09** Human verbal memory encoding is distributed across a broad range of electrophysiological activities and brain regions. Ç. TOPÇU*; K. SABOO; V. S. MARKS; G. A. WORRELL; M. T. KUCEWICZ. *Multimedia Systems Department, Fac. of Electronics, Telecommunication and Informatics, Gdansk Univ. of Technol., Mayo Clinic, Dept. of Neurol., Univ. of Illinois, Dept. of Electrical and Computer Engin., Mayo Clinic, Grad. Sch. of Biomed. Sciences, Dept. of Physiol. and Biomed. Engin., Mayo Clinic, Dept. of Physiol. and Biomed. Engin.*
- 9:00 BB28 **698.10** Event boundaries shape memory formation: Evidence from single unit recordings in humans. J. ZHENG*; A. GÓMEZ PALACIO SCHJETNAN; V. A. TAUFİK; A. N. MAMELAK; J. M. CHUNG; U. RUTISHAUSER; G. KREIMAN. *Boston Children's Hosp., Krembil Res. Inst., Cedars-Sinai Med. Ctr., Harvard Med. Sch.*
- 10:00 BB29 **698.11** Persistent single-neuron activity during working memory predicts strength of long-term memory in humans. J. KAMINSKI*; N. CHANDRAVADIA; A. G. P. SCHJETNAN; Y. SALIMPOUR; I. M. REUCROFT; C. REED; J. M. CHUNG; S. KALIA; W. ANDERSON; T. A. VALIANTE; A. N. MAMELAK; U. RUTISHAUSER. *Cedars-Sinai Med. Ctr., Krembil Res. Inst., Johns Hopkins Sch. of Med., Johns Hopkins Univ., Cedars-Sinai Med. Ctr.*
- 11:00 BB30 **698.12** March madness: An fMRI study of continuously updated surprise and suspense during basketball-watching. J. W. ANTONY*; S. D. MCDOUGLE; U. HASSON; K. A. NORMAN. *Princeton Univ., Univ. of California, Berkeley.*
- 8:00 BB31 **698.13** Hippocampal white matter microstructure predicts rapid category learning. M. GUMUS*; T. ZHU; M. L. SCHLICHTING; M. L. MACK. *Univ. of Toronto.*
- 9:00 BB32 **698.14** Shaping visual memories with real-time fMRI neurofeedback. E. S. LORENC*; E. F. OBLAK; J. S. SULZER; J. A. LEWIS-PEACOCK. *Univ. of Texas at Austin.*
- 10:00 BB33 **698.15** Transcutaneous vagus nerve stimulation strengthens semantic encoding during novel tone word learning: Evidence from event-related potentials. I. PHILLIPS*; V. P. KARUZIS; N. B. PANDŽA; P. O'ROURKE; S. E. KUCHINSKY. *Univ. of Maryland.*
- 11:00 BB34 **698.16** ▲ Early learning hippocampal engagement supports flexible category learning. Z. CHENG*; T. LIU; M. L. MACK. *Univ. of Toronto.*
- 8:00 BB35 **698.17** Theta entrainment after learning enhances episodic memory. N. WHITMORE*; K. A. PALLER. *Northwestern Univ.*
- 9:00 BB36 **698.18** Levels-of-processing during memory encoding: An explanation for the other-race effect in face memory. G. HERZMANN*; T. CURRAN. *The Col. of Wooster, Univ. of Colorado Boulder.*
- 10:00 BB37 **698.19** Neural oscillations in olfactory and memory regions predict episodic odor memory richness: Unraveling the Proust phenomenon. A. SAIVE*; T. THIERY; E. COMBRISSE; J. ROYET; S. GARCIA; S. RHEIMS; J. ISNARD; J. PLAILLY; N. RAVEL; K. JERBI. *Montreal Univ., Univ. of Montreal, Univ. of Montréal, CRNL, UCBL1, Neurolog. Hosp. Bron.*
- 11:00 BB38 **698.20** The intrinsic neonatal hippocampal network: rsfMRI findings. A. L. HOWELL*; D. E. OSHER; J. LI; Z. M. SAYGIN. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*

POSTER

699. Attention and Cognition

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 BB39 **699.01** Effects of the presence of a familiar peer on eye movements and attention. L. TRICOCHÉ*; J. FERRAND-VERDEJO; D. PÉLISSON; M. MEUNIER. *CRNL Inserm CNRS UCBL.*
- 9:00 BB40 **699.02** Examining visual selection in children across levels of attentional ability. J. KLEIN*; A. COOK; H. ALLEN; J. CLIBBENS; E. MAVRITSAKI. *Birmingham City Univ., Univ. of Nottingham.*
- 10:00 BB41 **699.03** A transcranial stimulation intervention to support flow state induction. J. M. GOLD*; J. CIORCIARI. *Swinburne Univ. of Technol.*
- 11:00 BB42 **699.04** ▲ Changes in resting state functional connectivity induced by one session mindfulness meditation. Y. HOSHINO*; N. YAMAYA; S. IKEDA; Y. HAMAMOTO; A. KOBAYASHI; R. KAWASHIMA. *Fac. of Medicine, Tohoku University, Sendai, Japan, Inst. of Development, Aging and Cancer, Tohoku University, Sendai, Japan.*
- 8:00 BB43 **699.05** Temporal changes in the state effect of meditation on executive function. N. YAMAYA*; S. IKEDA; Y. HOSHINO; H. TAKEUCHI; R. KAWASHIMA. *Inst. of Development, Aging and Cancer (IDAC), Tohoku Univ., Sch. of Medicine, Tohoku Univ.*
- 9:00 BB44 **699.06** ▲ Resting state functional connectivity of the amygdala and bed nucleus stria terminalis (BNST) in response to threat bias. S. K. JENKS*; C. R. LI; S. HU. *SUNY Oswego, Yale Univ. Sch. of Med., SUNY Oswego.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 BB45 **699.07** Alpha and theta oscillations as a measure for cognitive workload - Why do they fail in certain settings and what do they really mean? D. MIKLODY*; L. VAUTH; B. BLANKERTZ. *Technische Univ. Berlin*.
- 11:00 BB46 **699.08** Population motor attention fields in human parietal cortex: Variation in pAFs predicts individual variation in behavior. W. E. HUDDLESTON*; A. S. GREENBERG; E. A. DEYOE. *Univ. of Wisconsin - Milwaukee, Univ. of Wisconsin-Milwaukee, Med. Col. of Wisconsin*.
- 8:00 BB47 **699.09** • Deep learning applied to spectral ERP data for ADHD discrimination. L. DUBREUIL-VALL*; G. RUFFINI; J. A. CAMPRODON. *Massachusetts Gen. Hospital, Harvard Med. Sch., Neuroelectrics*.
- 9:00 BB48 **699.10** Neural processing of unattended spatial locations predicts the detection of attended visual targets. C. LUO*; N. DING. *Zhejiang Univ.*
- 10:00 BB49 **699.11** Qigong movement meditation impacts neural correlates of attention and sensorimotor function in a population with cancer-related fatigue: A pilot clinical trial. S. TEMEREANCA*; C. S. ZIMMERMAN; D. DANIELS; B. CULLEN; H. HUGHES; T. CANNONIER; C. E. KERR; S. R. JONES. *Brown Univ., Warren Alpert Med. Sch. of Brown Univ., Fordham Univ., Brown Univ.*
- 11:00 BB50 **699.12** • The effect of mindfulness-based cognitive therapy on event-related potential markers of attentional bias in anxiety. R. S. GUPTA*; D. M. FRESCO; A. BERNSTEIN; H. KANG; E. M. MOHR; P. L. A. SCHOENBERG; D. R. VAGO. *Vanderbilt Univ., Kent State Univ., Univ. of Haifa, Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr.*
- 8:00 BB51 **699.13** Leftward bias in visuospatial attention during a non-conscious working memory task. T. PEDALE*; A. FONTAN; F. GRILL; F. BERGSTRÖM; J. ERIKSSON. *Umeå Univ., Coimbra Univ.*
- 9:00 BB52 **699.14** Are you concentrating or mind-wandering? Electroencephalogram signals reveal differences in attentional states. H. LEE*; C. SHIH; Z. CHEN; A. WU; S. YEH. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ.*
- 10:00 BB53 **699.15** Dynamics of posterior hemispheric activity related to variable vs static cue-target interval. A. DREW*; K. GRAY; A. T. KARST. *Miami Univ., Univ. of Wisconsin, Oshkosh*.
- 11:00 BB54 **699.16** • The effect of perceptual load on neural oscillations in multi-target visual search with free eye-movements. A. M. HARRIS*; J. O. EAYRS; O. JENSEN; N. LAVIE. *Univ. Col. London, Univ. of Birmingham*.
- 8:00 BB55 **699.17** Augmenting phasic norepinephrine activity with an irrelevant loud noise produces correlated increases in the amplitude of the P3 event-related potential, and the pattern of sparing and deficit observed in the attentional blink paradigm. C. M. WARREN*; A. S. HANCOCK; A. W. SNOWDEN; K. TONA. *Utah State Univ., Utah State Univ., Leiden Univ.*
- 9:00 BB56 **699.18** Moving vs stationary: Do we attend to a 'pop-out' stimulus equally in both cases? P. GHOSH*; D. ROY; A. BANERJEE. *Natl. Brain Res. Centre, Manesar*.
- 10:00 BB57 **699.19** Pre-stimulus alpha oscillations reflect eye dominance and bias object perception. E. EL RASSI*; D. ENGEMANN; N. WEISZ; V. VAN WassenHOVE. *University of Salzburg, INRIA, Univ. of Salzburg, CEA.DSV, I2BM.Neurospin*.
- 11:00 BB58 **699.20** Mobile brain/body imaging (MoBI) during systematic changes in cognitive load. D. P. RICHARDSON*; K. A. MAZUREK; N. ABRAHAM; S. HOFFMAN; S. MIZOBUCHI; J. J. FOXE; E. G. FREEDMAN. *Univ. of Rochester Sch. of Med. and Dent., Univ. of Rochester Sch. of Med. and Dent., Univ. of Rochester Sch. of Med. and Dent.*
- 8:00 BB59 **699.21** The effect of musical engagement on auditory selective attention. R. H. DYE*, Jr; S. E. DARNELL; M. A. IZQUIERDO; D. VELASQUEZ; M. O. BONDI; A. M. SHELDON. *Loyola Univ. Chicago*.
- 9:00 BB60 **699.22** ▲ Unveiling the mathematical brain: A meta-analysis of brain regions supporting complex arithmetic operations. E. WEST*; A. SPAGNA; U. OFOZIE. *Barnard College, Columbia Univ., Columbia Univ.*
- 10:00 BB61 **699.23** • Distraction hangover: Cognitive effects of distraction during simulated driving. J. SNIDER*; L. CHUKOSKIE; A. ENGLER; S. HACKER; L. HILL; J. TOWNSEND. *UCSD, UCSD, UC San Diego, UCSD*.
- 11:00 BB62 **699.24** Volitional attention selectively enhances recognition memory. K. ZIMAN*; M. R. LEE; A. R. MARTINEZ; J. R. MANNING. *Dartmouth Col.*
- 8:00 BB63 **699.25** Pattern similarity in middle frontal gyrus reflects the target template during visual search. X. YU*; J. J. GENG. *Univ. of California Davis*.
- 9:00 BB64 **699.26** Slowing-down of resting state dynamic functional connectivity as a marker of cognitive dysfunction induced by sleep deprivation. D. LOMBARDO; C. CASSEPERROT; O. BLIN; D. BATTAGLIA*; M. DIDIC. *INS, Univ. Aix-Marseille*.
- 10:00 BB65 **699.27** Neuropsychological profiles of a sample of Mexican pregnant women with and without LES. D. CHINCHILLA*; O. GALICIA-CASTILLO; C. CHAO; M. BUENROSTRO-JAUREGUI. *Univ. Iberoamericana, Universiad Iberoamericana, Univ. Iberoamericana*.
- 11:00 BB66 **699.28** Attentional engagement of frontoparietal cortex in infant fMRI. C. T. ELLIS*; L. J. SKALABAN; T. S. YATES; N. B. TURK-BROWNE. *Yale Univ.*
- 8:00 BB67 **699.29** Neural features associated with mind wandering: A simultaneous fMRI, EEG, and pupillometry study. J. M. GROOT*; N. M. BOAYUE; G. CSIFCSÁK; W. BOEKEL; R. HUSTER; B. U. FORSTMANN; M. MITTNER. *UiT - The Arctic Univ. of Norway, Univ. of Amsterdam, Erasmus Univ., Univ. of Oslo*.
- 9:00 BB68 **699.30** Steady-state visual evoked potentials reveal parietal contributions to abstract numerosity. P. J. KOHLER*; B. D. MCCANDLISS; E. BARZEGARAN; A. M. NORCIA. *Stanford Univ., Stanford Univ.*

POSTER

700. Attention Networks

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 BB69 **700.01** Prism adaptation changes resting state functional connectivity in the dorsal stream of visual attention networks in healthy adults. K. TSUJIMOTO*. *Univ. of Tokyo Hosp.*

- 9:00 BB70 **700.02** Decoding visual spatial attention control. S. MEYYAPPAN*; A. RAJAN; J. J. BENGSON; G. R. MANGUN; M. DING. *Univ. of Florida, Sonoma State Univ., Univ. of California Davis.*
- 10:00 BB71 **700.03** Application of granger causality in decoding covert selective attention with human EEG. W. NIU*; Y. JIANG; Y. ZHANG; X. ZHANG; T. JIANG; S. YU. *Inst. of Automation, Chinese Acad. of Sci., Inst. of Automation, Chinese Acad. of Sci.*
- 11:00 BB72 **700.04** The relationship between socioeconomic status and reading abilities in children with dyslexia and typical readers. P. B. GREENWOOD*; J. S. HUTTON; J. DUDLEY; J. VANNEST; T. HOROWITZ-KRAUS. *Univ. of Cincinnati, Cincinnati Children's Hosp. Med. Ctr., Cincinnati Children's Hosp. Med. Ctr., Technion-Israel Inst. of Technol.*
- 8:00 BB73 **700.05** Attentional hypervigilance to and attentional disengagement from test-specific threatening words in students with test anxiety is supported by alterations in alpha and theta frequency power bands in the frontoparietal attentional network. E. A. BOURASSA*; K. T. STOLL. *Mississippi Col.*
- 9:00 BB74 **700.06** Top-down and bottom-up attentional processing in students with test anxiety as measured by electroencephalography. G. M. TALKINGTON*; E. A. BOURASSA. *Mississippi Col.*
- 10:00 BB75 **700.07** Visuo-spatial attention task and handedness: A cerebral electrical activity study. S. P. CAÑARTE VARELA*; I. Y. DEL RÍO PORTILLO; I. G. GALÁN LÓPEZ. *Univ. Nacional Autónoma De México.*
- 8:00 DP11/BB76 **700.08** (Dynamic Poster) Interaction between exogenous attention and conscious visual perception: An MEG study. A. SPAGNA*; D. J. BAYLE; A. CHICA; C. TALLON-BAUDRY; P. BARTOLOMEO. *PICNIC Lab, ICM, Paris, France, Ctr. De Recherche Sur Le Sport Et Le Mouvement, Univ. of Granada, Spain, Cognitive Neurosci. Lab., Inserm UMRS 1127, Brain and Spine Inst.*
- 8:00 BB77 **700.09** Intermodal attention differentially adjusts frequency and phase of entrained oscillations in sensory and non-sensory regions. N. SUESS*; T. HARTMANN; N. WEISZ. *Univ. of Salzburg.*
- 9:00 BB78 **700.10** • The benefit of a hearing aid noise-reduction scheme on selective auditory attention and listening effort in hearing impaired. C. GRAVERSEN*; E. ALICKOVIC; D. WENDT; T. S. ALA; A. GERSTON; L. FIEDLER; R. K. HIETKAMP; T. LUNNER. *Eriksholm Res. Ctr. - part of Oticon, Linköping Univ., Tech. Univ. of Denmark, Univ. of Nottingham, Linköping Univ.*
- 10:00 BB79 **700.11** The role of cortical alpha-band oscillations during anticipatory gating of spatial attention: An ECoG study. X. YANG*; I. FIEBELKORN; O. JENSEN; J. PARVIZI; R. T. KNIGHT; S. KASTNER. *Princeton Univ., Princeton Univ., Univ. of Birmingham, Stanford Univ., Univ. of California Berkeley, Univ. of California Berkeley.*
- 11:00 BB80 **700.12** Resting-state connectivity fingerprint model predicts individual intra-areal intraparietal sulcus retinotopic organization. J. A. BRISSSENDEN*; D. C. SOMERS. *Boston Univ.*
- 8:00 BB81 **700.13** 'Connectivity fingerprint' modeling reveals task-specific, individualized patterns of overlapping visual attention and working memory activation in human posterior parietal cortex. V. TRIPATHI*; S. M. TOBYNE; J. A. BRISSSENDEN; A. L. NOYCE; D. C. SOMERS. *Boston Univ.*
- 9:00 BB82 **700.14** Beta band activity reflects anticipatory sensorimotor planning during covert visual attention oculomotor dual task. J. TORRES-ELGUETA*; P. MALDONADO. *BNI - Univ. de Chile, BNI - Univ. de Chile.*
- 10:00 BB83 **700.15** Individual attention-emotion differences in spontaneous neural connectivity during rest. K. CHEEMA*; A. SHAFER; R. BAHKTIARI; M. MOORE; F. DOLCOS; A. SINGHAL. *Univ. of Alberta, Wayne State Univ., Univ. of Illinois.*
- 11:00 BB84 **700.16** Anticorrelated inter-network electrophysiological activity varies dynamically with attentional performance and behavioral states. A. KUCYI*; A. L. DAITCH; O. RACCAH; B. ZHAO; C. ZHANG; M. ESTERMAN; M. ZEINEH; C. HALPERN; K. ZHANG; J. ZHANG; J. PARVIZI. *Stanford Univ., Stanford Univ., Stanford Univ., Capital Med. Univ., Boston Univ. Med. Sch.*
- 8:00 BB85 **700.17** Personalized neuromodulation for attention networks. B. L. DECK*; B. YEAGER; J. ZIMMERMAN; A. KELKAR; B. ERICKSON; J. D. MEDAGLIA. *Drexel Univ., Univ. of Pennsylvania.*
- 9:00 CC1 **700.18** Differential functional patterns of the human posterior cingulate cortex during activation and deactivation: A meta-analytic connectivity model. J. BUSLER*; J. YANES; R. BIRD; M. REID; J. ROBINSON. *Auburn Univ.*
- 10:00 CC2 **700.19** Resting - state functional connectivity of the right temporoparietal junction relates to belief updating and attentional reorienting. A. KÄSBAUER*; P. MENGOTTI; G. FINK; S. VOSSEL. *Inst. of Neurosci. and Med. (INM-3), Res. Ctr. Juelich, Fac. of Med. and Univ. Hosp. Cologne, Univ. of Cologne, Fac. of Human Sciences, Univ. of Cologne.*
- 11:00 CC3 **700.20** Effective brain stimulation is linked to functional network markers. S. LAGANIERE; J. XIE; W. CHEONG; I. LEE; U. NAWAZ; R. O. BRADY, JR; M. ESTERMAN; M. A. H. HALKO*. *Beth Israel Deaconess Med. Ctr., Harvard Med. Sch. / Beth Israel Deaconess Med. Ctr., Harvard Med. Sch. / Beth Israel Deaconess Med., Beth-Israel Deaconess Med. Ctr., VA Boston Healthcare Syst.*

POSTER

701. Language Disorders

Theme H – Cognition

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 CC4 **701.01** Anosognosia for alexia without agraphia: Implications for understanding anosognosia, right brain reading and right brain logic. E. L. ALTSCHULER*. *Metropolitan Hosp.*
- 9:00 CC5 **701.02** Semantic component of phonemic paraphasias in agrammatic primary progressive aphasia. M. J. NELSON*; B. BONAKDARPOUR; S. MOELLER; E. ROGALSKI; S. WEINTRAUB; R. HURLEY; M. MESULAM. *Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med., Cleveland State Univ.*
- 10:00 CC6 **701.03** Factors modulating the organization of languages in the bilingual brain: A systematic review. M. M. POLCZYNSKA*; S. Y. BOOKHEIMER. *Univ. of California Los Angeles, UCLA.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 CC7 **701.04 ▲** Electrographic recordings enable intraoperative language network mapping. B. LIPKIN*; J. PLASS; S. KAKAIZADA; C. VALDIVIA; O. SAGHER; S. HERVEY-JUMPER; D. BRANG. *Univ. of Michigan, Univ. of California, Univ. of Michigan.*
- 8:00 CC8 **701.05** Overextension of the concrete semantic processing network in autism. H. LEVINSON*; L. COULANGES; M. J. ROSENBERG-LEE; W. W. GRAVES. *Rutgers Univ.*
- 9:00 CC9 **701.06** Severity not fluency is the clinical hallmark of aphasia. K. WAKAIZUMI*; R. JABAKHANJI; R. HURWITZ; S. ASHALE; E. BAVVITT; L. CHERNERY; M. N. BALIKI. *Shirley Ryan AbilityLab, Northwestern Univ.*
- 10:00 CC10 **701.07** A new method for comparing the predictive validity of brain lesion-behavior mappings. J. S. PATTERSON*; J. F. MAGNOTTI; T. T. SCHNUR. *Baylor Col. of Med.*
- 11:00 CC11 **701.08** Auditory perception and theta activity in specific language impairment. I. G. GALÁN*; N. LAGARDA; M. GALICIA. *UNAM, Mexico City, Natl. Rehabil. Inst.*
- 8:00 CC12 **701.09** Impaired neural pitch encoding associated with autism spectrum disorders in Cantonese-speaking children. J. LAU; X. KANG; C. TO; M. LOSH; P. C. WONG*. *The Chinese Univ. of Hong Kong, Univ. of Hong Kong, Northwestern Univ.*
- 9:00 CC13 **701.10** Left perisylvian cortex damage selectively impairs pseudoword spelling. J. J. PURCELL*; J. SHEA; G. PETROZZINO; R. WILEY; B. RAPP. *Univ. of Maryland, Johns Hopkins Univ.*
- 10:00 CC14 **701.11** Dorsolateral prefrontal cortex supports speech perception in listeners with cochlear implants. A. SHERAFATI; N. DWYER; M. S. HASSANPOUR; A. T. EGGBRECHT; J. B. FIRSZT; J. P. CULVER; J. E. PEELLE*. *Washington Univ. in St. Louis, Moran Eye Institute, Univ. of Utah.*
- 11:00 CC15 **701.12** Ablation and resection for mesial temporal lobe epilepsy: Analysis of neuropsychological performance in language and memory. K. TOMBRIDGE*; C. DONOS; L. MOSS; J. JOHNSON; J. BREIER; P. ROLLO; N. TANDON. *Univ. of Texas Hlth. Sci. Ctr. at Houston, Univ. of Texas Hlth. Sci. Ctr. at Houston, Mem. Hermann Hosp. Texas Med. Ctr.*
- 8:00 CC16 **701.13** The neural correlates of emotional influence on semantic processing in alexithymia. S. LEE*; C. YU; T. CHEN; C. LIAO. *Natl. Tsing Hua Univ., Natl. Taiwan Univ.*

POSTER

702. Genomic and Proteomic Techniques

Theme I – Techniques

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 CC17 **702.01** LiP-MS: A novel approach to probe protein (mis)folding and drug-protein interactions. Y. FENG*; L. MALINOWSKA; L. VERBEKE; N. BEATON; R. BRUDERER; L. REITER; P. PICOTTI. *Biognosys AG, ETH Zurich.*
- 9:00 CC18 **702.02** Integrative proteomics and pathway analyses reveal perturbed mitochondrial signaling in ApoA2-knockout mice brain. M. KHALIFA; S. AZZAM*; J. DAZARD; K. STROHL. *St. George's Univ. Sch. of Med., Case Western Reserve Univ.*
- 10:00 CC19 **702.03** Transcriptomic changes in the arcuate nucleus of the hypothalamus in response to prolonged high fat diet: Insights from single-nucleus RNA-sequencing. G. DENG*; L. L. MORSELLI; S. A. SAPOUCKEY; V. A. WAGNER; A. E. KWITEK; J. L. GROBE; H. CUI. *Univ. of Iowa.*
- 11:00 CC20 **702.04** A new tool for exploring gene and protein expression and localisation in human, pig and mouse brain. N. MITSIOS*; W. ZHONG; E. SJOSTEDT; P. OKSVOLD; F. EDFORS; F. NORRADIN; C. ADORI; A. LIMISZEWSKA; S. KHEDER; C. LINDSKOG; F. PONTEN; L. FAGERBERG; T. HOKFELT; Y. LUO; M. UHLEN; J. MULDER. *Karolinska Inst., KTH Royal Inst. of Technol., Uppsala Univ., BGI.*
- 8:00 CC21 **702.05** Introducing the HPA Brain Atlas, a brain-centric sub atlas with regional expression maps of the human, pig and mouse brain. E. SJOSTEDT*; W. ZONG; N. MITSIOS; P. OKSVOLD; F. EDFORS; F. H. NORRADIN; C. ADORI; A. LIMISZEWSKA; S. KHEDER; C. LINDSKOG; F. PONTEN; L. FAGERBERG; T. G. HOKFELT; Y. LUO; M. UHLEN; J. MULDER. *Karolinska Institutet, KTH Royal institute of technology, Karolinska Inst., Uppsala Univ., Karolinska Inst. - Biomedicum, BGI, Karolinska Inst.*
- 9:00 CC22 **702.06 ●** Chemoproteomics identifies key KDM1A interactors and unravels mechanisms of action of vafidemstat on aggressive behavior and cognition. M. M. P. LUFINO; C. MASCARÓ; D. ROTLLANT; C. BUESA; T. MAES*. *Oryzon Genomics S.A.*
- 10:00 CC23 **702.07** Determining cell-type specific striatal synaptic proteomes in mice. H. WANG*; Y. WANG; J. N. SAVAS. *Northwestern Univ., Northwestern Univ.*
- 11:00 CC24 **702.08** A universal evolution-based nomenclature for the oxytocin and vasotocin ligand and receptor families. C. THEOFANOPOULOU*; G. GEDMAN; J. A. CAHILL; C. BOECKX; E. D. JARVIS. *Univ. of Barcelona/Rockefeller Univ., The Rockefeller Univ., Rockefeller Univ., Univ. de Barcelona, The Rockefeller Univ.*
- 8:00 CC25 **702.09** A mouse model for chronic intermittent electronic cigarette exposure exhibits nicotine pharmacokinetics resembling human vapers. X. M. SHAO*; B. LOPEZ; D. NATHAN; J. WILSON; E. BANKOLE; H. TUMOYAN; A. MUNOZ; J. ESPINOZA-DEROUT; K. M. HASAN; S. CHANG; C. DU; A. P. SINHA-HIKIM; K. LUTFY; T. C. FRIEDMAN. *David Geffen Sch. Med. at UCLA, Charles Drew Univ. of Med. and Sci., Charles Drew Univ. of Med. and Sci., Western Univ. of Hlth. Sci.*
- 9:00 CC26 **702.10** Strain-dependent sexual dimorphism in the CNS: Proteomic analysis of the mouse retina. J. C. HARMAN*; J. J. GUIDRY; J. M. GIDDAY. *Louisiana State Univ. Hlth. Sci. Ctr., LSUHSC.*
- 10:00 CC27 **702.11** Dissecting individual differences in alcohol sensitivity using *C. elegans*. B. L. CLITES*; K. EVANS; E. ANDERSEN; J. T. PIERCE. *Univ. of Texas at Austin, Northwestern Univ.*
- 11:00 CC28 **702.12** Best practices for mosaic variant discovery in the human brain using whole-genome sequencing data. T. B. BAE*; . BRAIN SOMATIC MOSAICISM NETWORK. *Mayo Clin., Natl. Inst. of Mental Hlth.*
- 8:00 CC29 **702.13** Cell type specific analysis of selenium-related genes in brain. A. R. SASUCLARK; V. KHADKA; M. W. PITTS*. *Univ. of Hawaii, Univ. of Hawaii Syst.*

- 9:00 CC30 **702.14** Unravelling mGluR5 dynamic interactions, signaling, and mGluR-LTD mediated protein synthesis using multilayered mass spectrometry-based proteomics approaches. C. A. G. H. VAN GELDER*; R. PENNING; C. C. HOOGENRAAD; H. D. MAC GILLAVRY; M. ALTELAAR. *Utrecht Univ.*
- 10:00 CC31 **702.15** Bench-marking behavioral effects of methamphetamine in casper zebrafish for the development of photoaffinity probes. A. WISNER*; A. HORTON; F. S. HALL; F. WILLIAMS; I. SCHIEFER. *Univ. of Toledo.*
- 11:00 CC32 **702.16** • Methamphetamine probe synthesis and *in vivo* psychostimulant target identification. A. HORTON*; A. WISNER; E. TACKIE-YARBOI; K. HAGOOD; T. CHAU; F. S. HALL; F. WILLIAMS; I. T. SCHIEFER. *Univ. of Toledo, Univ. of Toledo, Univ. of Toledo Col. of Pharm. and Pharmaceut. Sci.*
- 8:00 CC33 **702.17** Molecular and *in silico* characterization of the amyloid precursor-like protein (*apl-1*) in the red swamp crayfish. M. LARA-LOZANO*; G. CALDERÓN-ROSETE; N. B. PÉREZ-SILVA; C. FLORES DE LOS ÁNGELES; C. PIÑA-LEYVA; L. RODRÍGUEZ-SOSA; J. A. GONZALEZ-BARRIOS. *Ctr. de Investigación y de Estudios Avanzados del IPN, Hosp. Regional 1o de Octubre, ISSSTE, Univ. Nacional Autónoma de México, Univ. Popular Autónoma del Estado de Puebla.*

POSTER

703. Optical Methods: Applications

Theme I – Techniques

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 CC34 **703.01** Imaging axonal sodium influx at high spatial and temporal resolution. L. FILIPIS*; M. CANEPARI. *Liphy-Cnrs UMR5588.*
- 9:00 CC35 **703.02** Ultra compact miniature fluorescence microscope for simultaneously imaging neuronal activities from two brain areas in freely moving mice. F. XUE*; K. ZHANG; P. LAU; Q. ZHU; G. BI. *Univ. of Sci. and Technol. of China.*
- 10:00 CC36 **703.03** A battery-less, ultra-small wireless optical stimulator. T. PAKPUWADON*; N. WUTHIBENJAPHONCHAI; M. HARUTA; K. SASAGAWA; T. TOKUDA; J. OHTA. *Nara Inst. of Sci. and Technol., Tokyo Inst. of Technol.*
- 11:00 CC37 **703.04** ▲ Simultaneous, multi-site imaging of deep brain regions related to feeding behavior in freely-moving GCaMP6 transgenic mice using an implantable micro-imaging device. M. S. GUINTO*; Y. OHTA; M. KAWAHARA; M. HARUTA; K. SASAGAWA; J. OHTA. *Nara Inst. of Sci. and Technol.*
- 8:00 CC38 **703.05** • A comparison of remote focusing strategies for two-photon functional imaging. J. C. DONOVAN*; F. HUHN; T. O. HELMBRECHT; J. KAPPEL; M. DAL MASCHIO; G. RAPP; H. BAIER. *Max Planck Inst. of Neurobio., Rapp OptoElectronic GmbH, Univ. of Padua.*
- 9:00 CC39 **703.06** Imaging the axonal action potential with genetically-encoded voltage sensors. V. GONZALEZ SABATER*; M. RIGBY; J. BURRONE. *King's Col. London.*
- 8:00 DP14/CC40 **703.07** (Dynamic Poster) Label free characterization of attenuation lengths of cortical regions via three photon microscopy in awake mice. M. YILDIRIM*; M. HU; P. SO; M. SUR. *MIT, MIT, MIT, MIT.*
- 11:00 CC41 **703.08** Longitudinal imaging of calcium functional connectivity in the developing mouse cortex. R. M. RAHN*; L. M. BRIER; A. R. BICE; J. D. DOUGHERTY; J. P. CULVER. *Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis.*
- 8:00 CC42 **703.09** Fluoropolymer nanosheet as a candidate for an artificial dura for long-term two-photon imaging of the mouse brain *in vivo*. T. TAKAHASHI*; H. ZHANG; R. KAWAKAMI; K. YARINOME; Y. OKAMURA; T. NEMOTO. *Res. Inst. for Electronic Science, Hokkaido Univ., Grad. Sch. of Information Sci. and Technology, Hokkaido Univ., Micro/Nano Technol. Ctr. Tokai Univ., Ehime Univ., Grad. Sch. of Engineering, Tokai Univ., Hokkaido Univ.*
- 9:00 CC43 **703.10** High-efficiency *in vivo* stimulation of neurons using two-photon holographic illumination. A. FORLI; M. PISONI; Y. PRINTZ; O. YIZHAR; T. FELLIN*. *Inst. Italiano di Tecnologia, Weizmann Inst.*
- 10:00 CC44 **703.11** Multi channel fiber photometry based mapping of axonal terminal activity in freely moving mice. H. QIN*; X. CHEN; J. LU; L. FU; W. JIN. *Army Med. Univ., Wuhan Natl. Lab. For Optoelectronics-Huazhong Univ. of Sci. and Technol., Third Military Med. Univ., Third Military Med. Univ.*
- 11:00 CC45 **703.12** Functional imaging of long neuronal processes and network in behaving animal in any arbitrary tilted plane in 3D. M. MAROSI*; K. OCSAI; T. TOMPA; Z. MEDVECZKY; G. SZALAY; G. KATONA; B. ROZSA. *IEM-HAS, Pázmány Péter Catholic Univ.*
- 8:00 CC46 **703.13** Spatiotemporal features of large scale motor-evoked calcium activity patterns. A. SCAGLIONE*; E. CONTI; A. ALLEGRA MASCARO; F. S. PAVONE. *LENS, European Lab. for Non-linear Spectroscopy, Univ. of Florence, Univ. of Florence.*
- 9:00 CC47 **703.14** Study of RuBi-GABA uncaging by non-linear photoactivation and patch clamp technique in cerebellar granule cells. E. GATTA*; M. COZZOLINO; V. BAZZURRO; E. ANGELI; P. BIANCHINI; A. DIASPRO; M. ROBELLO. *Dept. of Physics, Inst. Italiano di Tecnologia.*
- 8:00 DP13/CC48 **703.15** (Dynamic Poster) *In vivo* three-photon excited fluorescence imaging of neural activity in the spinal cord of awake, locomoting mice. Y. CHENG*; K. M. LETT; S. DENOTTA; D. RIVERA; S. HU; J. RAIKIN; D. G. OUZOUNOV; T. WANG; J. CRUZ HERNANDEZ; I. BASTILLE; N. NISHIMURA; J. R. FETCHO; C. XU; C. B. SCHAFFER. *Cornell Univ., Cornell Univ., Cornell Univ., Cornell Univ., Cornell Univ., Cornell Univ.*
- 11:00 CC49 **703.16** Multiple scale quantitative analysis of white matter connectivity on a MYRF knock-out mouse model using spatial light interference microscopy (SLIM). J. A. MALDONADO*; C. BEST. *Univ. of Illinois Urbana Champaign, Univ. of Illinois Urbana Champaign.*
- 8:00 CC50 **703.17** • Complex event analysis for neurotoxic profiling of compound effects on human iPSC-derived neural spheroid 3D cultures. O. SIRENKO*; C. CRITTENDEN; F. ZANELLA; R. GORDON; C. CARROMEU. *Mol. Devices, Stemonix.*
- 9:00 CC51 **703.18** Imaging odor associated neural activity in piriform cortex and hippocampus using gradient index lenses. C. MCCULLOUGH*; M. MA; D. RAMIREZ-GORDILLO; G. FUTIA; B. OZBAY; N. AREVALO; D. RESTREPO; E. GIBSON. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 CC52 **703.19** Live cell imaging of 3D primary cortical microtissue via AAV-induced fluorescence. S. BROWN*; E. ATHERTON; A. ALLAWALA; D. BORTON. *Brown Univ. Sch. of Engin., Brown Univ., Carney Inst. for Brain Sci., Dept. of Veterans Affairs, Providence Medical Center, Ctr. for Neurorestoration and Neurotechnology.*
- 11:00 CC53 **703.20** Identifying active neural circuits in freely moving, adult fruit flies with the optogenetic tool CaMPARI. K. A. EDWARDS*; M. B. HOPPA; G. BOSCO. *Dartmouth Col., Dartmouth Col.*
- 8:00 CC54 **703.21** • 1p2c: A miniscope for multiplexed single-photon imaging of two spectrally distinct fluorescent reporters in freely-behaving animals. W. W. YEN; D. P. LEMAN*; J. R. CLEVINGER; N. PERKINS; H. FAWCETT; W. A. LIBERTI, III; T. NGUYEN; I. G. DAVISON; A. CRUZ-MARTIN; T. J. GARDNER; T. M. OTCHY. *Boston Univ., Boston Univ., Univ. of California Berkeley.*
- 9:00 CC55 **703.22** • SCAPE microscopy for high-speed 3D neuronal imaging of behaving larval and adult *Drosophila*. W. LI*; V. VOLETI; R. VAADIA; N. MISHRA; E. SCHAFFER; W. B. GRUEBER; E. M. C. HILLMAN. *Columbia Univ.*
- 10:00 CC56 **703.23** Novel molecular strategies for *in vivo* dual-color imaging. J. F. NORMAN*; B. RAHSEPAR; J. NOUEIHED; J. A. WHITE. *Boston Univ.*
- 11:00 CC57 **703.24** Use of nIRCat to image the development of dopamine release in a wild-derived mouse with protracted adolescence. G. S. PROUNIS*; L. WILBRECHT. *UC Berkeley.*
- 8:00 CC58 **703.25** Two-photon microscopy imaging of partial pressure of oxygen (pO₂) in cortical tissue of awake mouse during breathing challenges. I. ŞENCAN*; K. KILIÇ; B. LI; B. FU; J. E. PORTER; T. ESIPOVA; M. DESJARDINS; M. A. YASEEN; D. BOAS; S. VINOGRADOV; A. DEVOR; S. SAKADŽIĆ. *Massachusetts Gen. Hospital, Harvard Med. Sch., Boston Univ. Neurophotonics Ctr., Massachusetts Gen. Hosp., Univ. of Pennsylvania, Univ. of California San Diego, Univ. of California San Diego.*
- 9:00 CC59 **703.26** Electrophysiological correlates of a non-stationary relationship between spikes and calcium. P. LEDOCHOWITSCH*; L. HUANG; G. OCKER; M. OLIVER; J. WATERS; H. ZENG; G. MURPHY; S. DE VRIES; M. BUICE. *Allen Inst. for Brain Sci.*
- 10:00 CC60 **703.27** • A validated GCaMP viral method for microendoscopic imaging in rat hippocampus CA1 during active behavior. S. GULATI*; D. CHENG; J. J. NASSI; A. M. STAMATAKIS. *Inscopix.*
- 10:00 CC63 **704.03** Isoform analysis of blood transcriptomic biomarkers for depression in human lymphocytes and hippocampal tissue. S. L. WERT*; E. REDEL. *Northwestern Univ. Feinberg Sch. of Med.*
- 11:00 CC64 **704.04** • The pharmacological dichotomy of ketamine: *In vitro* assays to evaluate neuronal structure and EEG-like oscillations. I. BARBIERO; M. CUNNINGHAM; C. KILSTRUP-NIELSEN; M. BIANCHI*. *Univ. of Insubria, Trinity Col. Dublin, Ulysses Neurosci. Limited.*
- 8:00 CC65 **704.05** • Safety assessment of esketamine administered via dry powder inhalation in animals and humans during preclinical toxicology and phase I clinical study. M. MATLOKA*; S. JANOWSKA; J. SIERZPUTOWSKA; K. JARUS-DZIEDZIC; J. PIECZYKOLAN; M. WIECZOREK. *Celon Pharma S.A., BioResearch Group Sp. z o.o.*
- 9:00 CC66 **704.06** • Resting-state functional MRI outperforms structural MRI in predicting transdiagnostic depression severity. M. S. MELLEM*; Y. LIU; H. GONZALEZ; M. E. KOLLADA; W. J. MARTIN; P. AHAMMAD. *Blackthorn Therapeut.*
- 10:00 CC67 **704.07** Biomarker of neurofeedback response. M. RANCE; J. EILBOTT; S. A. KICHUK; W. N. KOLLER; D. SCHEINOST; P. GRUNER; C. J. PITTENGER; M. HAMPSON*. *Yale Univ., Surveybott, Yale Univ.*
- 11:00 CC68 **704.08** • Safety and pharmacokinetic study of phosphodiesterase 10A inhibitor (CPL500036) after a single dose in healthy volunteers. S. JANOWSKA*; K. JARUS-DZIEDZIC; J. SIERZPUTOWSKA; M. MATLOKA; M. WIECZOREK. *Celon Pharma S.A., BioResearch Group Sp. Z O.O.*
- 8:00 CC69 **704.09** Analysis of methylation and -141C Ins/Del polymorphisms of the dopamine receptor D2 gene in patients with schizophrenia. Y. FUNAHASHI*; Y. YOSHINO; K. YAMAZAKI; S. OCHI; J. IGA; S. UENO. *Ehime Univ. Grad. Sch. of Med., Neuropsychiatry, Ehime Univ. Hosp., Ehime Univ. Grad. Sch. of Med., Ehime Univ., Ehime Univ.*
- 9:00 CC70 **704.10** EEG signal complexity as a computational bio-marker for schizophrenia. E. J. WOLFSON*; Y. LOEWENSTEIN; O. SHRIKI. *BGU, Hebrew Univ., Ben-Gurion Univ.*
- 10:00 CC71 **704.11** Thalamic neuroinflammation is associated with thalamo-cortical gating dysfunction in schizophrenia. F. M. HOWELLS*; H. S. TEMMINGH; J. H. HSIEH; D. J. STEIN. *Univ. of Cape Town, Neurosci. Institute, Univ. of Cape Town, SU/UCT MRC Unit on Risk and Resilience in Mental Disorders.*
- 11:00 CC72 **704.12** • SEP-363856, a novel psychotropic agent with a unique, non-D2 mechanism of action. N. DEDIC*; P. G. JONES; S. C. HOPKINS; R. LEW; T. HANANIA; U. C. CAMPBELL; K. S. KOBLAN. *Sunovion Pharmaceuticals Inc., Psychogenics Inc.*
- 8:00 CC73 **704.13** Abnormality in metabolism of docosahexaenoic acid-lysophosphatidic acid (DHA-LPA) in major depressive disorder and schizophrenia. W. OMORI*; K. KANO; K. HATTORI; N. KAJITANI; K. ITAGAKI; M. OKADA-TSUCHIOKA; H. ABE; A. MACHINO; A. INOUE; H. KUNUGI; J. AOKI; M. TAKEBAYASHI. *Natl. Hosp. Organization Kure Med. Ctr. and Chugoku Cancer Ctr., Natl. Hosp. Organization Kure Med. Ctr. and Chugoku Cancer Ctr., Hiroshima Univ., Tohoku Univ., Natl. Ctr. of Neurol. and Psychiatry, Kumamoto Univ.*

POSTER

704. Biomarker and Drug Discovery: Neuropsychiatric Diseases

Theme I – Techniques

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 CC61 **704.01** Engineering 3D neural tissues for drug screening. A. N. VO*; S. KUNDU; M. J. SONG; M. FERRER; M. E. BOUTIN. *Natl. Ctr. for Advancing Translational Sci.*
- 9:00 CC62 **704.02** Discovery of novel antidepressant agents targeting protein kinases in oligodendrocytes. S. MIYATA*; S. SHIMIZU; Y. ISHINO; M. TOHYAMA. *Kindai Univ/ Res. Ins Trad Asian Med., Osaka Prefectural Hosp. Organization.*

- 9:00 CC74 **704.14** Orphan GPCR ligands from ethnobotanical sources as novel drugs for mental disorders. C. GALLO*; G. POLETTI; R. ROJAS; A. VAISBERG. *Univ. Peruana Cayetano Heredia*.
- 10:00 CC75 **704.15** Resting-state EEG delta predicts neurofeedback treatment long-term response in nicotine addiction. J. BU; X. ZHANG*. *Univ. of Sci. & Technol. of China*.
- 11:00 CC76 **704.16** • Stem cell-derived grinch neurons for high throughput screening and profiling. R. HEILKER*; S. TRAUB; D. BISCHOFF. *Boehringer Ingelheim Pharma GmbH & Co. KG, Trenzyme GmbH, Boehringer Ingelheim Pharma GmbH & Co. KG*.
- 8:00 CC77 **704.17** • Development of a PC12 cell-based assay for *in vitro* screening of catechol-O-methyltransferase inhibitors. G. V. CARR*; G. ZHANG; I. BUCHLER; M. DEPASQUALE; M. WORMALD; H. WEI; J. C. BARROW. *Lieber Inst. for Brain Develop., Johns Hopkins Univ. Sch. of Med.*
- 9:00 CC78 **704.18** Topographical patterns of brain function at the individual level: Informative and interpretable. B. C. TABER-THOMAS*. *SUNY Geneseo*.

POSTER

705. Virtual Brain Models

Theme I – Techniques

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 DD1 **705.01** Parameter optimization in personalized Virtual Brain models using stochastic gradient descent. Z. WANG; K. SHEN; J. D. GRIFFITHS; A. R. MCINTOSH*. *Baycrest Ctr., Ctr. for Addiction and Mental Hlth.*
- 9:00 DD2 **705.02** Using personalized virtual brain models to reveal mechanisms of cognitive impairment in Parkinson's disease. K. SHEN*; Z. WANG; T. BROWN; D. SODUMS; A. R. MCINTOSH. *Rotman Res. Institute, Baycrest, Kunitz-Lunenfeld Ctr. for Applied Res. & Evaluation, Baycrest, Univ. of Toronto*.
- 10:00 DD3 **705.03** Large scale modeling of the mouse brain dynamics. L. KUSCH*; S. PETKOSKI; V. K. JIRSA. *Aix-Marseille Univ., Aix-Marseille Univ., Inst. De Neurosciences Des Systemes UMR1106*.
- 11:00 DD4 **705.04** The Virtual Brain decodes molecular pathways by large-scale computational modeling in Alzheimer's disease. L. STEFANOVSKI*; P. TRIEBKORN; A. SPIEGLER; M. DIAZ-CORTES; D. PERDIKIS; A. SOLODKIN; V. K. JIRSA; R. MCINTOSH; P. RITTER. *Charité - Univ. Med. Berlin, Free Univ. Berlin, UC Irvine Hlth., Inst. De Neurosciences Des Systemes UMR1106, Baycrest Hlth. Sci.*
- 8:00 DD5 **705.05** Music-induced emotions decoded by large-scale brain network modeling using the virtual brain. J. COURTIOU*; A. R. MCINTOSH; P. RITTER. *Charité Universitätsmedizin Berlin, Bernstein Ctr. for Computat. Neurosci., Baycrest Ctr., Univ. of Toronto, Berlin Inst. of Hlth.*
- 9:00 DD6 **705.06** Mechanisms of functional disconnection in AD: Explorations with TheVirtualBrain. A. SOLODKIN*; C. M. ANDREYKA; M. MAPSTONE; S. CHEN; A. R. MCINTOSH; P. RITTER; M. J. BREAKSPEAR; V. K. JIRSA. *UT Dallas, UC Irvine, Univ. of California, Irvine, Baycrest Ctr., Charité, Univ. Med. Berlin, Queensland Inst. of Med. Res., Inst. De Neurosciences Des Systemes UMR1106*.

- 10:00 DD7 **705.07** Validation workflow of the region-specific models: Frequentist vs Bayesian methods. H. E. WANG*; M. HASHEMI; V. K. JIRSA. *Aix Marseille Univ, INSERM, INS, Inst. Neurosci Syst.*
- 11:00 DD8 **705.08** Revealing the evolution of brain dynamics in response to emotional music using topological data analysis. M. SAGGAR; S. E. FABER*; S. SHAKIL; A. R. MCINTOSH. *Stanford Univ., Baycrest Hlth. Sci. Ctr., Baycrest Hlth. Sci., Baycrest Ctr.*
- 8:00 DD9 **705.09** The virtual brain improves machine-learning-driven classification of Alzheimer's disease. P. TRIEBKORN*; L. STEFANOVSKI; A. SPIEGLER; M. DIAZ-CORTES; D. PERDIKIS; A. SOLODKIN; V. K. JIRSA; A. R. MCINTOSH; P. RITTER. *Charité Universitätsmedizin Berlin, UT Dallas, Inst. De Neurosciences Des Systemes UMR1106, Baycrest Ctr.*
- 9:00 DD10 **705.10** Simulating large-scale cortical function and resulting behavior. H. CHO*; G. SCHALK. *New York State Dept. of Hlth., Albany Med. Col., State Univ. of New York*.
- 10:00 DD11 **705.11** ▲ Short latency (~100 ms) markerless video tracking of body parts in mice using deep neural networks. B. J. FORYS*; D. XIAO; P. GUPTA; J. D. BOYD; T. H. MURPHY. *Univ. of British Columbia*.

POSTER

706. Analytical Computational Models

Theme I – Techniques

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 DD12 **706.01** Why does ICA-decomposed EEG sometimes show deep dipoles? M. M. MIYAKOSHI*; S. MAKEIG. *Swartz Ctr. For Computat. Neuroscience, INC, UCSD, UCSD/INC/SCCN*.
- 9:00 DD13 **706.02** • State space oscillator models with priors on frequency. A. M. BECK*; H. SOULAT; E. P. STEPHEN; P. L. PURDON. *MIT, MIT, Massachusetts Gen. Hosp.*
- 10:00 DD14 **706.03** Feasibility study on super resolution using deep convolutional neural networks; auditory ERP data. M. KWON*; S. C. JUN. *Gwangju Inst. of Sci. and Technol.*
- 11:00 DD15 **706.04** Forward and inverse modeling between local field potential and intracranial macroelectrodes for neuroprosthetic applications. Y. CHANG*; J. M. CARMENA; S. R. SANTACRUZ. *Univ. of Texas at Austin, Univ. of California at Berkeley, Univ. of California at Berkeley, Univ. of Texas at Austin*.
- 8:00 DD16 **706.05** Extending the NWB:N neurophysiology data standard: Methods and applications. O. RUEBEL*; A. TRITT; B. DICHTER; R. LY; M. DOUGHERTY; V. BARATHAM; T. J. DAVIDSON; L. NG; L. M. FRANK; K. BOUCHARD. *Lawrence Berkeley Natl. Lab., UC Berkeley, HHMI/UCSF, Allen Inst. for Brain Sci., UC San Francisco, LBNL/UCB*.
- 9:00 DD17 **706.06** • Implementing evolutionary optimization to model resting state functional connectivity. K. MAILE; R. MIKKULAINEN; M. SAGGAR*. *Univ. of Texas at Austin, Stanford Univ.*
- 10:00 DD18 **706.07** The neuroscience gateway: Enabling large scale modeling and data processing in neuroscience on supercomputers. A. M. MAJUMDAR*; S. SIVAGNANAM; K. YOSHIMOTO; N. T. CARNEVALE. *Univ. of California San Diego, UCSD, Yale Univ. Sch. Med.*

Wed. AM

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 DD19 **706.08** Learning-to-learn and learning-to-optimize for spiking neuronal networks and high-throughput hyperparameter search on hpc. A. YEGENOGLU; S. DIAZ-PIER; A. SUBRAMONEY; W. KLIJN; W. MAASS; G. VISCONTI; M. HERTY; A. PEYSER*. *Forschungszentrum Juelich, Graz Univ. of Technol., RWTH Aachen Univ.*
- 8:00 DD20 **706.09** o²S²Parc - the simulation platform for all computational modeling in the NIH SPARC initiative (PNS neuromodulation & impact on organ physiology). E. NEUFELD*; N. CHAVANNES; A. M. CASSARA; B. LLOYD; P. CRESPO-VALERO; M. GUIDON; O. MAIZ; I. PASCUAL; S. ANDEREGG; N. KUSTER; W. KAINZ. *IT'IS Fndn. for Res. on Information Technologies in Society, ETH Zurich & IT'IS Fndn., U.S. Food and Drug Admin.*
- 9:00 DD21 **706.10** Scientific validation of data-driven neuroscience models despite complexity and sparse data. P. E. GARCIA-RODRIGUEZ; L. SHARMA; S. APPUKUTTAN; A. P. DAVISON*. *Ctr. Nationale De La Recherche Scientifique (CNRS).*
- 10:00 DD22 **706.11** Dynamic causal modeling toolbox for multimodal electrophysiological data. J. KANG*; J. EO; H. PARK. *Yonsei Univ. Col. of Med., Yonsei Univ., Yonsei Univ. Col. of Med., Yonsei Univ. Col. of Med.*
- 11:00 DD23 **706.12** • Efficient robust spectral analysis of spike data. A. H. SONG*; P. L. PURDON; E. N. BROWN; D. BA. *MIT, Massachusetts Gen. Hosp., MIT, Massachusetts Gen. Hosp., MIT, Massachusetts Gen. Hosp., MIT, Harvard Univ.*
- 8:00 DD24 **706.13** Evaluating spectral estimation methods for time-resolved measurement of aperiodic activity. T. FARNAN*; T. DONOGHUE; B. VOYTEK. *UC San Diego.*
- 9:00 DD25 **706.14** • ▲ Statistical accuracy of fMRI retinotopic mapping in patients with altered neurovascular function: Sequential vs random stimulus presentation. G. PATIL*; C. L. SCHNEIDER; B. SAHIN; B. Z. MAHON. *Univ. of Rochester, Univ. of Rochester, Carnegie Mellon Univ., Univ. of Rochester Sch. of Med. and Dent., Univ. of Rochester Med. Ctr., Univ. of Rochester, Univ. of Rochester Med. Ctr.*
- 10:00 DD26 **706.15** Cyclicity vs. similarity measures for fMRI resting state time series analysis. I. T. ABRAHAM; S. SHAHSAVARANI; B. ZIMMERMAN; Y. M. BARYSHNIKOV; F. T. HUSAIN*. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*
- 11:00 DD27 **706.16** A new method for large-scale neuronal simulation. N. WANG; D. B. FORGER*. *Univ. of Michigan, Univ. of Michigan.*
- 8:00 DD28 **706.17** Discovery of dynamic functional connectivity of cortical networks by learning fast correlation sequences in large-scale neural activity data. C. GRABER*; R. LOH*; Y. VLASOV; A. SCHWING. *Univ. of Illinois.*
- 9:00 DD29 **706.18** Multilevel principal component regression for brain imaging. B. PETRE*; C. WOO; E. LOSIN; H. EISENBARTH; T. D. WAGER. *Univ. of Colorado Boulder, Sungkyunkwan Univ., Univ. of Miami, Victoria Univ. of Wellington, Univ. of Colorado Boulder Dept. of Psychology and Neurosci.*
- 10:00 DD30 **706.19** • ▲ *In silico* modeling of temporally interfering electric fields for deep brain stimulation. I. DALLA BETTA*; A. M. CASSARA; E. S. BOYDEN; E. N. BROWN; F. J. FLORES. *Wellesley Col., MIT, IT'IS Fndn., Harvard Med. Sch., Massachusetts Gen. Hosp.*
- 11:00 DD31 **706.20** Temporally-rotating and orientation-selective electric fields enable finer control of axonal activation with deep brain stimulation applications. S. S. SANG*; L. LEHTO; J. SLOPSEMA; L. WU; S. MAMGIA; S. MICHAELI; M. D. JOHNSON. *Univ. of Minnesota, Univ. of Minnesota.*
- 8:00 DD32 **706.21** Canvas: A computational neuroscience Matlab design tool for large scale synthetic nervous systems. F. R. YOUNG*; A. J. HUNT; R. D. QUINN. *Case Western Reserve Univ., Portland State Univ.*
- 9:00 DD33 **706.22** EBRAINS fair data service: A novel infrastructure for making neuroscience data findable, accessible, interoperable, and reuseable. K. A. ANDERSSON*; C. H. BLIXHAVN; H. KLEVEN; U. SCHLEGEL; O. SCHMIDT; M. A. PUCHADES; A. P. DAVISON; T. DICKSCHEID; T. B. LEERGAARD; J. G. BJAALIE. *Univ. of Oslo, École Polytechnique Fédérale de Lausanne (EPFL), Ctr. Nationale De La Recherche Scientifique (CNRS), Inst. of Neurosci. and Med.*
- 10:00 DD34 **706.23** Find and explore rodent brain data using 3D atlases in the new EBRAINS infrastructure. C. H. BLIXHAVN*; K. A. ANDERSSON; H. KLEVEN; U. SCHLEGEL; M. A. PUCHADES; J. G. BJAALIE; T. B. LEERGAARD. *Univ. of Oslo, Univ. of Oslo.*

POSTER

707. Data Analysis: Neuronal Networks

Theme I – Techniques

Wed. 8:00 AM – McCormick Place, Hall A

- 8:00 DD35 **707.01** Using filter bank to estimate functional connectivity in both low and high frequencies: Application to schizophrenia. A. FAGHIRI*; E. DAMARAJU; V. CALHOUN. *Mind Res. Network.*
- 9:00 DD36 **707.02** • The EQIPD framework for rigour in the design, conduct and analysis of biomedical experiments. J. VOLLERT*; E. SCHENKER; M. R. MACLEOD; A. BESPALOV; H. WUERBEL; M. C. MICHEL; U. K. DIRNAGL; H. POTSCHEKA; K. E. WEVER; T. STECKLER; T. VAN DE CASTEELE; B. M. ALTEVOGT; G. RIEDEL; A. S. C. RICE. *Imperial Col. London, Servier, Univ. of Edinburgh, Partnership for Assessment and Accreditation of Scientific Practice, Univ. of Bern, Johannes-Gutenberg-Universität, Charité Universitätsmedizin Berlin, Ludwig-Maximilians-Univ., Radboud Univ. Med. Ctr., Johnson & Johnson PRD, Janssen Pharmaceutica NV, Pfizer Inc, Univ. Aberdeen.*
- 10:00 DD37 **707.03** Automatic diagnosis of epilepsy using current source estimate with a deep neural network. N. URA*; T. YANAGISAWA; R. FUKUMA; T. HARADA; S. YAMAMOTO; J. AOE; H. KISHIMA. *Osaka Univ., Osaka Univ. Grad. Sch. of Med., Osaka Univ. Grad. Sch. of Med., RIKEN, Osaka Univ. Inst. for Advanced Co-Creation Studies.*
- 11:00 DD38 **707.04** CA2 area detection from hippocampal microscope images using deep learning. H. OJIMA*; S. MORINAGA; T. ISHIKAWA; M. YASUI; S. AKIZUKI; M. HAMADA; T. KURODA. *Keio Univ., Keio Univ., Keio Univ.*
- 8:00 DD39 **707.05** Model-based decoupling of evoked and spontaneous neural activity in calcium imaging data. M. A. TRIPLETT*; Z. PUJIC; B. SUN; L. AVITAN; G. J. GOODHILL. *Univ. of Queensland.*
- 9:00 DD40 **707.06** Time-varying monitoring of dynamic neural connectivity using calcium imaging. C. RENTERIA*; Y. LIU; S. A. BOPPART. *Univ. of Illinois at Urbana-Champaign.*

- 10:00 DD41 **707.07** • *In-vitro* structural neurotoxicity testing using deep convolutional neural networks. M. MADDAH*; K. LOEWKE; H. TRUONG; H. YU. *Dana Solutions, Gilead*.
- 11:00 DD42 **707.08** Brainwide coactivation patterns revealed by multi-site electrophysiological recording and resting state fMRI in awake rodents. Q. ZHANG*; N. ZHANG. *The Pennsylvania State Univ.*
- 8:00 DD43 **707.09** Spatial temporal organisation properties of neural oscillations in primate cerebral cortex. X. LONG*; S. G. SOLOMON; P. R. MARTIN; P. GONG. *Univ. of Sydney, Univ. of Sydney, Univ. of Sydney, Univ. Col. London, Univ. of Sydney*.
- 9:00 DD44 **707.10** Detection and characterization of gamma bursts in LFP signals. Z. CHEN*; F. FENG; D. B. HEADLEY; D. K. C. HO; D. PARE; S. S. NAIR. *Univ. of Missouri Columbia, Univ. of Missouri-Columbia, Rutgers, The State Univ. of New Jersey, Rutgers Univ. Newark*.
- 10:00 DD45 **707.11** Whole-brain cell count analysis: Crowdsourcing manual cell counting. L. H. KIM*; L. MOLINA; Z. H. T. KISS; P. J. WHELAN. *Univ. of Calgary, Hotchkiss Brain Inst., Univ. of Calgary, Univ. of Calgary*.
- 11:00 DD46 **707.12** A novel deep learning framework for automated lesion segmentation of structural MRI data. I. PAPPAS*; H. HECTOR; K. HAWS; A. S. KAYSER; M. DESPOSITO. *Univ. of California, Berkeley, Univ. of California, San Francisco, VA Northern California Hlth. Care Syst., Univ. of California San Francisco, Univ. of California Berkeley*.
- 8:00 DD47 **707.13** Calcium imaging analysis with graph filtered temporal dictionary learning. A. S. CHARLES; N. CERMAK; J. SCHILLER; G. MISHNE*. *Princeton Univ., Technion, Neurobio., UC San Diego*.
- 9:00 DD48 **707.14** Low-dimensional global dynamics and underlying network architectures in the *Caenorhabditis elegans* synome. R. S. MCGEE*; E. SHLIZERMAN. *Univ. of Washington, Univ. of Washington*.
- 10:00 DD49 **707.15** Automated cell segmentation for *in vivo* two-photon Ca²⁺ imaging data using deformable convolutional networks. X. LIAO*; J. GUAN; X. LI; Z. ZHAO; S. LIANG; L. LUO; H. JIA; X. CHEN. *Chongqing Univ., Third Military Med. Univ., Suzhou Inst. of Biomed. Engin. and Technology, Chinese Acad. of Sci.*
- 11:00 DD50 **707.16** Homeostatic plasticity supports cortical activity enhancement as a novel treatment for post traumatic epilepsy. A. C. MOORE*; J. WANG; W. XIONG; X. JIN. *Indiana Univ. Sch. of Med., Stark Neurosci. Res. Inst., Indiana Univ.*
- 8:00 DD51 **707.17** Deep learning for seizure forecasting in canines with epilepsy. P. NEJEDLY*; V. KREMEN; V. SLADKY; M. NASSERI; H. GURAGAIN; P. KLIMES; J. CIMBALNIK; Y. VARATHARAJAH; B. BRINKMANN; G. WORRELL. *Mayo Clin.*
- 9:00 DD52 **707.18** A novel method for multi-frequency components of a single channel in brain state classification. D. GWON*; M. AHN. *Handong Global Univ., Handong Global Univ.*
- 10:00 DD53 **707.19** A statistical approach to the dynamic analysis of synchronous spiking in neuronal ensembles. S. MUKHERJEE*; K. M. O'NEILL; B. L. FIRESTEIN; W. LOSERT; B. BABADI. *Univ. of Maryland, Univ. of Maryland, Rutgers Univ., Univ. of Maryland*.
- 11:00 DD54 **707.20** Using machine learning techniques and ground-based analogs of inflight stress to assess effects of space exploration on brain function. H. YOON*; A. KHAN; L. D. SANFORD; L. L. WELLMAN; B. L. WILLIAMS; R. A. BRITTEN. *Norfolk State Univ., Norfolk State Univ., Eastern Virginia Med. Sch., Eastern Virginia Med. Sch.*
- 8:00 DD55 **707.21** Determining the number of states in dynamic functional network connectivity using cluster validity indexes. M. S. SALMAN*; V. M. VERGARA; A. ABROL; V. CALHOUN. *The Mind Res. Network, Georgia State Univ.*
- 9:00 DD56 **707.22** Deep learning to extract single-trial trajectories from two-photon calcium imaging. R. TANDON*; H. GRIER; M. T. KAUFMAN; C. PANDARINATH. *Emory Univ. / Georgia Tech., Univ. of Chicago, Emory Univ.*
- 10:00 DD57 **707.23** Null-space based sampling of brain networks. A. NANDA*; M. RUBINOV. *Vanderbilt Univ.*
- 11:00 DD58 **707.24** Deep learning convolutional networks for segmenting vasculature in multiphoton microscopy images. C. T. POON*; P. TEIKARI; K. HYNYNEN. *Sunnybrook Hlth. Sci. Ctr., Singapore Eye Res. Inst., Univ. of Toronto / Sunnybrook Res. Inst.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

Wednesday PM

LECTURE McCormick Place

708. SPECIAL LECTURE- Extracting Function From Structure: Lessons from the Fly Connectome — CME

Wed. 12:00 PM - 1:10 PM — Hall B

Speaker: G. M. RUBIN, *Howard Hughes Med. Institute, Janelia Res. Campus.*

A connectome of the *Drosophila* central nervous system will soon be available, providing the first glimpse of synaptic-level connectivity of the brain of an animal with sophisticated behavior. The challenge now is to use this information—together with genetically targeted physiology and perturbation during behavior—to understand the neural basis of perception, sleep, associative learning, navigation, and more.

LECTURE McCormick Place

709. SPECIAL LECTURE- Neural Codes for Natural Behaviors in Flying Bats — CME

Wed. 1:30 PM - 2:40 PM — Hall B

Speaker: N. ULANOVSKY, *Weizmann Inst. of Sci.*

Natural Neuroscience aims to decipher the neural mechanisms of natural behaviors in freely-moving animals. This lecture will focus on studies of neural codes for space, time, and social behaviors in flying bats using wireless neurophysiology methods. It will highlight new neuronal representations discovered in animals navigating through complex, 3D, or large-scale environments, or engaged in social interactions. The lecture will posit that neuroscience experiments in bats, rodents, or humans should be conducted under evermore naturalistic settings.

SYMPOSIUM McCormick Place

710. CNS Scarring, Inflammation, and Repair — CME

Wed. 1:30 PM - 4:00 PM — Room: S100A

Chair: C. GORITZ, *Karolinska Institutet*
Co-Chair: M. V. SOFRONIEW, *Univ. of California, Los Angeles Sch. of Med.*

This symposium will focus on the cellular components mediating scarring and repair following lesions to the Central Nervous System (CNS). Recent advances in understanding the function of glial, stromal, and immune cell components emphasizing heterogeneity within individual cell populations regarding injury induced changes, axonal regeneration and functional recovery after CNS injury will be presented. Based on these advances, this symposium will discuss potential therapeutic repair strategies of the injured nervous system.

- 1:30 **710.01** Introduction.
- 1:35 **710.02** Astrocytes and axon regeneration. M. V. SOFRONIEW. *UCLA Schl Med.*
- 2:10 **710.03** Mechanisms of glial bridging during spinal cord regeneration. M. H. MOKALLED. *Washington Univ. Sch. of Med.*
- 2:45 **710.04** Fibrotic scarring and axon regeneration. C. GOERITZ. *Karolinska Institutet.*

- 3:20 **710.05** Understanding Microglia Heterogeneity and State Changes following CNS Injury and Disease. B. STEVENS. *Boston Children's Hospital, Harvard Med. Sch.*

- 3:55 **710.06** Closing Remarks.

MINISYMPOSIUM McCormick Place

711. Mechanisms of Basal Ganglia Maturation: Insights Into Health and Disease — CME

Wed. 1:30 PM - 4:00 PM — Room: S100BC

Chair: R. PEIXOTO, *University of Pittsburgh*
Co-Chair: O. LIEBERMAN, *Columbia Univ.*

The basal ganglia are critical for action selection and motivated behaviors, and growing evidence points to striatal dysfunction in numerous neurodevelopmental disorders. This minisymposium will highlight recent advances in our understanding of the molecular and activity dependent mechanisms regulating the maturation of basal ganglia circuits, how these contribute to unique behaviors in adolescence, and how they might be implicated in the pathophysiology of human neurodevelopmental disorders.

- 1:30 **711.01** Introduction.
- 1:35 **711.02** Action encoding in adolescents. B. MOGHADDAM. *OHSU.*
- 1:55 **711.03** Developmental rules of corticostriatal synapse maturation and plasticity. R. PEIXOTO. *Univ. of Pittsburgh.*
- 2:15 **711.04** Synaptic wiring of corticostriatal circuits in basal ganglia. F. LIU. *Inst. Neurosci, Natl. Yang-Ming Univ.*
- 2:35 **711.05** Cell-type transcriptional programs regulating striatal projection neuron development. G. KONOPKA. *UT Southwestern Med. Ctr.*
- 2:55 **711.06** Role of mTORC1-dependent signaling in the maturing striatum. E. SANTINI. *Karolinska Inst.*
- 3:15 **711.07** Autophagic protein degradation in striatal development. O. LIEBERMAN. *Columbia Univ.*
- 3:35 **711.08** Closing Remarks.

MINISYMPOSIUM McCormick Place

712. Cell-Type Specificity, Strength, and Dynamics of Long-Range Synaptic Input — CME

Wed. 1:30 PM - 4:00 PM — Room: S406A

Chair: G. J. MURPHY, *Allen Institute for Brain Science*
Co-Chair: L. T. PETREANU, *Champalimaud Fndn.*

The specificity and functional properties of long-range synaptic input is less understood than that of local input. New optogenetic, viral tracing, and imaging techniques enable a deeper understanding of the interactions between cell types in discrete brain areas. New data from these approaches indicate that the specificity of local and long-range input can be comparable and raise the possibility that long-range input specificity may play a larger role than previously appreciated.

- 1:30 **712.01** Introduction.
- 1:35 **712.02** Layer-specific cortico-cortical loops in the mouse visual cortex. L. T. PETREANU. *Champalimaud Fndn.*

- 1:55 **712.03** Long-range inputs and functional properties of retrosplenial cortical neurons for self-motion processing. S. KESHAVARZI. *University College London*.
- 2:15 **712.04** Long-range interactions between prefrontal cortex and multiple thalamic nuclei. A. G. CARTER. *New York Univ.*
- 2:35 **712.05** Circuit properties of the cortico-thalamo-striatal loop and its modification. T. MAO. *Vollum Institute/Oregon Hlth.*
- 2:55 **712.06** Functionally Distinct Inputs and Projections of Striatal Matrix versus Striosome Neurons. A. B. NELSON. *UCSF*.
- 3:15 **712.07** High-throughput characterization of synaptic input to transcriptomically-defined cell types. G. J. MURPHY. *Allen Inst. For Brain Sci.*
- 3:35 **712.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

713. Progress in Pain and Itch Research — CME

Wed. 1:30 PM - 4:00 PM — Room: S102

Chair: Q. LIU, *The Washington University School of Medicine*

Co-Chair: H. HU, *Washington Univ. in St. Louis*

Although acute pain and itch are two of the most fundamental protective somatosensory processes, chronic pathological pain and itch inflict significant clinical challenges and economic burdens. The coding and processing of pain and itch in the peripheral and central nervous systems are highly complicated processes. This minisymposium will highlight the recent research advances in the cross-system regulations of pain and itch, and maladaptive processes that lead to chronic pain and itch.

- 1:30 **713.01** Introduction.
- 1:35 **713.02** Local sympathetic innervation drives macrophage polarization and chemotherapy-induced neuropathic pain. T. BERTA. *Univ. of Cincinnati*.
- 1:55 **713.03** Decoding the representation of sensory stimuli in the periphery. A. T. CHESLER. *NIH/NCCIH*.
- 2:15 **713.04** Neurotransmitters used by MrgprA3+ itch-sensing afferents. W. LUO. *Univ. of Pennsylvania*.
- 2:35 **713.05** Choreography of neural ensembles encoding pain perception. G. F. CORDER. *Univ. of Pennsylvania*.
- 2:55 **713.06** Mechanisms of itch regulation. H. HU. *Washington Univ. in St. Louis*.
- 3:15 **713.07** The peripheral neural mechanisms of ocular pain and itch. Q. LIU. *The Washington Univ. Sch. of Med.*
- 3:35 **713.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

714. Adaptive Control of Movements and Emotional States by the Cerebellum — CME

Wed. 1:30 PM - 4:00 PM — Room: S406B

Chair: R. SHADMEHR, *Johns Hopkins University*

An unexpected sensory event can be emotionally charged or neutral and can occur during movements or stillness. In every case, the cerebellum learns to eliminate the sensory prediction error. When this learning fails, results are motor as well as anxiety disorders. This minisymposium will present recent discoveries regarding the neural basis of this learning process, demonstrating the role of prediction errors in sculpting activity of Purkinje cells and leading to better control of brain structures outside of the cerebellum.

- 1:30 **714.01** Introduction.
- 1:35 **714.02** Signals for Motor Control and Action Prediction in Purkinje Cells. J. F. MEDINA. *Baylor Col. of Med.*
- 1:55 **714.03** Instructive Signal that Drives Saccade Adaptation. Y. KOJIMA. *Univ. of Washington*.
- 2:15 **714.04** Population Coding in the Cerebellum. R. SHADMEHR. *Johns Hopkins Univ. Dept. of Biomed. Engin.*
- 2:35 **714.05** Multiple components and sites of cerebellar motor learning? S. G. LISBERGER. *Duke Univ.*
- 2:55 **714.06** The Role of Cerebellar Output in Realtime Control of Reaching. A. L. PERSON. *Univ. of Colorado Sch. of Med.*
- 3:15 **714.07** The cerebellum and processing of predictions and prediction errors in fear conditioning. D. TIMMANN. *Univ. of Duisburg-Essen*.
- 3:35 **714.08** Closing Remarks.

MINISYMPOSIUM *McCormick Place*

715. Advanced Circuit and Cellular Imaging Methods in Non-Human Primates — CME

Wed. 1:30 PM - 4:00 PM — Room: S105

Chair: S. L. MACKNIK, *SUNY Downstate Medical Center College of Medicine*

Optogenetic and microscopic imaging techniques have proven successful in manipulating neuronal populations with high spatial and temporal fidelity in species ranging from insects to rodents. However, significant obstacles remain in their application to non-human primates (NHPs). Robust optogenetics-activated behavior and long-term monitoring of target neurons have been especially challenging in NHPs. This minisymposium will present recent advances that overcome many such obstacles.

- 1:30 **715.01** Introduction.
- 1:35 **715.02** OBServe: A Prosthetic Optogenetic Brain System. S. L. MACKNIK. *SUNY Downstate Med. Ctr. Col. of Med.*
- 1:55 **715.03** A Novel Pressure-Regulating Brain Implant for Ultra-Large Field-of-View for Mesoscopic Imaging in Primates. O. S. CABALLERO. *SUNY Downstate Med. Ctr.*
- 2:15 **715.04** Clustering of 3D and 2D shape processing in area V4. K. J. NIELSEN. *Johns Hopkins Univ.*
- 2:35 **715.05** Encoding and reconstruction of surfaces and contours from V1 of behaving monkeys. H. SLOVIN. *Bar-Ilan Univ.*

• Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 2:55 **715.06** Zooming in on neural circuits in macaque visual cortex. S. TANG. *Peking Univ.*
- 3:15 **715.07** An Optogenetic Toolkit for Non-Human Primates. E. SEIDEMANN. *Univ. of Texas at Austin.*
- 3:35 **715.08** Closing Remarks.

LECTURE *McCormick Place*

716. **SPECIAL LECTURE- The Neurobiology of Long-Term Memory: Key Molecules, Diverse Cell Types, Temporal Dynamics, and Critical Periods** — CME

Wed. 3:00 PM - 4:10 PM — Hall B

Speaker: C. M. ALBERINI, *New York Univ.*

Long-term memory formation and storage are complex and dynamic processes. What types of molecular and cellular mechanisms underlie this complexity? This lecture will describe key biological mechanisms regulated in response to learning, their expression in diverse cell types, their temporal dynamics, and their roles in long-term memory formation, storage, as well as changes induced by memory recall. It will also discuss how the biological mechanisms engaged in long-term memory formation and storage change over development.

NANOSYMPOSIUM

717. **Neurogenesis and Differentiation of CNS Neurons**

Theme A – Development

Wed. 1:00 PM – *McCormick Place, N228*

- 1:00 **717.01** Calcium transients control a morphogenetic cycle underlying neuronal migratory movement. S. HORIGANE*; S. TAKEMOTO-KIMURA; S. KAMIJO; A. ADACHI-MORISHIMA; H. FUJII; H. BITO. *Nagoya Univ, Res. Inst. Environ Med., Nagoya Univ. Grad Sch. of Med., Grad Sch. Med, Univ. of Tokyo.*
- 1:15 **717.02** Regulation of hippocampal morphogenesis and homeostasis by the E3 ubiquitin ligase CRL5. C. P. CANALES; J. S. HAN; K. HINO; Y. M. CAMARENA; Y. HADDADI; S. SIMO*. *UC Davis, Univ. of California Davis.*
- 1:30 **717.03** mTOR signaling cell autonomously controls outer radial glial migration in the developing human brain by regulating the length of the basal process. L. SUBRAMANIAN*; M. ANDREWS; A. R. KRIEGSTEIN. *UCSF.*
- 1:45 **717.04** A central role for the transcription factor Gli3 in controlling vomeronasal neurogenesis, formation of olfactory ensheathing cells in the nasal mucosa, and GnRH-1 neuronal migration. E. M. TAROC; A. NAIK; J. M. LIN; R. BALASUBRAMANIAN; P. E. FORNI*. *Univ. at Albany, Harvard.*
- 2:00 **717.05** PARP1 and its activity is required for oligodendrocyte differentiation during postnatal brain myelination. Y. WANG*; S. ZHANG; B. KIM; K. FOND; F. GUO. *UC Davis, Shriners Hosp. for Children - Northern California, UC Davis.*
- 2:15 **717.06** Developmental establishment of neurons and glia in mouse hippocampus. A. M. BOND*; D. A. BERG; S. LEE; A. GARCIA; G. MING; H. SONG. *Univ. of Pennsylvania.*

NANOSYMPOSIUM

718. **Autism: Molecular and Cellular Mechanisms**

Theme A – Development

Wed. 1:00 PM – *McCormick Place, S106*

- 1:00 **718.01** Dissecting developmental and transient effects in shankopathies associated with autism spectrum disorders in transgenic mice. A. ELTOKHI*; M. HÜSER; T. BUS; A. ROZOV; P. RAO-RUIZ; L. L. OETTL; A. HARTEN; W. KELSCH; A. SMIT; G. RAPPOLD; R. SPRENGEL. *Max Planck institute for Med. Res., Inst. of Human Genet., Inst. of Physiol. and Pathophysiology, Fac. of Science, Ctr. for Neurogenomics and Cognitive Res., Central Inst. of Mental Health, Med. Fac. Mannheim.*
- 1:15 **718.02** Forward genetic screen for modifiers of the autism spectrum disorder gene SHANK3. J. HOLDER*; L. WANG; F. ANDUJAR-PEREZ; L. LIN. *Baylor Col. of Med., UCSF.*
- 1:30 **718.03** Mode of stimulation matters in rescuing social deficit in Shank2 mutant mice. E. LEE*; W. CHOI; J. SHIN; S. LEE; C. CHUNG; E. KIM. *Col. of Medicine, Yonsei Univ., Inst. for Basic Sci., KAIST, Inst. for Basic Sci., KAIST, Inst. for Basic Sci., KAIST.*
- 1:45 **718.04** Amelioration of autism-like social deficits by targeting histone methyltransferases EHMT1/2. Z. WANG*; P. ZHONG; F. YANG; K. MA; J. SEO; F. ZHANG; P. GREENGARD; Z. YAN. *The State Univ. of New York At Buffalo, The State Univ. of New York At Buffalo, The Rockefeller Univ.*
- 2:00 **718.05** Reversal of synaptic and behavioral deficits in a 16p11.2 duplication mouse model via restoration of the GABA synapse regulator Npas4. B. REIN*; T. TAN; F. YANG; W. WANG; J. WILLIAMS; F. ZHANG; Z. YAN. *SUNY Univ. At Buffalo.*
- 2:15 **718.06** GABARAPs dysfunction by autophagy deficiency in adolescent brain impairs GABA_A receptor trafficking and social behavior. K. K. HUI*; N. TAKASHIMA; A. WATANABE; T. E. CHATER; H. MATSUKAWA; Y. NEKOOKI-MACHIDA; P. NILSSON; R. ENDO; Y. GODA; T. C. SAIDO; T. YOSHIKAWA; M. TANAKA. *RIKEN Ctr. for Brain Sci., RIKEN Ctr. for Brain Sci., RIKEN Ctr. for Brain Sci., Karolinska Institutet, RIKEN Ctr. for Brain Sci.*
- 2:30 **718.07** Autism neural precursor cells in chromosome 16p11.2 deletion syndrome - Defining pathways mediating the hyperproliferation phenotype. M. MEHTA*; S. PREM; R. CONNACHER; M. WILLIAMS; P. MATTESON; X. ZHOU; L. TURKALJ; E. M. DICICCO-BLOOM; J. H. MILLONIG. *Rutgers Univ., Ctr. for Advanced Biotech. and Med., Rutgers Robert Wood Johnson Med. Sch., Rutgers Univ. Dept. of Cell Biol. and Neurosci., Rutgers Robert Wood Johnson Med. Sch., Ctr. for Advanced Biotech. and Med.*
- 2:45 **718.08** Loss of the DNA repair enzyme oxoguanine glycosylase 1 (OGG1) sex-dependently increases DNA strand breaks and decreases DNA methylation in the brain, possibly contributing to sex-dependent increase in postnatal behavioural disorders. S. BHATIA*; E. ARSLAN; P. G. WELLS. *Univ. of Toronto, Univ. of Toronto.*

NANOSYMPOSIUM

719. Microglial Activation in Disease States

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 1:00 PM – McCormick Place, S405

- 1:00 **719.01** Docosahexaenoic acid (DHA) in the form of lysophosphatidylcholine (LPC) is superior to unesterified DHA in the attenuation of microglial activation *in vitro*. D. SUGASINI*; S. DASARATHY; P. C. YALAGALA; K. PAHAN; P. V. SUBBIAH. *Univ. of Illinois, Rush Univ.*
- 1:15 **719.02** Circadian regulation of neuroinflammation and neurodegeneration by Rev-erba. P. GRIFFIN*; J. DIMITRY; P. SHEEHAN; C. NADARAJAH; B. LANANNA; E. MUSIEK. *Washington Univ. Sch. of Med., Washington Univ. in St. Louis.*
- 1:30 **719.03** Chronic morphine exposure down-regulated pyroptosis signaling in microglia probably by parkin-related NLRP3 clearance. H. WANG*; Y. ZHANG; H. LIAO; Y. PENG. *Sun Yat-Sen Mem. Hospital, Sun Yat-Sen Univ.*
- 1:45 **719.04** The nuclear GAPDH cascade mediates microglial regulation of cognitive flexibility. A. RAMOS*; N. J. ELKINS; H. NAMKUNG; T. PALEN; K. ISHIZUKA; A. SAWA. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Dept. of Psychiatry and Behavioral Sci., Psychiatry, Johns Hopkins Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*
- 2:00 **719.05** Dietary polyphenols mediate resilience to depression and anxiety phenotypes via HMGB1/TLR4/NF- κ B danger signaling in the microglia. T. FROLINGER*; U. IQBAL; S. WESTFALL; C. FREIRE COBO; G. PASINETTI. *Icahn Sch. of Medicine, Mount Sinai Med. Cent.*
- 2:15 **719.06** Loss of Nrf2 in microglia results in impaired homeostasis and recapitulates a pro-inflammatory subset of disease-associated microglia. H. C. PARAISO; P. KUO; B. A. SCOFIELD; W. WENG; R. D. SWEAZEY; J. YEN; F. CHANG; I. I. YU*. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*
- 2:30 **719.07** Ketamine anesthetic triggers perineuronal net removal by microglia. A. VENTURINO; R. SCHULZ; B. NAGY; M. E. MAES; G. COLOMBO; F. E. SCHOOT UITERKAMP; S. SIEGERT*. *IST Austria.*

NANOSYMPOSIUM

720. Mechanisms Controlling Retinal Synaptic Connectivity and Function

Theme D – Sensory Systems

Wed. 1:00 PM – McCormick Place, S402

- 1:00 **720.01** The development of outer retina photoresponsivity. P. J. BONEZZI*; M. J. TARCHICK; M. E. STABIO; J. M. RENNA. *The Univ. of Akron, Univ. of Colorado Anschutz Med. Campus.*
- 1:15 **720.02** cTAGE5 and Tango1 endoplasmic reticulum cargo receptors have complementary but divergent roles in photoreceptors and overall ocular health. E. M. CLARK*; R. F. COLLERY; H. J. T. NONARATH; J. R. BOSTROM; B. A. LINK. *Med. Col. of Wisconsin.*
- 1:30 **720.03** Meta-mosaics in the mammalian retina. S. ROY*; N. JUN; J. PEARSON; G. FIELD. *Duke Univ.*

- 1:45 **720.04** Transsynaptic modulation of synaptic activity: Leucine-rich repeat protein LRIT1 selectively modulates cone photoreceptor synaptic function. Y. WANG*; I. SARRIA; Y. CAO; N. T. INGRAM; C. ORLANDI; N. KAMASAWA; A. V. KOLESNIKOV; V. J. KEFALOV; A. P. SAMPATH; K. A. MARTEMYANOV. *The Scripps Res. Inst., UCLA, Max Planck Florida Inst., Washington Univ. Sch. Med.*
- 2:00 **720.05** Human vision trades single photons for optimal contrast detection at the sensitivity limit. M. J. KILPELAINEN; A. LAIHI; D. TAKESHITA; F. M. RIEKE; P. ALA-LAURILA*. *Univ. of Helsinki, Univ. of Helsinki, Univ. of Washington, Aalto Univ. & Univ. of Helsinki.*
- 2:15 **720.06** Functional divergence at the MouseType 6 retinal bipolar cell terminal. D. SWYGART*; W. YU; S. KNECHT; R. WONG; G. W. SCHWARTZ. *Northwestern Univ., Univ. of Washington.*
- 2:30 **720.07** Nicotinic acetylcholine receptors in bipolar cells contribute to motion detection in starburst amacrine cells of the mouse retina. C. B. HELLMER*; L. M. HALL; C. C. KOEHLER; T. ICHINOSE. *Wayne State Univ. Sch. of Med.*

NANOSYMPOSIUM

721. Integration Across Sensory Modalities

Theme D – Sensory Systems

Wed. 1:00 PM – McCormick Place, S403

- 1:00 **721.01** Rhythmic modulations in representational interactions between audiovisual speech features. H. PARK*; R. A. A. INCE; J. GROSS. *Univ. of Birmingham, Univ. of Glasgow, Univ. of Muenster.*
- 1:15 **721.02** Nonlinear integration of multisensory orientation cues in the *Drosophila* central complex. T. A. CURRIER*; A. M. LICATA; A. M. M. MATHESON; K. I. NAGEL. *New York Univ. Med. Ctr.*
- 1:30 **721.03** ▲ Visually induced motion sickness is reduced by synchronous engine sounds and vibrations in a motorcycle simulator. K. AIGO*; Y. ITAGUCHI; M. HAYASHI; Y. SAWADA; T. MIYAGI; T. UEDA; M. MIKI; T. KIMURA; M. MIYAZAKI. *Shizuoka Univ., Grad. Sch. of Integrated Sci. and Technology, Shizuoka Univ., YAMAHA MOTOR Co., Ltd.*
- 1:45 **721.04** Pure haptic training enhances visual executive attention. Y. LUO*; J. ZHANG. *Beihang Univ.*
- 2:00 **721.05** Amodal neural representations and face and voice coding principles in the human brain. Z. KOCSIS; R. S. MUERS; H. KAWASAKI; T. D. GRIFFITHS; M. A. HOWARD, III; C. I. PETKOV*. *Univ. of Iowa Hosp. and Clinics, Newcastle Univ.*
- 2:15 **721.06** Empirical evidence for the effectiveness of the Z-Bell test in measuring non-image-forming retinal input channels. D. G. ZELINSKY*; C. ELLIOTT. *The Mind-Eye Inst., DePaul Univ.*
- 2:30 **721.07** Mesoscale calcium activity imaging of the whole cortex in freely behaving mice. M. L. RYNES*; D. SURINACH; M. LAROQUE; J. DOMINGUEZ; L. GHANBARI; G. JOHNSON; S. B. KODANDARAMAIAH. *Univ. of Minnesota, Univ. of Minnesota.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

NANOSYMPOSIUM

722. Cortical and Subcortical Planning and Execution

Theme E – Motor Systems

Wed. 1:00 PM – McCormick Place, N227

- 1:00 **722.01** Dose-dependent effects of methylphenidate administration on 50-kHz ultrasonic vocalizations in adult male rats. S. A. LECHNER*; C. A. KELM-NELSON; M. R. CIUCCI. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*
- 1:15 **722.02** What can the rat dorsal column nuclei tell us about the limits of human tactile perception? R. CHEUNG; C. WALTERS; A. J. LOUIT; R. M. VICKERY; I. BIRZNIEKS; J. R. POTAS*. *UNSW Sydney.*
- 1:30 **722.03** Sensory computations in the cuneate nucleus of macaques. A. K. SURESH*; A. AYER; J. M. ROSENOW; L. E. MILLER; S. J. BENSMAIA. *Univ. of Chicago, Northwestern Univ., Northwestern Univ., Northwestern Univ., Univ. of Chicago.*
- 1:45 **722.04** Sensorimotor control of complex tongue movement sequences in mouse. D. XU*; Y. CHEN; A. M. DELGADO; D. H. O'CONNOR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ.*
- 2:00 **722.05** Decoding 3D tongue kinematics from population responses in sensorimotor cortex. J. D. LAURENCE-CHASEN*; K. BALASUBRAMANIAN; C. F. ROSS; N. G. HATSOPOULOS; F. I. ARCE-MCSHANE. *Univ. of Chicago.*
- 2:15 **722.06** Mixed encoding of sensorimotor information in orofacial cortical neurons. K. BALASUBRAMANIAN; J. LAURENCE-CHASEN; R. JUNOD; C. F. ROSS; N. G. HATSOPOULOS; F. I. ARCE-MCSHANE*. *Univ. of Chicago, Univ. of Chicago.*
- 2:30 **722.07** ● Sensorimotor integration for cued reaching movements through multiple bands of cortical oscillations from the motor and somatosensory cortices. K. TAKAHASHI*; H. WATANABE; M. MAKITANI; H. MUSHIAKE. *Univ. of Chicago, Tohoku Univ.*
- 2:45 **722.08** ▲ Primary motor cortex does not exhibit orderly dynamics during grasp. J. M. GOODMAN*; A. K. SURESH; E. V. OKOROKOVA; N. G. HATSOPOULOS; S. J. BENSMAIA. *Univ. of Chicago, Univ. of Chicago.*
- 3:00 **722.09** ● Behavior dependent states in segregated networks of low and beta synchronized neurons in the macaque fronto-parietal grasping circuit. S. SHESHADRI*; B. DANN; H. SCHERBERGER. *German Primate Ctr.*
- 3:15 **722.10** Neural population response dimensions identified with PCA contain mixed content and are only meaningful in case of high signal-to-noise ratio. A. FILIPPOV*; B. DANN; H. SCHERBERGER. *German Primate Ctr. (DPZ), Dept. of Biol. and Psychology, Univ. of Göttingen.*
- 3:30 **722.11** Recurrent neural network dynamics balance compression and expansion through learning. M. S. FARRELL*; S. RECANATESI; G. LAJOIE; E. T. SHEA-BROWN. *Univ. of Washington, Univ. of Washington, Univ. of Montreal, Univ. of Washington.*

NANOSYMPOSIUM

723. Neural and Molecular Mechanisms of Memory

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, S104

- 1:00 **723.01** Two positive feedback loops induced by a neurotrophin at *Aplysia* sensorimotor synapses are important for the serial consolidation of learning-related facilitation produced by 5HT. I. JIN*; E. R. KANDEL; R. D. HAWKINS. *Columbia Univ.*
- 1:15 **723.02** *C. elegans* multisensory learning in simple T-mazes, as revealed by experiments and captured by mathematical models. B. SAKELARIS; K. ADIGA; A. GOETTEMÖLLER; C. CHEH; V. BOOTH; A. HSU; E. GOURGOU*. *Univ. of Michigan, Natl. Yang Ming Univ. of Taiwan, Res. Ctr. for Healthy Aging and Inst. of New Drug Development, China Med. Univ.*
- 1:30 **723.03** A regulated molecular mechanism controls age-dependent memory decline. V. G. GHARAT; B. G. FENYVES; C. HAAB; A. ARNOLD; K. TISHINOV; F. PETER; D. DE QUERVAIN; A. PAPASOTIROPOULOS; A. STETAK*. *Univ. of Basel.*
- 1:45 **723.04** Transient forgetting of aversive long-term memories in *Drosophila*. J. M. SABANDAL*; J. A. BERRY; R. L. DAVIS. *The Scripps Res. Inst.*
- 2:00 **723.05** Molecular motor Kif5C constrains synapse function and long-term memory by regulating synaptic translation. S. SWARNKAR*; Y. AVCHALUMOV; X. LIU; B. RAVEENDRA; I. VILLANUEVA; S. MEDIOUNI; E. GRINMAN; S. VALENTE; K. MILLER; S. V. PUTHANVEETIL. *Scripps Res., Icahn Sch. of Med. at Mount Sinai, Michigan State Univ. East Lansing, The Scripps Res. Inst.*
- 2:15 **723.06** Mef2 mediates cognitive enhancement and resilience in mice and humans. S. BARKER*. *MIT.*
- 2:30 **723.07** Alternate biochemical pathways for enhanced cognition. T. H. SANDERS*. *Vanderbilt Univ.*
- 2:45 **723.08** tPA-dependent behavioral brain mapping. S. DOUCEAU*; L. LÉBOUVIER; V. R. AGIN; D. VIVIEN. *Normandie University, INSERM UMR-S U1237 Phind, INSERM UMR-S U1237 Phind, CAEN, France, Normandie University, INSERM UMR-S U1237 Phind, CAEN, France, Caen-Normandie Univ. Hosp. (CHU), Dept. for Clin. Res.*
- 3:00 **723.09** Repeated variable stress exposure in mid-adolescence attenuates behavioral, noradrenergic and epigenetic effects of trauma-like stress in adult male rats. L. E. CHABY*; N. SADIQ; N. BURSON; S. LLOYD; K. O'DONNELL; J. J. WINTERS; C. V. CHEN; I. LIBERZON; S. A. PERRINE. *Wayne State Univ., Univ. of Michigan, Texas A&M Univ., Texas A&M Hlth. Sci. Ctr.*
- 3:15 **723.10** Fear conditioning strengthens the mouse dorsal CA1 commissural pathway *in vivo*. M. SUBRAMANIAN*; S. MANIVANNAN; V. CHELUR; T. TSETSENIS; J. A. DANI. *Univ. of Pennsylvania, Columbia Univ.*
- 3:30 **723.11** Hippocampal neurons integrating past memory and present context for subsequent action. C. YANG*; Y. NAYA. *Peking Univ., Peking Univ., Peking Univ., Peking Univ.*
- 3:45 **723.12** Spatial novelty enhances flexible learning through ventral hippocampal-prefrontal metaplasticity. A. J. PARK*; K. MARTYNIUK; C. CHANG; A. I. ABBAS; C. KELLENDONK; A. HARRIS; J. GOGOS; J. A. GORDON. *Columbia Univ., Columbia University/NYS Psychiatric Inst., Columbia Univ. Press, Natl. Inst. of Mental Hlth.*

- 4:00 **723.13** Dynamics of prefrontal cortex assemblies activation associated with contextual fear discrimination learning. J. MAYER*; J. PASTORE; J. H. SPEIGEL, III; T. W. BAILEY; E. KORZUS. *Univ. of California Riverside*.

NANOSYMPOSIUM

724. Human Executive Functioning

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, S401

- 1:00 **724.01** Dissociating neural networks of metacognition from attention driven by decision uncertainty. L. QIU*; J. SU; X. WAN. *Beijing Normal University, IDG/MacGovern Inst. for Brain Res.*
- 1:15 **724.02** Unbalance between proactive and reactive control of intrusive memory in post-traumatic stress disorder. G. LEONE*; A. MARY; J. DAYAN; C. POSTEL; F. FRAISSE; T. VALLÉE; V. DE LA SAYETTE; D. PESCHANSKI; F. EUSTACHE; P. GAGNEPAIN. *Normandie Univ, UNICAEN, PSL Res. University, EPHE, INSERM, U1077, CHU de Caen, Neuropsychologie et Imagerie de la Mémoire Humaine, CNRS, EHESS, Univ. Paris 1 Panthéon-Sorbonne, European Ctr. for Social Sci. and Politics.*
- 1:30 **724.03** Anterior prefrontal cortex conveys feature information of novel stimuli during unconscious reallocation of attention. L. GÜLDENER*; A. JÜLLIG; D. SOTO; S. POLLMANN. *Otto Von Guericke Univ. Magdeburg, Basque Ctr. on Cognition, Brain and Language (BCBL), Ctr. of Behavioral Brain Sci.*
- 1:45 **724.04** Effectiveness of 4 × 1 multielectrode tDCS on influencing executive control during mind wandering. N. M. BOAYUE*; G. CSIFCSÁK; I. V. KREIS; J. M. GROOT; I. C. FINN; A. E. VOLLUND; M. MITTNER. *Univ. of Tromsø.*
- 2:00 **724.05** Fmri adaptation vs pattern analysis: Evaluating methods for measuring human PFC representational geometry and dimensionality. A. BHANDARI*; Y. BRAVERMAN; M. K. BENNA; M. RIGOTTI; S. FUSI; D. BADRE. *Brown Univ., Brown Univ., Columbia Univ., Columbia Univ., Columbia Univ., IBM Res. AI, Columbia Univ., Carney Inst. for Brain Sci.*
- 2:15 **724.06** Non-linear modulation EEG complexity by different degrees of propofol sedation and its relation to responsiveness. G. BONCOMPTE*; V. MEDEL; T. OSSANDON. *Pontificia Univ. Católica De Chile.*
- 2:30 **724.07** Inhibitory control of actions and memories: Common control processes, dissociable targets. D. APŠVALKA*; T. W. SCHMITZ; C. S. FERREIRA; Y. GUO; J. B. ROWE; M. C. ANDERSON. *Univ. of Cambridge, McGill Univ., Univ. of Birmingham, Siemens Mgmt. Consulting, Univ. of Cambridge.*
- 2:45 **724.08** β -burst events reveal the trial-to-trial dynamics of movement initiation and -inhibition. J. R. WESSEL*. *Univ. of Iowa.*
- 3:00 **724.09** Evidence accumulation in working memory-based decision making in human intracranial EEG. A. B. HERMAN*; D. P. DARROW; C. SAIOTE; M. C. PARK; B. Y. HAYDEN. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota Twin Cities.*
- 3:15 **724.10** Musical expertise modulates cognitive control mechanisms needed to resolve conflicting auditory information. V. SHARMA*; C. ALAIN; M. H. THAUT; F. RUSSO. *Rotman Res. Inst., Univ. of Toronto, Ryerson Univ.*

- 3:30 **724.11** Contextually-driven set-switching modulates theta-band oscillatory power. K. HWANG*; D. CELLIER; M. A. PIPOLY. *Univ. of Iowa, Univ. of Iowa.*
- 3:45 **724.12** Contributions of the cerebello-thalamo-cortical system to the processing of multiple rules. T. IWABUCHI*; T. HARADA; A. SHIGETOMI; K. J. TSUCHIYA; N. TAKEI. *Hamamatsu Univ. Sch. of Med., Kojin Hosp.*

NANOSYMPOSIUM

725. Human Imaging and Connectivity

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, N427

- 1:00 **725.01** Innate connectivity patterns of the visual word form area. J. LI*; D. E. OSHER; H. A. HANSEN; M. R. RHODES; A. L. HOWELL; Z. M. SAYGIN. *The Ohio State Univ.*
- 1:15 **725.02** The role of prefrontal cortical morphology in the development of reasoning ability. W. I. VOORHIES*; J. MILLER; J. YAO; I. RAGHURAM; S. A. BUNGE; K. S. WEINER. *Univ. of California, Berkeley, UC Berkeley, Univ. of California, Berkeley, Univ. California, Berkeley.*
- 1:30 **725.03** Correspondence between BOLD signal and iEEG high-frequency activity during memory encoding in a pediatric sample. L. TANG*; E. L. JOHNSON; Q. YIN; D. MCCALL; S. RAMESH; B. THOMPSON; R. AGARWAL; A. LUAT; E. ASANO; N. OFEN. *Wayne State Univ., Univ. of California, Berkeley, Children's Hosp. of Michigan, Weizmann Inst. of Sci.*
- 1:45 **725.04** • Family history of suicide may have a sex-specific effect on brain structure in adolescents. A. H. ZHU*; P. M. THOMPSON; N. JAHANSHAD. *USC.*
- 2:00 **725.05** Do individuals with autism have face recognition impairments? An empirical meta-analysis across 85 studies. J. W. GRIFFIN*; R. BAUER; S. SCHERF. *The Pennsylvania State Univ.*
- 2:15 **725.06** Structural-functional network coupling in cerebral compared to ocular visual impairment. C. M. BAUER; E. S. BAILIN; J. SEPULCRE; L. B. MERABET*. *Harvard Med. School, Massachusetts Eye and Ear, Mass. Eye and Ear -- Harvard Med. Sch., Harvard Med. Sch. - Gordon Ctr. for Med. Imaging, MEEI- SERI Harvard Med. Sch.*
- 2:30 **725.07** Reorganization of intrinsic neural networks associated with tinnitus. S. SHAHSAVARANI*; R. KHAN; S. SCHMIDT; Y. TAI; F. HUSAIN. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign.*
- 2:45 **725.08** Transcranial magnetic stimulation of the right posterior parietal cortex inhibits left motor short interval intracortical facilitation and parietal-motor connectivity. J. K. BAARBÉ*; M. VESIA; C. GUNRAJ; G. JEGATHEESWARAN; M. J. BROWN; K. J. LIZARRAGA; A. WEISSBACH; N. M. DRUMMOND; J. SARAVANAMUTTU; C. RINCHON; R. CHEN. *Toronto Western Hosp., Sch. of Kinesiology, California State Univ. Sacramento (CSUS).*
- 3:00 **725.09** Alpha, beta, and gamma-band electrocorticographic responses to auditory tones presented in broadband-noise are consistent with the effects of temporal-integration and cortical gain-control. M. RAGHAVAN*. *Med. Col. of Wisconsin.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 3:15 **725.10** Fluctuating inter-regional delays in the auditory hierarchy of the human cortex. J. MOON*; K. MÜSCH; C. E. SCHROEDER; C. J. HONEY. *Johns Hopkins Univ., Johns Hopkins Univ., Columbia Univ. Col. of Physicians and Surgeons.*

NANOSYMPOSIUM

726. Personalized Brain Signatures

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, N426

- 1:00 **726.01** Changes in visual processing during low-oxygen exposure: Evidence from visual mismatch negativity and P3a. K. J. BLACKER*; T. R. SEECH; M. J. KINNEY; M. E. FUNKE. *Naval Med. Res. Unit - Dayton, The Henry M. Jackson Fndn. for the Advancement of Military Medicine, Inc., U.S. Air Force Acad.*
- 1:15 **726.02** Reduced medial-lateral prefrontal cortex functional connectivity in high hypnotic suggestibility. D. B. TERHUNE*. *Goldsmiths, Univ. of London.*
- 1:30 **726.03** Neural measures of auditory selective attention suggest diminished top-down control in ADHD. J. KWASA*; B. SHINN-CUNNINGHAM. *Carnegie Mellon Univ., Carnegie Mellon Univ.*
- 1:45 **726.04** Transforming the task-free connectome to predict task-specific connectomes. K. YOO*; M. D. ROSENBERG; D. SCHEINOST; R. T. CONSTABLE; M. M. CHUN. *Yale Univ., Univ. of Chicago, Yale Univ., Yale Univ.*
- 2:00 **726.05** Nodes of DMN involved in general intelligence. A. YADAV*; P. LALWANI; H. SURI; R. JEJURIKAR; A. PURUSHOTHAM. *NCBS, IISER Pune, Baylor Col. of Med.*
- 2:15 **726.06** Reliable, person-specific functional architecture derived from human connectome project task data. M. SIMMONITE*; D. KHAMMASH; A. M. BELTZ; T. A. POLK. *Univ. of Michigan.*
- 2:30 **726.07** Reduced reliance on pitch cues for speech perception in amusia: A neural basis. K. JASMIN*; F. DICK; L. STEWART; L. L. HOLT; A. TIERNEY. *Birkbeck Univ. of London, Birkbeck/UCL Ctr. For Neuroimaging, Goldsmiths Univ. of London, Carnegie Mellon Univ.*
- 2:45 **726.08** Deep learning detection of early cholinergic impairments by spontaneous arousal fluctuations in autism. P. ARTONI*; A. PIFFER; V. VINCI; J. LE BLANC; C. A. NELSON; T. K. HENSCH; M. FAGIOLINI. *Boston Children's Hospital, Harvard Med. Sch., Harvard Med. Sch., Harvard Univ.*
- 3:00 **726.09** Are we there yet? Classifying individuals with autism and schizophrenia based on brain neuroimaging data using multiple machine learning algorithms. W. YASSIN*; Z. YINGHAN; H. NAKATANI; K. MASAKI; K. OWADA; H. KUWABARA; N. OKADA; W. GONOI; H. TAKAO; K. KASAI; Y. KANO; O. ABE; H. YAMASUE; S. KOIKE. *The Univ. of Tokyo.*
- 3:15 **726.10** The connectivity fingerprinting toolbox. D. E. OSHER*; Z. M. SAYGIN. *The Ohio State Univ.*

- 3:30 **726.11** 100% positive predictive value is achieved in a subset of individuals using a multi-step machine learning classification procedure to identify progression from mild cognitive impairment to Alzheimer's dementia. D. A. DAWSON*; Z. HAO; K. MOK; S. GREGOIRE; L. LIN; Y. HAN; P. BELLEC; A. SHMUEL. *Montreal Neurolog. Inst., McGill Univ., McGill Univ., Sichuan Univ., Xuanwu Hosp. of Capital Med. Univ., Ctr. of Alzheimer's Disease, Beijing Inst. for Brain Disorders, Beijing Inst. of Geriatrics, Natl. Clin. Res. Ctr. for Geriatric Disorders, Univ. de Montréal.*
- 3:45 **726.12** Cortical fingerprinting using cosine similarity of TMS-EEG evoked responses. R. A. OZDEMIR*; E. TADAYON; P. BOUCHER; H. SUN; W. GANGLBERGER; M. WESTOVER; A. PASCUAL-LEONE; E. SANTARNECCHI; M. SHAFI. *Harvard Med. Sch., Beth Israel Deaconess Med. Ctr., Harvard Med. Sch., Beth Israel Deaconess Med. Ctr., Harvard Med. Sch., Harvard Med. Sch.*

NANOSYMPOSIUM

727. Advances in Brain Imaging

Theme I – Techniques

Wed. 1:00 PM – McCormick Place, S404

- 1:00 **727.01** Improved estimation of functional architecture with the quantification of local power-law dynamics in the human brain. C. J. STEELE*; P. BAZIN; N. SCHAWORONKOW; A. VILLRINGER; V. NIKULIN. *Concordia Univ., Max Planck Inst. for Human Cognitive and Brain Sci., Netherlands Inst. for Neurosci., Spinoza Ctr. for Neuroimaging, UCSD, Humboldt-Universität zu Berlin, Inst. for Cognitive Neuroscience, Natl. Res. Univ. Higher Sch. of Econ., Charité-Universitätsmedizin.*
- 1:15 **727.02** Network structure of the mouse brain connectome with voxel resolution. L. COLETTA; F. GATTO; B. BERNHARDT; A. GOZZI*. *Inst. Italiano di Tecnologia, McGill Univ., Inst. Italiano Di Tecnologia.*
- 1:30 **727.03** Age associations with choroid-plexus calcification volumes defined by quantitative susceptibility mapping. I. BAGARI*; W. SURENTO; A. H. ZHU; P. M. THOMPSON; N. JAHANSHAD. *Imaging Genet. Center, Mark and Mary Stevens Neuroimaging and Informatics Institute, Univ. of Southern California.*
- 1:45 **727.04** Building generalizable cognitive models using ECoG: An improvised technique for group-level analysis. G. KARTHIKEYAN*; A. M. BELTZ; D. BRANG. *Univ. of Michigan, Univ. of Michigan.*
- 2:00 **727.05** Passive mapping of receptive language area in patients under general anesthesia using electrocorticography. A. NOURMOHAMMADI*; A. DE PESTERS; P. BRUNNER; J. KNUTH; A. RITACCIO; G. SCHALK. *Natl. Ctr. For Adaptive Neurotechnologies, Natl. Ctr. for Adaptive Neurotechnologies, Albany Med. Col. / Wadsworth Ctr., Albany Med. Col., Albany Med. Col., Wadsworth Ctr., NYSDOH.*
- 2:15 **727.06** Electric fields between 1 and 10 mV_{mm} induce immediate electrophysiological effects in humans. E. ZEYKINA; M. MITTNER; W. PAULUS; Z. TURI*. *Univ. Med. Ctr. Goettingen, Inst. for Psychology, Univ. of Tromsø.*
- 2:30 **727.07** Using electrocardiography (ECG) to discern brain state and dysfunction. A. M. JONES*; B. R. SHETH. *USC, Univ. of Houston.*

- 2:45 **727.08** Accounting for test-retest reliability and power to design better GABA-edited magnetic resonance spectroscopy studies. T. KOLODNY*; M. SCHALLMO; R. A. E. EDDEN; R. BERNIER; S. O. MURRAY. *Univ. of Washington, Univ. of Minnesota, Johns Hopkins Univ., Univ. of Washington.*
- 3:00 **727.09** Utilizing electronic health records to study brain disorders. V. TROIANI*; A. ROY; D. BEILER. *Geisinger.*

NANOSYMPOSIUM

728. Modeling Biological Neural Networks

Theme I – Techniques

Wed. 1:00 PM – McCormick Place, S103

- 1:00 **728.01** Do biological neural networks perform identifiable and verifiable canonical computations? D. GARDNER*. *Joan and Sanford I Weill Med. Col. of Cornell Univ.*
- 1:15 **728.02** A model cortical circuit capable of temporal sequence learning and recall. I. CONE*; H. Z. SHOUVAL. *Univ. of Texas Med. Sch. at Houston, Rice Univ.*
- 1:30 **728.03** Evaluating the contributions of individual sites of neuronal plasticity to an engram. R. M. COSTA*; D. A. BAXTER; J. H. BYRNE. *The Univ. of Texas Hlth. Sci. Ctr. At Houston, Texas A&M Hlth. Sci. Ctr.*
- 1:45 **728.04** Adaptation of human grip and load forces to load and texture during object manipulation. E. P. GARDNER*; C. TYMMS; S. BILALOGU; Y. LU; P. RAGHAVAN. *New York Univ. Sch. of Med., New York Univ., New York Univ. Sch. of Med., NYU Steinhardt, New York Univ. Langone Med. Ctr.*
- 2:00 **728.05** Using closed-loop model optimisation to achieve specific, accurate neuron models. F. B. KERN*; R. LEVI; G. KEMENES; T. NOWOTNY. *Univ. of Sussex, Univ. Autonoma De Madrid, Univ. of Sussex.*
- 2:15 **728.06** A trafficking model for the pull-push neuromodulation of hebbian synaptic plasticity. A. KIRKWOOD*; S. MIHALAS. *Johns Hopkins Univ., Allen Inst. for Brain Sci.*
- 2:30 **728.07** Non-linear neural dynamics of a mutual inhibition circuit in a real-life/computer model hybrid system. N. KOGO*; F. B. KERN; T. NOWOTNY; T. AIHARA; R. VAN EE; R. VAN WEZEL. *Radboud University, Donders Inst. For Brain, Cognition and Behaviour, Univ. of Sussex, Tamagawa Univ.*
- 2:45 **728.08** A dilating representation of time minimizing TDRL's valuation error explains observed temporal decision making. T. MARTON; M. G. HUSSAIN SHULER*. *Johns Hopkins Univ., Johns Hopkins Univ.*
- 3:00 **728.09** The primary visual cortex as a window into canonical cortical computations: Prediction and temporal representations in evoked visual responses. J. P. GAVORNIK*. *Boston Univ.*
- 3:15 **728.10** ▲ Multi-functional microcircuits: Diverse dynamics in small recurrent networks. P. LIU*; A. J. WHITE; C. LO. *Natl. Tsing Hua Univ.*
- 3:30 **728.11** Multi-functional microcircuits: Robust, flexible control of functionality in small recurrent networks. C. LO*; A. J. WHITE; P. LIU. *Natl. Tsing Hua Univ.*

POSTER

729. Neuron-Glia Interactions

Theme A – Development

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 A1 **729.01** ▲ Pathological changes in microglia during cerebellar postnatal development in a mouse model of Niemann Pick type-C disease. R. S. ALTRECHE; B. R. BOYLE; I. SOTO*. *Rowan Univ.*
- 2:00 A2 **729.02** Precise integration of direct cell reprogramming - induced neuronal cells into adult neocortical circuits. F. WANG*; Y. LIU; X. LI; L. CHENG; X. ZHANG. *Beijing Normal Univ., Chinese Acad. of Sci.*
- 3:00 A3 **729.03** Promoting oligodendrocyte differentiation in adult neural stem and progenitor cells by targeting G-quadruplex nucleic acid secondary structures. D. GOLDBERG; L. FONES; A. L. VIVINETTO; J. CAUFIELD; R. R. RATAN; J. W. CAVE*. *Burke Neurolog. Inst., Burke Neurolog. Inst.*
- 4:00 A4 **729.04** A distinct role of polycomb group proteins in CNS myelination. L. YANG*; J. WANG; R. Q. LU. *Cincinnati Children's Hosp. Med. Ctr.*
- 1:00 A5 **729.05** Altered fetal microglia phenotypes are associated with abnormal neurogenesis following maternal immune activation. M. LOAYZA; K. CARTER; L. FAN; Y. PANG; A. J. BHATT*. *Univ. of Mississippi Med. Ctr.*
- 2:00 A6 **729.06** Specific lipid biomarkers of neurons and glial cells in rat and monkey. R. FERNÁNDEZ; G. BARREDA-GÓMEZ*; T. TOLENTINO-CORTEZ; M. GULAK; J. FERNÁNDEZ; E. ASTIGARRAGA. *IMG Pharma Biotech, Univ. of the Basque Country (UPV/EHU), Cruz Roja Hosp., Cruces Univ. Hosp.*
- 3:00 A7 **729.07** Retinaldehyde dehydrogenase 2 is required for the production and maturation of oligodendrocyte precursors in the postnatal corpus callosum. V. E. MORRISON*; V. N. SMITH; J. K. HUANG. *Georgetown Univ.*
- 4:00 A8 **729.08** Glial cell dysfunction as a result of 3D genome architecture changes in Trisomy-21 in iPSC and Ts65Dn mouse models. E. R. LOCKSHIN*; G. KUFFNER; H. MEHARENA; L. TSAI. *Picower Inst. For Learning and Memory, MIT, MIT.*
- 1:00 A9 **729.09** Using 3D brain organoids to model human astrocyte maturation and uncover the developmental origins of glioblastoma. C. SOJKA*; A. KING; A. TREVINO; G. CARSON; S. A. SLOAN. *Emory Univ., Stanford Univ.*
- 2:00 A10 **729.10** Serotonin and brain plasticity in the hippocampus: The role of microglial cells. A. TURKIN; M. SIDOROVA; N. ALENINA; F. KLEMPIN*. *Max-Delbruck-Centrum (MDC), Inst. of Life Science, Immanuel Kant Baltic Federal Univ., Charité Univ. Med.*
- 3:00 A11 **729.11** ▲ Examining the role of neuronal activity in the formation of neuronal-glia connections. A. PARVATHANENI*; A. SAHAGUN; J. GARCIA CASTILLO; L. HALLADAY; S. J. PLEASURE; L. A. COCAS. *Santa Clara Univ., Santa Clara Univ., UCSF.*
- 4:00 A12 **729.12** Histological and ultrastructural evidence of planarian myelin. L. THOMPSON*; M. SCOTTO; S. GUARIGLIA. *St. Joseph By the Sea High Sch., New York State Inst. for Basic Res.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

1:00 A13 **729.13** • Characterization of peripheral glia using single cell RNA-seq approach. O. E. TASDEMIR YILMAZ; L. V. GOODRICH*; R. A. SEGAL. *Dana-Farber Cancer Inst., Harvard Med. Sch.*

POSTER

730. Postnatal Neurogenesis: Environmental and Pharmacological Regulation

Theme A – Development

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 A14 **730.01** Microglia actively remodels adult hippocampal neurogenesis through the phagocytosis secretome. J. VALERO*; I. DIAZ-APARICIO; I. PARIS; V. SIERRA-TORRE; A. PLAZA-ZABALA; N. RODRÍGUEZ-IGLESIAS; M. MÁRQUEZ-ROPERO; S. BECCARI; O. ABIEGA; E. ALBERDI; C. MATUTE; I. BERNALES; A. SCHULZ; L. OTROKOCSEI; B. SPERLAGH; K. E. HAPPONEN; G. E. LEMKE; M. MALETIC-SAVATIC; A. SIERRA. *Achucarro Basque Ctr. For Neurosci., Ikerbasque Basque Fndn. for Sci., Univ. of the Basque Country, Univ. Med. Ctr. Hamburg-Eppendorf, Inst. of Exptl. Med., Salk Inst. for Biol. Studies, MNL-L, Salk Inst., Baylor Col. of Medicine/ NRI, Achucarro Basque Ctr. For Neurosci.*
- 2:00 A15 **730.02** Zinc is essential for adult hippocampal neurogenesis. B. CHOI*; D. HONG; J. JEONG; B. LEE; J. KOH; S. SUH. *Hallym University, Col. of Med., Univ. of Ulsan Col. of Med.*
- 3:00 A16 **730.03** Operant conditioning prevents the death of cells generated in the dentate gyrus of the adult rat. C. HUGGINS; D. M. CURLIK*, II. *York Col. of Pennsylvania.*
- 4:00 A17 **730.04** Galantamine prevents and reverses adolescent alcohol-induced deficits in hippocampal neurogenesis. V. A. MACHT*; R. P. VETRENO; F. T. CREWS. *Univ. of North Carolina.*
- 1:00 A18 **730.05** Electrically stimulated hind-limb muscle contractions increase adult hippocampal neurogenesis in anesthetized mice. J. C. GARDNER*; S. DVORETSKIY; Y. YANG; D. A. LANGE; S. VENKATARAMAN; A. KATWALA; C. RENDEIRO; M. D. BOPPART; J. S. RHODES. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Birmingham.*
- 2:00 A19 **730.06** Effects of environmental enrichment on hippocampal circuitry and function. M. FRECHOU*; K. MCDERMOTT; E. WOOD; R. FERGER; J. GONÇALVES. *Albert Einstein Col. of Med.*
- 3:00 A20 **730.07** The effects of anesthesia on adult hippocampal neurogenesis in adult rats. J. L. KIM; N. E. BULTHUIS; H. A. CAMERON*. *NIMH/NIH.*
- 4:00 A21 **730.08** Chronic hypercaloric diet modifies the hippocampal neurogenesis and behavior in the adult rat. V. VARGAS*; C. VIVAR; I. JIMÉNEZ-ESTRADA. *CINVESTAV-IPN, Mexico City, Mexico.*
- 1:00 A22 **730.09** Functional recovery by enriched environment in neonatal white matter injury: Evidence from morphological and electrophysiological assessments. A. HATTORI; N. TAJIRI*; Y. UEDA; A. ISHIDA; T. SHIMIZU; H. HIDA. *Nagoya City Univ.*

- 2:00 A23 **730.10** The effect of environmental enrichment on hippocampal neuroplasticity-related genes in Hatano rats. H. ASANO*; H. OKAWA; A. NAKAYAMA; H. TOKUOKA; W. KASAI; R. OTA; M. KAWAGUCHI. *Sch. of Agriculture, Meiji Univ., Hatano Res. Institute, Food and Drug Safety Ctr.*
- 3:00 A24 **730.11** ▲ Effect of voluntary running on aberrant seizure-induced neurogenesis and cognitive deficits associated with chronic pentylenetetrazole kindling in rats. K. POST; M. GILCHRIST; L. BRANDT; C. COLE; H. LEHMANN; N. M. FOURNIER*. *Trent Univ.*
- 4:00 A25 **730.12** Mild traumatic brain injury in the mouse induces a transient increase in neurogenesis and sustained survival of newborn neurons. L. R. CLARK*; N. K. ACQUAH; S. YUN; H. METHENY; A. S. COHEN; A. J. EISCH. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania.*
- 1:00 A26 **730.13** Neuroanatomical correlates of socioeconomic status in infancy. L. M. BETANCOURT; H. HURT; T. NICHOLS; O. ELCI; B. AVANTS; M. J. FARAH*. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania, Univ. Pennsylvania.*
- 2:00 A27 **730.14** Early-life iron deficiency anemia is associated with alterations in microbiome maturation and reduction of cortical volume in infant rhesus monkeys. D. N. RENDINA*; G. R. LUBACH; R. M. VLASOVA; M. LYTE; G. PHILLIPS; M. A. STYNER; C. L. COE. *Univ. of Wisconsin, Univ. of North Carolina at Chapel Hill, Iowa State Univ.*
- 3:00 A28 **730.15** ▲ Changes in cultured adult neural stem cell physiology following sublethal exposure to silver nanoparticles. D. W. KIPPS; M. L. PIASKOWSKI; J. D. LOGGINS; K. K. PATTERSON; N. SPITZER*. *Marshall Univ.*
- 4:00 A29 **730.16** Examining running-induced structural plasticity in the ventral hippocampus in relation to cognitive enhancement and anxiety regulation. E. A. TAWA*; B. A. BRIONES; E. C. COPE; E. J. DIETHORN; S. MURTHY; E. GOULD. *Princeton Univ.*
- 1:00 A30 **730.17** Sex-specific effects of early life stress on hippocampal neurogenesis in the pig. K. DURGA*; N. DUQUE-WILCKENS; A. MOESER; A. ROBISON. *Michigan State Univ., Michigan State Univ.*
- 2:00 A31 **730.18** Connectivity of adult-generated dentate granule cells in a mouse model of fetal alcohol spectrum disorder. K. C. GUSTUS*; L. LI; J. NEWVILLE; L. A. CUNNINGHAM. *Univ. of New Mexico Sch. of Med.*
- 3:00 A32 **730.19** Intermittent Hypoxia (IH) increases HIF1a signaling in TBR2+ intermediate progenitors through a reactive oxygen species mechanism. C. SZUJEWSKI*; M. A. KHUU; T. NALLAMOTHU; A. J. GARCIA, III. *Univ. of Chicago, Univ. of Chicago, The Univ. of Chicago.*
- 4:00 A33 **730.20** Mid-gestational poly(I: C)-mediated maternal immune activation causes aberrant cortical neurodevelopment in offspring. C. P. CANALES*; M. ESTES; K. CICHEWICZ; I. ZDILAR; E. J. KREUN; K. P. ANGARA; K. E. PRENDERGAST; J. J. ABOUBECHARA; K. FARRELLY; L. HAAPANEN; D. VOGT; J. VAN DE WATER; A. K. MCALLISTER; A. S. NORD. *UC Davis, Michigan State Univ., UC Davis.*
- 1:00 A34 **730.21** Modeling glaucomatous neurodegeneration of human pluripotent stem cell-derived retinal ganglion cells. K. B. VANDERWALL; K. HUANG; C. M. FLIGOR; S. S. LAVEKAR; Y. PAN; T. R. CUMMINS; J. S. MEYER*. *IUPUI, IUPUI, Indiana Univ. Sch. of Med., Indiana University-Purdue Univ. Indianapolis, Indiana Univ.*

POSTER

731. Stem Cell Neural Differentiation

Theme A – Development

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 A35 **731.01** ● Comparison of human iPSC-derived and rodent forebrain cultures reveals distinctive morphogenesis patterns of human neuronal development. M. ANDERSON; X. LU; S. TOUSEY; D. GALITZ; S. DEGESE; J. VAN ETEN; C. HEGER; C. HAITJEMA; K. C. FLYNN*. *Bio-Techne, Protein Simple.*
- 2:00 A36 **731.02** ● Medial induction accelerates neuroepithelial conversion of human pluripotent stem cells. P. WALSH*; V. TRUONG; J. R. DUTTON. *Anatomi Corp, Univ. of Minnesota.*
- 3:00 A37 **731.03** Creation of inducible dCas9-effector iPSC-derived cortical organoids to study human astrocyte development. S. N. LANJEWAR*; A. T. KING; S. A. SLOAN. *Emory Univ.*
- 4:00 A38 **731.04** Neuroepigenetic regulation of the imprinted gene GRB10. A. M. JUAN*; M. BARTOLOMEI. *Univ. of Pennsylvania, Univ. of Pennsylvania.*
- 1:00 A39 **731.05** Enhancement of human embryonic stem cells culturing conditions by the formation of spheroids in a three-dimensional microenvironment. M. VIDIGAL; M. C. DECARLI; M. H. T. NAGAHARA; P. R. G. KEMPE; S. KYRYLENKO; J. V. L. SILVA; A. M. MORAES; A. L. OLIVEIRA*. *Univ. of Campinas - Lab. of Nerve Regeneration, Sch. of Chem. Engineering, Univ. of Campinas - UNICAMP, Med. Institute, Sumy State University, 31 Sanatoma str, 40007, Three-Dimensional Technologies Nucleus, CTI Renato Archer.*
- 2:00 A40 **731.06** Molecular and functional characterization of stem cells-derived neurons in support of drug discovery applications. M. IOVINO*; J. ANTON; S. DIJKSTRA; S. JAIN; J. KAMMONEN; V. LAZARI; I. WADDELL; D. F. FISCHER; P. MITCHELL. *Charles River, Charles River, Charles River.*
- 3:00 A41 **731.07** Cortical neurons from human embryonic stem cells derived and maintained on the human amniotic epithelium. D. AVILA-GONZÁLEZ*; W. PORTILLO; A. MOLINA-HERNÁNDEZ; G. GARCÍA-LÓPEZ; N. F. DÍAZ. *Inst. Nacional de Perinatología, Inst. de Neurobiología.*
- 4:00 A42 **731.08** Otic vesicle maturation into inner ear organoids requires extracellular matrix. S. E. HOCEVAR*; L. LIU; R. K. DUNCAN. *Univ. of Michigan, Univ. of Michigan.*
- 1:00 A43 **731.09** BC box motif in Sox6 induced differentiation to GABAergic neuron of somatic stem cell. T. YOSHIZUMI*; H. KANNO; M. SINONAGA. *Intaernational Univ. of Hlth. and Welfare Atami Hosp.*
- 2:00 A44 **731.10** Impact of OPRM1 A118G on ethanol sensitivity in stem cell derived human neurons. M. S. SCARNATI*; M. JOEL; M. SWERDEL; J. A. TISCHFIELD; R. P. HART; Z. P. PANG. *Child Hlth. Inst. of New Jersey, Rutgers Univ., Human Genet. Inst. of New Jersey.*
- 3:00 A45 **731.11** Optimal culture conditions for human induced pluripotent stem cell neurons. J. LEVY*; I. LORENZINI; M. NAVARRETE; S. MOORE; B. RABICHOW; M. ROBERTS; C. BURCIU; R. SATTLER. *Barrow Neurolog. Inst. at St. Joseph's Hosp.*
- 4:00 A46 **731.12** ● Glycolytic suppression enhances iPSC differentiation to NPC. E. SZABO*; Y. KAM; N. JASTROMB; K. SINGH. *Agilent Technologies, McMaster Univ.*

- 1:00 A47 **731.13** Multifunctional biodegradable porous microspheres to act as a delivery platform and three-dimensional model for neurological disease. E. S. SANDHURST*; D. ENGBRETSON; K. R. FRANCIS. *Univ. of South Dakota, Sanford Res.*
- 2:00 A48 **731.14** ● Reprogramming iPSCs into glutamatergic neurons, reconstruction of transcriptional events and cellular states using an integrated genomic approach. M. ABDUL KARIM*; K. BARANES; S. COOPER; E. BELLO; N. PATIKAS; E. METZAKOPIAN; A. BASSETT; M. KOTTER. *Univ. of Cambridge, Wellcome Sanger Inst., Univ. of Cambridge.*
- 3:00 A49 **731.15** Neurotransmitter levels in spinal-organoids vs. rodent models during central nervous system development using capillary electrophoresis-mass spectrometry. S. E. MURPHY*; A. C. WEISS; K. P. RAMOS-CRUZ; C. D. KAUFMAN; H. KONG; J. V. SWEEDLER; M. U. GILLETTE. *Univ. of Illinois At Urbana Champaign.*

POSTER

732. Synaptogenesis and Activity-Dependent Development IV

Theme A – Development

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 A50 **732.01** Retinoid x receptoralpha mediates unesterified DHA-dependent spinogenesis and excitatory synapse formation *in vivo*. H. CAO*; M. LI; G. LI; S. LI; B. WEN; X. YU. *Inst. of Neurosci.*
- 2:00 A51 **732.02** Expression of chimeric GluN2 subunits in hippocampal NMDA receptors reveals mechanisms regulating the postnatal development of dendritic spines on area CA1 pyramidal neurons. R. E. KEITH*; M. J. KEITH; S. SINGH; S. K. PACK; R. BINOY; T. C. DUMAS. *George Mason Univ., George Mason Univ., Thomas Jefferson High Sch. for Sci. and Technol., George Mason Univ.*
- 3:00 A52 **732.03** Astrocyte expression of synapse promoting genes is developmentally regulated by neuronal and astrocyte activity. I. FARHY-TSELNICKER*; C. DOWLING; N. J. ALLEN. *The Salk Inst.*
- 4:00 A53 **732.04** SRPX2 protects synapses from excess complement-mediated elimination during development. Q. CONG; B. SOTEROS; G. SIA*. *UT Hlth. San Antonio.*
- 1:00 A54 **732.05** Layer-specific reconfiguration of cortical microcircuits by visual deprivation during the critical period. L. YAO*; M. MENG; X. GU; X. ZHANG. *Beijing Normal Univ.*
- 2:00 A55 **732.06** Complement activation during early postnatal brain development suggests earlier onset of synaptic pruning in humans. R. E. SAGER*; A. K. WALKER; K. ROBINSON; M. J. WEBSTER; C. S. WEICKERT. *SUNY Upstate Med. Univ., Neurosci. Res. Australia, Stanley Med. Res. Inst.*
- 3:00 A56 **732.07** ● A new framework for modelling neural-ECM signaling. N. IANNELLA*; K. PRYDZ; A. MALTHER-SØRENSEN; G. T. EINEVOLL; M. FYHN. *Univ. of Oslo, Univ. of Oslo, Norwegian Univ. Life Sci.*
- 4:00 A57 **732.08** ▲ Investigating the effects of chondroitin sulfate on dendritic spines of pyramidal neurons. T. TANAKA*; A. KEREVER; Y. SUZUKI; K. KATO; M. TOYODA; F. SAITOW; H. SUZUKI; H. HIOKI; E. HIRASAWA. *Juntendo Univ., Nippon Med. Sch., Juntendo Univ. Grad. Sch. of Med.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 A58 **732.09** Evaluation of neuroligin and FMR1 mRNA expression and memory and locomotion capacity in a sensory-deprivation rearing protocol in *Drosophila melanogaster*. E. VIVEROS ARAQUE*; Y. CARRERA SUAREZ; L. BECERRA HERNANDEZ; J. RENGIFO GOMEZ. *Univ. Icesi, Pontificia Univ. Javeriana*.
- 2:00 A59 **732.10** ● The schizophrenia-associated gene CSMD1 encodes a brain-specific complement inhibitor. M. L. BAUM; M. B. JOHNSON*; R. FOX; E. NACU; W. CROTTY; D. WILTON; S. MCCARROLL; K. EGGAN; B. A. STEVENS. *Boston Children's Hosp., Harvard Med. Sch., Broad Inst. of MIT and Harvard, Harvard Univ., Harvard Med. Sch., Howard Hughes Med. Inst.*
- 3:00 A60 **732.11** ● Spontaneous retinal activity selectively influences the establishment of cortical inhibition prior to sensory experience. T. J. BURBRIDGE*; L. CHEADLE; M. E. ROBIE; M. E. GREENBERG; G. J. FISHELL. *New York Univ., Harvard Med. Sch., Harvard Med. Sch., Harvard Med. Sch.*
- 4:00 A61 **732.12** ● Integrative molecular analysis of synaptic pruning in a large psychiatric cohort of postmortem prefrontal cortex. R. G. FOX*; B. A. STEVENS; M. B. JOHNSON. *Broad Inst. of MIT and Harvard, Boston Children's Hosp., Harvard Med. Sch., Howard Hughes Med. Inst.*
- 1:00 A62 **732.13** Postnatal developmental functional changes between the retinohypothalamic tract and the suprachiasmatic nucleus of the rat. M. E. REYES-MENDEZ*; R. A. NAVARRO-POLANCO; E. G. MORENO-GALINDO; J. F. ALAMILLA. *Univ. of Colima, Univ. de Colima*.
- 2:00 A63 **732.14** Retrograde control of presynaptic development by postsynaptic calcineurin at the *drosophila* neuromuscular junction. L. LE; H. S. KESHISHIAN; B. A. BERKE*. *Truman State Univ., Yale Univ., Truman State Univ.*
- 3:00 A64 **732.15** Target-dependent signaling mediates synaptic plasticity at the *drosophila* neuromuscular junction. B. A. BERKE; L. LE; H. S. KESHISHIAN*. *Truman State Univ., Truman State Univ., Yale Univ.*

POSTER

733. Rett Syndrome: Molecular and Cellular Mechanisms

Theme A – Development

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 A65 **733.01** Generation and analysis of MECP2 mutant marmosets. N. KISHI*; K. SATO; J. HATA; M. OKUNO; T. ITOU; J. OKAHARA; H. J. OKANO; E. SASAKI; H. OKANO. *RIKEN CBS, Keio Univ. Sch. of Med., CIEA, Jikei Univ. Sch. of Med.*
- 2:00 A66 **733.02** FoxG1 controlled transcription in the mouse hippocampus. T. VOGEL*; D. O'HAILIN; C. HACKER; R. VEZZALI; S. HEIDRICH. *Albert-Ludwigs-University Freiburg*.
- 3:00 A67 **733.03** Antisense oligonucleotide therapy in a humanized mouse model of MECP2 duplication syndrome. Y. SHAO*; Y. SZTAINBERG; P. JAFAR-NEJAD; F. RIGO; H. ZOGHBI. *Howard Hughes Med. Inst. - Baylor Col. O, Ionis Pharmaceuticals, Ionis Pharmaceuticals*.
- 4:00 A68 **733.04** Loss of MeCP2 in immature neurons leads to impaired network integration. Y. SUN; Y. GAO; J. TIDEI; J. T. HOANG; D. P. WAGNER; X. ZHAO*. *Univ. of Wisconsin-Madison*.
- 1:00 A69 **733.05** CDKL5 deficiency disorder: A neuropathological study of postmortem human brains. S. GNAVI; R. PIZZO; A. GURGONE; M. GIUSTETTO*. *Univ. of Torino*.
- 1:00 DP01/A70 **733.06** (Dynamic Poster) Developmental population-level differences of stem cell derived excitatory networks from SHANK2 ASD patients. K. PRADEEPAN*; J. MARTINEZ-TRUJILLO; J. ELLIS; R. MOK; F. MCCREADY. *Western Univ., The Hosp. For Sick Children, Univ. of Toronto*.
- 3:00 A71 **733.07** ▲ Characterizing mitochondria markers and activity in models of neurodevelopmental disorders. L. A. NEAL*; J. LARIMORE. *Agnes Scott Col., Agnes Scott Col.*
- 4:00 A72 **733.08** MeCP2 represses enhancers through chromosome topology-associated DNA methylation. A. W. CLEMENS; D. Y. WU*; G. ZHAO; H. W. GABEL. *Washington Univ. In St. Louis*.
- 1:00 A73 **733.09** Impaired hippocampal sharp-wave ripples in MeCP2 knock out mice. N. W. JOHNSON*; D. GOFFIN. *Univ. of York*.
- 2:00 A74 **733.10** Early signs of CDKL5 deficiency disorder: Atypical barrel cortex connectivity precedes autistic features in mutant mice. A. RASPANTI; R. PIZZO; A. GURGONE*; C. PERNACI; A. MARCANTONI; M. GIUSTETTO. *Univ. of Turin, Inselspital Univ. Hospital, Univ. of Bern, Inselspital Univ. Hospital, Univ. of Bern, Univ. of Turin*.
- 3:00 A75 **733.11** Early molecular and cellular deficits in 3D cerebral organoid models of Rett syndrome. V. A. PHAM*; C. DELEPINE; H. W. S. TSANG; N. MORSHED; F. WHITE; M. SUR. *Picower Inst. for Learning and Memory, Massachusetts Inst. of Technol., David H. Koch Inst. for Integrative Cancer Research, Massachusetts Inst. of Technol.*
- 4:00 A76 **733.12** Targeted CRISPR/dCas9-mediated escape of CDKL5 from X-chromosome inactivation. J. A. HALMAI*; P. DENG; C. GONZALEZ; D. CAMERON; J. CARTER; J. WALDO; S. DEL CAMPO; F. BUCHANAN; D. SEGAL; J. NOLTA; K. FINK. *UC Davis Med. Ctr., UC Davis, UC Davis Med. Ctr.*
- 1:00 A77 **733.13** ▲ IGF1 signaling pathway defect in Rett syndrome models. C. BILAGODY*; A. SOGGE; L. LLACI; R. PANDEY; V. NARAYANAN; S. RANGASAMY. *The Translational Genomics Res. Inst., Arizona State Univ., Translational Genomics Res. Inst. (TGen), Translational Genomics Res. Inst. (tgen), Translational Genomics Res. Inst., Translational Genomics Res. Inst. (TGen)*.
- 2:00 A78 **733.14** MeCP2-mediated miR-199a processing regulates fate specification of neural stem cells. H. NAKASHIMA*; K. TSUJIMURA; K. IRIE; T. IMAMURA; K. NAKASHIMA. *Kyushu Univ., Nagoya Univ., Waseda Univ.*
- 3:00 A79 **733.15** Atypical basic auditory processing in females with Rett syndrome could implicate effective speech comprehension. T. BRIMA*; S. MOLHOLM; E. NICHOLAS; A. DJUKIC; E. G. FREEDMAN; J. J. FOXE. *Univ. of Rochester Sch. of Med. and Dent., The Cognitive Neurophysiol. Laboratory, Albert Einstein Col. of Med. & Montefiore Med. Ctr., Rett Syndrome Ctr. Dept. of Neurol. Montefiore Med. Ctr. & Albert Einstein Col. of Med.*

POSTER

734. Neurodevelopmental Disorders: Molecular and Cellular Mechanisms

Theme A – Development

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 A80 **734.01** A novel role for the Na-K-2Cl cotransporter in metabolism. S. OMER*; R. KOUMANGOYE; E. DELPIRE. *Vanderbilt Univ., Vanderbilt Univ. Med. Sch.*
- 2:00 A81 **734.02** Propionic acid affects gene expression for mitochondria biogenesis and neuron differentiation in SH-SY5Y cell line. S. A. KIM*. *Eulji Univ.*
- 3:00 A82 **734.03** SON haploinsufficiency, a cause of human intellectual disabilities, affects the neuronal migrations and dendritic spine formations in the developing mouse brain. M. UEDA*; T. MATSUKI; S. EDA; A. NAKAYAMA. *Aichi Developmental Disability Ctr. Inst. for Developmental Res.*
- 4:00 A83 **734.04** Developmental iron deficiency alters TET methylcytosine dioxygenase activity and decreases global DNA hydroxymethylation in the rat cerebellum. A. BARKS*; P. V. TRAN; M. K. GEORGIEFF. *Univ. of Minnesota, Univ. of Minnesota.*
- 1:00 A84 **734.05** Abnormal circadian rhythms in the hypothalamus in a mouse model of early life stress. E. FITZGERALD*; M. C. HOLMES; J. P. BOARDMAN; A. J. DRAKE. *Univ. of Edinburgh.*
- 2:00 A85 **734.06** Impact of cardiopulmonary bypass on postnatal SVZ neurogenesis and cortical maturation. C. LEONETTI*; Z. DHARI; L. KOROTCOVA; S. LIN; A. V. KOROTCOV; J. HOWICK; J. LI; P. C. WANG; R. A. JONAS; N. ISHIBASHI. *Children's Natl. Hlth. Syst., Howard Univ., Children's Natl. Hlth. Syst.*
- 3:00 A86 **734.07** Gad1 heterozygotes subjected to prenatal stress undergo epigenetic dysregulation of genes perturbing neurodevelopment and behavioral phenotypes. T. WANG; A. S. SINHA; H. MUTOH; T. AKITA; Y. YANAGAWA; T. KAWAI; K. HATA; A. FUKUDA*. *Hamamatsu Univ. Sch. Med., Gunma Univ. Grad. Sch. of Med., Natl. Res. Inst. Child Hlth. Dev.*
- 4:00 B1 **734.08** Sex differences in corticotropin releasing factor receptor 1 expression in the brain across the lifespan. A. LOCCI*; Y. YAN*; G. RODRIGUEZ; H. DONG. *Northwestern Univ. Feinberg Sch. of Med.*
- 1:00 B2 **734.09** Dio3 deficiency alters the daily profile of serum glucocorticoids and circadian gene expression patterns in a sexually dimorphic fashion. Z. WU*; A. HERNANDEZ. *MMCRI.*
- 2:00 B3 **734.10** hiPSC-derived neurons from MEHMO syndrome patients exhibit altered dendritic morphology that is rescued by the small molecule ISRIB. M. K. ELDER*; S. K. YOUNG-BAIRD; T. E. DEVER; E. KLANN. *New York Univ., NIH.*
- 3:00 B4 **734.11** Folate receptor 1 regulates neural plate cell apical constriction during neural tube formation via interacting with CD2-associated protein. O. A. BALASHOVA; L. N. BORODINSKY*. *Univ. of California Davis.*
- 4:00 B5 **734.12** Overexpression of neuroinflammatory gene sets in postmortem autism but not MDD cortex. K. A. YOUNG*; A. V. NGUYEN; H. K. YOUNG; P. J. TANSEY; M. M. MARZIALE; J. A. BOURGEOIS. *CTVHCS, TAMUHSC and BSWH, BSWH and TAMUHSC, BSWH and TAMUHSC.*
- 1:00 B6 **734.13** Investigating mitochondrial dynamic change caused by domain-specific missense mutations in DNMT1L associated with a varying degree of neurological phenotypes in patients. K. SO*; S. BAEK. *POSTECH, POSTECH.*
- 2:00 B7 **734.14** Protective efficacy of P7C3 compounds in a mouse model for the study of perinatal depression. R. SCHROEDER*; L. NGUYEN; A. A. PIEPER; H. E. STEVENS. *Univ. of Iowa, Grinnell Col., Univ. Hosp.*
- 3:00 B8 **734.15** SEC24D is required for collagen processing and neural development. M. POPPENS; J. T. CAIN*; R. LAUFMANN; S. DAVIS; C. LU; J. KIM; J. WEIMER. *Sanford Res., Iowa State Univ.*
- 4:00 B9 **734.16** A role for mitochondrial trafficking and localization in cortical interneuron migration. A. K. MYERS*; G. CHO; J. A. GOLDEN. *Brigham and Women's Hosp., Brigham and Women's Hosp., Brigham and Women's Hosp.*
- 1:00 B10 **734.17** Novel *de novo* mutations in the PP2A regulatory subunit PPP2R2B causing neurodevelopmental disorders. P. SANDAL*; Y. KONG; L. BICKNELL; S. STRACK. *Univ. of Iowa, Univ. of Otago.*
- 2:00 B11 **734.18** Cortical GABAergic interneurons require ERK/MAPK for postnatal maturation and function. M. HOLTER*; N. R. FRY; G. R. BJORKLUND; J. S. MARTINEZ; K. NISHIMURA; J. NICHOLS; T. R. ANDERSON; J. NEWBERN. *Arizona State Univ., Arizona State Univ., Arizona State Univ., Univ. of Texas, Austin, Salk Inst., Univ. of Arizona-College of Med. Phoenix, Arizona State Univ.*
- 3:00 B12 **734.19** Cortical growth and patterning anomalies in a mouse model for CHARGE syndrome. A. P. A. DONOVAN*; C. MOHAN; J. ELLEGOOD; J. P. LERCH; A. BASSON. *King's Col. London, Hosp. For Sick Children, Hosp. for Sick Children.*
- 4:00 B13 **734.20** Disruption of DNA methylation by conditional knockout of Dnmt3a leads to compensation by Polycomb-mediated repression in cortical pyramidal neurons. J. LI*; M. ZANDER; A. PINTO-DUARTE; C. LUO; J. R. NERY; R. CASTANON; J. LUCERO; C. LAI; J. OSTEEN; K. UM; T. J. SEJNOWSKI; S. B. POWELL; J. R. ECKER; E. A. MUKAMEL; M. BEHRENS. *UCSD, Salk Inst. for Biol. Studies, Howard Hughes Med. Inst., Salk Inst. for Biol. Studies, UCSD.*
- 1:00 B14 **734.21** Inhibition of inflammasome activation as a potential treatment for francisella tularensis infection. A. TENA*; C. SPENCER. *Univ. of Texas at El Paso, Univ. of Texas at El Paso.*
- 2:00 B15 **734.22** Conditional knockout of Plxn2 in forebrain impairs the development of the dentate gyrus and leads to schizophrenia-like behaviors. X. ZHAO*; R. PARENT; R. KOHEN; G. G. MURPHY; R. J. GIGER. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan Sch. of Med.*
- 3:00 B16 **734.23** Exploring the phospho-proteome of Jordan's Syndrome, an autosomal dominant neurodevelopmental disorders caused by *de novo* mutations in a protein phosphatase 2A regulatory subunit. C. JONG*; R. A. MERRILL; Y. KONG; S. STRACK. *Univ. of Iowa.*
- 4:00 B17 **734.24** Quetiapine changes our genes, but does it change our minds? K. E. SCHOONOVER; L. J. MCMEEKIN; C. B. FARMER; N. VARGHESE; S. L. QUEERN; S. E. LAP; R. M. COWELL; R. C. ROBERTS*. *Univ. of Pittsburgh, Univ. of Alabama at Birmingham, Southern Res., Univ. of Alabama, Birmingham.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 B18 **734.25** Toxoplasma seropositivity interacts with haplotypes of risk in schizophrenia to distinguish affected individuals from unaffected siblings. J. SEVILLANO-ORTIZ; C. GALLO; G. POLETTI-FERRARA; J. ARNEDO; I. ZWIR; M. CALVO; E. PADILLA; G. GONZALEZ ALEMAN; N. V. FLORENZANO; D. KAMIS; J. MOLINA; J. TORANZO; M. USCAMAYTAAYVAR; O. MALDONADO; G. A. DE ERAUSQUIN*. *Univ. Peruana Cayetano Heredia, Univ. de Granada, Washington Univ. Sch. of Med., Fundacion de Lucha contra los Trastornos Neurológicos y Psiquiátricos en Minorías, Stanford Univ., UCSD, Univ. of Texas Rio Grande Valley.*
- 2:00 B19 **734.26** Unique blockage of host RNAi machinery by the Zika virus capsid in fetal NSCs and mouse model. J. ZENG*; Z. ZHAO; Q. LIANG. *USC, Shanghai Jiao Tong Univ. Sch. of Med.*
- 3:00 B20 **734.27** Biallelic variants in METTL5 cause autosomal recessive intellectual disability and microcephaly. E. M. RICHARD*; D. L. POLLA; M. Z. ASSIR; M. CONTRERAS; M. SHAHZAD; A. A. KHAN; A. RAZZAQ; J. AKRAM; M. N. TARA; T. A. BLANPIED; Z. M. AHMED; R. ABOU JAMRA; D. WIECZOREK; H. VANBOKHOVEN; S. RIAZUDDIN; S. RIAZUDDIN. *Univ. of Maryland Baltimore, Dept. of Human Genetics, Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ. Med. Ctr., CAPES Foundation, Ministry of Educ. of Brazil, Ctr. for Genet. Diseases, Shaheed Zulfiqar Ali Bhutto Med. Univ., Allama Iqbal Med. College, Univ. of Hlth. Sci., Jinnah Burn and Reconstructive Surgery Center, Allama Iqbal Med. College, Univ. of Hlth. Sci., Univ. of Maryland Baltimore, Natl. Ctr. of Excellence in Mol. Biology, Univ. of The Punjab, Inst. of Human Genetics, Friedrich-Alexander-Universität Erlangen-Nürnberg, Human Genetics, Univ. Med. Ctr. Leipzig, Inst. für Humangenetik, Universitätsklinikum Düsseldorf, Heinrich-Heine-Universität, Inst. für Humangenetik, Universitätsklinikum Essen, Univ. Duisburg-Essen.*
- 4:00 B21 **734.28** Cellular and neurodevelopmental defects of a DCTN2 missense variant causing severe intellectual disability. B. ALTAS*; E. M. RICHARD; M. CONTRERAS; A. ROMANOWSKI; R. R. RICHARDSON; S. R. METZBOWER; S. A. RIAZUDDIN; Z. AHMED; T. A. BLANPIED; A. POULOPOULOS; S. RIAZUDDIN. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Allama Iqbal Med. Col.*
- 1:00 B22 **734.29** Insight from modeling of non-genetic risk factors for autism in rodents. M. A. ESTEVEZ*; A. A. SARKAR; S. BANERJEE-BASU. *Mindspec, Inc.*
- 3:00 B25 **735.03** Interhemispheric amygdalar connectivity potentiates basolateral amygdalae activity. T. HSU*; T. HUANG; M. LIN; H. CHUANG; H. HU; C. SUN; M. TAO; J. LIN; Y. HSUEH. *Inst. of Mol. Biology, Academia Sinica, Inst. of Biomed. Sciences, Academia Sinica, Sch. of Medicine, Univ. of Tasmania.*
- 4:00 B26 **735.04** Somatic and synaptic modulation by muscarinic cholinergic receptors at synaptic connection of inhibitory interneuron onto noradrenergic neuron in locus coeruleus. C. KUO*; M. MIN; H. YANG. *Natl. Taiwan Univ., Chung-Shan Med. Univ.*
- 1:00 B27 **735.05** A circuit function of asynchronous glutamate release in neocortex. S. DENG*; J. LI; J. ZHU; Q. HE; L. LI; Y. SHU. *Beijing Normal Univ., Yale Univ.*
- 2:00 B28 **735.06** Circadian rhythms of viscerosensory to brainstem signaling. F. J. SHAFFER*; B. PETERSON; J. H. PETERS; I. N. KARATSOREOS. *Washington State Univ.*
- 3:00 B29 **735.07** Stronger and more reliable synaptic transmission between identified pyramidal neurons in human temporal association cortex relative to mouse. S. HUNT*; E. MERTENS; L. KANARI; F. SCHÜRMANN; H. D. MANSVELDER; C. P. J. DE KOCK. *Vrije Univ., École Polytechnique Fédérale de Lausanne.*
- 4:00 B30 **735.08** Selective formation of autapses in hippocampal subiculum pyramidal cells. W. KE; Y. SHU*. *Beijing Normal Univ.*
- 1:00 B31 **735.09** Cerebellar microcircuit regulates long-term fear memory by the STAT3-mediated excitatory-inhibitory balance. J. HAN*; S. KIM. *Seoul Natl. Univ., Seoul Natl. Univ. Col. of Med.*
- 2:00 B32 **735.10** Short-term sustained hypoxia increases the evoked excitatory transmission in NTS neurons of mice. D. ACCORSI-MENDONCA*; B. H. MACHADO. *Univ. São Paulo, Sch. Med. Ribeirão Preto, USP.*
- 3:00 B33 **735.11** Acetylcholine promotes theta oscillations and drives increased network synchrony in parvalbumin-positive interneurons in the basolateral amygdala. J. X. BRATSCH-PRINCE*; G. C. JONES; J. W. WARREN, III; A. J. MCDONALD; D. D. MOTT. *Univ. of South Carolina Sch. of Med.*
- 4:00 B34 **735.12** Myelination of mouse neocortical parvalbumin interneurons: Physiology and anatomy. M. KIRALY; K. D. MICHEVA; M. M. PEREZ; D. V. MADISON*. *Stanford Univ., Stanford Univ. Sch. Med., Stanford Univ. Sch. of Med., Stanford Sch. Med.*
- 1:00 B35 **735.13** Characterization of intrinsic and synaptic properties of genetically-targeted human neocortical neurons using an ex vivo brain slice culture and viral labeling paradigm. C. RADAELLI; M. KIM*; B. LEE; L. NG; E. THOMSEN; L. CAMPAGNOLA; J. LEE; A. L. KO; J. G. OJEMANN; C. COBBS; R. P. GWINN; C. D. KEENE; D. L. SILBERGELD; R. ELLENBOGEN; B. P. LEVI; J. L. CLOSE; R. NICOVICH; K. SMITH; S. A. SORENSEN; J. BERG; T. JARSKY; G. J. MURPHY; H. ZENG; C. KOCH; J. TING; E. LEIN. *Allen Inst. For Brain Sci., Allen Inst. for Brain Sci., Univ. of Washington, Univ. of Washington, Swedish Neurosci. Inst., Allen Inst. For Brain Sci., Allen Inst. for Brain Sci.*
- 2:00 B36 **735.14** Increased climbing fiber vesicle release and aberrant innervation in CACNA2D2 knockout mice. K. BEESON*; R. BEESON; G. WESTBROOK; E. SCHNELL. *Oregon Hlth. and Sci. Univ., Univ. of Illinois at Urbana-Champaign, Vollum Institute at Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ.*

POSTER

735. Synaptic Transmission, Integration, and Signal Propagation

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 B23 **735.01** ▲ Effects of bacterial endotoxin LPS on the neuronal regulation of the heart, a sensory-CNS-motor nerve circuit as well as at neuromuscular junctions: Crustacean model. M. C. MCNABB*; C. M. SAELINGER; R. MCNAIR; S. M. BIERBOWER; R. L. COOPER. *Univ. of Kentucky, William Paterson Univ.*
- 2:00 B24 **735.02** Regulation of E/I balance by active conductances. S. SHIN; M. BRIDI; S. PARK; S. HUANG*. *Hussman Inst. for Autism.*

- 3:00 B37 **735.15** Noncanonical axon morphologies gate information flow in neuronal ensembles. A. HODAPP; M. E. KAISER; Y. YANOVSKY; M. KLUMPP; P. PFEIFFER; A. DRAGUHN; M. ENGELHARDT; C. THOME; M. BOTH*. *Heidelberg Univ., Humboldt Univ. of Berlin, Med. Fac. Mannheim, Heidelberg Univ.*
- 4:00 B38 **735.16** Brain-wide varicosity activities of single locus coeruleus neurons. W. CHEN*; P. XIANG; J. DU. *Inst. of Neuroscience, State Key Lab. of Neuroscience, CAS Ctr. for Excellence in Brain Sci. and Intelligence Technology, Chinese Acad. of Sci., Univ. of Chinese Acad. of Sci.*
- 1:00 B39 **735.17** The influence of cortical layer 6 on neurophysiological evoked responses and spontaneous activity within a mouse barrel column. V. MOCANU*; A. R. ADAMANTIDIS; P. A. SEQUELA; A. SHMUEL. *McGill Univ., Univ. of Bern, Montreal Neurolog. Inst.*
- 2:00 B40 **735.18** Trans-synaptically activated neurons act as temporal coders. A. LEVI*; S. SOMECK; E. STARK. *Tel Aviv Univ., Tel Aviv Univ.*
- 3:00 B41 **735.19** Computer models of mouse area M1 show avalanches for full model and subcircuits defined by layer or cell type. D. W. DOHERTY*; S. DURA-BERNAL; W. W. LYTTON. *SUNY Downstate Med. Ctr., State Univ. of New York Downstate Med. Ctr., SUNY Downstate.*
- 4:00 B42 **735.20** How to control a neuronal network near its critical point. D. R. CHIALVO; S. A. CANNAS; T. S. GRIGERA; D. A. MARTIN; D. PLENZ*. *Ctr. for Complex Systems & Brain Sci., Inst. de Fisica, Inst. de Fisica de Líquidos y Sistemas Biológicos, Natl. Inst. of Mental Health, NIH.*
- 1:00 B43 **735.21** Correlation drives computation in local cortical networks at synaptically relevant timescales. S. P. FABER*; N. TIMME; J. M. BEGGS; E. L. NEWMAN. *Indiana Univ., IUPUI, Indiana Univ. Bloomington.*
- 1:00 B48 **736.05** Influence of histone H3Q5 histaminylation on WDR5-mediated H3K4 methylation and circadian rhythmicity. R. M. BASTLE*; S. ZHAO; A. RAMAKRISHNAN; R. THOMPSON; A. AL-KACHAK; S. FULTON; A. LEPACK; L. FARRELLY; Y. LYU; H. MOLINA; L. SHEN; T. MUIR; H. LI; I. MAZE. *Icahn Sch. of Med. at Mount Sinai, Tsinghua Univ., Princeton Univ., Rockefeller Univ.*
- 2:00 B49 **736.06** Region specific effects of histone H3 dopaminylation in cocaine-seeking behavior. A. LEPACK*; S. L. FULTON; A. F. STEWART; R. M. BASTLE; P. J. KENNY; I. S. MAZE. *Icahn Sch. of Med. at Mount Sinai, Mount Sinai Icahn Sch. of Med., Icahn Sch. of Med. at Mount Sinai, ICAHN Sch. of Med. at Mount Sinai.*
- 3:00 B50 **736.07** Profiling cell-type specific chromatin accessibility in human OFC implicates astrocyte dysfunction in MDD. S. L. FULTON*; J. FULLARD; J. BENDL; A. LEPACK; R. M. BASTLE; A. AL-KACHAK; C. A. TAMMINGA; P. ROUSSOS; I. S. MAZE. *Mount Sinai Icahn Sch. of Med., Mount Sinai, Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Univ. of Texas Southwestern Med. Ctr. at Dallas, Icahn Sch. of Med. At Mount Sinai.*
- 4:00 B51 **736.08** Chromatin profiling in human neurons reveals aberrant roles for histone H2A.Z acetylation and its associated interactions with BRD4 in schizophrenia. L. FARRELLY*; S. ZHANG; A. TOPOL; R. M. BASTLE; E. FLAHERTY; N. BHANU; B. GARCIA; H. LI; K. BRENNAND; I. MAZE. *Icahn Sch. of Med. at Mount Sinai, Beijing Advanced Innovation Ctr. for Structural Biology, MOE Key Lab. of Protein Sciences, Dept. of Basic Med. Sciences, Tsinghua Univ., Icahn Sch. of Med. Mount Sinai, Epigenetics Institute, Perelman Sch. of Medicine, Univ. of Pennsylvania, Icahn School of Med. at Mount Sinai.*
- 1:00 B52 **736.09** Nuclear RNA-seq of *Drosophila* mushroom body neurons reveals alcohol's lasting effect on transcriptional splicing. E. PETRUCCELLI; N. LEDRU; K. R. KAUN. *Southern Illinois Univ., Washington Univ. in St. Louis, Brown Univ.*

POSTER

736. Transcription and Translation in Plasticity II

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 B44 **736.01** Histone serotonylation: A novel regulator of stress-induced neuroplasticity. A. AL-KACHAK*; R. BASTLE; S. FULTON; A. LEPACK; P. SAFOVICH; L. FARRELLY; Y. LYU; C. MENARD; A. RAMAKRISHNAN; A. AGUSTINUS; S. RUSSO; L. SHEN; Y. DAVID; I. MAZE. *Icahn Sch. of Med. At Mount Sinai, Laval Univ., Mem. Sloan Kettering Cancer Ctr.*
- 2:00 B45 **736.02** Identification of novel substrates of monoaminylation in brain, and their regulation by drugs of abuse. A. F. STEWART*; R. BASTLE; R. THOMPSON; A. LEPACK; Y. LYU; L. FARRELLY; H. MOLINA; T. MUIR; I. S. MAZE. *Icahn Sch. of Med. At Mount Sinai, Princeton, Dept. of Neurosci., Rockefeller Proteomics Resource Ctr., Icahn Sch. of Med. At Mount Sinai.*
- 3:00 B46 **736.03** Sex-dependent roles for histone serotonylation in neurodevelopment. J. C. CHAN*; A. RAMAKRISHNAN; L. SHEN; I. MAZE. *Icahn Sch. of Med. At Mount Sinai.*
- 4:00 B47 **736.04** The effect of local translated mtlF3 on axonal pathfinding by modulating mitochondrial function. L. CHEN; L. XIANG; W. WANG*. *Wenzhou Med. Univ.*
- 2:00 B53 **736.10** ●▲ Evaluating the role of translational efficiency in synaptogenesis in *Caenorhabditis elegans*. K. ALIZADEH*; B. D. ACKLEY. *Univ. of Kansas.*
- 3:00 B54 **736.11** Epigenetic control of a stress-induced increase in GluA2 AMPA receptor subunit expression. J. FAWCETT-PATEL; J. HWANG; S. ZUKIN; J. LIU*. *LSU Hlth. Sci. Ctr., Creighton Univ. Sch. of Med., Albert Einstein Col. of Med.*
- 4:00 B55 **736.12** The translin/trax microRNA-degrading complex mediates translation-dependent synaptic plasticity in the hippocampus. M. S. SHETTY*; X. FU; A. J. PARK; T. ABEL; J. M. BARABAN. *Univ. of Iowa, Iowa Neurosci. Inst., Johns Hopkins Univ. Sch. of Med., Columbia Univ., Univ. of Iowa.*
- 1:00 B56 **736.13** Epitranscriptomic regulation of protein synthesis, learning and memory by N⁶-methyladenosine(m⁶A). J. KORANDA; M. J. PATEL; J. Y. DELGADO; H. SHI; J. THOME; W. FU; L. MO; L. O. VAASJO; A. OSUMA; C. HE; X. ZHUANG*. *Univ. of Chicago, Univ. of Chicago.*
- 2:00 B57 **736.14** MicroRNA-134-5p inhibition rescues long-term plasticity and synaptic tagging/capture in an Aβ (1-42)- induced model of Alzheimer's disease. N. BABY*; N. KALYANI; T. DHEEN; S. SAJIKUMAR. *Natl. Univ. of Singapore.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

3:00 B58 **736.15** Spatio temporal dynamics of miRNA mediated regulation of local protein synthesis. M. WANG*; T. GOLDAU; R. KLIMEK; A. HECKEL; E. M. SCHUMAN. *Max Planck Inst. For Brain Res., Goethe-University.*

POSTER

737. Dendritic Properties, Oscillations, and Plasticity

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 B59 **737.01** The gating pore blocker 1-(2,4-xylyl) guanidinium inhibits the pacemaking of substantia nigra dopaminergic neurons. K. JEHASSE*; S. HARTMANN; L. MASSOTTE; B. LAKAYE; J. ROEPER; V. M. SEUTIN. *Univ. of Liege, Goethe Univ. Frankfurt, Univ. of Liege.*
- 1:00 DP03/B60 **737.02** (Dynamic Poster) Principles for making a half-center oscillator. H. JU*; A. Q. SHILNIKOV. *Georgia State Univ., Georgia State Univ.*
- 3:00 B61 **737.03** Effect of temperature on half-center oscillator networks. E. MOROZOVA*; E. MARDER. *Brandeis Univ.*
- 4:00 B62 **737.04** Targeting the GSK3 pathway with modulators of voltage-gated Na⁺ channels. A. SINGH; P. WADSWORTH; Z. LIU; J. ZHOU; F. LAEZZA*. *Univ. of Texas Med. Br. at Galveston.*
- 1:00 B63 **737.05** A library of macaque lateral prefrontal cortex neurons electrophysiological and morphological characterization. M. S. JIMENEZ-SOSA*; E. S. KUEBLER; J. K. SUNSTRUM; S. MATOVIC; M. WIEDERMAN; M. KHAKI; N. BRAR; P. TRUSCHOW; R. GULLI; B. CORRIGAN; R. LUNA; M. ROUSSY; B. MAHMOUDIAN; D. BUITRAGO-PIZA; H. IGARASHI; J. JEONG; M. EVEREST; K. THOMAS; S. TREUE; J. STAIGER; W. INOUE; M. O. POULTER; J. C. MARTINEZ-TRUJILLO. *Western Univ., Univ. Med. Ctr. Göttingen, Leibniz-Institut für Primatenforschung.*
- 2:00 B64 **737.06** Compensation of size change coexists with sensitivity to channel deletion in a model of neuronal regulation. S. GORUR-SHANDILYA*; E. E. MARDER; T. O'LEARY. *Brandeis Univ., Univ. of Cambridge.*
- 3:00 B65 **737.07** Extracting signatures of dendritic spikes from Neuropixels recordings. M. FAULKNER*; M. JAKUBOWSKA; N. A. STEINMETZ; K. D. HARRIS; M. CARANDINI; A. ROTH; M. HAUSSER. *Univ. Col. London, Univ. of Washington.*
- 4:00 B66 **737.08** Cholinergic modulation of responses to depolarizing current ramps in CA1 hippocampal pyramidal neurons. C. L. COMBE*; T. MAZAHARI; C. C. CANAVIER; S. GASPARINI. *LSU Health-New Orleans, LSU Health-New Orleans.*
- 1:00 B67 **737.09** Influence of cocaine on sensory processing in cortical dendrites. S. MURPHY*; L. GODENZINI; R. GUZULAITIS; D. LATERRA; A. LAWRENCE; L. PALMER. *The Florey Institute of Neurosci.*
- 2:00 B68 **737.10** Biophysical scaling rules for layer 5 pyramidal neurons across species. L. BEAULIEU-LAROCHE*; M. M. HANSEN; N. BROWN; Z. WILLIAMS; M. P. FROSCHE; S. S. CASH; M. T. HARNETT. *MIT, Harvard Med. Sch., C.S. Kubik Lab. for Neuropathology, Massachusetts Gen. Hosp., Mass Genl Hosp.*

3:00 B69 **737.11** Layer 5 pyramidal neuron subtypes differ in plasticity in response to conditioning with repeated action potentials. D. GUAN; W. J. SPAIN; R. C. FOEHRING*. *Univ. Tennessee Hlth. Sci. Ctr., Univ. of Washington Dept. of Physiol. and Biophysics.*

4:00 B70 **737.12** Dendritic coordination in layer 5 tuft dendrites in awake, behaving mice. N. CERMAK*; J. SCHILLER. *Technion, Neurobio.*

1:00 B71 **737.13** Conditions that maximize the dimensionality of dendritic spatial computation. L. JIN; B. W. MEL*. *USC, USC.*

2:00 B72 **737.14** Role of GABAergic inhibitory inputs on dendritic integration for wind direction-selectivity in the insect's mechanosensory projection neurons. H. SHIDARA*; H. OGAWA. *Hokkaido Univ.*

3:00 B73 **737.15** Summation of subthreshold signals at individual glutamatergic synapses on dendritic spines. C. A. CELIS; J. WENG; D. ZECEVIC*. *Yale Univ. Sch. of Med., Yale Univ., Yale Univ. Sch. Med.*

4:00 B74 **737.16** Rapid synaptically activated calcium transients in dendritic spines using electrical stimulation and low affinity indicators. K. MIYAZAKI; W. N. ROSS*. *New York Med. Col.*

1:00 B75 **737.17** ▲ Mechanisms constraining the recruitment of perisomatic and dendritic innervating interneurons in hippocampal CA1. E. R. NEBET*; S. CHAMBERLAND; R. W. TSIN. *New York Univ.*

2:00 B76 **737.18** Investigating dendritic signals evoked by natural patterns of presynaptic activity. X. XUE*; T. LUMMEN; A. HIERLEMANN; J. BARTRAM. *ETH Zurich.*

3:00 B77 **737.19** Opposing changes in dendritic-soma electrical coupling underlie ES-potential. J. K. CLARK*; D. V. MADISON. *Stanford Univ.*

POSTER

738. Epilepsy, Ion Channels, and Mechanism of Action

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 B78 **738.01** Developmental changes in the activity of inhibitory neurons in Dravet syndrome. Y. ALMOG*; K. ANDERSON; M. RUBINSTEIN. *Tel Aviv Univ., Goldschleger Eye Res. Inst.*
- 2:00 B79 **738.02** Investigating the pathogenic effects of mutation in Kv3.1 causative for progressive myoclonic epilepsy. J. C. CARPENTER*; J. HENEINE; M. SAMPEDRO CASTANEDA; R. MANNIKO; G. LIGNANI; S. SCHORGE. *UCL Inst. of Neurol., UCL Sch. of Pharm.*
- 3:00 B80 **738.03** Pathophysiological mechanisms and treatment options for KCNA2-related developmental and epileptic encephalopathies. U. B. S. HEDRICH*; H. PANIKKAVEETIL ASHRAF; H. KOCH; H. LERCHE; T. V. WUTTKE. *Hertie Inst. for Clin. Brain Res., Dept. of Neurosurg.*
- 4:00 B81 **738.04** Relationship of clinical phenotypes and functional studies in neurons in SCN8A-related disorders. Y. LIU*; K. M. JOHANNESSEN; M. KOKO; J. SCHUBERT; C. HØI-HANSEN; M. RANNAP; E. GARDELLA; G. NIELS; E. BRILSTRA; R. S. MØLLER; H. LERCHE. *Hertie-Institute For Clin. Brain Res., Inst. for Regional Hlth. Services, Dept. of Pediatrics, Dept. of Pediatrics, Univ. Med. Ctr. Utrecht.*

- 1:00 B82 **738.05** Impact of developmentally-regulated alternative splicing on functional consequences of an SCN2A mutation (R853Q) associated with epileptic encephalopathy. S. GANGULY*; C. H. THOMPSON; A. L. GEORGE, Jr. *Northwestern Univ.*
- 2:00 B83 **738.06** Mechanistic consequences and stoichiometry-selectivity of mutations in $\alpha 4\beta 2$ nicotinic acetylcholine receptors in ADNFLE epilepsy. S. MAZZAFERRO*; S. M. SINE. *Mayo Clin.*
- 3:00 B84 **738.07** Hyperexcitability of hippocampal CA1 pyramidal neurons due to Kv7 channel dysfunction in a NHE6 KO model of Christianson syndrome. A. Y. GAO*; T. JAMES; R. A. MCKINNEY. *McGill Univ.*
- 4:00 B85 **738.08** Mice with adult-onset P/Q calcium channel deletion recapitulates childhood absence epilepsy. Q. M. MIAO*; J. NOEBELS. *Baylor Col. of Med.*
- 1:00 B86 **738.09** Characteristics of seizure-like events during a functional lack of pannexin-1 activity. M. S. AQUILINO*; P. WHYTE-FAGUNDES; M. K. LUKEWICH; L. ZHANG; B. L. BARDAKJIAN; G. ZOIDL; P. L. CARLEN. *Univ. Hlth. Network, Univ. of Toronto, York Univ., Univ. of Toronto.*
- 2:00 B87 **738.10** Cell-type specific role of pannexin1 to distinct seizure parameters. P. OBOT*; L. VELISEK; E. SCAMES; J. VELISKOVA. *New York Med. Col.*
- 1:00 DP02/B88 **738.11** • (Dynamic Poster) Whole-brain seizure networks in zebrafish models of GABRA1 and GABRG2-related epilepsies. R. E. ROSCH*; D. BURROWS; E. SAMARUT; M. P. MEYER. *King's Col. London, CRCHUM.*
- 3:00 B95 **739.07** Inhibition of NMDA currents in dissociated neurons derived from kindled rat hippocampus. J. MARTINEZ-LAZCANO*; E. G. GUEVARA; E. LARA-GONZALEZ; E. RENDON-OCCHOA; J. BARGAS; C. PAZ. *INNNyN, Inst. Nacional de Neurología y Neurocirugía, UNAM, Inst. De Fisiología Celular - Univ. Nacional Autónoma De México (UNAM), INNNyN.*
- 4:00 B96 **739.08** Carbamazepine and GABA have distinct effects on seizure onset dynamics. D. N. CRISP*; R. PARENT; G. G. MURPHY; W. C. STACEY. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*
- 1:00 B97 **739.09** Antisense oligonucleotide therapy for scn2a gain-of-function epilepsies. M. LI*; N. JANCOSKI; P. JAFAR-NAJAD; L. E. BURBANO; A. NEMIROFF; K. DALBY; S. MALJEVIC; C. A. REID; F. RIGO; S. PETROU. *Florey Inst. of Neurosci. and Mental Hlth., Ionis Pharmaceuticals, RogCon Biosci.*
- 2:00 B98 **739.10** Blockade of PD-1/PD-L1 suppressed epileptiform activities in both *in-vivo* and *in-vitro* seizure models. Z. CHEN*. *Fudan Univ.*
- 3:00 B99 **739.11** Selective hyperactivation of JNK2 in an animal model of chronic epilepsy. F. A. CONCEPCION; A. N. PARIKH; M. N. KHAN; R. D. BOEHM; A. DHAMI; N. P. POOLOS*. *Univ. of Washington, Univ. of Washington, Univ. of Washington.*
- 4:00 B100 **739.12** P110 β -selective inhibition in a PTEN-deficient mouse model for epilepsy rescues molecular and behavioral phenotypes. A. R. WHITE; D. TIWARI; M. MACLEOD; A. SNIDER; S. C. DANZER; C. GROSS*. *Cincinnati Children's Hosp. Med. Ctr.*
- 1:00 B101 **739.13** [E/Z] isoxylitones as JAK-STAT inhibitor: The promise of a new drug class. S. U. SIMJEE*; U. NISAR; F. SHAHEEN; A. RAHMAN; M. I. CHOUDHARY. *H.E.J. Res. Inst. of Chemistry, Intl. Ctr. for Chem. and Biol. Sciences, Univ. of Karachi.*
- 2:00 B102 **739.14** Targeting overexpressed TGF- β linked MAPK pathway to halt pentylentetrazole-induced epileptogenesis in mice. M. SHAHID*; U. NISAR; F. SHAHEEN; M. ASKANI; S. U. SIMJEE. *Intl. Ctr. For Chem. and Biol. Sci., Intl. Ctr. for Chem. and Biol. Sci.*
- 3:00 C1 **739.15** Neuroprotective and anti-inflammatory effect of fingolimod (FYT720) in a rat model of epileptogenic cortical dysplasia. F. COLCIAGHI*; B. CIPELLETTI; A. CATTALINI; E. RINALDI; A. CONSONNI; F. BAGGI; C. CAGNOLI; R. MANTEGAZZA; M. DE CURTIS; G. S. BATTAGLIA. *Fondazione IRCCS Inst. Neurologico Carlo Besta, Fondazione IRCCS Inst. Neurologico Carlo Besta.*
- 4:00 C2 **739.16** Muscarinic receptor type 2 and 4 modulate the anticonvulsive effect of sparteine in status epilepticus murine model. F. V. VILLALPANDO VARGAS*; S. RODRÍGUEZ MERCADO; A. M. MALDONADO MORA; S. ARELLANO LEYVA; L. G. MEDINA-CEJA. *Univ. of Guadalajara, Guadalajara Univ., Univ. of Guadalajara.*
- 1:00 C3 **739.17** Effect of cerebrolysin on cognitive impairment and dendritic morphology of granular neurons in the dentate gyrus of rats with temporal lobe epilepsy. L. A. PICHARDO-MACIAS*; V. DÍAZ-VILLEGAS; I. L. FLORES-NAVARRETE; S. GUZMÁN-VELÁZQUEZ; D. A. ÁLVAREZ GARCÉS; S. R. ZAMUDIO. *Inst. Politécnico Nacional.*

POSTER

739. Epilepsy: Pharmacology

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 B89 **739.01** • Neurosteroids modulate the *in vivo* responses to fenfluramine at the sigma-1 receptor in mice. T. MAURICE*; A. GAMMAITONI; B. S. GALER; P. MARTIN. *INSERM Umr_s1198, Zogenix Inc.*
- 2:00 B90 **739.02** Progesterone receptor regulation of seizures. S. SHIONO; J. WILLIAMSON; J. KAPUR; S. JOSHI*. *Univ. of Virginia.*
- 3:00 B91 **739.03** Neuromodulatory effects of dydrogesterone against anxiety and chemically-induced seizures in male rats. A. KAUR; P. E. ALELE*. *Mbarara Univ. of Sci. & Technol.*
- 4:00 B92 **739.04** Combination of allopregnanolone and midazolam administered intramuscularly terminates tetramethylenedisulfotetramine-induced status epilepticus in mice. D. ZOLKOWSKA*; N. GARIBAY; C. W. FLAMM; M. A. ROGAWSKI. *Univ. of California, Davis.*
- 1:00 B93 **739.05** Metyrapone reduces seizures in GAERS: Role of corticosterone. G. DEZSI; E. OZTURK; N. C. J. JONES*. *Monash, Monash Univ.*
- 2:00 B94 **739.06** AAV-Cre mediated deletion of hippocampal glucocorticoid receptors reduces status epilepticus severity. K. L. KRAUS*; A. C. WULSIN; J. P. HERMAN; S. C. DANZER. *Univ. of Cincinnati, Cincinnati Children's Hsptl Med. Cntr, Cincinnati Children's Hsptl Med. Cntr, Univ. of Cincinnati.*

* Indicates a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 2:00 C4 **739.18** • Cenobamate (YKP3089) dose-dependently reduced spike-and-wave discharges in the genetic absence epilepsy rats from Strasbourg (GAERS) animal model. S. M. MELNICK*; H. SHIN; C. ROUCARD; K. GLENN. *SK Life Science, Inc., SK Biopharmaceuticals, Co., Ltd., Synapcell.*
- 3:00 C5 **739.19** • Cannabidiol elevates the ratio of feedforward to feedback inhibition to dampen hippocampal activity propagation. S. CHAMBERLAND*; E. R. NEBET; E. C. ROSENBERG; O. DEVINSKY; R. W. TSIEN. *New York Univ., New York Univ.*
- 4:00 C6 **739.20** • The novel matrix metalloproteinase inhibitor IPR-179 has disease-modifying effects in rodent models of epilepsy. D. W. M. BROEKAART*; A. BERTRAN; S. JIA; C. M. DRION; A. KOROTKOV; O. SENKOV; A. BONGAARTS; J. D. MILLS; J. J. ANINK; J. SECO; J. C. BAAYEN; S. IDEMA; E. CHABROL; A. J. BECKER; W. WADMAN; T. TARRAGÓ; J. A. GORTER; E. ARONICA; R. PRADES; A. DITYATEV; E. A. VAN VLIET. *Amsterdam Univ. Med. Centers, Iproteos S.L., German Ctr. for Neurodegenerative Dis. (DZNE), Univ. of Amsterdam, Amsterdam Univ. Med. Centers, UCL, Univ. of Bonn Med. Ctr., Stichting Epilepsie Instellingen Nederland (SEIN), Otto-von-Guericke Univ. Magdeburg, Ctr. for Behavioral Brain Sci. (CBBS) Magdeburg.*
- 1:00 C7 **739.21** Effect of WIN 55,212-2 administered alone in a kainic acid-induced status epilepticus model. M. D. BURELO*; C. RIOS; A. DIAZ-RUIZ; V. BARON-FLORES. *Univ. Autónoma Metropolitana, Natl. Inst. of Neurol Mexico.*
- 2:00 C8 **739.22** Regulation of indoleamine 2,3-dioxygenase 1 and 2 expression by microglia, relevance to acquired epilepsy. Z. A. MACDOWELL KASWAN*; M. HURTADO; A. J. STEELMAN; G. G. FREUND; R. H. MCCUSKER. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign.*
- 3:00 C9 **739.23** Regulation of indoleamine 2,3-dioxygenase expression by dendritic cells, relevance to viral-induced seizures. M. HURTADO; Z. A. MACDOWELL KASWAN; A. J. STEELMAN; G. G. FREUND; R. H. MCCUSKER*. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*
- 4:00 C10 **739.24** Application of CCKb receptor antagonist on the treatment of kainic acid-induced epileptic mice. A. TAN*; J. HE. *City Univ. of Hong Kong, City Univ. of Hong Kong.*
- 1:00 C11 **739.25** Characterization of the effects of a ghrelin receptor agonist on cell viability in excitotoxic conditions. A. BUCKINX*; A. DE SMET; D. DE BUNDEL; R. KOIJMAN; I. SMOLDERS. *Vrije Univ. Brussel.*
- 2:00 C12 **739.26** LPS induced peripheral inflammation prevents SUDEP in DBA/1 mice. Y. P. ADHIKARI*; X. JIN. *STARK Neurosciences Res. Inst., Iupui STARK Neurosci. Res. Inst.*
- 3:00 C13 **739.27** Blocking receptor for advanced glycation end-products (RAGE) or toll like receptor 4 (TLR4) attenuates posttraumatic epileptogenesis in mice. X. PING*; M. S. RIPSCH; F. A. WHITE; X. JIN. *Stark Neurosci. Res. Inst., Indiana Univ. Sch. Med., IUPUI Stark Neurosci. Res. Inst.*
- 4:00 C14 **739.28** Neuroprotective profile assessment of lacosamide in the kindling model induced by pentylentetrazole in mice. P. PEREIRA*; P. PFLÜGER; F. SANTOS; D. AGUIRRE; D. MOURA; J. PICADA; G. LEIPNITZ; L. LAZZAROTTO. *Federal Univ. of Rio Grande Do Sul, Federal Univ. of Hlth. Sci. of Porto Alegre, Lutheran Univ. of Brazil.*
- 1:00 C15 **739.29** Chiral hydroxyamides as anticonvulsants. S. E. MEZA TOLEDO*; J. ESQUIVEL-VARGAS; J. A. MARTÍNEZ-RODRÍGUEZ; J. PERALTA-CRUZ; M. GONZÁLEZ-FLORES. *Inst. Politécnico Nacional, Esc.Nac. Cien.Biol.*

POSTER

740. Central and Peripheral Myelinating Cells II

Theme B – Neural Excitability/ Synapses/ and Glia

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 C16 **740.01** Altered human oligodendrocyte heterogeneity in multiple sclerosis. S. JAEKEL*; E. AGIRRE; A. MENDANHA FALCAO; D. VAN BRUGGEN; K. WAI LEE; I. KNUESEL; D. MALHOTRA; C. FFRENCH-CONSTANT; A. WILLIAMS; G. CASTELO-BRANCO. *Ctr. For Regenerative Med., Lab. of Mol. Neurobio., F. Hoffmann La-Roche Ltd., Hoffmann-La Roche, Ctr. for Regenerative Med.*
- 2:00 C17 **740.02** Oligodendrocytes support neuronal glutamatergic transmission via expression of glutamine synthetase. W. XIN*; Y. A. MIRONOVA; H. SHEN; R. MARINO; A. WAISMAN; W. H. LAMERS; D. E. BERGLES; A. BONCI. *Univ. of California San Francisco, Johns Hopkins Univ. Sch. of Med., Natl. Inst. on Drug Abuse, Univ. Med. Ctr. of the Johannes Gutenberg-University, Maastricht Univ. Med. Ctr.*
- 3:00 C18 **740.03** Mass spectral analysis of developmental changes in the lipid composition of myelin membranes. E. M. TRIPLET*; H. YOON; I. LANZA; I. A. SCARISBRICK. *Mayo Clin., Mayo Clin., Mayo Clin.*
- 4:00 C19 **740.04** Schwann cells transport nucleic acid-containing cargo into axons via myelin injection bodies. W. TEO*; P. K. STYS. *Hotchkiss Brain Institute, Univ. of Calgary, Univ. Calgary.*
- 1:00 C20 **740.05** To explore the characteristics of glial cells in pig models. N. YU*; W. ZUO; S. YANG. *The Pla Gen Hosp, Nankai Univ.*
- 2:00 C21 **740.06** Specific oligodendrocyte populations have differential spatial distribution and susceptibility to injury. E. M. FLORIDDIA*; S. ZHANG; D. VAN BRUGGEN; J. P. GONCALVES DOS SANTOS; M. ALTINKOK; E. LLORENS-BOBADILLA; J. FRISÉN; G. CASTELO-BRANCO. *Karolinska Institutet, Whitehead Inst. for Biomed. Res., Karolinska Institutet.*
- 3:00 C22 **740.07** Satellite glial cells in sensory ganglia express functional TRPA1 that is sensitized in neuropathic and inflammatory pain. S. SHIN*; H. YU; Q. HOGAN; B. PAN; I. BRANDON; F. WANG; Y. CAI; C. L. STUCKY. *Med. Col. of Wisconsin, Shaanxi Univ. of Chinese Med., Xi'an Jiaotong Univ. Hlth. Sci. Ctr., Med. Col. of Wisconsin.*
- 4:00 C23 **740.08** Targeting of Neurofascin to nodes of Ranvier is regulated by a paranodal switch. Y. ZHANG*; S. YUEN; E. PELES; J. L. SALZER. *NYU Sch. of Med., Department of Mol. Cell Biol.*

- 1:00 C24 **740.09** Oligodendrocyte progenitor cell regional and temporal heterogeneity indicate diverse functional states. Y. KAMEN*; S. O. SPITZER; S. SITNIKOV; K. A. EVANS; D. KRONENBERG-VERSTEEG; H. PIVONKOVA; S. DIETMANN; O. DE FARIA, JR; S. AGATHOU; H. O. B. GAUTIER; R. T. KARADOTTIR. *Univ. of Cambridge*.
- 2:00 C25 **740.10** Structural basis for adhesion G protein-coupled receptor Gpr126 function. K. LEON*; R. L. CUNNINGHAM; J. A. RIBACK; E. FELDMAN; J. LI; M. ZHAO; T. R. SOSNICK; K. R. MONK; D. ARAC-OZKAN. *Univ. of Chicago, Washington Univ. in St. Louis, Univ. of Chicago, Oregon Hlth. & Sci. Univ.*
- 3:00 C26 **740.11** Dynamics of oligodendrocyte generation in multiple sclerosis. M. YEUNG*; M. DJELLOUL; E. STEINER; S. BERNARD; M. SALEHPOUR; G. POSSNERT; L. BRUNDIN; J. FRISÉN. *Karolinska Inst., Inst. Camille Jordan, Univ. of Lyon, Uppsala Univ., Karolinska Institutet*.
- 4:00 C27 **740.12** • Modulation of sympathetic neuronal activity in spontaneously hypertensive rats. M. HABURCAK*; S. SONA; N. GERARD; J. ENES; S. J. BIRREN. *Brandeis Univ.*
- 1:00 C28 **740.13** Title. B. ZOTTER*; O. DAGAN; J. SAMANTA; H. BALOUI; J. L. SALZER. *NYU Sch. of Med., Univ. of Wisconsin Madison, Karolinska Institutet*.
- 2:00 C29 **740.14** How is the regional specificity of myelination established and maintained? L. O. SUN*; S. B. MULINYAWE; H. Y. COLLINS; A. IBRAHIM; Q. LI; D. J. SIMON; M. TESSIER-LAVIGNE; B. A. BARRES. *Stanford Univ., Stanford Univ.*
- 3:00 C30 **740.15** Regulation of glial size by a Golgi membrane protein eas-1/GOLT1B. A. ZHANG*; D. YAN. *Duke Univ.*
- 4:00 C31 **740.16** GALC is required by myelinating glia and macrophages to prevent psychosine-induced demyelination and galactosylceramide-induced neuroinflammation. M. FELTRI*; N. WEINSTOCK; D. SHIN; N. SILVESTRI; H. XINYING; N. DUC; J. KOFLER; M. ESCOLAR; M. GELB; E. BONGARZONE; L. WRABETZ. *State Univ. of New York at Buffalo, State Univ. of New York at Buffalo, State Univ. of New York at Buffalo, Univ. of Washington, Univ. of Illinois at Chicago, Univ. of Pittsburgh Sch. of Medicine, Univ. of Pittsburgh Sch. of Medicine*.
- 1:00 C32 **740.17** Developmental origin of oligodendrocytes determines their function in the adult CNS. S. FORSTER*; R. J. M. FRANKLIN; E. M. FLORIDDIA; D. VAN BRUGGEN; G. CASTELO-BRANCO; S. CHENG; T. BUSSEY; B. PHILIPPS; E. KIM; C. J. HEATH; W. D. RICHARDSON; R. B. TRIPATHI. *Univ. of Cambridge, Karolinska Institutet, Univ. of Cambridge, Univ. Col. London*.
- 2:00 C33 **740.18** Essential role of NG2 glia in the regulation of brain innate immunity. S. ZHANG*; Y. LIU; Q. WANG; Q. YANG; Y. YIN; R. CHEN; Q. SUN; Y. LIU; Y. LI; J. HOU; J. ZHOU. *Inst. of Neuroscience, CAS*.
- 3:00 C34 **740.19** Phosphorylation state of ZFP24 controls oligodendrocyte differentiation. B. ELBAZ*; A. KOLARZYK; B. POPKO. *Univ. of Chicago*.

POSTER

741. Metabolism, Stress, and Brain Wellness

Theme C – Neurodegenerative Disorders and Injury

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 C35 **741.01** The role of oxidized SOD1 aggregates in aging. K. SHAFIQ*; T. GUAN; J. KONG. *Univ. of Manitoba*.
- 2:00 C36 **741.02** Dietary yeast restriction attenuates polyglutamine toxicity via insulin-like signaling and immune signaling in *Drosophila*. M. SUZUKI*; A. NEUMANN; Y. SAITOH; N. FUJIKAKE; K. WADA; K. SANGO; Y. NAGAI. *Tokyo Metropolitan Inst. of Med. Sci., Osaka Univ. Grad Sch. Med., Natl. Inst. Neurosci, NCNP*.
- 3:00 C37 **741.03** Phosphofructokinase (PFK-1) self-interaction is necessary for its clustering near synapses. Z. XUAN*; D. COLÓN-RAMOS; S. JANG; I. GONZALEZ; M. SINGH; S. PRASHAD; B. KIM; R. LAGOY; D. ALBRECHT; A. HYMAN; A. PATEL; L. JAWERTH. *Yale Univ., Worcester Polytechnic Inst., Max Planck Inst. of Mol. Biol. and Genet.*
- 4:00 C38 **741.04** Driving brain aging by disruption of muscle proteostasis: Role of ABC transporters in protein clearance and tissue aging. M. MORI*; M. MOUJAHIDINE; A. BASSETT; P. HAGHIGHI. *Buck Inst. For Res. On Aging, Buck Inst. for Res. on Aging, Univ. of San Francisco*.
- 1:00 C39 **741.05** VRK2 regulates the formation of stress granules via phosphorylation of G3BP1. K. JO*; Y. JEONG; K. KIM. *Pohang Univ. of Sci. and Technol.*
- 2:00 C40 **741.06** Deletion of Caveolin 1 accelerates hippocampal senescence via reprogramming glucose metabolism. M. WU*; C. GAO; Q. DU; J. SHEN. *The Univ. of Hongkong*.
- 3:00 C41 **741.07** ▲ Study of the development and aging of the brain through metabolic pathways. K. BAI*; C. J. CORTES; A. R. LA SPADA. *Duke Univ.*
- 4:00 C42 **741.08** Anti-obesity effects of tocotrienols and rice bran in high-fat diet-treated mice: Does obesity accelerate brain oxidation? K. FUKUI*; M. SHIRAI; T. NINUMA; Y. KATO. *Shibaura Inst. Technol., Shibaura Inst. Technol., Shibaura Insti Technol.*
- 1:00 C43 **741.09** CYP46A1 knock-out causes age-dependent transcriptional changes in cholesterol biosynthesis within the mouse hippocampus. L. H. ZIOLKOWSKI*; H. SHU; A. BENZ; S. J. MENNERICK. *Washington Univ. In St. Louis*.
- 2:00 C44 **741.10** Short term caloric restriction in mice attenuates age related increases in calcium buffering of basal forebrain neurons. E. BANG*; A. FINCHER; S. NADER; D. A. MURCHISON; K. S. MONTGOMERY; W. H. GRIFFITH. *Texas A&M Hlth. Sci. Ctr.*
- 3:00 C45 **741.11** Chemogenetic activation of orexin/hypocretin neurons ameliorates aging induced changes in behavior and energy expenditure. J. PALLAIS*, Jr; M. STANOJLOVIC; V. MAVANJI; C. M. KOTZ. *Univ. of Minnesota Twin Cities, Minneapolis VA Hlth. Care Syst.*
- 4:00 C46 **741.12** The characterization of neuronal pexophagy *in vitro*, and in an *in vivo* model of brain aging. N. UZOR*; J. MORUNO MANCHON; D. MORALES-SCHEIHING; C. R. REYNOLDS; J. STEPHENSON; A. F. MACK; L. D. MCCULLOUGH; A. S. TSVETKOV. *McGovern Med. Sch.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 C47 **741.13** Histone methyltransferase inhibition attenuates H3K9me3 elevation and synaptic dysfunction caused by oxidative stressors. A. IONESCU TUCKER*; L. TONG; N. C. BERCHTOLD; K. TSEUNG; C. W. COTMAN. *UC Irvine, Univ. California Irvine, Scripps Col.*
- 2:00 C48 **741.14** Interacting, subject-specific, and accelerated aging-related features of the human choroid plexus. M. J. NEEL; B. A. JOHNSON; I. NGUYEN; N. L. VUKALOVICH; B. H. NGUYEN; Z. MUTTALIB; E. S. MONUKI*. *UC Irvine Sch. of Med.*
- 3:00 C49 **741.15** Effect of chronic ozone exposure on object-place recognition task and dendritic spines of CA1 neurons. P. C. BELLO-MEDINA*; R. A. PRADO-ALCALA; S. L. RIVAS-ARANCIBIA. *Facultad de Medicina-UNAM, Inst. de Neurobiologia-UNAM, Facultad De Medicina, UNAM.*
- 4:00 C50 **741.16** Modulation of antioxidant response and neuroinflammation in frontal cortex of demented vs. non-demented individuals with Alzheimer's neuropathology. A. FRACASSI*; O. ZOLOCHEVSKA; S. MORENO; G. TAGLIALATELA. *Univ. of Texas Med. Br., Univ. Roma Tre.*
- 1:00 C51 **741.17** • Clearance of senescent glial cells prevents tau-dependent pathology and cognitive decline. T. BUSSIAN*; D. BAKER. *Mayo Clin., Mayo Clin.*
- 2:00 C52 **741.18** ▲ Aquaporin-4 distribution correlates to increase in phosphorylated tau accumulation in sprague dawley rats fed a high fructose diet. P. WOLLER; J. K. MORRIS*. *Baldwin Wallace Univ., Baldwin Wallace Univ.*
- 3:00 C53 **741.19** Association of improved metabolic state and behavior in long-lived DGAT1-deficient mice. R. D. CARTER; L. LINQUEST; B. A. GRUETER; C. A. GRUETER*. *Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Sch. of Med., Vanderbilt Univ. Med. Ctr.*
- 4:00 C54 **741.20** Nature-inspired hybrids as multi-target pharmacological agents: Antioxidant, neuroprotective and anti-inflammatory entanglement. F. FAGIANI; M. CATANZARO; M. M. SERAFINI; I. ROMANONI; F. BASAGNI; M. RACCHI; B. VIVIANI; R. MICHELA; S. GOVONI; A. PITTALUGA*; C. LANNI. *Scuola Universitaria Superiore IUSS, Univ. of Pavia, Univ. of Milan, Univ. of Bologna, Univ. of Genova, Sch. of Med. and Pharma.*
- 1:00 C55 **741.21** Effects of chronic rapamycin on substantia nigra dopamine neurons in aging mouse brain. I. PARIKH*; M. TRZECIAK; M. J. BECKSTEAD. *Oklahoma Med. Res. Fndn., Oklahoma Med. Res. Fndn.*
- 2:00 C56 **741.22** Sexual disparities of mitochondria-associated proteins in rat brain micro-vessels: Using tandem-mass-tags to elucidate metabolic phenotypes. S. CIKIC; P. K. CHANDRA; I. RUTKAI; J. C. HARMAN; J. J. GUIDRY; P. V. G. KATAKAM; D. W. BUSIJA*. *Tulane Univ. Sch. of Med., Louisiana State Univ. Hlth. Sci. Ctr.*
- 3:00 C57 **741.23** ▲ Analysis of kynurenine pathway metabolism in C6 malignant glioma cells. G. I. VÁZQUEZ CERVANTES*; B. PINEDA OLVERA; D. F. GONZALEZ ESQUIVEL; V. PEREZ DE LA CRUZ. *Inst. Nacional De Neurologia Y Neurocirugia, Inst. Nacional De Neurologia Y Neurocirugia.*
- 4:00 C58 **741.24** Effects of age on feeding response: Focus on the rostral C1 neuron and its glucoregulatory proteins. H. RAMLAN; H. A. DAMANHURI*. *The Natl. Univ. of Malaysia.*
- 1:00 C59 **741.25** Treatment with exogenous adropin peptide improves age-related cognitive decline and neuronal health. S. A. FARR*; F. XU; M. L. NIEHOFF; R. JAYANTH; B. A. MERSMAN; A. A. BUTLER. *St Louis Univ/VA Med. Ctr., St. Louis Univ. Dept. of Biol., St. Louis Univ. Sch. of Med., St. Louis Univ., St. Louis Univ., St. Louis Univ. Sch. of Med.*
- 2:00 C60 **741.26** Etoposide induce mitochondrial dysfunction and cellular senescence in primary cultured rat astrocytes. M. BANG*; D. KIM; E. GONZALES; K. KWON; C. SHIN. *Konkuk Univ.*
- 3:00 C61 **741.27** • A novel dynamic network imaging analysis method reveals aging-related fragmentation of cortical networks in mouse. D. A. LLANO*; C. MA; A. TAHERI; U. DI FABRIZIO; K. STEBBINGS; G. YUDINTSEV; R. V. KENYON; T. Y. BERGER-WOLF. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Chicago, Univ. of Illinois at Urbana-Champaign.*
- 4:00 C62 **741.28** Assessment of central AMYR blockade in the regulation of peripheral versus central metabolism mechanisms in APP/PS1 mice. R. R. CORRIGAN*; J. GRIZZANTI; G. CASADESUS. *Kent State Univ., Kent State Univ.*
- 1:00 C63 **741.29** The influence of sex and metabolism on the development of Alzheimer's disease. J. GRIZZANTI*; R. R. CORRIGAN; S. SERVIZI; G. CASADESUS SMITH. *Kent State Univ., Kent State Univ.*

POSTER

742. Alpha-Synuclein Models and Mechanisms II

Theme C – Neurodegenerative Disorders and Injury

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 C64 **742.01** • Characterization of Lewy bodies-induced neurodegeneration and synucleopathy in wild-type mice. E. BEZARD*; L. ZHANG; X. YU; X. SUN; W. ZHAO; M. WANG; X. LI; Y. ZHANG; T. ZHU; L. ZHOU; G. RAN; L. BREGER; S. DOVERO; M. PERSILLET; G. PORRAS; P. FERNAGUT; B. DEHAY; C. QIN. *Inst. of Neurodegenerative Dis., Inst. of Lab. Animal Sci.*
- 2:00 C65 **742.02** • Sleep/wake activity in the Lewy bodies mouse model of Parkinson's disease. G. PORRAS*; M. PERSILLET; F. DECOEUR; B. DEHAY; A. NADJAR; E. BEZARD. *Motac, Inst. of Neurodegenerative Dis., Univ. of Bordeaux.*
- 3:00 C66 **742.03** • High content screening of synucleinopathy in primary cortical neurons: Dissecting out the interplay between the basic synuclein pools. W. MEISSNER*; F. DE GIORGI; E. BEZARD; F. ICHAS. *Inst. of Neurodegenerative Dis.*

- 4:00 C67 **742.04** ▲ GCI-induced neurodegeneration and synucleinopathy in non-human primates. M. TEIL; S. DOVERO; M. AROTARENA; M. BOURDENX; S. CAMUS; G. PORRAS; M. THIOLAT; N. KRUSE; B. MOLLENHAUER; I. TRIGO DAMAS; C. ESTRADA; N. GARCIA CARRILLO; M. TRINIDAD HERRERO EZQUERRO; P. DERKINDEREN; M. VILA; J. OBESO; B. DEHAY*; E. BEZARD. *Inst. of Neurodegenerative Dis., Paracelsus-Elena- Klinik, Kassel, Germany, HM CINAC, HM Puerta del Sur and CIBERNED and CEU-San Pablo Univ. Madrid, Clin. and Exptl. Neurosci. Unit, Sch. of Medicine, Biomed. Res. Inst. of Murcia (IMIB), Univ. of Murcia, Campus Mare Nostrum, Ctr. Exptl. en Investigaciones Biomédica (CEIB), Univ. de Murcia, Inserm, U1235, Neurodegenerative Dis. Res. Group, Vall d'Hebron Res. Inst.*
- 1:00 C68 **742.05** Potential for weighting fibroblasts as a diagnostic tool in Parkinson's disease. G. PREVOT; S. DOVERO*; E. BEZARD; L. COGNET; B. DEHAY; P. BON. *Inst. of Neurodegenerative Dis. UMR5293, Inst. of Neurodegenerative Dis., CNRS - Univ. of Bordeaux, Inst. of Neurodegenerative Dis., Optic Inst.*
- 2:00 C69 **742.06** Genetic signature of early synucleinopathy in nigrostriatal dopamine neurons. J. R. PATTERSON*; C. J. KEMP; J. W. HOWE; M. F. DUFFY; A. C. STOLL; K. M. MILLER; J. S. BECK; S. E. COUNTS; K. C. LUK; C. E. SORTWELL. *Michigan State Univ., Univ. of Pennsylvania.*
- 3:00 C70 **742.07** Longitudinal PET imaging reveals early and progressive deficits in striatal dopaminergic transmission induced by synucleinopathy. C. E. SORTWELL*; J. R. PATTERSON; C. J. KEMP; K. M. MILLER; A. C. STOLL; K. C. LUK; V. SOSSI. *Michigan State Univ., Univ. of Pennsylvania, Univ. of British Columbia.*
- 4:00 C71 **742.08** Intrastratial injection of alpha-synuclein preformed fibrils in rats results in motor and non-motor impairments. S. M. FLEMING*; J. R. PATTERSON; C. J. KEMP; K. M. MILLER; A. C. STOLL; M. F. DUFFY; D. E. HERMAN; K. C. LUK; C. E. SORTWELL. *Northeast Ohio Med. Univ., Michigan State Univ., Univ. Pennsylvania.*
- 1:00 C72 **742.09** ● A model system in primary neurons used to identify new targets modulating seed-induced alpha-synuclein pathology using siRNA-based screening. M. AMBJORN*; N. DAMSGAARD; M. LUBAS; K. FOG. *H Lundbeck A/S.*
- 2:00 C73 **742.10** Discovery of candidate therapeutics for Parkinson's disease by quantitative high throughput screening (qHTS) for compounds targeting α -synuclein expression. D. P. HUYNH; M. GANDELMAN; S. PAUL; W. DARSITHONG; E. AOYAMA; M. HENDERSON; S. KALES; A. ZAKHAROV; A. JADHAV; G. BANTUKALLU; A. SIMEONOV; S. PULST; D. R. SCOLLES*. *Univ. of Utah, Natl. Ctr. for Advancing Translational Sci. (NCATS).*
- 3:00 C74 **742.11** ▲ Insight into Parkinson's disease from yeasts: Combined impact of covalent modifications and familial mutations on α -synuclein. Y. P. GANEV*; R. THOMAS; A. ROMAN; C. MWALE; P. JONES; A. BALARAM; E. TCATURIAN; S. DEBBURMAN. *Lake Forest Col.*
- 4:00 C75 **742.12** Studying the effect of co-expression of α -synuclein and leucine rich repeat kinase 2 in modelling Parkinson's disease in *drosophila melanogaster*. D. R. JHONSA*; I. PADDIBHATLA; M. SARAF. *Bombay Col. of Pharm., Univ. of Hyderabad, Bombay Col. of Pharm.*
- 1:00 C76 **742.13** Exploring anxiety-like behaviors and neurochemical changes in the line 15 alpha synuclein overexpressing Parkinson's disease model. H. B. JANSSENS*; L. YU; J. ROESER; A. RASSOULPOUR; T. CREMERS. *Charles River Labs., Univ. of Groningen.*
- 2:00 C77 **742.14** Effects of the A53E substitution on alpha synuclein aggregation and neurotoxicity in Parkinson's disease. J. HENSEL*; P. C. MONTENEGRO; C. CHANDRASEKARAN; D. YSSELSTEIN; S. AGIM; N. DUTHEIL; B. DEHAY; E. BEZARD; J. R. CANNON; J. ROCHET. *Purdue Univ., Purdue Univ., Purdue Univ., Inst. of Neurodegenerative Dis., Inst. of Neurodegenerative Dis.*
- 3:00 C78 **742.15** The Michael J. Fox Foundation's efforts to understand the relationship between GBA1 and alpha-synuclein through the development and characterization of preclinical models. B. CASEY*; N. POLINSKI; T. N. MARTINEZ; S. W. CLARK; S. M. SMITH; R. C. SWITZER III; S. O. AHMAD; S. RAMBOZ; M. SASNER; M. T. HERBERTH; L. MENALLED; M. A. BAPTISTA; K. D. DAVE; M. FRASIER. *The Michael J. Fox Fndn., Amicus Therapeut., Merck Res. Labs., Neurosci. Associates Inc, St. Louis Univ., Psychogenics Inc., The Jackson Lab., Charles River.*
- 4:00 C79 **742.16** Utilizing an alpha-synuclein binding aptamer to prevent protein aggregation in an alpha-synuclein overexpressing cellular model of Parkinson's disease. K. VENTURA; S. BOISJOLI; J. CALLAHAN; V. HUNT; E. MCCONNELL; M. DEROSA; M. R. HOLAHAN*. *Carleton Univ., Carleton Univ.*
- 1:00 C80 **742.17** Behavioral assessment of the 61SNCA mouse model of Parkinson's disease employing the NeuroCube system of movement analysis. A. EDWARDS; K. COX; K. CIRILLO; W. J. XU*; J. A. AVILA; S. RAMBOZ. *Psychogenics Inc.*

POSTER

743. Parkinson's Disease: Therapeutics

Theme C – Neurodegenerative Disorders and Injury

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 C81 **743.01** ▲ Early transcranial direct current stimulation ameliorates motor and cognitive dysfunctions in Parkinson's disease model of rats. Y. HUANG*; X. FENG; C. KUO; T. HSIEH. *Chang Gung Univ., Anhui Med. Univ., Natl. Taiwan Univ., Chang Gung Univ., Chang Gung Mem. Hospital, Linkou.*
- 2:00 C82 **743.02** ▲ The effects of probiotics on improving motor and cognitive functions in a mouse Parkinson's model. K. HSIEH*; C. KUO; T. HSIEH; H. CHEN. *Chang Gung Univ., Natl. Taiwan Univ., Chang Gung Mem. Hospital, Linkou, Chang Gung Univ., Chang Gung Univ., Chang Gung Mem. Hosp.*
- 3:00 C83 **743.03** ● Human embryonic stem cell-derived dopaminergic transplants integrate into basal ganglia circuitry in a preclinical model of Parkinson's disease. A. F. ADLER*; T. CARDOSO; S. NOLBRANT; B. MATTSSON; D. B. HOBAN; U. JARL; J. N. WAHLESTEDT; S. GREALISH; A. BJÖRKLUND; M. PARMAR. *Lund Univ.*
- 4:00 C84 **743.04** ● Gold nanocatalysis as a novel therapeutic for neuroprotection in Parkinson's disease. K. S. HO*; M. T. HOTCHKIN; M. G. MORTENSON. *Clene Nanomedicine, Inc., Clene Nanomedicine, Inc., Univ. of Utah Sch. of Med.*

* Indicates a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 C85 **743.05** STN DBS reduces Lewy body-like alpha-synuclein inclusion formation triggered by intrastratial fibril injection. K. M. MILLER*; C. J. KEMP; J. R. PATTERSON; A. C. STOLL; K. STEECE-COLLIER; K. C. LUK; M. R. KUBIK; C. E. SORTWELL. *Michigan State Univ., Univ. Pennsylvania.*
- 2:00 C86 **743.06** Astrocyte elevated gene-1 as an endogenous anti-apoptotic factor in nigral dopaminergic neurons *in vivo*. E. LEEM*; T. Y. KIM; U. J. JUNG; S. R. KIM. *Sch. of Life Sciences, BK21 plus KNU Creative BioResearch Group, Kyungpook Natl. Univ., Dept. of Food Sci. and Nutrition, Pukyong Natl. Univ., Brain Sci. and Engin. Institute, Kyungpook Natl. Univ.*
- 1:00 DP04/C87 **743.07** (Dynamic Poster) Intracellular delivery of parkin protects dopaminergic neurons in brain-damaged animals. E. CHUNG*; W. NAH; Y. JUNG; J. PARK; S. SHIN; J. LEE; D. MIN; M. KWON; Y. CHOI; D. JO. *Cellivory.*
- 4:00 C88 **743.08** • Effect of chronic stimulation on the electrode tissue interface and electric field distribution of chronically implanted deep brain stimulation electrodes in the rat. J. EVERS*; K. SRIDHAR; J. LIEGEY; J. BRADY; H. JAHNS; M. M. LOWERY. *Univ. Col. Dublin, Univ. Col. Dublin, Univ. Col. Dublin.*
- 1:00 C89 **743.09** The lesion of the tail of the ventral tegmental area can compensate motor and non motor symptoms in a rat model of Parkinson's disease. M. BARROT*; F. FAIVRE; S. DOVERO; S. BIDO; A. JOSHI; E. BEZARD; M. SÁNCHEZ-CATALÁN. *INCI - CNRS UPR3212, Inst. of Neurodegenerative Dis., Univ. Jaume In Castelló de la Plana.*
- 2:00 C90 **743.10** Driving neurons in a cell-type specific manner using electrical stimulation. T. A. SPIX*; B. R. ISETT; Y. GOKSEN; A. H. GITTIS. *Carnegie Mellon Univ.*
- 3:00 C91 **743.11** • Functional magnetic resonance imaging of optogenetic deep brain stimulation of the subthalamic nucleus in the hemi-parkinsonian rat. Y. LI*; S. LEE; C. YU; T. W. WANG; Y. I. SHIH; W. M. GRILL. *Duke Univ., Univ. of North Carolina At Chapel Hill, Duke Univ., Duke Univ., Duke Univ. Sch. of Med.*
- 4:00 C92 **743.12** The use of a macroporous biomaterial scaffold for differentiation and transplantation of dopaminergic neurons in treatment of Parkinson's disease. A. FILIPPOVA*; L. EFREMOVA; K. KRAUSE; T. BRASCHLER. *Univ. of Geneva, Univ. of Geneva.*
- 1:00 D1 **743.13** • Targeting the microbiome in the MPTP-lesioned mouse model of Parkinson's disease: Live biotherapeutic products (LBPs) demonstrate disease-modifying effects. S. CHETAL; P. RAVENSCROFT; A. ETTORRE; J. B. KOPRICH; M. P. HILL*; J. M. BROTCHE; I. E. MULDER. *4D Pharma Res. Ltd., Atuka Inc.*
- 2:00 D2 **743.14** Does high frequency stimulation affect astrocytes in a model of Parkinson's disease? A. CAMPOS*; D. S. KIKUCHI; A. F. N. PASCHOA; M. A. KUROKI; B. LASSÈGUE; E. T. FONOFF; K. K. GRIENDLING; C. HAMANI; M. S. HERNANDES; R. L. PAGANO. *Hosp. Sírio Libanês, Emory Univ., Univ. of São Paulo, Sunnybrook Res. Inst.*
- 3:00 D3 **743.15** Inhibition of phosphodiesterase 10A upregulates gene expression in the striatum. F. PADOVAN-NEITO; G. KUREK; R. BONATE; S. PATTERSON; F. ALTWAL; A. WEST; H. STEINER*. *Chicago Med. School/ RFUMS.*
- 4:00 D4 **743.16** ▲ Therapeutic effects of cortical electrical stimulation on Parkinsonian rats. K. CHI-WEI*; C. PAN; Y. HUANG; T. HSIEH. *Natl. Taiwan Univ., Chang Gung Mem. Hosp., Chang Gung Univ.*
- 1:00 D5 **743.17** • Characterization of 4L/PS-NA mice for different biomarkers to model Gaucher disease. S. FLUNKERT; S. SCHMIDT; T. LOEFFLER; V. NIEDERKOFER; J. NEDDENS; M. POSCH; E. AUER; J. KEHR; B. HUTTER-PAIER*. *QPS Austria GmbH, Pronexus Analytical AB.*
- 2:00 D6 **743.18** Using multimodal serotonergic drugs as adjunct treatments for Parkinson's disease. F. ALTWAL*; A. RITGER; N. FALCAO VOELKNER; J. DHARGALKAR; R. MALIK; V. OLIVERA; A. WEST. *Rosalind Franklin Univ.*
- 3:00 D7 **743.19** Anti-inflammatory properties of vagus nerve stimulation provide therapeutic potential for a Parkinson's disease model. A. Q. FARRAND*; L. APONTE-COFRESI; R. VERNER; R. M. MCGUIRE; H. A. BOGER. *Med. Univ. of South Carolina, LivaNova PLC.*
- 4:00 D8 **743.20** Microbiota-targeted therapies delay age-dependent Parkinson's disease progression. S. M. GARCIA*; W. ZHOU; D. INGUITO; C. R. FREED. *Univ. of Colorado Anschutz Med. campus.*
- 1:00 D9 **743.21** Calorie restriction: Efficacy of a lifestyle strategy to mitigate aging-related Parkinsonism when initiated in the latter half of the lifespan and nigrostriatal mechanisms. E. A. KASANGA*; P. KELLEY; K. VENABLE; J. TERREBONNE; M. CANTU; D. INGRAM; M. F. SALVATORE. *Univ. of North Texas Hlth. Sci. Ctr., Pennington Biomed. Res. Ctr., Pennington Biomed. Res. Ctr., Univ. of North Texas Hlth. Sci. Ctr., Univ. of North Texas Hlth. Sci. Ctr.*
- 2:00 D10 **743.22** Changes in dendritic mushroom spine density and an inflammatory marker in the striatum underlie long-term suppression of L-DOPA-induced dyskinesia by low-dose ketamine. T. FALK; M. J. BARTLETT; J. STANCATI; A. E. POTTENGER; D. C. FARRELL; M. L. HEIEN; K. STEECE-COLLIER; H. W. MORRISON*; S. J. SHERMAN. *Univ. of Arizona Col. of Med., Univ. of Arizona Col. of Med., Michigan State Univ., Univ. of Arizona, Univ. of Arizona, The Univ. of Arizona.*
- 3:00 D11 **743.23** DNA double-strand-breaks as a potential therapeutic target in Parkinson's disease. M. KHAN*; J. XIAO; N. THADATHIL; R. HORI; J. MOHAMED; M. MCDONALD. *Dept. of Neurology, Univ. of Tennessee H, Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Tennessee Hlth. Sci. Ctr., Col. of Hlth. Professions, Univ. of Tennessee Hlth. Sci. Ctr., Dept. of Neurology, Univ. of Tennessee Hlth. Sci. Ctr.*
- 4:00 D12 **743.24** • Evaluation of neuroprotective PACAP glycopeptides as systemically delivered CNS active drugs to treat Parkinson's disease. K. BERNARD*; M. J. BARTLETT; C. LIU; G. MOLNAR; C. R. APOSTOL; R. BUTLER; L. SZABO; S. J. SHERMAN; L. MADHAVAN; J. M. STREICHER; R. POLT; M. L. HEIEN; T. FALK. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 1:00 D13 **743.25** Neuroprotective effects of VEGF-B overexpression in PINK1 gene knockout rats. M. J. BARTLETT*; S. I. SMIDT; S. CRISTIANI; M. J. CORENBLUM; D. C. FARRELL; K. P. DOYLE; M. L. HEIEN; L. MADHAVAN; S. J. SHERMAN; T. FALK. *The Univ. of Arizona Col. of Med., The Univ. of Arizona Col. of Med., The Univ. of Arizona Col. of Med., The Univ. of Arizona Col. of Med.*

POSTER

744. Neuroinflammation: HIV and Infections

Theme C – Neurodegenerative Disorders and Injury

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 D14 **744.01** Differences of cognition and brain white matter between cART-treated HIV-infected patients with low and high CD4 nadir. Y. YOSHIHARA*; T. KATO; D. WATANABE; T. SHIRASAKA; T. MURAI. *Human Brain Res. Center, Kyoto Univ., Dept. of Psychiatry, Kyoto Univ., AIDS Med. Center, Natl. Hosp. Organization Osaka Natl. Hosp.*
- 2:00 D15 **744.02** Combined antiretroviral therapy induces hyperactivity of medial prefrontal cortex pyramidal neurons mediated by over-activation of voltage-gated Ca²⁺ channels. L. CHEN*; L. AL-HARTHI; X. HU. *Rush Univ. Med. Ctr.*
- 3:00 D16 **744.03** Genetically diverse mouse strains exhibit variable central nervous system lesions in response to viral infection. K. S. LAWLEY*; R. R. RECH; K. AMSTALDEN; D. THREADGILL; C. J. WELSH; C. BRINKMEYER-LANGFORD. *Texas A&M Univ., Texas A&M Univ., Texas A&M Univ.*
- 4:00 D17 **744.04** Mechanisms regulating amyloid precursor protein secretases in HIV-induced neurotoxicity. C. LOPEZ-LLOREDA*; C. AKAY-ESPINOZA; K. L. JORDAN-SCIUTTO. *Univ. of Pennsylvania, Sch. of Dent. Med. Univ. of Pennsylvania.*
- 1:00 D18 **744.05** Zika virus replicates in adult human brain tissue and impairs synaptic plasticity and memory in adult mice. F. G. Q. BARROS-ARAGAO*; C. P. FIGUEIREDO; R. L. S. NERIS; P. S. FROST; C. S. KATZ; I. N. O. SOUZA; J. D. ZEIDLER; D. C. ZAMBERLAN; V. L. SOUZA; A. S. SOUZA; A. L. A. GUIMARÃES; M. BELLIO; J. M. SOUZA; S. V. ALVES-LEON; G. A. NEVES; H. A. PAULA-NETO; N. G. CASTRO; F. G. DE FELICE; I. ASSUNÇÃO-MIRANDA; J. R. CLARKE; A. T. DA POIAN; S. T. FERREIRA. *Federal Univ. of Rio De Janeiro, Federal Univ. of Rio De Janeiro, Federal Univ. of Rio de Janeiro, Federal Univ. of Rio de Janeiro, Federal Univ. of Rio de Janeiro, Federal Univ. of Rio de Janeiro, Federal Univ. of Rio de Janeiro, Federal Univ. of Rio de Janeiro.*
- 2:00 D19 **744.06** Prevention of HIV-1 Tat and cocaine neurotoxicity by inhibiting DEAD Box RNA Helicase 3. B. C. CUI*; M. AKSENOVA; J. SYBRANDT; V. SIKIRZHYTSKI; H. JI; D. A. ODHIAMBO; M. D. LUCIUS; J. R. TURNER; E. BROUDE; E. PEÑA; S. B. LIZARRAGA; J. ZHU; I. SAFRO; M. WYATT; M. SHTUTMAN. *Univ. of South Carolina, Clemson Univ., Benedict Col., Univ. of Kentucky.*
- 3:00 D20 **744.07** Clinicoserological spectrum and potential viral factors in biofluids of a consecutive series of patients with limbic encephalitis. A. REIMERS*; A. M. EIS-HÜBINGER; A. J. BECKER; C. E. ELGER. *Inst. For Neuropathology, Inst. of Virology, Inst. for Neuropathology, Clin. for Epileptology.*
- 4:00 D21 **744.08** Estrogen receptor signaling in macrophages suppresses HIV-associated neurotoxic activity. K. S. WILLIAMS*; H. NIEVES; J. HAROWITZ; L. M. VANCE; A. MURRELL; A. FOURTE; K. JORDAN-SCIUTTO. *Spelman Col., Univ. of Pittsburg, Univ. of Pennsylvania.*
- 1:00 D22 **744.09** A promising diagnostic and prognostic biomarker for HAND: Prepulse inhibition. K. A. MCLAURIN*; R. M. BOOZE; C. F. MACTUTUS. *Univ. of South Carolina.*
- 2:00 D23 **744.10** Rat model of prenatal Zika virus infection and associated neural and behavioral consequences in the offspring. M. L. SHERER*; P. KHANAL; R. PATEL; M. PARCELLS; J. M. SCHWARZ. *Univ. of Delaware, Univ. of Delaware.*
- 3:00 D24 **744.11** Herpetic lesions in encephalitis are fully reversed by Aciclovir: A case report. A. D. CUNHA*; A. O. CUNHA. *Hosp. Unimed, Univ. of Sao Paulo.*
- 4:00 D25 **744.12** A proposed mechanism for selective vulnerability in the brain of the HIV-1 transgenic rat. F. J. DENARO*; M. WORTHINGTON. *Morgan State Univ.*
- 1:00 D26 **744.13** *Toxoplasma gondii* interactions and electrophysiology differences in the central nervous system. O. A. MENDEZ*; A. A. KOSHY. *Univ. of Arizona, Univ. of Arizona.*
- 2:00 D27 **744.14** Morphine modulation of endolysosomal iron stores leads to FHC upregulation and dendritic spine deficits in cortical neurons. E. IROLLO*; B. NASH; E. E. RIGGS; P. HALCROW; G. DATTA; J. D. GEIGER; O. MEUCCI. *Drexel Univ. Col. of Med., Univ. of North Dakota Sch. of Med. and Hlth. Sci.*
- 3:00 D28 **744.15** Examining the contribution of excitatory and inhibitory neurons to CXCR4-induced dendritic spine changes using a lentiviral CRISPRi approach. J. LUCHETTA*; R. BRANDIMARTI; E. IROLLO; C. HO; O. MEUCCI. *Drexel Univ. Col. of Med.*
- 4:00 D29 **744.16** HIV-Tat protein expression modulates cognitive performance through induction of a hyperglutamatergic state in the brain. T. J. CIRINO*; H. M. STACY; S. O. EANS; S. W. HARDEN; C. J. FRAZIER; J. P. MCLAUGHLIN. *Univ. of Florida.*
- 1:00 D30 **744.17** Methamphetamine impairs IgG1-mediated phagocytosis and killing of cryptococcus neoformans by macrophage and microglia cell lines *in vitro*. L. ASLANYAN*; H. LEE; V. EKHAR; L. R. MARTINEZ; R. L. RAMOS. *NYIT Col. of Osteo. Med., NYIT Col. of Osteo. Med., Univ. of Texas at El Paso.*
- 1:00 DP05/D31 **744.18** ▲ (Dynamic Poster) Design and evaluation of CNS-targeted antiretroviral nanoparticles. A. P. S. KOCHVAR*; A. M. BACKER; M. PON; A. SHIBATA. *Creighton Univ.*
- 3:00 D32 **744.19** ▲ Latent infection of herpes simplex virus type 1 augments anxiety-like behavior in BALB/c mice (*mus musculus*). I. K. HOUGH*; M. M. OLESH; G. D. GRIFFIN. *Hope Col., Hope Col., Hope Col.*
- 4:00 D33 **744.20** Aging with HIV infection - Markers for risk of impairment: A comparison with Parkinson's disease. E. M. MULLER-OEHRING*; R. FAMA; J. HONG; K. L. POSTON; H. BRONTE-STEWART; E. V. SULLIVAN; A. PFEFFERBAUM; T. SCHULTE. *Stanford Univ. Sch. of Med., SRI Intl., Stanford Univ., Palo Alto Univ.*
- 1:00 D34 **744.21** ▲ Impact of HSV1 on an *in vitro* model of traumatic brain injury. N. WEIGLE*; C. DA SILVA; K. RUSSELL; G. D. GRIFFIN. *Hope Col., Hope Col.*
- 2:00 D35 **744.22** ▲ Examining metabolic stress and inflammation in a murine model of HIV-associated PCNSL. S. ANDHAVARAPU; D. PATEL*; J. BRYANT; A. KATURI; T. K. MAKAR. *Univ. of Maryland, Baltimore, Inst. of Human Virology.*
- 3:00 D36 **744.23** HIV-1 Tat interacts with selective estrogen receptor modulators to influence morphine-conditioned place preference. A. N. QRAREYA*; S. MOHAMMED; F. MAHDI; J. J. PARIS. *The Univ. of Mississippi.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 D37 **744.24** HIV-1 Tat protein and oxycodone dysregulate adrenal and gonadal endocrine axes and promote affective and cognitive dysfunction in mice. S. MOHAMMED*; A. N. QRAREYA; F. MAHDI; J. J. PARIS. *Univ. of Mississippi, Univ. of Mississippi.*
- 1:00 D38 **744.25** ▲ High content analysis of the neuropathogenesis of SIV infection in the presence of dopamine. H. S. JOHNSON*; K. RUNNER; H. S. FOX; P. J. GASKILL. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med., Univ. of NE Med. Cente.*
- 2:00 D39 **744.26** Dopamine-mediated conformational changes in CCR5 in HIV infection of myeloid cells. S. MATT*; Y. RONG; M. O'CONNOR; N. RADIO; P. J. GASKILL. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med., ThermoFisher Scientific Cell. Imaging and Analysis.*
- 3:00 D40 **744.27** Role of dopamine in the modulation of macrophage-mediated inflammation: Implications for NeuroHIV and drug abuse. P. J. GASKILL*; R. A. NOLAN; K. RUNNER; Y. RONG. *Drexel Univ. Col. of Med.*
- 4:00 D41 **744.28** Dopamine modulates HIV entry into macrophages via G_q-dependent signaling mechanisms. E. NICKOLOFF-BYBEL*; P. MACKIE; K. RUNNER; R. NOLAN; S. MATT; H. KHOSHBOUEI; P. J. GASKILL. *Drexel Univ. Col. of Med., Univ. of Florida, Drexel Univ. Col. of Med., Drexel Univ. Col. of Med., Drexel Univ.*
- 1:00 D42 **744.29** ERp29 a PDI family molecular chaperone: A potential target for host factor altering connexin 43 mediated gap junction intercellular communication in mouse astrocytes. A. BOSE*; D. THOMAS; P. MUKHERJEE; M. MAULIK; M. KOVAL; J. DAS SARMA. *Indian Inst. of Sci. Educ. and Res. Kolkata, Emory Univ. Sch. of Med.*
- 2:00 D43 **744.30** Astrocyte derived HIV evolution in humanized mice. H. J. BARBIAN*; V. LUTGEN; L. AL-HARTHI. *Rush Univ. Med. Ctr.*
- POSTER**
- 745. Brain Injury, Ischemia, and Epilepsy**
- Theme C – Neurodegenerative Disorders and Injury**
- Wed. 1:00 PM – McCormick Place, Hall A
- 1:00 D44 **745.01** Hypoxia-ischemia during a neonatal sensitive period reduces purkinje neuron dendritic complexity only in males. S. E. ARAMBULA*; A. R. R. LEITE; M. PEREZ-POUCHOULEN; M. M. MCCARTHY. *Univ. of Maryland Sch. of Med., Univ. Estadual Paulista - UNESP.*
- 2:00 D45 **745.02** ▲ Impact of hypoxic ischemic brain injury on astrocytes in the developing cerebellum. A. R. R. LEITE*; S. E. ARAMBULA; M. M. MCCARTHY. *Univ. Estadual Paulista - UNESP, Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*
- 3:00 D46 **745.03** Oligodendrocyte differentiation is regulated by Sirt2 in white matter after neonatal hypoxia. B. JABLONSKA*; L. CHEW; M. REIBER; K. KUSCH; K. -. NAVE; V. GALLO. *Children's Natl. Med. Ctr., Max Planck Inst. for Exptl. Medicine.*
- 4:00 E1 **745.04** Effects of transient receptor potential cation channel 5 inhibition on global cerebral ischemia-induced neuronal death. B. KANG*; B. CHOI; A. KHO; S. LEE; D. HONG; J. JEONG; D. KANG; M. PARK; S. SUH. *Hallym Univ.*
- 1:00 DP06/E2 **745.05** ● (Dynamic Poster) Long-term remote cortical reorganization after experimental ischemic stroke. S. VALERO-FREITAG; B. GROSCHUP; B. SEKER; B. GESIERICH; M. DUERING; M. DICHGANS; F. HELLAL*; N. PLESNILA. *Inst. for Stroke and Dementia Research, Univ. of Munich Med. Ctr., Cluster for Systems Neurol., Inst. for Stroke and Dementia Research, Univ. of Munich Med. Ctr., Inst. for Stroke and Dementia Research, Univ. of Munich Med. Ctr.*
- 2:00 E3 **745.06** Effect of NSMase-2 inhibitor on extracellular vesicle release and injury after neonatal stroke. M. LECUYER*; P. PATHIPATI; J. FAUSTINO; Z. VEXLER. *UCSF.*
- 3:00 E4 **745.07** The anti-oxidant, n-acetyl-L-cysteine attenuates hippocampal neurodegeneration after global cerebral ischemia via inhibition of transient receptor potential melastatin 2. D. HONG*; B. CHOI; A. KHO; S. LEE; J. JEONG; B. KANG; D. KANG; M. PARK; K. PARK; S. SUH. *Hallym University, Col. of Med., Hallym Univ. Med. Ctr.*
- 4:00 E5 **745.08** The newly-found AMP-activated protein kinase (AMPK) inhibitors reduce hypoglycemia-induced hippocampal neuronal death. A. KHO*; B. CHOI; S. LEE; D. HONG; J. JEONG; B. KANG; D. KANG; M. PARK; S. SUH. *Hallym Univ., Hallym Univ.*
- 1:00 E6 **745.09** Gamma knife irradiation induced blood-brain barrier disruption and activation of glial cells in mice. B. HE*; X. WANG; P. YU; J. JIANG; W. LIN; Y. TANG. *Dept. of Neurology, Sun Yat-Sen Mem. Hospital, Sun Yat-Sen Univ., Dept. of Oncology, The First Affiliated Hosp. of Guangdong Pharmaceut. Univ., Dept. of Neurology, Sun Yat-Sen Mem. Hospital, Sun Yat-Sen Univ., Dept. of Neurology, Sun Yat-Sen Mem. Hospital, Sun Yat-Sen Univ.*
- 2:00 E7 **745.10** Blood brain barrier is disrupted in intraventricular hemorrhage in extremely low preterm infants. A. DEL POZO SANZ*; Sr; M. VILLA; C. VARGAS; M. MARTINEZ; L. SILVA; J. MARTINEZ-ORGADO; A. GUTIÉRREZ-RODRÍGUEZ. *Hosp. Clínico San Carlos.*
- 3:00 E8 **745.11** Targeted protective role of azithromycin in a neonatal mouse model for periventricular leukomalacia (PVL). K. R. AYASOLLA*; N. ZAGHLOUL; M. AHMED. *Feinstein Inst. For Med. Res., Banner - Diamond Children's Med. Ctr. ; The Univ. of Arizona Col. of Med.*
- 4:00 E9 **745.12** Effects of cerebrolysin on hippocampal neuronal death and neurogenesis after pilocarpine-induced seizure. D. KANG*; B. CHOI; A. KHO; S. LEE; J. JEONG; D. HONG; B. KANG; M. PARK; H. CHOI; H. SONG; S. SUH. *Hallym Univ., Neurology, Hallym Univ.*
- 1:00 E10 **745.13** Therapeutic effects of carvacrol in hippocampal neuronal death after pilocarpine-induced seizure. J. JEONG*; B. CHOI; A. KHO; S. LEE; D. HONG; D. KANG; B. KANG; M. PARK; H. CHOI; H. SONG; S. SUH. *Hallym Univ., Neurology, Hallym Univ.*
- 2:00 E11 **745.14** Temporal change of zinc transporters after pilocarpine-induced seizure. S. LEE*; B. CHOI; A. KHO; J. JEONG; D. HONG; D. KANG; B. KANG; M. PARK; H. SONG; H. CHOI; S. SUH. *Hallym Univ., Neurology, Hallym Univ.*
- 3:00 E12 **745.15** Management of AED resistant epilepsy in children. O. V. GLOBAL*; L. KUZENKOVA; E. SOROKINA; V. PINELIS; K. SAVOST'YANOV. *Scientific Ctr. of Children's Hlth., Scientific Ctr. of Children's Hlth.*
- 4:00 E13 **745.16** EEG transient discharges decomposed using independent component analysis and wavelet transform. M. VILLANUEVA*; P. GAST. *Alpha Theta Ctr.*

- 1:00 E14 **745.17** Identifying seizure onset zone (SOZ) in electrocorticographic (ECoG) recordings using a dynamical connectivity analysis. M. NAHVI; G. ARDESHIR; M. EZOJI; J. W. WHELESS; A. BABAJANI-FEREMI*. *Babol Noshirvani Univ. of Technol., The Univ. of Tennessee Hlth. Sci. Ctr.*
- 2:00 E15 **745.18** The pharmacokinetics and brain distribution of potential anti-epileptogenic therapies in a rat model of post-traumatic epilepsy. L. COLES*; P. G. SALETTI; C. LISGARAS; P. M. CASILLAS-ESPINOSA; N. C. JONES; S. R. SHULTZ; I. ALI; C. GOMEZ; B. RUNDLE; G. SMITH; T. P. SNUTCH; J. CLOYD; R. STABA; T. J. O'BRIEN; S. L. MOSHE; A. S. GALANOPOULOU. *Univ. of Minnesota Twin Cities, Albert Einstein Col. of Med., The Univ. of Melbourne, Monash Univ., David Geffen Sch. of Med. at UCLA, Michael Smith Lab, UBC, David Geffen Sch. of Med. at UCLA, Dept. of Medicine, RMH, Albert Einstein Col. Med., Albert Einstein Col. Med.*
- 3:00 E16 **745.19** Regulation of behavior sensitization to cocaine administration in NAMPT heterozygous mice. Q. JIANG; M. NSUMU; L. ZHANG; X. CHU*. *Univ. of Missouri Kansas City.*
- 4:00 E17 **745.20** Effects of Sox11 on optic nerve regeneration and retinal ganglion cell survival. M. NAHMOU*; K. CHANG; M. BIAN; A. MADAAN; X. XIA; Q. WANG; L. LIU; C. SUN; C. KNASEL; J. GALVAO; B. TANASA; Y. HU; J. L. GOLDBERG. *Stanford Univ., Stanford Univ. Sch. of Med., Stanford Univ.*
- 1:00 E18 **745.21** Respirator use protects against welding-associated changes in white matter microstructure. E. RECHTMAN*; P. CURTIN; L. ONYEBEKE; D. PAPAZHARIAS; D. HAZELTINE; E. DE WATER; M. VENKATESH; R. LUCCHINI; D. GAUGHAN; C. TANG; M. HORTON. *Icahn Sch. of Med. at Mount Sinai, Mt. Sinai Sch. of Med.*
- 2:00 E19 **745.22** AAV gene therapy approach for the treatment of Dravet syndrome. J. F. ANTINAO DIAZ*; J. R. COUNSELL; S. SCHORGE; M. BERTI; J. DAVIDGE; S. N. WADDINGTON; R. KARDA. *UCL Inst. for Women's Hlth., NIHR Great Ormond Street Hosp. Biomed. Res. Ctr., UCL Sch. of Pharm., UCL Translational Res. Office.*
- 3:00 E20 **745.23** Large-scale modulation of motor cortical activity using epidural cerebellar stimulation. T. GULATI*; P. LAM; J. LEUNG. *Cedars Sinai Med. Ctr.*
- 4:00 E21 **745.24** Early inflammation serves as a common pathway to the development of diffuse white matter abnormality (DWMA) in very preterm infants. N. A. PARIKH*; J. KLINE; L. HE; H. LI; P. V. S. ILLAPANI; M. A. KLEBANOFF. *Cincinnati Children's Hosp., Nationwide Children's Hosp.*
- 1:00 E22 **745.25** Cortical maturational features are altered in very preterm infants at term equivalent age and predict cognitive and language ability at 2-years corrected age. J. KLINE*; P. V. S. ILLAPANI; L. HE; M. ALTAYE; N. PARIKH. *Cincinnati Children's Hosp.*
- 2:00 E23 **745.26** Pain and sensory features in adults with cerebral palsy. E. M. CHIN*; C. LENZ; J. JOHNSON; X. YE; E. STASHINKO; C. CAMPBELL; A. HOON; S. ROBINSON. *Kennedy Krieger Inst., Johns Hopkins Univ., Johns Hopkins Univ.*

- 3:00 E24 **745.27** ▲ Congenital malformations in newborns and their relationship with toxic factors during the pregnant stage. G. CHÁVEZ-MÉNDEZ*; J. ARIAS-RICO; O. A. JARAMILLO-MORALES; R. M. GUEVARA-CABRERA; R. C. JIMENEZ-SANCHEZ; R. M. BALTAZAR_TELLEZ. *Univ. Autonoma del Estado de Hidalgo, Univ. Autonoma del Estado de Hidalgo.*
- 4:00 E25 **745.28** ▲ Impaired PLA2g6 protects against age-induced vascular stiffening and contributes to preservation of compliant vasculature. H. PAINTER; K. LAHODA; A. HIJAZI; J. W. SHIM*. *Marshall Univ.*
- 1:00 E26 **745.29** ● Neuroprotection after ischemic stroke using a CXCR2 antagonist. A. M. BEDOLLA*; F. LUO; A. CASEY; K. A. SCHMIDT; Y. LUO. *Univ. of Cincinnati, Univ. of Cincinnati.*
- 2:00 E27 **745.30** Cognitive function and brain morphometry in Mexican workers occupationally exposed to solvents. D. ATILANO-BARBOSA*; E. H. PASAYE-ALCARAZ; R. E. MERCADILLO-CABALLERO. *Univ. Nacional Autónoma de México, Univ. Autónoma Metropolitana-Iztapalapa.*

POSTER

746. Brain Injury and Trauma III

Theme C – Neurodegenerative Disorders and Injury

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 E28 **746.01** ● ▲ Repeated closed-head injury in adolescence impacts oxycodone intravenous self-administration in male and female Sprague-Dawley rats. A. K. LEONARD*; N. J. SANDSTROM; M. M. CLASEN. *Williams Col.*
- 2:00 E29 **746.02** Repetitive head trauma induces elevated post-concussive aggression in young-adult male *Drosophila*. D. C. LEE*; K. VALI; S. R. BALDWIN; J. R. FEQUIERE; M. A. FERNANDEZ; J. C. FRAGEAU; F. LONGO; S. S. MADHOUN; P. MINGIONE; V. T. R. O'TOOLE; G. R. TANNER. *Univ. of Connecticut, Univ. of Connecticut.*
- 3:00 E30 **746.03** On the application of APP immunohistochemical staining to detect TBI-induced axonal degeneration in the mouse. G. XIONG*; H. METHENY; K. A. FOLWEILER; A. S. COHEN. *Children's Hosp Philadelphia, Perelman Sch. of Medicine, Univ. of Pennsylvania.*
- 4:00 E31 **746.04** Impaired pattern separation behavior due to altered activity onto dentate granule cells following mild traumatic brain injury. R. T. SOMACH*; H. METHENY; A. S. COHEN. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia, Children's Hosp Philadelphia Univ. of Pennsy.*
- 1:00 E32 **746.05** Early changes in dentate neurogenesis and network function following concussive brain injury in mice. L. CORRUBIA*; D. SUBRAMANIAN; A. IRFAN; V. SANTHAKUMAR. *Rutgers New Jersey Med. Sch., Univ. of California Riverside.*
- 2:00 E33 **746.06** Unilateral hemisphere-wide damage is dependent upon the interplay between hemorrhage location and seizure duration and may be mediated by an age-dependent upregulation of matrix metalloproteinase-9 in a model of severe traumatic brain injury. B. A. COSTINE-BARTELL*; G. PRICE; M. LI; J. SHEN; K. J. STALEY; A. DUHAIME. *Massachusetts Gen. Hosp.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 3:00 E34 **746.07** Site and time-specific tau hyperphosphorylation patterns in the rat cerebral cortex after traumatic brain injury: An EpiBioS4Rx Project 2 study. P. G. SALETTI*; C. P. LISGARAS; P. M. CASILLAS-ESPINOSA; W. B. MOWREY; Q. LI; W. LIU; I. ALI; R. D. BRADY; G. YAMAKAWA; J. C. SILVA; E. OZTURK; N. C. JONES; S. R. SHULTZ; T. J. O'BRIEN; S. L. MOSHÉ; A. S. GALANOPOULOU. *Albert Einstein Col. of Med., Monash Univ., Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. of Med.*
- 4:00 E35 **746.08** RhoA siRNA local delivery by PgP nanocarrier reduces secondary injury after traumatic brain injury. C. MACKS; D. JEONG; M. LYNN; J. LEE*. *Clemson Univ., Greenville Hlth. Syst.*
- 1:00 E36 **746.09** Automated and manual brain mapping and neuroinflammation in striatum and hippocampus following alcohol exposure and traumatic brain injury. L. A. SHAPIRO*; A. WANG; S. DEY; S. MUKHERJEE; K. O'NEILL; W. DAVIS; M. RAMIREZ; G. HOLLINGSWORTH; K. MIMS; X. WANG; J. WANG. *Texas A&M Hlth. Sci. Ctr., Texas A&M Univ., Texas A & M, Texas A&M Univ.*
- 2:00 E37 **746.10** Neurodegenerative disease markers coincide with diffuse axonal injury in a mouse model of traumatic brain injury. D. F. HAVLICEK; Y. TONG; E. JOSE; J. F. CRARY; P. J. BERGOLD*. *SUNY-Downstate Med. Ctr., Icahn Sch. of Med. At Mount Sinai, SUNY-Downstate Med. Cen.*
- 3:00 E38 **746.11** Microglia markers: Distinguishing surveillance and reactive states with immunohistochemistry. J. B. BAUN*; B. TIPTON; C. ZURHELLEN; H. T. YORK; L. S. BELAYEV; R. C. SWITZER III. *Neurosci. Associates Inc, Neurosci. Associates, Neurosci. Associates, LSUHSC.*
- 4:00 E39 **746.12** BCAS1 expression demonstrates a reduction in early myelinating oligodendrocytes following traumatic brain injury. A. AVITUA*; T. DISTEL; B. FORD. *Univ. of California, Riverside, Univ. of California, Riverside.*
- 1:00 E40 **746.13** Ultrastructural analysis of microvascular injury and neuroinflammation in traumatic brain injury and chronic traumatic encephalopathy. K. J. BABCOCK*; M. ERICSSON; E. S. FRANZ; O. MINAEVA; J. A. MONCASTER; B. R. HUBER; A. C. MCKEE; L. E. GOLDSTEIN. *Boston Univ. Sch. of Med., Harvard Med. Sch., VA Boston Healthcare.*
- 2:00 E41 **746.14** Interleukin 13 ameliorates neuroinflammation and promotes functional recovery after traumatic brain injury. W. MIAO*; Y. GAO. *Fudan Univ.*
- 3:00 E42 **746.15** Effects of aqueous extract of cola nitida on post-natal behavioural indices and histological alterations in the cerebellum of Wistar rat. F. A. ATIBA*; I. IMOSEMI; A. MALOMO. *Univ. of Witwatersrand, Univ. of Ibadan, Univ. of Ibadan.*
- 4:00 E43 **746.16** The hepatic regeneration does not induces vesicle pools in locus coeruleus neurons. A. A. BARRIENTOS BONILLA; P. B. PENSADO GUEVARA; A. D. C. SÁNCHEZ GARCÍA; D. HERNANDEZ-BALTAZAR*. *Univ. Veracruzana, Inst. Nacional de Neurología y Neurocirugía "Manuel Velasco Suárez", CONACYT-Instituto de Neuroetologia.*
- 1:00 E44 **746.17** Quantitative ultrasound and apoptotic death in the neonatal primate brain. I. M. ROSADO-MENDEZ; K. K. NOGUCHI; L. CASTAÑEDA-MARTINEZ; G. KIRVASSILIS; S. H. WANG; S. CAPUANO III; K. BRUNNER; K. CROSNO; H. SIMMONS; A. F. MEJIA; J. ZAGZEBSKI; T. J. HALL; C. IKONOMIDOU*. *1 Inst. de Física, Washington Univ. St. Louis, Inst. de Física, Univ. of Wisconsin, Washington Univ., Wisconsin Natl. Primate Res. Ctr., Wisconsin Natl. Primate Res. Ctr., Univ. of Wisconsin.*
- 2:00 F1 **746.18** Tracking secondary injury and recovery in mouse models using 3D optical imaging. C. D. PERNICI; B. S. KEMP; T. A. MURRAY*. *Univ. of Utah, Louisiana Tech. Univ.*
- 3:00 F2 **746.19** Subpial vasogenic edema with rotational trauma in young children. A. SCHOLL; C. J. SCHMIDT; R. J. CASTELLANI*. *WVU Sch. of Med., Wayne County, WVU Sch. of Med.*
- 4:00 F3 **746.20** The behavioral effects of blocking PDGF-R in a rat model of traumatic brain injury. N. KALYNOVSKA*; M. HAMER; P. GIFFORD; A. JULLIENNE; J. TANG; W. PEARCE; J. H. ZHANG; A. OBENAU; R. E. HARTMAN. *Loma Linda Univ., Univ. of California Irvine.*
- 1:00 F4 **746.21** Identifying common and distinct behavioral phenotypes associated with 3 types of hemorrhagic brain injury in rats. W. HARDEMAN*; M. HAMER; P. GIFFORD; J. TANG; W. PEARCE; J. H. ZHANG; A. OBENAU; R. E. HARTMAN. *Loma Linda Univ., UCI.*
- 2:00 F5 **746.22** Microglia elimination recovered peripheral inflammation-induced sleep but prolonged traumatic brain injury-induced sleep in mice. K. R. GIORDANO*; T. R. F. GREEN; J. B. ORTIZ; M. SABER; Y. HUR; H. MORRISON; J. LIFSHITZ; R. K. ROWE. *Univ. of Arizona Col. of Medicine-Phoenix, Barrow Neurolog. Inst. at Phoenix Children's Hosp., Univ. of Arizona, Phoenix VA Hlth. Care Syst.*
- 3:00 F6 **746.23** Human ESC-Derived interneuron precursors grafted into the hippocampus control seizures and cognitive function in a model of temporal lobe epilepsy. D. UPADHYA; S. ATTALURI; B. HATTIANGADY; B. SHUAL; Y. LIU; Y. DONG; S. ZHANG; A. K. SHETTY*. *Inst. For Regen Med, Texas A&M Univ. Coll Med., Waisman Center, Sch. of Med. and Publ. Health, Univ. of Wisconsin.*
- 4:00 F7 **746.24** Single intranasal administration of MSC-derived A1-exosomes thwarts moderate TBI-induced long-term cognitive and mood impairments. M. KODALI*; D. KIM; B. SHUAL; R. UPADHYA; A. VOGEL; S. ATTALURI; D. J. PROCKOOP; A. K. SHETTY. *Inst. For Regen Med, Texas A&M Univ. Coll Med., Inst. For Regen Med, Texas A&M Univ. Coll Med., Inst. For Regen Med, Texas A&M Univ. Coll Med.*
- 1:00 F8 **746.25** Functional analysis of granule cells generated during post-traumatic hippocampal neurogenesis. A. K. WILSON*; E. SCHNELL. *Portland VA Med. Ctr., Portland VA Med. Ctr., OHSU.*

POSTER

747. Spinal Cord Injury and Repair

Theme C – Neurodegenerative Disorders and Injury

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 F9 **747.01** Propriospinal neurons mediate rehabilitative recovery of skilled forelimb reaching after cervical injury. G. M. SMITH*; K. M. KEEFE; C. LI; L. G. KIRBY; I. S. SHEIKH. *Temple Univ., Temple Univ., Temple Univ. Sch. of Med., Lewis Katz Sch. of Med. At Temple Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 2:00 F10 **747.02** Blockade of 5HT₇ receptor enhance respiratory recovery following daily acute intermittent hypoxia in rats with chronic cervical spinal contusion. K. LEE*; M. WU. *Natl. Sun Yat-sen University, Dept. Biol. Sci.*
- 3:00 F11 **747.03** Spinal plasticity at multiple-spinal cord segments in humans with spinal cord injury. H. JO*; N. DE LA OLIVA; M. A. PEREZ. *Univ. of Miami, Shirley Ryan Ability Lab., Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*
- 4:00 F12 **747.04** Transcutaneous spinal cord stimulation influences cortical and subcortical networks in humans with spinal cord injury. F. D. BENAVIDES*; V. EDGERTON; Y. P. GERASIMENKO; M. A. PEREZ. *Univ. of Miami, Shirley Ryan Ability Lab., Univ. of California Los Angeles, Pavlov Inst. of Physiol, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*
- 1:00 F13 **747.05** Techniques for spinal cord stimulation to restore bladder function in rats. S. J. ILHAM; N. NOLTA; C. HARDY; P. SMITH; M. HAN*. *Univ. of Connecticut, Univ. of Connecticut Hlth.*
- 2:00 F14 **747.06** Tracking rehabilitation as an effect mediator, moderator or covariate in spinal cord injury interventional clinical trials: The international spinal cord injury physical therapy - occupational therapy basic data set. E. C. FIELD-FOTE*; K. D. ANDERSON; L. A. T. JONES; R. RUPP; V. K. NOONAN; L. A. HARVEY; M. W. M. POST; S. J. MULROY; M. SCHMIDT-READ; A. M. BRYDEN; M. J. MULCAHEY; F. BIERING-SORENSEN. *Shepherd Ctr., Case Western Reserve Univ., Univ. of Colorado, Heidelberg Univ. Hosp., Rick Hansen Inst., Univ. of Sydney, De Hoogstraat Rehabil. Ctr., Rancho Los Amigos Natl. Rehabil. Ctr., Thomas Jefferson Univ., Univ. of Copenhagen.*
- 3:00 F15 **747.07** The troublesome trio of spasticity: Clonus, spasms, stiffness - Characteristics and impact. E. C. FIELD-FOTE; C. L. FURBISH; N. TRIPP; W. SWEATMAN; M. HAYAT; S. P. ESTES*; A. W. HEINEMANN. *Shepherd Ctr., Georgia State Univ., Georgia Gwinnett Col., Shepherd Center/Crawford Res. Inst., Northwestern Univ. Feinberg Sch. of Med.*
- 4:00 F16 **747.08** The application of correlational bandits in large decision spaces to spinal cord injury clinical treatments. Y. QIN*; J. W. BURDICK. *Caltech.*
- 1:00 F17 **747.09** ▲ Compensatory plastic changes in spinal motoneurons after rehabilitation in rats with motor cortex lesion. N. I. MARTINEZ-TORRES*; M. N. VÁZQUEZ HERNÁNDEZ; M. FLORES-SOTO; S. OROZCO-SUÁREZ; H. SALGADO-CEBALLOS; I. GONZALEZ-BURGOS. *Ctr. De Investigación Biomédica De Occidente/Universidad de Guadalajara, Ctr. Universitario del Norte, Ctr. De Investigación Biomédica De Occidente, Ctr. de Investigación Biomédica de Occidente, Unidad de Investigación Médica en Enfermedades Neurológicas, CMN, S-XXI, Inst. Mexicano del Seguro Social.*
- 2:00 F18 **747.10** Enhancement of motor function with vagus nerve stimulation following a C7/C8 spinal cord injury. M. TORRES*; M. DARROW; Z. HAIDER; M. SOSA; J. TRAN; F. SMITH; S. A. HAYS; M. P. KILGARD. *Baylor Col. of Med., Univ. of Texas at Dallas, Texas Biomed. Device Ctr., Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas.*
- 3:00 F19 **747.11** ● Strengthened descending neural pathways mediate improvements in upper extremity function following transcutaneous electrical stimulation and activity based therapy in an individual with a cervical, complete spinal cord injury. D. M. ROUFFET*; Y. P. GERASIMENKO; S. J. HARKEMA; J. M. D'AMICO. *Univ. of Louisville, Pavlov Inst. of Physiol.*
- 4:00 F20 **747.12** Deep brain stimulation of the mesencephalic locomotor region to improve motor function after incomplete spinal cord injury. A. HOFER*; M. I. SCHEUBER; A. M. SARTORI; M. E. SCHWAB. *Univ. and ETH Zurich.*
- 1:00 F21 **747.13** Using body weight support over ground training system to improve locomotion following contusion spinal cord injury. B. ZHOU; P. J. F. MUNOZ; D. YANG; J. FRANCISCO; V. P. A. ADARME; M. NASIF; J. MEZA-AVILA; K. VALDEZ; J. LUI; J. ARAIZA; R. D. DE LEON; M. S. JOSEPH*. *California State University, Los Angeles, California State Univ. Los Angeles, California State Univ. Los Angeles, California State University, Los Angeles, East Los Angeles Community Col.*
- 2:00 F22 **747.14** Closed loop electrical stimulation technologies to modulate autonomic function after spinal cord injury. J. W. SQUAIR*; M. GAUTIER; J. GANDAR; E. MARTIN MORAUD; N. CHO; J. SORIANO; M. A. ANDERSON; K. BARTHOLDI; S. ANIL; A. ROWALD; N. D. JAMES; C. KATHE; Z. SARAFIS; L. MAHE; X. KANG; N. VACHICOURAS; S. P. LACOUR; Q. BARRAUD; G. COURTINE; A. A. PHILLIPS. *Swiss Federal Inst. of Technol. (EPFL), EPFL, Groupe Courtine, EPFL, Translational Neural Engin. Lab., EPFL, Univ. of Calgary, Swiss Federal Inst. of Technology, Lausanne, EPFL, Swiss Federal Inst. of Technol. Lausanne, EPFL, EPFL - Ctr. For Neuroprosthetics.*
- 3:00 F23 **747.15** Exercise accelerates epigenetic changes after spinal cord injury. J. HYUN*; J. HONG. *Dankook Univ. Col. of Med., Dankook Univ.*
- 4:00 F24 **747.16** The problem of whiplash and possible treatment. G. HOLSTEGE*; H. SUBRAMANIAN. *Rijksuniversiteit Groningen, Boston Scientific Neuromodulation.*
- 1:00 F25 **747.17** Single joint CPM is beneficial for reducing multi-joint muscle tone in people with chronic SCI. Y. CHANG*; G. LI; M. YU; C. FANG; M. HSU. *Chang Gung Univ., Kaohsiung Med. Univ.*
- 2:00 F26 **747.18** Surface-based morphometric brain analysis in paraplegic patients after training with brain-machine interfaces, visuo-tactile feedback and assisted locomotion. E. ALHO; S. SHOKUR; S. YAMAUTI; D. CAMPOS; Y. SHAN; G. SHAN; J. LU; W. SONG; Y. TANG; G. ZHAO; M. A. NICOLELIS*. *Associação Alberto Santos Dumont para Apoio à Pesquisa, Associacao Alberto Santos Dumont para Apoio à Pesq, Capital Med. Univ., Capital Med. Univ., Duke Univ.*
- 3:00 F27 **747.19** Enhancing propriospinal axon sprouting to promote relay circuits bypassing a spinal cord contusion injury. J. CHEN*; T. J. CAMPION; R. SMIT; I. P. JUNKER; E. KOSTOFF; G. M. SMITH. *Shriners Hosp. Pediatrics Res. Ctr.*
- 4:00 F28 **747.20** ▲ Effects of complex treadmill training on sensorimotor function and on neuropathic pain after an incomplete spinal cord injury: A case series. C. DAMBREVILLE*; M. GAGNÉ; P. SIMARD; C. RAHN; C. MERCIER; A. K. BLANCHETTE; L. J. BOUYER. *CIRRS-Université Laval.*
- 1:00 F29 **747.21** Forced expression of KLF6 in cortical neurons promotes recovery of forelimb function after corticospinal tract injury. A. A. KRAMER*; G. OLSON; D. M. GROSS; M. G. BLACKMORE. *Marquette Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 2:00 F30 **747.22** Exercise mediated recovery of function after partial spinal cord injury is associated with trunk motor cortex reorganization. B. NANDAKUMAR*; G. H. BLUMENTHAL; K. A. MOXON. *Univ. Of California, Drexel Univ.*
- 3:00 F31 **747.23** Intraspinal microstimulation in the ventral horn modulates neural transmission dorsal horn sensory neurons. M. F. BANDRES*; V. MELERO; L. DA SILVA; J. G. MCPHERSON. *Washington Univ. in St. Louis, Florida Intl. Univ., Washington Univ. in St. Louis, Washington Univ. in St. Louis.*
- ## POSTER
- ### 748. Somatosensation: Treatments for Persistent Pain
- #### Theme D – Sensory Systems
- Wed. 1:00 PM – McCormick Place, Hall A
- 1:00 F32 **748.01** Reversal of peripheral nerve injury-induced neuropathic pain and cognitive dysfunction via genetic and tomosertib targeting of MNK. S. SHIERS*; J. MWIRIGI; G. PRADHAN; M. KUME; B. J. BLACK; G. O. DUSSOR; J. J. PANCRAZIO; S. KROENER; T. J. PRICE. *Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas At Dallas, Univ. of Texas at Dallas Sch. of Behavioral and Brain Sci., UTD.*
- 2:00 F33 **748.02** Role for endocannabinoids in manipulative therapy analgesia? S. M. ONIFER*; R. S. SOZIO; C. R. LONG. *Palmer Col. of Chiropractic.*
- 3:00 F34 **748.03** Cytoarchitectural changes induced by chronic cephalic pain are reversed by HDAC6 inhibition. Z. J. BERTELS*; H. SINGH; I. DRIPPS; P. SHAH; J. CHMURA; S. M. BACA; M. M. RASENICK; A. A. PRADHAN. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago Col. of Med., Univ. of Colorado | Anschutz Med. Campus.*
- 4:00 F35 **748.04** *In vivo* and *in vitro* effects of human mesenchymal stem cell exosomes on nerve injury-induced neuropathic pain. S. SHIUE; J. HSU; J. CHENG*. *Mackay Mem. Hosp., Mackay Med. Col.*
- 1:00 F36 **748.05** Recombinant GABAergic cells and locomotor training as a combined treatment to attenuate SCI-induced chronic pain in rats. S. JERGOVA*; E. DUGAN; M. HERNANDEZ; B. SCHACHNER; S. M. RUTTENBERG; L. E. ROBAYO; M. RESTREPO; J. SAGEN. *Univ. of Miami Sch. of Med.*
- 2:00 F37 **748.06** Selective neuronal silencing using novel synthetic botulinum molecules alleviates chronic pain states. M. MAIARU*; C. LEESE; I. ECHEVERRIA-ALTUNA; J. ARSENAULT; B. DAVLETOV; S. HUNT. *Univ. Col. London, Univ. of Sheffield, The Hosp. for Sick Children.*
- 3:00 F38 **748.07** A novel target for osteoarthritis pain. L. M. MINNEMA*; J. J. WHEELER; S. K. MISHRA; B. D. X. LASCELLES. *NC State Univ., North Carolina State Univ., Col. Vet. Medicine, NC State Univ.*
- 4:00 F39 **748.08** Cannabidiol is a potential therapeutic treatment for chronic pain: Analgesic and anxiolytic effects in an animal model of chronic constriction injury (CCI). G. K. CARDOSO*; A. W. ZUARDI; J. A. D. CRIPPA; J. E. C. HALLAK; C. R. A. LEITE-PANISSI. *Univ. of São Paulo, Univ. of São Paulo.*
- 1:00 F40 **748.09** Analgesic efficacy of various NTS2-selective neurotensin(8-13) analogs in a rat model of bone cancer pain. C. LAGARD*; M. VIVANCOS; M. CHARTIER; R. FANELLI; M. DESGAGNÉ; A. RENÉ; J. CÔTÉ; J. LONGPRÉ; E. MARSAULT; F. CAVELIER; P. SARRET. *Inst. de Pharmacologie de Sherbrooke, Inst. des Biomolécules Max Mousseron.*
- 2:00 F41 **748.10** Treatment-based classification system for low back pain combined to dry needling improved symptoms of patients with non-specific low back pain. C. FUSARO*; A. F. NASCIMENTO; T. A. L. MARQUES. *Sao Francisco Univ.*
- 3:00 F42 **748.11** p66shc-PLGA nanoparticles alleviate mitochondrial dysfunction mediated pain behaviors. N. SHIN*; H. SHIN; D. KIM. *Chungnam Natl. Univ. Col. of Med., Chungnam Natl. Univ. Col. of Med., Chungnam Natl. Univ.*
- 4:00 F43 **748.12** GABAergic circuits within DRG filtering nociceptive transmission and as potential target for chronic pain therapeutic. H. HAO*; N. GAMPER; X. DU. *Hebei Med. Univ., Univ. Leeds, Hebei Med. Univ.*
- 1:00 F44 **748.13** Neuroinflammation is associated with lower pain intensity and milder symptoms in patients with painful knee osteoarthritis. V. PALADA*; E. FREYHULT; A. SIDDIQAH AHMED; K. KULTIMA; C. I. SVENSSON; E. KOSEK. *Karolinska Institutet, Uppsala Univ.*
- 2:00 F45 **748.14** Persistent hyperalgesia modulated by high-fat diet and voluntary physical activity: The role of nucleus accumbens. A. D. BRANDÃO*; I. J. M. BONET; M. F. PAGLIUSI, JR; G. G. ZANETTI; C. H. TAMBELLI; C. A. PARADA; A. S. VIEIRA; C. R. SARTORI. *Univ. of Campinas.*
- 3:00 F46 **748.15** • Quantifying the effects of kilohertz-frequency spinal cord stimulation on superficial dorsal horn neurons. S. KUO*; T. ZHANG; W. M. GRILL. *Duke Univ., Boston Scientific Neuromodulation, Duke Univ.*
- 4:00 G1 **748.16** Analgesic effect of prolonged gum chewing in patients with burning mouth syndrome. N. SEKINE*; Y. IMAMURA; A. OKADA. *Nihon Univ. Sch. of Dent.*
- 1:00 G2 **748.17** • The novel NMDA receptor modulator, NYX-2925, enhances NMDAR-mediated current and LTP, induces changes in cell intrinsic properties, and alters firing properties in layer 5 pyramidal neurons of rat mPFC. C. J. KELLY*; J. R. MOSKAL; C. N. CEARLEY. *Aptinyx, Falk Ctr. for Mol. Therapeut.*
- 2:00 G3 **748.18** Intensive locomotor training provides sustained alleviation of chronic spinal cord injury associated neuropathic pain: A 2-year study. B. SCHACHNER*; E. A. DUGAN; S. JERGOVA; J. SAGEN. *Univ. of Miami, Univ. of Miami, Univ. of Miami Sch. of Med., Univ. of Miami Sch. of Med.*
- 3:00 G4 **748.19** CCR2 pepducins alleviate neuroimmune-driven bone cancer pain through allosteric antagonism. E. MIDAVAINÉ*; R. L. BROUILLETTE; G. DE ARMAS GUITART; É. BESSERER-OFFROY; V. ZEUGIN; C. MONA; J. LONGPRÉ; E. MARSAULT; P. SARRET. *Univ. de Sherbrooke.*
- 4:00 G5 **748.20** AAV5 particle kinetics in adult and aged mice following intrathecal injection. K. R. PFLEPSEN*; C. PETERSON; K. KITTO; L. VULCHANOVA; G. L. WILCOX; C. A. FAIRBANKS. *Univ. of Minnesota, Univ. of Minnesota Dept. of Neurosci., Univ. Minnesota Med. Sch., Univ. Minnesota.*

- 1:00 G6 **748.21** High frequency kHz spinal cord stimulation (SCS) modulate spinal dorsal horn neurons in neuropathic pain rats. K. LEE*; D. LEE; Z. KAGAN; K. BRADLEY. *Nevro Corp.*
- 2:00 G7 **748.22** The effect of a GABA_A alpha₅ receptor agonist on mechanical sensitivity following nerve injury. R. C. LENNERTZ*, III; G. LI; D. KNUTSON; J. M. COOK; M. BANKS. *UW - Madison, Univ. WI-Milwaukee.*
- 3:00 G8 **748.23** Multi-modal gene therapy for neuropathic pain. D. KIM; Y. SIM; H. JI; J. PARK; J. CHO; K. KIM*; M. KIM; Y. KWON; M. KIM; H. CHOI; S. KIM. *Kolon Life Science, Inc/Bio Innovation Res. Ins.*
- 4:00 G9 **748.24** • Polarization of model superficial dorsal horn (SDH) neurons by kilohertz frequency spinal cord stimulation (KHF-SCS). N. D. TITUS*; J. E. GILBERT; B. J. THIO; T. C. ZHANG; W. M. GRILL. *Duke Univ., Boston Scientific Corp.*
- 1:00 G10 **748.25** • Effects of conventional and kHz frequency spinal cord stimulation (SCS) in a network model of nociceptive processing in the superficial dorsal horn. J. E. GILBERT*; N. D. TITUS; T. ZHANG; W. M. GRILL. *Duke Univ., Boston Scientific Neuromodulation.*
- 2:00 G11 **748.26** Longitudinal resting-state electroencephalography correlates of interdisciplinary multimodal treatment of chronic pain patients. H. B. HEITMANN*; S. TA DINH; M. M. NICKEL; E. S. MAY; V. D. HOHN; L. TIEMANN; T. R. TÖLLE; M. PLONER. *Tech. Univ. of Munich, TU Muenchen, Technische Univ. München, TU Muenchen, TU Muenchen.*
- 3:00 G12 **748.27** Dynamics of resting-state electroencephalography in chronic pain patients. S. TA DINH; E. S. MAY; C. GIL AVILA; H. HEITMANN; M. M. NICKEL; L. TIEMANN; V. D. HOHN; T. TOELLE; J. GROSS; L. LEAL-TAIXÉ; M. PLONER*. *TU Muenchen, Univ. of Münster.*
- 1:00 G17 **749.05** CCL2 attenuates opioid-induced inhibition of nociceptive signaling in the spinal cord in a microglia-dependent manner. M. HELEŠ*; P. MROZKOVA; D. SULCOVA; P. ADÁMEK; D. SPICAROVA; J. PALECEK. *Inst. of Physiology, Czech Acad. of Sci.*
- 2:00 G18 **749.06** Spinal cytochrome p450c17-induced astrocyte activation is mediated by p38 mitogen-activated protein kinase phosphorylation in a mouse model of neuropathic pain. S. CHOI; A. J. BEITZ; J. LEE*. *BK21 PLUS Program for Creative Vet. Sci. Research, Res. Inst. for Vet. Sci. and Col. of Vet. Medicine, Seoul Natl. Univ., Univ. of Minnesota Col. of Vet. Med.*
- 3:00 G19 **749.07** Amitriptyline and duloxetine loaded PLGA nanoparticles prolong the analgesic duration through enhanced targeting to microglia. S. KIM*; J. SHIN; S. LEE; D. KIM. *Chungnam Natl. Univ. of Med., Chungnam Natl. Univ. Col. of Med., Chungnam Natl. Univ.*
- 4:00 G20 **749.08** Inhibitory input from the lateral hypothalamus to the ventral tegmental area regulates mesolimbic BDNF signaling to mediate pain sensation. Y. MA; G. ZHANG*; Y. BIAN; Y. XU; H. LI; X. KONG; Y. NIU; S. SHA; A. MANNAN; J. YANG; H. ZHANG; J. CAO. *Jiangsu Province Key Lab. of Anesthesiology, Xuzhou Med. Univ., Jiangsu Province Key Lab. of Anesthesia and Analgesia Application Technology, Xuzhou Med. Univ., Dept. of Anesthesiology, Affiliated Hosp. of Xuzhou Med. Univ.*
- 1:00 G21 **749.09** Schwann cell-mediated immune response participates in paclitaxel-induced peripheral neuropathy pathogenesis. M. KOYANAGI*; S. IMAI; M. MATSUMOTO; Y. IWAMITSU; M. SAIGO; M. NTOGWA; R. HIRAIWA; T. OGIHARA; T. NAKAGAWA; K. MATSUBARA. *Kyoto Univ. Hosp.*
- 2:00 G22 **749.10** ▲ Modulation the NFκB mediated inflammatory cytokines and oxidative stress contribute to ameliorative effect of osthole in painful peripheral neuropathy. G. SINGH*, Jr; P. SINGH; R. BHATTI. *Guru Nanak Dev Univ.*
- 3:00 G23 **749.11** IL-23 induces persistent mechanical pain hypersensitivity via macrophage-neuron interaction in female mice. X. LUO*; Q. HE; S. BANG; R. JI. *Duke Univ. Med. Ctr.*
- 4:00 G24 **749.12** Axon-glia interactions are disrupted in chemotherapy-induced peripheral neuropathy. A. JOSHI*; A. K. SINGH; A. KAVELAARS; C. J. HEIJNEN; M. RASBAND. *Baylor Col. of Med., Univ. of Texas MD Anderson Cancer Ctr.*
- 1:00 G25 **749.13** Further characterization of TLR5 expression in mouse dorsal root ganglion and spinal cord: Implications in mechanical allodynia and chronic itch. M. MATSUDA*; Z. WANG; C. JIANG; Z. XU; Q. HAN; R. JI. *Duke Univ. Med. Ctr., Kyoto Okamoto Mem. Hosp., Kyoto Prefectural Univ. of Med., Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*
- 2:00 G26 **749.14** Macrophage infiltration is associated with the sensitization of dorsal root ganglion neurons through the release of oncostatin M. Y. LI; M. L. UHELSKI; R. Y. NORTH; T. J. ABERCROMBIE; T. MARRI; H. R. RHODES; K. N. SHEFFIELD; S. I. GALANG; P. M. DOUGHERTY*. *The Univ. of Texas MD Anderson Cancer Ctr., MD Anderson, Baylor Col. of Med., The Univ. of Texas Hlth. Sci. Ctr. Houston, St Edwards university, The Univ. of Colorado Boulder.*
- 3:00 G27 **749.15** • Lessons from autoimmunity: Unraveling the role of CRMP5 in neuropathic pain. A. MOUTAL*; R. BESANÇON; S. LUO; I. KANAZAWA; C. WATRIN; J. HONNORAT; R. KHANNA. *Univ. of Arizona, Inst. NeuroMyoGène.*

POSTER

749. Role of Inflammatory and Immune Responses in Chronic Pain

Theme D – Sensory Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 G13 **749.01** Dissecting the role of CCL2 in neuropathic pain development. J. H. RICHARDS*; S. J. CHHAYA; M. R. DETLOFF. *Drexel Univ. - Col. of Med.*
- 2:00 G14 **749.02** Macrophage recruitment to the dorsal root ganglia modulates pain after spinal cord injury. S. J. CHHAYA*; J. H. RICHARDS; J. S. DOWLING; M. R. DETLOFF. *Drexel Univ. Col. of Med.*
- 3:00 G15 **749.03** Tet1 overexpression mitigates neuropathic pain through rescuing the expression of μ-opioid receptor and Kv1.2 in the primary sensory neurons. J. XIAO*; Q. WU; G. WEI; Y. TAO. *Rutgers, the State Univ. of New Jersey.*
- 4:00 G16 **749.04** Injectable PLGA coated ropivacaine produces a long lasting analgesic effect on incisional pain and neuropathic pain. Y. TAO*; X. TIAN; F. LIN; F. JI; A. BEKKER. *New Jersey Med. School, Rutgers.*

* Indicates a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 G28 **749.16** Arginase II attenuates neuroinflammation & pain behaviors after nerve injury in mice. L. T. PHAM*; Y. JIN; N. SHIN; D. KIM. *Chungnam Natl. Univ.*
- 1:00 G29 **749.17** Pain pathology-dependent differential alteration of sensory ganglia Tmem100 in inflammatory pain and neuropathic pain. H. YU*; S. SHIN; F. WANG; H. XU; H. XIANG; B. ITSON-ZOSLE; Q. H. HOGAN. *Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin, Zablocki VA Med. Ctr.*
- 2:00 G30 **749.18** Detailed characterization of myeloid cell number and phenotype after nerve injury. Z. LIANG*; Z. HORE; P. HARLEY; F. DENK; S. B. MCMAHON. *King's Col. London.*
- 1:00 DP07/G31 **749.19 ▲** (Dynamic Poster) Real time imaging of mitochondrial dynamics in the dorsal root ganglion following nerve injury. J. M. MWIRIGI*; C. PAIGE; V. PRAKASH; S. SHIERS; T. J. PRICE. *Univ. of Texas At Dallas, Univ. of Texas At Dallas, Univ. of Texas At Dallas, UTD.*
- 4:00 G32 **749.20** Proton sensing receptor OGR1 in peripheral afferents modulates neuron activities and immune cell infiltration to maintain chronic pain state. Y. CHIN; Y. LU; W. SUN*. *Natl. Central Univ.*
- 1:00 G33 **749.21** Whole system immune phenotyping of male and female mice reveals striking sex differences and similarities in the immune response to injury. V. L. TAWFIK; Q. J. BACA; N. A. HUCK*; E. S. HAIGHT; E. A. GANIO; H. SHEN; A. CULOS; M. S. GHAEMI; J. CLARK; N. AGHAEPOUR; B. GAUDILLIERE. *Stanford Univ., The First Affiliated Hosp. of Soochow Univ.*
- 2:00 G34 **749.22** Identification of unique spinal cord microglial subpopulations in a mouse model of complex regional pain syndrome. T. FORMAN; E. HAIGHT; Y. TAKEMURA; S. CORDONNIER; H. SHEN*; F. DALE-HUANG; V. TAWFIK. *Stanford Univ., Univ. of Toyama, Dept. of Orthopedic Surgery, First Affiliated Hosp. of Soochow Univ.*
- 3:00 G35 **749.23** Transcriptome analysis of repopulated spinal cord microglia identifies potential targets to block the acute-to-chronic transition in a mouse model of pain. S. WU*; E. S. HAIGHT; T. E. FORMAN; D. J. CLARK; V. L. TAWFIK. *Stanford Univ.*
- 4:00 G39 **750.04** Investigating the neural basis of pain sensitivity in fibromyalgia syndrome using functional magnetic resonance imaging. H. WARREN*; G. IOACHIM; J. M. POWERS; P. W. STROMAN. *Queen's Univ., Queen's Univ., Queen's Univ., Queen's Univ.*
- 1:00 G40 **750.05** Altered resting state functional connectivity of the hypothalamus in fibromyalgia and the modulation effect of mind-body intervention. J. KONG*; Y. HUANG; S. YU; M. CHENG; J. LIU; J. PARK; G. WISON; C. WANG. *Massachusetts Gen. Hosp., Tufts Med. Ctr.*
- 2:00 G41 **750.06** Sensorimotor functional connectivity to the salience network is spatially heterogeneous in healthy humans. A. K. HEGARTY; M. S. YANI; A. M. ALBISHI; L. A. MICHENER; J. J. KUTCH*. *USC.*
- 3:00 G42 **750.07** Photosensitivity thresholds are associated with chronic pain levels in TBI and PTSD. N. M. BALBA*; A. MCBRIDE; S. D. MIST; K. D. JONES; B. NARDOS; R. J. OLSON; S. C. HARDMAN; M. L. CALLAHAN; M. P. BUTLER; M. M. LIM; M. M. HEINRICHER. *Oregon Hlth. & Sci. Univ., VA Portland Hlth. Care Syst., Oregon Hlth. & Sci. Univ., Linfield Col., Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*
- 4:00 G43 **750.08** Functional ultrasound and fMRI neuroimaging in somatosensory processing studies, acute and neuropathic pain models for preclinical drug discovery. A. SHATILLO; A. KÄRKÄINEN*; T. MIETTINEN; J. KOPONEN; K. KUPTSOVA; D. MISZCZUK. *Charles River Discovery.*
- 1:00 G44 **750.09** Appetitive and aversive learning and brain plasticity in the development of chronic back pain. H. FLOR*; K. USAI; M. LÖFFLER; F. NEES. *Central Inst. of Mental Hlth. Heidelberg Univ.*
- 2:00 H1 **750.10** Somatosensory evoked potentials in the human spinal cord. B. NIERULA*; T. STEPHANI; M. KAPTAN; A. MOURAUX; B. MAESS; G. CURIO; V. V. NIKULIN; F. EIPPERT. *Max Planck Inst. for Human Cognitive and Brain Sci., Inst. of Neurosci. (IONS), Univ. Catholique De Louvain, Charité - Univ. Med. Berlin, Natl. Res. Univ. Higher Sch. of Econ.*
- 3:00 H2 **750.11** Placebo modulation of pain networks in the human brainstem and spinal cord investigated by means of fMRI. P. W. STROMAN*; J. M. POWERS; G. IOACHIM; H. WARREN. *Queen's Univ.*
- 4:00 H3 **750.12** Brainstem and spinal fMRI during the expectation of pain: Exploring coordinated networks. G. IOACHIM*; J. M. POWERS; P. W. STROMAN. *Queen's Univ., Queen's Univ.*
- 1:00 H4 **750.13** Sex-differences in brain modular organization in chronic pain. C. FAUCHON*; D. MEUNIER; K. S. HEMINGTON; J. CHENG; R. BOSMA; N. OSBORNE; A. ROGACHOV; A. KIM; R. INMAN; K. D. DAVIS. *Krembil Res. Inst, Univ. Hlth. Network, Aix Marseille Univ., Inst. of Med. Science, Univ. of Toronto, Dept. Of Medicine, Univ. of Toronto, Dept. Surgery, Univ. of Toronto.*
- 2:00 H5 **750.14** Age related changes in autonomic nervous response to different levels of painful stimulation. M. MIYAMAE; A. NAKAE*; K. NOMURA; C. KISHIMOTO; Y. MINEGISHI; R. URABE; K. NAKAI; T. YANAGIDA. *Univ. of Fukui Hosp., Osaka Univ. Grad. Sch. of Frontier Biosci.*
- 3:00 H6 **750.15 ▲** An investigation of PGE2-mediated pain relief following virtual reality. C. J. RINCONES; H. RHODES; B. G. GARCIA-GONZALEZ; J. A. BOYETTE-DAVIS*. *St. Edward's Univ.*

POSTER

750. Somatosensation: Pain, Imaging, and Perception

Theme D – Sensory Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 G36 **750.01 ▲** A new model of pain-cognition interactions. A. Y. LIN*; M. MCANDREWS; A. YU; D. A. SEMINOWICZ; M. MOAYEDI. *Univ. of Toronto, Univ. Hlth. Network, Univ. of Toronto, Univ. of Maryland, Baltimore.*
- 2:00 G37 **750.02** The coil orientation dependency of pain sensation induced by transcranial magnetic stimulation. K. TANI*; S. TANAKA. *Hamamatsu Univ. Sch. of Med., Hamamatsu Univ. Sch. of Med.*
- 3:00 G38 **750.03** Real and imagined acupuncture modulate opioidergic and dopaminergic networks in analgesic process. J. CAO*; Y. TU; S. ORR; G. WILSON; J. PARK; J. LIU; R. L. GOLLUB; J. KONG. *Massachusetts Gen. Hosp.*

- 4:00 H7 **750.16** The neural basis for music analgesia in the human brain and brainstem. J. M. POWERS*; G. IOACHIM; P. W. STROMAN. *Queen's Univ.*
- 1:00 H8 **750.17** Insular and hippocampal resting state functional connectivity is associated with chronic pain duration in community dwelling older adults. Y. CRUZ-ALMEIDA*; P. VALDÉS-HERNÁNDEZ; N. EBNER; P. LYSNE; D. RAMIREZ. *Univ. of Florida.*
- 2:00 H9 **750.18** Reduced tactile acuity in chronic low back pain is linked with structural neuroplasticity in primary somatosensory cortex and is modulated by acupuncture therapy. H. KIM; I. MAWLA; J. LEE; J. GERBER; K. WALKER; J. KIM; A. WASAN; R. R. EDWARDS; J. KONG; T. KAPTCHUK; R. GOLLUB; B. R. ROSEN; V. NAPADOW*. *KIOM, Massachusetts Gen. Hosp., Univ. of Pittsburgh, Brigham and Women's Hosp., Beth Israel Deaconess Med. Ctr.*
- 3:00 H10 **750.19** • Developed implantable needle-type sensor devices for use in the simultaneous *in vivo* visualization of brain centers involved in nociception. R. B. REBUSI*, Jr; M. C. GUINTO; J. OLOROCISIMO; Y. OHTA; M. HARUTA; K. SASAGAWA; J. OHTA. *Nara Inst. of Sci. and Technol., Nara Inst. of Sci. and Technol.*
- 4:00 H11 **750.20** Dynamic reconfiguration of functional brain network during sustained pain. J. LEE*; C. WOO. *Sungkyunkwan Univ.*
- 1:00 H12 **750.21** Imaging pain modulation from cortex to spinal cord. V. OLIVA*; A. WILSON; R. HARTLEY-DAVIES; R. MORAN; A. E. PICKERING; J. BROOKS. *Univ. of Bristol, Clin. Res. Imaging Centre, Univ. of Bristol, King's Col. London.*
- 2:00 H13 **750.22** A role for predictive coding in pain perception? U. HORN*; F. EIPPET. *Max Planck Inst. for Human Cognitive and Brain Sci.*
- 3:00 H14 **750.23** Hyperscanning the patient-clinician interaction: Brain-to-brain concordances supports therapeutic alliance, facial mirroring, and placebo analgesia. D. ELLINGSEN; K. ISENBURG*; C. JUNG; J. LEE; J. GERBER; I. MAWLA; R. SCLOCCO; K. JENSEN; M. L. LOGGIA; R. R. EDWARDS; J. KELLEY; I. KIRSCH; T. KAPTCHUK; V. NAPADOW. *Univ. of Oslo, Massachusetts Gen. Hosp., Univ. of Michigan, Karolinska Inst., Brigham and Women's Hosp., Harvard Med. Sch.*
- 4:00 H15 **750.24** Spinal and cerebral integration of bilateral nociceptive inputs in left-handed individuals. S. NORTHON*; N. RUSTAMOV; M. PICHE. *Univ. Du Quebec A Trois-Rivieres.*
- 1:00 H16 **750.25** Convergent neural representations of pain in healthy volunteers: A large-scale fMRI meta-analysis. A. XU; B. LARSEN; E. B. BALLER; J. SCOTT; V. SHARMA; A. ADEBIMPE; R. H. DWORKIN; R. R. EDWARDS; S. B. EICKHOFF; C. R. EICKHOFF; T. D. SATTERTHWAITE*. *Univ. of Pennsylvania, Univ. of Rochester Sch. of Med. and Dent., Brigham and Women's Hospital, Harvard Med. Sch., Heinrich-Heine Univ., Res. Ctr. Jülich, Heinrich-Heine-University.*
- 2:00 H17 **750.26** Experiences of discrimination are differentially associated with pain-related brain structure in male and female individuals from different race groups with or at risk for knee osteoarthritis. E. L. TERRY*; J. J. TANNER; J. S. CARDOSO; K. T. SIBILLE; S. LAI; H. DESHPANDE; G. DEUTSCH; B. R. GOODIN; L. A. BRADLEY; C. C. PRICE; R. B. FILLINGIM. *Univ. of Florida, Univ. of Alabama at Birmingham.*

- 3:00 H18 **750.27** Differences in the association of neuropathic pain with S1 and caudal ACC thickness in individuals from different ethnic/race groups with or at risk for knee osteoarthritis. J. CARDOSO*; J. TANNER; E. L. TERRY; K. T. SIBILLE; S. LAI; H. DESHPANDE; G. DEUTSCH; B. R. GOODIN; L. A. BRADLEY; C. PRICE; R. B. FILLINGIM. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*
- 4:00 H19 **750.28** Effects of common anesthetic regimens on sigma-1 receptor PET imaging. S. T. REYES; A. ROMERO; B. VAN DER WILDT; J. CASTILLO; C. R. MCCURDY; S. BISWAL; C. PACHARINSAK; J. DEMARTINI; F. T. CHIN*. *Stanford Univ. Sch. of Med., Univ. of Florida, Stanford Univ. Sch. of Med.*
- 1:00 H20 **750.29** Performance based traits and their reorganization in chronic pain. D. RECKZIEGEL*; R. JABAKHANJI; B. YIP; T. J. SCHNITZER; A. APKARIAN. *Northwestern Univ. Feinberg Sch. of Med.*

POSTER

751. Vision: Populations and Networks

Theme D – Sensory Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 H21 **751.01** Neural correlates of perceptual echoes in marmoset primary visual cortex. J. SCHWENK*; E. ZAVITZ; R. VANRULLEN; N. S. PRICE; F. BREMMER. *Univ. of Marburg, Ctr. for Mind, Brain and Behavior, Physiology, Monash Univ., CNRS, CerCo.*
- 2:00 H22 **751.02** Action potentials representing visual motion direction are phase-locked to the LFP in area MT in anaesthetised marmosets. B. H. OAKLEY*; E. ZAVITZ; M. A. HAGAN; Y. T. WONG; N. S. C. PRICE. *Monash Univ., ARC Ctr. of Excellence for Integrative Brain Function, Monash Univ. Node, Monash Univ.*
- 3:00 H23 **751.03** Cortical electrocorticogram (ECoG) has high information content. S. KANTH*; S. RAY. *Indian Inst. of Sci.*
- 4:00 H24 **751.04** Evidence for interaction between steady-state visually evoked potential tags at nearby flicker frequencies. S. SALELKAR*; S. RAY. *Indian Inst. of Sci.*
- 1:00 H25 **751.05** Stimulus information, and correlated trial-to-trial variability, are distributed widely throughout interlaminar subpopulations in v1. D. J. DENMAN*; C. REID. *Allen Inst. For Brain Sci., Univ. of Colorado Anschutz Med. Campus.*
- 2:00 H26 **751.06** On the relationship between gamma amplitude and frequency in awake macaque V1. G. SPYROPOULOS*; J. R. DOWDALL; M. L. SCHOLVINCK; C. A. BOSMAN; B. R. LIMA; A. PETER; I. ONORATO; J. KLON-LIPOK; R. ROESE; S. NEUENSCHWANDER; W. SINGER; M. VINCK; P. FRIES. *Ernst Strüngmann Inst. (ESI) for Neurosci., Swammerdam Inst. for Life Sci., Federal Univ. of Rio de Janeiro, Brain Inst. - UFRN, Ernst Strüngmann Inst. (ESI) for Neurosci.*
- 3:00 H27 **751.07** Detecting information-limiting noise correlations in early visual cortex. J. S. MONTIJN; R. G. LIU; A. ASCHNER; A. KOHN; P. E. LATHAM*; . IBL COLLABORATION; A. POUGET. *Univ. of Geneva, Albert Einstein Col. of Med., Albert Einstein Coll Med., Univ. Col. London, Intl. Brain Lab., Univ. of Geneva.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 H28 **751.08** Aberrant interactions of opposite hemifield inputs to visual cortex in albinism. E. J. DUWELL*; E. N. WOERTZ; J. MATHIS; J. CARROLL; E. A. DEYOE. *Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin.*
- 1:00 H29 **751.09** Change in avalanches and visual tuning during optogenetic drive of interneurons in mouse visual cortex. T. L. RIBEIRO*; M. VICTOR; A. VAKILI; D. PLENZ. *Natl. Inst. of Mental Health, NIH.*
- 2:00 H30 **751.10** The structure of population activity in area MT of awake marmosets studied using two-photon microscopy. J. J. PATTADKAL*; B. ZEMELMAN; N. J. PRIEBE. *The Univ. of Texas at Austin, Univ. Texas, Austin.*
- 3:00 H31 **751.11** The information asymptote in large cortical neural populations. M. KAFASHAN*; R. NOGUEIRA; S. CHETTIH; A. JAFFE; C. HARVEY; R. MORENO-BOTE; J. DRUGOWITSCH. *Harvard Med. Sch., Columbia Univ., Univ. Pompeu Fabra.*
- 4:00 H32 **751.12** Characterization of network activity changes during repeated natural movie stimuli in mice. R. IYER*; J. SHANG; B. HU; I. MAGRANS DE ABRIL; S. MIHALAS. *Allen Inst. For Brain Sci.*
- 1:00 H33 **751.13** Synaptic mechanisms of state-dependent neural activity in mouse primary visual cortex. D. B. NESTVOGEL*; D. A. MCCORMICK. *Univ. of Oregon.*
- 2:00 H34 **751.14** Network interactions in the mouse visual cortex are predictive of perceptual decisions. J. G. ORLANDI*; S. GRZELKOWSKI; M. ABDOLRAHMANI; R. AOKI; D. LYAMZIN; A. BENUCCI. *RIKEN Ctr. for Brain Sci., Univ. van Amsterdam.*
- 2:00 H40 **752.06** Reading between the lines: The impacts of reading in virtual reality and other mediums on the visual system. T. A. DOTY*; C. Y. DELGADO; A. TORRES LOPEZ; S. A. LUNDQVIST; M. F. AWAD; S. A. DREW. *Cal State Northridge, California State Univ. Northridge, Cal State Northridge, California State University, Northridge, California State University, Northridge.*
- 3:00 H41 **752.07** Cognitive modulation of interacting corollary discharges in the visual cortex. M. ABDOLRAHMANI; D. R. LYAMZIN*; R. AOKI; A. BENUCCI. *RIKEN Ctr. For Brain Sci.*
- 4:00 H42 **752.08** Vision tapers escape behaviours in mice. S. ZUCCA*; T. WHEATCROFT; K. J. JEFFERY; A. B. SALEEM; S. G. SOLOMON. *Univ. Col. London.*
- 1:00 H43 **752.09** Dynamic contrast sensitivity during locomotion in humans. B. R. SHANKAR*; B. J. SZEKELY; P. R. MACNEILAGE. *Univ. of Nevada Reno.*
- 2:00 H44 **752.10** ▲ Sensory substitution and spatial navigation in early and late blind individuals using a new SensoryFusion application installed on a smartphone. S. PARÉ; M. BLEAU; I. DJEROUROU; C. KNOWLEDGE; D. BERNAL; M. PISZCZOR; R. C. KUPERS; M. PTITO*. *Univ. of Montreal, Univ. Montreal, Univ. de Strasbourg, Signal Garden inc., Inst. of Neurosci. & Pharmacol. (INF).*
- 3:00 H45 **752.11** Navigational signals along the visual pathway. E. M. DIAMANTI*; C. REDDY; S. SCHROEDER; K. D. HARRIS; A. B. SALEEM; M. CARANDINI. *Univ. Col. London.*
- 4:00 H46 **752.12** Cellular imaging of claustrum reveals diverse task-related signals. D. R. OLLERENSHAW*; J. DAVIS; E. G. MCBRIDE; H. ZENG; S. R. OLSEN; C. KOCH. *Allen Inst. For Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

POSTER

752. Active Vision and Context Modulation

Theme D – Sensory Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 H35 **752.01** Cortical mechanisms underlying saccadic suppression. S. DENAGAMAGE*; M. P. MORTON; J. H. REYNOLDS; M. P. JADI; A. S. NANDY. *Yale Univ., Salk Inst., Yale Univ.*
- 2:00 H36 **752.02** Physiological correlates of perceptual threshold. M. P. MORTON*; S. DENAGAMAGE; J. H. REYNOLDS; M. P. JADI; A. S. NANDY. *Yale Univ., Salk Inst., Yale Univ.*
- 3:00 H37 **752.03** Dynamic states of population activity in prefrontal cortical networks of freely-moving macaque. R. MILTON*; N. SHAHIDI; V. DRAGOI. *UTHealth, Univ. of Texas, Med. Sch. At Houston, Univ. of Texas at Houston Dept. of Neurobio. and Anat.*
- 4:00 H38 **752.04** Measuring the effects of locomotion on visual activity in the mouse cortex in the Allen Brain Observatory. G. K. OCKER; D. MILLMAN; P. LEDOCHOWITSCH; M. D. OLIVER; R. ABBASI-ASL; M. A. BUICE; S. E. DE VRIES*. *Allen Inst. For Brain Sci., Allen Inst. For Brain Sci., Allen Inst. For Brain Sci., Allen Inst.*
- 1:00 H39 **752.05** The sensory representation of causally controlled objects. K. CLANCY*; T. D. MRSIC-FLOGEL. *UCL, Univ. Col. London.*
- 1:00 I1 **752.13** Representation of unexpected stimuli across functionally connected cortical columns during visual behavior in mouse. F. NAJAFI; N. Y. ORLOVA; D. TSYBOULSKI; S. M. SEID; I. KATO; M. GARRETT; P. A. GROBLEWSKI; R. S. LARSEN; D. R. OLLERENSHAW; D. SULLIVAN; W. WAKEMAN; Q. L'HEUREUX; S. R. OLSEN; J. LECOQ*. *Allen Inst. for Brain Sci.*
- 2:00 I2 **752.14** Influence of experience and engagement on sensory responses during a visual change detection task. M. GARRETT; R. S. LARSEN*; P. A. GROBLEWSKI; D. R. OLLERENSHAW; A. PIET; N. D. PONVERT; N. H. CAIN; F. NAJAFI; S. NAYLOR; J. LECOQ; S. R. OLSEN. *Allen Inst. for Brain Sci.*
- 3:00 I3 **752.15** Principles of tactile search over the body. E. J. HALFEN*; J. F. MAGNOTTI; J. M. YAU. *Baylor Col. of Med.*
- 4:00 I4 **752.16** Limits of visual orientation discrimination in free behaving mice. W. YOU*; S. P. MYSORE. *The Johns Hopkins Univ., Johns Hopkins Univ.*
- 1:00 I5 **752.17** R A I L: Rodent automated and integrated learning platform for training freely behaving mice on touchscreen-based visual tasks. B. A. D. HOLT*; J. GARMON; S. P. MYSORE. *Johns Hopkins Univ.*
- 2:00 I6 **752.18** ▲ Citric acid water as an alternative to water scheduling in behaving mice. V. AGUILLON-RODRIGUEZ; A. E. URAI*; F. CAZETTES; I. C. LARANJEIRA; A. M. ZADOR; Z. F. MAINEN; A. K. CHURCHLAND; . IBL COLLABORATION. *Cold Spring Harbor Lab., Champalimaud Ctr. for the Unknown, UCL.*

- 3:00 I7 **752.19** The International Brain Laboratory: Standardizing and reproducing a decision making task in mice across laboratories. A. PAN-VAZQUEZ*; G. A. CHAPUIS; G. T. MEIJER; J. NOEL; A. E. URAI; V. AGUILLON-RODRIGUEZ; D. E. ANGELAKI; N. BONACCHI; M. CARANDINI; F. CAZETTES; E. E. E. DEWITT; A. K. CHURCHLAND; M. FAULKNER; T. KAMIGAKI; F. HU; C. S. KRASNAK; I. C. LARANJEIRA; Z. F. MAINEN; H. MARTINEZ VERGARA; N. J. MISKA; J. SANDERS; K. Z. SOCHA; M. J. WELLS; C. J. WILSON; O. WINTER; I. B. WITTEN; L. E. WOOL; . IBL COLLABORATION. *Princeton Univ., Intl. Brain Lab., Champalimaud Ctr. for the Unknown, NYU, Cold Spring Harbor Lab., Univ. Col. London, Univ. of California Berkeley, Sanworks LLC.*
- 4:00 I8 **752.20** Signature of exploration in brain state dynamics. X. TIAN*; D. SZCZUPAK; A. C. SILVA; C. LIU. *NINDS/NIH, Natl. Inst. of Hlth., Univ. of Pittsburgh.*
- 1:00 I9 **752.21** Expectation dependent responses in ventral visual pathway cortical areas. T. S. ALTAVINI*; G. ASTORGA; Y. YAN; M. CHEN; W. LI; D. HARARI; S. ULLMAN; G. N. REEKE; C. S. JIANG; W. FREIWALD; C. D. GILBERT. *Rockefeller Univ., Beijing Normal Univ., Weizmann Inst. of Sci.*
- 2:00 I10 **752.22** Mice preferentially depend on increments in V1 activity to detect changes in visual stimuli. J. J. CONE*; E. A. PAGE; M. L. BADE; J. H. R. MAUNSELL. *Univ. of Chicago.*
- 3:00 I11 **752.23** Modulation by sounds of visual processing in the primary visual cortex of mice performing an audiovisual discrimination task. J. P. MCCLURE, Jr.; J. CORBO; P. POLACK*. *Rutgers Univ.*
- 4:00 I12 **752.24** Context-switching in a disinhibitory circuit in V1. D. VOINA*; S. RECANATESI; B. HU; E. T. SHEA-BROWN; S. MIHALAS. *Univ. of Washington, Univ. of Washington, Allen Inst. For Brain Sci.*
- 1:00 I13 **752.25** Neural circuits for visual stimulus competition in zebrafish. I. P. LAZARTE*; J. SEMMELHACK. *Hong Kong Univ. of Sci. and Technol.*
- 2:00 I14 **752.26** Context-dependent neuronal modulation in V1 during selective visual attention. D. TRAN*; M. HAJNAL; M. EINSTEIN; M. VALLEJO; A. FOREMAN; B. SEDAGHAT; R. GOLI; T. SHOOSHANI; G. ORBÁN; P. POLACK; P. GOLSHANI. *Univ. of California Los Angeles, MTA Wigner Res. Ctr. for Physics, Rutgers Univ. - Newark, UCLA Dept. of Neurol.*
- 3:00 I15 **752.27** Investigating response behavior on added semantically specific auditory probe stimuli in motor-cognitive dual tasks. J. MUELLER*; C. LANGHANN; H. MUELLER. *Justus-Liebig-University.*
- 4:00 I16 **752.28** Coincident sound modulates visual processing in V1 and improve the mouse's ability to discriminate orientations. J. CORBO*; J. MCCLURE, JR.; H. KHDOUR; P. POLACK. *Rutgers Univ. Newark.*

POSTER

753. Visual Cortex: Cell Types, Functional Organization, and Connectivity

Theme D – Sensory Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 I17 **753.01** Visualization and mapping of white matter tracts in non-human primate visual system using polarized light imaging. H. TAKEMURA*; M. AXER; N. PALOMERO-GALLAGHER; D. GRÄBEL; M. J. JORGENSEN; R. WOODS; K. ZILLES. *NICT, Osaka Univ., Res. Ctr. Jülich, RWTH Aachen, JARA - Translational Brain Med., Wake Forest Univ. Sch. of Med., UCLA.*
- 2:00 I18 **753.02** Pattern of feedback connectivity from the frontal eye field of macaque to area lip. B. AHMED*; M. SMITH; A. J. PARKER; K. KRUG. *Univ. of Oxford.*
- 3:00 I19 **753.03** Cortical magnification in human V1 and V2 predicts task performance around the visual field. N. C. BENSON*; M. CARRASCO; J. WINAWER. *New York Univ.*
- 4:00 I20 **753.04** Uncovering network generation rules from large scale connectivity measurements. H. CHOI; B. H. HU; I. MAGRANS DE ABRIL; S. MIHALAS*. *Allen Inst. for Brain Sci.*
- 1:00 I21 **753.05** Does the cortex implement dropout? J. SHANG*; B. HU; R. IYER; S. MIHALAS. *Allen Inst. for Brain Sci., Univ. of Washington.*
- 2:00 I22 **753.06** Supervised classification of anatomical cell types in mouse visual cortex using arbor density and morphometric feature representations. O. GLIKO*; C. LEE; R. DALLEY; S. A. SORENSEN; U. SÜMBÜL. *Allen Inst. for Brain Sci.*
- 3:00 I23 **753.07** Inhibitory rTMS over the parietal cortex modulates functional connectivity. S. SCHINTU*; C. A. CUNNINGHAM; M. V. FREEDBERG; S. J. GOTTS; S. S. SHOMSTEIN; E. M. WASSERMANN. *Behavioral Neurol. Unit, NINDS/NIH, George Washington Univ., Lab. of Brain and Cognition, NIMH/NIH.*
- 1:00 DP09/I24 **753.08** (Dynamic Poster) 3d MRI-based marmoset brain atlas version 3: *In vivo* population-based MRI, dti and CT templates, and analysis tools. C. LIU*; C. C. YEN; D. SZCZUPAK; X. TIAN; G. DANIEL; A. C. SILVA. *NINDS/NIH, Natl. Institutes of Hlth., Natl. Inst. of Hlth., NIMH/NIH, Univ. of Pittsburgh.*
- 1:00 I25 **753.09** Strong correlation between extracellular spike waveform and spatial receptive field type in cat visual cortex. S. SUN*; H. MEFFIN; Y. WONG; S. L. CLOHERTY; A. ALMASI; M. YUNZAB; Y. JUNG; M. R. IBBOTSON. *The Univ. of Melbourne, Natl. Vision Res. Inst., Monash Univ., Monash Univ.*
- 2:00 I26 **753.10** Apparent cortical thinning in ventral temporal cortex from childhood to adulthood is associated with increased myelination. V. S. NATU*; J. GOMEZ; M. BARNETT; B. L. JESKA; Z. ZHEN; E. KIRILINA; C. JAEGER; S. COX; K. S. WEINER; N. WEISKOPF; K. GRILL-SPECTOR. *Stanford Univ., Univ. of California Berkeley, Univ. of Pennsylvania, Beijing Normal Univ., Max Planck Inst. for Human Cognitive and Brain Sci., Univ. of California, Berkeley.*
- 3:00 I27 **753.11** Evidence of object-based warping in early visual cortex. G. GURARIY; T. J. VICKERY; A. S. GREENBERG*. *Univ. of Wisconsin-Milwaukee, Univ. of Delaware.*

* Indicates a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 I28 **753.12** Neural straightening of natural image sequences in macaque V1 and V2. Y. BAI*; O. HÉNAFF; C. ZIEMBA; E. P. SIMONCELLI; R. L. T. GORIS. *Univ. of Texas at Austin, Univ. Col. London, New York Univ. / HHMI.*
- 1:00 I29 **753.13** The role of the primary visual cortex and the lateral occipital complex in scaling size information -- A TMS study. H. ZENG*; G. R. FINK; R. WEIDNER. *Res. Ctr. Juelich, Univ. Hosp. Cologne, Cologne Univ.*
- 2:00 I30 **753.14** Neural correlates of target-background orientation similarity masking in primate V1. S. C. CHEN*; Y. CHEN; W. S. GEISLER, III; E. SEIDEMANN. *Univ. of Texas at Austin.*
- 3:00 I31 **753.15** Mechanisms of motion boundary perception in macaque V2. H. MA*; P. C. LI; J. M. HU; S. D. ZHU; X. Y. CAI; Q. L. SONG; Y. LI; C. FANG; K. YAN; H. D. LU. *State Key Lab. of Cognitive Neurosci. and Learning, Beijing Normal Univ.*

POSTER

754. Visual Cortex: Functional Architecture and Circuits II

Theme D – Sensory Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 I32 **754.01** Network analysis of cortical dynamics implicates untuned neurons in visual stimulus coding. M. LEVY*; O. SPORNS; J. N. MACLEAN. *The Univ. of Chicago, Indiana Univ., Indiana Univ., The Univ. of Chicago.*
- 2:00 I33 **754.02** Functional network topology and computation in mouse visual cortex during stimulus presentation. E. DE LAITRE*; J. MACLEAN. *Univ. of Chicago, Univ. of Chicago.*
- 3:00 I34 **754.03 ▲** Prediction of single trial cortical neuronal dynamics through strong positive recurrent interactions. S. KOTEKAL; J. N. MACLEAN*. *The Univ. of Chicago, Univ. of Chicago.*
- 4:00 I35 **754.04** Divisive normalization in the responses of V1 neurons in alert mice measured using calcium indicators. Z. A. ZAYYAD*; J. H. R. MAUNSELL; J. N. MACLEAN. *Univ. of Chicago, Univ. of Chicago, Univ. of Chicago, Univ. of Chicago.*
- 1:00 I36 **754.05 ▲** Specific topological features in functional networks contribute to the accuracy of a linear encoding model of single trial neocortical neuronal dynamics. C. YU*; M. LEVY; J. N. MACLEAN. *Univ. of Chicago.*
- 2:00 I37 **754.06** Orientation and direction selectivity for neurons in V1 and V2 of the mouse. D. RHEE*; C. MCKINNON; J. N. MACLEAN; S. SHERMAN. *Univ. of Chicago, Univ. of Chicago.*
- 3:00 I38 **754.07** Laminar functional connectivity in primary visual cortex. J. NING*; G. LI; C. BAKER. *McGill Univ., McGill Univ.*
- 4:00 I39 **754.08** Characterization of a mouse V1 model to inputs and perturbations using computational optogenetics. B. CAI*; Y. N. BILLEH; C. KOCH; A. ARKHIPOV; S. MIHALAS. *Allen Inst. for Brain Sci.*
- 1:00 I40 **754.09** Systematic integration of structural and functional data into a multi-scale model of mouse primary visual cortex. Y. N. BILLEH*; B. CAI; S. L. GRATIY; K. B. DAI; R. IYER; R. ABBASI-ASL; X. JIA; J. H. SIEGLE; S. R. OLSEN; C. KOCH; S. MIHALAS; A. ARKHIPOV. *Allen Inst., Allen Inst. for Brain Sci., Allen Inst. For Brain Sci., Allen Inst.*
- 2:00 I41 **754.10** Direction selectivity is strongly correlated with on/off response balance in primary visual cortex. J. JIN*; S. NAJAFIAN; R. MAZADE; C. PONS; E. KOCH; J. ALONSO. *SUNY Col. of Optometry, Caltech.*
- 3:00 I42 **754.11** Receptive field structures in ON and OFF domains of primary visual cortex. R. MAZADE*; J. JIN; C. PONS; J. ALONSO. *SUNY Col. of Optometry.*
- 4:00 I43 **754.12** Diversity of ocular dominance patterns in primary visual cortex originates from variations in local cortical retinotopy. S. NAJAFIAN*; J. JIN; J. ALONSO. *State Univ. of New York Col. of Optometry.*
- 1:00 I44 **754.13** On and off visual pathways in human cortex have different spatial resolution. C. PONS*; J. JIN; R. MAZADE; J. KREMKOW; D. R. ARCHER; J. ALONSO. *SUNY Col. of Optometry, Charité-Universitätsmedizin Berlin.*
- 2:00 J1 **754.14** Quantitative analysis of somatic and nuclear morphology reflects diverse cortical cell types in mouse visual cortex. L. ELABBADY*; S. SESHAMANI; C. SCHNEIDER-MIZELL; S. DORKENWALD; A. L. BODOR; N. L. TURNER; T. MACRINA; D. J. BUMBARGER; J. BUCHANAN; M. M. TAKENO; R. TORRES; G. MAHALINGAM; D. KAPNER; W. SILVERSMITH; E. FROUDARAKIS; C. JORDAN; N. KEMNITZ; K. LEE; R. LU; W. WONG; J. WU; J. REIMER; A. S. TOLIAS; H. SEUNG; N. M. DA COSTA; R. REID; F. C. COLLMAN. *Allen Inst. for Brain Sci., Princeton Univ., Baylor Col. of Med.*
- 3:00 J2 **754.15** Distinguishing inhibitory axons in an EM volume of mouse V1 L2/3. S. DORKENWALD*; A. L. BODOR; N. TURNER; C. M. SCHNEIDER-MIZELL; T. MACRINA; K. LEE; J. WU; N. KEMNITZ; A. A. BLECKERT; D. J. BUMBARGER; R. LU; J. ZUNG; D. BUNIATYAN; D. IH; S. POPOVYCH; I. TARTAVULL; W. SILVERSMITH; W. WONG; C. PAPADOPOULOS; B. CELII; J. BUCHANAN; M. M. TAKENO; J. REIMER; F. C. COLLMAN; A. S. TOLIAS; R. REID; N. M. DA COSTA; H. SEUNG. *Princeton Univ., Allen Inst. For Brain Sci., Princeton Univ., Allen Inst. For Brain Sci., Baylor Col. of Med., Allen Inst. For Brain Sci., Baylor Col. of Med., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*
- 4:00 J3 **754.16** A complete map of axo-axonic synapses revealed by a dense segmentation of a volume from layer 2/3 of mouse primary visual cortex. C. M. SCHNEIDER-MIZELL*; A. L. BODOR; F. C. COLLMAN; S. DORKENWALD; N. L. TURNER; T. MACRINA; D. J. BUMBARGER; J. BUCHANAN; M. M. TAKENO; R. TORRES; G. MAHALINGAM; D. KAPNER; K. LEE; N. KEMNITZ; J. ZUNG; W. SILVERSMITH; W. WONG; R. LU; J. WU; D. IH; I. TARTAVULL; E. FROUDARAKIS; S. POPOVYCH; D. BUNIATYAN; J. REIMER; A. S. TOLIAS; H. SEUNG; R. REID; N. M. DA COSTA. *Allen Inst. For Brain Sci., Princeton Univ., Baylor Col. of Med.*
- 1:00 DP08/J4 **754.17** (Dynamic Poster) Functional connectivity of excitatory inputs to excitatory cells in an EM-reconstructed volume of mouse V1. -. NINAI*. *Princeton University, Princeton, NJ; Allen Inst. for Brain Science, Seattle, WA; Columbia University, New York, NY; Baylor Col. of Med.*
- 2:00 J5 **754.18** Inception in visual cortex: *In vivo*-silico loops reveal most exciting images. E. Y. WALKER*; F. H. SINZ; E. COBOS; E. FROUDARAKIS; P. FAHEY; T. MUHAMMAD; A. S. ECKER; J. REIMER; X. S. PITKOW; A. S. TOLIAS. *Baylor Col. of Med., Baylor Col. of Med., Univ. of Tuebingen, Univ. of Tuebingen, Ctr. For Integrative Neurosci., Univ. of Tuebingen, Rice Univ.*

- 3:00 J6 **754.19** • Spatially-variant orientation selectivity in mouse primary visual cortex. J. FU*; S. SHEN; J. REIMER; F. H. SINZ; X. S. PITKOW; A. S. TOLIAS. *Baylor Col. of Med., Ctr. for Neurosci. and Artificial Intelligence, Baylor Col. of Med., Vathes, LLC, Baylor Col. of Med., Bernstein Ctr. for Computat. Neuroscience, Univ. of Tübingen, Inst. for Computer Science, Univ. of Tübingen, Rice Univ.*
- 4:00 J7 **754.20** Calcium-permeable AMPA receptors govern PV interneuron orientation selectivity. I. HONG*; J. KIM; R. C. JOHNSON; Z. YANG; D. CHEON; A. AGARWAL; D. E. BERGLES; S. P. BROWN; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Univ. of California, San Francisco, Heidelberg Univ.*
- 1:00 J8 **754.21** Orientation maps in the primary visual cortex of an Australian marsupial, the Tammar Wallaby *Macropus eugenii*. Y. JUNG*; M. YUNZAB; A. ALMASI; S. SUN; S. CLOHERTY; S. BAQUIER; M. RENFREE; H. MEFFIN; M. IBBOTSON. *The Univ. of Melbourne, Natl. Vision Res. Inst., Monash Univ., The Univ. of Melbourne.*

POSTER

755. Visual Systems: Functional Architecture and Circuits

Theme D – Sensory Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 J9 **755.01** Retinal origin of orientation column, clustered horizontal connections and patterned spontaneous activity in visual cortex. M. SONG*. *KAIST.*
- 2:00 J10 **755.02** Distinct functional networks of peripheral and central visual representations in primary visual cortex during rest and task. B. PARK*; K. BYEON; H. PARK; W. SHIM. *Sungkyunkwan Univ., Inst. for Basic Sci., Sungkyunkwan Univ., Sungkyunkwan Univ.*
- 3:00 J11 **755.03** Principles of columnar and salt-and-pepper organizations of orientation tuning in visual cortex. J. JANG*; M. SONG; S. PAIK. *KAIST, KAIST.*
- 4:00 J12 **755.04** A multiplicity of connectivity rules in higher-order visual circuits. X. HAN*; V. BONIN. *Neuro-Electronics Res. Flanders, KU Leuven, VIB.*
- 1:00 J13 **755.05** The distribution of norepinephrine transporter-immunoreactive axons in V1 and V2 of the macaque monkey. C. ROACH*; A. A. DISNEY. *Duke, Duke Univ.*
- 2:00 J14 **755.06** Functional stripes represent juxtaposed maps of central and peripheral space in tree shrew V2. M. SEDIGH-SARVESTANI*; K. LEE; S. F. LIU; N. C. SHULTZ; R. SATTERFIELD; D. FITZPATRICK. *Max Planck Florida Inst. for Neurosci.*
- 3:00 J15 **755.07** Functional and anatomical alterations in V1 of asymmetric glaucoma patients. L. BACHATENE*; L. GAGNÉ-BROSSEAU; R. J. BUTLER; S. CÔTÉ; K. WHITTINGSTALL. *Univ. de Sherbrooke.*
- 4:00 J16 **755.08** Electrophysiological investigation of posterior curvature-biased patches in monkeys. S. R. ROBERT*; X. YUE; M. YETTER; A. MESSINGER; L. G. UNGERLEIDER. *Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*

- 1:00 J17 **755.09** The relation between inter-areal functional and structural connectivity is frequency dependent. J. VEZOLI*; M. VINCK; A. M. BASTOS; C. LEWIS; C. A. BOSMAN; H. KENNEDY; P. FRIES. *Ernst Strüngmann Inst. (ESI) For Neurosci., Picower Inst. for Learning and Memory, MIT, Brain Res. Institute, Univ. of Zurich, Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ. Nijmegen, Swammerdam Inst. for Life Sciences, Ctr. for Neuroscience, Fac. of Science, Univ. of Amsterdam, Univ. Lyon, Univ. Claude Bernard Lyon 1, Inserm, Stem Cell and Brain Res. Inst. U1208.*
- 2:00 J18 **755.10** Assemblies of feature representation in a population of early visual neurons in the common marmoset. M. M. FABISZAK*; D. W. WEST; D. G. C. HILDEBRAND; S. R. SERENE; Z. WU; W. A. FREIWALD. *The Rockefeller Univ., Icahn Sch. of Med. at Mount Sinai.*
- 3:00 J19 **755.11** Neurons exclusively sensitive to texture boundaries in early visual cortex. Z. LIANG; G. LI*; C. L. BAKER. *Anhui Med. Univ., McGill Univ., The Res. Inst. of the McGill Univ. Hlth. Ctr.*
- 4:00 J20 **755.12** Neocortical interneuron subtype dynamics in mouse visual cortex: A potential cortical circuit motif for sensory detection. A. I. MORE*; C. A. DEISTER; A. R. TULETT; C. I. MOORE. *Brown Univ., Carney Inst. for Brain Sci.*
- 1:00 J21 **755.13** Augmenting deep neural networks with a recurrent model of grouping and border ownership. B. HU; S. KHAN*; B. P. TRIPP; E. NIEBUR. *Allen Inst. For Brain Sci., Univ. of Waterloo, Johns Hopkins Univ.*
- 2:00 J22 **755.14** Retinotopic dependencies of receptive field properties in mouse V1. I. M. NAUHAUS*; I. RHIM. *Univ. of Texas at Austin, Univ. of Texas at Austin, Univ. of Texas at Austin.*
- 3:00 J23 **755.15** Contribution of intracortical inhibition to large-scale functional networks in early visual cortex. H. N. MULHOLLAND; B. HEIN; M. KASCHUBE; G. B. SMITH*. *Univ. of Minnesota, Frankfurt Inst. For Advanced Studies.*
- 4:00 J24 **755.16** Implementation of human connectome low vision (HCLV) imaging protocol at University of Michigan. N. NADVAR*; J. CHOUPON; K. LITINAS; Y. SHI; L. HERNANDEZ-GARCIA; J. WEILAND. *Biomed. Engin. Department, Univ. of Michigan, Lab. of Neural Imaging, Keck Sch. of Medicine, USC Stevens Neuroimaging and Informatics Institute, Univ. of Southern California, fMRI Laboratory, Univ. of Michigan.*
- 1:00 J25 **755.17** Serotonergic neuromodulation in the *Drosophila* visual system. M. SAMPSON*; K. MYERS GSCHWENG; B. HARDCASTLE; S. BONANNO; M. FRYE; D. KRANTZ. *UCLA.*
- 2:00 J26 **755.18** Predicting cortical thickness of primary visual cortex based on curvature and retinotopic eccentricity. M. DEFENDERFER*; K. M. VISSCHER. *Univ. of Alabama at Birmingham.*
- 3:00 J27 **755.19** Could a neuroscientist understand a ConvNet? M. D. OLIVER*; D. MILLMAN; S. E. DEVRIES; M. A. BUICE. *Allen Inst. for Brain Sci., Allen Inst. For Brain Sci., Allen Inst. For Brain Sci.*
- 4:00 J28 **755.20** Connectivity of the Tool Action Network: Lesion- and connectome-based symptom mapping of limb apraxic deficits after left hemisphere cerebrovascular accident. F. GARCEA*; C. A. GREENE; S. T. GRAFTON; L. J. BUXBAUM. *Moss Rehabil. Res. Inst., UC Santa Barbara, UCSB, Moss Rehabil. Res. Inst.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 J29 **755.21** Multi-cell-type convolutional recurrent neural network models of visual cortex. M. SUN; J. LI; M. DIPOPPA; G. R. YANG*. *Columbia Univ., Univ. of Sci. & Technol. of China.*
- 2:00 J30 **755.22** Deep convolutional network model of macaque visual cortex. B. P. TRIPP*. *Univ. of Waterloo.*
- 3:00 J31 **755.23** Main cell types of the avian pallial visual DVR indeed express a mammalian cortical phenotype. C. NORAMBUENA; C. GONZALEZ-CABRERA; M. FERNÁNDEZ; G. MARÍN; J. MPODOZIS*. *Univ. de Chile.*

POSTER

756. Decision Making III

Theme D – Sensory Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 J32 **756.01** A two stage Bayesian observer predicts the effects of learning on perceptual decisions. S. PISUPATI*; S. MUSALL; A. E. URAI; A. K. CHURCHLAND. *Cold Spring Harbor Lab.*
- 2:00 J33 **756.02** Distributed neural signatures of evidence integration during prolonged deliberation. M. L. WASKOM*; L. SIDANI; R. KIANI. *New York Univ.*
- 3:00 J34 **756.03** Continuous decision-making as a lens into neural computation. F. BAQAI*; D. A. RUFF; B. D. DOIRON; M. R. COHEN. *Carnegie Mellon Univ., Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 4:00 J35 **756.04** Adapting to an ever-changing world: How the brain makes decisions in the face of evolving behavioral rules. C. XUE*; L. E. KRAMER; M. R. COHEN. *Univ. of Pittsburgh.*
- 1:00 J36 **756.05** A multi-population, multi-task framework yields new insights about decision-making mechanisms. C. XUE; L. E. KRAMER; M. R. COHEN*. *Ctr. for the Neural Basis of Cognition, Univ. of Pittsburgh.*
- 2:00 J37 **756.06** Using interactions between pharmaceutical stimulants and selective attention to test hypotheses about neuronal population activity in areas V4 and 7A. A. M. NI*; B. S. BOWES; D. A. RUFF; M. R. COHEN. *Univ. of Pittsburgh.*
- 3:00 J38 **756.07** Simultaneous population recordings from both superior colliculi do not support a limited resource theory of attention. D. A. RUFF*; M. R. COHEN. *Univ. of Pittsburgh.*
- 4:00 J39 **756.08** Dissociating cognitive and sensory representations in posterior parietal cortex. B. PEYSAKHOVICH*; O. ZHU; G. IBOS; W. J. JOHNSTON; D. FREEDMAN. *Univ. of Chicago.*
- 1:00 J40 **756.09** Lateral prefrontal cortex (LPFC) is a likely contributor to task-related activity in area MT during the memory for motion task. M. ISLAM*; S. ZHU; K. WIMMER; T. PASTERNAK. *Univ. of Rochester, Ctr. de Recerca Matemàtica.*
- 2:00 J41 **756.10** Learning dependency of motion direction tuning in the lateral intraparietal area during a categorization task. K. W. LATIMER*; D. J. FREEDMAN. *Univ. of Chicago.*
- 3:00 J42 **756.11** Comparative decision-making in posterior parietal cortex: Proof of concept. H. LADRET; G. IBOS*. *Visual Neurosci. Lab., CNRS, Aix-Marseille Univ.*

- 4:00 J43 **756.12** Two tradeoffs between local accuracy and catastrophic errors in a solution to the representation assignment problem. W. J. JOHNSTON*; D. J. FREEDMAN. *Univ. of Chicago.*
- 1:00 J44 **756.13** Common rules guide memory-guided comparisons of motion directions and locations in the lateral prefrontal cortex (LPFC). H. SCOTT; K. WIMMER; T. PASTERNAK*; A. SNYDER. *Univ. of Rochester, Campus de Bellaterra, Edifici C, Univ. of Rochester.*

POSTER

757. Decision Making IV

Theme D – Sensory Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 J45 **757.01** Cortical computations underlying categorization task switching. K. MOHAN*; O. ZHU; S. SWAMINATHAN; D. FREEDMAN. *The Univ. of Chicago.*
- 2:00 J46 **757.02** Sensory evidence and expected reward are integrated beyond primary visual cortex. L. E. WOOL*; A. LAK; C. REDDY; K. D. HARRIS; M. CARANDINI. *Univ. Col. London.*
- 3:00 K1 **757.03** Context determines the timescale of evidence evaluation for decision-making. R. HARUN; E. JUN; H. PARK; P. GANUPURU; A. B. GOLDRING; T. D. HANKS*. *Univ. of California-Davis.*
- 4:00 K2 **757.04** Differences between rat and human decision making confirmed and attributed to different forms of behavioral variability. C. A. SHEVINSKY; Q. N. NGUYEN; P. REINAGEL*. *UCSD.*
- 1:00 K3 **757.05** Distinct roles for dopaminergic projections to dorsal and ventral striatum in sensory decisions. A. LAK*; M. M. MOSS; K. D. HARRIS; M. CARANDINI. *Univ. Col. London.*
- 2:00 K4 **757.06** Superior colliculus inactivation impairs perceptual decision-making in monkeys. E. JUN*; A. BAUTISTA; A. FABRO; T. TAK; N. WEBSTER; M. A. BASSO. *Univ. of California Los Angeles.*
- 3:00 K5 **757.07** Distinct representations of decision variable and task difficulty in the monkey lateral intraparietal cortex. G. OKAZAWA*; R. KIANI. *New York Univ.*
- 4:00 K6 **757.08** The neural dynamics of deliberation and commitment during dynamic decision making in humans: A MEG study. T. THIERY*; P. RAINVILLE; P. E. CISEK; K. JERBI. *Univ. of Montreal.*
- 1:00 K7 **757.09** The role of frontal cortex in multisensory decision-making. P. COEN*; M. J. WELLS; S. KACKAR; P. ZATKA-HAAS; M. CARANDINI; K. D. HARRIS. *Univ. Col. London.*
- 2:00 K8 **757.10** Cortical states during sensory decision making. E. A. K. JACOBS*; N. A. STEINMETZ; A. J. PETERS; M. CARANDINI; K. D. HARRIS. *UCL, Univ. of Washington, UCL, UCL.*
- 3:00 K9 **757.11** Different influences of explicit and implicit Bayesian priors on perceptual decision-making. V. THAKUR; J. DITTERICH; M. A. BASSO; B. J. KNOWLTON*. *UCLA, Univ. of California, UCLA.*
- 4:00 K10 **757.12** Representation of an evolving decision spanning eye movements in area LIP. N. SO*; M. N. SHADLEN. *Zuckerman Institute, Columbia Univ., Howard Hughes Med. Inst. - Columbia Univ.*

- 1:00 K11 **757.13** Posterior parietal cortex plays a causal role in perceptual and categorical decisions. Y. ZHOU*; D. J. FREEDMAN. *Univ. of Chicago, Univ. of Chicago.*

POSTER

758. Oral Motor Behavior and Speech

Theme E – Motor Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 K12 **758.01** Neural processing of somatosensory feedback and pre-motor planning in children with childhood apraxia of speech. A. ENGELHART*; A. MCILRAITH; J. IUZZINI-SEIGEL; J. R. GREEN; T. P. HOGAN; T. M. CENTANNI. *Texas Christian Univ., Univ. of Houston, Marquette Univ., MGH Inst. of Hlth. Professions.*
- 2:00 K13 **758.02** Previous exposure to sensory feedback noise causes a decrease in online compensation for sensory perturbations. B. PARRELL*; C. NIZIOLEK. *Univ. of Wisconsin-Madison.*
- 3:00 K14 **758.03** Naturalness of transformed auditory feedback sounds changes the patterns of compensatory articulatory responses and self-agency ratings in speech production. Y. UEZU*; S. HIROYA; T. MOCHIDA. *NTT Communication Sci. Labs.*
- 4:00 K15 **758.04** Differences between the cortical substrate for vocalization and grasping in the marmoset. C. M. CERKEVICH*; J. RATHELOT; P. L. STRICK. *Univ. Pittsburgh Sch. Med., Univ. Pittsburgh Sch. Med., Aix-Marseille Univ., Univ. Pittsburgh Sch. Med.*
- 1:00 K16 **758.05** Ultrasound visual feedback of the tongue influences speech adaptation to a palatal perturbation. G. BARBIER; M. BAL; R. MERZOUKI; S. BAUM; D. SHILLER*. *Univ. de Montréal, McGill Univ.*
- 2:00 K17 **758.06** Local cooling reveals brain stem pattern generator mechanisms for vocalizations. K. HARTMANN*; M. BRECHT. *Humboldt University/ BCCN Berlin.*
- 3:00 K18 **758.07** Cortical dynamics of the speech motor control network in the non-fluent variant of primary progressive aphasia. H. KOTHARE*; K. RANASINGHE; L. B. HINKLEY; D. MIZUIRI; M. LAURICELLA; S. HONMA; V. BORGHESEANI; C. L. DALE; W. SHWE; A. WELCH; Z. MILLER; M. GORNO-TEMPINI; J. F. HOUDE; S. S. NAGARAJAN. *Univ. of California, San Francisco.*
- 4:00 K19 **758.08 ▲** Intent matters - Laryngeal mechanosensory evidence of efference copy with voice and intent to voice. T. FRODEL; H. SAKE; S. ZORN; S. WILSON; M. SMARZINSKI; S. A. PALM; M. J. HAMMER*. *Univ. of Wisconsin-Whitewater, Univ. of Wisconsin-Whitewater.*
- 1:00 K20 **758.09** Auditory-vocal control systems are affected by predictive processing within extended time ranges. O. KORZYUKOV*; T. FRODEL; Y. LEE; A. BRONDER; M. WAGNER; V. GUMENYUK; C. R. LARSON; M. J. HAMMER. *Univ. of Wisconsin - Whitewater, Univ. of Wisconsin-Whitewater, Northwestern Univ., Compumedics.*
- 2:00 K21 **758.10** Speech auditory-motor adaptation is driven by implicit learning. K. S. KIM; L. MAX*. *Univ. of Washington, Univ. Washington.*
- 3:00 K22 **758.11** Simultaneous decoding of attentional and reward modulations in human EEG. M. RAKHSHAN*; M. MAECHLER; T. LYTCHEK; N. HELLER; A. SOLTANI; G. CAPLOVITZ. *Dartmouth Col., Univ. of Nevada Reno.*

- 4:00 K23 **758.12** Distinct auditory neural populations track vocalization feedback delays. M. OZKER SERTEL*; Z. HUANG; Q. ZHU; B. MAHMOOD; D. MAKUMOV; W. DOYLE; O. DEVINSKY; A. FLINKER. *NYU Sch. of Med., NYU Sch. of Med.*

- 1:00 K24 **758.13** Sensitivity to natural and altered auditory feedback in L1 and L2. S. BAKST*; C. A. NIZIOLEK. *Univ. of Wisconsin-Madison.*
- 2:00 K25 **758.14** Characterization of movements evoked from electrical stimulation of motor cortex in awake marmoset. S. C. STERRETT*; L. ZHAO; X. WANG. *Johns Hopkins Univ.*

POSTER

759. Motor Impairment and Recovery

Theme E – Motor Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 K26 **759.01** Learning a novel motor skill reshapes the temporal organisation of activity in the rat brain. P. SALVAN*; A. LAZARI; C. SAMPAIO BAPTISTA; H. JOHANSEN-BERG. *Univ. of Oxford.*
- 2:00 K27 **759.02 ●** NMDA receptor-mediated motor cortex plasticity after 20 Hz transcranial alternating current stimulation. M. A. NITSCHKE*; A. SALEHINEJAD; M. KUO; D. SCHUTTER; M. WISCHNEWSKI. *Leibniz Res. Ctr. for Working Envrn., Leibniz Research Ctr. for Working Envrn., Radboud Univ.*
- 3:00 K28 **759.03** Effects of electrode orientation on the impact of transcranial direct current stimulation on motor cortex excitability. M. KUO*; A. FOERSTER; F. YAVARI; L. FARNAD; A. JAMIL; W. PAULUS; M. A. NITSCHKE. *Leibniz Res. Ctr. for Working Envrn. and Human Factors, Georg-August-University Göttingen, Univ. Med. Hosp. Bergmannsheil.*
- 4:00 K29 **759.04** Long-term changes in the neural coding of primate finger movements induced by paired nerve stimulation. M. GERMANN*; B. HABEKOST; S. N. BAKER. *Newcastle Univ.*
- 1:00 K30 **759.05 ●** Cortical excitability and tSMS-induced plasticity in a large sample of patients with Parkinson's disease. C. AMMANN*; M. DILEONE; C. PAGGE; A. OLIVIERO; J. A. OBESO; G. FOFFANI. *Univ. Hosp. HM Puerta del Sur, CEU-San Pablo Univ., Hosp. Los Madroños, Hosp. Nacional de Paraplégicos, Inst. Carlos III.*
- 2:00 K31 **759.06** Cerebellar tDCS improves performance of a timing-based video game more than M1 tDCS or practice alone. M. E. WOLFE; J. PEREZ; A. W. MEEK; B. J. POSTON; Z. A. RILEY*. *IUPUI, Indiana University-Purdue Univ. Indianapolis, Univ. of Nevada Las Vegas, Indiana Univ. Purdue Univ. at Indianapolis.*
- 3:00 K32 **759.07 ▲** Variant target effects on motor learning through tDCS. J. PEREZ*; C. L. LASHER; K. J. HARBISON; Z. A. RILEY. *Indiana University-Purdue Univ. Indianapolis.*
- 4:00 K33 **759.08** Changes in dorsolateral striatum neural dynamics during recovery after motor cortical stroke. L. GUO*; S. KONDAPAVULUR; S. WON; K. GANGULY. *UCSF, San Francisco VA Med. Ctr.*
- 1:00 K34 **759.09** Pain induced metaplasticity interferes with motor learning in intact rats. M. HUOT-LAVOIE; W. K. TING; M. DEMERS; C. MERCIER; C. ETHIER*. *Univ. Laval - CERVU, CIRRS - Laval Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 2:00 K35 **759.10** The influence of glucose on intracortical and corticospinal excitability as assessed using transcranial magnetic stimulation. S. L. TOEPP*; C. V. TURCO; C. NICOLINI; A. J. NELSON. *McMaster Univ., McMaster Univ.*
- 3:00 K36 **759.11** Dexterous timing-based video game performance with complementary transcranial direct current stimulation of the primary motor cortex and cerebellum. A. W. MEEK*; J. PEREZ; M. WOLFE; A. BOCKELMAN; K. HARBISON; C. LASHER; B. J. POSTON; Z. A. RILEY. *Indiana University-Purdue Univ. Indianapolis, Univ. of Nevada Las Vegas.*
- 4:00 K37 **759.12** Transcranial direct current stimulation promotes motor recovery in a mouse model of stroke by affecting key molecular players of neuroplasticity. V. LONGO; A. RE; S. A. BARBATI; M. G. DI DONNA; L. LEONE*; C. GRASSI; M. V. PODDA. *Univ. Cattolica del Sacro Cuore, Fondazione Policlinico Universitario A. Gemelli IRCCS.*
- 1:00 K38 **759.13** Inducing associative plasticity in a premotor-motor circuit in humans: A randomised-controlled evaluation. A. LAZARI*; L. VERHAGEN; P. SALVAN; D. PAPP; O. VAN DER WERF; B. GAVINE; M. COTTAAR; C. STAGG; M. F. RUSHWORTH; H. JOHANSEN-BERG. *Univ. of Oxford, Univ. of Oxford, Univ. Oxford, Univ. Oxford.*
- 2:00 K39 **759.14** • Investigating the interaction of vagus nerve stimulation intensity and interval on motor cortex plasticity. R. A. MORRISON*; T. DANAPHONGSE; S. T. ABE; M. STEVENS; K. S. ADCOCK; M. P. KILGARD; S. A. HAYS. *Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas.*
- 3:00 K40 **759.15** Daily activity composition is associated with c-TBS induced neuroplasticity in the human motor cortex in older adults. A. E. SMITH*; M. R. GOLDSWORTHY; L. GRAETZ; N. THORNTON; N. HODYL; M. C. RIDDING. *Univ. of South Australia, Univ. of Adelaide.*
- 4:00 L1 **759.16** Operant conditioning of the flexor carpi radialis: Current results and simultaneous EEG recording. J. J. S. NORTON; A. EFTEKHAR; S. HECKMAN; A. M. CUTRONE; T. M. VAUGHAN*; T. FAKE; A. K. THOMPSON; J. R. WOLPAW. *Wadsworth Center, NY State Dept. of Hlth., Stratton VA Med. Ctr., Univ. at Albany, Med. Univ. of South Carolina.*
- 1:00 L2 **759.17** • Spinal reflex conditioning system for enhancing motor function recovery after incomplete spinal cord injury. J. NORTON; T. M. VAUGHAN; A. EFTEKHAR*; A. K. THOMPSON; A. HARRISON; M. SONNTAG; E. BROWN; I. P. CLEMENTS; J. R. WOLPAW. *Wadsworth Center, NY State Dept. of Hlth., Med. Univ. of South Carolina, BioCircuit Technologies.*
- 2:00 L3 **759.18** Impact of globus pallidus or sensorimotor cortex ablation on spinal motoneuron GAD67 and KCC2 and on ventral horn interneuron GLUR2/3: Implications for the mechanisms of spinal reflex operant conditioning. Y. WANG*; L. CHEN; J. R. WOLPAW; X. Y. CHEN. *Wadsworth Center, NYS Dept. of Hlth., Stratton VA Med. Ctr.*
- 3:00 L4 **759.19** Tracking of whisking into target zones using a closed-loop, real-time feedback system. K. SEHARA*; V. BAHR; B. MITCHINSON; M. STAAB; S. E. DOMINIAK; M. J. PEARSON; M. E. LARKUM; R. N. S. SACHDEV. *Humboldt Univ. of Berlin, Eridian Systems, Univ. of Sheffield, Univ. of Bristol and Univ. of the West of England.*
- 4:00 L5 **759.20** ▲ Coordination of behavior in an Air Track maze: Sequential movement of whiskers, the maze and eyes. R. BERGMANN; S. DOMINIAK; V. BAHR; J. KREMKOW; M. A. NASHAAT; H. ORABY; K. SEHARA; M. E. LARKUM; R. N. SACHDEV*. *Humboldt-Universität Zu Berlin, Eridian Systems, Charité-Universitätsmedizin Berlin, Humboldt Universität Zu Berlin, Humboldt-Universität Zu Berlin, Humboldt-Universität Zu Berlin.*
- 1:00 L6 **759.21** Combining H-reflex conditioning and locomotor training enhances locomotor recovery in rats with incomplete spinal cord injury. J. R. WOLPAW*; L. CHEN; X. YANG; Y. CHEN; X. Y. CHEN. *Wadsworth Center, NY State Dept. of Hlth., Stratton VA Med. Ctr.*
- 2:00 L7 **759.22** ▲ Coordination of whiskers and nose in a go-cue task and the role of motor cortex. M. STAAB*; K. SEHARA; S. DOMINIAK; M. E. LARKUM; R. N. SACHDEV. *Humboldt Univ. zu Berlin, Humboldt Univ. zu Berlin.*
- 3:00 L8 **759.23** An epidermal electronic system (EES) grid electrode for measuring electromyography (EMG) during operant conditioning of human flexor carpi radialis H-reflex. J. J. S. NORTON; Y. T. KWON; A. EFTEKHAR; T. FAKE; A. M. CUTRONE*; J. R. WOLPAW; W. YEO. *Wadsworth Center, NY State Dept. of Hlth., Stratton VA Med. Ctr., Georgia Inst. of Technol., Univ. at Albany.*
- 4:00 L9 **759.24** The effect of perturbation-based training on the soleus H-reflex. J. H. BARNES*; E. W. GREENBERG; S. M. HECKMAN; J. R. CRENSHAW; J. R. WOLPAW. *Wadsworth Center, NY State Dept. of Hlth., Univ. of Delaware, Stratton VA Med. Ctr.*
- 1:00 L10 **759.25** • The relationship between sensorimotor cortex activity and H-reflex size in human flexor carpi radialis: Toward enhancing the therapeutic efficacy of spinal reflex operant conditioning. L. M. MCCANE*; J. R. WOLPAW; A. EFTEKHAR; A. K. THOMPSON; D. J. MCFARLAND; W. G. BESIO. *Wadsworth Center, NY State Dept. of Hlth., Med. Univ. of South Carolina, Univ. of Rhode Island.*

POSTER

760. Brain-Computer Interface: Extracranial

Theme E – Motor Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 L11 **760.01** Neural correlates of graded movement for brain-computer interfaces. C. HADDIX*; A. AL-BAKRI; S. SUNDERAM. *Univ. of Kentucky.*
- 2:00 L12 **760.02** • Resting state functional connectivity alterations associated with chronic stroke recovery via a brain-computer interface. J. B. HUMPHRIES*; A. SCOTT; M. OLUFOWO; K. Y. PARK; A. G. S. DANIEL; K. RYBCZYNSKI; T. NOTESTINE; A. R. CARTER; E. C. LEUTHARDT. *Washington Univ. in St. Louis, Washington Univ. in St. Louis, Washington Univ. in St. Louis, Washington Univ. in St. Louis.*
- 3:00 L13 **760.03** • Bispectral feature extraction improves brain-computer interface performance. D. SYED*; C. K. KOVACH; P. E. GANDER; C. G. REDDY; B. F. SNOAD; M. A. HOWARD, III. *Carver Col. of Med., Univ. of Iowa Hosp. and Clinics, Univ. of Florida-Gainesville.*
- 4:00 L14 **760.04** Resting and pre-stimulus EEG spectra predict SNR of EEG and BCI performance. L. KO*; H. CHANG; T. JUNG. *Natl. Chiao Tung Univ., Univ. of California San Diego.*

- 1:00 L15 **760.05** Development and application of mild therapeutic hypothermia to reduce cortical inflammation associated with Utah microelectrode array implantation in the rat. E. A. DUGAN*; I. TAMAMES; C. BENNETT; A. PRASAD; W. DIETRICH, III; S. RAJGURU. *Univ. of Miami, Univ. of Miami, Univ. of Miami Sch. of Med., Univ. of Miami.*
- 2:00 L16 **760.06** Decoding of arm movements from electroencephalogram using convolutional neural network. M. KATO*; S. SHIMADA. *Meiji Univ.*
- 3:00 L17 **760.07 ▲** Novel electrodes for reliable EEG recordings on coarse and curly hair. A. ETIENNE*; H. WEIGLE; T. LAROA; M. AFELIN; A. KRISHNAN; S. KELLY; P. GROVER. *Carnegie Mellon Univ., Wesleyan Univ.*
- 4:00 L18 **760.08** Effects of training on electroencephalogram about motor imaginary tasks pertaining to the lower limbs. M. S. SHIBATA*; K. HOSHINO; A. ISHIYAMA; Y. ONO. *Waseda Univ., Meiji Univ.*
- 1:00 L19 **760.09** A computational model and brain-computer interface technology that uses virtual reality to measure anxiety induced disruption to motor function in biological systems. R. MEACHAM*; M. E. HERNANDEZ; S. M. LAVALLE; R. B. SOWERS; A. YERSHOVA. *Univ. of Illinois Urbana-Champaign.*
- 2:00 L20 **760.10** Electrocortical activity while standing, walking, and recovery after unpredictable trip perturbations. J. AN*; D. YOO; B. LEE. *Univ. of Houston.*
- 1:00 DP10/L21 **760.11** (Dynamic Poster) Brain computer interface based communication for individuals in locked-in state without gaze fixation. A. TONIN*; A. JARAMILLO-GONZALEZ; A. RANA; M. KHALILI ARDALI; N. BIRBAUMER; U. CHAUDHARY. *Univ. of Tübingen, Wyss Ctr. for Bio and Neuroengineering.*
- 4:00 L22 **760.12** Differences in event related desynchronization of mu rhythms between three types of motor imagery during action observation of leg movement. K. HOSHINO*; M. SHIBATA; A. ISHIYAMA; Y. ONO. *Waseda Univ., Meiji Univ.*
- 1:00 L23 **760.13** Decoding movement intentions from posterior parietal cortex using functional ultrasound neuroimaging. S. L. NORMAN*; V. N. CHRISTOPOULOS; D. MARESCA; C. DEMENÉ; T. DEFFIEUX; M. TANTER; M. G. SHAPIRO; R. A. ANDERSEN. *Caltech, Inst. Langevin, Physmed / Inserm U1273, INSERM, Calif Inst. of Technol.*
- 2:00 L24 **760.14** Longitudinal observation of event-related potentials commonly used in brain-computer interfaces. J. R. ESTEPP*; A. M. PIASECKI; K. E. ALEXANDER; C. L. WINTERMUTE; S. M. ELBASIOUNY. *Wright State Univ., US Air Force Res. Lab., Ball Aerospace, Wright State Univ.*
- 3:00 L25 **760.15** Deep learning time-resolves fNIRS cortical activation asymmetries during a force tracking task evoking non-stationary haemodynamic responses. P. ORTEGA*; A. FAISAL. *Imperial Col.*
- 4:00 L26 **760.16** A web-based BCI application with interactive customizing tool for severe paralysis patients and their caregivers. T. KOMATSU*; K. TAKANO; K. NAKAMURA. *Res. Inst. of Natl. Rehabil. Ctr. for Persons with Disabilities.*
- 1:00 L27 **760.17** Sleep in the completely locked-in state (CLIS). U. CHAUDHARY*; A. MALEKSHAHI; A. GONZALEZ; A. TONIN; A. RANA; N. BIRBAUMER. *Univ. of Tübingen, Wyss Ctr. for Bio and Neuroengineering, Univ. of Tübingen, Eberhard Karls Univ. of Tübingen.*
- 2:00 L28 **760.18** Hydrophilic conductive sponge electrodes for EEG monitoring. A. KRISHNAN*; K. ROZYLOWICZ; H. WEIGLE; S. K. KELLY; P. GROVER. *Carnegie Mellon Univ.*
- 3:00 L29 **760.19** Evidence of latency variation in the P3 speller brain computer interface. D. E. THOMPSON*; M. MOWLA; J. E. HUGGINS. *Kansas State Univ., Univ. of Michigan.*
- 4:00 L30 **760.20** Assessment of high-frequency and multi-color visual stimulus using dry electrodes for BCI applications. Y. WANG*; S. JENNINGS; R. VIAJAR; M. A. CHEVILLET. *Facebook.*
- 1:00 L31 **760.21** Bimodal electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) brain-computer interface (BCI) for communication by individuals in completed locked-in state (CLIS). A. JARAMILLO-GONZALEZ*; A. TONIN; M. KHALILI ARDALI; A. RANA; N. BIRBAUMER; U. CHAUDHARY. *Univ. of Tuebingen, Wyss-Center for Bio- and Neuro-Engineering.*
- 2:00 L32 **760.22** Towards non-invasive decoding of cortical patterns: Goal directed movements, movement trajectories, error potentials, hand movement attempts and artificial sensory feedback in humans. G. R. MUELLER-PUTZ*; J. PEREIRA; R. KOBLER; C. LOPES DIAS; L. HEHENBERGER; A. SCHWARZ; P. OFNER; A. I. SBURLEA. *Graz Univ. of Technol.*
- 3:00 L33 **760.23** Relating neural, muscle and kinematic grasping correlates during movement observation and execution. A. I. SBURLEA*; N. BUTTURINI; G. R. MUELLER-PUTZ. *Inst. of Neural Engineering, TUGraz, Univ. of Padova.*
- 4:00 L34 **760.24** Using ErrPs to improve continuous BCIs. C. LOPES-DIAS*; A. I. SBURLEA; G. R. MUELLER-PUTZ. *Graz Univ. of Technol.*
- 1:00 L35 **760.25** Visuo-spatial complexity and object-relatedness impact brain activity during motor imagery. S. C. WRIESSNEGGER*; J. PEREIRA; A. SCHWARZ; G. MUELLER-PUTZ. *Graz Univ. of Technol.*
- 2:00 L36 **760.26** Investigating goal-directed movement planning and intention using electroencephalography. J. PEREIRA*; A. I. SBURLEA; P. OFNER; A. SCHWARZ; G. MÜLLER-PUTZ. *Graz Univ. of Technol.*
- 3:00 L37 **760.27** Expression of kinematic information in EEG and MEG signals during visuomotor tasks. R. J. KOBLER*; A. I. SBURLEA; V. MONDINI; E. KOLESNICHENKO; H. HASHIMOTO; M. HIRATA; G. R. MUELLER-PUTZ. *Graz Univ. of Technol., Osaka Univ., Univ. of Bologna, Univ. of Amsterdam.*
- 4:00 L38 **760.28 ●** Low impedance, low cost electrodes for long-term electroencephalography and non-invasive electrical brain stimulation. N. VYSOKOV*; I. TARASENKO; A. TARASENKO; M. OGANESYAN. *BrainPatch, Univ. Col. London.*
- 1:00 L39 **760.29** Open Phantom: A freely available phantom device for use in EEG testing and validation. A. B. YU; S. E. BOTTOMLEY; C. G. SINKS; M. W. NONTE; W. HAIRSTON*. *CCDC Army Res. Lab., CCDC US Army Res. Lab., DCS Corp., CCDC Army Res. Lab.*
- 2:00 L40 **760.30** Fabrication of tunable electrical skull phantom from carbon nanofiber-doped PDMS. T. X. CAI; M. FORSSELL*; A. KRISHNAN; J. W. REDDY; P. GROVER; M. CHAMANZAR. *Carnegie Mellon Univ., Carnegie Mellon Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

POSTER

761. Brain-Computer Interface: Stimulation for Sensation

Theme E – Motor Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 L41 **761.01** ● A computational framework for the Argus II implant: Factors influencing neural activation volume. K. E. FINN*; H. J. ZANDER; S. F. LEMPKA; J. D. WEILAND. *Univ. of Michigan*.
- 2:00 L42 **761.02** ● Studying the effect of order and duration ratio of pulse polarities on perception thresholds with Argus II retinal prosthesis. D. HAJI GHAFFARI*; K. E. FINN; V. E. JEGANATHAN; J. D. WEILAND. *Univ. of Michigan, Univ. of Michigan*.
- 3:00 L43 **761.03** ● Effectiveness of the Orion visual cortical prosthesis for the performance of simple visually guided behaviors. W. H. BOSKING*; D. N. OSWALT; P. SUN; U. K. PATEL; M. ARMENTA SALAS; C. CRUZ; A. FAZIO; J. D. DORN; D. YOSHOR. *Baylor Col. of Med., Second Sight Med. Products, Inc., Second Sight Med. Products, Second Sight Med. Prod, Baylor Col. Med.*
- 4:00 L44 **761.04** ● Early feasibility study for the Orion cortical visual cortical prosthesis: From thresholds to visual function. U. K. PATEL*; M. ARMENTA SALAS; S. NIKETEGHAD; W. H. BOSKING; V. WUYURU; M. P. BARRY; D. YOSHOR; J. D. DORN; N. POURATIAN. *Second Sight Med. Products, Inc., UCLA, Baylor Col. of Med.*
- 1:00 L45 **761.05** ● Reliable shifts in phosphene location achieved using current steering in human visual cortex. D. OSWALT*; W. H. BOSKING; P. SUN; U. K. PATEL; M. ARMENTA SALAS; J. D. DORN; B. L. FOSTER; M. BEAUCHAMP; D. YOSHOR. *Baylor Col. of Med., Baylor Col. of Med., Second Sight Med. Products, Inc., Second Sight Med. Products, Second Sight Med. Prod, Baylor Col. of Med., Baylor Col. Med.*
- 2:00 L46 **761.06** ● Characterization and template comparison of phosphene location in blind human subjects with the Orion™ System. M. ARMENTA SALAS*; U. K. PATEL; S. NIKETEGHAD; W. H. BOSKING; M. P. BARRY; V. WUYURU; J. D. DORN; D. YOSHOR; N. POURATIAN. *Second Sight Med. Products, Inc., Univ. of California Los Angeles, Baylor Col. of Med.*
- 3:00 M1 **761.07** Functional prosthesis control using regenerative peripheral nerve interfaces and chronically implanted intramuscular electrodes. A. K. VASKOV*; P. P. VU; N. NORTH; A. J. DAVIS; T. A. KUNG; P. S. CEDERNA; C. A. CHESTEK. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan*.
- 4:00 M2 **761.08** ● A chronic neuro-myoelectric sensorimotor interface improves dexterous use of a bionic arm. J. A. GEORGE*; T. S. DAVIS; M. R. BRITON; M. D. PASKETT; C. C. DUNCAN; D. T. HUTCHINSON; G. A. CLARK. *Univ. of Utah, Univ. of Utah, Univ. of Utah, Univ. of Utah*.
- 1:00 M3 **761.09** Sensory consequences of electrical stimulation of individual fascicles within peripheral nerve. C. K. OVERSTREET*; J. CHENG; E. W. KEEFER, III. *Nerves Inc., UTSW Med. Ctr.*
- 2:00 M4 **761.10** Vns enhances thalamic information transmission through control of noradrenergic and cholinergic systems. C. RODENKIRCH*; Q. WANG. *Columbia Univ.*

- 3:00 M5 **761.11** Biomechanical analysis of data from transfemoral amputees with a bionic leg restoring neural sensory feedback. G. VALLE*; F. M. PETRINI; T. STIEGLITZ; M. BUMBASIREVIC; S. RASPOPOVIC. *ETH Zürich, Sant'Anna Sch. of Advanced Studies, Univ. of Freiburg, Sch. of Med. Univ. of Belgrade*.
- 4:00 M6 **761.12** ● Bi-directional control and sensory restoration solution for amputees. E. W. KEEFER*, III; C. OVERSTREET; J. CHENG; Q. ZHAO; Z. YANG. *Nerves Inc., UTSW Med. Ctr., Univ. of Minnesota Twin Cities*.
- 1:00 M7 **761.13** Closed-loop stimulation of cervical spinal cord and dorsal roots in upper-limb amputees to enable sensory discrimination. S. CHANDRASEKARAN*; A. C. NANIVADEKAR; D. M. WEIR; E. R. HELM; M. L. BONINGER; J. L. COLLINGER; R. A. GAUNT; L. E. FISHER. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh*.
- 2:00 M8 **761.14** Retinal implants with vertically aligned carbon nanotube pillar arrays for *in vivo* retinal studies. K. ZAPPITELLI*; J. STODDARD; R. TAYLOR; T. MCGILL; B. ALEMÁN. *Univ. of Oregon, Oregon Hlth. and Sci. Univ.*
- 3:00 M9 **761.15** Neural stimulation eliciting sensation activates reflex pathways in lower-limb amputees. H. CHARKHKAR*; K. H. CHENG; N. S. MAKOWSKI; R. J. TRILO. *Case Western Reserve Univ., Louis Stokes Cleveland VA Med. Ctr., MetroHealth Med. Ctr.*

POSTER

762. Posture and Gait II

Theme E – Motor Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 M10 **762.01** ▲ Explicit adjustment of step timing during split-belt walking reveals interdependent recalibration of movements in space and time. M. GONZALEZ-RUBIO*; N. F. VELASQUEZ; G. TORRES-OVIEDO. *Univ. of Pittsburgh*.
- 2:00 M11 **762.02** Interaction between healthy aging and walking speed on the generalization of locomotor adaptation. D. M. MARISCAL*; C. J. SOMBRIC; H. M. HARKER; G. TORRES-OVIEDO. *Univ. of Pittsburgh*.
- 3:00 M12 **762.03** Human perception of walking speed asymmetry and its adaptation over the course of split-belt walking. P. A. ITURRALDE*; G. TORRES-OVIEDO. *Univ. of Pittsburgh, Univ. of Pittsburgh*.
- 4:00 M13 **762.04** Using electrically-evoked ankle pain to study gait adaptations to fixed versus movement-dependent pain duration: A model of musculoskeletal lower limb pain. R. JEFFREY-GAUTHIER*; M. BERTRAND-CHARETTE; C. MERCIER; J. ROY; L. J. BOUYER. *Univ. Laval Fac Med., Univ. Laval Fac Med.*
- 1:00 M14 **762.05** Effect of over-actuation on neuromechanical model of rat hindlimb with biarticular muscles. K. DENG*; A. J. HUNT; R. D. QUINN. *Case Western Reserve Univ., Portland State Univ.*
- 2:00 M15 **762.06** Balance impairment investigation of pediatric medulloblastoma patients with wearable motion capture system. M. B. KILICOGLU*; M. TANRIVERDI; F. B. ÇAKIR; H. ARGUNSAH BAYRAM. *Acibadem Mehmet Ali Aydinlar Univ., Bezmialem Vakif Univ.*

- 3:00 M16 **762.07** Optogenetic activation and silencing of leg motor neurons and proprioceptors alters walking dynamics in *Drosophila melanogaster*. E. S. DICKINSON*; J. C. TUTHILL. *Univ. of Washington*.
- 4:00 M17 **762.08** Enhanced variation in lateral pelvis assistance force during walking may facilitate weight shifting in individuals post-stroke. M. WU*; C. HSU; J. LIN; W. DEE. *Shirley Ryan Ability Lab- Chicago, Univ. of Illinois at Chicago, Shirley Ryan Ability Lab*.
- 1:00 M18 **762.09** Development of a wearable balance sensor that provides real-time tactile biofeedback and preliminary test results on pediatric brain tumor patient. B. YALCIN*; M. TANRIVERDI; F. B. CAKIR; M. B. BAYRAM; H. ARGUNSAH BAYRAM. *Acibadem Mehmet Ali Aydinlar Univ., Bezmialem Vakif Univ.*
- 2:00 M19 **762.10** • Intermittent linearity of foot force direction vs center of pressure in quiet standing. K. NICHOLS; A. LEFRANC; J. BARTLOFF; K. G. GRUBEN*. *Univ. Wisconsin*.
- 3:00 M20 **762.11** Cognition relates to motor output complexity during a challenging locomotor task in young adults. S. A. BRINKERHOFF; R. T. FAWCETT; J. A. ROPER*. *Auburn Univ.*
- 4:00 M21 **762.12** Bidirectional control of a sensing powered transtibial prosthesis during walking in the cat. B. I. PRILUTSKY; H. PARK; K. OH; J. F. DALTON, IV; S. P. DEWEERTH; M. PITKIN; A. N. KLISHKO*. *Georgia Inst. Technol., Texas A&M Univ., Georgia Inst. of Technol., Georgia Hand, Shoulder & Elbow, Lehigh Univ., Tufts Univ. Sch. of Med., Poly-Orth Intl., Georgia Inst. of Technol.*
- 1:00 M22 **762.13** Kinematics of simultaneous bidirectional hindlimbs locomotion in decerebrate cats. V. LYAKHOVETSKII; N. MERKULYEVA; O. GORSKII; P. MUSIENKO*. *Pavlov Inst. of Physiology, Russian Acad. of Sci., Russian Res. Ctr. of Radiology and Surgical Technologies, Ministry of Healthcare of the RF, Inst. of Translational Biomedicine, Saint-Petersburg State Univ.*
- 2:00 M23 **762.14** The HoloLens augmented reality system provides valid measures of gait performance in healthy adults. M. MILLER KOOP*; A. B. ROSENFELDT; J. D. JOHNSTON; J. QU; M. C. STREICHER; J. L. ALBERTS. *Cleveland Clin., Cleveland Clin.*
- 3:00 M24 **762.15** A novel approach to the spatiotemporal quantification of gait in the common marmoset. A. BRADFIELD; N. SCHULTZ-DARKEN; K. MALICKI; K. K. AUSDERAU; M. E. EMBORG; K. A. PICKETT*. *Univ. of Wisconsin - Madison, Univ. of Wisconsin-Madison*.
- 4:00 M25 **762.16** Influences of peripheral visual field loss on sensory reweighting system during quiet standing in virtual reality environment. K. TANEDA*; H. MANI; N. KATO; S. KOMIZUNAI; K. ISHIKAWA; T. MARUYA; Y. TAKAMATSU; T. ASAKA. *Hokkaido Univ., Hokkaido Univ., Hokkaido Univ. of Sci., Hokkaido Univ.*
- 1:00 M26 **762.17** Learning effects of visual and auditory feedback training on voluntarily postural control. N. HASEGAWA*; M. MANTINI; L. A. KING; F. B. HORAK; T. ASAKA. *Hokkaido Univ., Oregon Hlth. and Sci. Univ.*
- 2:00 M27 **762.18** • Role of ventricle volume in the association between cognitive status and mobility metrics in Parkinsonian disorders: A mediation analysis. A. RAGOTHAMAN*; O. MIRANDA DOMINGUEZ; N. HASEGAWA; J. G. NUTT; M. MANCINI; D. A. FAIR; F. B. HORAK. *Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ., Hokkaido Univ., Univ. Oregon Hlth. Sci. Univ., Oregon Hlth. and Sci. Univ., Oregon Hlth. Sci. Univ., OHSU*.
- 3:00 M28 **762.19** • Effects of an agility exercise program with cognitive challenges on objective measures of gait and balance in people with Parkinson's disease. P. CARLSON-KUHTA*; N. HASEGAWA; V. SHAH; L. KING; M. MANCINI; F. B. HORAK. *Oregon Hlth. & Sci. Univ., Hokkaido Univ.*
- 4:00 M29 **762.20** • Multiple domains of postural control in Parkinson's disease; feature selection of mobility measures. L. A. KING*; N. HASEGAWA; V. SHAH; P. CARLSON-KUHTA; M. MANCINI; F. HORAK. *Oregon Hlth. and Sci. Univ. Dept. of Neurol., Hokkaido Univ.*
- 1:00 M30 **762.21** • Turning features in people with Parkinson's disease, spinocerebellar ataxia, and healthy control subjects. V. V. SHAH*; M. MANCINI; N. HASEGAWA; P. CARLSON-KUHTA; J. G. NUTT; C. GOMEZ; H. L. CASEY; M. EL GOHARY; F. B. HORAK. *Oregon Hlth. and Sci. Univ., Hokkaido Univ., The Univ. of Chicago, APDM*.
- 2:00 M31 **762.22** Altering spatiotemporal asymmetry influences the reactive control of balance during walking in people post-stroke. C. LIU*; S. PARK; N. SANCHEZ; J. K. TILSON; S. J. MULROY; J. M. FINLEY. *USC, USC, Rancho Los Amigos Natl. Rehabil. Ctr.*
- 3:00 M32 **762.23** Impact of modifying spatiotemporal asymmetry on frontal plane whole-body angular momentum during walking post-stroke. U. S. P. PARK*; C. LIU; S. NATALIA; J. K. TILSON; S. J. MULROY; J. M. FINLEY. *USC, Rancho Los Amigos Natl. Rehabil. Ctr.*

POSTER

763. High-Level Control of Posture and Gait

Theme E – Motor Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 M33 **763.01** Differences in response to auditory cues across movement types in people with Parkinson's disease with and without freezing of gait. A. P. HORIN*; E. C. HARRISON; K. S. RAWSON; G. M. EARHART. *Washington Univ. Sch. of Med., Washington Univ. in St. Louis, Washington Univ. Sch. of Med.*
- 2:00 M34 **763.02** Can stroke survivors learn and retain a new walking pattern through explicit, strategic locomotor learning? M. FRENCH*; D. S. REISMAN. *Univ. of Delaware, Univ. Delaware*.
- 3:00 M35 **763.03** The characteristic of gait in children with motor coordination problems during dual cognitive and locomotor tasks. C. W. CHAU*; N. RIPIC; A. STEKL; N. WHITE; B. MALLABER; M. DONAHUE. *Nazareth Col.*
- 4:00 M36 **763.04** The contribution of use dependent plasticity to locomotor learning. J. M. WOOD*; H. E. KIM; D. S. REISMAN; S. M. MORTON. *Univ. of Delaware, Univ. of California, Berkeley, Univ. Delaware, Univ. of Delaware*.

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 M37 **763.05** Walking humans regulate lateral stepping in a redundant, multi-objective, and adaptable way. J. B. DINGWELL*; J. P. CUSUMANO; M. E. KAZANSKI; A. C. RENDER. *Pennsylvania State Univ. Univ. Park, Penn State Univ., Pennsylvania State Univ.*
- 2:00 M38 **763.06** Center-of-mass predictions of foot placement may reflect passive dynamics and not control. N. S. PATIL*; J. B. DINGWELL; J. P. CUSUMANO. *The Pennsylvania State Univ., Penn State Univ.*
- 3:00 M39 **763.07** Effects of concurrent cognitive task difficulty on cortical activation and network in a cognitive-[editor1]postural dual task: A functional near-infrared spectroscopic study. M. MIHARA*; S. INAZUMI; H. OTOMUNE; I. MIYAI; Y. SUNADA. *Kawasaki Med. Sch., Kawasaki Med. Sch., Morinomiya Hosp.*
- 4:00 M40 **763.08** Larger visual perturbations affect the foot placement but not the ankle roll or push-off mechanism for balance control during walking. H. REIMANN*; T. D. FETTROW; M. ARCODIA; E. KAYE; D. GRENET; J. J. JEKA. *Univ. of Delaware, Univ. of Delaware.*
- 1:00 M41 **763.09** Individual neurons in macaque deep mesencephalic nucleus display both vestibular and locomotor modulation. O. R. STANLEY*; E. GUGIG; K. E. CULLEN. *Johns Hopkins Univ.*
- 2:00 M42 **763.10** Motor adaptation to cognitive challenges and walking perturbations. P. KAO*; M. A. PIERRO. *Univ. of Massachusetts Lowell.*
- 3:00 M43 **763.11** Link of white matter tract integrity & dual-task costs on gait parameters in mild cognitive impairment and normal aging. M. M. GORECKA; S. CASTRO-CHAVIRA; T. R. VANGBERG; O. VASYLENKO; K. WATERLOO; C. RODRIGUEZ-ARANDA*. *Univ. of Tromsø, Univ. Hosp. of North Norway.*
- 4:00 M44 **763.12** Dual-task costs in highly aged residents of primary care settings. J. RUDISCH; A. KRAMER; C. VOELCKER-REHAGE*; B. WOLLESEN. *Chemnitz Univ. of Technol., Univ. of Hamburg.*
- 1:00 N1 **763.13** Age differences in a combined walking and grasping task. A. H. MASON*; K. A. PICKETT; B. TRAVERS; A. PADILLA. *Univ. of Wisconsin - Madison, Univ. of Wisconsin-Madison.*
- 2:00 N2 **763.14** Deep brain stimulation of the mesencephalic locomotor region acutely enhances locomotion in a large animal model of incomplete spinal cord injury. S. J. CHANG*; A. J. SANTAMARIA; F. J. SANCHEZ; P. M. P. SARAIVA; L. M. VILLAMIL; Y. NUNEZ-GOMEZ; I. OPRIS; J. P. SOLANO; J. D. GUEST; B. R. NOGA. *Univ. of Miami, Miller Sch. of Med., Univ. of British Columbia, Univ. of Miami, Miller Sch. of Med., Univ. of Miami, Miller Sch. of Med.*
- 3:00 N3 **763.15** Adaptive locomotor trajectory planning in consistent and unpredictable environments. M. A. BUCKLIN*; J. DEOL; M. WU; G. BROWN; K. E. GORDON. *Northwestern Univ., Northwestern Univ., Shirley Ryan Ability Lab., Edward Hines Jr. Admin. Hospital.*
- 4:00 N4 **763.16** Effects of environments on the dual tasking timed up and go test: A pilot study. R. ALMAJID*; A. MAKAREMI; A. HENSLEY. *West Coast Univ.*
- 1:00 N5 **763.17** Muscle synergies identified from step-to-step variations of muscle activations during treadmill locomotion in rats. J. J. WALLNER*; C. ALESSANDRO; M. C. TRESCH. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*
- 2:00 N6 **763.18** ▲ Older adults demonstrate sustained adaptation to frequent perturbations in recumbent stepping. T. SHAFFER*; S. SHIRAZI; H. J. HUANG. *Univ. of Central Florida, Univ. of Central Florida.*
- 3:00 N7 **763.19** Task-specific modulation of the functional field of view during locomotion. V. MIYASIKE-DASILVA*; J. J. BANKS; Y. R. RAWAL; B. SHARAFI; J. V. JACOBS. *Univ. of Manitoba, Univ. of Massachusetts, Celest Inc., Univ. of Vermont.*
- 4:00 N8 **763.20** Evaluating optimization principles in bipedal locomotion using dynamical movement primitives. P. NOZARI PORSHOKOUHI*; J. M. FINLEY. *USC, USC.*
- 1:00 N9 **763.21** Lighten up! Postural instructions affect static and dynamic postural control in healthy older adults. R. G. COHEN*; J. L. BAER; D. KRAL; R. RAVICHANDRA; C. P. MCGOWAN; T. W. CACCIATORE. *Univ. of Idaho, Univ. of Idaho, Univ. Col. London.*
- 2:00 N10 **763.22** ▲ Corticomuscular coherence in alpha band differentiates active and passive stepping. S. M. BRUNSON*; H. J. HUANG. *Univ. of Central Florida, Univ. of Central Florida.*
- 3:00 N11 **763.23** Walking speeds can be predicted from electroencephalography after dimension reduction. A. S. RAHROOH; H. HUANG; H. J. HUANG*. *Univ. of Central Florida, Univ. of Central Florida.*
- 4:00 N12 **763.24** Transfer of the perceptual and motor components of treadmill learning to natural walking. C. ROSSI*; A. J. BASTIAN. *Johns Hopkins Univ., KKI & Johns Hopkins.*
- 1:00 N13 **763.25** A walk to remember: People learn and store new locomotor memories despite competing cognitive involvement. K. A. LEECH*; A. J. BASTIAN. *Johns Hopkins Univ., KKI & Johns Hopkins.*
- 2:00 N14 **763.26** Learning a new walking pattern: The roles of movement and model formation. P. PADMANABHAN; V. S. CHIB; R. T. ROEMMICH*. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Kennedy Krieger Inst.*
- 3:00 N15 **763.27** Unsupervised classification of open field mouse behavior. U. KLIBAITE*; J. VERPEUT; M. KISLIN; S. S. WANG; J. W. SHAEVITZ. *Princeton Univ., Princeton Univ., Princeton Univ.*
- 4:00 N16 **763.28** Behavioral effects of the DREADD agonist clozapine-N-oxide (CNO) revealed by computational analysis of free animal movement. J. L. VERPEUT*; M. KISLIN; U. KLIBAITE; J. W. SHAEVITZ; S. S. WANG. *Princeton Univ., Princeton Univ., Princeton Univ.*

POSTER

764. Impairments of Posture and Gait

Theme E – Motor Systems

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 N17 **764.01** Effects of the first dose of levodopa on multi-muscle synergies stabilizing vertical posture in drug-naïve Parkinson patients. S. M. FREITAS*; P. B. DE FREITAS, JR; A. FALAKI; T. CORSON; M. M. LEWIS; X. HUANG; M. L. LATASH. *Univ. Cidade De Sao Paulo, Univ. Cruzeiro Do Sul, Pennsylvania State Univ., Pennsylvania State Univ., Pennsylvania State Univ.*

- 2:00 N18 **764.02** The relationship between speed and spatiotemporal gait metrics of overground and treadmill walking in Parkinson's disease. C. LU*; K. H. LOUIE; S. E. COOPER. *Univ. of Minnesota, Univ. of Minnesota.*
- 3:00 N19 **764.03** ● Minimizing sensorimotor encumbrances for human facilitators in locomotor rehabilitation. M. KOH; S. YEN; L. Y. LEUNG; S. GANS; Y. ADIBNIA; M. PAVEL; C. J. HASSON*. *Northeastern Univ., Tufts Med. Ctr., Northeastern Univ.*
- 4:00 N20 **764.04** Children with idiopathic toe walking showed differences in areas of tactile and vestibular processing. V. W. CHU*; G. L. GIROLAMI; R. SOANGRA; R. BEUTTLER; C. HOLLANDSWORTH; S. CHHEDA; M. GRANT-BEUTTLER. *Virginia Commonwealth Univ., Univ. of Illinois at Chicago, Chapman Univ., Chapman Univ.*
- 1:00 N21 **764.05** Persistent deficits in hindlimb locomotion following infarct in the hindlimb motor cortex of rats. S. B. FROST*; J. A. BORRELL; S. BARBAY; E. HOOVER; B. J. LAMB; R. J. NUDO. *Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr.*
- 2:00 N22 **764.06** ● Neck muscle activation latency in older adults. J. J. SOSNOFF*; T. WOOD. *Univ. of Illinois at Urbana-Champaign.*
- 3:00 N23 **764.07** Dual-task cognitive motor interference exacerbates turn deficits in fragile X-associated tremor/ataxia syndrome (FXTAS). J. GUAN*; J. A. O'KEEFE. *Rush Univ. Med. Ctr., Rush Univ. Col. of Med.*
- 4:00 N24 **764.08** Ageing brain shows less gait-phase-related modulation of midline sensorimotor cortex. H. YOKOYAMA*; T. YOSHIDA; K. MASANI. *Tokyo Univ. of Agr. and Technol., Univ. Med. Ctr. Göttingen, Toronto Rehab Inst.*
- 1:00 N25 **764.09** Individuals with an ACL reconstruction adopt a more rigid coordination pattern during dynamic movement. C. N. ARMITANO*; S. MORRISON; D. M. RUSSELL. *Old Dominion Univ.*
- 2:00 N26 **764.10** ▲ Sonic Hedgehog expression by pyramidal tract neurons is critical for quadrupedal gait coordination. A. SAJAN; J. SHEN; L. STARIKOV; A. H. KOTTMANN*. *SUNY Downstate Med. Sch., City Univ. of New York Sch. of Med.*
- 3:00 N27 **764.11** Influence of neural electrode implant in the median nerve of rhesus monkey on gait parameters of quadruped locomotion. J. WON*; J. PARK; J. SEO; Y. AHN; H. YEO; K. KIM; C. JEON; Y. LEE. *Korea Res. Inst. of Biosci. & Biotech.*
- 4:00 N28 **764.12** ● Post-concussion recovery timeline of postural stability in a division 1 baseball athlete. S. J. CHAVEZ*; S. M. SORIA; K. MANYAK; A. J. KOVACS; D. J. GOBLE; H. S. BAWEJA. *San Diego State Univ., San Diego State Univ., San Diego State Univ., Univ. of Wisconsin, Oakland Univ., San Diego State Univ.*
- 1:00 N29 **764.13** ● Wearable sensor system to monitor PD gait in activities of daily living. B. SHIWANI; S. H. ROY; M. M. SAINT-HILAIRE; C. A. THOMAS; P. CONTESSA; G. DE LUCA; J. K. KLINE*. *Delsys Inc. and Altec Inc., Boston Univ. Sch. of Med.*
- 2:00 N30 **764.14** Cognitive load does not impact gaze behavior during walking in a real-world environment in older adult fallers and non-fallers. L. A. ZUKOWSKI*; C. A. GIULIANI; P. PLUMMER. *High Point Univ., Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill.*
- 3:00 N31 **764.15** Hand2 transcription factor enhances NMJ organization and function in old mice. A. RODRIGUES*; H. BONILLA; M. MESSI; Z. WANG; W. M. FREEMAN; O. DELBONO. *Wake Forest Univ., Oklahoma Univ. Hlth. Sci. Ctr., Wake Forest Sch. Med.*
- 4:00 N32 **764.16** ▲ Open-eyed one leg stand test predicts cognitive function, grey matter volume and white matter volume in healthy older people. R. HORIE*; R. NOUCHI; H. TAKEUCHI; K. SAKAKI; S. YOKOTA; K. IIZUKA; H. C. LEE; R. KAWASHIMA. *Sch. of Med., IDAC, Tohoku Univ., Japan Society for the Promotion of Sci., Kyushu Univ., Grad. Sch. of Med.*
- 1:00 N33 **764.17** Effect of dopaminergic medication on balance automaticity in Parkinson's disease. R. MISHRA*; C. WORKMAN; A. THRASHER. *Univ. of Houston, Univ. of Iowa.*
- 2:00 N34 **764.18** Changes in lumbar BDNF gene methylation and locomotor behavior following spinal cord transection in developing rats. A. L. BOZEMAN; T. S. DOHERTY; T. L. ROTH; M. R. BRUMLEY*. *Idaho State Univ., Univ. of Delaware, Univ. of Delaware, Idaho State Univ.*
- 3:00 N35 **764.19** Corticospinal drive is reduced with age during split-belt treadmill walking. S. SATO; J. T. CHOI*. *Univ. of Massachusetts Amherst.*
- 4:00 N36 **764.20** ● Repeated exposures to environmental-like concentrations of benzene, toluene, ethylbenzene, and xylene (BTEX) in adolescent Swiss-Webster mice results in alterations to locomotor activity. C. J. DAVIDSON*; D. W. SVENSON; K. HESLIP; M. NADDAF; S. E. BOWEN. *Wayne State Univ.*
- 1:00 N37 **764.21** Online adjustments of foot placement during walking. J. B. SMEETS*; Y. ZHANG; E. BRENNER; J. E. DUYSSENS; S. VERSCHUEREN. *Vrije Univ. Amsterdam, KU Leuven, KU Leuven.*
- 2:00 N38 **764.22** The relation between falls risk, slowing of movement, and variability in Parkinson's disease. J. R. MOXEY*; R. SIMMONS; A. GRUNSFELD; K. THOMAS; S. MORRISON. *Old Dominion Univ., Old Dominion Univ., Sentara, Sentara, Old Dominion Univ.*
- 3:00 N39 **764.23** The negative effects of cognitive interference on mobility in Huntington's disease. N. L. PURCELL*; J. G. GOLDMAN; B. BERNARD; J. A. O'KEEFE. *Rush Univ. Med. Ctr., Shirley Ryan Mobility Lab., Rush Univ. Med. Ctr.*
- 4:00 N40 **764.24** Proportional myoelectric control of a powered ankle prosthesis for the enhancement of postural control under expected perturbation: A pilot study. A. FLEMING*; H. HUANG. *NC State Univ. & UNC, North Carolina State Univ. and Univ. of North Carolina-Chapel Hill.*
- 1:00 N41 **764.25** Chronic impairments of postural stability associated with history of concussion. N. REILLY*; J. PREBOR; J. MOXEY; E. SCHUSSLER. *Old Dominion Univ.*
- 2:00 N42 **764.26** Functional impact of white matter aging among adults aged 50 years and above: A cross-sectional study. P. NAIR*; P. BALASUNDARAM; D. VIBHA; S. DWIVEDI; N. KUMAR; S. GAIKWAD; K. PRASAD. *All India Inst. of Med. Sci. (AIIMS), All India Inst. of Med. Sci. (AIIMS), All India Inst. of Med. Sci. (AIIMS), All India Inst. of Med. Sci. (AIIMS).*
- 3:00 N43 **764.27** Determine the kinematic differences between healthy controls and patients with unilateral vestibular deafferentation during gait and gaze stability exercises. L. WANG*; O. ZOBEIRI; J. MILLAR; M. SCHUBERT; K. CULLEN. *Johns Hopkins Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 N44 **764.28** • Transcutaneous spinal cord stimulation facilitates stepping performance in stroke patients. Y. GERASIMENKO*; D. SAYENKO; N. SANCHEZ; J. M. FINLEY; V. R. EDGERTON*. *Pavlov Inst. of Physiol, Houston Methodist Res. Inst., USC, Univ. of California Los Angeles.*
- 1:00 N45 **764.29** • Transcutaneous spinal stimulation modulates overground walking performance in individuals post-stroke. J. M. FINLEY*; N. SANCHEZ; Y. GERASIMENKO; D. SAYENKO; V. EDGERTON. *USC, Pavlov Inst. of Physiol., Univ. of California Los Angeles, Houston Methodist, Univ. of California Los Angeles.*

POSTER

765. Stress Response: Sex Differences

Theme F – Integrative Physiology and Behavior

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 N46 **765.01** ▲ Elucidating sex specific effects of stress on T helper cell subpopulations. G. N. RIVERO BALLON*; A. P. JOHNSON; J. R. RAINVILLE; G. E. HODES. *Virginia Tech., Virginia Polytechnic Inst. and State University, Virginia Tech.*
- 2:00 O1 **765.02** Sex differences in the effects of stress on microglia morphology are region specific. M. TSYGLAKOVA*; J. R. RAINVILLE; D. MCDANIEL; G. E. HODES. *Virginia Tech., Virginia Tech., Virginia Tech.*
- 3:00 O2 **765.03** Sex differences in the regulation of braininterleukin 1 beta in response to chronic stress. D. F. BARNARD*; K. M. GABELLA; A. C. KULP; A. D. PARKER; P. B. DUGAN; J. D. JOHNSON. *Kent State Univ., Kent State Univ.*
- 4:00 O3 **765.04** Sex differences in corticotropin-releasing factor (CRF) receptor trafficking in the locus coeruleus of mice conditionally overexpressing CRF: Implications for amyloid beta distribution. J. A. ROSS*; B. A. REYES; V. B. RISBROUGH; E. J. VAN BOCKSTAELE. *Drexel Univ. Col. of Med., Drexel Univ., Univ. of California San Diego, Drexel Univ. Col. Of Med.*
- 1:00 O4 **765.05** Androgens mediate sex differences in hypothalamic corticotropin releasing hormone gene expression following adrenalectomy of mice. A. L. HECK*; R. J. HANDA. *Colorado State Univ.*
- 2:00 O5 **765.06** Stress effects on impulsive choice depend on sex and time of exposure during development. E. ORDOÑES SANCHEZ*; J. FLOWERS II; C. M. ROGERS; C. S. ARDEKANI; S. B. FLORESCO; D. A. BANGASSER. *Temple Univ., Temple Univ., Univ. British Columbia, Temple Univ.*
- 3:00 O6 **765.07** Sex specific effects of early life stress on development and steroid hormones. C. S. ARDEKANI*; S. ECK; S. LUZ; E. KIM; M. SALVATORE; A. HALL; S. FAMULARO; S. BHATNAGAR; D. A. BANGASSER. *Temple Univ., Temple Univ., Children's Hosp. of Philadelphia, Temple University, Temple Univ.*
- 4:00 O7 **765.08** Pubertal chronic sleep restriction induces depression-like behavior and alters stress response in a sex-specific manner. M. S. MURACK*; É. MALETTE-GUYON; R. CHANDRASEGARAM; É. RHÉAUME; Z. NANJLI; S. SEMCHISHEN; E. AH-YEN; O. LATUS; C. MESSIER; N. ISMAIL. *Univ. of Ottawa, Cardiff Univ., Simon Fraser Univ.*
- 1:00 O8 **765.09** Early life stress effects on microglia function, blood brain barrier gene expression, and sex differences in mood-related behavior. A. I. SAULSBERY*; C. M. DODSON; H. D. LICHTENSTEIN; S. P. MURPHY; K. M. LENZ. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*
- 2:00 O9 **765.10** Developmental alterations in prefrontal cortex microglial morphology following maternal separation and lipopolysaccharide injection in male and female rats. S. PETERZELL*; K. R. GILDARIE; J. A. HONEYCUTT; V. THOMPSON; H. C. BRENHOUSE. *Northeastern Univ.*
- 3:00 O10 **765.11** Developmentally-dependent effects of maternal separation on oxidative stress accumulation in parvalbumin neurons of male and female rats. A. R. SOARES*; K. R. GILDARIE; J. A. HONEYCUTT; H. C. BRENHOUSE. *Yale Univ., Northeastern Univ.*
- 4:00 O11 **765.12** Early life stress alters the transposable element, LINE 1 in a sex-specific manner. A. CUARENTA*; K. E. KARLS; I. C. HENION; S. L. KIGAR; L. CHANG; V. P. BAKSHI; A. P. AUGER. *Univ. of Wisconsin, Univ. of Wisconsin - Madison, Natl. Inst. of Mental Hlth., Univ. of Wisconsin-Madison, Univ. of Wisconsin Madison Dept. of Psychiatry, Univ. Wisconsin, Madison.*
- 1:00 O12 **765.13** Stress- and gender- dependent changes in locus coeruleus physiology and anxiety-like behavior. O. BORODOVITSYNA*; D. J. CHANDLER. *Rowan Univ. GSBS, Rowan Univ. Sch. of Osteo. Med.*
- 2:00 O13 **765.14** ▲ Developmental Pb-exposure causes sex-dependent neurobiological changes in cell counts determined by isotropic fractionation and are associated with later life anxiety-like behavioral outcomes: Implications for early onset of emotional dysregulation disorders. L. S. NEUWIRTH*; J. S. JOSEPH*; J. C. SKEEN; K. P. LYNCH; I. AHMED; E. KHAIRI; E. CABANAS; M. A. VASQUEZ; G. CRUZ; J. R. BONITTO; A. CHOE; K. GILLENWATER; B. HINDI; S. PILOUT; M. KENT; K. G. LAMBERT. *SUNY Old Westbury, SUNY Old Westbury, SUNY Old Westbury, Univ. of Richmond, Univ. of Richmond.*
- 3:00 O14 **765.15** Hemispheric and sex-dependent effects of early-life stress on synaptic plasticity, neuronal excitability and NMDAR expression in the rat postweaning basolateral amygdala. A. GUADAGNO*; H. LONG; T. WONG; C. WALKER. *Douglas Mental Hlth. Univ. Inst., McGill Univ., McGill Univ.*
- 4:00 O15 **765.16** Variations of early life stress and sex differentially alter hippocampal development and function leading to disruptions in contextual learning. J. D. WHITE*; A. PUGLIESE; C. H. LEE; T. AREFIN; J. ZHANG; A. KAFFMAN. *Yale Sch. of Med., New York Univ. Langone.*
- 1:00 O16 **765.17** ▲ Exercise effects on activation of dorsal raphe nucleus-projecting neurons during uncontrollable stress. K. BONAR*. *The Univ. of Colorado Denver.*
- 2:00 O17 **765.18** Voluntary wheel running prevents the behavioral sequelae of uncontrollable stress in females. I. P. FALLON*; M. K. TANNER; A. M. TAMALUNAS; D. H. ROOT; M. V. BARATTA; B. N. GREENWOOD. *Univ. of Colorado Boulder, Univ. of Colorado Denver, Univ. of Colorado Denver.*
- 3:00 O18 **765.19** ▲ Optogenetic activation of SIFamide neurons during adulthood causes sexually dimorphic sleep induction in *drosophila melanogaster*. H. HUANG*; C. G. VECSEY. *Skidmore Col., Skidmore Col.*

- 4:00 O19 **765.20** Sex differences in hypothalamic-pituitary-adrenal axis response following a single and multiple nights of sleep restriction. K. BUBAN*; E. A. SHUPE; S. W. ROTHWELL; T. J. WU. *Uniformed Services Univ., Virginia Tech.*
- 1:00 O20 **765.21** Sex differences of the phosphoproteomic profiles in APP/PS1 mice after chronic unpredictable mild stress. S. DOMINGUEZ*; G. RODRIGUEZ; H. FAZELINA; H. DING; S. SEEHOLZER; H. DONG. *Northwestern Univ., The Children's Hosp. of Philadelphia.*
- 2:00 O21 **765.22** Irisin injection into the hippocampus suppresses acute stress-induced memory impairment and anxiety-like behavior in a sex dependent manner. M. JODEIRI-FARSHBAF*; D. CHERKOWSKY; N. MANAL; D. P. MOUSSOUKI; K. ALVIÑA. *Texas Tech. Univ.*
- 3:00 O22 **765.23** Chronic stress results in sex-specific deficits in behavioral flexibility and changes in gene expression in rat medial prefrontal cortex following a novel stress challenge. K. M. MOENCH*; M. R. BREACH; C. L. WELLMAN. *Indiana Univ.*
- 4:00 O23 **765.24** Examination of mu-opioid receptors in sexually-dimorphic responses to chronic stress. S. N. CASSELLA*; L. HORST; S. BAHLS. *Loras Col.*
- 2:00 O29 **766.06** Transcriptome analysis reveals a persistent, dormant neuroinflammatory phenotype revealed by inflammatory challenge in a mouse model of Gulf War illness. K. A. KELLY; L. T. MICHALOVICZ; D. B. MILLER; J. P. O'CALLAGHAN*. *CDC-NIOSH, CDC-NIOSH, Centers For Dis. Control and Prevention.*
- 3:00 O30 **766.07** An alpha7 nicotinic acetylcholine receptor modulator ameliorates behavioral performance in Gulf War illness model. J. REYES-GONZALEZ; D. PEREZ; P. A. FERCHMIN; N. SABEVA*. *Univ. Central Del Caribe, Univ. Central Del Caribe.*
- 4:00 O31 **766.08** Brain-derived neurotrophic factor (BDNF) in Gulf War illness: A comparison with chronic fatigue syndrome and post traumatic stress disorder. M. V. BRAHMAJOTHI*; M. B. ABOU-DONIA; S. GRAMBOW; D. T. PROVENZALE; B. SCOTT; N. KLIMAS; K. A. SIULLIVAN. *Duke Univ., Duke Univ. Med. Ctr., Duke Univ. Med. Ctr., Duke Univ. Med. Ctr. & VA, Duke Univ. Med. Ctr., Nova Southeastern Univ., Boston Univ.*
- 1:00 O32 **766.09** Military related exposures and the microbiome the United States-Veteran Microbiome Project (US-VMP). C. E. STAMPER*; K. A. STEARNS-YODER; A. J. HOISINGTON; J. D. HEINZE; T. T. POSTOLACHE; D. A. HADIDI; C. A. HOFFMIRE; M. A. STANISLAWSKI; C. A. LOWRY; L. A. BRENNER. *Rocky Mountain Regional VA Med. Ctr., Univ. of Colorado Denver, Military and Veteran Microbiome Consortium for Res. and Educ. (MVM-CoRE), Univ. of Colorado Denver, Air Force Inst. of Technol., Univ. of Colorado Boulder, Univ. of Maryland Sch. of Med., Univ. of Colorado Denver, Ctr. for Microbial Exploration.*

POSTER

766. Gulf War Illness: Pathological Causes and Consequences

Theme F – Integrative Physiology and Behavior

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 O24 **766.01** Modeling Gulf War illness through combined chemical exposures and infection-related immune activity. K. D. BECK*; J. A. BURTON; K. J. STALNAKER; H. J. CLARK; D. PATEL; T. P. COMINSKI; V. DELIC; B. A. CITRON. *Veterans Affairs NJ Hlth. Care Syst., Rutgers Univ. - New Jersey Med. Sch., Veterans Bio-Medical Res. Inst., Rutgers Univ. Sch. of Grad. Studies.*
- 2:00 O25 **766.02** Astrocyte morphology in a Gulf War model. B. A. CITRON*; W. A. RATLIFF; V. DELIC. *VA New Jersey Hlth. Care Syst., Rutgers- NJMS, Bay Pines VA Healthcare Syst.*
- 3:00 O26 **766.03** Autonomic disturbances elicited by stress and pyridostigmine bromide in a rat model of Gulf War illness. J. L. WOODRUFF; J. PECORELLA; J. RIVERS; C. M. LOMBARD; B. MUNIZ; V. A. MACHT; C. A. GRILLO; L. P. REAGAN*; S. K. WOOD. *Univ. of South Carolina Sch. of Med., Univ. of South Carolina Sch. of Med., Univ. of South Carolina Sch. of Med., Univ. of North Carolina At Chapel Hill, Univ. of South Carolina Sch. of Med., Univ. of South Carolina Sch. of Med.*
- 4:00 O27 **766.04** Microtubule-based mechanisms and therapies for Gulf War illness using hiPSC-derived neurons. P. YATES*; A. PATIL; K. A. SULLIVAN; P. W. BAAS; L. QIANG. *Drexel Univ. Col. of Med., Boston Univ. Sch. of Publ. Hlth.*
- 1:00 O28 **766.05** Modeling the behavioral and metabolic phenotype of mice exposed to Gulf War toxicants. E. V. KOZLOVA*; B. D. CHINTHIRLA; J. D. TRAN; A. E. BISHAY; G. R. LAMPEL; E. MONARREZ; M. C. CURRAS-COLLAZO. *Univ. of California Riverside.*
- 2:00 O33 **766.10** Post-exertional brain activity associated with verbal working memory differentiates Gulf War illness from chronic fatigue syndrome. S. D. WASHINGTON*; R. U. RAYHAN; R. GARNER; D. PROVENZANO; K. ZAJUR; J. W. VANMETER; J. N. BARANIUK. *Georgetown Univ. Med. Ctr., Howard Univ.*
- 3:00 O34 **766.11** Exercise differentially alters ascending arousal network activity associated with verbal working memory in Gulf War illness and chronic fatigue syndrome. H. S. PEPERMINTWALA*; S. D. WASHINGTON; F. A. MARTINEZ ADDIEGO; R. U. RAYHAN; J. N. BARANIUK. *Georgetown Univ., Georgetown Univ. Med. Ctr., Howard Univ. Col. of Med.*
- 4:00 O35 **766.12** A small-molecule that can enhance tripartite synapses is capable of improving mood and cognitive deficits in a mouse model of Gulf War illness. X. WANG*; Z. XU; F. ZHAO; K. LIN; T. XIAO; N. KUNG; J. FOSTER; C. C. ASKWITH; K. HODGETTS; C. G. LIN. *Ohio State Univ., Lab. of Drug Discovery in Neurodegeneration, Brigham and Women's Hospital/Harvard Med. Sch.*
- 1:00 O36 **766.13** Curcumin nanoparticle therapy modulates neuroinflammation, neurogenesis and mitochondrial activity and improves brain function in a model of Gulf War illness. S. ATTALURI*; M. ARORA; B. SHUAI; M. KODALI; L. MELISSARI; L. N. MADHU; A. BATES; X. RAO; E. MITRA; R. MAJETI; A. K. SHETTY. *Inst. For Regen Med. Texas A&M Univ. Coll Med., Col. of Pharmacy, Texas A&M Hlth. Sci. Ctr.*
- 2:00 O37 **766.14** Efficacy of melatonin for improving cognitive and mood function in a model of Gulf War illness. L. N. MADHU*; S. ATTALURI; B. SHUAI; M. KODALI; L. MELISSARI; X. RAO; A. K. SHETTY. *Inst. For Regen Med, Texas A&M Univ. Coll Med.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 3:00 O38 **766.15** Anthrax in Gulf War illness (GWI): Evidence from neuroblastoma cultures for the presence of anthrax vaccine antigen in the serum of veterans suffering from GWI. P. C. TSILIBARY*; E. P. SOUTO; L. M. JAMES; B. E. ENGDAHL; M. G. KRATZKE; A. P. GEORGOPOULOS. *Univ. of Minnesota, Minneapolis VA Hlth. Care Syst.*
- 4:00 O39 **766.16** An immunomodulatory glycan conjugate, lacto-N-fucopentaose III (LNFP III), restores deficits in spatial working memory and hippocampal long-term potentiation in a mouse model of Gulf War illness. K. A. BROWN*; J. M. CARPENTER; D. LUDWIG; C. J. PRESTON; R. L. DOCKMAN; D. A. HARN; N. M. FILIPOV; J. J. WAGNER. *Univ. of Georgia, Univ. of Georgia, Univ. of Georgia, Univ. of Georgia.*
- 1:00 O40 **766.17** Gulf War illness and inflammation: Association of symptom severity with c-reactive protein. R. JOHNSON*; L. JAMES; B. E. ENGDAHL; A. P. GEORGOPOULOS. *Univ. of Minnesota, Univ. of Minnesota/Minneapolis VAHCS, Univ. Minnesota.*
- 2:00 O41 **766.18** Gulf war illness (GWI)-protective HLA DRB1*13:02 allele protects against harmful anthrax vaccine antigen. S. CHARONIS*; A. P. GEORGOPOULOS. *Univ. of Minnesota, Dept. of Veterans Affairs Hlth. Care Syst.*
- 3:00 O42 **766.19** Gulf War illness brain and inflammation: Association of brain atrophy and axonal integrity with C-reactive protein. P. S. CHRISTOVA*; B. E. ENGDAHL; L. M. JAMES; R. A. JOHNSON; A. F. CARPENTER; S. M. LEWIS; A. P. GEORGOPOULOS. *Brain Sci. Ctr.*
- 4:00 O43 **766.20** Delayed treatment with the immunotherapeutic LNFP III ameliorates Gulf War illness-related behavioral deficits in a rodent model of the disease. J. M. CARPENTER*; R. L. DOCKMAN; H. D. LUDWIG; J. J. WAGNER; D. A. HARN; N. M. FILIPOV. *Univ. of Georgia, Univ. of Georgia.*

POSTER

767. Cellular Response to Stress

Theme F – Integrative Physiology and Behavior

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 O44 **767.01** Using single-cell transcriptomics to study the effects of early-life adversity on the crh-expressing neurons of the paraventricular nucleus (PVN). C. WILCOX*; A. K. SHORT; M. BIRNIE; J. L. BOLTON; Y. CHEN; A. MORTAZAVI; T. Z. BARAM. *Univ. of California, Irvine, Univ. of California-Irvine.*
- 2:00 P1 **767.02** FKBP5, a depression-associated gene, has a role in autophagy. H. PARK*; S. JUNG; J. CHANG; S. LEE. *Inha Univ., Ajou Univ.*
- 3:00 P2 **767.03** Normalizing aberrant DNA methylation associated with maltreatment. N. COLLINS*; C. ZIMMERMAN; T. S. DOHERTY; N. L. H. PHILLIPS; T. L. ROTH. *Univ. of Delaware.*
- 4:00 P3 **767.04** The effects of prenatal testosterone on stress system development. E. R. MARTIN*; H. A. WILSON; N. J. MACLUSKY; E. CHOLERIS. *Univ. of Guelph, Univ. of Guelph, Univ. of Guelph.*
- 1:00 P4 **767.05** Surgical disruption of corticotropin releasing hormone neurons in the nucleus of the hippocampal commissure reduces HPA axis activity in birds. M. T. KIDD*, Jr.; H. J. KADHIM; S. W. KANG; W. J. KUENZEL. *Univ. of Arkansas, Univ. of Arkansas.*
- 2:00 P5 **767.06** Vasotocinergic system in septo-hypothalamic structures and anterior pituitary sustains HPA axis response in birds. H. J. KADHIM*; M. T. KIDD, Jr.; S. W. KANG; W. J. KUENZEL. *Univ. of Arkansas Fayetteville, Univ. of Arkansas.*
- 3:00 P6 **767.07** Exploring the role of Egr1 in regulating hormone-dependent transcriptional programs and anxiety- and depression-related behavior in female mice. D. ROCKS*; I. JARIC; H. CHAM; A. HERCHEK; J. M. GREALLY; M. SUZUKI; M. KUNDAKOVIC. *Fordham Univ. Dept. of Biol. Sci., Fordham Univ. Dept. of Psychology, Albert Einstein Col. of Med. Dept. of Genet. Ctr. for Epigenomics.*
- 4:00 P7 **767.08** Impaired proteostasis in response to early life stress in the adult and aged hippocampus. J. A. SIERRA FONSECA*; J. N. HAMDAN; A. A. COHEN; S. M. CARDENAS; S. SAUCEDO, Jr.; G. A. LODOZA; K. L. GOSSELINK. *Univ. of Texas at El Paso, Univ. of Texas at El Paso, Smith Col., Burrell Col. of Osteo. Med.*
- 1:00 P8 **767.09** Effect of chronic corticosterone treatment on tryptophan hydroxylase isoform expression and activity in rat adrenal glands. N. SAROJ*; J. TERRÓN SIERRA; S. CINVESTAV-IPN, Ctr. for Res. and Advanced Studies of the Na.
- 2:00 P9 **767.10** Profiling m⁶A RNA methylation in human postmortem brain tissue in individuals with depression. H. MITSUHASHI*; C. NAGY; Z. AOUABED; G. TURECKI. *McGill Univ., McGill Group for Suicide Studies, McGill Univ.*
- 3:00 P10 **767.11** ▲ Oxytocin and CB2 receptors in rats subjected to maternal separation and social isolation. Y. A. ALVARADO RAMIREZ*; D. A. RANGEL RANGEL; A. E. RUIZ-CONTRERAS; O. PROSPERO-GARCIA; M. MENDEZ DIAZ. *Univ. Nacional Autonoma De Mexico, UNAM, Lab. Neurogenomica Cognitiva, Fac. Psicologia, UNAM, UNAM, Univ. Nacional Autonoma De Mexico.*
- 4:00 P11 **767.12** Chronic stress-induced increase of adrenocortical serotonin transporter expression in rats: A glucocorticoid-dependent phenomenon. S. ; J. TERRON SIERRA; P. LOPEZ SANCHEZ; N. SAROJ. *Ctr. For Res. and Advanced Studies of the Na, CINVESTAV-IPN, CINVESTAV-IPN.*
- 1:00 P12 **767.13** ▲ Oxidative stress modifies extracellular vesicles in HT22 murine hippocampal cells. T. TANABE*; Y. SHIMOKAWA; C. MIYASHITA; T. UKAI; T. MIZUKI; T. NEDACHI. *Toyo Univ., Toyo Univ., Toyo Univ.*
- 2:00 P13 **767.14** ▲ Hippocampal regulation of BDNF and Sonic hedgehog- Gli1 signaling cascade via naringenin in a rat model of depressive-like behavior. M. TAYYAB*; S. FARHEEN; M. M. P.M; N. KHANAM; M. M. HOSSAIN; M. H. SHAHI. *Aligarh Muslim Univ., Aligarh Muslim Univ.*
- 3:00 P14 **767.15** Mouse hippocampal G-protein coupled estrogen receptor (GPER) protein expression and functional signalling is regulated by glucocorticoids. K. C. NICHOLSON*; E. R. MARTIN; A. L. MENDELL; C. E. CREIGHTON; N. J. MACLUSKY. *Univ. of Guelph, Univ. of Guelph.*
- 4:00 P15 **767.16** Time course of acute surgical stress and the role of testosterone in the post-operative recovery of dendritic morphology in adult male rats. L. K. ISAACS*; E. M. LAWTON; A. L. MENDELL; N. J. MACLUSKY. *Univ. of Guelph.*
- 1:00 P16 **767.17** Purine salvage deficiency drives energy deficits and impairs dopaminergic cell development in humans. S. C. BELL*; H. PENG; M. JEFRI; C. ERNST. *McGill Univ.*

- 2:00 P17 **767.18** Extracellular vesicle payloads: Delivering stress experience via sperm to the next generation of mice and men. C. P. MORGAN*; J. C. CHAN; A. SHETTY; S. A. AMENT; M. KANE; C. N. EPPERSON; T. L. BALE. *Univ. of Maryland Sch. of Med., Perelman Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Pharm., Univ. of Pennsylvania Perelman Sch. of Med., Univ. of Maryland Baltimore.*
- 3:00 P18 **767.19** A study on the temporal variability of acute stress response in mice using proton magnetic resonance spectroscopy. Y. HWANG*; M. LEE; W. KIM; C. YUN; Y. KIM; H. BAEK; B. HAN; D. KIM. *Yonsei Univ., Children's Hosp. of Michigan, Wayne State Univ. Sch. of Med., Gachon Univ.*

POSTER

768. Preclinical and Human Studies in Neurovascular Coupling Mechanisms

Theme F – Integrative Physiology and Behavior

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 DP11/P19 **768.01** (Dynamic Poster) Quantitative micro neurovasculature mapping across the whole brain in young and old mice. Y. WU*; U. CHON; Y. KIM. *Penn State University, Col. of Med.*
- 2:00 P20 **768.02** Aroma effects on hemodynamic modulation in the prefrontal lobe measured using fNIRS. T. MATSUMOTO*; T. KOHAMA; Y. TAKIKAWA; S. KANJIYAMA; H. YOSHIDA. *Kindai Univ., Kindai Univ.*
- 3:00 P21 **768.03** Three dimensional imaging reveals exercise induced alteration of vascular morphology in the rat primary motor cortex. M. E. STEVENSON*; C. C. MILLER; A. S. NAZARIO; B. S. LARSON; Y. S. GREENBERG; H. A. OWEN; R. A. SWAIN. *Univ. of Wisconsin- Milwaukee, Univ. of Wisconsin- Milwaukee.*
- 4:00 P22 **768.04** The contribution of cortical tachykinin receptor 1 inhibitory interneurons to neurovascular coupling. C. F. RUFF*; J. J. COUEY; B. M. HOOKS; A. L. VAZQUEZ; S. E. ROSS. *Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 1:00 P23 **768.05** Proinflammatory cytokine contributes to the effects of angiotensin II on neurovascular coupling. J. YOUWAKIM*; D. VALLERAND; H. GIROUARD. *Univ. de Montréal.*
- 2:00 P24 **768.06** Acute brain-wide pericyte ablation leads to rapid neurovascular uncoupling. K. KISLER*; A. M. NIKOLAKOPOULOU; M. D. SWEENEY; Z. ZHAO; B. V. ZLOKOVIC. *Keck Sch. of Med. of the Univ. of Southern California.*
- 3:00 P25 **768.07** Pericyte contractility by optogenetics regulates capillary diameter and blood flow. A. R. NELSON*; M. A. SAGARE; Y. WANG; K. KISLER; Z. ZHAO; B. V. ZLOKOVIC. *USC.*
- 4:00 P26 **768.08** Toward the whole murine brain angiome. X. JI*; T. A. FERREIRA; B. FRIEDMAN; H. LIECHTY; E. BAS; J. V. CHANDRASHEKAR; D. KLEINFELD. *Univ. of California San Diego, Janelia Res. Campus, Howard Hughes Med. Inst., Current Address: Amazon Web Services.*
- 1:00 P27 **768.09** Real-time *in vivo* two-photon imaging study reveals alterations in capillary blood flow and blood-brain barrier permeability in the post-ictal state. H. LIM*; B. KANG; N. YOU; Y. JEONG; M. SUH. *Ctr. for Neurosci. Imaging Res. (CNIR), Inst. for Basic Sci. (IBS), Sungkyunkwan Univ., Sungkyunkwan Univ., Sungkyunkwan Univ., Sungkyunkwan Univ.*
- 2:00 P28 **768.10** ▲ Two photon imaging dramatically affects brain temperature blood flow and oxygenation. M. ROCHE*; E. CHAIGNEAU; R. RUNGTA; D. F. BOIDO; B. WEBER; S. CHARPAK. *INSERM U1128, Inserm U1128, INSERM U1128, Inst. of Pharmacol. and Toxicology, INSERM 1128 Paris Descartes Univ.*
- 3:00 P29 **768.11** Improvement of vasoactive dysfunction on rat cerebral penetrating arterioles in early vascular injury after subarachnoid hemorrhage. T. MURATA*; T. HORIUCHI. *Shinshu Univ. Sch. of Med., Dept. of Neurosurg. Shinonoi Gen. Hosp.*
- 4:00 P30 **768.12** Spatial-temporal dynamics of functional hyperemia and mural cell calcium signals from the synapse to the pia. R. L. RUNGTA*; E. CHAIGNEAU; B. OSMANSKI; S. CHARPAK. *INSERM U1128.*
- 1:00 P31 **768.13** ● Real time visualization of vascular remodeling in ischemic stroke using visible light optical coherence tomography. N. A. NADKARNI*; L. BECKMANN; A. BATRA; D. P. SULLIVAN; W. A. MULLER; X. ZHANG; H. ZHANG. *Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ., McGaw Med. Ctr. of Northwestern Univ.*
- 2:00 P32 **768.14** Neurovascular coupling in the diabetic brain. A. R. NIPPERT*; P. CHIANG; E. A. NEWMAN. *Univ. of Minnesota.*
- 3:00 P33 **768.15** ▲ Exploring the non-linearity of the BOLD response through varied stimulus timing. K. B. XI*; X. ZOU; J. KIM; D. RESS. *Baylor Col. of Med.*
- 4:00 P34 **768.16** Impact of common carotid artery compliance on cerebrovascular resistance in amnesic mild cognitive impairment. C. CHILES*; T. TOMOTO; J. SUGAWARA; B. CURTIS; E. PASHA; R. ZHANG. *Insitute For Exercise and Envrn. Med.*
- 1:00 P35 **768.17** Simultaneous 2-color imaging of vascular and neural activity using 2-photon microscopy. E. M. KLEIN*; C. I. MOORE. *Brown Univ.*
- 2:00 P36 **768.18** Somatosensory responses in the deep layers of superior colliculus. A. QURESHI*; R. GOEL; J. KIM; N. M. DE LA ROSA-RIVERA; M. HIMMELBACH; G. HAGBERG; K. SCHEFFLER; D. RESS. *Baylor Col. of Med., Univ. of Massachusetts Amherst, Hertie-Institute For Clin. Brain Res., Biomed. Magnetic Resonance, Univ. of Tuebingen.*
- 3:00 P37 **768.19** ● Neural-vascular uncoupling in the hippocampus of multiple sclerosis patients: Could it explain multiple sclerosis-related memory deficits? B. P. RYPMA*; D. SIVAKOLUNDU; K. WEST; M. D. ZUPPICHINI; G. BATCHALLI MARUTHY; D. H. ABDELKARIM; M. P. TURNER; Y. ZHAO; R. ROMERO; S. RAO; D. OKUDA. *Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas At Dallas, Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas Southwestern Med. Ctr.*
- 4:00 P38 **768.20** Traveling waves coordinate brain-wide activity in awake, adult humans. R. V. RAUT*; A. MITRA; A. Z. SNYDER; M. E. RAICHLE. *Washington Univ. In St. Louis.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 P39 **768.21** • Using the cross-wavelet transform to measure functional connectivity in BOLD fMRI reveals frequency-specific effects of anesthesia in mice. G. DESROSIERS-GRÉGOIRE*; G. A. DEVENYI; J. GRANDJEAN; M. CHAKRAVARTY. *McGill Univ., Douglas Mental Hlth. Univ. Inst., McGill Univ., Donders Inst., Singapore Bioimaging Consortium, Douglas Mental Hlth. Univ. Inst., McGill Univ.*
- 2:00 P40 **768.22** Common neural mechanisms underlie contralateral and ipsilateral negative bold responses in human primary visual cortex. N. ETTEHADI*; Q. RAZLIGHI. *Columbia Univ. in the City of New York, Columbia Univ. Med. Ctr.*
- 3:00 P41 **768.23** Transfer function between activated neurons and local and regional vascular responses: A two-photon and functional ultrasound imaging study in a single voxel. D. F. BOIDO*; A. AYDIN; W. D. HASELDEN; Y. GOULAM HOUSSEN; R. L. RUNGTA; C. POUZAT; P. J. DREW; S. CHARPAK. *INSERM U1128, The Pennsylvania State Univ., Paris Descartes Univ., INSERM U1128, Paris, Pennsylvania State Univ., INSERM 1128 Paris Descartes Univ.*
- 4:00 P42 **768.24** Resting state BOLD signal, functional connectivity, and neural dynamic modeling. M. E. ARCHILA-MELENDÉZ*; C. SORG; C. PREIBISCH. *Technische Univ. München.*
- 1:00 Q1 **768.25** • Reduced arterial compliance along the cerebrovascular tree predicts cognitive impairment in multiple sclerosis: Evidence for neural-vascular uncoupling hypothesis. D. SIVAKOLUNDU*; K. WEST; G. MARUTHY; M. D. ZUPPICHINI; M. P. TURNER; D. H. ABDELKARIM; Y. ZHAO; J. SPENCE; H. LU; D. OKUDA; B. P. RYPMAN. *Univ. of Texas at Dallas, Univ. of Texas At Dallas, Univ. of Texas At Dallas, Univ. of Texas at Dallas, Johns Hopkins Univ., Univ. of Texas Southwestern Med. Ctr., Univ. of Texas At Dallas.*
- 2:00 Q2 **768.26** High spatiotemporal resolution measurements of blood flow evoked by brief neural activity. D. RESS*; A. TAYLOR; X. ZOU; D. J. J. WANG; J. KIM. *Baylor Col. of Med., USC.*
- 3:00 Q3 **768.27** Arousal-state dependence of bilateral hemodynamic signals in the mouse. K. L. TURNER*; P. J. DREW. *Pennsylvania State Univ., Pennsylvania State Univ.*
- 4:00 Q4 **768.28** Simulations of nitric oxide diffusion show spatial dynamics of degradation can drive vasomotion and post-stimulus constriction. W. D. HASELDEN*; R. KEDARASETTI; P. J. DREW. *The Pennsylvania State Univ., The Pennsylvania State Univ., Pennsylvania State Univ.*
- 1:00 Q5 **768.29** Transfer function computation of neurovascular coupling: Advantages and pitfalls. A. AYDIN*; D. F. BOIDO; W. D. HASELDEN; Y. GOULAM HOUSSEN; R. L. RUNGTA; C. POUZAT; P. J. DREW; S. CHARPAK. *INSERM U1128, INSERM U1128, The Pennsylvania State Univ., Paris Descartes Univ., INSERM U1128, Paris, Pennsylvania State Univ., INSERM 1128 Paris Descartes Univ.*
- 2:00 Q6 **768.30** Arousal state-associated hemodynamic changes occlude stimulus-evoked neurovascular coupling in the somatosensory cortex of the juvenile mouse. K. W. GHERES*; K. L. TURNER; P. J. DREW. *Pennsylvania State Univ. Univ. Park.*

POSTER

769. Cardiovascular Regulation I

Theme F – Integrative Physiology and Behavior

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 Q7 **769.01** Regulation by central estrogen receptors of ethanol-induced tachycardia in female rats. C. LAI*; J. SITUMORANG; H. LIN. *Tzu Chi Univ., Tzu Chi Univ., Tzu Chi Univ.*
- 2:00 Q8 **769.02** Estrogen receptor beta agonists block slow-onset angiotensin II hypertension and reduce NMDA receptor-signaling in paraventricular neurons in female mice at an early stage of accelerated ovarian failure. T. A. MILNER*; N. H. CONTOREGGI; F. YU; M. A. JOHNSON; G. WANG; E. M. WATERS; B. S. MCEWEN; M. J. GLASS. *Weill Cornell Med., Weill Cornell Med., Rockefeller Univ., Weill Cornell Med. Col.*
- 3:00 Q9 **769.03** Estrogen receptor beta activity contributes to a reduction in tumor necrosis factor alpha-induced reactive oxygen production in the hypothalamic paraventricular nucleus and to the resistance to angiotensin II-dependent hypertension in cycling female mice. M. J. GLASS*; C. WOODS; N. H. CONTOREGGI; T. A. MILNER; G. WANG. *Weill Cornell Med.*
- 4:00 Q10 **769.04** ▲ Changes in neuropeptide expression, responses, and receptors in parasympathetic neurons following chronic myocardial infarction. L. LOISELLE*; P. GALVIN; K. HUTTON; J. C. HARDWICK. *Ithaca Col.*
- 1:00 Q11 **769.05** Participation of brain angiotensin type 1 receptor in the anti-hypertensive effects of catalase blockade in spontaneously hypertensive rats. M. R. LAUAR*; D. S. A. COLOMBARI; L. A. DE LUCA JR; P. M. DE PAULA; E. COLOMBARI; C. A. F. ANDRADE; J. V. MENANI. *Dept Physiol. and Pathol., Dent. School, UNESP.*
- 2:00 Q12 **769.06** The glycoprotein Dickkopf-3: A new player in the central and peripheral regulation of blood pressure. C. L. BUSCETI*; A. CARRIZZO; F. BIANCHI; M. DE LUCIA; A. DAMATO; M. AMBROSIO; P. DI PIETRO; R. P. GINERETE; M. COTUGNO; R. STANZIONE; S. MARCHITTI; V. BRUNO; G. BATTAGLIA; F. FORNALI; M. VOLPE; S. RUBATTU; C. VECCHIONE; F. NICOLETTI. *I.R.C.C.S. Neuromed, Univ. of Salerno, Univ. Sapienza, Univ. of Pisa, Univ. Sapienza.*
- 3:00 Q13 **769.07** Heart rate in myalgic encephalomyelitis/chronic fatigue syndrome: A review revisited. K. M. KNUTSON*. *NINDS/NIH.*
- 4:00 Q14 **769.08** ▲ Effect of exercise timing on sleep duration, sleep quality, and HRV-based recovery for collegiate female athletes. B. FLEMMING; N. NARVAEZ; R. E. JOHNSON*. *Valparaiso Univ.*
- 1:00 Q15 **769.09** ▲ Irregular sleep-wake schedules and their relationship to psychological and physical symptoms of poor mood. C. HU*; P. LI; P. M. WONG; F. A. J. L. SCHEER; C. LIN; M. LO; K. HU; L. GAO. *Brigham and Women's Hosp., Harvard Med. Sch., Univ. of Pittsburgh, Natl. Central Univ., Massachusetts Gen. Hosp.*
- 2:00 Q16 **769.10** Neuropsychiatric wellbeing and the daily/circadian rhythm of autonomic regulation in young adults. L. GAO*; H. YANG; P. LI; C. HU; P. WONG; F. A. J. L. SCHEER; C. LIN; M. LO; K. HU. *Brigham & Women's Hosp., Massachusetts Gen. Hosp., Natl. Central Univ., Harvard Med. Sch., Brigham and Women's Hosp., Univ. of Pittsburgh.*

- 3:00 Q17 **769.11** Bioelectronic medicine for cardiovascular state control during spontaneous episodes of high blood pressure and myocardial ischemia. P. D. GANZER; S. ROOF; B. TENG; D. FRIEDENBERG; L. LIN; S. COLACHIS; R. HAMLIN; W. MUIR; D. J. WEBER; G. SHARMA*. *Battelle Mem. Inst., QTest Labs, Battelle, Univ. of Pittsburgh, Battelle Mem. Inst.*
- 4:00 Q18 **769.12** Effect of hydrogen sulfide on vascular dysfunction induced by fructose in rat thoracic aorta. D. L. SILVA VELASCO*; E. HONG; J. H. BELTRÁN-ORNELAS; A. SÁNCHEZ-LÓPEZ; C. B. GÓMEZ; S. HUERTA DE LA CRUZ; D. CENTURION. *CINVESTAV, CINVESTAV.*
- 1:00 R1 **769.13** Heart rate variability in patients with trigeminal neuralgia. G. INBARAJ*; T. N. SATHYAPRABHA; K. UDUPA. *Natl. Inst. of Mental Hlth. and Neuroscien, NIMHANS, NIMHANS.*
- 2:00 R2 **769.14** ▲ Effects of match temperature on heart rate for female soccer players. F. VAZQUEZ; M. YOUNG*; T. WADE; A. JOHNSON; R. E. JOHNSON; K. SCHMITT. *Valparaiso Univ., Valparaiso Univ.*
- 3:00 R3 **769.15** The hypertensive effect of α -MSH in a rat model of metabolic syndrome. R. C. SALGADO-DELGADO*; A. BAEZ-RUIZ; R. M. BUIJS; N. SADERI. *UASLP, Inst. De Investigaciones Biomedicas, Facultad De Ciencias, UASLP.*
- 4:00 R4 **769.16** Mapping of intrinsic cardiac neurons projecting to the sinoatrial node and the left ventricle of rats. J. CHEN*; S. TAPPAN; R. VADIGEPALLI; J. S. SCHWABER; Z. CHENG. *Univ. of Central Florida, MBF Biosci. - MicroBrightField Inc., Thomas Jefferson Univ.*
- 1:00 R5 **769.17** Multimodal non-invasive monitoring of cardiovascular responses to postural changes. A. MOL*; A. B. MAIER; R. J. A. VAN WEZEL; C. G. M. MESKERS. *VU Amsterdam, The Univ. of Melbourne, Radboud University, Donders Inst. for Brain, Cognition and Behaviour, VUmc.*
- 2:00 R6 **769.18** Pre-competitive physiological state affects performance in snowboard jump competitions. S. MATSUMURA*; K. WATANABE; N. SAIJO; T. KIMURA; M. KASHINO. *NTT Communication Sci. Labs.*
- 3:00 R7 **769.19** Subjective effects of a gambling challenge in recreational gamblers versus gambling naive individuals. L. C. MILLER*; A. SÖDERPALM GORDH; B. SÖDERPALM. *Gothenburg Univ.*
- 4:00 R8 **769.20** The across-player correlation of the physiological change reflecting the fight-or-flight response in esports. K. WATANABE*; N. SAIJO; M. KASHINO. *NTT Communication Sci. Labs.*
- 3:00 R11 **770.03** ● Vagus nerve stimulation activates supramedullary pathways to potentiate activity of nucleus of solitary tract (NTS) neurons. C. M. COOPER; M. C. ANDRESEN; R. P. CAMPBELL; E. BEAUMONT*. *East Tennessee State Univ., Oregon Hlth. & Sci. Univ., Emory & Henry Col.*
- 4:00 R12 **770.04** Intra and extraneural activity in the vagus nerve recorded by platinized graphene fiber electrodes. M. A. GONZÁLEZ-GONZÁLEZ*; R. A. JALLILI; G. WALLACE; M. I. ROMERO-ORTEGA. *The Univ. of Texas at Dallas, RMIT Univ., Univ. of Wollongong.*
- 1:00 R13 **770.05** Directional biasing of vagal fiber activation using anodal block waveforms. U. AHMED*; Y. CHANG; M. CRACCHIOLO; J. N. TOMAIO; M. F. LOPEZ; L. RIETH; T. ZANOS; S. ZANOS. *Feinstein Inst. For Med. Res.*
- 2:00 R14 **770.06** Breathing across emotionally-salient states in mice. E. C. JANKE*; A. H. MOBERLY; M. MA. *Univ. of Pennsylvania, Yale.*
- 3:00 R15 **770.07** ● Piezoelectric sensors for noninvasive breath rate tracking in a cage setting. R. L. BERNAT; A. LIN; A. AGARWAL; K. D. DONOHUE; B. F. O'HARA*. *Signal Solutions LLC, Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky.*
- 4:00 R16 **770.08** Hypoventilation in infant rats following orexin receptor blockade. R. SPINIELI*; K. J. CUMMINGS*. *Univ. of Missouri, Univ. of Missouri.*
- 1:00 R17 **770.09** Trpv1 dependent modulation of synaptic inputs and activity of presympathetic neurons in the rostral ventrolateral medulla. H. GAO; A. ZSOMBOK; A. DERBENEV*. *Dept. of Physiol., Tulane Univ., Tulane Univ.*
- 2:00 R18 **770.10** Paraventricular nucleus of the hypothalamus mediates the cardioinhibitory responses to activation of the paraventricular nucleus of the thalamus. M. PUIGBONET*; Z. LI; J. CIRIELLO. *Georgian Col., Univ. of Western Ontario, Univ. Western Ontario.*
- 3:00 R19 **770.11** Chronic recording of rat vagal tone with carbon nanotube yarn electrodes. J. MARMERSTEIN*; D. M. DURAND. *Case Western Reserve Univ., Case Western Res. Univ.*
- 4:00 R20 **770.12** Activation of metabotropic glutamate receptor subtype 5 and protein kinase c pathways in the rostral ventrolateral medulla as a central mechanism for methamphetamine-induced pressor effect in rats. H. LIN*; C. LAI; C. FANG; C. KUO; Y. WU. *Tzu Chi Univ., Tzu Chi Univ., Tzu Chi Univ.*
- 1:00 S1 **770.13** Chronic administration of sodium hydrosulfide and l cysteine restores the cardiovascular changes induced by high fat diet in rats. C. B. GOMEZ*; S. HUERTA DE LA CRUZ; G. J. MEDINA-TEROL; J. H. BELTRÁN-ORNELAS; A. SÁNCHEZ-LÓPEZ; D. L. SILVA-VELASCO; D. CENTURIÓN. *Cinvestav.*
- 2:00 S2 **770.14** C1 neuron activation maintains blood pressure during mild hemorrhage. G. M. SOUZA*; R. L. STORNETTA; D. S. STORNETTA; S. B. ABBOTT; P. G. GUYENET. *Univ. of Virginia.*
- 3:00 S3 **770.15** Moxibustion reduces blood pressure and heart rate in conscious hypertensive rats. Y. GONG*; S. MALIK; Z. GUO; L. FU; S. C. TJEN-A-LOOI. *Univ. of California, Irvine.*

POSTER

770. Cardiovascular Regulation II

Theme F – Integrative Physiology and Behavior

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 R9 **770.01** ▲ The parvalbumin-positive PV2-nucleus of the midbrain PAG. S. LEHMANN; A. BABALIAN; F. GIRARD; F. DAVIS; M. R. CELIO*. *Univ. of Fribourg, Janelia Farm.*
- 2:00 R10 **770.02** Two roads diverged: Cardiac vagal motor neurons and their role in high fat diet-induced cardiovascular disease pathophysiology. L. ESPINOZA*; C. R. BOYCHUK. *Univ. of Texas Hlth. San Antonio.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 S4 **770.16** Role of potassium channels on the vasopressor sympathetic outflow inhibition induced by hydrogen sulfide. S. HUERTA DE LA CRUZ*; G. J. MEDINA-TEROL; J. H. BELTRÁN-ORNELAS; S. K. MONTIEL-GÓMEZ; C. B. GOMEZ; A. SANCHEZ-LOPEZ; D. CENTURIÓN. *Cinvestav Sede Sur*.
- 1:00 S5 **770.17** Afferent bone marrow drive to periaqueductal gray in modulation of blood pressure in the spontaneously hypertensive rat. S. KOUTSIKOU*; D. M. BAEKEY; L. F. HAYWARD; J. ZUBCEVIC. *Univ. of Kent, Univ. of Florida, Univ. of Florida*.

POSTER

771. Biological Rhythms: Entrainment and Phase Shifts

Theme F – Integrative Physiology and Behavior

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 S6 **771.01** Impacts of dim light at night and phthalate exposure on circadian locomotor and feeding behaviors and hypothalamic gene expression. K. HATCHER*; Y. PATEL; M. M. MAHONEY. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign*.
- 2:00 S7 **771.02** Circadian resonance and entrainment in three spiders (*Frontinella communis*, *Metazysgia wittfeldae*, and *Cyclosa turbinata*). R. RAGSDALE*; C. SHONE; M. K. MILLER; T. C. JONES; D. MOORE. *East Tennessee State Univ.*
- 3:00 S8 **771.03** Age-related changes in corticosterone circadian rhythm and stress-reactivity. M. G. JACKSON*; H. MARSTON; S. L. LIGHTMAN; E. S. J. ROBINSON. *Univ. of Bristol, Eli Lilly and Co., Univ. of Bristol*.
- 4:00 S9 **771.04** Lights clock action circadian rhythms of locomotor activity in *Iarinioides cornutus* indicate extreme flexibility in photo-entrainment. M. K. MILLER*; T. C. JONES; D. MOORE. *East Tennessee State Univ., East Tennessee State Univ.*
- 1:00 S10 **771.05** Dietary prebiotics alter gut microbial ecology and facilitate clock/sleep re-entrainment to chronic circadian disruption. R. S. THOMPSON*; M. GAFFNEY; A. GONZALEZ; S. HOPKINS; T. KELLEY; M. VITATERNA; F. W. TUREK; C. A. LOWRY; P. C. DORRESTEIN; K. P. WRIGHT, Jr.; R. KNIGHT; M. FLESHNER. *Univ. of Colorado Boulder, The Ctr. for Neurosci., Univ. of California, Northwestern Univ. - Ctr. for Sleep and Circadian Biol., Univ. of California, Univ. of California - Collaborative Mass Spectrometry Innovation Ctr.*
- 2:00 S11 **771.06** ● Extended gamma sensory stimulation in cognitively normal individuals. B. JACKSON*; D. CHAN; H. SUK; S. BEACH; D. STARK; V. FERNANDEZ; N. MILMAN; C. STEARNS; E. BOYDEN; E. BROWN; L. TSAI. *Picower Inst. of Learning and Memory, Massachusetts Inst. of Technol., McGovern Inst. for Brain Research, Massachusetts Inst. of Technol., Dept. of Neurology, Massachusetts Gen. Hosp.*
- 3:00 S12 **771.07** ● ▲ Bimodal stimulation in cognitively healthy individuals prompts widespread 40 Hz entrainment and global synchronization: A preliminary study of non-invasive stimulation for treating Alzheimer's disease. N. E. P. MILMAN*; D. CHAN; H. J. SUK; B. L. JACKSON; S. BEACH; D. STARK; V. FERNANDEZ; C. STEARNS; E. N. BOYDEN; E. S. BROWN; L. H. TSAI. *MIT, Massachusetts Gen. Hosp., MIT*.
- 4:00 S13 **771.08** Investigating the effect of chronic photoperiod shifts on hippocampal-dependent and independent tasks. T. T. S. CASSELL*; J. M. CLEARY; M. L. HOUSE-DENINE; S. HIGDON; S. H. DEIBEL; C. M. THORPE. *Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland, Univ. of Lethbridge, Mem. Univ. of Newfoundland*.
- 1:00 S14 **771.09** Analysis of circadian behaviour and clock-gene expression after prenatal administration of valproic acid: Implication for autism spectrum disorders. S. FERRARO*; N. DE ZAVALIA; S. DOBRIC; M. ALONSO-MAYOR; S. AMIR. *Concordia Univ.*
- 2:00 S15 **771.10** Examining the optimal timing for closed loop auditory stimulation of slow wave sleep in young and older adults. M. NAVARRETE*; J. SCHNEIDER; H. V. NGO; M. VALDERRAMA; A. J. CASSON; P. A. LEWIS. *Cardiff Univ., Univ. of Manchester, Univ. of Birmingham, Univ. of Los Andes*.
- 3:00 S16 **771.11** Short photoperiod exposure reverses ventral subicular lesion-induced affective and cognitive deficits in Wistar rats. S. DUTTA GUPTA*; B. N. SRIKUMAR; B. SHANKARANARAYANA RAO; B. M. KUTTY. *Natl. Inst. of Mental Hlth. and Neuro Scie, Natl. Inst. of Mental Hlth. and Neuro Scie, Natl. Instit Ment Hlt & Neurosci.*
- 4:00 S17 **771.12** Dna methylation modulates period aftereffects of circadian entrainment without affecting transient phase shifts. S. KIM*; D. G. MCMAHON. *Vanderbilt Univ., Vanderbilt Univ.*
- 1:00 S18 **771.13** OLM neurons phase lock with type 2 theta in anxiogenic environments. J. WINNE*; R. N. LEAO; G. NASCIMENTO; K. KULLANDER. *Federal Univ. of Rio Grande do Norte, UFRN, Federal Univ. of Rio Grande do Norte, Uppsala Univ.*
- 2:00 T1 **771.14** A neural circuit for non-photoc phase shifting of circadian rhythms by an acute salt load. C. GIZOWSKI*; C. W. BOURQUE. *McGill Univ. Hlth. Ctr., McGill Univ.*
- 3:00 T2 **771.15** Analysis of learning management system logins identifies interactions between social jetlag, gender, and academic performance. A. E. SCHIRMER*; B. L. SMARR; A. ISHAMI; M. VUJNOVICH. *Northeastern Illinois Univ., Univ. of California at Berkeley.*
- 4:00 T3 **771.16** Reinforcement of the circadian clock restores alcohol tolerance and decreases toxicity in aged *Drosophila*. A. K. DE NOBREGA*; L. C. LYONS. *Florida State Univ.*
- 1:00 T4 **771.17** Wavelet analyses of behavioral ultradian rhythms in male and female C57BL/6 mice. J. P. RIGGLE*; K. G. ONISHI; B. L. SMARR; L. M. KAY; B. J. PRENDERGAST. *Univ. of Chicago, UC Berkeley, Univ. of Chicago*.
- 2:00 T5 **771.18** ▲ Revealing functional brain activity following excitotoxic injury to retinal ganglion cells in a diurnal rodent model. N. KRAUSE; C. BRENNAN; J. DYKE; G. FOGO; A. J. GALL*. *Hope Col., Univ. of Michigan, Hope Col.*
- 3:00 T6 **771.19** Per1 and c-Fos expression in infralimbic prefrontal cortex (IL) of adult male rats following activation of IL-projecting serotonergic Raphe nucleus neurons at ZT1 or ZT13. H. K. STRNAD*; J. R. RAVENEL; S. P. SHARMA; M. J. HARTSOCK; R. L. SPENCER. *Univ. of Colorado at Boulder, Univ. of Colorado, Univ. of Colorado Boulder*.

4:00 T7 **771.20** Indoleamines related to melatonin are secreted from the pineal gland at night and act on melatonin receptors. B. LEE*; D. KOH; I. BUSSI; H. O. DE LA IGLESIA; C. HAGUE; B. HILLE. *Univ. of Washington, Univ. of Washington, Univ. of Washington.*

POSTER

772. Fear and Aversive Learning and Memory: Modulatory Factors

Theme G – Motivation and Emotion

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 T8 **772.01** Roles for dorsal raphe/periaqueductal gray and retrorubral field dopamine in adaptive fear. K. M. WRIGHT*; E. LEE; M. A. MCDANNALD. *Boston Col.*
- 2:00 T9 **772.02** Dorsal raphe 5-HT updates fear via negative prediction error. R. A. WALKER*; R. L. SUTHARD; T. PERISON; N. M. SHEEHAN; E. K. ENABULELE; M. H. RAY; A. DILEO; M. A. MCDANNALD. *Boston Col.*
- 3:00 T10 **772.03** Cholinergic modulation of learned and innate threat processing. P. RAJEBHOSALE*; L. W. ROLE; D. A. TALMAGE. *State Univ. of New York At Stony Brook, Natl. Inst. of Neurolog. Disorders & Stroke, Natl. Inst. of Mental Hlth.*
- 4:00 T11 **772.04** A role for the nucleus accumbens core in adaptive fear scaling. M. H. RAY*; A. N. RUSS; R. A. WALKER; M. A. MCDANNALD. *Boston Col., Boston Col.*
- 1:00 T12 **772.05** Emotional memory encoding in medial prefrontal cortex: Single unit activity during fear acquisition, extinction, renewal, and sleep. M. N. POMPILI*; R. TODOROVA; G. MAKDAH; E. M. LEROUX; T. M. JAY; B. P. GODSIL; S. I. WIENER. *Col. De France, INSERM U1266.*
- 2:00 T13 **772.06** Somatostatin neurons in the bed nucleus of stria terminalis enhance auditory fear memory formation. B. BRUZZSIK*; L. BIRO; H. SZEBIK; K. R. SAROSDI; H. ORSOLYA; E. SIPOS; D. ZELENIA; V. CSILLAG; I. FARKAS; E. MIKICS; M. TOTH. *Translational Behavioural Neuroscience, Inst. of Exptl. Medicine, HAS, Behavioral and Stress Studies, Inst. of Exptl. Medicine, HAS, Endocrine Neurobiology, Inst. of Exptl. Medicine, HAS.*
- 3:00 T14 **772.07** The fearless paradox. T. D. LAPOINTE*; F. LERI. *Univ. of Guelph.*
- 4:00 T15 **772.08** NinaA: A novel mediator of pain memory in *drosophila melanogaster*. A. CROCKER*; G. PIL; K. SARIKAYA; J. MARRIOTT; E. VINTON; K. TABER. *Middlebury Col.*
- 1:00 T16 **772.09** Deletion of the prion like domain of CPEB2 in mice impairs long-term memory of one-trial inhibitory avoidance. M. L. HUFF*; B. A. EBNER; K. SI. *Stowers Inst. For Med. Res., Univ. of Kansas Med. Ctr., Stowers Inst. for Med. Res.*
- 2:00 T17 **772.10** Effects of the partial NMDAR agonist D-cycloserine on the acquisition of discriminative safety learning and fear extinction. A. ESCOBEDO*; C. H. L. LEE; E. M. SOWINSKI; R. HERAKOVICH; S. SANGHA. *Purdue Univ., Purdue Univ.*
- 3:00 T18 **772.11** ▲ Sex dependent influence of gut dysbiosis on defensive behaviors and basolateral amygdala dendritic morphology. V. WILK; C. GEARY; K. BARTON; P. JEFFERSON; S. ROZENTAL; A. L. MOUSLEY*; C. BAKER; D. ESTEBAN; H. BERGSTROM. *Vassar Col.*

- 4:00 T19 **772.12** Binge alcohol consumption impairs fear extinction retrieval in adolescent C57BL/6N mice. M. SCARLATA; K. LAWSON; J. BEZEK; A. MOUSLEY; L. LICHTY; C. CHO; C. MANGAN; H. C. BERGSTROM*. *Vassar Col.*
- 1:00 T20 **772.13** The role of the inflammatory response on the aversive learning. G. F. ANTUNES*; F. VENETUCCI; M. A. KUROKI; C. C. DE OLIVEIRA; L. C. T. DOS SANTOS; M. D. D. SENO; A. P. CAMPOS; R. D. PAGANO; R. C. R. MARTINEZ. *Inst. Sirio Libanês De Ensino E Pesquisa.*
- 2:00 U1 **772.14** Stress-induced impairments in fear learning are causally related to increased kynurenic acid formation in the prefrontal cortex. A. D. KLAUSING*; D. J. BUCCI; R. SCHWARCZ. *MPCR, Univ. of Maryland Sch. of Med., Dartmouth Col.*
- 3:00 U2 **772.15** ▲ Elevation of kynurenic acid levels impairs the renewal of conditioned fear. K. B. COCHRAN; M. C. EDDY; M. P. SATURNO; D. J. BUCCI*. *Dartmouth Col.*
- 4:00 U3 **772.16** ▲ Parametric modulators of active conditioned fear responding. S. S. WASIELEWSKI; M. FANIKOS; E. GOLDEN; R. M. S. SHANSKY*. *Northeastern Univ.*
- 1:00 U4 **772.17** ▲ Sex specific reversal of context generalization in cued fear conditioning by TRPV1 antagonist. M. MEJDELL*; A. WINTER; J. COLOM-LAPETINA; M. MORENA; A. S. NASTASE; M. N. HILL; R. SHANSKY. *Northeastern Univ., Brown Univ., Univ. of Calgary, Univ. of Calgary, Northeastern Univ.*
- 2:00 U5 **772.18** ● Sex differences in contextual fear learning and generalization. J. M. TROTT*; R. ADISON; M. S. FANSELOW. *UCLA.*
- 3:00 U6 **772.19** ● Influences of stress severity and sex on changes in fear learning, anxiety and alcohol consumption following stress exposure. S. T. GONZALEZ*; V. MARTY; S. LELE; R. VO; I. YENOKIAN; C. Q. YANG; K. AHMED; I. SPIGELMAN; M. S. FANSELOW. *Univ. of California Los Angeles, Univ. of California Los Angeles.*
- 4:00 U7 **772.20** Extinction in a Bayesian model of context fear conditioning, with possible implications for exposure therapy. F. B. KRASNE*; M. S. FANSELOW. *UCLA.*
- 1:00 U8 **772.21** Dissociation of fear initiation and maintenance by breathing-driven prefrontal oscillations. S. BAGUR*; J. M. LEFORT; M. M. LACROIX; G. DE LAVILLÉON; C. HERRY; M. CHOUVAEFF; C. BILLAND; H. GEOFFROY; K. BENCHENANE. *MOBs Team, Lab. Plasticité du Cerveau, ESPCI, PSL Univ., Neurocentre Magendie, Circuits Neuronaux des Apprentissages Associatifs.*

POSTER

773. Dopamine, Reward, and Reinforcement

Theme G – Motivation and Emotion

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 U9 **773.01** Temporally specific dopaminergic control of reward-conditioned movements. K. LEE*; L. D. CLAAR; K. I. BAKHURIN; A. HACHISUKA; S. C. MASMANIDIS. *UCLA, Allen Inst. for Brain Sci., Duke Univ.*
- 2:00 U10 **773.02** Does baldness of attractive male decrease his external and internal power to fascinate female in mice? Y. N. OHNISHI*; Y. KAWAHARA; Y. H. OHNISHI; A. NISHI. *Kurume Univ. Sch. of Med.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 3:00 U11 **773.03** Stress transforms lateral habenula reward responses into punishment signals. S. SHABEL*; C. WANG; B. MONK; S. ARONSON; R. MALINOW. *UT Southwestern Med. Ctr., UCSF, UC San Diego, UCSD.*
- 4:00 U12 **773.04** Central extendin-4 selectively suppresses cue-evoked phasic dopamine spikes and resultant behavior. V. R. KONANUR*; T. M. HSU; M. F. ROITMAN. *Univ. of Illinois at Chicago.*
- 1:00 U13 **773.05** The subfornical organ recruits phasic dopamine signaling to water availability via multi-order pathways. T. M. HSU*; V. R. KONANUR; P. BAZZINO; M. F. ROITMAN. *Univ. of Illinois at Chicago.*
- 2:00 U14 **773.06** Distinct subregions of nucleus accumbens shell D2 neurons projections to ventral pallidum drive different movement, valence and reward motivation. Y. YAO*. *Tsinghua Univ.*
- 3:00 U15 **773.07** Effect of sexual behavior on seizures and dopamine levels in male rats. M. L. RAMÍREZ-RENTERÍA*; E. HERNÁNDEZ-ARTEAGA; M. HERNÁNDEZ; M. OLVERA-CORTES; M. A. GUEVARA; A. AGMO. *Inst. of Neurosci., Inst. de Neurociencias, Univ. de Guadalajara, Ctr. de Investigación Biomédica de Michoacán, Inst. Mexicano Del Seguro So, Univ. de Guadalajara, Univ. of Tromsø.*
- 4:00 U16 **773.08** Temporal evolution of reward prediction error signals during reward and punishment learning. M. BROSCHE*; F. W. OHL; M. T. LIPPERT. *Leibniz-Institute for Neurobio., Ctr. for Behavioral Brain Sci. (CBBS), Inst. of Biology, Otto-von-Guericke Univ.*
- 1:00 U17 **773.09** Overexpression of protein kinase inhibitor alpha in nucleus accumbens increases low voluntary running motivation. X. MAO*. *Univ. of Missouri-Columbia.*
- 2:00 U18 **773.10** ▲ Apomorphine as a discriminative stimulus. B. L. PACHECO GÓMEZ*; W. A. ZEPEDA-RUIZ; D. N. VELÁZQUEZ-MARTÍNEZ. *Univ. Nacional Autónoma De México, Univ. Nacional Autónoma de México.*
- 3:00 U19 **773.11** Sex differences in cholinergic regulation of nucleus accumbens circuit function controlling motivation. L. J. BRADY*; M. G. KUTLU; J. E. ZACHRY; E. S. CALIPARI. *Vanderbilt Univ.*
- 4:00 U20 **773.12** Dopamine's role in foraging decisions. S. STAROSTA*; S. A. SHUVAEV; D. KVITSIANI; A. KOULAKOV; A. KEPECS. *Cold Spring Harbor Lab., Aarhus Univ. / DANDRITE.*
- 1:00 U21 **773.13** Restriction and hypercaloric diets modulate the expression of genes related to the dopaminergic system in the ventral tegmental area of mice dams. V. FEISTAUER*; J. FISH; C. K. D. OLIVEIRA; M. GIOVENARDI*; S. DE ALMEIDA. *UFCSA.*
- 2:00 U22 **773.14** Roles of midbrain dopamine neurons in relapse. Y. LIU*; P. JEAN-RICHARD-DIT-BRESSSEL; J. YAU; G. D. GIBSON; S. KILLCROSS; G. P. MCNALLY. *Univ. of New South Wales.*
- 3:00 U23 **773.15** Involvement of dopamine D1 and D2 receptor-dependent activation of mitogen-activated protein kinase (MAPK) signaling in the nucleus accumbens in stimulus-reward learning and motivation. M. SAIFULLAH*; T. NAGAI; K. YAMADA. *Nagoya University, Res. Inst. of Environ. Med., Nagoya Univ. Grad Sch. Med.*
- 4:00 U24 **773.16** Alternative splicing of D2 dopamine receptor mRNA shows little difference between neuronal cell types, but is modulated by nicotine and the sex of the individual. A. D. HUDSON; R. L. MURPHY; M. T. PEGLAR; K. J. FRYXELL*. *George Mason Univ., Univ. of Washington.*
- 1:00 U25 **773.17** Functional and spatial diversity of dopamine neurons in the substantia nigra for different aspects of behavior. M. COSTELLO*; D. B. T. MCMAHON; O. HIKOSAKA. *Natl. Eye Inst.*
- 2:00 U26 **773.18** Simultaneous measurement of ventral tegmental area activity and nucleus accumbens dopamine release reveals patterns of neuron firing associated with dopamine release. D. F. HILL*; Z. OLSON; M. J. BARTLETT; T. FALK; M. L. HEIEN; S. L. COWEN. *Univ. of Cambridge, Univ. of Arizona, Univ. of Arizona Col. of Med., Univ. of Arizona Col. of Med., Univ. of Arizona, Univ. of Arizona.*
- 3:00 U27 **773.19** Action-induced inhibition of nigrostriatal dopamine release by goal-directed behavior. N. G. HOLLON*; E. W. WILLIAMS; H. LI; T. I. TRAUT; C. D. HOWARD; X. JIN. *Salk Inst. for Biol. Studies, Oberlin Col.*
- 4:00 U28 **773.20** ▲ Characterization of the effects of systemically increasing dopamine, serotonin, and noradrenaline levels on the valuation of reward vs. avoidance. J. B. ROBERTS*; O. CHAMAN; E. B. OLESON. *Univ. of Colorado Denver, Univ. of Colorado Denver.*
- 1:00 U29 **773.21** Dopamine cue salience responses promote associative learning. J. MORRENS; C. AYDIN; A. JANSE VAN RENSBURG; S. HAESLER*. *Neuroelectronics Res. Flanders.*
- 2:00 U30 **773.22** Dopamine encodes the state of reward availability in a modified condition inhibition paradigm. A. KALMBACH*; P. D. BALSAM; E. H. SIMPSON. *Columbia Univ., New York State Psychiatric Inst., Barnard Coll Columbia Univ.*
- 3:00 U31 **773.23** Electrophysiological analysis of the dynamics of mesocortical circuits during decision making under uncertainty in mice. E. BOUSSEYROL*; S. DIDIENNE; S. TAKILLAH; C. PRÉVOST-SOLIÉ; J. NAUDÉ; P. FAURE. *Sorbonne Univ.*
- 4:00 U32 **773.24** Cue encoding patterns of brain stimulation reward compared to sucrose rewards. D. N. TAPP*; S. M. THOMPSON; M. S. MCMURRAY. *Miami Univ.*
- 1:00 U33 **773.25** Sex differences in an effort-related decision making task. E. L. ERRANTE*; M. CHAKKALAMURI; O. I. AKINBO; S. E. YOHN; J. D. SALAMONE; L. MATUSZEWICH. *Northern Illinois Univ., Vanderbilt Univ., Univ. of Connecticut.*
- 2:00 U34 **773.26** D2 agonism in the nucleus accumbens, but not the prefrontal cortex, restores reward responsiveness following chronic stress. S. J. LAMONTAGNE*; S. H. IRWIN; M. C. OLMSTEAD. *Queen's Univ.*
- 3:00 U35 **773.27** Catechol-o-methyltransferase function regulates palatable food consumption in male mice. M. NOBACK*; G. ZHANG; N. WHITE; G. V. CARR; J. C. BARROW. *Johns Hopkins Sch. of Med., Lieber Inst. for Brain Develop., Lieber Inst. for Brain Develop., Lieber Inst. For Brain Develop., Lieber Inst.*
- 4:00 U36 **773.28** ▲ Time course of D2DR levels in the nucleus accumbens during the development and maintenance of high-fat diet-induced obesity. M. M. MARCUS; I. BUTZIRUS; D. N. A. OKINE; A. L. TRACY*. *Grinnell Col.*
- 1:00 U37 **773.29** Rare rewards drive enhanced dopamine responses and learning. K. M. ROTHENHOEFER*; A. ALIKAYA; W. R. STAUFFER. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

2:00 U38 **773.30** Decoding the influence of dopamine in different NAC subregions on cue-driven behaviors and behavioral inhibition. J. W. DE JONG*; I. CERNIAUSKAS; S. OBAYASHI; J. P. H. VERHAREN; L. TIAN; S. LAMMEL. *UC Berkeley, Univ. of California, Davis.*

POSTER

774. Social Behavior: Systems and Circuits

Theme G – Motivation and Emotion

Wed. 1:00 PM – McCormick Place, Hall A

1:00 U39 **774.01** Oxytocin neurons enable social transmission of maternal behavior. I. C. CARCEA*; N. LOPEZ; B. J. MARLIN; R. OYAMA; J. MENDOZA-NAVARRO; M. OPENDAK; A. L. FALKNER; D. LIN; K. NISHIMORI; T. KIKUSUI; K. MOGI; R. M. SULLIVAN; R. C. FROEMKE. *Rutgers, NYU SOM, Columbia Univ. Zuckerman Inst., Rutgers Biomed. and Hlth. Sci., Ioana Carcea, New York Univ., Princeton Inst. for Neurosci., New York Univ. Sch. of Med., Grad Sch. of Agric Sci, Tohoku Univ., Azabu Univ., NKI & NYU Sch. of Med., NYU Med.*

2:00 U40 **774.02** Social transmission of maternal behaviors through observation. N. LÓPEZ CARABALLO*; R. FROEMKE. *New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

3:00 V1 **774.03** From discriminative to affective touch: A mesoscale perspective of the somatosensory pathway to the primate amygdala. A. B. MARTIN*; K. R. ANDERSEN; J. K. MORROW; S. LEE; S. L. COWEN; K. M. GOTHARD. *Univ. of Arizona, Univ. of Arizona, Univ. Arizona, Col. Med.*

4:00 V2 **774.04** From discriminative to affective touch: A single-unit perspective of the somatosensory pathway to the primate amygdala. R. ANDERSEN*; J. K. MORROW; S. LEE; A. B. MARTIN; K. M. GOTHARD. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona Col. of Med.*

1:00 V3 **774.05** Statistically separable components of the local field potential show sensory-modality specific spike-field coherence in the primate amygdala. J. K. MORROW*; M. X. COHEN; K. M. GOTHARD. *Univ. of Arizona, Univ. Amsterdam, Univ. Arizona, Col. Med.*

2:00 V4 **774.06** Inclusion of dIPFC and vIPFC inputs in cortico-amygdala topography. A. C. MCHALE*; J. L. FUDGE. *Univ. of Rochester Sch. of Med.*

3:00 V5 **774.07** Specificity of an amygdala-prefrontal projection for integrating emotional and multisensory information in the macaque. K. K. SHARMA*; M. M. DIEHL; J. L. FUDGE; L. M. ROMANSKI. *Univ. of Rochester Sch. of Med. and Dent., Kansas State Univ., Univ. of Rochester Med. Ctr., Univ. of Rochester Sch. of Med. and Dent.*

4:00 V6 **774.08** Chemogenetic investigation of ventral hippocampus and orbitofrontal cortex interaction in social behavior. A. ALIBRO*; G. LARYEA; O. ABUBAKARE; Y. CHUDASAMA. *NIMH.*

1:00 V7 **774.09** Cingulotomy alters postnatal development of vocalizations in infant marmosets. Y. CHUDASAMA*; G. NAGARAJAN. *Natl. Inst. of Mental Hlth.*

2:00 V8 **774.10** Connections of the medial and lateral septum in the rat: A viral tracing study. J. GOODING*; G. NAGARAJAN; Y. CHUDASAMA. *Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*

3:00 V9 **774.11** Galanin receptor 1 in the ventral prefrontal cortex and ventral hippocampus: Implications for fronto-temporal modulation of impulse control. K. E. BERKUN*; F. MESSANVI; H. A. WANG; H. TEJEDA; R. FIELDS; Y. CHUDASAMA. *NIH, NIH.*

4:00 V10 **774.12** Sexual dimorphic effects of ventral lateral septal lesions on anxiety related vocalization. G. NAGARAJAN*; J. GOODING; Y. CHUDASAMA. *Natl. Inst. of Mental Hlth.*

1:00 V11 **774.13** Alteration of brain connectivity associated with the magnitude of the romantic love in couple. J. KIM*; J. OH; H. EOM; M. KIM; J. KIM. *Yonsei Univ., Yonsei Univ. Col. of Med.*

2:00 V12 **774.14** ▲ Neural reactivity varies with physical and sexual abuse. H. FREEMAN*; J. B. PURCELL; D. C. KNIGHT. *Univ. of Alabama Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama-Birmingham.*

3:00 V13 **774.15** Corticotropin-releasing factor in the insular cortex increases social exploration in rats. N. S. RIEGER*; J. A. VARELA; A. DJERDJAJ; J. P. CHRISTIANSON. *Boston Col.*

4:00 V14 **774.16** Long-term voluntary exercise affected helping behavior mediated by activity of oxytocin neurons in rats. Y. LIU*; N. KUBOTA; S. AMEMIYA; T. NISHIJIMA; I. KITA. *Tokyo Metropolitan Univ.*

POSTER

775. Mood Disorders: Circuits and Synapses

Theme G – Motivation and Emotion

Wed. 1:00 PM – McCormick Place, Hall A

1:00 V15 **775.01** ● Prelimbic medial prefrontal cortex disruption during adolescence increases susceptibility to helpless behavior in adult rats. D. L. ULIANA*; F. V. GOMES; A. A. GRACE. *Univ. of Pittsburgh.*

2:00 V16 **775.02** Development and initial *in vivo* evaluation in monkey brain of [¹¹C]T-1650, a novel positron emission tomography ligand for phosphodiesterase-4 subtype D. R. DICK*; Y. WAKABAYASHI; S. TELU; M. FUJITA; C. MORSE; S. S. ZOGHBI; R. L. GLADDING; R. NUGENT; M. GURNEY; V. W. PIKE; R. B. INNIS. *Natl. Inst. of Mental Hlth., Hyogo Col. of Med., Tetra Discovery Partners.*

3:00 V17 **775.03** Characterization of the long-term effects of inflammatory pain on depressive-like behaviors. D. BUREK*; N. MASSALY; J. A. MORON-CONCEPCION. *Washington Univ. Sch. of Med.*

4:00 V18 **775.04** Streptozotocin-induced hyperglycemia causes depressive-like behaviors with glial alterations in the medial prefrontal cortex. H. SON; J. BAEK; J. KANG; H. KIM*. *Gyeongsang Natl. Univ. Med. Sch.*

1:00 V19 **775.05** Fighting females: Neural and behavioral effects of chronic social defeat stress in female mice. E. L. NEWMAN*; H. E. COVINGTON, III; L. CART; M. B. BICAKCI; K. BURK; J. SUH; K. J. RESSLER; J. F. DEBOLD; K. A. MICZEK. *Tufts Univ., McLean Hosp. / Harvard Med. Sch.*

2:00 V20 **775.06** Neural circuitry of social reward deficits following chronic social defeat stress. L. LI*; M. FLANIGAN; K. B. LECLAIR; L. F. PARISE; K. CHAN; Y. SHIMO; F. CATHOMAS; M. PINTO-KASTER; C. BURNETT; R. DURAND-DE CUTTOLI; H. LIN; A. AUBRY; S. J. RUSSO. *Icahn Sch. of Med. At Mount Sinai.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 3:00 V21 **775.07** Reduced synaptic inhibition onto CA1 pyramidal neurons induces anti-despair-like behavior in RalBP1 mutant mice. S. YOON*; W. SONG; S. OH; M. KIM. *Seoul Natl. Univ. Col. of Med.*
- 4:00 V22 **775.08** ▲ Inhibition of the medial prefrontal cortex attenuates symptoms of depression in Long Evans rats. J. J. CORTRIGHT*; S. ACKERMAN; L. LANDAETA; L. WILLARD. *Univ. of Wisconsin-River Falls.*
- 1:00 V23 **775.09** The topography of GABA/glutamate co-release in the rodent and primate lateral habenula. L. RIOS*; C. TAN; K. GLEASON; C. TAMMINGA; S. SHABEL. *UT Southwestern Med. Ctr.*
- 2:00 V24 **775.10** Epigenetic regulation of hippocampal Bdnf predicts behavioral vulnerability to chronic stress. C. LI*; F. MENG; W. WANG; J. LIU; X. LIU; M. GUO; X. LU. *Med. Col. of Georgia at Augusta Univ., Inst. for Metabolic and Neuropsychiatric Disorders, Binzhou Med. Univ. Hosp.*
- 3:00 V25 **775.11** GABAergic entorhinal cortex control of hippocampal function in stress-induced behavior adaptations: Cellular and circuitry mechanisms. S. YUN*; F. H. TRAN; I. SOLER; R. P. REYNOLDS; M. SUAREZ; A. J. EISCH. *Children's Hosp. of Philadelphia Res. Ctr., Perelman Med. Center, Univ. of Pennsylvania.*
- 4:00 V26 **775.12** Role of cortical somatostatin and parvalbumin interneurons in the rapid antidepressant actions of scopolamine. M. V. FOGAÇA*; M. WU; X. LI; R. S. DUMAN. *Yale Univ.*
- 1:00 V27 **775.13** ▲ Ultrastructural localization of serotonergic 5-HT₃ receptors in the rat locus coeruleus. I. HORRILLO*; B. A. REYES; T. LHAMO; E. J. VAN BOCKSTAELE. *Univ. of the Basque Country UPV/EHU; Ctr. de Investigación Biomédica en Red de Salud Mental (CIBERSAM), Drexel Univ., Drexel Univ., Drexel Univ. Col. Of Med.*
- 2:00 V28 **775.14** Nucleus accumbens expression of SIRT1 mediates cell-type specific alterations in neuronal morphology in a mouse model of depression. T. CALL*; H. KIM; A. SUMMERS; N. T. QUINTUS; R. JOHNSON; D. FERGUSON. *Univ. of Arizona Col. of Medicine- Phoenix.*
- 3:00 V29 **775.15** The measurement of motivational level by using a modified version of the Brinkman board test in monkeys. S. NAKAMURA*; K. TSUTSUI. *Grad. Sch. of Life Sciences, Tohoku Univ.*
- 4:00 V30 **775.16** Perineuronal nets in the prefrontal cortex regulate vulnerability to stress in rats. Z. YU; D. HU; N. CHEN; Y. HAN; Z. ZHANG; Y. YUAN; W. CHEN; W. ZHANG*; L. LU; J. SHI. *Peking Univ., Peking Univ.*
- 1:00 V31 **775.17** ▲ Orexinergic projection to the dorsal raphe regulates affective behaviors in an animal model of SAD. F. SAMAD*; H. XIONG; S. DAOUD; K. LINNING-DUFFY; F. P. MANFREDSSON; J. S. LONSTEIN; L. YAN. *Michigan State Univ., Michigan State Univ., Michigan State Univ.*

POSTER

776. Mood Disorders: Molecular Mechanisms and Approaches

Theme G – Motivation and Emotion

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 V32 **776.01** ▲ Manipulation of resilient key drivers alters susceptibility to chronic social defeat stress. T. M. GYLES*; Z. S. LORSCH; E. PARISE; E. J. NESTLER. *Morehouse Col., Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med., Icahn Sch. Med. At Mount Sinai.*
- 2:00 V33 **776.02** The BDNF-TrkB pathway acts through nucleus accumbens D2 expressing neurons to mediate susceptible behavior to social defeat stress. M. O. F. PAGLIUSI*, Jr; G. MORAIS-SILVA; R. CHANDRA; C. R. SARTORI; M. LOBO. *State Univ. of Campinas, Univ. of Maryland, Baltimore, Sao Paulo State Univ., Univ. of Maryland Baltimore, Univ. of Maryland Sch. of Med.*
- 3:00 V34 **776.03** Antidepressant effects and underlying mechanisms of roman chamomile essential oil in depressive rats. D. MA*; G. ZHU; Q. ZHUANG; T. WANG; S. LI. *Shanghai Jiao Tong Univ., Shanghai Univ. of Med. & Hlth. Sci., Kao (China) Res. Ctr.*
- 4:00 V35 **776.04** Molecular neurobiology of enrichment loss. M. A. SMAIL*; B. L. SMITH; R. SHUKLA; J. REIGLE; K. ALGANEM; A. FUNK; R. MORANO; J. P. HERMAN; R. E. MCCULLUMSMITH. *Univ. of Cincinnati, Univ. of Toledo, Cincinnati Children's Hosp. Med. Ctr.*
- 1:00 V36 **776.05** NMDA receptor GluN2B tyrosine phosphorylation involved in depression related behaviour. X. SHI*; J. LUO; W. YANG; Q. ZHANG. *Dept. of Neurobiology, Zhejiang Univ., Sch. of Medicine, Zhejiang Univ.*
- 2:00 V37 **776.06** Chemogenetic manipulation of Npas1-neurons in the ventral pallidum is related to social defeat stress susceptibility. G. MORAIS-SILVA*; H. NAM; M. F. PAGLIUSI, JR; S. CHAN; M. T. MARIN; M. LOBO. *Sao Paulo State Univ., Univ. of Maryland Sch. of Med., State Univ. of Campinas, Northwestern University, Feinberg Sch. of Med.*
- 3:00 V38 **776.07** Asparagus extract ameliorates menopausal depression in ovariectomized rats under chronic unpredictable mild stress. M. KA*; H. KIM; Y. LEE; E. JANG. *Korea Inst. of Toxicology.*
- 4:00 V39 **776.08** ▲ Activation of CB1 receptors and quantification of the *cnr1* gene in a depression model. A. VILLARREAL ZUÑIGA; D. MONTIEL CONDADO; A. GONZALEZ HORTA; M. BERMUDEZ DE LEON; B. GONZALEZ HERNANDEZ*. *CINVESTAV IPN, Univ. Autonoma De Nuevo Leon, Biomed. Res. Ctr. of the Northeast, IMSS.*
- 1:00 V40 **776.09** Social defeat affects transcription of nociceptin peptide and Oprl1 receptor in reward-processing brain areas. B. ROMOLI; N. PRAKASH; S. BERRETTA; A. DER-AVAKIAN; D. A. PIZZAGALLI; D. DULCIS*. *Univ. of California San Diego, McLean Hosp.*
- 2:00 V41 **776.10** Transcriptomic analysis of cortical microcircuit cell-types reveals differential cellular responses to chronic stress. D. F. NEWTON*; H. OH; R. SHUKLA; K. A. MISQUITTA; C. J. FEE; G. BADER; M. BANASR; E. SIBILLE. *Ctr. For Addiction and Mental Hlth., CAMH, CAMH, Ctr. for Addiction and Mental Hlth., Ctr. For Addiction and Mental Hlth., Univ. of Toronto, CAMH / Univ. of Toronto, CAMH - Univ. of Toronto.*

- 3:00 V42 **776.11** Chemogenetic activation of medial prefrontal cortex excitatory neurons improves chronic corticosterone-induced behavioral deficits. A. DIETERICH*; K. STECH; B. A. SAMUELS. *Rutgers Univ., Rutgers Univ.*
- 4:00 V43 **776.12** Inhibition of NRG1-ErbB4 signaling in midbrain dopamine neurons attenuated chronic social defeat-induced depressive phenotypes. H. WANG*; W. CUI; W. CHEN; Z. DONG; F. LIU; W. XIONG; L. MEI. *Case Western Reserve Univ., Augusta Univ.*
- 1:00 V44 **776.13** Blm-s, a BCL-2 family member, functions in mood control. T. YANG; C. CHOU; P. HUANG*. *Grad. Inst. Pathology, Grad. Inst. of Pathology, Natl. Taiwan Univer.*
- 2:00 V45 **776.14** Molecular players of depressogenic phenotype induced by hippocampal FGF-AS overexpression identified with proteomic analysis. B. UZAY*; T. DALKARA; E. EREN-KOÇAK. *Hacettepe Univ. Inst. of Neurolog. Sci. and Psychiatry.*
- 3:00 V46 **776.15** Integrative analysis of Gata1 associated transcriptome and epigenome in the cortical neuron. K. CHOI*; J. PARK; H. KANG. *Chung-Ang Univ.*
- 4:00 W1 **776.16** Mechanisms contributing to the sustained antidepressant-like response of L-655,708. F. R. CARREÑO*; V. BUGAY; A. FRAZER; D. J. LODGE; R. BRENNER. *UT Hlth. San Antonio, South Texas Veterans Hlth. Care Syst.*
- 1:00 W2 **776.17** Fast acting antidepressant potential of reelin in a preclinical animal model of depression: Mechanisms and avenues for future research. K. J. BRYMER*; J. J. BOTTERILL; R. ROMAY-TALLON; J. T. ALLEN; H. J. CARUNCHO; L. E. KALYNCHUK. *Univ. of Saskatchewan, Nathan Kline Inst., Univ. of Victoria.*
- 2:00 W3 **776.18** Epigenetic mediated paternal transmission of stress phenotypes. A. M. CUNNINGHAM*; D. M. WALKER; M. A. DOYLE; R. C. BAGOT; D. BUREK; E. J. HARRIGAN; G. E. HODES; A. RAMAKRISHNAN; E. S. CALIPARI; H. M. CATES; O. ISSLER; M. E. CAHILL; B. LABONTÉ; E. A. HELLER; J. FENG; C. J. PENA; E. A. RIBEIRO; O. ENGMANN; Z. S. LORSCH; P. J. HAMILTON; S. J. RUSSO; L. SHEN; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Michigan State Univ., McGill Univ., Washington Univ. Sch. of Med., SUNY Downstate Col. of Med., Virginia Tech., Vanderbilt Univ. Sch. of Med., Laval Univ., Univ. of Pennsylvania, Florida State Univ., Princeton Univ., Virginia Commonwealth Univ. Hlth. Syst.*
- 3:00 W4 **776.19** Taking the fun out of psilocybin: Can psilocybin's rapid antidepressant action be preserved in the absence of hallucinations? N. HESSELGRAVE*; J. M. FISCHELL; S. M. THOMPSON. *Univ. of Maryland Baltimore, Univ. of Maryland Baltimore.*
- 4:00 W5 **776.20** The GABA_A $\alpha 5$ subunit is required for the fast antidepressant-like actions of MRK-016 on stress-induced anhedonia and weakened synaptic function. T. TROPOLI*; P. ZANOS; P. GEORGIU; U. RUDOLPH; T. D. GOULD; S. M. THOMPSON. *Univ. of Maryland Baltimore, Univ. of Illinois At Urbana-Champaign, Univ. of Maryland Sch. of Med.*
- 1:00 W6 **776.21** Blood microRNAs as biomarkers for stress susceptibility or resiliency and treatment response. Y. Y. VAN DER ZEE*; O. ISSLER; D. M. WALKER; A. TORRES-BERRÍO; E. M. PARISE; A. RAMAKRISHNAN; J. W. MURROUGH; B. P. RUTTEN; E. J. NESTLER. *Maastricht Univ., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med., Maastricht Univ. Med. Ctr., Icahn Sch. Med. at Mount Sinai.*
- 2:00 W7 **776.22** Genetic and pharmacological inhibition of two-pore domain potassium channel TREK-1 alters depression-related behaviors and neuronal plasticity in the hippocampus in mice. F. WU*; Z. ZHANG. *Sch. of Medicine, Southeast Univ.*
- 3:00 W8 **776.23** Astrocyte-specific expression of the extracellular matrix gene Htra1 regulates susceptibility to stress in a sex specific manner. E. M. PARISE*; A. TORRES-BERRÍO; C. J. BROWNE; T. M. GYLES; L. F. PARISE; Y. VAN DER ZEE; Z. S. LORSCH; P. J. HAMILTON; B. LABONTÉ; S. J. RUSSO; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Morehouse Col., Virginia Commonwealth Univ. Hlth. Syst., Laval Univ.*
- 4:00 W9 **776.24** Transcriptional signatures of treatment resistant depression in mouse models. A. TORRES-BERRÍO*; E. M. PARISE; T. GYLES; F. J. MARTINEZ; C. J. BROWNE; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Morehouse Col., Mount Sinai Sch. of Med., Mount Sinai Icahn Sch. of Med., Icahn Sch. Med. At Mount Sinai.*

POSTER

777. Mood Disorders: Depression and Bipolar Disorders: Animal Studies

Theme G – Motivation and Emotion

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 W10 **777.01** Role of adult hippocampal neurogenesis in the antidepressant effects of lactate. A. CARRARD*; F. CASSÉ; S. BURLET-GODINOT; N. TONI; P. J. MAGISTRETTI; J. MARTIN. *Ctr. For Psychiatric Neurosci., King Abdullah Univ. of Sci. and Technol.*
- 2:00 W11 **777.02** Subcutaneous administration of beta-hydroxybutyrate produces antidepressant like effects in a rodent model of depression caused by interferon- α . R. MATSUO*; M. IWATA; N. KAJITANI; T. YAMANASHI; K. TSUNETOMI; M. SHIBUSHITA; A. MIURA; T. NISHIGUCHI; K. KANEKO. *Tottori Univ.*
- 3:00 W12 **777.03** Acoustic range electromagnetic stimulation reduces anxiety degree in depressed rats. N. BUKIA*; L. MACHAVARIANI; M. SVANIDZE; M. BUTSKHRIKIDZE; N. JOJUA. *LEPL Ivane Beritashvili Ctr. of Exptl. Biomedicine, European Univ.*
- 4:00 W13 **777.04** The affective bias test: A refined and translational method for assessment of novel antidepressants. J. K. HINCHCLIFFE*; E. S. J. ROBINSON. *Univ. of Bristol.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 W14 **777.05** The effect of Galanin N-terminal fragment (1-15) in anhedonia: Involvement of the dopaminergic mesolimbic system. C. MILLÓN*; A. FLORES-BURGESS; B. GAGO; L. GARCÍA-DURÁN; N. CANTERO-GARCÍA; F. ALÉN; L. ORIO; J. NARVÁEZ; K. FUXE; L. SANTÍN; Z. DÍAZ-CABIALE. *Univ. of Málaga. Dept. of Human Physiol., Facultad de Psicología, Univ. Complutense de Madrid, Madrid., Karolinska Institute, Stockholm, Sweden, Univ. of Málaga. Dept. of Psychobiology, Málaga, Spain.*
- 2:00 W15 **777.06** Role of amygdalo-cingulate pathway in major depressive disorder. L. J. BECKER*; C. FILLINGER; M. SANTIN; S. JOURNÉE; C. DIJOUX; B. AYAZGOK; M. HUMO; E. WALTISPERGER; S. HUGEL; P. VEINANTE; P. LUTZ; L. A. HARSAN; M. BARROT; I. YALCIN. *Ctr. Natl. de la Recherche Scientifique, Mount Sinai Hosp., Strasbourg Univ. Hosp., Univ. de Strasbourg, Ctr. Natl. de la Recherche Scientifique.*
- 3:00 W16 **777.07** FGF-AS overexpression in medial prefrontal cortex is depressogenic. F. Ö. HÖKELEKLI*; H. KARATAS-KURŞUN; M. YEMISCI; T. DALKARA; E. EREN-KOÇAK. *Hacettepe Univ. Inst. of Neurolog. Sci. and Psychiatry.*
- 4:00 W17 **777.08** Characterization of a novel rare missense variant of the D-amino acid oxidase gene as a penetrant cause of psychosis. N. HASIN*; L. M. RIGGS; T. SHEKHTMAN; J. BADNER; D. W. CRAIG; J. I. NURNBERGER; E. GERSHON; J. R. KELSOE; J. C. ROACH; T. G. GOULD; S. AMENT. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of California San Diego, Rush Univ. Med. Col., USC, Indiana Univ. Sch. of Med., Univ. of Chicago, Inst. for Systems Biology, Seattle, Washington, Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Veterans Affairs Maryland Hlth. Care Syst.*
- 1:00 W18 **777.09** Ginkgo biloba extract reduces oxidative stress and inflammation while restores 5-HT_{1A} serotonin receptor levels in hippocampus of ovariectomized rats. M. M. MACHADO*; F. M. THOMAZ; I. S. DE ANDRADE; V. T. BOLDARINE; E. B. RIBEIRO; R. M. BANIN; M. M. TELLES. *Univ. Federal De Sao Paulo, Univ. Federal de Sao Paulo, Univ. Federal de Sao Paulo.*
- 2:00 W19 **777.10** The role of developmental and environmental factors in a mouse model of high emotional reactivity. D. MURRA*; K. L. HILDE; Q. WEI; L. ZHANG; E. K. HEBDA-BAUER; Z. FREEMAN; S. J. WATSON, Jr.; H. AKIL. *Univ. of Michigan.*
- 3:00 W20 **777.11** Sex-specific role for long non-coding RNAs in depression: Focus on linc00473 as a female-specific effector of CREB signaling. O. ISSLER*; Y. Y. VAN DER ZEE; A. RAMAKRISHNAN; Y. E. LOH; I. PURUSHOTHAMAN; J. WANG; C. TAN; D. M. WALKER; Z. S. LORSCH; P. J. HAMILTON; C. J. PENA; B. J. HARTLEY; E. FLAHERTY; A. TORRES BERRIO; E. M. PARISE; H. KRONMAN; E. S. CALIPARI; B. LABONTÉ; C. A. TAMMINGA; K. J. BRENNAND; Y. DONG; L. SHEN; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Univ. of Pittsburgh, UT Southwestern Med. Ctr., Princeton Univ., Vanderbilt Univ. Sch. of Med., Laval Univ., Univ. of Texas Southwestern Med. Ctr. at Dallas.*
- 4:00 W21 **777.12** ▲ Cannabinoid CB1 receptors blockade, decreases food intake and anxiety events in rats with metabolic syndrome. M. MUNOZ ARENAS*; B. VÁZQUEZ-GONZÁLEZ; A. DÍAZ. *Facultad De Ciencias Químicas, BUAP.*
- 1:00 W22 **777.13** Hypervigilant responses to a novel environment in a rodent model of epilepsy and depression comorbidity. S. A. EPPS*; S. D. HUGHES; F. N. MARTIN; A. E. KELLY. *Whitworth Univ.*
- 2:00 W23 **777.14** A detailed analysis of voluntary wheel running in OBX mice reveals multiple behavioral changes. R. P. WATERS*; A. M. RINKO; W. D. STAHLMAN; D. M. COPPOLA. *Univ. of Mary Washington, Univ. of Mary Washington, Randolph-Macon Col.*
- 3:00 W24 **777.15** Fetal programming of the brain structure in the development of behaviors like to depression-anhedonia. L. A. TRUJILLO VILLARREAL*; V. ROMERO-DÍAZ; I. A. MARINO MARTÍNEZ; L. FUENTES MERA; A. CAMACHO; M. CHAKRAVARTY; E. GARZA-VILLARREAL. *Autonomous Univ. of Nuevo León, Autonomous Univ. of Nuevo León, Autonomous Univ. of Nuevo León, Univ. of Toronto, Inst. Nacional de Psiquiatría "Ramón De la Fuente Muñiz.*
- 4:00 W25 **777.16** 3-dimensional analysis of mice habenula in lipopolysaccharide depression model. E. YANG*; J. KIM; S. YANG; H. LEE; H. KIM. *Korea Univ.*
- 1:00 W26 **777.17** The CAPS2 (calcium-dependent secretion activator 2) knock-down in the medial habenula induces despair-like behavior. H. YOO*; J. KIM; S. YANG; E. YANG; K. SONG; H. PARK; H. LEE; H. KIM. *Korea Univ.*
- 2:00 W27 **777.18** Ahnak modulates depression-like behavior. J. JIN*; D. L. BHATTI; K. LEE; L. MEDRIHAN; J. CHENG; C. SONG; J. E. GRESACK; P. GREENGARD; Y. KIM. *The Rockefeller Univ., The Rockefeller Univ., Rockefeller Univ.*
- 3:00 W28 **777.19** Hyper-excitable neurons produce hypo-functional neuronal networks that predict psychiatric disease: Evidence from modeling CRMP2 in bipolar disorder. C. D. PERNIA*; Y. GOSHIMA; E. Y. SNYDER. *Sanford Burnham Prebys Med. Discovery Inst., Yokohama City Univ. Sch. Med., Sanford Burnham Prebys Med. Discovery Inst.*
- 4:00 W29 **777.20** ● Intranasal delivery to rats of [D²⁶His]NPY prevents traumatic stress triggered prolonged anxiety and depressive-like symptoms. E. L. SABBAN*; C. NWOKAFOR; L. I. SEROVA. *New York Med. Col.*
- 1:00 W30 **777.21** Developmental photoperiod alters TREK-1 and SK currents in dorsal raphe serotonergic neurons. M. A. GIANNONI GUZMÁN*; T. N. MALIK; J. K. SIEMANN; D. G. MCMAHON. *Vanderbilt Univ., Vanderbilt Univ.*
- 2:00 W31 **777.22** Determining the impact of photoperiod during sensitive pre & postnatal developmental periods for dorsal raphe serotonin neuronal physiology and serotonergic signaling. J. K. SIEMANN*; D. G. MCMAHON. *Vanderbilt Univ., Vanderbilt Univ.*
- 3:00 W32 **777.23** ● Social context modulates depressive-like behavior and dopamine deficit induced by early pup removal in late postpartum rats. M. RINCÓN-CORTÉS*; A. A. GRACE. *Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 4:00 W33 **777.24** Low effort bias induced by the dopamine depleting agent tetrabenazine in an effort-related decision making task using mouse touchscreen procedures. J. YANG*; A. SHAH; T. QUILES; R. PRESBY; R. A. ROTOLO; R. FITCH; M. CORREA; J. D. SALAMONE. *Univ. of Connecticut, Psicobiologia. Univ. Jaume I.*

- 1:00 W34 **777.25** Novel atypical dopamine transport inhibitors and chemogenetic activation of mesolimbic dopamine neurons induce effort-related motivational changes in rats. R. A. ROTOLO*; R. SCHWARTZ; S. SAMELS; E. M. ROBERTSON; R. E. PRESBY; J. YANG; V. DRAGACEVIC; P. KALABA; M. PISTIS; M. A. DE LUCA; F. CARIA; M. CORREA; G. LUBEC; J. D. SALAMONE. *Univ. of Connecticut, Paracelsus Med. Univ., Univ. of Cagliari, Univ. Jaume I.*
- 2:00 W35 **777.26** Behavioral and dopaminergic correlates of individual differences in the selection of effortful and vigorous behaviors in rodents. M. CORREA*; A. MARTINEZ-VERDU; P. IBANEZ-MARIN; C. CARRATALA-ROS; S. PORRU; E. ARIAS-SANDOVAL; P. MATAS-NAVARRO; J. HIDALGO-CORTES; J. SALAMONE. *Psicobiologia. Univ. Jaume I, Univ. of Connecticut.*
- 3:00 W36 **777.27** Bupropion reverses the effort-related and depression-like effects of the VMAT-2 inhibitor tetrabenazine and increases selection of high-effort running wheel activity in mice. J. D. SALAMONE*; C. CARRATALA-ROS; A. MARTINEZ-VERDU; E. ARIAS-SANDOVAL; M. CORREA. *Univ. of Connecticut, Univ. Jaume I.*
- 4:00 W37 **777.28** Hippocampal-specific insulin resistance elicits depressive-like behavior. C. A. GRILLO*; F. Z. LOYO-ROSADO; J. L. WOODRUFF; H. B. COWAN; N. D. MAXWELL; L. P. REAGAN. *Univ. of South Carolina Sch. of Med., WJB Dorn VA Med. Ctr.*
- 1:00 W38 **777.29** Role of the mu opioid receptor in the antidepressant action of tianeptine. J. HAN*; V. ANDREU; J. E. PINTAR; B. L. KIEFFER; A. HARRIS; R. HEN; K. M. NAUTIYAL. *Columbia Univ., Rutgers Robert Wood Johnson Med. Sch., Douglas Hosp. Res. Ctr., Columbia Univ., Dartmouth Col.*
- 4:00 W42 **778.04** The effects of thyroid hormone manipulation on performance in the saccharin preference test, the elevated plus maze, and novel object placement task in male C57BL/6J mice. H. OVADIA; A. L. PEHRSON*. *Montclair State Univ.*
- 1:00 W43 **778.05** Selective serotonin reuptake inhibitor dosing and receptor occupancy: A systematic review and analysis of the mouse forced swim task. D. T. ROBERTS*; A. FOMIN; L. SANTOS; A. L. PEHRSON. *Montclair State Univ.*
- 2:00 W44 **778.06** Lithium partially restores presynaptic GABAergic signaling deficits in the Ank3 W1989R mouse model. R. N. CABALLERO*; A. D. NELSON; J. PHILIPPE; P. M. JENKINS. *Univ. of Michigan, Univ. of Michigan Med. Sch., Univ. of Michigan.*
- 3:00 X1 **778.07** Roles of p11 and serotonin in depression and antidepressant action. Y. SAGI*; L. MEDRIHAN; J. CHENG; G. UMSCHWEIF; P. GREENGARD. *Rockefeller Univ., The Rockefeller Univ., Rockefeller Univ., Rockefeller Univ.*
- 4:00 X2 **778.08** ▲ Fluoxetine effect on chronic unpredictable stress into a depression-epilepsy comorbidity model. J. GONZALEZ-GOMEZ*; I. ROMERO-ELIZALDE; C. GARCIA-CABALLERO; A. VALDES-CRUZ; S. ALMAZAN-ALVARADO; D. MARTINEZ-VARGAS. *Inst. Nacional De Psiquiatria Ramon De La Fuente.*
- 1:00 X3 **778.09** ▲ Effect of unpredictable chronic stress and fluoxetine on pentylenetetrazole induced seizures in rats. J. ROMERO-ELIZALDE*; J. GONZALEZ-GOMEZ; A. VALDES-CRUZ. *Inst. Nacional De Psiquiatria Ramon De La Fuente.*
- 2:00 X4 **778.10** Motivational dysfunction induced by the SSRI fluoxetine (Prozac) in rats: Possible involvement of 5-HT1B receptors. S. M. FERRIGNO*; R. A. ROTOLO; R. PRESBY; J. YANG; M. CORREA; J. D. SALAMONE. *Univ. of Connecticut, Psicobiologia. Univ. Jaume I.*
- 3:00 X5 **778.11** Modeling selection of voluntary physical activity in psychiatric disorders: Effects of the SSRI fluoxetine in rodents. R. E. PRESBY*; F. KUPERWASSER; E. ZORDA; O. DIMARCO; R. A. ROTOLO; J. YANG; C. CARRATALA-ROS; M. CORREA; J. D. SALAMONE. *Univ. of Connecticut, Univ. of Connecticut, Univ. Jaume I, Psicobiologia. Univ. Jaume I, Univ. of Connecticut.*
- 4:00 X6 **778.12** Fluoxetine induces morphological rearrangements of serotonergic fibers in the hippocampus. S. NAZZI; G. MADDALONI; M. PRATELLI; M. PASQUALETTI*. *Univ. of Pisa.*
- 1:00 X7 **778.13** A visual circuit related to habenula underlies the antidepressive effects of light therapy. H. LU*; Y. XI; X. HUANG; F. XU; T. XUE; M. LUO; K. KWOK-FAI SO; C. REN. *Jinan Univ., Wuhan Inst. of Physics and Mathematics, Chinese Acad. of Sci., Univ. of Sci. and Technol. of China, Natl. Inst. of Biol. Sci.*
- 2:00 X8 **778.14** Effect of low frequency electromagnetic stimulation on the blood quantitative indices in clomipramine-induced depressed rats. M. J. SVANIDZE*; M. BUTSKHRIKIDZE; N. JOJUA; N. BUKIA; L. MACHAVARIANI. *LEPL Ivane Beritashvili Ctr. of Exptl. Bio, European Univ.*
- 3:00 X9 **778.15** TRH and TRH-like peptides participate in the therapeutic effects of metformin. A. E. PEKARY*; A. SATTIN. *VA Greater Los Angeles Hlthcare Syst, VA Greater Los Angeles Hlth.*

POSTER

778. Depression and Bipolar Disorders: Treatment Strategies in Animal Studies

Theme G – Motivation and Emotion

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 W39 **778.01** ▲ Is a high fat diet always bad and a low fat diet always good? The effects of a low and high fat diet and the selective serotonin reuptake inhibitor, fluoxetine (prozac), in an animal model of depression. I. C. SUMAYA*; M. MUSQUEZ; A. ALVARADO; L. HERRERA; I. CABANILLAS. *California State University, Bakersfield.*
- 2:00 W40 **778.02** Galanin(1-15) reverses the impaired long-term memory effect of fluoxetine in the novel object recognition test. Role of 5-HT1A receptor in medial prefrontal cortex. A. FLORES-BURGESS; C. MILLÓN; B. GAGO; L. GARCÍA-DURÁN; N. CANTERO-GARCÍA; R. COVEÑAS; J. NARVÁEZ; K. FUXE; L. SANTÍN; Z. DIAZ-CABIALE*. *Univ. Malaga Spain, Univ. of Salamanca, Karolinska Institutet.*
- 3:00 W41 **778.03** Evaluation of fluoxetine effects in depressive-like behavior in high and low yawning rats. D. BRAVO DURÁN*; J. EGUIBAR; C. CORTES; A. FERNÁNDEZ-GUASTI. *Benemerita Univ. Autonoma De Puebla, Benemerita Univ. Autonoma De Puebla, B. Univ. Autonoma de Puebla, CINVESTAV SUR.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 X10 **778.16** • SUVN-D4010, a 5-HT₄ receptor partial agonist with antidepressant properties: Behavioral and neurochemical studies in mice and rats. A. MOHAMMED; N. BOGARAJU; R. PALACHARLA; S. DARIPELLI*; S. GANDIPUDI; P. JAYARAJAN; R. NIROGI. *Suven Life Sci. Ltd.*
- 1:00 X11 **778.17** The use of transcranial direct current stimulation and paroxetine to treat depressive-like behaviours in olfactory bulbectomized adolescent rats. S. WAYE*; F. BAMBICO; J. NOBREGA; R. RAYMOND. *Mem. Univ. of Newfoundland, Ctr. for Addiction and Mental Hlth.*
- 2:00 X12 **778.18** Nicotine mediates the positive effects of water pipe tobacco smoking on resilience to chronic social defeat stress by increasing hippocampal BDNF levels, but does not mediate its negative effects on anxiety. S. SLEIMAN*; M. KHALIFEH; R. HOBEIKA; J. S. STEPHAN; R. KHAYZER; C. KHALIL. *LAU Sch. of Arts and Sci., Lebanese American Univ., Lebanese American Univ.*
- 3:00 X13 **778.19** Electroconvulsive seizure alleviates MPTP-induced motor deficits and promotes AMPK-related autophagy signaling in mice. Y. KIM*; S. KIM; H. YU. *Dongguk Univ. Med. Sch., Seoul Natl. Univ. Hosp.*
- 4:00 X14 **778.20** ▲ Differential effects of low and high frequencies of rTMS on depressive and anxiety-like behaviors in chronic unpredictable mild stress rat model. J. ARROYO-PÉREZ*; B. L. GARCÍA-QUINTERO; E. RUIZ-HERNÁNDEZ; D. ELÍAS-VÍÑAS; L. VERDUGO-DÍAZ. *Univ. Nacional Autónoma De México, CINVESTAV, IPN.*
- 1:00 X15 **778.21** The effects of modafinil on behavioral and neurophysiological indices of cognitive control in a touchscreen-based rodent Flanker Task. M. A. ROBBLE*; H. SCHRODER; M. BRANHAM; L. WOOLDRIDGE; M. BREIGER; B. D. KANGAS; J. BERGMAN; W. A. CARLEZON, Jr; D. A. PIZZAGALLI. *McLean Hospital, Harvard Med. Sch., Harvard Med. Sch./McLean Hosp., McLean Hosp.*
- 2:00 X16 **778.22** Antidepressant effects of fear extinction, an animal model of exposure therapy. J. LIU*; A. D. RIGODANZO; D. A. MORILAK. *Univ. of Texas Hlth. Sci. Ctr. at San Antonio, Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*
- 3:00 X17 **778.23** Antidepressant effect of Buddleja cordata extract in a mice model of chronic stress. G. GARCIA-ALONSO; A. MONROY; G. FLORES; M. MIRANDA-MORALES; A. RANGEL; R. D. CUEVAS OLGUIN; M. ATZORI*. *UASLP, UAEM, Univ. Autonoma de Puebla / Inst. de Fisiologia, Univ. Autonoma De San Luis Potosi, Univ. Autónoma de San Luis Potosí.*
- 4:00 X18 **778.24** • ▲ Acute administration of propofol in mice pre-treated with fluoxetine does not improve performance on the FST. N. G. J. DANIEL; D. T. G. DANIEL; D. G. DANIEL*; L. C. FLYNN; M. ALLEN. *Dartmouth Col., Brown Univ., Bioniche Global Development, LLC, LCF Consulting, LLC, Univ. of Colorado Sch. of Med.*
- 1:00 X19 **778.25** Combined treatment with aripiprazole and sertraline increases extracellular dopamine levels in the nucleus accumbens of rats more than sertraline alone. Y. OYANAGI*; Y. KITAICHI; Y. AN; I. KUSUMI. *Dept. of Psychiatry, Hokkaido Univ. Grad.*
- 2:00 X20 **778.26** Valeriana fauriei exerts antidepressant-like effects through anti-inflammatory and anti-oxidant activities by inhibiting brain-derived neurotrophic factor associated in chronic restrained stress. J. OH*; J. CHOI; Y. CHANG; B. CHEON; I. CHO. *Kyung Hee Univ.*

- 3:00 X21 **778.27** Comparison of delayed and rapid onset antidepressants in a rodent probabilistic reversal learning task. M. P. WILKINSON*; J. R. MELLOR; E. S. J. ROBINSON. *Univ. of Bristol.*
- 4:00 X22 **778.28** ▲ Antidepressant efficacy of L-655,708 following infusions into the medial prefrontal cortex. A. M. BAILEY*; B. STEINHOFF; K. ROBEY. *St. Mary's Col. of Maryland.*

POSTER

779. Post-Traumatic Stress Disorder

Theme G – Motivation and Emotion

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 X23 **779.01** Incidence and risk factors for post-traumatic stress, anxiety and depression in sepsis survivors after ICU discharge. A. J. CALSAVARA*; P. A. COSTA; V. NOBRE; A. L. TEIXEIRA. *Sch. of Medicine, Univ. Federal de Ouro Preto, Sch. of Medicine, Univ. Federal de Minas Gerais, Postgraduate Program in Hlth. Sciences: Infectious Dis. and Tropical Medicine, Sch. of Medicine, Univ. Federal de Minas Gerais, Neuropsychiatry Program & Immuno-Psychiatry Lab, Dept. of Psychiatry and Behavioral Sciences, McGovern Med. School, Univ. of Texas Hlth. Sci. Ctr. at Houston.*
- 2:00 X24 **779.02** Multimodal structural brain imaging of recently traumatized individuals. N. G. HARNETT*; J. S. STEVENS; N. FANI; T. JOVANOVIĆ; S. J. H. VAN ROOIJ; T. D. ELY; L. D. NICKERSON; K. J. RESSLER. *McLean Hosp., Harvard Med. Sch., Emory Univ., Wayne State Univ., Mclean Hosp.*
- 3:00 X25 **779.03** Influence of anhedonic symptom severity on reward circuit connectivity in PTSD. S. PESSIN*; C. L. PHILIPPI; S. E. BRUCE. *Univ. of Missouri - St. Louis.*
- 4:00 X26 **779.04** NTRK2 methylation is negatively related to traumatic memories and PTSD risk in two independent African cohorts of trauma survivors. N. R. GHAFARI*; D. COYNEL; V. VUKOJEVIC; T. ELBERT; I. T. KOLASSA; S. WILKER; J. L. MCGAUGH; A. PAPASSOTIROPOULOS; D. J. DE QUERVAIN. *Univ. of Basel, Univ. of Basel, Univ. of Konstanz, Univ. of Ulm, Univ. of California, Irvine.*
- 1:00 DP12/X27 **779.05** (Dynamic Poster) A multi-domain objective classification of recent post-traumatic stress disorder. Z. BEN-ZION; Y. ZEEVI; J. N. KEYNAN; R. ADMON; H. SHARON; P. HALPERIN; I. LIBERZON; A. Y. SHALEV; Y. BENJAMINI; T. HENDLER*. *Tel-Aviv Univ., Haifa Univ., Texas A&M Hlth. Sci. Ctr., NYU Langone Med. Ctr.*
- 2:00 X28 **779.06** Neural substrates of rumination in women with PTSD. C. L. PHILIPPI*; S. E. BRUCE. *Univ. of Missouri, St. Louis.*
- 3:00 X29 **779.07** • Early childhood adversity associated epigenetic alterations and neuroendocrine stress reactivity at adolescence. R. SEGMAN*; D. PEVZNER; T. GOLTSETER DUBNER; C. KALLA; A. SHALEV; F. BENARROCH; R. GIESSER; A. BEN YEHUDA; R. HABER; C. SALONER; L. CANNETI; E. GALILI-WEISSTUB; O. OZ; I. VASHDI; A. MIRMAN; O. BONNE. *Hadassah Univ. Hosp., The Herman-Danna Div. of Pediatric Psychiatry, Dept. of Psychiatry, Hadassah - Hebrew Univ. Med. Center; Jerusalem Israel, Hadassah, Dept. of Mental Healthy. Israel Def. Forces., Jerusalem, Israel.*

- 4:00 X30 **779.08** Emotion dysregulation mediates the association between acute sleep disturbance and PTSD symptoms in trauma exposed patients. M. MCDANIEL*; N. CHRIST; H. XIE; M. T. TULL; J. ELHAI; J. J. MATHEWS; R. V. N. BODDAPATI; I. LIBERZON; X. WANG. *Toledo Univ., Texas A&M Univ.*
- 1:00 X31 **779.09** Cortical and subcortical brain volume vary with acute posttraumatic stress symptoms after a medical trauma. H. E. DARK*; N. G. HARNETT; A. J. KNIGHT; D. C. KNIGHT. *Univ. of Alabama Birmingham, McLean Hosp., Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*
- 2:00 X32 **779.10** Resting-state functional connectivity predicts change in PTSD symptoms. Y. LOKSHINA*; J. SHEYNIN; T. NICKELSEN; E. R. DUVAL; M. ANGSTADT; J. N. KEYNAN; Z. BEN-ZION; R. ADMON; M. HALEVI; N. GREEN; T. HENDLER; A. Y. SHALEV; I. LIBERZON. *Texas A&M Inst. for Neurosci., Texas A&M Univ. Hlth. Sci. Ctr., Univ. of Michigan, Veterans Affairs Ann Arbor Healthcare Syst., Tel-Aviv Sourasky Med. Ctr., Tel-Aviv Univ., Haifa Univ., Tel-Aviv Univ., Tel-Aviv Univ., New York Univ. Langone Med. Ctr.*
- 3:00 X33 **779.11** The effects of psilocybin assisted group therapy on demoralization, depression, and PTSD symptoms in older long-term AIDS survivors. B. T. ANDERSON; A. L. DANFORTH; R. B. DAROFF; C. S. STAUFFER; J. W. DILLEY; J. M. MITCHELL*; J. D. WOOLLEY. *UCSF: Dept. of Psychiatry, UCSF: Departments of Neurol. and Psychiatry.*
- 4:00 X34 **779.12** • Intracranial neurophysiology of hypervigilance in posttraumatic stress disorder. Z. M. AGHAJAN*; J. LANGEVIN; D. VILLAROMAN; A. BARI; S. HILLER; U. TOPALOVIC; R. KOEK; S. KRAHL; J. W. Y. CHEN; N. R. HASULAK; M. FANSELOW; N. SUTHANA. *UCLA, VA Greater Los Angeles Healthcare Syst., NeuroPace, Inc.*
- 1:00 X35 **779.13** Decoding stress levels from fMRI data obtained in a virtual reality environment. T. TSE*; R. GOEL; A. FLOREN; B. NAYLOR; C. PAO; D. RESS; W. WILLIAMS; R. SALAS. *Baylor Col. of Med., Univ. of Texas at Austin, Univ. of Houston, Michael E. DeBakey VA Med. Ctr., Baylor Col. of Med.*
- 2:00 X36 **779.14** Periaqueductal gray resting state functional connectivity prospectively predicts post traumatic stress symptom severity. E. WEBB*; A. HUGGINS; E. BELLEAU; L. TAUBITZ; J. HANSON; T. DERON-CASSINI; C. L. LARSON. *Univ. of Wisconsin Milwaukee, McLean Hospital/Harvard Med. Sch., Rogers Mem. Hosp., Med. Col. of Wisconsin.*
- 3:00 X37 **779.15** Early findings of enhanced eyeblink conditioning in individuals with high levels of manifest anxiety support a learning diathesis model of PTSD. T. ALLEN*. *Univ. of Northern Colorado.*
- 4:00 X38 **779.16** • Post-traumatic stress disorder: Quantitative EEG biomarkers and treatment via the reconsolidation of traumatic memories (RTM) protocol. J. D. LEWINE*; R. GRAY; D. BUDDEN-POTTS; N. GOODREAU; K. PAULSON; N. BANGERA; J. DAVIS; W. MURRAY; F. BOURKE. *Mind Res. Network, Res. and Recognition Project.*
- 1:00 X39 **779.17** Frontal emotion regulation capacity predicts acute cortisol-responses as well as long-term resilience to post-traumatic stress: Evidence from a prospective longitudinal study. R. KALDEWAIJ*; S. B. J. KOCH; W. ZHANG; M. M. HASHEMI; F. KLUMPERS; K. ROELOFS. *Radboud Univ. Nijmegen, Radboud Univ. Nijmegen.*
- 2:00 X40 **779.18** Sex-specific transcriptomic alterations in posttraumatic stress disorder across multiple regions of human frontal cortex. M. J. GIRGENTI*; J. WANG; D. JI; D. CRUZ; D. WILLIAMSON; M. FRIEDMAN; H. ZHAO; J. H. KRYSTAL; T. STUDY GROUP; R. S. DUMAN. *Yale Univ. Sch. of Med., Yale Sch. of Med., Duke Univ. Sch. of Med., Dure Univ. Sch. of Med., Dartmouth Sch. of Med., Veterans Admin. Natl. Ctr. for PTSD, Yale Univ. Sch. Med.*
- 3:00 X41 **779.19** Intranasal oxytocin increases dopamine signaling in the dorsal striatum of anesthetized rats. D. E. GINDER*; C. RAMELOW; M. P. GAINER; D. P. DABERKOW. *Eastern Washington Univ.*
- 4:00 X42 **779.20** Effects of intranasal oxytocin pre- and post-treatment in a rat model of PTSD. D. P. D. DABERKOW*; S. M. HILFIKER; R. A. WESTERMAN; S. R. STORACI; D. H. OWNBEY; T. M. MOORHEAD; C. F. GUZMAN; R. BARIDO; C. W. JASPER. *Eastern Washington Univ.*
- 1:00 X43 **779.21** Impact of prophylactic intranasal oxytocin on signs of fear in a mouse model of PTSD. C. W. JASPER*; K. A. WHITWORTH; M. A. CHAMPION; C. A. ALVIS; E. M. KOEHLER; M. L. MCNEILL; R. L. BARIDO; D. P. DABERKOW. *Eastern Washington Univ.*

POSTER

780. Post-Traumatic Stress Disorder: Preclinical Models

Theme G – Motivation and Emotion

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 X44 **780.01** Cannabidiol and sertraline-mediated regulation of behavioral and neurochemical disturbances induced by a new long-lasting animal model of post-traumatic stress disorder. J. MANZANARES*; F. NAVARRETE; A. GASPARYAN. *Instituto de Neurociencias, Universidad Miguel Hernandez-CSIC.*
- 2:00 X45 **780.02** ▲ A predator-based psychosocial stress model of post-traumatic stress disorder in females: Influence of estrous phase and ovarian hormones. C. S. GOODMAN*; P. A. D'ALESSIO; S. L. SEELEY; C. D. KASLER; K. E. MUCHER; A. S. ALLISON; I. F. SMITH; J. L. DODSON; T. S. STOOPS; K. M. ELMOUHAWESSE; B. R. RORABAUGH; P. R. ZOLADZ. *Ohio Northern Univ., Ohio Northern Univ.*
- 3:00 X46 **780.03** • A 5HT_{2A} receptor inverse agonist reduces anxiety measures in a rodent model of PTSD. J. R. CAMPBELL; P. TSAI; H. L. CHAPMAN; V. E. BAILEY; L. D. BRATVEDT; C. P. WARD*; E. S. BURSTEIN; D. H. MALIN. *Univ. of Houston Clear Lake, Univ. of Houston Clear Lake, Acadia Pharmaceuticals.*
- 4:00 Y1 **780.04** Anterior amygdalohippocampal area was reduced by severe stress event in adult male rats - Longitudinal structural MRI study. R. RYOKE*; M. HIROBE; H. NONAKA; R. KAWASHIMA. *Tohoku Univ.*
- 1:00 Y2 **780.05** ▲ Examinations of environmental enrichment and morphine for the symptoms of post-traumatic stress disorder in mice. F. WU; A. C. HUANG. *Fo Guang Univ., Fo Guang Univ.*
- 2:00 Y3 **780.06** Genetic selection for blunted glucocorticoid responsiveness leads to impaired fear extinction and sleep abnormalities in rats. S. MONARI*; S. E. WALKER; J. GROSSE; I. GUILLOT DE SUDIRAUT; S. ASTORI; C. SANDI. *Brain Mind Institute, EPFL.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 3:00 Y4 **780.07** Interleukin 1 receptor (IL-1R) within the subfornical organ is a novel neuroimmune regulator of panic-PTSD. K. M. MCMURRAY*; R. SAH. *Univ. of Cincinnati, DVA.*
- 4:00 Y5 **780.08 ▲** Tests of freezing and anxiety behaviors in the animal model of post traumatic stress disorder. H. CHENG*; A. C. W. HUANG. *Fo Guang Univ.*
- 1:00 Y6 **780.09** The blockade of NK1 receptors in the dorsal periaqueductal gray facilitated extinction memory and reduced anxiety-like behavior. M. C. CARVALHO*; C. R. LEITE-PANISSI; N. C. COIMBRA. *Univ. of São Paulo/ FMRP, Univ. of São Paulo/ FFCLRP, Univ. of São Paulo/ FMRP.*
- 2:00 Y7 **780.10** Pharmacological inactivation of the nucleus reuniens during predator odor exposure and context re-exposure. L. C. ORNELAS*; J. BESHEER. *The Univ. of North Carolina Sch. of Med., Univ. of North Carolina - Chapel Hill.*
- 3:00 Y8 **780.11 ▲** Estrogen receptor activation and susceptibility to traumatic stress in an animal model of PTSD. M. BIDDLE*; D. K. KNOX. *Univ. of Delaware.*
- 4:00 Y9 **780.12** The effect of ethanol consumption on cue-dependent fear memory in mice. K. WININGER*; A. HO; S. PAEK; D. CHOI. *Mayo Clin. Grad. Sch. of Biomed. Sci., Mayo Clin., Mayo Clin. Col. of Med.*
- 1:00 Y10 **780.13** Sex differences in intravenous ketamine infusion on stress and fear in rats. K. D. RADFORD; M. ZHANG; R. Y. BERMAN; T. J. WU; K. CHOI*. *Uniformed Services Univ., Uniformed Services Univ.*
- 2:00 Y11 **780.14** Glutamatergic mechanisms enduring vulnerability to maladaptive coping strategies and transient synaptic plasticity following and acute stressor. C. GARCIA-KELLER; A. M. KEARNS; J. S. CARTER; J. JOPKINS; T. PENALOZA; P. W. KALIVAS; C. M. REICHEL*. *Med. Univ. of South Carolina.*
- 3:00 Y12 **780.15 ▲** Changes in the gut-associated microbiome as a result of exposure to a predator-based psychosocial stress model of PTSD. I. F. SMITH*; C. D. KASLER; K. L. KRYNAK; P. R. ZOLADZ. *Ohio Northern Univ., Ohio Northern Univ.*
- 4:00 Y13 **780.16** Mir-598-3p mediates susceptibility to stress-enhanced remote fear memory. M. E. JONES*; S. E. SILLIVAN; S. JAMIESON; G. RUMBAUGH; C. A. MILLER. *The Scripps Res. Inst., The Scripps Res. Inst., The Scripps Res. Inst.*
- 1:00 Y14 **780.17** Therapeutic potential of neuregulin-1 for diet-induced cognitive deficits. J. D. VEGA-TORRES; P. A. ONTIVEROS; A. JULLIENNE; E. HADDAD; A. AVITUA; B. D. FORD; A. OBENAU; J. D. FIGUEROA*. *Loma Linda Univ. Sch. of Med., Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Riverside, Univ. of California Riverside Sch. of Med., Univ. of California, Irvine, Loma Linda Univ. Sch. of Med.*
- 2:00 Y15 **780.18** Activity dependent dissection of lateral septal circuits that control stress susceptibility. D. ALLEN; M. HASHIMOTO; D. J. ANDERSON; T. E. ANTHONY*. *Boston Children's Hosp., Caltech.*
- 3:00 Y16 **780.19** NR2B mRNA expression decreased in ventral hippocampus after exposure to single prolonged stress trauma, a rodent model of PTSD. C. V. CHEN*; N. RAJARAM; I. LIBERZON. *Texas A&M Univ., Ann Arbor VA Healthcare Syst.*
- 4:00 Y17 **780.20** Time-dependent effects of single-prolonged stress on amino acid neurotransmitter levels in rat prelimbic and infralimbic cortices: A magnetic resonance spectroscopy study. F. GHODDOUSSI*; A. HARUTYUNYAN; S. A. PERRINE. *Wayne State University, Sch. of Med., Wayne State University-School of Med., John D Dingell VA Med. Ctr.*
- 1:00 Y18 **780.21** Differential brain activity in response to trauma in a predator scent stress rat PTSD model. D. DOPFEL*; C. MESSNER; N. ZHANG. *Pennsylvania State Univ., The Pennsylvania State Univ.*
- 2:00 Y19 **780.22 ▲** CBD effects on measures of anxiety and depression in a preclinical model of post traumatic stress disorder. C. N. MULTON; D. C. COOPER; T. E. KOELTZOW*. *Bradley Univ.*
- 3:00 Y20 **780.23** Individual resilience or vulnerability to traumatic-stress exposure based on behavioral profile and subsequent ethanol drinking predicted by machine learning. R. R. DENNY*; E. M. UNTERWALD. *Temple Univ. Lewis Katz Sch. of Med., Temple Univ. Sch. of Med.*
- 4:00 Y21 **780.24** The adult consequences of trauma exposure are dependent upon developmental period and sex. G. I. ELMER*; C. L. MAYO; D. B. BELL; J. D. TAPOCIK; P. D. SHEPARD. *Univ. of Maryland, Baltimore, NIH.*
- 1:00 Y22 **780.25** Cannabidiol reverses stress-induced impairment of conditioned fear in rats: Involvement of serotonergic, cannabinoid and nitrgergic systems. S. F. LISBOA*; C. VILA-VERDE; D. L. ULIANA; L. B. RESSTEL; F. S. G. GUIMARAES. *Univ. of Sao Paulo - FCFRP/USP, Med. Sch. of Ribeirão Preto, Med. Sch. of Ribeirão Preto, Univ. of Pittsburgh, Schl Med, FMRP-USP.*
- 2:00 Y23 **780.26** Post-traumatic stress disorder (PTSD)-like phenotype in female rats. K. ALEXANDER; R. NALLOOR; K. BUNTING; A. I. V. VAZDARJANOVA*. *Augusta Univ., Augusta Univ., Charlie Norwood VA Med. Ctr.*
- 3:00 Y24 **780.27** Sex differences in fear conditioned-induced alternative splicing events in mouse hippocampus. S. I. LOMBROSO*; S. XU; E. A. HELLER. *Univ. of Pennsylvania.*
- 4:00 Y25 **780.28** Suvorexant reverses stress induced psychosis-like behavior in a rodent model of PTSD. H. ELAM*; J. DONEGAN; A. BOLEY; D. LODGE. *UT Hlth. San Antonio.*
- 1:00 Y26 **780.29** Modeling gender difference in PTSD with female rats. Q. LI*; D. DOPFEL; N. ZHANG. *Penn State Univ.*

POSTER

781. Nicotine, Mechanisms of Dependence, and Reward

Theme G – Motivation and Emotion

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 Y27 **781.01 ▲** Delivery of vaporized nicotine: Effects of gender, dose, and weekly nicotine exposures on behavioral and physiological measures. C. MARSTON*; S. C. HONEYCUTT; P. I. GARRETT; T. M. HILLHOUSE. *Weber State Univ.*
- 2:00 Y28 **781.02 ▲** Repeated vaporized nicotine administration induces behavioral sensitization in C57BL/6 mice. S. C. HONEYCUTT*; P. I. GARRETT; A. G. BARRAZA; A. N. MALOY; T. M. HILLHOUSE. *Weber State Univ.*

- 3:00 Y29 **781.03** ▲ Effects of nicotine enhanced incentive stimuli on dopamine release in the nucleus accumbens shell and cocaine demand in rats. C. T. MAJORS*; D. HARRYMAN; C. E. PONDER-CEPEDA; C. A. BRADLEY; A. L. SMITH; G. A. DEEHAN, JR; M. I. PALMATIER. *East Tennessee State Univ., East Tennessee State Univ., East Tennessee State Univ., Bridgewater Col., East Tennessee State Univ.*
- 4:00 Y30 **781.04** ▲ Concurrent infusion of lithium chloride reduces nicotine self-administration in rats. D. C. HARRYMAN; C. E. PONDER-CEPEDA; C. T. MAJORS; A. L. SMITH; M. I. P. PALMATIER*. *East Tennessee State Univ., East Tennessee State Univ.*
- 1:00 Y31 **781.05** Concurrent self-administration of nicotine and alcohol in an operant lick model. M. I. PALMATIER; M. M. KOSKY; D. HARRYMAN; C. T. MAJORS; C. A. BRADLEY; G. A. DEEHAN*, JR. *East Tennessee State Univ.*
- 2:00 Y32 **781.06** Metabolic changes in mice nucleus accumbens following acute IP injection of menthol. O. DEHKORDI*; P. WANG; S. LIN; R. M. MILLIS; M. I. DÁVILA-GARCÍA. *Howard Univ., Howard Univ., American Univ. of Antigua, Howard Univ.*
- 3:00 Y33 **781.07** ● Inverse agonists of the 5-HT_{2a} receptor reduce nicotine withdrawal signs in rats. D. H. MALIN*; M. HENCEROTH; S. GADAM; J. R. CAMPBELL; J. MA; P. TSAI; J. C. KISHBAUGH; E. S. BURSTEIN. *Univ. of Houston-Clear Lake, Univ. of Houston-Clear Lake, Univ. of New Mexico, Univ. of Houston Clear Lake, Acadia Pharmaceuticals Inc., ACADIA Pharmaceuticals Inc.*
- 4:00 Y34 **781.08** Genetically encoded biosensors for nicotinic ligands. A. L. NICHOLS*; L. LUEBBERT; P. M. BORDEN; A. V. SHIVANGE; J. H. WANG; A. K. MUTHUSAMY; J. S. MARVIN; L. L. LOOGER; H. A. LESTER. *Caltech, Leiden Univ., Janelia Res. Campus, Caltech.*
- 1:00 Y35 **781.09** Role of trace-amine-associated receptor 1 in nicotine withdrawal. R. WU*; J. LIU; B. N. JOHNSON; J. LI. *SUNY At Buffalo.*
- 2:00 Y36 **781.10** Nicotinic acetylcholine receptors in the interpeduncular nucleus regulate nicotine consumption. S. MONDOLONI*; C. NGUYEN; R. DURAND DE-CUTTOLI; N. TORQUET; F. MARTI; S. TOLU; S. PONS; U. MASKOS; P. FAURE; A. MOUROT. *Sorbonne Univ., Inst. Pasteur.*
- 3:00 Y37 **781.11** Repeated nicotine exposure in mice alters spontaneous behavioral activity and synaptic function in the central nucleus of the amygdala. Q. LI; R. C. KLEIN; L. WANG; S. D. MOORE*. *Duke Univ., Durham VA Med. Ctr.*
- 4:00 Y38 **781.12** Modulation of neurotransmission in rodent dorsolateral striatum after acute nicotine exposure *in vitro*. O. LAGSTRÖM*; A. ANDRÉN; M. E. JOHANSSON; B. SÖDERPALM; M. ERICSON; L. ADERMARK. *Univ. of Gothenburg, Sahlgrenska Univ. Hosp., Inst. of Neurosci. and Physiol.*
- 1:00 Y39 **781.13** Distinct temporal structure of nicotinic ACh receptor activation determines responses of VTA neurons to endogenous ACh and nicotine. E. MOROZOVA; B. S. GUTKIN; C. LAPISH; P. FAURE; A. S. KUZNETSOV*. *Brandeis Univ., Group For Neural Theory, LNC INSERM U960, Ecole Normale Supérieure, IUPUI, CNRS UMR8246, INSERM U1130.*

- 2:00 Y40 **781.14** Positron emission tomography measurements of 2-[¹⁸F]FA-85380 binding to nicotinic receptors in female and male mice. S. MITCHELL; H. J. ZHANG; M. P. BHUIYAN; H. TSAI; L. LEONI; R. FREIFELDER; B. ROMAN; C. KAO; X. ZHUANG; W. N. GREEN*; J. MUKHERJEE; C. CHEN. *Univ. of Chicago, Univ. of Chicago, UC Irvine.*
- 3:00 Y41 **781.15** The role of endogenous PACAP in nicotine dependence. K. LUTFY*; S. NEGA; P. MARQUEZ; A. HAMID. *Western Univ. of Hlth. Sci.*
- 4:00 Y42 **781.16** Oppositional sex-dependent regulation of $\alpha 6$ and $\beta 3$ nicotinic receptors by protein kinase C ϵ : Implications for alcohol and nicotine reward mechanisms. J. K. MOEN*; M. C. DEBAKER; J. E. MYJAK; K. D. WICKMAN; A. M. LEE. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

POSTER

782. Learning and Memory

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 Y43 **782.01** ▲ Functional network architectures in schizophrenia, are distorted during memory formation and consolidation: Graph theoretic analyses. E. D. MERAM*; S. J. BAAJOUR; A. Z. CHOWDURY; J. A. STANLEY; V. A. DIWADKAR. *Wayne State Univ., Wayne State Univ. Sch. of Med., Wayne State Univ. Sch. Med., Wayne State Univ. SOM.*
- 2:00 Y44 **782.02** The role of B2- and B3-containing GABAARs in memory and learning. A. ABDULZAHIR*; A. FIGUEROA; C. LOR; M. G. PERKINS; G. E. HOMANICS; M. S. FANSELOW; R. A. PEARCE. *Univ. of Wisconsin Madison, Univ. Pittsburgh, UCLA.*
- 3:00 Z1 **782.03** Towards a neural circuit basis of neurodevelopmental disease: The role of a frontal-entorhinal projection in spatial and nonspatial forms of memory. E. HISEY*; S. H. SODERLING. *Duke Univ.*
- 4:00 Z2 **782.04** Effect of perineuronal net inhibitor on memory retention in mice. J. VALLOVÁ*; J. C. KWOK; N. MARTÍNEZ-VAREA; S. YANG; Š. KUBINOVÁ; J. W. FAWCETT. *Inst. of Exptl. Med. CAS, 2nd Med. Fac., Univ. of Leeds, John van Geest Ctr. for Brain Repair, Univ. of Cambridge, Cambridge Univ.*
- 1:00 Z3 **782.05** Progesterone pretreatment decrease acute stress effect on cognition and Sgk1 expression in Sprague-Dawley rats. E. S. JOHNSON*; J. C. GANT; J. R. THIBAUT; S. D. KRANER; K. HARGIS-STAGGS; E. M. BLALOCK. *Univ. of Kentucky, Sanders Brown Ctr. on Aging.*
- 2:00 Z4 **782.06** ● The role of mesolimbic D2 receptors in learning from positive and negative feedback in a reversal learning task. J. SALA-BAYO; J. ALSIO; M. SELIN; A. MAREK; J. R. NICHOLSON*; J. W. DALLEY; T. W. ROBBINS. *Univ. of Cambridge, Boehringer Ingelheim Pharma GmbH & Co.KG.*
- 3:00 Z5 **782.07** Missing you? Dopaminergic error mechanisms in rat ventral tegmental area are reset by the early appearance of the same reward but not by the early appearance of a similarly-valued but differently-flavored reward. Y. K. TAKAHASHI*; T. A. STALNAKER; L. MUELLER; G. SCHOENBAUM. *NIDA/NIH, Univ. at Buffalo, Univ. of Maryland Sch. of Med., The Johns Hopkins Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 Z6 **782.08** Learning induced transformation of spiking pattern through nonlinear dendritic processing *in vivo*. M. WANG*; X. CHEN. *Third Military Med. Univ.*
- 1:00 Z7 **782.09** Latent learning with multiple categorical stimuli. Y. ZHANG*; A. GORELIK; K. GUPTA; E. D. BOORMAN. *Univ. of California Davis, Ctr. for Mind and Brain.*
- 2:00 Z8 **782.10** ▲ Evaluation of cognitive function in adult rhesus monkeys using finger maze test. K. KEONWOO*. *KRIBB Natl. Primates Res. Ctr.*
- 3:00 Z9 **782.11** Prefrontal subnetworks underlying cognitive flexibility. T. SPELLMAN*; M. SVEL; C. M. LISTON. *Weill Cornell Med. Col.*
- 4:00 Z10 **782.12** Functional gradient across primate frontopolar, mid-lateral, and posterior-lateral prefrontal cortices revealed by a test battery for assessing higher cognitive functions. K. WATANABE*; M. HIRATA; T. SUZUKI. *Osaka Univ., Osaka Univ. Grad. Sch. of Med., Natl. Inst. of Information and Communications Technol.*
- 1:00 Z11 **782.13** Aberrant response based strategies in old age are related to elevated Arc expression in the dorsal striatum. K. N. LUBKE*; S. M. TURNER; L. M. COLON-PEREZ; M. FEBO; S. N. BURKE. *Univ. of Florida, Univ. of Florida, Univ. of California, Univ. of Florida.*
- 2:00 Z12 **782.14** Intralaminar thalamic neuron plays the action selection and flexible behavioral controls. S. KATO*; R. FUKABORI; K. NISHIZAWA; K. OKADA; N. YOSHIOKA; M. SUGAWARA; Y. MAEJIMA; K. SHIMOMURA; M. OKAMOTO; S. EIFUKU; K. KOBAYASHI. *Fukushima Med. Univ., Hiroshima Univ., Niigata Univ.*
- 3:00 Z13 **782.15** Influence of normal aging on tau isoforms and post-translational modifications in transentorhinal cortex. J. A. MCQUAIL*; S. A. JOHNSON; M. N. LITENSKI; S. GHAY; B. HELLBUSCH; G. PEGUERO; S. L. ROSSI; P. CHAKRABARTY; B. I. GIASSEN; P. R. RAPP; S. N. BURKE; J. L. BIZON. *Univ. of Florida, NIH/National Inst. on Aging.*
- 4:00 Z14 **782.16** Neural correlates of ordinal knowledge during serial-order tasks in pigeons. M. JOHNSTON*; B. S. PORTER; M. COLOMBO. *Univ. of Otago.*
- 1:00 Z15 **782.17** Tbx1, a 22q11.2 cnv-encoded gene, in neonatal progenitor cells determines the postnatal development of affiliative social behaviors. T. HIRAMOTO*; S. BOKU; G. KANG; S. ABE; M. NAGASHIMA; R. GORDAN; P. O'BROIN; K. YE; T. V. MICHURIN; G. N. ENIKOLOPOV; N. HIROI. *Univ. of Texas Hlth. Sci. Ctr., Kobe Univ. Grad. Sch. of Med., Showa Univ., Albert Einstein Col. of Med., Duke Ctr. for Genomic and Computat. Biol., Natl. Univ. of Ireland Galway, Albert Einstein Col. of Med., Stony Brook Univ., Stony Brook Univ., Cold Spring Harbor Lab.*
- 2:00 Z16 **782.18** Bortezomib levels in the brain and cerebral spinal fluid and the effects on cognition. P. HUEHNCHEN*; W. BOEHMERLE; A. SPRINGER; S. KOHLER; T. ALEXANDER; F. HIEPE; A. MEISEL; M. ENDRES. *Charite Universitaetsmedizin Berlin, Freie Univ. Berlin, Charite Universitaetsmedizin Berlin, Charite Universitaetsmedizin Berlin.*
- 3:00 Z17 **782.19** ▲ Vagus nerve stimulation enhances prefrontal-cortical mediated cognitive flexibility. L. K. P. ALTIDOR*; M. M. BRUNER; J. F. DESLAURIERS; T. S. GARMAN; S. RAMIREZ; D. G. LAMB; A. M. FINNER; E. W. DIRR; K. P. OLCZAK; A. P. MAURER; K. J. OTTO; S. N. BURKE; B. SETLOW; J. L. BIZON. *Univ. of Florida, Univ. of Florida, VAMC, Univ. of Florida, Univ. of Florida.*
- 4:00 Z18 **782.20** Peripheral and central effects of repeated vagus nerve stimulation. M. M. BRUNER*; J. F. DESLAURIERS; D. R. CALDERON; L. ALTIDOR; C. M. HERNANDEZ, III; J. A. MCQUAIL; E. DIRR; K. OLCZAK; A. P. MAURER; K. J. OTTO; S. N. BURKE; D. G. LAMB; B. SETLOW; J. L. BIZON. *UF, Univ. of Florida, Whitworth Univ., Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, McKnight Brain Inst.*
- 1:00 Z19 **782.21** The effects of early and late onset oral contraceptive use on emotional working memory in women. R. SHARMA*; N. BOUKINA; B. TAYLOR; A. SMITH; N. ISMAIL. *Univ. of Ottawa, Sch. of Psychology, Cardiff Univ.*
- 2:00 Z20 **782.22** Reduction of circHomer1 in the orbitofrontal cortex is associated with electrophysiological alterations underlying impaired cognitive flexibility. A. J. ZIMMERMAN*; S. K. AMOAH; A. K. HAFEZ; M. DELLORCO; M. J. WEBSTER; N. PERRONE-BIZZOZERO; N. MELLIOS; J. L. BRIGMAN. *Univ. of New Mexico HSC, Stanley Med. Res. Inst.*

POSTER

783. Inhibitory Control

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 Z21 **783.01** Response signals in dorsal medial striatum and behavior are dependent on medial prefrontal cortex. A. T. BROCKETT*; S. S. TENNYSON; C. A. DEBETTENCOURT; M. A. KALLMYER; M. R. ROESCH. *Univ. of Maryland.*
- 2:00 Z22 **783.02** Anticipatory contrast in instrumental behavior of rats. K. KAWASAKI*; M. TAGA. *Hoshi Univ.*
- 3:00 Z23 **783.03** Increased impulsivity like behaviors in mice lacking Gpr88. S. BEN HAMIDA*; M. MCNICHOLAS; E. MORONCINI; E. CLARKE; E. DARCO; B. L. KIEFFER. *Douglas Mental Hlth. Inst.*
- 4:00 Z24 **783.04** Impulsivity in a global cerebral ischemia rodent model: Optimization of a delay discounting task. A. MORIN*; H. PLAMONDON. *Univ. of Ottawa, Univ. Ottawa.*
- 1:00 Z25 **783.05** Effects of lesions of orbital frontal cortex and medial prefrontal cortex on the acquisition and extinction of DRL operant behavior in the rat. R. LIAO*; S. CHEN; Y. YANG; Y. YANG; C. CHUANG. *Natl. Cheng-Chi Univ., Natl. Cheng-Chi Univ.*
- 2:00 Z26 **783.06** ● A high-throughput mouse stop signal task (SST). A. CAGLAYAN*; K. STUMPENHORST; Y. WINTER. *Humboldt Univ. - Inst. Biologie.*
- 3:00 Z27 **783.07** ▲ Behavioral disinhibition as a cognitive endophenotype for early detection of Alzheimer's disease. T. PETERSON; Z. STEINBERG; M. R. DUGGAN; I. ASCI; V. V. PARIKH*. *Temple Univ., Temple Univ.*
- 4:00 Z28 **783.08** Pharmacological and behavioral modulation of impulsivity in the touchscreen-based mouse 5-choice serial reaction time test. A. RAHBARNIA*; A. R. ABELA; P. J. FLETCHER. *Univ. of Toronto, Ctr. For Addiction and Mental Hlth., Ctr. For Addiction and Mental Hlth.*
- 1:00 Z29 **783.09** Serotonin impairs social avoidance. H. B. WEINBERG-WOLF*; N. A. FAGAN; S. W. CHANG. *Yale Univ.*

- 2:00 Z30 **783.10** Midbrain dopamine neuron activity predicts impulsive actions in mice. T. P. PINKHASOV*; S. STAROSTA; A. KEPECS. *Cold Spring Harbor Lab., Stony Brook Univ.*
- 3:00 Z31 **783.11** • Effects of dorsal and ventral STN stimulation on stopping performance. N. C. VAN WOUWE; S. A. WYLIE; P. M. KASKAN; E. B. BRADLEY; A. M. GIFFORD; S. SELVAM; S. HUGHES; A. LOPEZ; J. D. SCHALL; F. T. PHIBBS; B. M. DAWANT; J. S. NEIMAT. *Univ. of Louisville, Univ. of Louisville, Vanderbilt Univ. Med. Ctr., Vanderbilt Univ., Vanderbilt Univ., Univ. of Louisville.*
- 4:00 Z32 **783.12** Individual differences in impulsivity correlate with weight-gain following DBS for the treatment of Parkinson's disease. P. M. KASKAN*; N. VAN WOUWE; W. BURKE; J. CHON; R. ALI; F. PHIBBS; P. KONRAD; J. NEIMAT. *Univ. of Louisville Sch. of Med., Vanderbilt Univ. Med. Ctr., Michigan State Univ., Vanderbilt Univ. Med. Ctr.*
- 1:00 Z33 **783.13** Decision-making, impulsivity, and attentional performance in heterozygous dopamine transporter knockout mice. Y. H. SABER; O. CHAKER; F. S. HALL*. *Univ. of Toledo Col. of Pharm. and Pharmaceut. Sci., Ninevah Col. of Med., Univ. of Toledo Col. of Pharm. and Pharmaceut. Sci.*
- 2:00 Z34 **783.14** Vagus nerve stimulation attenuates impulsivity in a 5-choice serial reaction time task. J. F. DESLAURIERS*; M. M. BRUNER; L. ALTIDOR; T. S. GARMAN; S. RAMIREZ; E. W. DIRR; K. OLCZAK; A. P. MAURER; K. J. OTTO; S. N. BURKE; D. G. LAMB; B. SETLOW; J. L. BIZON. *Univ. of Florida, UF, Univ. of Florida, Univ. At Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida McKnight Brain Inst.*
- 3:00 Z35 **783.15** Symptoms of post traumatic stress disorder in police officers are related to ERP measures of cognitive control in a Go/NoGo task. J. L. SHUCARD*; X. WANG; M. EVANS; T. J. COVEY; D. W. SHUCARD. *Univ. At Buffalo, Jacobs Sch. of Med. and Biomed. Sci.*

POSTER

784. Social Memory and Cognition I

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 Z36 **784.01** Rats play hide & seek, an elaborate role-play game. A. S. REINHOLD*; J. I. SANGUINETTI SCHECK; K. HARTMANN; M. BRECHT. *Humboldt Univ. of Berlin.*
- 2:00 Z37 **784.02** Neural correlates of 'hide and seek' in medial prefrontal cortex. J. I. SANGUINETTI-SCHECK*; M. CONCHA-MIRANDA; A. S. REINHOLD; K. HARTMANN; M. BRECHT. *Humboldt Univ. of Berlin/ BCCN Berlin, Lab. de Neurosisistemas, Fac. of Medicine, Univ. of Chile.*
- 3:00 Z38 **784.03** Basolateral amygdala and recognition memory for social odors. Z. SONG*; S. SWARNA; J. MANNS. *Emory Univ., Emory Univ.*
- 4:00 Z39 **784.04** New model to assess prosocial behaviours in juvenile rats: An operant box sharing task. V. CHARRON*; J. TALBOT; H. PLAMONDON. *Univ. of Ottawa.*
- 1:00 Z40 **784.05** Prior relationship as a mediator in prosocial behaviours in rats: A stranger rat operant box task model. J. TALBOT*; V. CHARRON; H. PLAMONDON. *Univ. of Ottawa.*

- 2:00 Z41 **784.06** VIP neurons support CA2 input-timing dependent plasticity and social memory. F. LEROY*; C. A. DESOLIS; A. ASOK; S. A. SIEGELBAUM. *Columbia Univ.*
- 3:00 Z42 **784.07** Regulation of social behavior along the dorsoventral axis of the hippocampal subregion CA2. L. M. BOYLE*; F. LEROY; R. B. SAHAI; S. IRFAN; S. A. SIEGELBAUM. *Columbia Univ., Barnard Col., Columbia Univ. Coll P & S.*
- 4:00 AA1 **784.08** The role of hippocampal area CA2 in the pilocarpine mouse model of mesial temporal lobe epilepsy. A. C. WHITEBIRCH*; K. VADDURI; B. SANTORO; S. SIEGELBAUM. *Columbia Univ.*
- 1:00 AA2 **784.09** Ca2 ripples regulate social memory. A. OLIVA*; S. A. SIEGELBAUM. *Columbia Univ., Columbia Univ. Coll P & S.*
- 2:00 AA3 **784.10** Population dynamics during olfactory discrimination of hippocampal area CA2 in mice. S. HASSAN*; S. A. SIEGELBAUM. *Columbia Univ., Columbia Univ. Coll P & S.*
- 3:00 AA4 **784.11** Humans and monkeys playing an interactive chicken game with an option to cooperate. W. S. ONG*; M. L. PLATT. *Univ. of Pennsylvania.*
- 4:00 AA5 **784.12** Neural activity in the macaque medial prefrontal cortex plays a causal role in false-belief attribution. R. AKIKAWA*; T. HAYASHI; K. KAWASAKI; J. EGAWA; T. MINAMIMOTO; K. KOBAYASHI; S. KATO; Y. HORI; Y. NAGAI; A. IJIMA; T. SOMEYA; I. HASEGAWA. *Grad. Sch. of Sci. and Technology, Niigata Univ., Dept. of Physiology, Niigata Univ. Sch. of Med., Dept. of Psychiatry, Niigata Univ. Grad. Sch. of Med. and Dent. Sci., Functional Brain Imaging, Natl. Inst. of Radiological Sciences, Natl. Inst. for Quantum and Radiological Sci. and Technol., Dept. of Mol. Genetics, Inst. of Biomed. Sciences, Fukushima Med. Univ., Sch. of Hlth. Sciences, Fac. of Medicine, Niigata Univ., Interdisciplinary Program of Biomed. Engineering, Assistive Technology, and Art and Sports Sciences, Fac. of Engineering, Niigata Univ.*
- 1:00 AA6 **784.13** Effect of anterior cingulate cortex damage on live social interactions in rhesus monkeys. B. M. BASILE*; J. SCHAFROTH; C. KARASKIEWICZ; E. A. MURRAY. *Natl. Inst. of Mental Health, NIH.*
- 2:00 AA7 **784.14** Agent related activity in area 10 of macaque monkeys during a social interactive task. L. FERRUCCI*; S. NOUGARET; V. FASCIANELLI; R. C. SAUNDERS; A. GENOVESIO. *Univ. of Rome Sapienza, NIMH.*
- 3:00 AA8 **784.15** Superior temporal sulcus (STS) neurons integrate social cognition with economic value in monkeys trading in a simulated stock market. A. W. HUTTUNEN*; M. L. PLATT. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*
- 4:00 AA9 **784.16** Effects of the CB1 receptor antagonism on social interaction in capuchin monkeys. R. S. MAIOR*; N. GONCZAROWSKA; F. V. CAIXETA; C. TOMAZ. *Univ. of Brasilia.*
- 1:00 AA10 **784.17** Decoding others' intention to interact in the human parietal lobule. M. HAN*; Q. LIANG; S. KUAI. *East China Normal Univ., New York Univ. Shanghai.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 2:00 AA11 **784.18** CA2 neurons recapitulate sniffing behavior exhibited by mice for conspecifics. A. CYMERBLIT-SABBA*; M. STACKMANN; S. K. WILLIAMS AVRAM; M. C. GRANOVETTER; A. S. SMITH; H. LEE; J. SONG; S. YOUNG. *NIMH, Columbia, Princeton Univ., Univ. of Kansas, Kyungpook Natl. Univ. Sch. of Dent., Natl. Inst. of Mental Hlth.*
- 3:00 AA12 **784.19** Cross brain neural signatures of strategic pairwise interaction in humans and monkeys. Y. JIANG*; M. L. PLATT. *Univ. of Pennsylvania.*

POSTER

785. Social Memory and Cognition II

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 AA13 **785.01** Mechanical differences in social deficit process are revealed between two mouse models of autism, BTBR T+tf/J and BALB/cJ. H. ARAKAWA*. *Univ. of Maryland Baltimore.*
- 2:00 AA14 **785.02** Physiological and molecular differences in specific medial prefrontal cortex subpopulations mediate social hierarchy. T. CHOI*; B. KANG; Y. JEONG; J. KIM; H. JEON; S. JEONG; M. CHOI; J. KOO. *Korea Brain Res. Inst. (KBR), SYSOFT, Daegu Gyeongbuk Inst. of Sci. and Technol. (DGIST), Seoul Natl. Univ. Col. of Med.*
- 3:00 AA15 **785.03 ▲** Behavioral evaluation of the impact of different types of bedding in laboratory rat. L. D. PANTALEON*; J. Z. MAGALHÃES; J. R. CAMUSSO; A. ARNOLD; M. O. RIBEIRO; E. L. RICCI. *Univ. Presbiteriana Mackenzie, Sch. of Vet. Med. and Animal Sci. U, Univ. Presbiteriana Mackenzie, Presbyterian Mackenzie Univ.*
- 4:00 AA16 **785.04** NMDA receptor dysfunction in the medial prefrontal cortex of NL3 R451C knock-in mice. W. CAO*; Q. XIA; J. XU; J. LUO. *Zhejiang Univ.*
- 1:00 AA17 **785.05** Effects of oxytocin administration on social behaviors in felids. J. C. BURKHART*; N. D. BORREGO; S. R. HEILBRONNER; E. R. DE KOCK; C. PACKER. *Univ. of Minnesota, Univ. of Minnesota, Kevin Richardson Wildlife Sanctuary, Univ. of Minnesota.*
- 2:00 AA18 **785.06** Learning vicariously - Role of anterior cingulate cortex in social cognition. K. N. SCHNEIDER*; X. SCIARILLO; J. NUDELMAN; J. F. CHEER; M. R. ROESCH. *Univ. of Maryland Col. Park, Univ. of Maryland Col. Park, Univ. of Maryland Sch. of Med., Univ. of Maryland at Col. Park.*
- 3:00 AA19 **785.07** Dissecting the role of VIP interneurons within the anterior cingulate cortex in a social cognitive task. W. W. YEN*; R. LIU; A. O. THOMAS; C. JOHNSON; L. N. KRETSGE; D. P. LEMAN; F. S. HAUSMANN; M. MINNIG; E. FUCHS; T. P. H. NGUYEN; A. CRUZ-MARTIN. *Boston Univ., Boston Univ., Boston Univ., Boston Univ., Boston Univ., Boston Univ., Boston Univ. Sch. of Med., Boston Univ., Boston Univ.*
- 4:00 AA20 **785.08** Post-natal immune activation in a mouse model of tuberous sclerosis results in sexual dimorphic microglia dependent deficits underlying social memory impairments. M. F. LOPEZ-ARANDA*; I. CHATTOPADHYAY; T. SILVA; C. THADANI; S. TALOMA; E. LUGO; A. RZHETSKY; A. SILVA. *Univ. of California Los Angeles, Univ. of Chicago, Univ. of Chicago.*
- 1:00 AA21 **785.09** Axons, dendritic spines, glia, and perineuronal nets are atypical in the CA2 and CA3 regions of the hippocampus in a mouse strain with deficient social and object memory. E. C. COPE*; A. D. ZYCH; N. J. KATCHUR; B. J. LAHAM; C. Y. PARK; C. G. DIAS; R. C. WATERS; K. A. PAGLIAI; M. J. LOTITO; E. GOULD. *Princeton Univ.*
- 2:00 AA22 **785.10** Neuronal dynamics of social representation in the hippocampus. K. LEE*; Y. LEE; E. KONG; J. KIM; D. LEE. *Inst. for Basic Sci., Korea Advanced Inst. of Sci. and Technol.*
- 3:00 AA23 **785.11** Hippocampal coding of self versus other in the absence of mirror-like place cell responses. C. M. A. PENNARTZ*; M. VINCK; P. MARCHESI; A. KEESTRA; L. A. VAN MOURIK-DONGA; J. C. JACKSON; P. F. VERSCHURE; J. J. BOS. *Univ. of Amsterdam, Ernst Struengmann Inst. For Neurosci., Univ. of Amsterdam, Medtronic, Plc., IBEC - ICREA.*
- 4:00 AA24 **785.12** Neural correlates of competitive social interaction in the anterior cingulate cortex. I. M. MARCELO*; R. M. COSTA; S. A. KUSHNER. *Champalimaud Ctr. for the Unknown, Erasmus MC, Columbia Univ.*
- 1:00 AA25 **785.13** Sex difference in the way dorsal hippocampal D2-type dopamine receptors interact with gonadal sex hormones to mediate social learning in mice. N. BASS*; S. CRASTO; C. CRAWFORD; E. CHOLERIS. *Univ. of Guelph, Univ. of Guelph.*
- 2:00 AA26 **785.14** Neuropathological examination of fetal rat brain in valproic acid induced cognitive deficits autistic rats: A protective effect of granulocyte colony stimulating factor (GCSF). A. MISHRA*; R. SINGLA; R. RAJPOOT; P. SARMA; B. MEDHI. *Post Grad. Inst. of Med. Educ. & Res., Post Grad. Inst. of Med. Educ. & Res. (PGIMERO).*
- 3:00 AA27 **785.15** Neuroprotective effect of homotaurine in modulation of GABAergic signaling in VPA-treated rat model of autism: Role of GAD67. R. SINGLA*; A. MISHRA; R. RAJPUT; B. MEDHI. *Post Grad. Inst. of Med. Educ. & Res., Post Grad. Inst. of Med. Educ. & Res.*
- 4:00 AA28 **785.16** Automatic tracking and classification of mouse social behavior by 3D videography. C. L. EBBESEN*; R. C. FROEMKE. *New York Univ., New York Univ.*
- 1:00 AA29 **785.17** Social learning and social behavior of the triple-transgenic mouse model of Alzheimer's disease. B. A. SULKOWSKI; H. R. LEBLANC; A. C. WILLIAMSON; B. V. ROHR; B. G. GENTRY; C. C. WRENN*. *Drake Univ. Col. of Pharm. and Health Sci., Drake Univ., Drake Univ., Drake Univ.*
- 2:00 AA30 **785.18** Large scale recording of population activity during social cognition in freely moving non-human primate. M. FRANCH*; A. WRIGHT; B. AAZHANG; V. DRAGOI. *UTHealth - McGovern Med. Sch., Rice Univ.*
- 3:00 AA31 **785.19** Prenatal stress results in molecular and behavioral deficits associated with abnormal function of the hippocampus. B. E. POWERS*; M. SODHI. *Loyola Univ. Chicago.*
- 4:00 AA32 **785.20** Brain-wide mapping of neural activity during observational learning. K. M. SEAGRAVES*; T. J. PISANO; Z. DHANERAWALA; S. S. WANG. *Princeton Univ., Princeton Univ., Rutgers Univ.*
- 1:00 AA33 **785.21** Chemogenetic inhibition of Purkinje cells in the anterior cerebellum disrupts motor coordination, social recognition and interaction. O. Y. CHAO*; Y. YANG. *Univ. of Minnesota Med. Sch.*

- 2:00 AA34 **785.22** Observational learning in a working memory, food-reward task in rats. R. TROHA*; T. SHAO; N. HERNANDEZ; A. BUZZANCA; J. WANG; E. J. MARKUS. *Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut.*
- 3:00 AA35 **785.23** • Neural correlates of gaze direction in basolateral amygdala. B. MAHMOUDIAN*; B. W. CORRIGAN; J. LAU; W. W. PETTINE; J. MARTINEZ-TRUJILLO. *Univ. of Western, Univ. of Western Ontario, Univ. of Western Ontario, New York Univ., Western Univ.*
- 4:00 AA36 **785.24** ▲ Neuronal encoding of prosocial helping behavior in the mouse prefrontal cortex. P. B. GABRIELI*; S. W. LI; J. L. DEMAREE; J. CAI; Z. WILLIAMS. *Massachusetts Gen. Hosp.*
- 1:00 AA37 **785.25** Dorsomedial prefrontal cortex encodes collective behavioral states in groups of mice. S. W. LI*; Z. WILLIAMS. *Massachusetts Gen. Hosp.*
- 2:00 AA38 **785.26** ▲ Single-neuronal differences in social encoding between males and females during social competition. L. STRAHS*; S. W. LI; Z. WILLIAMS. *Massachusetts Gen. Hosp.*

POSTER

786. Learning and Memory: Subcortical-Hippocampal Interactions

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 AA39 **786.01** Theta state related septal cholinergic neurons disrupt hippocampal sharp wave-ripples via muscarinic receptors. X. MA; Y. ZHANG; L. WANG; N. LI; E. BARKAI; X. ZHANG; J. XU*; L. LIN. *Key Lab. of Brain Functional Genomics, Sagol Dept. of Neurobio., State Key Lab. of Cognitive Neurosci. & Learning.*
- 2:00 AA40 **786.02** A sexually dimorphic role of dentate gyrus oxytocin receptor expressing neurons in social and memory related behaviors. M. MEYER*; K. NISHIMORI; J. M. RADULOVIC. *Northwestern Univ. - Chicago, Grad Sch. of Agric Sci, Tohoku Univ., Northwestern Univ.*
- 3:00 AA41 **786.03** The role of subcortical hippocampal inputs in contextual memory formation. V. S. GRAYSON*; Y. HAN; A. L. GUEDEA; V. JOVASEVIC; C. GAO; A. APKARIAN; J. M. RADULOVIC. *Northwestern Univ., Xuzhou Med. Univ., Xuzhou Med. Univ., Northwestern Univ.*
- 4:00 AA42 **786.04** Effects of arsenic trioxide-induced oxidative stress on basal forebrain of mice. B. KAUR*; K. MEHTA; K. K. PANDEY; P. DHAR. *All India Inst. of Med. Sciences, New Delhi.*
- 1:00 AA43 **786.05** Electrophysiological recording on basolateral amygdala and ventral hippocampus during memory tasks induced by high fat diet during adolescence. C. I. PEREZ*; A. I. HERNANDEZ-COSS; M. G. MORENO; G. FERREIRA; G. PACHECO-LOPEZ; F. BERMUDEZ-RATTONI; R. GUTIERREZ. *CINVESTAV, Univ. Autónoma Metropolitana (UAM), CINVESTAV, Nutrineuro, INRA-Bordeaux Univ., UNAM.*
- 2:00 AA44 **786.06** Signals in hippocampus (CA1) and dorsomedial striatum (DMS) predict response in a visuomotor conditional association task. K. GURLEY*; T. G. WEYAND. *LSU Hlth. Sci. Ctr., Louisiana State Univ. Med. Ctr.*

- 3:00 BB1 **786.07** Metabolic changes induced by high-fat diet intake during adolescence affect spatial and aversive long-term memories. P. SALCEDO-TELLO*; S. HERNANDEZ RAMIREZ; A. HERNANDEZ-MATIAS; D. OSORIO-GÓMEZ; C. I. PEREZ; R. GUTIERREZ; F. BERMUDEZ-RATTONI; K. GUZMAN-RAMOS. *Inst. De Fisiologia Celular, UNAM, Doctorado en Ciencias Biológicas y de la Salud UAM, CINVESTAV - IPN, Univ. Autónoma Metropolitana-Unidad Lerma.*
- 4:00 BB2 **786.08** Auditory context-modulation of taste recognition memory relies on the accumbens hippocampus dopaminergic circuit. A. B. GRAU-PERALES*; E. R. LEVY; A. A. FENTON; M. GALLO. *Univ. of Granada, New York Univ.*
- 1:00 BB3 **786.09** Intracellular dynamics of midline thalamic neurons during ripple-slow wave coupling in anesthetized mice. D. BASHA*; I. TIMOFEEV. *CERVO Brain Res. Ctr., Univ. Laval, Univ. Laval.*
- 2:00 BB4 **786.10** Investigating the spatial coding properties of lateral septum GABAergic neurons in freely behaving mice using miniaturized microscopy. S. VAN DER VELDT*; G. ETTER; F. SOSA; B. RIVARD; S. WILLIAMS. *McGill University, Douglas Inst.*
- 3:00 BB5 **786.11** Role of the nucleus reuniens in object memory consolidation in mice. M. R. SCHWABE*; L. R. TAXIER; K. M. FRICK. *Univ. of Wisconsin-Milwaukee.*

POSTER

787. Hippocampus, Engrams, and Memory

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 BB6 **787.01** Preconfigured ensembles are recruited into upcoming hippocampal engram. K. GHANDOUR*; N. OHKAWA; C. A. FUNG; H. ASAI; Y. SAITOH; T. TAKEKAWA; H. NISHIZONO; M. SATO; M. OHKURA; J. NAKAI; Y. HAYASHI; T. FUKAI; K. INOKUCHI. *Univ. of Toyama, Okinawa Inst. of Sci. and Technol., Kogakuin Univ., RIKEN Brain Sci. Inst., Kyushu Univ., Saitama Univ., Kyoto Univ. Grad. Sch. of Med.*
- 2:00 BB7 **787.02** Pcdh5 modulate synchronous activity in the hippocampus. H. ASAI*; N. OHKAWA; K. GHANDOUR; Y. SAITOH; M. MATSUO; H. NISHIZONO; T. HIRAYAMA; R. KANEKO; S. MURAMATSU; T. YAGI; K. INOKUCHI. *Univ. of Toyama, CREST, PRESTO, Osaka Univ., Tokushima Univ., Gunma Univ., Jichi Med. Univ., The Univ. of Tokyo.*
- 3:00 BB8 **787.03** Sub second dynamics of theta gamma coupling in hippocampal CA1. L. ZHANG*; J. LEE; C. ROZELL; A. C. SINGER. *Georgia Inst. of Technol., Georgia Inst. of Technol.*
- 4:00 BB9 **787.04** Inhibitory connections are disrupted during spatial navigation in the 5XFAD mouse model of Alzheimer's disease. S. M. PRINCE*; A. L. PAULSON; N. JEONG; S. M. AMIGUES; A. C. SINGER. *Emory Univ., Georgia Inst. of Technol. and Emory Univ.*
- 1:00 BB10 **787.05** • Impaired CA2 place cell remapping in response to social olfactory stimuli in a rat model of fragile X syndrome. E. ROBSON*; A. J. MABLY; L. T. HEWITT; J. B. TRIMPER; L. L. COLGIN. *Univ. of Texas At Austin, Univ. of Texas at Austin, Univ. of Texas at Austin.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 2:00 BB11 **787.06** Selective modification of hippocampal representations of a goal location after learning. E. HWAUN*; C. ZHENG; L. L. COLGIN. *UT Austin, Tianjin Univ., Univ. of Texas At Austin.*
- 3:00 BB12 **787.07** Estimating probabilities of potential synaptic connections by axonal-dendritic overlap in local hippocampal circuits. C. TECUATL*; D. W. WHEELER; G. A. ASCOLI. *George Mason Univ., George Mason Univ., George Mason Univ.*
- 4:00 BB13 **787.08** Towards hippocampome.org 2.0: A simulation-ready knowledge base of rodent hippocampal neuron types. D. W. WHEELER*; C. M. WHITE; A. O. KOMENDANTOV; D. J. HAMILTON; S. VENKADESH; K. MORADI; S. M. ATTILI; C. TECUATL; J. D. KOPSICK; G. A. ASCOLI. *George Mason Univ., George Mason Univ.*
- 1:00 BB14 **787.09** Contextual fear conditioning increases intrinsic excitability in activated neuronal ensembles in CA1 pyramidal neurons. E. V. BARRAGAN*; J. H. WILMOT; B. J. WILTGEN; J. A. GRAY. *Univ. of California Davis, Univ. of California Davis, Univ. of California Davis.*
- 2:00 BB15 **787.10** Functional integration of adult-generated granule cells in the avian hippocampus. D. F. MARRONE*; C. C. DAMPHOUSSE. *Wilfrid Laurier Univ.*
- 3:00 BB16 **787.11** Response in the avian hippocampal formation to incremental changes in context. C. C. DAMPHOUSSE*; N. Y. MILLER; D. F. MARRONE. *Wilfrid Laurier Univ.*
- 4:00 BB17 **787.12** Representation of visual landmark configurations in mouse retrosplenial cortex. J. VOIGTS*; E. H. TOLOZA; J. P. NEWMAN; I. R. FIETE; M. A. WILSON; M. T. HARNETT. *MIT, Harvard/MIT.*

POSTER

788. Hippocampus: Learning

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 BB18 **788.01** Spatial learning impairments in mutant mice without a dentate gyrus. C. JOU*; S. HU; A. RATTNER; J. NATHANS; A. FENTON. *New York Univ., City Univ. of New York, Johns Hopkins Univ. Sch. of Med., Neurosci. Inst. at the NYU Langone Med. Ctr., State Univ. of New York, Downstate Med. Ctr.*
- 2:00 BB19 **788.02** Learning to learn persistently modifies a neocortical-hippocampal inhibitory microcircuit. A. CHUNG*; A. A. FENTON. *New York Univ., New York Univ.*
- 3:00 BB20 **788.03** Cognitive inflexibility in the Fmr1-null mouse model of autism is associated with excessive dentate spikes. A. A. FENTON*; D. DVORAK. *New York Univ., New York Univ.*
- 4:00 BB21 **788.04** ▲ The effect of high fat diet and sleep deprivation during adolescence on adult behavior and memory. K. GLUSHCHAK*; J. DAVIS; T. ZEUTHEN; T. J. SCHOENFELD. *Belmont Univ.*
- 1:00 BB22 **788.05** Exercise prevents frustration-induced anxiety-like behavior in rats. T. J. SCHOENFELD*; J. TAYLOR; B. FICZERE. *Belmont Univ.*
- 2:00 BB23 **788.06** ▲ Effect of neurogenesis on microglial activation. A. SMITH*; K. M. WILLIAMS; T. J. SCHOENFELD. *Belmont Univ., Belmont Univ.*
- 3:00 BB24 **788.07** Hippocampal extracellular potassium levels and spatial memory effects in response to retrodialysis insulin administration. S. DOUGLASS*; G. M. SHAMES; E. C. MCNAY. *State Univ. of New York at Albany.*
- 4:00 BB25 **788.08** A novel substrate-competitive inhibitor of glycogen synthase kinase-3 augments glucose uptake in primary hippocampal cells. G. M. OSTRANDER*; M. ZIAMANDANIS; L. P. MALLON; E. C. MCNAY. *State Univ. of New York At Albany, Univ. At Albany.*
- 1:00 BB26 **788.09** Phase coding as a possible mechanism of sleep dependent memory consolidation. Q. SKILLING*; B. C. CLAWSON; J. P. ROACH; N. OGNJANOVSKI; S. J. ATON; M. R. ZOCHOWSKI. *Univ. of Michigan, Cold Spring Harbor Lab., Univ. of Michigan Aton Lab., Univ. of Michigan, Univ. of Michigan.*
- 2:00 BB27 **788.10** The effects of enzymatic treatment and genetic modifications of perineuronal nets on memory in a mice model of AMP mediated hibernation like state. J. RUZICKA*; M. DALECKA; K. SAFRANKOVA; D. PERETTI; P. JENDELOVA; J. C. KWOK; J. W. FAWCETT. *Inst. of Exptl. Medicine, ASCR, BIOCEV, Univ. of Cambridge, Univ. of Leeds, Univ. of Cambridge.*

POSTER

789. Intrinsic Hippocampal Circuits: Spatial Navigation

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 BB28 **789.01** Subthreshold coherence of multiple CA1 pyramidal cells during *in vivo* theta oscillations. A. NOGUCHI*; N. MATSUMOTO; Y. Ikegaya. *Lab. Chem Pharmacol, Grad Sch. Pharmaceut Sci, Univ. Tokyo.*
- 2:00 BB29 **789.02** Hippocampal coding of positions of inaccessible objects. D. LEVCIK*; N. AHUJA; V. LOBELLOVA; D. RADOSTOVA; S. DIEZ HERMANO; A. SANCHEZ JIMENEZ; J. A. VILLACORTA-ATIENZA; V. A. MAKAROV; A. STUCHLIK. *Inst. of Physiology, Czech Acad. of Sci., Inst. de Matemática Interdisciplinar, Complutense Univ. of Madrid.*
- 3:00 BB30 **789.03** Neuronal ensembles dynamics during spatial learning in CA1 mouse hippocampus. M. ALTAMIRA; R. OLIVARES-MORENO*; M. LOPEZ-HIDALGO; G. ROJAS-PILONI. *Inst. de Neurobiología, Universidad Nacional Autónoma de México, Escuela Nacional de Estudios Superiores, Unidad Juriquilla, Univ. Nacional Autónoma de México.*
- 4:00 BB31 **789.04** Encoding of spatial information by calcium dynamics of hippocampal astrocytes. S. CURRELI*; J. BONATO; S. PANZERI; T. FELLIN. *Inst. Italiano di Tecnologia, Inst. Italiano Di Tecnologia.*
- 1:00 BB32 **789.05** Hippocampal neuronal responses in rats during avoidance behaviour relative to a moving robot. N. AHUJA*; V. LOBELLOVA; A. STUCHLIK; E. KELEMEN. *Inst. of Physiol., Charles Univ., Natl. Inst. of Mental Hlth.*
- 2:00 BB33 **789.06** Representation of head direction and speed in the goldfish brain. L. COHEN; E. VINEPINSKY; O. DONCHIN; O. BEN-SHAHAR; R. S. SEGEV*. *Ben Gurion Univ., Ben Gurion Univ.*

- 3:00 BB34 **789.07** A velocity driven oscillatory network model for object vector cells. J. ELANGOVA; M. PRAKASH; A. AZIZ*; R. NARAYANAMURTHY; S. JAYAKUMAR; S. V. CHAKRAVARTHY. *Anna Univ., Indian Inst. of Technology, Madras.*
- 4:00 BB35 **789.08** Homologous gene expression patterns within the mouse and human subiculum. M. S. BIENKOWSKI*; N. KHANJANI; H. DONG. *Keck Sch. of Med. of USC.*
- 1:00 BB36 **789.09** A computational model combining dorsal and ventral hippocampal place field maps: An analysis of multiple-scale contributions. P. SCLEIDOROVICH; J. FELLOUS; A. WEITZENFELD*. *Univ. of South Florida, Univ. of Arizona.*
- 2:00 BB37 **789.10** Dynamical analyses of hippocampal local field potential activities across maturation of spatial navigation in the juvenile rat. D. G. MCHAIL*; J. R. CRESSMAN; T. BERRY; R. OGOE; T. C. DUMAS. *George Mason Univ., George Mason Univ.*
- 3:00 BB38 **789.11** Selective loss of septohippocampal cholinergic projections is associated with more circuitous homeward progressions. J. R. OSTERLUND*; A. A. BLACKWELL; M. LIPTON; V. CASTILLO; G. L. KARTJE; S. TSAI; D. G. WALLACE. *Northern Illinois Univ., Loyola Univ. Chicago, Edward Hines Jr. VA Hosp.*
- 4:00 BB39 **789.12** Restoration of network dynamics and improved cognitive outcome after implantation of inhibitory interneuron progenitor cells in a rodent model of temporal lobe epilepsy. W. CURRY*; A. HERNAN; G. RICHARD; M. WESTON; R. SCOTT. *Univ. of Vermont, Univ. Col. London.*
- 1:00 BB40 **789.13** Spiking network models of sharp-wave/ripple attractor sequences. J. D. MONACO*; G. M. HWANG; K. ZHANG. *Johns Hopkins Univ., Johns Hopkins Univ. Applied Physics Lab., Johns Hopkins Univ.*
- 2:00 BB41 **789.14** ▲ The role of objects during complex spatial navigation in the rat. M. P. SOUDER*; M. ROGERS; Y. QIN; P. SCLEIDOROVICH; A. WEITZENFELD; J. FELLOUS. *Univ. of Arizona, Univ. of Arizona, Univ. of South Florida.*
- 3:00 BB42 **789.15** Temporal analysis of spatial learning and memory in metabolic syndrome model plus hippocampal injection of amyloid- β_{25-35} peptide. O. REYES-CASTRO*; G. MORALES-FLORES; A. PATRICIO-MARTÍNEZ; I. D. LIMÓN PÉREZ DE LEÓN. *Benemérita Univ. Autónoma de Puebla, Facultad de Ciencias Biológicas.*
- 4:00 BB43 **789.16** Robust emergence of sharply tuned place cell responses in hippocampal neurons with structural and biophysical heterogeneities. R. BASAK*; R. NARAYANAN. *Indian Inst. of Sci.*
- 1:00 BB44 **789.17** Representation of 3D space in the hippocampus of freely moving marmosets. D. BUITRAGO-PIZA*; B. W. CORRIGAN; B. MAHMOUDIAN; R. A. GULLI; W. J. ASSIS; L. E. MULLER; J. C. MARTINEZ-TRUJILLO. *Western Univ., Univ. of Western Ontario, Western Univ., Western Univ., Salk Inst., Brain and Mind Institute, Univ. of Western ON.*
- 2:00 BB45 **789.18** A ventral hippocampus CA1-lateral septum pathway regulates spatial memory for food location. E. A. DAVIS*; C. M. LIU; A. N. SUAREZ; E. E. NOBLE; S. E. KANOSKI. *USC, USC.*
- 3:00 BB46 **789.19** Correction for single-event path integration errors in the hippocampal place code using visual cues. E. R. REDINGTON*; S. SOLTANIAN-ZADEH; A. SILBERSTEIN; E. QIAN; R. ZHANG; S. FARSIU; Y. GONG. *Duke Univ., Duke Univ.*
- 4:00 BB47 **789.20** ● Correlated fluctuations in hippocampal neural ensemble activity patterns limit the accuracy of spatial representations. O. HAZON*; D. P. TOMÁS; V. H. MINCES; S. GANGULI; M. J. SCHNITZER; P. E. JERCOG. *Stanford Univ., IDIBAPS, UCSD, IDIBAPS & Cellex Inst.*
- 1:00 BB48 **789.21** Naturalistic encoding of spatial working memory in the primate lateral prefrontal cortex in a virtual environment. M. KHAKI*; M. ROUSSY; N. MORTAZAVI; R. LUNA; A. J. SACHS; J. C. MARTINEZ-TRUJILLO. *Univ. of Western Ontario, Univ. of Ottawa, Brain and Mind Inst.*
- 2:00 BB49 **789.22** ▲ Vestibular updating of the head direction cell signal during movement between vertical planes: Inside corners. P. OZEL*; P. A. LACHANCE; J. L. MARCROFT; J. S. TAUBE. *Dartmouth Col.*
- 3:00 BB50 **789.23** Criteria for three dimensional tuning in head direction cells. J. S. TAUBE*. *Dartmouth Col.*
- 4:00 BB51 **789.24** Reasons why Alzheimer's disease is "diabetes of the brain". A. S. SHINGO*; S. KITO. *Okinaka Mem. Inst. For Med. Res., Shonan Hosp.*
- 1:00 BB52 **789.25** Contextual remapping of medial entorhinal cortex inputs to CA1 in head-fixed mice exposed to a virtual environment. T. CHOLVIN*; T. HAINMUELLER; M. BARTOS. *Univ. of Freiburg - Inst. For Physiol. I.*

POSTER

790. Human Perception and Imagery III

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 BB53 **790.01** Manipulating temporal event structure via top-down script activation. A. REBLANDO*; T. KELISHADI; C. BALDASSANO. *Columbia Univ.*
- 2:00 BB54 **790.02** A naturalistic navigation task reveals rich distributed representations of information across the human cerebral cortex. T. ZHANG*; J. L. GALLANT. *Univ. of California, Berkeley, Univ. of California, Berkeley.*
- 3:00 BB55 **790.03** Discriminating functional connectivity patterns during visual and kinesthetic motor imagery, and motor execution. E. KIM*; W. LEE; H. SEO; B. OH; M. BANG. *Seoul Natl. Univ. Hosp., Seoul Natl. Univ. Col. of Med.*
- 4:00 BB56 **790.04** Temporal dynamics of memory recall for familiar people and places. A. KIDDER; A. L. CORRIVEAU*; S. G. WARDLE; E. H. SILSON; C. I. BAKER. *NIH, NIH.*
- 1:00 BB57 **790.05** Performing actions in lucid and nonlucid dreams. K. KONKOLY*; R. MALLETT; M. CARR; C. MAZUREK; K. A. PALLER. *Northwestern Univ., The Univ. of Texas at Austin, Swansea Univ.*
- 2:00 BB58 **790.06** Behavioral and electrophysiological effects of transcranial direct current stimulation (tDCS) in the Müller-Lyer illusion. F. V. CAIXETA*; W. MEDEIROS; G. S. P. DAL PONT; E. M. BORGATO; I. B. RIOS; J. BRASIL-NETO; C. H. TAVARES; R. S. MAIOR. *Univ. of Brasilia.*
- 3:00 BB59 **790.07** Knowledge about the action goal modulates posterior parietal activity during action observation. L. GROSSE*; A. ZABICKI; J. MUNZERT; B. KRUEGER. *Justus Liebig Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 BB60 **790.08** Content-specific neural patterns in sensory cortices during auditory imagery. M. REGEV*; A. R. HALPERN; A. M. OWEN; A. D. PATEL; R. J. ZATORRE. *Montreal Neurolog. Inst., Bucknell Univ., Brain and Mind Inst., Tufts Univ.*
- 1:00 BB61 **790.09** The relationship between motor system activation during movement imagery and motor system adaptation following movement imagery training. E. YOXON*; T. N. WELSH. *Univ. of Toronto.*
- 2:00 BB62 **790.10** Changes in the global state of consciousness affect brain activity related to conscious and non-conscious visual perception differently. A. FONTAN*; L. LINDGREN; T. PEDALE; F. BERGSTRÖM; C. BRORSSON; J. ERIKSSON. *Umeå Ctr. For Functional Brain Imaging, Umea Univ., Fac. of Psychology and Educ. Sci., Inst. of Surgery and Perioperative Sci.*
- 3:00 BB63 **790.11** ▲ Effects of the hollow mask illusion on children. A. KATES*. *Albright Col.*
- 4:00 BB64 **790.12** Bold activity in the posterior superior temporal gyrus and sulcus predicts comprehension of noisy audiovisual speech. J. RENNIG*; M. S. BEAUCHAMP. *Baylor Col. of Med.*
- 1:00 BB65 **790.13** Insight into objects' function biases perception. D. DUBBELDE*; S. S. SHOMSTEIN. *George Washington Univ., George Washington Univ.*
- 2:00 BB66 **790.14** Mental rotation task and brain structural changes in early onset Parkinson's disease. C. DOUGHERTY*; B. MULLEN; M. P. SUBRAMANIAN; S. RAVI; K. VENKITESWARAN; D. WAGNER; P. ESLINGER; J. WANG; T. SUBRAMANIAN. *Penn State Col. of Med., Penn State Col. of Med.*
- 3:00 BB67 **790.15** The neural basis of mental calendars. V. RAMACHANDRAN*; Z. MARCUS. *UCSD.*
- 4:00 BB68 **790.16** Breathing load effect on perception and emotion during exercise. C. MABE; S. ADAMS*. *Pfeiffer Univ.*
- 1:00 BB69 **790.17** The comparison of the ability of stereoscopic spatial vision of children with special needs, their age-matched mainstream peers, and the members of the year 2018 U16 European Champion Hungarian women's adolescent national handball team based on a new functional stereo test. J. PALI*; I. STUBER; S. MOLNAR; Z. ELEK; P. WALSH; E. BAKO; C. KOROM; S. TAYLOR; L. EICKE VON H; J. DODLA-BHEMAH; G. FARKAS; S. KISS; A. PETERVARY; I. TAMAS. *Univ. of Pécs, Fac. of Sci., Univ. of Physical Educ. (TF), 3rd District Kindergarten, Primary Sch. and Unified Special Educational Methodological Inst. SZELLŐ EGYMI, The Park School, Onslow Crescent, Scoala Gimnaziala Speciala Sfântu Gheorghe, Karolina Hosp., Univ. of Physical Educ. (TF), Hungarian Handball Federation, North-Budapest Sch. District Office.*
- 2:00 BB70 **790.18** Propose the new method for error detection in BCI system using Microstate. S. KIM*; L. KIM. *Korea Inst. of Sci. and Technol.*
- 3:00 BB71 **790.19** Orientation anisotropies compared in human psychophysics and two-photon imaging of macaque V1. S. GUAN*; X. ZHAO; S. TANG; C. YU. *Peking Univ.*
- 4:00 BB72 **790.20** Physiological activities in response to different airflows in an air-conditioned test room. K. TAMURA*; S. MATSUMOTO; Y. TSENG; T. KOBAYASHI; J. MIWA; T. HIRAO; T. OKAMOTO. *Kyushu Univ., Kyushu Univ., Mitsubishi Heavy Industries, LTD., Mitsubishi Heavy Industries, LTD., Mitsubishi Heavy Industries Thermal Systems LTD.*

POSTER

791. Human Working Memory: Mechanisms II

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 BB73 **791.01** Maintenance strategy and task difficulty modulate delay activity and subsequent memory. C. REICHERT*; A. ARANGO; K. NG; T. M. ELLMORE. *The City Univ. of New York, The City Col. of New York, The CUNY Advanced Sci. Res. Ctr.*
- 2:00 BB74 **791.02** ▲ A simultaneous EEG/fMRI study of scene working memory. A. M. ARANGO*; C. REICHERT; J. ORTEGA; B. GOMES; G. SILVA; F. ANTARA; K. NG; A. SHEREEN; T. M. ELLMORE. *The City Col. of New York, The City Univ. of New York, Advanced Sci. Res. Ctr.*
- 3:00 BB75 **791.03** Tracking spatial working memory representations during distraction. G. HALLENBECK*; T. C. SPRAGUE; M. RAHMATI; K. K. SREENIVASAN; C. E. CURTIS. *New York Univ., Univ. of California, Santa Barbara, New York Univ. Abu Dhabi, NYU.*
- 4:00 BB76 **791.04** Neural representations and temporal dynamics of rejection template in visual search. W. WEN*; Z. HUANG; S. LI. *Peking Univ., PKU-IDG/McGovern Inst. for Brain Res.*
- 1:00 BB77 **791.05** Spatial working memory "precision" related to bump drift: Evidence from distraction. J. F. O'RAWE*; H. LEUNG. *Stony Brook Univ.*
- 2:00 BB78 **791.06** Prefrontal cortical aperiodic activity tracks the number of items held in short-term memory. T. TRAN*; B. VOYTEK. *UCSD, UCSD, UCSD, UCSD.*
- 3:00 BB79 **791.07** New computer based training improves working memory and cognitive functions. S. ICHIHARA-TAKEDA*; K. TAKEDA; S. FUNAHASHI. *Kyoto Univ., Natl. Ctr. of Neurol. and Psychiatry, Beijing Inst. of Technol. & Kyoto Univ.*
- 4:00 BB80 **791.08** Exploring working memory in the DLPFC through direct stimulation. P. S. ROLLO*; O. WOOLNOUGH; K. J. FORSETH; N. TANDON. *UTHSC at Houston, Vivian L. Smith Dept. of Neurosurg.*
- 1:00 BB81 **791.09** Electroencephalographic features of middle aged women with high and low performance in a working memory test. M. SOLIS-ORTIZ*; E. GONZÁLEZ-PÉREZ. *Inst. Invest Med, Univ. Guanajuato.*
- 2:00 BB82 **791.10** Preservation of working memory capacity after orbitofrontal damage. A. LLORENS*; I. FUNDERUD; A. O. BLENKMANN; J. LUBELL; M. D. FOLDAL; S. LESKE; R. J. HUSTER; T. R. MELING; R. T. KNIGHT; A. SOLBAKK; T. ENDESTAD. *Helen Wills Neurosci. Institute, UC Berkeley, Oslo Univ. Hospital-Rikshospitalet, Univ. of Oslo, Hôpitaux Universitaires de Genève, Helgeland Hosp.*
- 3:00 BB83 **791.11** ● Local DLPFC network causal measures predict working memory load. D. P. DARROW*; C. SAIOTE; A. HERMAN; Z. SHA; T. HENRY; M. C. PARK. *Univ. of Minnesota, Univ. of Minnesota.*
- 4:00 BB84 **791.12** Spatial working memory precision across eccentricity and time. L. JIANG*; A. TSEGAI-MOORE; Y. LIU; H. LEUNG. *SUNY Stony Brook.*
- 1:00 BB85 **791.13** Parametric modulation of distractor filtering in visuospatial working memory. D. BESTUE*; A. COMPTE; T. KLINGBERG; R. ALMEIDA. *IDIBAPS, Karolinska Inst., Stockholm Univ.*

- 2:00 CC1 **791.14** A non-monotonic relationship between working memory capacity and load-related increases in brain activity. C. R. WALSH*; J. POCHON; K. D. ENRIQUEZ; H. TRUONG; A. LENARTOWICZ; S. K. LOO; C. A. SUGAR; C. E. BEARDEN; R. M. BILDER; J. RISSMAN. *UCLA, UCLA, UCLA*.
- 1:00 DP14/CC2 **791.15** (Dynamic Poster) Neural systems supporting flexible top-down control over the priority of working memory representations. J. M. SCIMECA*; L. K. ROSS; M. D'ESPOSITO. *UC Berkeley*.
- 4:00 CC3 **791.16** Alpha-band activity finely tracks remembered locations within a visual hemifield. D. W. SUTTERER*; G. F. WOODMAN. *Vanderbilt Univ.*
- 1:00 CC4 **791.17** Competition between similar visual working memory items produces repulsion effects. P. S. SCOTTI*; Y. HONG; A. B. LEBER; J. D. GOLOMB. *Ohio State Univ.*
- 2:00 CC5 **791.18** Decoding stimulus-specific features and task rule from the TMS-evoked response during a visual working memory task in humans. M. WIDHALM*; J. SAMAHA; N. ROSE. *Univ. of Notre Dame, Univ. of California - Santa Cruz*.
- 3:00 CC6 **791.19** Information dynamics of input gating and output gating in visual working memory. E. J. LEVIN*; D. BADRE. *Brown Univ.*
- 1:00 DP13/CC7 **791.20** (Dynamic Poster) Nematode and human brain architecture. M. OBAYASHI*. *Metacube Co., Ltd.*

POSTER

792. Cognitive Aging II

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 CC8 **792.01** Factors that predict working memory maintenance and decline in older adults. S. CANSINO*; F. TORRES-TREJO; C. ESTRADA-MANILLA; M. PÉREZ-LOYDA; L. RAMÍREZ-BARAJAS; M. HERNÁNDEZ-LADRÓN-DEGUEVARA; A. NAVA-CHAPARRO; S. RUIZ-VELASCO. *Lab. NeuroCognition, Nat Autonomous Univ. of Mexico, Applied Mathematics and Systems Res. Institute, Nat Autonomous Univ. of Mexico*.
- 2:00 CC9 **792.02** Musical instrument practice program improves verbal memory and neural efficiency in novice older adults. X. GUO*; M. YAMASHITA; M. SUZUKI; C. OHSAWA; K. ASANO; N. ABE; K. SEKIYAMA. *Kumamoto Univ., Kyoto Univ., Osaka Univ., Mukogawa Women's Univ., Kyoto Univ.*
- 3:00 CC10 **792.03** • Cognitive performance of severely hearing-impaired older adults before and after cochlear implantation. V. VAN ROMPAEY*; E. ANDRIES; A. GILLES; V. TOPSAKAL; P. VAN DE HEYNING; G. MERTENS. *Antwerp Univ. Hosp.*
- 4:00 CC11 **792.04** Reconfiguration of frontoparital and default network related to working memory aging. C. YANG*; J. FAN; C. LIU; J. XIA; Z. ZHANG. *Beijing Normal Univ.*
- 1:00 CC12 **792.05** Mean cortical thickness predicts cognitive change in healthy aging. M. HOU*; M. A. DE CHASTELAINE; B. E. DONLEY; M. D. RUGG. *Univ. of Texas at Dallas*.
- 2:00 CC13 **792.06** • Dual task gait speed modifies the association between cardiovascular risk and visuospatial working memory in older adults. S. BUSS*; L. APONTE-BECERRA; J. TREVINO; R. E. MCGLINCHEY; C. B. FORTIER; V. LIOUTAS; P. NOVAK; C. MANTZOROS; L. NGO; V. NOVAK. *Beth Israel Deaconess Med., VA Boston Healthcare Syst., Brigham and Women's Hosp.*
- 3:00 CC14 **792.07** Theta, alpha, and beta band oscillations related to value-directed strategic processing in cognitively normal younger and older adults. L. T. NGUYEN*; S. A. SHENDE; F. MARINI; D. A. LLANO; R. A. MUDAR. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of California San Diego, Beckman Inst. for Advanced Sci. and Technol., Univ. of Illinois at Urbana-Champaign*.
- 4:00 CC15 **792.08** ▲ Impact of a 12-week aerobic exercise intervention on interhemispheric inhibition and motor control in sedentary older adults. J. OMAR*; J. R. NOCERA; M. R. BORICH; B. A. CROSSON; L. KRISHNAMURTHY; V. KRISHNAMURTHY; K. MAMMINO; K. M. MCGREGOR. *Emory Univ., Emory Univ., Emory Univ., Atlanta VA Med. Ctr.*
- 1:00 CC16 **792.09** Context-dependent memory in cognitively-normal older e4 carriers and non-carriers. J. M. PALMER*; A. V. LAWRENCE; M. D. GRILLI; M. J. HUENTELMAN; J. S. TALBOOM; L. RYAN. *Univ. of Arizona, Evelyn F. McKnight Brain Inst., Translational Genomics Res. Inst.*
- 2:00 CC17 **792.10** EEG microstates in young and elderly people. T. HAMAMOTO*; H. IMAMIZU; T. ASAI. *ATR Intl., Osaka Univ., The Univ. of Tokyo*.
- 3:00 CC18 **792.11** Age related modulation of microsaccade rate in rapid serial visual presentation. K. NAGANO*; T. KOHAMA; H. YOSHIDA. *Kindai Univ., Kindai Univ.*
- 4:00 CC19 **792.12** Resting state functional connectivity patterns in older adults after the PICMOR intervention program: A preliminary report. H. SUGIMOTO*; T. KAWAGOE; M. OTAKE-MATSUURA. *RIKEN, Rikkyo Univ.*
- 1:00 CC20 **792.13** Heterogeneous functional and structural degradation of category-selective regions in the ventral visual cortex during normal aging. Z. ZUO*; Z. ZUO; N. LIU. *Inst. of Biophysics, Chinese Acad. of Sci.*
- 2:00 CC21 **792.14** Healthy aging and stiffness of the brain, hippocampus, and hippocampal subfields. P. L. DELGORIO*; L. V. HISCOX; F. SANJANA; A. M. DAUGHERTY; M. D. J. MCGARRY; H. SCHWARB; C. R. MARTENS; C. L. JOHNSON. *Univ. of Delaware, Wayne State Univ., Dartmouth Col., Univ. of Illinois at Urbana-Champaign*.
- 3:00 CC22 **792.15** Mediation of age and hippocampal volume by temporal lobe white matter hyperintensities differ in relation to APOE e4 status in healthy older adults. E. J. VAN ET TEN*; P. K. BHARADWAJ; G. A. HISHAW; T. P. TROUARD; G. E. ALEXANDER. *Univ. of Arizona, Evelyn F. McKnight Brain Inst., Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Arizona Alzheimer's Consortium*.
- 4:00 CC23 **792.16** Layer specific arteriovenous compliance in aging and age related cognitive slowing. D. ABDELKARIM*; D. SIVAKOLUNDU; M. P. TURNER; Y. ZHAO; K. WEST; H. LU; B. P. RYPMA. *Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Johns Hopkins Univ., Univ. of Texas at Dallas*.

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 CC24 **792.17** Age-related impairments for maintaining separate memories for highly similar experiences in mice and humans. B. S. KOLARIK*; A. A. KEISER; S. M. STARK; M. A. WOOD; C. E. STARK. *Univ. of California Irvine*.
- 2:00 CC25 **792.18** Interactive effects of sex and BDNF Val66Met polymorphism on cognition in older adults. S. MATIJEVIC*; M. ELIAS; M. J. HUENTELMAN; L. RYAN. *Univ. of Arizona, The Translational Genomics Res. Inst.*
- 3:00 CC26 **792.19** Age-related changes in gray and white matter neurite density and diffusion within hippocampal subfields and the medial temporal lobe reflect memory performance. H. RADHAKRISHNAN*; S. M. STARK; C. E. L. STARK. *Univ. of California, Irvine*.
- 4:00 CC27 **792.20** Age-related reductions in functional connectivity in social brain systems during an economic trust task. N. M. HENNINGER*; V. KELLY; K. HACKETT; D. S. FARERI; S. KATTA; L. J. TEPFER; C. REECK; T. GIOVANNETTI; E. C. BEARD; J. DENNISON; B. MUZEKARI; D. F. DESALME; R. KINMARTIN; A. LANG; J. M. CIPRIASO; E. HUNTER; C. MORRISON; D. V. SMITH. *Temple Univ., Temple Univ., Adelphi Univ., Temple Univ., Temple Univ.*
- 1:00 CC28 **792.21** Individual differences in neural differentiation during episodic encoding predict associative retrieval in putatively healthy older adults. M. B. HARRISON*; V. A. CARR; N. CORSO; G. DEUTSCH; C. FREDERICKS; S. GUERIN; W. GUO; M. HUNT; M. JAYAKUMAR; J. JIANG; G. A. KERCHNER; A. M. KHAZENZON; C. LITOVSKY; E. C. MORMINO; A. NADIADWALA; S. SHA; N. J. TANNER; M. THIEU; A. N. TRELLE; A. D. WAGNER. *Stanford Univ., San Jose State Univ., Univ. of Oregon, Columbia Univ., Stanford Univ., Stanford Univ., John Hopkins Univ., Stanford*.
- 2:00 CC29 **792.22** ▲ Cognitive reserve over different life stages in association with cognitive performance in healthy elderly. C. GARCÍA-CAMACHO*; T. VILLASEÑOR-CABRERA; M. JIMÉNEZ-MALDONADO; F. JÁUREGUI-HUERTA; J. RUÍZ-SANDOVAL. *Univ. De Guadalajara*.
- 3:00 CC30 **792.23** ● Resveratrol, a calorie restriction mimetic for the treatment of Alzheimer's disease: A preclinical investigation. V. BENADE*; P. JAYARAJAN; N. KRISHNADAS; V. KAMUJU; S. GANDIPUDI; R. NIROGI. *Suven Life Sci. Ltd., Manipal Acad. of Higher Educ.*
- 4:00 CC31 **792.24** Association between telomere and brain in large population study. R. E. KIM*; C. YUN; R. THOMAS; I. BAIK; C. SHIN. *Korea Univ., Bundang Seoul Natl. Univ. Hosp., Harvard Univ., Kookmin Univ., Korea Univ.*
- 1:00 CC32 **792.25** Impact of apolipoprotein E and depression symptom on cognitive decline and white matter alteration in healthy aging adults. H. AHN*; R. KIM; S. KIM; C. SHIN. *Korea Univ., Korea Univ. Ansan Hosp.*
- 2:00 CC33 **792.26** ● Visuospatial/executive function in mild cognitive impaired patients correlate with performance in the visible-platform stage of a virtual navigation task. N. K. ROGERS*; C. SANMARTIN; D. P. PONCE; J. VALDÉS; M. I. BEHRENS. *Univ. De Chile, Univ. de Chile, Univ. Mayor*.
- 3:00 CC34 **792.27** The role of the dopaminergic and noradrenergic system in episodic memory. Y. YI*; F. LÜSEBRINK; D. HÄMMERER; O. SPECK; E. DÜZEL. *The Inst. For Cognitive Neurol. and Dementia Res., Otto-von-Guericke-Universität Magdeburg, Otto-von-Guericke-Universität Magdeburg*.

POSTER

793. Physiological and Cognitive Factors Associated With Healthy Aging

Theme H – Cognition

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 CC35 **793.01** The effects of cardiovascular risks on task switching in healthy older adults: An fMRI study. S. QIN*; C. BASAK. *Univ. of Texas at Dallas*.
- 2:00 CC36 **793.02** Striatal iron modulates neural signatures of working memory. A. SALAMI*; G. KALPOUZOS. *Umea; Univ., Karolinska Inst.*
- 3:00 CC37 **793.03** Web-based study of forty-one thousand women reveals factors associated to cognitive enhancement during menopause. J. S. TALBOOM*; A. K. HABERG; M. D. DE BOTH; M. A. NAYMIK; I. SCHRAUWEN; C. R. LEWIS; A. L. SINIARD; S. F. BERTINELLI; C. HAMMERSLAND; A. J. MYERS; M. HAY; C. A. BARNES; E. GLISKY; L. RYAN; M. J. HUENTELMAN. *The Translational Genomics Res. Inst., Arizona Alzheimer's Consortium, Norwegian Univ. of Sci. and Technol., Univ. of Miami, Univ. of Arizona*.
- 4:00 CC38 **793.04** Neurophysiological and neurocognitive correlates of obstacle avoidance behavior in older adulthood. I. R. FLINT*; A. R. WAARA; K. M. TREWARTHA. *Michigan Technological Univ., Michigan Technological Univ.*
- 1:00 CC39 **793.05** Physical fitness as a protective factor against age related declines in executive processes of working memory: A fMRI study on cue predictability, updating and switching. C. BASAK*; P. SKOLASINKA; S. QIN. *Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas At Dallas*.
- 2:00 CC40 **793.06** ▲ Cingulate function in typical cognitive aging. R. J. BERTHIAUME; S. M. NYABWARI; J. T. LEE; J. V. PARDO*. *Univ. of Minnesota, Univ. of Minnesota, Minneapolis Veterans Hlth. Care Syst., Minneapolis Veterans Hlth. Care Syst.*
- 3:00 CC41 **793.07** Frontostriatal white matter connectivity declines with age and predicts cognition and dynamic BOLD modulation. C. E. WEBB*; D. A. HOAGEY; K. M. RODRIGUE; K. M. KENNEDY. *The Univ. of Texas at Dallas*.
- 4:00 CC42 **793.08** ● Longitudinal fluctuations in memory and executive function correlate with Alzheimer's disease pathology in non-cognitively impaired elderly. M. MALEK-AHMADI*; S. E. PEREZ; E. J. MUFSON. *Banner Alzheimer's Inst., Barrow Neurolog. Inst., Barrow Neurolog. Inst.*
- 1:00 CC43 **793.09** EEG markers from a novel oddball task predicts subject's mental abilities, data from 443 adults. J. DREO*; D. SAKIC; Z. PIRTOSEK. *Med. Faculty, Univ. of Ljubljana, Chair of Neurology, Fac. of Medicine, Univ. of Ljubljana*.
- 2:00 CC44 **793.10** The continuum from temperament to mental illness. W. SULIS*. *McMaster Univ.*

POSTER

794. Novel Techniques of Biochemical Analysis

Theme I – Techniques

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 CC45 **794.01** Quantitative MCell model shows competition and dynamic equilibrium within PDZ domain of PSD-95 at the postsynaptic density. S. SAMENI*; T. M. BARTOL, Jr; M. B. KENNEDY; T. J. SEJNOWSKI. *Salk Inst. For Biol. Studies, Caltech.*
- 2:00 CC46 **794.02** *In vivo* imaging of alkynylated S-citalopram using surface-enhanced Raman scattering. M. TANUMA*; A. KASAI; K. BANDO; N. KOTOKU; K. HIGASHINO; Y. AGO; S. KAWATA; K. FUJITA; H. HASHIMOTO. *Lab. of Mol. Neuropharmacology, Grad. Sch. of Pharmaceut. Sciences., Dept. of Applied Physics, Grad. Sch. of Engineering, Osaka University, Suita, Japan., Chem. Biol. Laboratory, Col. of Pharmaceut. Sciences, Ritsumeikan Univ., Lab. of Biopharmaceutics, Grad. Sch. of Pharmaceut. Sciences, Osaka Univ., Advanced Photonics and Biosensing Open Innovation Laboratory, Natl. Inst. of Advanced Industrial Sci. and Technol., Transdimensional Life Imaging Division, Inst. for Open and Transdisciplinary Res. Initiatives, Osaka Univ., Mol. Res. Ctr. for Children's Mental Development, United Grad. Sch. of Child Development, Osaka University, Kanazawa University, Hamamatsu Univ. Sch. of Medicine, Chiba Univ. and Univ. of Fukui, Inst. for Datability Science, Osaka Univ.*
- 3:00 CC47 **794.03** Depigmentation and clearing technique for planaria allowing optically accessible staining and fluorescence imaging of the complete worm. P. E. B. NICKERON; A. D. STILLAR; M. J. SAARI*. *Donald K Johnson Institute, Krembil Res. Institute, Univ. Hlth. Network, Nipissing Univ.*
- 4:00 CC48 **794.04** • Carbon nanotube optical reporter maps changes in endolysosomal lipids. L. E. KOMER*; T. V. GALASSI; P. V. JENA; J. SHAH; Y. BRAM; A. FRANKEL; J. PARK; J. JESSURUN; D. S. ORY; A. HAIMOVITZ-FRIEDMAN; R. E. SCHWARTZ; F. R. MAXFIELD; D. A. HELLER. *Cornell University: Weill Cornell Med. Col., Mem. Sloan Kettering Cancer Ctr., Tufts Univ. Sch. of Med., Washington Univ. Sch. of Med. in St. Louis.*
- 1:00 CC49 **794.05** ▲ Imaging of neurotransmitters using AuNPs with laser desorption ionization mass spectrometry. N. K. MCLAUGHLIN*; K. STUMPO. *Univ. of Scranton, Univ. of Scranton.*
- 2:00 CC50 **794.06** A flow cytometry-based approach to study molecular alterations in synapses. F. J. RUBIO*; E. M. HILAIRE; P. V. SELVAM; C. A. MEJIAS-APONTE; S. ZHANG; R. CIMBRO; B. T. HOPE. *NIDA IRP, Johns Hopkins Sch. of Med.*
- 3:00 CC51 **794.07** A high-loading drug delivery system with pH response based on magnetic nanomaterials modified by hyperbranched phenylboronic acid for glioma cell targeting treatment. H. SONG; Y. WANG; J. ZHANG; Y. LU*; R. GAO. *Sch. of Basic Med. Sci., Sch. of Sci.*
- 4:00 CC52 **794.08** Iterative direct expansion microscopy. D. SARKAR*; A. WASSIE; J. KANG; T. TARR; A. TANG; T. A. BLANPIED; E. S. BOYDEN. *MIT, Univ. of Maryland, Univ. of Maryland Sch. of Med.*

- 1:00 CC53 **794.09** Enhanced sensitivity and selectivity in the detection of serotonin *in vivo* using N-shaped fast cyclic square wave voltammetry. H. SHIN; Y. OH*; C. PARK; Y. KANG; A. RUSHEEN; A. S. BARATH; K. E. BENNET; C. D. BLAHA; K. H. LEE; D. JANG. *Mayo Clin., Hanyang Univ., Mayo Clin., Mayo Clin.*
- 2:00 CC54 **794.10** • A high efficacy selection method for transfected cells utilizing recombinant isolectin B4-saporin. M. A. GALVAN; P. A. SHRAMM; R. BOUAJRAM; D. A. LAPPI; L. R. ANCHETA*. *Cytologistics, LLC.*
- 3:00 CC55 **794.11** Nicotine and THC exposure in rats using JUUL®-related electronic cigarette devices. E. L. HARVEY*; J. D. NGUYEN; Y. GRANT; T. M. KERR; M. COLE; M. A. TAFTE. *Univ. of California San Diego, The Scripps Res. Inst., La Jolla Alcohol Research, Inc.*
- 4:00 CC56 **794.12** Sox-based sensors for protein kinases and phosphatases for neuroscience discovery and drug development. E. SCHAEFER*; S. CORNELL-KENNON; B. LU; J. FISHMAN; E. BERG; B. IMPERIALI. *Assayquant Technologies, 21st Century Biochemicals, MIT.*
- 1:00 CC57 **794.13** rsCaMPARI: An erasable marker of neuronal activity. F. SHA*; A. S. ABDELFAHAT; R. PATEL; J. J. MACKLIN; E. R. SCHREITER. *Howard Hughes Med. Inst.*

POSTER

795. Anatomic Methods: Sample Preparation and Novel Probes

Theme I – Techniques

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 CC58 **795.01** Comparison of occlusion and staining techniques in rodents with induced cva injuries and the use and effectiveness of ischemia contrast stain. S. O. AHMAD*; K. BARILLIER; B. KINGSLEY; M. KUMNICK; J. BAUN; T. YORK; R. SWITZER, III. *St. Louis Univ., NeuroScience Associates.*
- 2:00 CC59 **795.02** Multi-scale imaging from the whole brain level to the ultrastructure level by using a modified scales method. H. HIOKI*; K. YAMAUCHI; S. OKAMOTO; K. ISA; Y. ISHIDA; A. TAKENAKA; M. TAKAHASHI; J. HWANG; A. YOSHIDA; Y. UCHIYAMA; M. KOIKE; T. ISA; T. FURUTA. *Juntendo Univ. Grad. Sch. of Med., Grad. Sch. of Medicine, Kyoto Univ., Osaka Univ. Grad. Sch. of Dent., Juntendo Univ. Grad. Sch. of Med., Inst. for the Advanced Study of Human Biol. (ASHBi), Kyoto Univ.*
- 3:00 CC60 **795.03** Scalable and isotropic expansion of tissues with simply tunable expansion ratio. H. PARK*; D. CHOI; J. PARK; C. SIM; J. LEE; Y. LEE; Y. LEE; S. KIM. *Seoul Natl. Univ., Seoul Natl. University, Seoul Natl. Univ., Seoul Natl. University, Sungkyunkwan Univ. Sch. of Med.*
- 4:00 CC61 **795.04** New advanced tissue clearing method. E. LEE*; G. KIM; Y. PARK; S. GUM. *Binaree, Inc.*
- 1:00 CC62 **795.05** Cellular and molecular interrogation of intact human organs. S. ZHAO*; M. I. TODOROV; R. CAI; H. STEINKE; E. KEMTER; E. WOLF; J. LIPFERT; I. BECHMANN; A. ERTÜRK. *Klinikum der Univ. München, Univ. of Leipzig, Gene Ctr., Ludwig-Maximilians Univ.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 2:00 CC63 **795.06** Deep learning reveals cancer metastasis and therapeutic antibody targeting in the CNS and whole body. C. PAN*; O. SCHOPPE; A. PARRA-DAMAS; R. CAI; M. I. TODOROV; G. GONDI; B. VON NEUBECK; A. GHASEMIGHARAGOZ; M. A. REIMER; B. GARVALOV; B. MENZE; R. ZEIDLER; A. ERTÜRK. *KUM-LMU Inst. For Stroke and Dementia, Grad. Sch. of Systemic Neurosci. (GSN), Ctr. for Translational Cancer Res. (TranslaTUM) & Dept. of Computer Sci., Helmholtz Zentrum München, Res. Unit Gene Vectors, Dept. of Microvascular Biol. and Pathobiology, European Ctr. for Angioscience (ECAS), Munich Sch. of Bioengineering, Tech. Univ. of Munich, Dept. for Otorhinolaryngology, Klinikum der Univ. München, Munich Cluster for Systems Neurol. (SyNergy).*
- 3:00 CC64 **795.07** Establishing an experimental protocol for making transparent brain for neurodegenerative disease research. K. LEE*; H. LAI; R. C. CHANG. *Lab. of Neurodegenerative Diseases, LKS Fac. of Medicine, Univ. of Hong Kong, Sch. of Biomed. Sciences, LKS Fac. of Medicine, Univ. of Hong Kong, State Key Lab. of Brain and Cognitive Sciences, The Univ. of Hong Kong.*
- 4:00 CC65 **795.08** Effects of omega-3 fatty acids in modulating the role of glia cells in synaptic plasticity in dementia. D. SARAJ*; S. ARYAL; T. EID; S. DAVANGER. *Univ. of Oslo - Inst. of Basic Med. Sci., Univ. of Oslo - Inst. of Basic Med. Sci., Yale Univ., Univ. of Oslo - Inst. of Basic Med. Sci.*
- 1:00 CC66 **795.09** Ethanolic extract of garcinia kola (heckel) affects the histology of organs of the hypothalamic-pituitary-gonadal axis in adult Wistar rats. A. U. OBI*; P. U. NWOHA. *Imo State Univ., Obafemi Awolowo Univ.*
- 2:00 CC67 **795.10** Multimodal measurement of neuron morphology, molecular identity, and connectivity using novel clearing and expansion technology. F. Y. SHEN*; H. CHENG; K. FINOS; X. LI; D. CAI. *Univ. of Michigan, Univ. Of Michigan, Cell & Developmental Biol., Univ. of Michigan.*
- 3:00 CC68 **795.11** Tissue clearing of both hard and soft tissue organs with the PEGASOS method. D. JING; H. ZHAO*. *Texas A&M Univ. Col. of Dent., Texas A&M University, Col. of Dent.*
- 4:00 CC69 **795.12** The second generation PEGASOS method: A new solution for high-resolution connectome mapping in large organs. Y. YI*; H. ZHAO. *Texas A&M University, Col. of Dent., Texas A&M University, Col. of Dent.*
- 1:00 CC70 **795.13** Chronic mouse imaging: From optical systems to functional ultrasound. K. KILIÇ*; J. TANG; E. ERDENER; B. S. LEE; S. SUNIL; J. T. GIBLIN; A. I. CHEN; D. A. BOAS. *Boston Univ.*
- 2:00 CC71 **795.14** ▲ Rapid aqueous clearing method for three dimensional mapping of intact organs. J. ZHU*; T. YU; Y. LI; J. XU; Y. QI; Z. CHEN; Y. YAO; Y. MA; P. WAN; X. LI; H. GONG; Q. LUO; D. ZHU. *Britton Chance Ctr. for Biomed. Photonics, Wuhan Natl. Lab. for Optoelectronics, Huazhong Univ. of Sci. and Technol., MoE Key Lab. for Biomed. Photonics, Collaborative Innovation Ctr. for Biomed. Engineering, Sch. of Engin. Sciences, Huazhong Univ. of Sci. and Technol.*
- 3:00 CC72 **795.15** Advanced solvent based clearing method for imaging whole organs. T. YU*; Y. QI; J. XU; P. WAN; Y. MA; J. ZHU; Y. LI; H. GONG; Q. LUO; D. ZHU. *Britton Chance Ctr. for Biomed. Photonics, Wuhan Natl. Lab. for Optoelectronics, Huazhong Univ. of Sci. and Technol., MoE Key Lab. for Biomed. Photonics, Collaborative Innovation Ctr. for Biomed. Engineering, Sch. of Engin. Sciences, Huazhong Univ. of Sci. and Technol.*
- 4:00 CC73 **795.16** Exploring the potential of sodium magnetic resonance velocity imaging for determining white matter fiber directionality. Y. CHEN*; W. I. TSENG. *Inst. of Med. Device and Imaging, Natl. Taiwan University, Col. of Med.*
- 1:00 CC74 **795.17** Recombinant miniaturized antibodies for studying brain structure and function. J. S. TRIMMER*; J. DONG; L. PALAO, III; C. DUMITRAS; B. GONG; K. D. MURRAY; S. BRIAND-SCHUMACHER; B. DREIER; A. PLÜCKTHUN; J. MONTANARO-PUNZENGRUBER; R. SHIGEMOTO; R. SANDO; T. C. SUDHOF. *Univ. of California, Davis, Univ. of California, Davis, Univ. of California, Davis, Univ. of Zurich, IST Austria, Stanford Univ.*
- 2:00 CC75 **795.18** A new application of fluorescent organosilica nanoparticles as an imaging tool. N. YUASA*; Y. FUJIKI; K. HASHINO. *Tokyo Chem. Industry Co., Ltd.*
- 3:00 CC76 **795.19** Cellular composition of the harbor porpoise (*Phocoena phocoena*) cortex. J. KASAI; T. MATSUSHIMA; N. PATZKE*. *Hokkaido Univ.*
- 4:00 CC77 **795.20** Development of an antibody-free staining method for the visualization of oxytocin receptors in tissue: Histochemical detection of a biotinylated ligand. S. M. FREEMAN*; M. C. PALUMBO; M. MUTTENTHALER; K. L. BALES. *Utah State Univ., Univ. of California, Davis, Univ. of Queensland.*
- 1:00 CC78 **795.21** A novel radioligand for *in vitro* and *in vivo* alpha-synuclein imaging. B. JANSSEN*; Z. LENGUEL; C. HSIEH; J. J. FERRIE; A. RIAD; K. XU; C. HOU; C. WENG; W. E. KLUNK; C. A. MATHIS; E. J. PETERSSON; R. H. MACH. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 2:00 DD1 **795.22** Individually tailored segmentation method for distorted hypothalamus in craniopharyngioma patient. M. LEE*; A. HONG; J. LEE; J. KIM; Y. KIM; H. CHOI. *Seoul Natl. Univ. Col. of Med., Chonnam Natl. Univ. Med. Sch., Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ. Col. of Med.*
- 3:00 DD2 **795.23** Age-related shrinkage of medial temporal lobe subfields is differentially exacerbated by arterial hypertension: A six-year longitudinal study of healthy adults. A. M. DAUGHERTY*; Q. YU; A. R. BENDER; L. TANG; C. L. DAHLE; N. OFEN; N. RAZ. *Wayne State Univ., Michigan State Univ.*
- 4:00 DD3 **795.24** White matter microstructure moderates effects of hippocampal volume on memory in older adults. A. R. BENDER*; A. BRANDMAIER; S. DÜZEL; A. KERESZTES; O. PASTERNAK; S. KÜHN; U. LINDENBERGER. *Max Planck Inst. for Human Develop., Michigan State Univ., Max Planck-UCL Ctr. for Computat. Psychiatry and Ageing Res., Hungarian Acad. of Sci., Eotvos Lorand Univ., Brigham and Women's Hospital, Harvard Med. Sch.*

POSTER

796. Techniques: Network Electrophysiology

Theme I – Techniques

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 DD4 **796.01** Simultaneous recording of multi-channel electrophysiology and whole-brain-level resting state fMRI on rats. Y. MA*; W. TU; T. NEURBERGER; N. ZHANG. *Penn State Univ.*

- 2:00 DD5 **796.02** Relationship between electroencephalographic complexity and cortical cholinergic tone during subanesthetic ketamine: A high-density electroencephalogram study in rats. M. A. BRITO*; D. LI; J. DEAN; C. I. RYBICKI-KLER; T. LIU; A. FRYZEL; G. A. MASHOUR; D. PAL. *Univ. of Michigan*.
- 3:00 DD6 **796.03** Subcortical-cortical evoked potential for electrophysiology-guided deep brain stimulation targeting for Tourette syndrome. J. CAGLE*; R. S. EISINGER; E. OPRI; K. D. FOOTE; M. S. OKUN; A. GUNDUZ. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida*.
- 4:00 DD7 **796.04** Functional electroencephalographic connectivity in resting state of premenopause and early postmenopause. E. G. GONZALEZ-PEREZ*; M. S. SOLIS-ORTIZ; M. F. MÜLLER-BENDER. *Univ. De Guanajuato, Univ. de Guanajuato, Univ. Autónoma del Estado de Morelos*.
- 1:00 DD8 **796.05** Presence of targets and nontargets in ERP-based complex trial protocol (CTP) significantly increases P300 effect as an index of stimuli recognition in evaluation of memory deficit and malingering. E. DAVYDOVA*; E. LABKOVSKY; J. P. ROSENFELD. *B. Khmelnytsky Cherkassy State Univ., Northwestern Univ., Northwestern Univ.*
- 2:00 DD9 **796.06** Burst suppression latency predicts anesthesia depth. D. WANG*; Q. GUO; D. LIU; G. ZHANG; X. KONG; Z. XU; A. MANNAN; Q. ZHANG; S. XIA; J. YANG; H. ZHANG; H. DING; J. CAO. *Jiangsu Province Key Lab. of Anesthesiology, Xuzhou Med. Univ., Jiangsu Province Key Lab. of Anesthesia and Analgesia Application Technology, Xuzhou Med. Univ., Dept. of Anesthesiology, Affiliated Hosp. of Xuzhou Med. Univ.*
- 3:00 DD10 **796.07** Cortico-cortical evoked potential amplitude is predicted by diffusion imaging-based tractography. B. H. SILVERSTEIN*; E. ASANO; A. SUGIURA; M. SONODA; M. LEE; J. JEONG. *Wayne State Univ., Wayne State Univ.*
- 4:00 DD11 **796.08** Electrodiagnostic characteristics of upper lumbar stenosis: Discrepancy between neurological and structural levels. K. KIM*; J. PARK. *Seoul Natl. Univ. Hosp., Hanyang Univ. Guri Hosp.*
- 1:00 DD12 **796.09** Human neocortical neurosolver: A user-friendly software tool for cellular- and circuit-level interpretation of EEG/MEG. B. CALDWELL*; S. A. NEYMOTIN; D. DANIELS; M. JAS; N. PELED; R. A. MCDUGAL; S. DURA-BERNAL; M. CANTARELLI; M. N. O'CONNELL; A. BARCZAK; T. M. MCGINNIS; P. LAKATOS; C. I. MOORE; N. T. CARNEVALE; M. L. HINES; M. HAMALAINEN; S. R. JONES. *Brown Univ., Nathan Kline Inst. For Psychiatric Res., Massachusetts Gen. Hosp., Harvard Med. Sch., Yale Univ., State Univ. of New York Downstate Med. Ctr., Metacell, Providence VA Med. Ctr.*
- 2:00 DD13 **796.10** Temporal pharmacodynamics of intranasal oxytocin: A human EEG study. M. ZELENINA*; K. BRODMANN; A. AVILA; J. DA CRUZ; P. FIGUEIREDO; D. PRATA. *Inst. De Biofísica E Engenharia Biomédica, Inst. de Medicina Mol., Inst. Superior Tecnico*.
- 3:00 DD14 **796.11** Electrophysiological changes in the human brain associated with intake of commercial sweeteners. S. LOPEZ-MEZA; G. A. OTERO-OJEDA; J. A. ESTRADA; F. J. ESQUIVEL-HERNANDEZ; G. GONZALEZ-GONZALEZ; I. CONTRERAS*. *Univ. Autonoma del Estado de Mexico, Univ. Autonoma del Estado de Mexico, Univ. Autonoma del Estado De México, Univ. Nacional Autonoma de Mexico, Univ. Autonoma del Estado de Mexico*.
- 4:00 DD15 **796.12** Brain network motifs are markers of loss and recovery of consciousness. C. DUCLOS*; Y. MAHDID; D. NADIN; S. BLAIN-MORAES. *McGill Univ.*
- 1:00 DD16 **796.13** Multi-scale neural resampling to map and monitor neural circuits in non-human primates. A. L. ORSBORN*; J. CHOI; C. WANG; C. CHIANG; J. VIVENTI; B. PESARAN. *Univ. of Washington, Univ. of Washington, Univ. of Washington, New York Univ., New York Univ., Duke Univ., Duke Univ.*
- 2:00 DD17 **796.14** Contrasting amplitude and phase-based measured of functional connectivity across states of consciousness. Y. MAHDID*; C. DUCLOS; J. DA SILVA CASTANHEIRA; S. BLAIN-MORAES. *McGill*.
- 3:00 DD18 **796.15** • A mobile system for concurrent high density EEG, EMG and closed-loop tCS. N. YASAR; R. APPARIES; T. POULSON; A. M. WILDER; S. HIATT. *Ripple Neuro*.
- 4:00 DD19 **796.16** Visual blindness oscillating in phase with the EEG alpha rhythm. K. E. ALEXANDER*; J. R. ESTEPP; S. M. ELBASIOUNY. *Wright State Univ., U.S. Air Force Res. Lab., Wright State Univ.*
- 1:00 DD20 **796.17** The effects of mental workload on P300 amplitude for use in cognitive probing. C. L. WINTERMUTE*; J. R. ESTEPP; K. E. ALEXANDER; A. M. PIASECKI; S. M. ELBASIOUNY. *Wright State Univ., Air Force Res. Lab., Ball Aerospace, Wright State Univ.*
- 2:00 DD21 **796.18** ▲ Evaluation and quantification of the electrical activity of different isolated preparations, with the application of melatonin. E. NARANJO-RODRIGUEZ*; O. ESPEJO-GONZÁLEZ; I. CASTRO-TORRES; A. S. LIRA-ROCHA. *Natl. Autonomous Univ. of Mexico, Natl. Autonomous Univ. of Mexico*.
- 3:00 DD22 **796.19** ▲ Electrical brain activity in left and right handed while performing a mental rotation task. A. ALCÁNTARA QUINTERO*; I. G. GALÁN; Y. DEL RÍO-PORTILLA. *UNAM*.
- 4:00 DD23 **796.20** Investigating the impact of landmarks on spatial learning during active navigation. J. LU; A. WUNDERLICH; A. K. SINGH*; T. N. DO; K. GRAMANN; C. LIN. *Univ. of Technol. Sydney, Tech. Univ. of Berlin*.
- 1:00 DD24 **796.21** Mitigating the effects of electrode biofouling for improved long-term measurement of dopaminergic signaling. B. T. SEATON; D. F. HILL; S. L. COWEN; M. L. HEIEN*. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona*.
- 2:00 DD25 **796.22** Synchronous recording of dopamine neurochemical and striatal electrical activity in non-human primates. H. N. SCHWERDT*; K. AMEMORI; D. J. GIBSON; L. STANWICKS; T. YOSHIDA; S. AMEMORI; R. LANGER; M. J. CIMA; A. M. GRAYBIEL. *MIT, MIT, MIT, MIT*.
- 3:00 DD26 **796.23** Kainate induces oscillations in ex vivo hippocampal sections on perforated micro electrode arrays. J. C. RODRIGUEZ DIAZ*; K. S. JONES. *Univ. of Michigan, Univ. of Michigan*.
- 4:00 DD27 **796.24** Role of human induced pluripotent stem cell-derived spinal cord astrocytes in the functional maturation of motor neurons in a multielectrode array system. A. TAGA*; R. DASTGHEYB; C. W. HABELA; J. A. JOSEPH; J. RICHARD; S. GROSS; G. LAURIA; G. LEE; N. HAUGHEY; N. J. MARAGAKIS. *Johns Hopkins Univ., Fondazione I.R.C.C.S., Inst. Neurologico Carlo Besta*.
- 1:00 DD28 **796.25** ▲ Monitoring activity of *Drosophila* larvae with impedance measures. N. S. F. DE CASTRO*; R. L. COOPER. *Univ., Univ. of Kentucky Dept. of Biol.*

* Indicated a real or perceived conflict of interest, see page 150 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

POSTER

797. Electrical Methods to Modulate Neural Activity II

Theme I – Techniques

Wed. 1:00 PM – McCormick Place, Hall A

- 1:00 DD29 **797.01** Spatially selective intraneural recordings of pig vagus nerve activity during alterations in physiological parameters. M. OTTAVIANI*; L. GIANGRECO; A. CUTRONE; F. DEDOLA; F. VALLONE; M. CRACCHIOLO; F. BERNINI; A. MAZZONI; F. RECCHIA; S. MICERA. *Sant'Anna Sch. of Advanced Studies, Univ. of Padova, Sant'Anna Sch. of Advanced Studies, Temple Univ., Ecole Polytechnique Federale De Lausanne.*
- 2:00 DD30 **797.02** Noise reduction in MEG measurement during transcranial alternating current stimulation. S. SHIBUSAWA*; A. OTSUKA; K. AMANO. *Osaka Univ., Natl. Inst. of Information and Communications Technology, Ctr. for Information and Neural Networks.*
- 3:00 DD31 **797.03** Improving an open-source commercial system to reliably perform activity-dependent stimulation. S. BUCCELLI*; M. D. MURPHY; Y. BORNAT; D. T. BUNDY; R. J. NUDO; D. J. GUGGENMOS; M. CHIAPPALONE. *Inst. Italiano Di Tecnologia, Univ. of Genova, Univ. of Kansas Med. Ctr., Univ. of Bordeaux.*
- 4:00 DD32 **797.04** Biological sex differences in response to vagus nerve stimulation: Investigation into cardiovascular and immune system effects. F. YAGHOUBY; K. JANG; U. HOANG; S. VASUDEVAN*. *U.S. Food and Drug Admin.*
- 1:00 DD33 **797.05** A multi-channel asynchronous neurostimulator with artifact suppression for neural code-based stimulations. S. ELYAHOODAYAN*; W. JIANG; H. XU; D. SONG. *USC.*
- 2:00 DD34 **797.06** Evoked haptic sensations in the foot through high-density transcutaneous nerve stimulation. L. PAN; L. VARGAS; X. HU; H. HUANG. *North Carolina State Univ. and Univ. of North Carolina-Chapel Hill.*
- 3:00 DD35 **797.07** Parametric characterization of implanted and non-invasive vagus nerve stimulation strategies in rat. J. E. BUCKSOT*; K. MORALES CASTELAN; S. K. SKIPTON; S. A. HAYS. *Univ. of Texas At Dallas, Univ. of Texas at Dallas.*
- 4:00 DD36 **797.08** Electrical stimulation waveform modulates spatial and temporal activation of cortical neurons *in vivo*. K. C. STIEGER*; J. R. ELES; K. A. LUDWIG; T. D. Y. KOZAI. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Wisconsin Madison, Univ. of Wisconsin, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh Brain Inst.*
- 1:00 DD37 **797.09** Selective DRG neuromodulation by flexible parylene based electrode array. T. GUO*; L. CHEN; S. ILHAM; N. NOLTA; M. HAN; B. FENG. *Univ. of Connecticut.*
- 2:00 DD38 **797.10** Visual fatigue reduction in normal adults by introducing broadband chaotic codes for the modulation of code modulated visual evoked potentials (c-VEP). Z. SHIRZHIYAN; A. KEIHANI; M. FARAH; E. SHAMSI; M. GOLMOHAMMADI; A. MAHNAM; A. H. JAFARI; M. RAZA*. *Med. Physics & Biomed. Engin. Department, Sch. of Medicine, Tehran Univ. of Med. Sciences, Tehran, Iran, Res. Ctr. for Biomed. Technologies and Robotics (RCBTR), Tehran Univ. of Med. Sciences, Tehran, Iran, Dept. of Biomed. Engineering, Fac. of Engineering, Univ. of Isfahan, Isfahan, Iran, Baqiyatallah Univ. of Med. Sci.*
- 1:00 DP15/DD39 **797.11** • (Dynamic Poster) Real-time application of machine learning algorithms to electroencephalography for predicting brain states. M. OGANESYAN*; I. TARASENKO; N. VYSOKOV. *Brainpatch.*
- 4:00 DD40 **797.12** Evoked movements and muscle activations through transcutaneous stimulation near the spinal cord. Y. ZHENG; X. HU*. *Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill.*
- 1:00 DD41 **797.13** Therapeutic potential of deep brain stimulation for the treatment of spinocerebellar ataxia. P. ASTHANA*; G. KUMAR; C. TIN; C. H. E. MA. *City Univ. of Hong Kong, City Univ. of Hong Kong.*
- 2:00 DD42 **797.14** Epicranial cortical stimulation: A novel minimally invasive neuromodulation method. A. KHATOUN; B. ASAMOAH; M. MC LAUGHLIN*. *KU Leuven.*
- 3:00 DD43 **797.15** Modulated electrocortical current density dynamics in major depression following mindfulness-based cognitive therapy. P. L. A. SCHOENBERG; J. M. HENRY; D. R. VAGO*; A. E. M. SPECKENS. *Vanderbilt Univ. Med. Ctr., Radboud Univ. Med. Ctr.*
- 4:00 DD44 **797.16** Two-photon calcium imaging in mice shows neural effects of transcranial current stimulation. J. DUIJNHOUWER*; P. POLACK; B. KREKELBERG. *Rutgers University-Newark.*
- 1:00 DD45 **797.17** Acquisition of sensory neural signals from stretchable penetrating multi-shank neural interface of peripheral nerve in rat. W. CHOI; H. PARK; J. KIM; S. OH; J. KIM*. *Korea Inst. of Sci. and Technol., KIST Korea Inst. of Sci. & Tech.*
- 2:00 DD46 **797.18** Metalized printed microstructures (MPMs): A novel approach for high-density, geometrically-customizable neural interfaces. J. GLEICK; T. GARDNER; T. M. OTCHY*. *Boston Univ.*
- 3:00 DD47 **797.19** On stability and longevity of implantable flexible neural electrode arrays. T. STIEGLITZ*; P. CVANCARA; M. VOMERO; J. PFAU; F. PIEPER; G. ENGLER; E. ZUCCHINI; E. DELFINO; G. GRANATA; M. ASPLUND; S. RASPOPOVIC; A. K. ENGEL; L. FADIGA; P. M. ROSSINI; S. MICERA. *Univ. of Freiburg, Univ. of Freiburg, Univ. of Freiburg, Univ. Med. Ctr. Hamburg-Eppendorf, Fondazione Inst. Italiano Di Tecnologia, Catholic Univ. of The Sacred Heart, ETH Zürich, Dept. of Neurophysiol. and Pathophysiology, Ecole Polytechnique Federale De Lausanne.*
- 4:00 DD48 **797.20** Electrical stimulation of the vagus nerve modulates intrinsic reward value during decision-making. A. Z. RAJALA; E. M. MUELLER; M. E. MALONE; J. P. NESS; W. ZENG; W. B. LAKE; R. L. JENISON; A. J. SUMINSKI; L. C. POPULIN*. *Univ. of Wisconsin, Univ. of Wisconsin, Univ. of Wisconsin, Univ. of Wisconsin, Univ. of Wisconsin.*
- 1:00 DD49 **797.21** Patterned cortical microstimulation by wireless ensembles of chronically implanted microelectronic chiplets in freely moving rat model. J. LEE; F. L. LAIWALLA; A. LEE*; E. MOK; V. LEUNG; S. SHELLHAMMER; L. LYNCH; Y. SONG; L. LARSON; A. V. NURMIKKO. *Brown Univ., Seoul Natl. Univ., Univ. of California San Diego, Qualcomm, Seoul Natl. Univ.*
- 2:00 DD50 **797.22** Effect of estrous cycle on stimulation thresholds of the dorsal nerve of the clitoris to reflexively activate the external urethral sphincter in rats. R. JUAREZ*, Sr.; Y. CRUZ. *Univ. Veracruzana, Univ. Autónoma de Tlaxcala.*

- 3:00 DD51 **797.23** Fully implanted millimeter-sized wireless neural stimulators based on magnetoelectric materials. A. WICKENS*; J. CHEN; S. DUTTA; Z. CHEN; N. VERMA; B. AVANTS; P. T. M. KAN; R. GARCIA; S. A. SHETH; C. KEMERE; J. T. ROBINSON. *Rice Univ., Baylor Col. of Med., McGovern Med. School-UTHealth.*
- 4:00 DD52 **797.24** Effects of transcutaneous electric nerve stimulation on proprioceptive discrimination. A. LEVITSKY; J. KLEIN; P. ARTEMIADIS; C. A. BUNEO*. *Arizona State Univ.*
- 1:00 DD53 **797.25** Kinetic augmentation of deep brain stimulation programming optimization across multiple motor symptoms in essential tremor. H. S. BAWEJA*; F. B. NAHAB; D. J. GOBLE. *San Diego State Univ., Univ. of California at San Diego, Oakland Univ.*
- 2:00 DD54 **797.26** ● Histological evaluation of anatomical differences of cervical vagus nerve in pig to inform vagal nerve stimulation. M. L. SETTELL*; A. L. MCCONICO; E. N. NICOLAI; B. E. KNUDSEN; A. SHOFFSTALL; K. GUSTAFSON; S. CHEN; S. TANG; C. HUANG; E. K. ROSS; N. A. PELOT; W. M. GRILL; A. J. JOHNSON; K. A. LUDWIG. *Mayo Clin., Case Western Reserve Univ., Cala Hlth., Duke Univ., Mayo Clin., Univ. of Wisconsin.*
- 3:00 DD55 **797.27** Cortical changes induced by neuromodulation during a working memory task. M. SEMPRINI*; F. BARBAN; G. BONASSI; E. PELOSIN; D. MANTINI; M. CHIAPPALONE; L. AVANZINO. *Inst. Italiano di Tecnologia, Univ. of Genoa, Univ. of Genoa, Katholieke Univ. Leuven.*

• Indicated a real or perceived conflict of interest, see page 150 for details.

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The following presenters, signified by a dot (•) in the program, indicated a real or perceived conflict of interest.
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653.01	E.Y. Pioli: A. Employment/Salary (full or part-time); Motac neuroscience. Q. Li: A. Employment/Salary (full or part-time); Motac neuroscience. A. Crossman: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Motac Holding. F. Consulting Fees (e.g., advisory boards); Motac neuroscience. E. Bezaud: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual		

654.04

of intellectual property rights/patent holder, excluding diversified mutual funds); Integrative Research Laboratories AB, Gothenburg. **C. Sonesson**: A. Employment/Salary (full or part-time); Integrative Research Laboratories AB, Gothenburg. **E. Ownership Interest** (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Integrative Research Laboratories AB, Gothenburg. **N. Waters**: A. Employment/Salary (full or part-time); Integrative Research Laboratories AB, Gothenburg. **E. Ownership Interest** (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Integrative Research Laboratories AB, Gothenburg. **J. Tedroff**: A. Employment/Salary (full or part-time); Integrative Research Laboratories AB, Gothenburg. **E. Ownership Interest** (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Integrative Research Laboratories AB, Gothenburg. **P. Svensson**: A. Employment/Salary (full or part-time); Integrative Research Laboratories AB, Gothenburg. **E. Ownership Interest** (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Integrative Research Laboratories AB, Gothenburg. **S. Hjorth**: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); IRL AB. **F. Consulting Fees** (e.g., advisory boards); IRL AB.

R.N. Sadowski: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **A.M. Basso**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **A.E. Tovcimak**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **D.L. Donnelly-Roberts**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **A.L. Nikkel**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **H. Robb**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **E.G. Mohler**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **M.M. Sheehan**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **V.A. Roderwald**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **B.A. Hooker**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **X. Zhang**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **X. Xu**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **Y. Tong**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **J.M. Frost**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **S. Riedmaier**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **H.S. Oberoi**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **A.M. Swensen**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **M.J. Dart**: A. Employment/Salary (full or part-time); AbbVie. **C. Other Research**

655.04

Support (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **C. Sidrauski**: A. Employment/Salary (full or part-time); Calico Life Sciences LLC. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); Calico Life Sciences LLC. **K. Martin**: A. Employment/Salary (full or part-time); Calico Life Sciences LLC. **C. Other Research Support** (receipt of drugs, supplies, equipment or other in-kind support); Calico Life Sciences LLC.

657.09

C. Krarup: 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.; Collaborator drug study. **D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents** (e.g., speakers' bureaus); Speakers' bureau. **F. Consulting Fees** (e.g., advisory boards); Advisory board. **C. Holscher**: Other; Inventor of GLP-1/GIP analogue.

658.12

F. Baas: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); InteSpring.

659.08

A. Chenna: A. Employment/Salary (full or part-time); Monogram Biosciences Inc. **C.J. Petropoulos**: A. Employment/Salary (full or part-time); Monogram Biosciences Inc. **J.W. Winslow**: A. Employment/Salary (full or part-time); Monogram Biosciences Inc.

659.09

E.C. Leuthardt: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuroolutions, eQuility, Immunovallent, Inner Cosmos. **F. Consulting Fees** (e.g., advisory boards); Monteris Medical.

661.01

C. Schlumberger: A. Employment/Salary (full or part-time); Charles River Labs. **S. Cramp**: A. Employment/Salary (full or part-time); Charles River Labs. **N. Hamblin**: A. Employment/Salary (full or part-time); Charles River Labs. **A. Edwards**: A. Employment/Salary (full or part-time); Chief Executive, Structural Genomics Consortium, M4KPharma, Ontario Institute of Cancer Research. **O. Roberts**: A. Employment/Salary (full or part-time); Nobelex Biotech, M4K Pharma. **A. Bullock**: A. Employment/Salary (full or part-time); Structural Genomics Consortium, University of Oxford, M4KPharma. **P. Brennan**: A. Employment/Salary (full or part-time); University of Oxford.

661.02

J.T. Beckley: A. Employment/Salary (full or part-time); SiteOne Therapeutics. **H. Pajouhesh**: A. Employment/Salary (full or part-time); SiteOne Therapeutics. **G. Luu**: A. Employment/Salary (full or part-time); SiteOne Therapeutics. **S. Klas**: A. Employment/Salary (full or part-time); SiteOne Therapeutics. **D. Monteleone**: A. Employment/Salary (full or part-time); SiteOne Therapeutics. **X. Zhou**: A. Employment/Salary (full or part-time); SiteOne Therapeutics. **A. Delwig**: A. Employment/Salary (full or part-time); SiteOne Therapeutics. **D.C. Yeomans**: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SiteOne Therapeutics. **J.C. Hunter**: A. Employment/Salary (full or part-time); SiteOne Therapeutics. **J.V. Mulcahy**: A. Employment/Salary (full or part-time); SiteOne Therapeutics.

661.02

W.K. Samson: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent submitted by Saint Louis University that covers the intellectual property described in this abstract (WO2017011738). **G.L.C. Yosten**: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent submitted by Saint Louis University that covers the intellectual property described in this abstract (WO2017011738). **D. Salvemini**: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent submitted by Saint Louis University that covers the intellectual property described in this abstract (WO2017011738).

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
661.06	L.L. Chlan: A. Employment/Salary (full or part-time); Grant funding from the National Institutes of Health.		Center for Advanced Retinal and Ocular Therapeutics at University of Pennsylvania Perelman School of Medicine.
661.14	J. Ockuly: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroSolis, Inc. J. Beck: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroSolis, Inc. S. Hanson: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroSolis, Inc. M. Hendrickson: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroSolis, Inc..		A. Maguire: A. Employment/Salary (full or part-time); Center for Advanced Retinal and Ocular Therapeutics at University of Pennsylvania Perelman School of Medicine. J. Bennett: A. Employment/Salary (full or part-time); Center for Advanced Retinal and Ocular Therapeutics at University of Pennsylvania Perelman School of Medicine. M. Ashtari: A. Employment/Salary (full or part-time); Center for Advanced Retinal and Ocular Therapeutics at University of Pennsylvania Perelman School of Medicine.
661.15	J. Dolan: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Author John C. Dolan fabricates dolognawmeter assays for profit as the single-member limited liability company Gnatheon Scientific..	667.16	J.M. Malgady: A. Employment/Salary (full or part-time); Stony Brook Dept. of Neurobiology & Behavior, Stony Brook Center for Inclusive Education.
661.17	A.F. Alvarez: A. Employment/Salary (full or part-time); Karuna Labs. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Karuna Labs. J. Petros: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Karuna Labs. L. Nguyen: A. Employment/Salary (full or part-time); Karuna Labs. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Karuna Labs. M.S. Trujillo: A. Employment/Salary (full or part-time); Karuna Labs. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Karuna Labs.	668.07	M.J. Crossley: A. Employment/Salary (full or part-time); Senior Lecturer, Macquarie University. D.M. Kaplan: A. Employment/Salary (full or part-time); Deputy Head, Department of Cognitive Science, Macquarie University.
661.19	V. Maffre: A. Employment/Salary (full or part-time); ANS Biotech. C. Favre-Guilmar: A. Employment/Salary (full or part-time); Ipsen Innovation. M. Kalinichev: A. Employment/Salary (full or part-time); Ipsen Innovation. Y. Darbaky: A. Employment/Salary (full or part-time); ANS Biotech. L. Diop: A. Employment/Salary (full or part-time); ANS Biotech.	669.01	E.L. Barcikowski: F. Consulting Fees (e.g., advisory boards); Ripple Neuro, Inc. T.S. Davis: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent (WO2018026842A1). D.J. Warren: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent (WO2018026842A1; 8359083; 8639312). G.A. Clark: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent (WO2018026842A1; WO2018023026A1; 8359083; 8639312).
663.18	M.J. Schnitzer: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inscopix.	669.02	G.A. Clark: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Blackrock Microsystems. D.J. Warren: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Blackrock Microsystems.
665.01	J. Boasen: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); D-Box Technologies Inc. F. Giroux: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); D-Box Technologies Inc. M. Duchesneau: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); D-Box Technologies Inc. J. Ménard: A. Employment/Salary (full or part-time); D-Box Technologies Inc. M. Paquette: A. Employment/Salary (full or part-time); D-Box Technologies Inc. P. Leger: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); D-Box Technologies Inc..	669.14	D.J. Weber: F. Consulting Fees (e.g., advisory boards); Battelle Memorial Institute.
666.05	D.J. Tyler: A. Employment/Salary (full or part-time); Case Western Reserve University.	669.17	J.C. Landes: A. Employment/Salary (full or part-time); Ripple Neuro. B. Crofts: A. Employment/Salary (full or part-time); Ripple Neuro. S. Hiatt: A. Employment/Salary (full or part-time); Ripple Neuro. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ripple Neuro. D. McDonnall: A. Employment/Salary (full or part-time); Ripple Neuro. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ripple Neuro. A.M. Wilder: A. Employment/Salary (full or part-time); Ripple Neuro. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ripple Neuro.
666.09	T.G. Mowad: A. Employment/Salary (full or part-time); Center for Advanced Retinal and Ocular Therapeutics at University of Pennsylvania Perelman School of Medicine. A.E. Willett: A. Employment/Salary (full or part-time); Center for Advanced Retinal and Ocular Therapeutics at University of Pennsylvania Perelman School of Medicine. A. Dougal: A. Employment/Salary (full or part-time); Center for Advanced Retinal and Ocular Therapeutics at University of Pennsylvania Perelman School of Medicine. M. Mahmoudian: A. Employment/Salary (full or part-time); Center for Advanced Retinal and Ocular Therapeutics at University of Pennsylvania Perelman School of Medicine. M. Duong: A. Employment/Salary (full or part-time); Center for Advanced Retinal and Ocular Therapeutics at University of Pennsylvania Perelman School of Medicine. M. Lipin: A. Employment/Salary (full or part-time);	669.18	B. Mukherjee: A. Employment/Salary (full or part-time); George Mason University. A. Dhawan: A. Employment/Salary (full or part-time); George Mason University. S. Patwardhan: A. Employment/Salary (full or part-time); George Mason University. S. Sikdar: A. Employment/Salary (full or part-time); George Mason University.
		670.10	D.T. Kluger: A. Employment/Salary (full or part-time); Blackrock Microsystems.
		670.13	I.N. McNamara: A. Employment/Salary (full or part-time); Paradromics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Paradromics.
		670.14	H. Sohal: A. Employment/Salary (full or part-time); paradromics inc. M. Straka: A. Employment/Salary (full or part-time); paradromics inc. M. Hanna: A. Employment/Salary (full or part-time); paradromics inc. K. Sahasrabuddhe: A. Employment/Salary (full or part-time); paradromics inc. I. McNamara: A. Employment/Salary (full or part-time); paradromics inc. K. Boergens: A. Employment/Salary (full or part-time); paradromics inc. R.J. Edgington: A. Employment/Salary (full or part-time);

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	paradromics inc. A. Khan: A. Employment/Salary (full or part-time); paradromics inc. Y. Kong: A. Employment/Salary (full or part-time); paradromics inc. M.R. Angle: A. Employment/Salary (full or part-time); paradromics inc.		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 PASCALL, a start-up company., Drs. Brown and Purdon hold interests in PASCALL, a start-up company developing EEG-based anesthetic state control systems for anesthesiology. F.J. Flores: A. Employment/Salary (full or part-time); Massachusetts General Hospital.
670.15	P.R. Kennedy: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 98%.		
670.18	W.E. Voit: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Qualia Labs, Inc..	678.10	J.T. McKenna: A. Employment/Salary (full or part-time); Merck MISP. 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.
670.20	D.J. Warren: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent: WO2018026842A1, Patent: 8359083, Patent: 8639312. G.A. Clark: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent: WO2018026842A1, Patent: 8359083, Patent: 8639312, Patent: WO2018023026A1.	682.02	A. Hernandez-Coss: 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.; Productos Medix 3247. M. Hernandez Luna: 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.; Productos Medix 3247. R. Gutierrez: 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.; Productos Medix 3247.
674.10	K.J. Tracey: F. Consulting Fees (e.g., advisory boards); Dr. Tracey is a consultant and co-founder of SetPoint Medical..	684.03	C.A. Zarate: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NIH.
676.05	T.G. Dinan: 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.; Has received research funding from Dupont Nutrition Biosciences APS, Cremo SA, Alkermes Inc., 4D Pharma PLC, Mead Johnson Nutrition, Nutricia Danone, and Suntory Wellness. J. Cryan: 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.; Has received research funding from Dupont Nutrition Biosciences APS, Cremo SA, Alkermes Inc., 4D Pharma PLC, Mead Johnson Nutrition, Nutricia Danone, and Suntory Wellness.	684.10	Y. Liu: A. Employment/Salary (full or part-time); Blackthorn Therapeutics. P. Ahammad: A. Employment/Salary (full or part-time); Blackthorn Therapeutics. D.A. Pizzagalli: F. Consulting Fees (e.g., advisory boards); Blackthorn Therapeutics, Akili Interactive Labs, Boehringer Ingelheim, Posit Science, Takeda Pharmaceuticals. Other; Alkermes.
676.06	T. Dinan: 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.; Mead Johnson, Cremo, Suntory Wellness, Nutricia, 4D Pharma, DuPont. J. Cryan: 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.; Mead Johnson, Cremo, Suntory Wellness, Nutricia, 4D Pharma, DuPont.	684.14	H.S. Mayberg: Other; Consulting agreement with St Jude Medical (now Abbott), which has licensed intellectual property to develop SCC DBS for treatment of depression.
677.09	M.E. Pizzo: A. Employment/Salary (full or part-time); Denali Therapeutics. R. Thorne: A. Employment/Salary (full or part-time); Denali Therapeutics.	684.16	J.K. Gollan: F. Consulting Fees (e.g., advisory boards); Pear Therapeutics.
677.12	L. Ehlert: 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 NR-015038.	685.08	P. Zanos: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-inventor on a patent application for the use of (2R,6R)-hydroxynorketamine in the treatment of depression, anxiety, anhedonia, suicidal ideation, and posttraumatic stress disorders. T.D. Gould: 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.; Allergan Pharmaceuticals, Janssen Pharmaceuticals, Roche Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-inventor on a patent application for the use of (2R,6R)-hydroxynorketamine in the treatment of depression, anxiety, anhedonia, suicidal ideation, and posttraumatic stress disorders.. F. Consulting Fees (e.g., advisory boards); FSV7 LLC.
678.01	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. E.N. Brown: A. Employment/Salary (full or part-time); MGH and 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.; NIH R01 GM104948, NIH P01GM118269, the Department of Anesthesia, Critical Care and Pain Medicine, Massachusetts General Hospital, Boston, MA, The Picower Institute for Learning	685.10	S.W. Sutton: A. Employment/Salary (full or part-time); Janssen Research & Development. B. Lord: A. Employment/Salary (full or part-time); Janssen Research & Development. T.W. Lovenberg: A. Employment/Salary (full or part-time); Janssen Research & Development. P. Bonaventure: A. Employment/Salary (full or part-time); Janssen Research & Development.
		686.02	S. Wilson: A. Employment/Salary (full or part-time); GlaxoSmithKline.

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
686.10	S. Grignon: 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, HLS pharmaceuticals.	692.26	R. Abraham: A. Employment/Salary (full or part-time); Suven Life Sciences. S. Daripelli: A. Employment/Salary (full or part-time); Suven Life Sciences. V. Benade: A. Employment/Salary (full or part-time); Suven Life Sciences. C. Thirumalasetty: A. Employment/Salary (full or part-time); Suven Life Sciences. G. Bhyrapuneni: A. Employment/Salary (full or part-time); Suven Life Sciences. P. Jayarajan: A. Employment/Salary (full or part-time); Suven Life Sciences. R. Nirogi: A. Employment/Salary (full or part-time); Suven Life Sciences.
686.13	L. Asatryan: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Liana Asatryan is an inventor on patent for use of IVM for treatment of alcohol use disorders. D.L. Davies: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Daryl L. Davies is an inventor on patent for use of IVM for treatment of alcohol use disorders.	695.25	R.P. Reddy: A. Employment/Salary (full or part-time); Faculty at National Institute of Mental Health and Neurosciences, an Institute of National Importance, Govt of India. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Department of Science and Technology, Govt of India.
688.02	G.A. Barr: A. Employment/Salary (full or part-time); Department of Psychology, University of Pennsylvania. A.J. Eisch: A. Employment/Salary (full or part-time); Department of Neuroscience, Perelman School of Medicine, University of Pennsylvania.	698.08	G.A. Worrell: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cadence Neuroscience Inc., NeuroOne Inc..
688.11	A. Steimetz: A. Employment/Salary (full or part-time); CAPES. M.M. Vieira da Cunha: A. Employment/Salary (full or part-time); CNPQ. J. Saffi: A. Employment/Salary (full or part-time); CNPQ. L. Freese: A. Employment/Salary (full or part-time); CAPES.	699.09	L. Dubreuil-Vall: A. Employment/Salary (full or part-time); Neuroelectrics Corporation. G. Ruffini: A. Employment/Salary (full or part-time); Neuroelectrics Corporation. J.A. Camprodon: F. Consulting Fees (e.g., advisory boards); Apex Neuroscience.
689.04	P.P. Kulkarni: A. Employment/Salary (full or part-time); Northeastern University. C.F. Ferris: A. Employment/Salary (full or part-time); Northeastern University. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NIDA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Animal Imaging Research.	699.12	R.S. Gupta: A. Employment/Salary (full or part-time); Osher Center for Integrative Medicine. E.M. Mohr: 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.
689.05	C.F. Hohmann: A. Employment/Salary (full or part-time); Morgan State University. J. Coleman: A. Employment/Salary (full or part-time); Northeastern University. P. Kulkarni: A. Employment/Salary (full or part-time); Northeastern University. C.F. Ferris: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Animal Imaging Research.	699.16	A.M. Harris: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Jaguar Land Rover. J.O. Eayrs: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Jaguar Land Rover. N. Lavie: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Jaguar Land Rover.
689.10	A. Alhassan: 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.; Ahmadu Bello University.	699.23	J. Snider: A. Employment/Salary (full or part-time); BrainLeap Technologies. L. Chukoskie: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BrainLeap Technologies. J. Townsend: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BrainLeap Technologies.
689.13	H.M. Harris: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Emerald Biosciences. W. Gul: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Emerald Biosciences. M. ElSohly: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Emerald Biosciences. K.J. Sufka: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Emerald Biosciences.	700.10	C. Graversen: A. Employment/Salary (full or part-time); Eriksholm Research Centre - part of Oticon. E. Alickovic: A. Employment/Salary (full or part-time); Eriksholm Research Centre - part of Oticon. D. Wendt: A. Employment/Salary (full or part-time); Eriksholm Research Centre - part of Oticon. T.S. Ala: A. Employment/Salary (full or part-time); Eriksholm Research Centre - part of Oticon. L. Fiedler: A. Employment/Salary (full or part-time); Eriksholm Research Centre - part of Oticon. R.K. Hietkamp: A. Employment/Salary (full or part-time); Eriksholm Research Centre - part of Oticon. T. Lunner: A. Employment/Salary (full or part-time); Eriksholm Research Centre - part of Oticon.
690.18	S.E. Lesné: 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.; S.E.L. is a scientific consultant for Acelot Inc. D.B. Dubal: 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.; D.B.D. has consulted for Unity Biotechnology. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Klotho is the subject of a pending international patent filed by the Regents of the University of California.	702.06	M.M.P. Lufino: A. Employment/Salary (full or part-time); ORYZON GENOMICS S.A. C. Mascaró: A. Employment/Salary (full or part-time); ORYZON GENOMICS S.A. D. Rotllant: A. Employment/Salary (full or part-time); ORYZON GENOMICS S.A. C. Buesa: A. Employment/Salary (full or part-time); ORYZON GENOMICS S.A.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ORYZON GENOMICS S.A. T. Maes: A. Employment/Salary (full or part-time); ORYZON GENOMICS S.A.. E. Ownership Interest (stock, stock

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	options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ORYZON GENOMICS S.A..
702.16	A. Horton: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Psyneurgy Pharmaceuticals.
703.05	F. Huhn: A. Employment/Salary (full or part-time); Employee of Rapp Optoelectronic. G. Rapp: A. Employment/Salary (full or part-time); Head of Rapp Optoelectronic.
703.17	O. Sirenko: A. Employment/Salary (full or part-time); full time employment, Molecular Devices. C. Crittenden: A. Employment/Salary (full or part-time); Employment, Molecular Devices. F. Zanella: A. Employment/Salary (full or part-time); full time employment, StemoniX. R. Gordon: A. Employment/Salary (full or part-time); Employment, StemoniX. C. Carromeu: A. Employment/Salary (full or part-time); Employment, StemoniX.
703.21	T.J. Gardner: A. Employment/Salary (full or part-time); Neuralink, Inc.
703.22	E.M.C. Hillman: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Leica Microsystems. F. Consulting Fees (e.g., advisory boards); Leica Microsystems.
703.27	S. Gulati: A. Employment/Salary (full or part-time); Inscopix. D. Cheng: A. Employment/Salary (full or part-time); Inscopix. J.J. Nassi: A. Employment/Salary (full or part-time); Inscopix. A.M. Stamatakis: A. Employment/Salary (full or part-time); Inscopix.
704.04	I. Barbiero: A. Employment/Salary (full or part-time); University of Insubria. M. Cunningham: A. Employment/Salary (full or part-time); Trinity College Dublin. C. Kilstrup-Nielsen: A. Employment/Salary (full or part-time); University of Insubria. M. Bianchi: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ulysses Neuroscience Limited.
704.05	M. Matloka: A. Employment/Salary (full or part-time); Celon Pharma S.A.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Celon Pharma S.A. S. Janowska: A. Employment/Salary (full or part-time); Celon Pharma S.A. J. Sierzputowska: A. Employment/Salary (full or part-time); Celon Pharma S.A. K. Jarus-Dziedzic: 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 of Contracted Research. J. Pieczykolan: A. Employment/Salary (full or part-time); Celon Pharma S.A. M. Wieczorek: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Celon Pharma S.A..
704.06	M.S. Mellem: A. Employment/Salary (full or part-time); BlackThorn Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. Y. Liu: A. Employment/Salary (full or part-time); BlackThorn Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. H. Gonzalez: A. Employment/Salary (full or part-time); BlackThorn Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. M.E. Kollada: A. Employment/Salary (full or part-time); BlackThorn Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. W.J. Martin: A. Employment/Salary (full or part-time); BlackThorn Therapeutics. E.

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	Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. P. Ahammad: A. Employment/Salary (full or part-time); BlackThorn Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics.
704.08	S. Janowska: A. Employment/Salary (full or part-time); Celon Pharma S.A. K. Jarus-Dziedzic: 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 of Contracted Research. J. Sierzputowska: A. Employment/Salary (full or part-time); Celon Pharma S.A. M. Matloka: A. Employment/Salary (full or part-time); Celon Pharma S.A.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Celon Pharma S.A. M. Wieczorek: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Celon Pharma S.A..
704.12	N. Dedic: A. Employment/Salary (full or part-time); Sunovion Pharmaceuticals Inc. P.G. Jones: A. Employment/Salary (full or part-time); Sunovion Pharmaceuticals Inc. S.C. Hopkins: A. Employment/Salary (full or part-time); Sunovion Pharmaceuticals Inc. R. Lew: A. Employment/Salary (full or part-time); Sunovion Pharmaceuticals Inc. T. Hanania: A. Employment/Salary (full or part-time); Psychogenics Inc. K.S. Koblan: A. Employment/Salary (full or part-time); Sunovion Pharmaceuticals Inc..
704.16	R. Heilker: A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma GmbH & Co. KG. S. Traub: A. Employment/Salary (full or part-time); Trenzyme GmbH. D. Bischoff: A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma GmbH & Co. KG.
704.17	I. Buchler: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder. J.C. Barrow: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder.
706.02	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.
706.06	R. Miikkulainen: A. Employment/Salary (full or part-time); Cognizant.
706.12	P.L. Purdon: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PASACALL. 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.; R01 GM104948, P01GM118269. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PASACALL.
706.14	G. Patil: A. Employment/Salary (full or part-time); University of Rochester. C.L. Schneider: A. Employment/Salary (full or part-time); University of Rochester School of Medicine and Dentistry, Carnegie Mellon University. B. Sahin: A. Employment/Salary (full or part-time); 4. University of Rochester Medical Center. B.Z. Mahon: A. Employment/Salary (full or part-time); Carnegie Mellon University.

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706.19	E.S. Boyden: A. Employment/Salary (full or part-time); MIT. E.N. Brown: A. Employment/Salary (full or part-time); MG and 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.; NIH: R01 GM104948 (to E.N.B.) and P01GM118269 (to E.N.B.); the Department of Anesthesia, Critical Care and Pain Medicine, MGH, & the Picower Institute for Learning and Memory, MIT. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MGH has licensed IP for EEG monitoring developed by E.N.B. to Masimo. E.N.B. holds interest in PASCALL, a start-up company developing EEG-based anesthetic state control systems for anesthesiology. F.J. Flores: A. Employment/Salary (full or part-time); MGH.		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.; Agilent Technologies. Y. Kam: A. Employment/Salary (full or part-time); Agilent Technologies. N. Jastromb: A. Employment/Salary (full or part-time); Agilent Technologies.
707.02	J. Vollert: F. Consulting Fees (e.g., advisory boards); Casqar.	731.14	M. Kotter: A. Employment/Salary (full or part-time); Elpis Biomed Ltd.
707.07	M. Maddah: A. Employment/Salary (full or part-time); Dana Solutions. K. Loewke: A. Employment/Salary (full or part-time); Dana Solutions. H. Truong: A. Employment/Salary (full or part-time); Gilead. H. Yu: A. Employment/Salary (full or part-time); Gilead.	732.07	K. Prydz: 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.; Norwegian Science Foundation (NRF) BrainMarix Grant NRF250259). A. Malthe-Sørensen: 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.; Norwegian Science Foundation (NRF) BrainMarix Grant NRF250259). G.T. Einevoll: 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.; Norwegian Science Foundation (NRF) BrainMarix Grant NRF250259). M. Fyhn: 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.; Norwegian Science Foundation (NRF) BrainMarix Grant NRF250259).
710.05	B. Stevens: A. Employment/Salary (full or part-time); HHMI, Investigator. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SAB, Annexon Biosciences; minor shareholder.	732.10	B.A. Stevens: F. Consulting Fees (e.g., advisory boards); Annexon Biosciences.
722.07	K. Takahashi: A. Employment/Salary (full or part-time); NeuroNexus. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NeuroNexus.	732.11	M.E. Greenberg: F. Consulting Fees (e.g., advisory boards); MEG is a member of the Board of Directors for Allergan and is on the advisory boards of Decibel and Amgen.
722.09	S. Sheshadri: A. Employment/Salary (full or part-time); German Primate Center, Neurobiology Lab, Goettingen, Germany, Department of Biology and Psychology, University of Goettingen, Germany. B. Dann: A. Employment/Salary (full or part-time); German Primate Center, Neurobiology lab, Goettingen, Germany. H. Scherberger: A. Employment/Salary (full or part-time); German Primate Center, Neurobiology Lab, Goettingen, Germany, Department of Biology and Psychology, University of Goettingen, Germany.	732.12	B.A. Stevens: F. Consulting Fees (e.g., advisory boards); Annexon Biosciences.
725.04	P.M. Thompson: 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, Inc. N. Jahanshad: 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, Inc..	736.10	K. Alizadeh: A. Employment/Salary (full or part-time); Kansas INBRE.
729.13	R.A. Segal: F. Consulting Fees (e.g., advisory boards); Amgen, Decibel Therapeutics, Allergan.	738.11	E. Samarut: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); DanioDesign, Modelis inc..
731.01	M. Anderson: A. Employment/Salary (full or part-time); Bio-Techne. X. Lu: A. Employment/Salary (full or part-time); Bio-Techne. S. Tousey: A. Employment/Salary (full or part-time); Bio-Techne. D. Galitz: A. Employment/Salary (full or part-time); Bio-Techne. S. Degese: A. Employment/Salary (full or part-time); Bio-Techne. J. Van Etten: A. Employment/Salary (full or part-time); Bio-Techne. C. Heger: A. Employment/Salary (full or part-time); Bio-Techne. C. Haitjema: A. Employment/Salary (full or part-time); Bio-Techne. K.C. Flynn: A. Employment/Salary (full or part-time); Bio-Techne.	739.01	T. Maurice: F. Consulting Fees (e.g., advisory boards); Zogenix Inc. A. Gammaitoni: A. Employment/Salary (full or part-time); Zogenix Inc. B.S. Galer: A. Employment/Salary (full or part-time); Zogenix Inc. P. Martin: A. Employment/Salary (full or part-time); Zogenix Inc..
731.02	P. Walsh: A. Employment/Salary (full or part-time); Anatomy Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Anatomy Corp. V. Truong: A. Employment/Salary (full or part-time); Anatomy Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Anatomy Corp.	739.18	S.M. Melnick: A. Employment/Salary (full or part-time); SK Life Science, Inc. H. Shin: A. Employment/Salary (full or part-time); SK Biopharmaceuticals, Co., Ltd. C. Roucard: 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.; CEO of CRO hired by SK Life Science, Inc. K. Glenn: A. Employment/Salary (full or part-time); SK Life Science, Inc..
731.12	E. Szabo: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or	739.19	S. Chamberland: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); GW Pharmaceuticals. R.W. Tsien: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); GW Pharmaceuticals.
		739.20	A. Bertran: A. Employment/Salary (full or part-time); Iproteos S.L. T. Tarragó: A. Employment/Salary (full or part-time); Iproteos S.L.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Iproteos S.L., Patent WO2017/085034 A1, "Gelatinase inhibitors and use thereof". R. Prades: A. Employment/Salary (full or part-time); Iproteos S.L..

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740.12	S.J. Birren: A. Employment/Salary (full or part-time); Brandeis 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.; by National Institute of Neurological Disorders and Stroke Grants RO1 NS-066977, R01 NS-057305, P30 NS-45713.		excluding diversified mutual funds); Deep Brain Innovations LLC, NDI Healthcare Fund. F. Consulting Fees (e.g., advisory boards); Cala Health, Inc.
741.17	D. Baker: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Unity Biotechnology.	743.13	S. Chetal: A. Employment/Salary (full or part-time); 4D Pharma Research Ltd. A. Ettore: A. Employment/Salary (full or part-time); 4D Pharma Research Ltd. I.E. Mulder: A. Employment/Salary (full or part-time); 4D Pharma Research Ltd..
741.27	D.A. Llano: A. Employment/Salary (full or part-time); University of Illinois at Urbana-Champaign, Carle Hospital. C. Ma: A. Employment/Salary (full or part-time); University of Illinois at Chicago and Conversant LLC. A. Taheri: A. Employment/Salary (full or part-time); University of Illinois at Chicago. U. Di Fabrizio: A. Employment/Salary (full or part-time); University of Illinois at Chicago, BOOM Imagestudio. K. Stebbings: A. Employment/Salary (full or part-time); MD Anderson. G. Yuditsev: A. Employment/Salary (full or part-time); University of Illinois at Urbana-Champaign. R.V. Kenyon: A. Employment/Salary (full or part-time); University of Illinois at Chicago. T.Y. Berger-Wolf: A. Employment/Salary (full or part-time); University of Illinois at Chicago.	743.17	S. Flunkert: A. Employment/Salary (full or part-time); QPS Austria GmbH. S. Schmidt: A. Employment/Salary (full or part-time); Pronexus Analytical AB. T. Loeffler: A. Employment/Salary (full or part-time); QPS Austria GmbH. V. Niederkofler: A. Employment/Salary (full or part-time); QPS Austria GmbH. J. Neddens: A. Employment/Salary (full or part-time); QPS Austria GmbH. M. Posch: A. Employment/Salary (full or part-time); QPS Austria GmbH. E. Auer: A. Employment/Salary (full or part-time); QPS Austria GmbH. J. Kehr: A. Employment/Salary (full or part-time); Pronexus Analytical AB. B. Hutter-Paier: A. Employment/Salary (full or part-time); QPS Austria GmbH.
742.01	E. Bezard: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Motac Holding, Treefrog Therapeutics. F. Consulting Fees (e.g., advisory boards); Motac neuroscience.	743.24	R. Polt: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); i.p. holder. T. Falk: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); i.p. holder.
742.02	G. Porras: A. Employment/Salary (full or part-time); Motac neuroscience. E. Bezard: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Motac Holding. F. Consulting Fees (e.g., advisory boards); Motac neuroscience.	745.05	M. Dichgans: A. Employment/Salary (full or part-time); Cluster for Systems Neurology.
742.03	E. Bezard: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Motac Holding, Treefrog Therapeutics. F. Consulting Fees (e.g., advisory boards); Motac neuroscience.	745.29	A.M. Bedolla: A. Employment/Salary (full or part-time); University of Cincinnati. F. Luo: A. Employment/Salary (full or part-time); University of Cincinnati. A. Casey: A. Employment/Salary (full or part-time); University of Cincinnati. Y. Luo: A. Employment/Salary (full or part-time); University of Cincinnati.
742.09	M. Ambjorn: A. Employment/Salary (full or part-time); H. Lundbeck A/S. N. Damsgaard: A. Employment/Salary (full or part-time); H. Lundbeck A/S. M. Lubas: A. Employment/Salary (full or part-time); H. Lundbeck A/S. K. Fog: A. Employment/Salary (full or part-time); H. Lundbeck A/S.	746.01	A.K. Leonard: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NIDA Drug Supply Program, The Groff Charitable Trust. N.J. Sandstrom: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); The Groff Charitable Trust. M.M. Clasen: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NIDA Drug Supply Program, The Groff Charitable Trust.
743.03	M. Parmar: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Parmar Cells AB, U.S. patent application 15/093,927, EP17181588.	747.11	Y.P. Gerasimenko: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); inventorship rights on intellectual property, Regents of the University of California to NeuroRecovery Technologies and its subsidiaries, shareholder, NeuroRecovery Technologies.
743.04	K.S. Ho: A. Employment/Salary (full or part-time); Clene Nanomedicine, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Clene Nanomedicine, Inc. M.T. Hotchkiss: A. Employment/Salary (full or part-time); Clene Nanomedicine, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Clene Nanomedicine, Inc. M.G. Mortenson: A. Employment/Salary (full or part-time); Clene Nanomedicine, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Clene Nanomedicine, Inc..	748.15	S. Kuo: 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.; Boston Scientific Corporation. T. Zhang: A. Employment/Salary (full or part-time); Boston Scientific Corporation. W.M. Grill: 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.; Boston Scientific Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific Corporation. F. Consulting Fees (e.g., advisory boards); Boston Scientific Corporation.
743.08	M.M. Lowery: 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 project is supported by Science Foundation Ireland (SFI) and the European Regional Development Fund (Grant Number 13/RC/2073) and the European Research Council (Grant Number ERC-2014-CoG-646923)..	748.17	C.J. Kelly: A. Employment/Salary (full or part-time); Aptinix. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinix. J.R. Moskal: A. Employment/Salary (full or part-time); Aptinix. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinix. C.N. Cearley: A. Employment/Salary (full or part-time); Aptinix. E.
743.11	W.M. Grill: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder,		

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	Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx.	759.02	M.A. Nitsche: F. Consulting Fees (e.g., advisory boards); scientific Advisory Board Neuroelectrics.
748.24	N.D. Titus: 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.; Boston Scientific Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific Corporation. J.E. Gilbert: 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.; Boston Scientific Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific Corporation. T.C. Zhang: A. Employment/Salary (full or part-time); Boston Scientific Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific Corporation. W.M. Grill: 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.; Boston Scientific Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific Corporation. F. Consulting Fees (e.g., advisory boards); Boston Scientific Corporation.	759.05	A. Oliviero: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurek SL. G. Foffani: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurek SL.
		759.14	M.P. Kilgard: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MicroTransponder, Inc.
		759.17	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. 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.
		759.25	W.G. Besio: A. Employment/Salary (full or part-time); CRE Medical. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CRE Medical.
748.25	J.E. Gilbert: 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.; Boston Scientific Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific Corporation. N.D. Titus: 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.; Boston Scientific Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific Corporation. T. Zhang: A. Employment/Salary (full or part-time); Boston Scientific Corporation. W.M. Grill: 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.; Boston Scientific Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific Corporation. F. Consulting Fees (e.g., advisory boards); Boston Scientific Corporation.	760.02	A.R. Carter: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Neurolutions, Inc. E.C. Leuthardt: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Neurolutions, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurolutions, Inc..
		760.03	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.
		760.28	N. Vysokov: A. Employment/Salary (full or part-time); BrainPatch. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BrainPatch. I. Tarasenko: A. Employment/Salary (full or part-time); BrainPatch. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BrainPatch. M. Oganasyan: A. Employment/Salary (full or part-time); BrainPatch. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BrainPatch.
		761.01	K.E. Finn: Other; Second Sight Medical Products Inc. J.D. Weiland: Other; Second Sight Medical Products Inc..
749.15	R. Khanna: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regulonix Holding Inc..	761.02	D. Haji Ghaffari: Other; Second Sight Medical. K.E. Finn: Other; Second Sight Medical. V.E. Jegannathan: Other; Second Sight Medical. J.D. Weiland: Other; Second Sight Medical.
750.19	Y. Ohta: A. Employment/Salary (full or part-time); Nara Institute of Science and Technology. M. Haruta: A. Employment/Salary (full or part-time); Nara Institute of Science and Technology. K. Sasagawa: A. Employment/Salary (full or part-time); Nara Institute of Science and Technology. J. Ohta: A. Employment/Salary (full or part-time); Nara Institute of Science and Technology.	761.03	W.H. Bosking: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Second Sight Medical Products. D.N. Oswalt: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Second Sight Medical Products. P. Sun: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Second Sight Medical Products. U.K. Patel: A. Employment/Salary (full or part-time); Second Sight Medical Products. M. Armenta Salas: A. Employment/Salary (full or part-time); Second Sight Medical Products. C. Cruz: A. Employment/
754.19	J. Reimer: A. Employment/Salary (full or part-time); Vathes LLC. A.S. Tolia: A. Employment/Salary (full or part-time); Vathes LLC.		

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	Salary (full or part-time); Second Sight Medical Products. A. Fazio: A. Employment/Salary (full or part-time); Second Sight Medical Products. J.D. Dorn: A. Employment/Salary (full or part-time); Second Sight Medical Products. D. Yoshor: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Second Sight Medical Products.		E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nerves Incorporated.
761.04	U.K. Patel: A. Employment/Salary (full or part-time); Second Sight Medical Products, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Second Sight Medical Products, Inc. M. Armenta Salas: A. Employment/Salary (full or part-time); Second Sight Medical Products, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Second Sight Medical Products, Inc. V. Wuyyuru: A. Employment/Salary (full or part-time); Second Sight Medical Products, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Second Sight Medical Products, Inc. M.P. Barry: A. Employment/Salary (full or part-time); Second Sight Medical Products, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Second Sight Medical Products, Inc. J.D. Dorn: A. Employment/Salary (full or part-time); Second Sight Medical Products, Inc.. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Second Sight Medical Products, Inc..	762.10	K.G. Gruben: Other; K Gruben has ownership interest in KIINCE LLC which develops rehabilitation technology..
761.05	D. Oswalt: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Second Sight Medical Products. W.H. Bosking: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Second Sight Medical Products. P. Sun: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Second Sight Medical Products. U.K. Patel: A. Employment/Salary (full or part-time); Second Sight Medical Products. M. Armenta Salas: A. Employment/Salary (full or part-time); Second Sight Medical Products. J.D. Dorn: A. Employment/Salary (full or part-time); Second Sight Medical Products. M. Beauchamp: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Second Sight Medical Products. D. Yoshor: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Second Sight Medical Products.	762.18	F.B. Horak: A. Employment/Salary (full or part-time); APDM. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); APDM. F. Consulting Fees (e.g., advisory boards); Biogen, Sanofi, Takeda, Neuropore Therapies Inc.
761.06	M. Armenta Salas: A. Employment/Salary (full or part-time); Second Sight Medical Products. U.K. Patel: A. Employment/Salary (full or part-time); Second Sight Medical Products. M.P. Barry: A. Employment/Salary (full or part-time); Second Sight Medical Products. V. Wuyyuru: A. Employment/Salary (full or part-time); Second Sight Medical Products. J.D. Dorn: A. Employment/Salary (full or part-time); Second Sight Medical Products. D. Yoshor: 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.; Second Sight Medical Products. N. Pouratian: F. Consulting Fees (e.g., advisory boards); Second Sight Medical Products.	762.19	F.B. Horak: A. Employment/Salary (full or part-time); APDM. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); APDM. F. Consulting Fees (e.g., advisory boards); Sanofi, Biogen, Takeda, Neuropore Therapies, Inc..
761.08	T.S. Davis: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent: WO2018026842A1. G.A. Clark: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent: WO2018026842A1, Patent: WO2018023026A1, Patent: 8359083, Patent: 8639312.	762.20	F. Horak: A. Employment/Salary (full or part-time); APDM. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); APDM. F. Consulting Fees (e.g., advisory boards); Sanofi, Takeda, Biogen, Neuropore Therapies, Inc.
761.12	E.W. Keefer: A. Employment/Salary (full or part-time); Nerves Incorporated. C. Overstreet: A. Employment/Salary (full or part-time); Nerves Incorporated. J. Cheng:	762.21	M. El Gohary: Other; APDM. F.B. Horak: Other; APDM.
		764.03	M. Koh: A. Employment/Salary (full or part-time); Northeastern University. S. Yen: A. Employment/Salary (full or part-time); Northeastern University. L.Y. Leung: A. Employment/Salary (full or part-time); Tufts 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.; Tufts CTSI Pilot Studies Program. S. Gans: A. Employment/Salary (full or part-time); Tufts Medical Center. Y. Adibnia: A. Employment/Salary (full or part-time); Tufts Medical Center. M. Pavel: A. Employment/Salary (full or part-time); Northeastern University. C.J. Hasson: 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.; Northeastern Univ. Internal Grant, Tufts CTSI Pilot Studies Program.
		764.06	J.J. Sosnoff: 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.; Johnson & Johnson, Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); MC10, Inc.. F. Consulting Fees (e.g., advisory boards); Abbvie, Inc.
		764.12	S.J. Chavez: A. Employment/Salary (full or part-time); School of Social Work, College of Health and Human Services, San Diego State University, 5500 Campanile Drive, San Diego, CA 92182, USA. S.M. Soria: A. Employment/Salary (full or part-time); School of Exercise and Nutritional Sciences, College of Health and Human Services, San Diego State University, 5500 Campanile Drive, San Diego, CA 92182, USA. K. Manyak: A. Employment/Salary (full or part-time); Department of Athletics, San Diego State University, San Diego, CA 92182, USA. A.J. Kovacs: A. Employment/Salary (full or part-time); Department of Exercise and Sport Science, University of Wisconsin - La Crosse, La Crosse, WI 54601, USA. D.J. Goble: A. Employment/Salary (full or part-time); School of Health Sciences, Oakland University, Rochester, MI. H.S. Baweja: A. Employment/Salary (full or part-time); Doctor of Physical Therapy Program, College of Health and Human Services, San Diego State University, 5500 Campanile Drive, San Diego, CA 92182, USA.
		764.13	B. Shiwani: A. Employment/Salary (full or part-time); Delsys Inc. and ALtec Inc., USA. S.H. Roy: A. Employment/Salary (full or part-time); Delsys Inc. and Altec Inc. USA. P. Contessa: A. Employment/Salary (full or part-time); Delsys Inc. and Altec Inc., USA. G. De Luca: A. Employment/

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	Salary (full or part-time); Delsys Inc. and Altec Inc., USA. J.C. Kline: A. Employment/Salary (full or part-time); Delsys Inc. and Altec Inc. USA.	771.07	E.N. Boyden: F. Consulting Fees (e.g., advisory boards); Cognito Therapeutics. E.S. Brown: F. Consulting Fees (e.g., advisory boards); Cognito Therapeutics. L.H. Tsai: F. Consulting Fees (e.g., advisory boards); Cognito Therapeutics.
764.20	S.E. Bowen: 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.; Center for Urban Responses to Environmental Stressors (CURES).	772.18	M.S. Fanselow: Other; founding board member and Director of Research for Neurovation Labs, Inc., which is developing diagnostic and treatment tools for Post-Traumatic Stress Disorder.
764.28	Y. Gerasimenko: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies. V.R. Edgerton: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies, SpineX.	772.19	M.S. Fanselow: Other; Director of research at Neurovation labs.
764.29	Y. Gerasimenko: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies. V. Edgerton: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies.	775.01	A.A. Grace: F. Consulting Fees (e.g., advisory boards); A.A. Grace has received funds from Lundbeck, Pfizer, Otsuka, Lilly, Roche, Asubio, Abbott, Autofony, Janssen, Alkermes, Newron, and Takeda..
768.13	H. Zhang: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Opticent Health.	777.20	E.L. Sabban: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Provisional patent holder, Ownership in StressOut Inc.
768.19	D. Okuda: F. Consulting Fees (e.g., advisory boards); received lecture fees from Acorda, Genzyme, and TEVA Neuroscience, consulting, advisory board fees from EMD Serono, Genentech, Genzyme, Novartis, TEVA Neuroscience, and research support from Biogen.	777.23	A.A. Grace: F. Consulting Fees (e.g., advisory boards); Dr. Grace received consultant fees from Lundbeck, Pfizer, Otsuka, Asubio, Autofony, and Janssen, and is on the advisory board for Alkermes, Newron and Takeda..
768.21	G.A. Devenyi: F. Consulting Fees (e.g., advisory boards); GAD performs consulting services for MIAC AG.	778.16	A. Mohammed: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. N. Bogaraju: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. R. Palacharla: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. S. Daripelli: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. S. Gandipudi: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. P. Jayarajan: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. R. Nirogi: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd..
768.25	D. Sivakolundu: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Has a patent pending related to the work presented here. K. West: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Has a patent pending related to the work presented here. D. Okuda: F. Consulting Fees (e.g., advisory boards); Received lecture fees from Acorda, Genzyme, and TEVA Neuroscience, consulting and advisory board fees from EMD Serono, Genentech, Genzyme, Novartis and TEVA Neuroscience, and research support from Bi. B.P. Rypma: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Has a patent pending related to the work presented here.	778.24	N.G.J. Daniel: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ioniche Global Development, LLC. D.T.G. Daniel: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ioniche Global Development, LLC. D.G. Daniel: A. Employment/Salary (full or part-time); ioniche Global Development, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Bioniche Global Development, LLC. L.C. Flynn: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ioniche Global Development, LLC. M. Allen: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ioniche Global Development.
770.03	E. Beaumont: 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 RO1-HL-141560.	779.07	R. Segman: A. Employment/Salary (full or part-time); Molecular Psychiatry Laboratory - Department of Psychiatry, Hadassah - Hebrew University Medical center, Jerusalem, Israel,, The Herman-Danna Division of Pediatric Psychiatry, Department of Psychiatry, Hadassah - Hebrew University Medical Center; Jerusalem Israel, *Dept. of Mental Healthy. Israel Def. Forces., Jerusalem, I.
770.07	R.L. Bernat: A. Employment/Salary (full or part-time); Signal Solutions LLC. A. Agarwal: A. Employment/Salary (full or part-time); Signal Solutions LLC. K.D. Donohue: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Signal Solutions LLC. 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.	779.12	N.R. Hasulak: A. Employment/Salary (full or part-time); Employee of NeuroPace.
771.06	E. Boyden: F. Consulting Fees (e.g., advisory boards); Cognito Therapeutics. E. Brown: F. Consulting Fees (e.g., advisory boards); Cognito Therapeutics. L. Tsai: F. Consulting Fees (e.g., advisory boards); Cognito Therapeutics.	779.16	R. Gray: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); research and recognition project. F. Bourke: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Research and Recognition Project.
		780.03	C.P. Ward: 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.; Acadia Pharmaceuticals. E.S. Burstein: A. Employment/Salary

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	(full or part-time); Acadia Pharmaceuticals. D.H. Malin: 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.; Acadia Pharmaceuticals.	792.26	N.K. Rogers: A. Employment/Salary (full or part-time); Departamento de Neurociencia, Universidad de Chile, Instituto de Neurocirugía Asenjo, Santiago de Chile. C. SanMartin: A. Employment/Salary (full or part-time); Centro de Biología Integrativa, Universidad Mayor, Santiago de Chile, Departamento de Neurología y Neurocirugía, Universidad de Chile. 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.; FONDECYT 11171061. D.P. Ponce: A. Employment/Salary (full or part-time); Centro de Investigación Clínica, Hospital Clínico de la Universidad de Chile. J. Valdés: A. Employment/Salary (full or part-time); Departamento de Neurociencia, Universidad de Chile. M.I. Behrens: A. Employment/Salary (full or part-time); Departamento de Neurociencia, Universidad de Chile, Centro de Investigación Clínica, Hospital Clínico de la Universidad de Chile, Departamento de Neurología y Neurocirugía, Universidad de Chile, Clínica Alemana, Santiago de Chile.
781.07	D.H. Malin: 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.; Acadia Pharmaceuticals. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Acadia Pharmaceuticals. J. Ma: A. Employment/Salary (full or part-time); Acadia Pharmaceuticals Inc. E.S. Burstein: A. Employment/Salary (full or part-time); Acadia Pharmaceuticals Inc.	793.08	M. Malek-Ahmadi: F. Consulting Fees (e.g., advisory boards); Bracket Global, Shanghai Green Valley Pharmaceutical.
782.06	J.R. Nicholson: A. Employment/Salary (full or part-time); Full time employee of Boehringer Ingelheim Pharma.	794.04	T.V. Galassi: A. Employment/Salary (full or part-time); Patent Agent at Wilson Sonsini Goodrich & Rosati. P.V. Jena: A. Employment/Salary (full or part-time); LipidSense 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.; Photon Etc, paid consultant, Goldilocks Therapeutics, unpaid consultant. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); application no. US20170199126A1; title: Composition and method for monitoring lipid. D.S. Ory: A. Employment/Salary (full or part-time); Casma Therapeutics. 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.; consultant for Mallinckrodt Pharmaceuticals. D.A. Heller: A. Employment/Salary (full or part-time); co-founder/officer of LipidSense Inc, co-founder/officer of Goldilocks Therapeutics Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); application no. US20170199126A1; title: Composition and method for monitoring lipid. F. Consulting Fees (e.g., advisory boards); Oncorus Inc.
783.06	Y. Winter: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); YW owns PhenoSys equity..		
783.11	F.T. Phibbs: F. Consulting Fees (e.g., advisory boards); Boston scientific, Teva, Medtronic. B.M. Dawant: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurotargeting LLC.		
785.23	J. Martinez-Trujillo: A. Employment/Salary (full or part-time); Western University.		
787.05	L.L. Colgin: A. Employment/Salary (full or part-time); University of Texas at Austin.		
789.20	M.J. Schnitzer: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inscopix Inc..		
791.11	D.P. Darrow: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Abbot.		
792.03	V. Van Rompaey: 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.; Otonomy, Auris Medical, Medel. F. Consulting Fees (e.g., advisory boards); Cochlear. E. Andries: 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.; Medel. V. Topsakal: 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.; Medel. P. Van de Heyning: 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.; Medel, Auris Medical. G. Mertens: 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.; Medel.	794.10	M.A. Galvan: A. Employment/Salary (full or part-time); CytoLogistics. P.A. Shramm: A. Employment/Salary (full or part-time); CytoLogistics. R. Bouajram: A. Employment/Salary (full or part-time); CytoLogistics. D.A. Lappi: F. Consulting Fees (e.g., advisory boards); CytoLogistics. L.R. Ancheta: A. Employment/Salary (full or part-time); CytoLogistics.
792.06	C. Mantzoros: F. Consulting Fees (e.g., advisory boards); Novo.	796.15	N. Yasar: A. Employment/Salary (full or part-time); Ripple Neuro. R. Apparies: A. Employment/Salary (full or part-time); Ripple Neuro. T. Poulson: A. Employment/Salary (full or part-time); Ripple Neuro. A.M. Wilder: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ripple Neuro. S. Hiatt: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ripple Neuro.
792.23	V. Benade: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. P. Jayarajan: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. N. Krishnadas: A. Employment/Salary (full or part-time); Manipal Academy of Higher Education. V. Kamuju: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. S. Gandipudi: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. R. Nirogi: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd..	797.11	M. Oganessian: A. Employment/Salary (full or part-time); BrainPatch. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BrainPatch. I. Tarasenko: A. Employment/Salary (full or part-time); BrainPatch. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent

holder, excluding diversified mutual funds); BrainPatch.

N. Vysokov: A. Employment/Salary (full or part-time); BrainPatch. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BrainPatch.

797.26 **K.A. Ludwig:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroOne Medical Inc.. F. Consulting Fees (e.g., advisory boards); Neuronoff Inc., NeuroOne Medical Inc., Cala Health, Blackfynn, Battelle, Galvani.

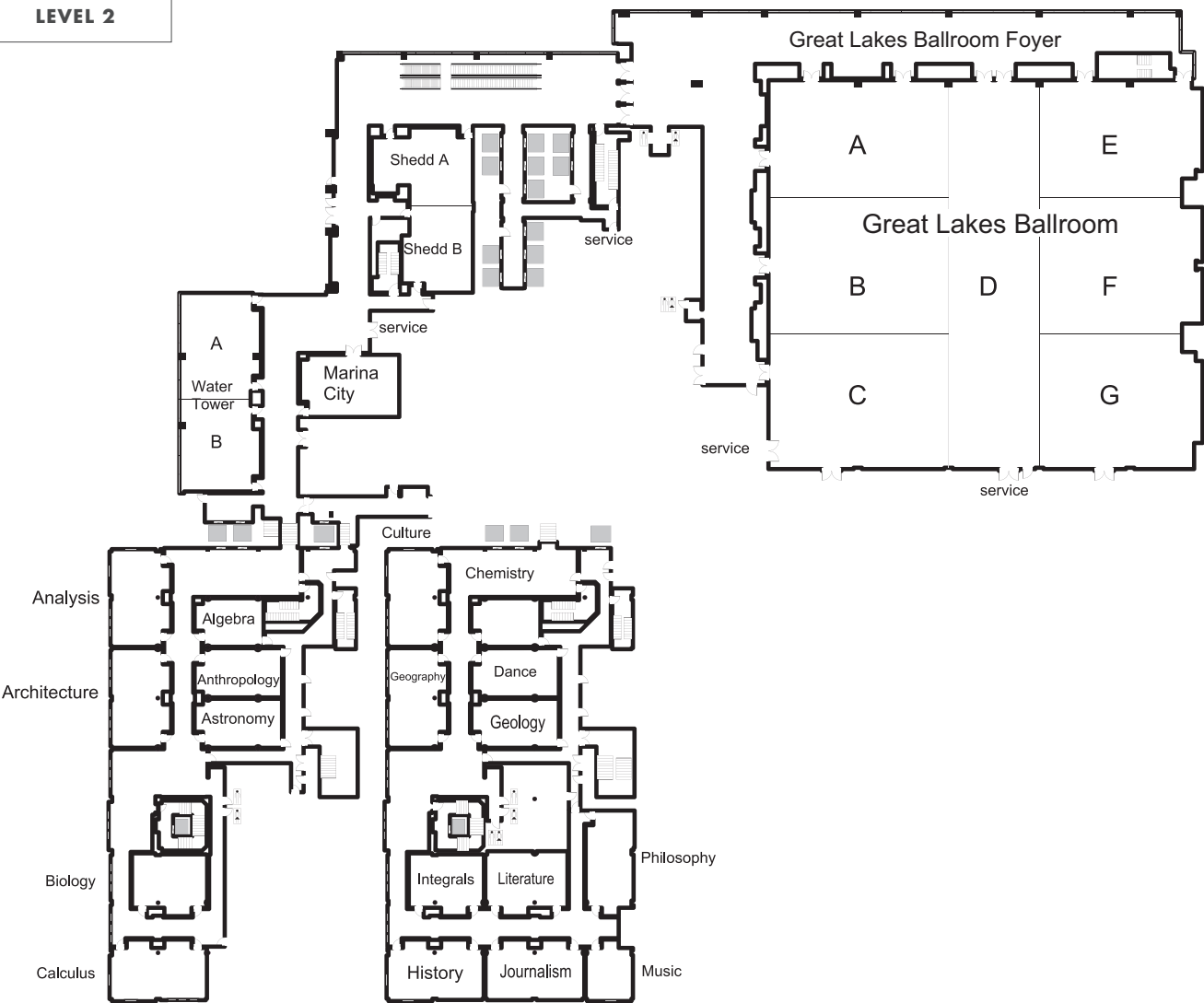
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CHICAGO, ILLINOIS 60616

LEVEL 2

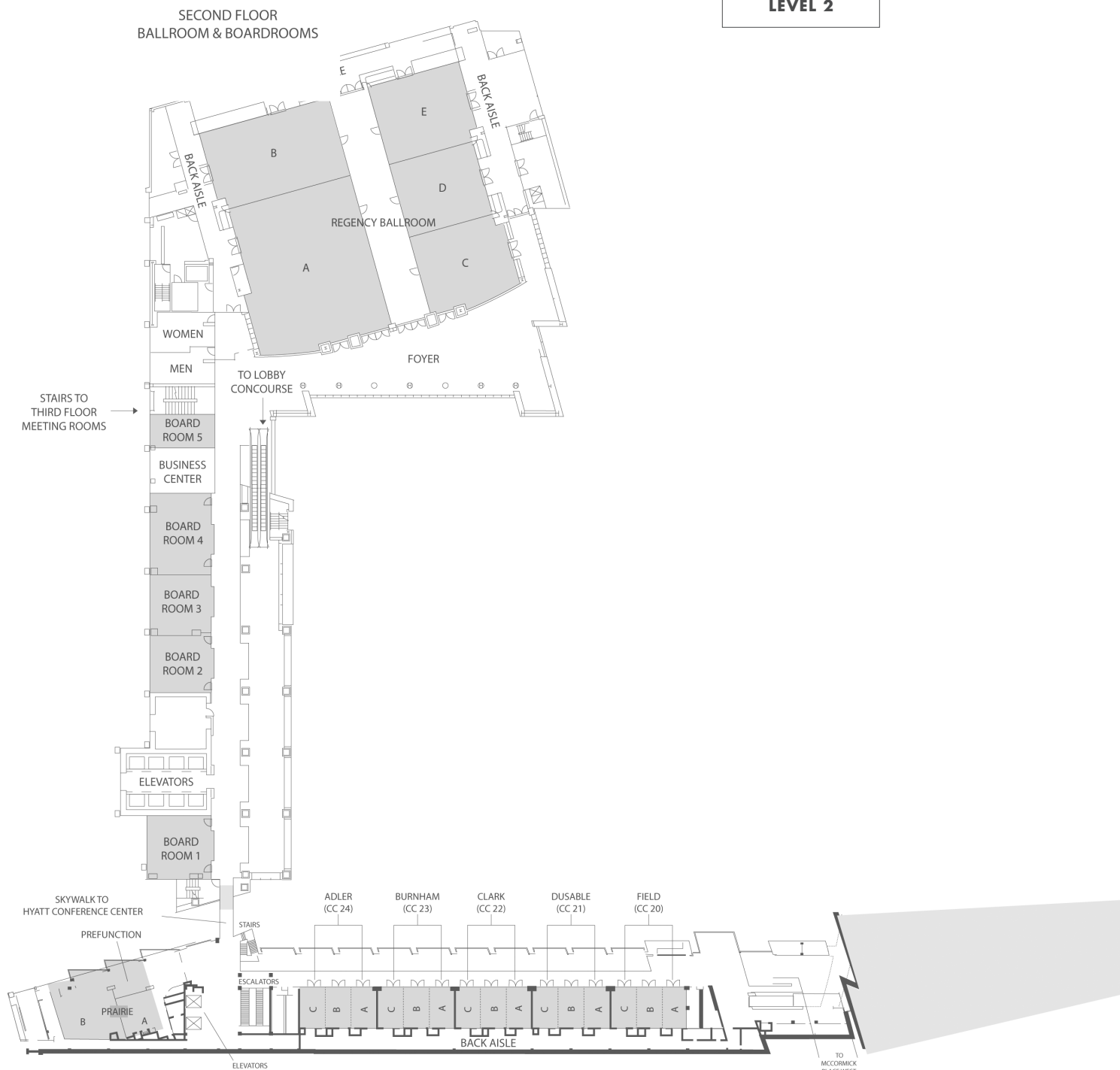


Hotel Floor Plans

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LEVEL 2

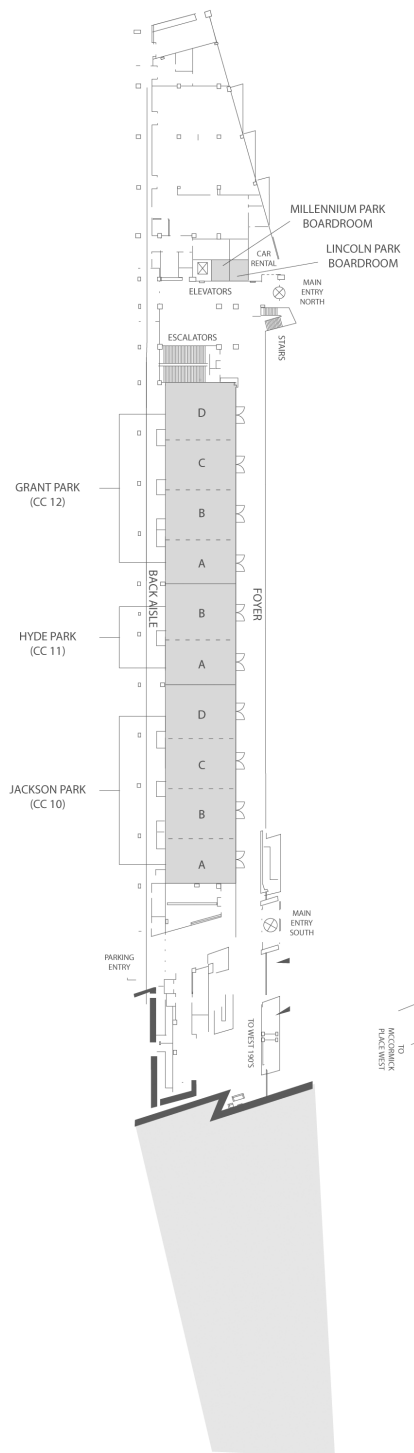


Hotel Floor Plans

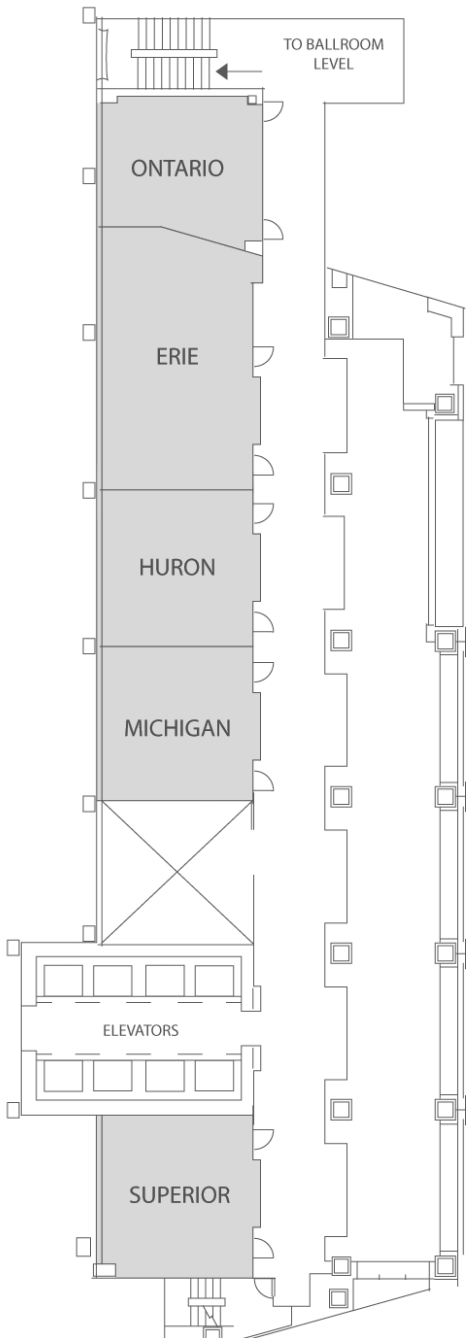
HYATT REGENCY McCORMICK PLACE

2233 SOUTH DR. MARTIN LUTHER KING JR. DRIVE
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LEVEL 1



LEVEL 3



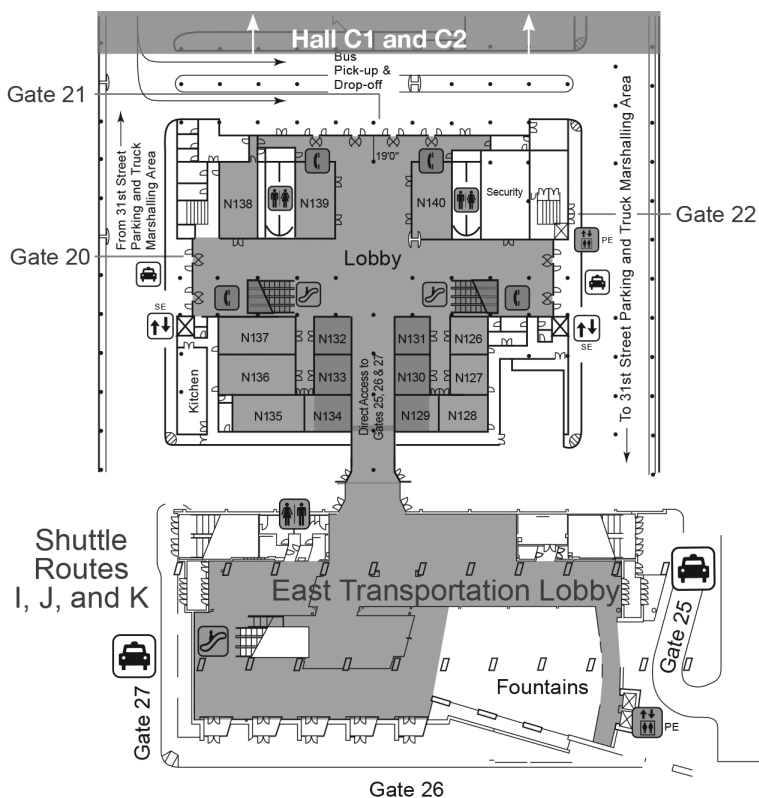
Convention Center Floor Plans

McCORMICK PLACE

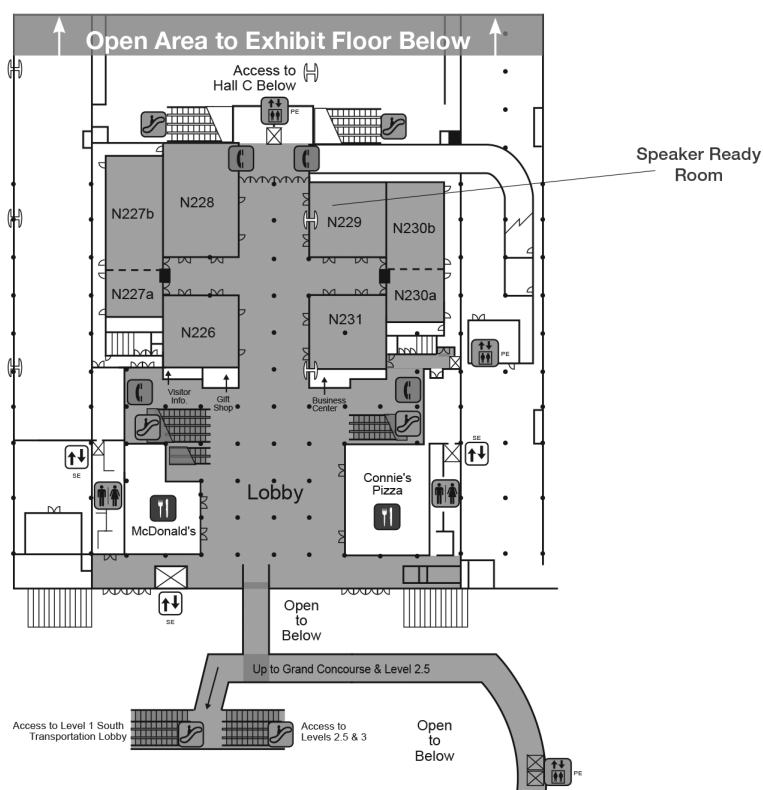
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LEVEL 1 NORTH



LEVEL 2 NORTH



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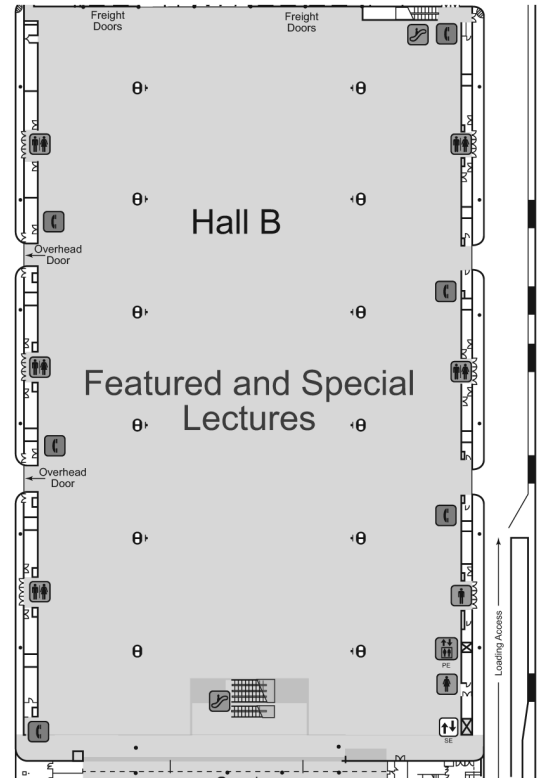
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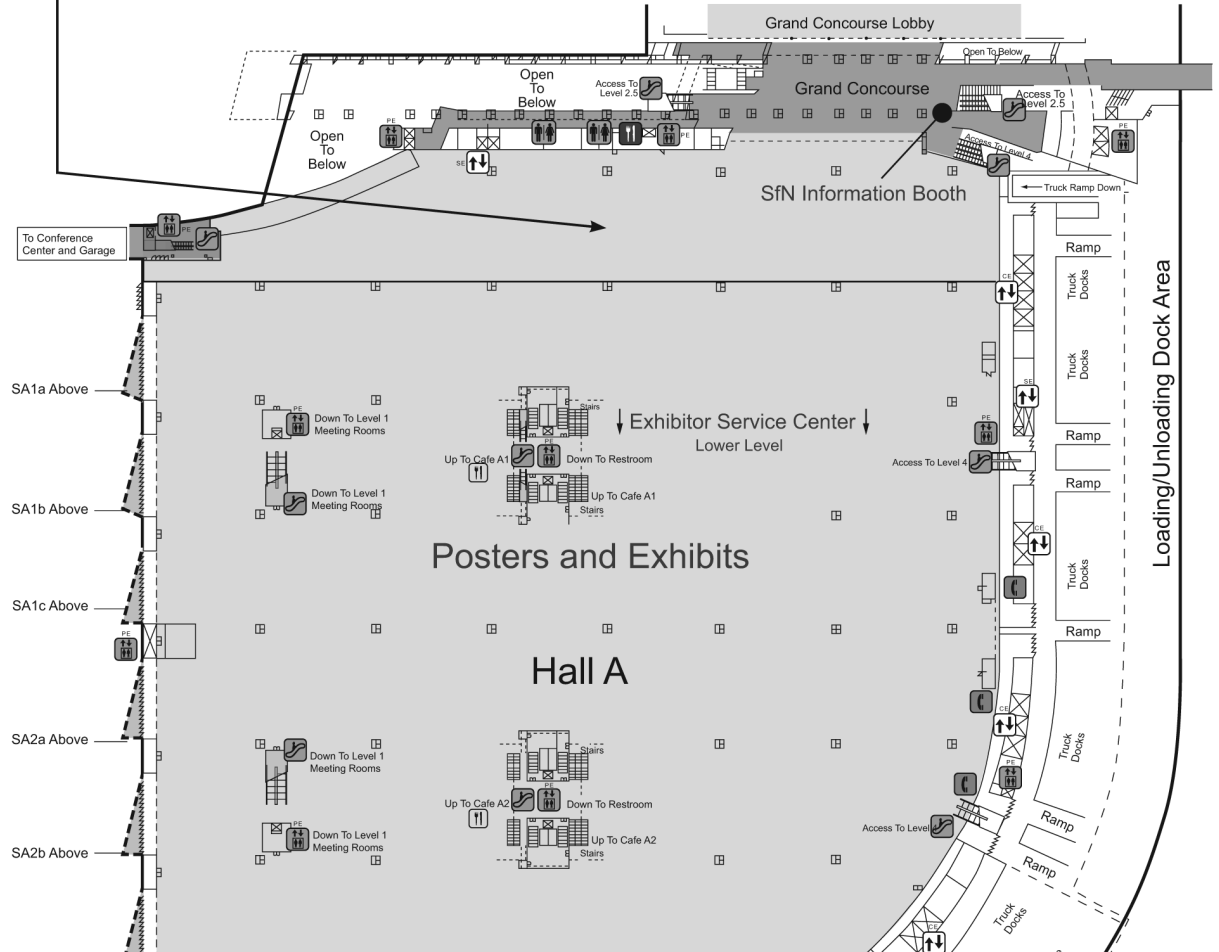
LEVEL 3 NORTH

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



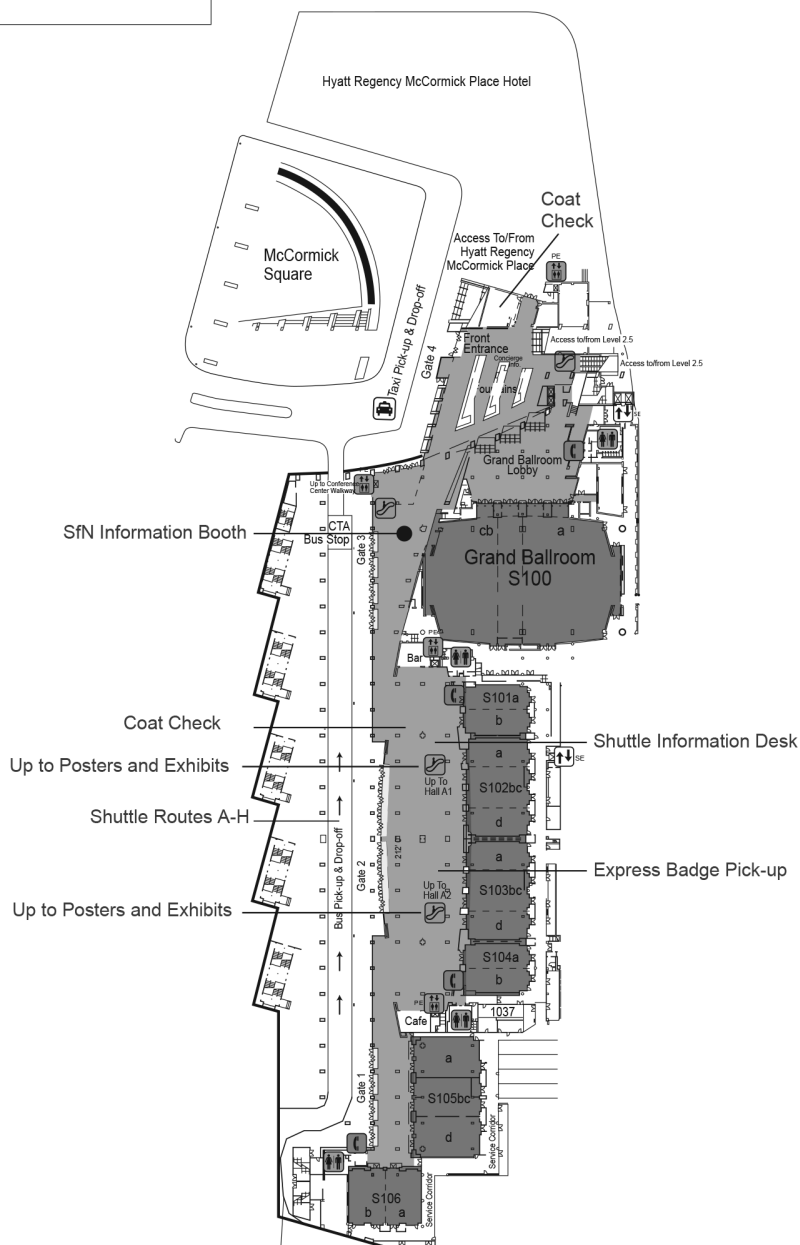
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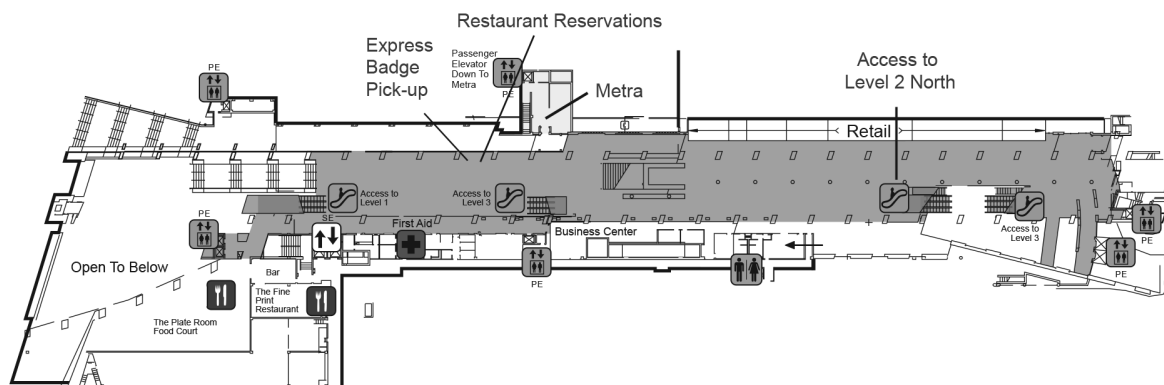
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LEVEL 1 SOUTH



LEVEL 2.5 SOUTH



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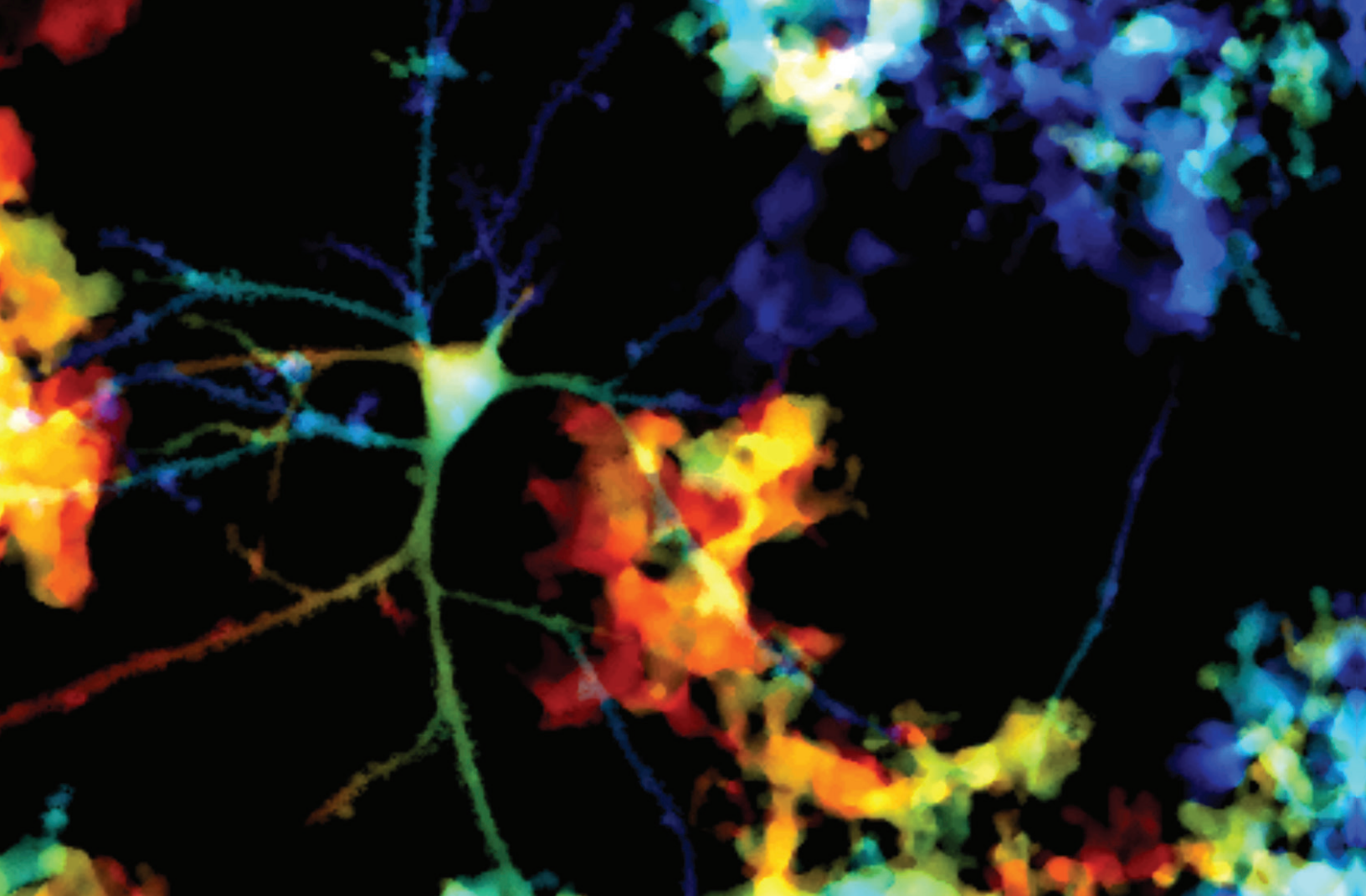
Symposia / Minisymposia: January 7
Abstracts: April 30



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