NEUROSCIENCE 2017

# TUESDAY

## SCIENTIFIC SESSION LISTING:438–626

Washington, DC

SfN Society for Neuroscience

Nov. 11–15

# INFORMATION AT A GLANCE

IMPORTANT PHONE NUMBERS

## Annual Meeting Headquarters Office

Logistics & Programming

Walter E. Washington Convention Center:
Room 102
Logistics, (202) 249-4200
Programming, (202) 249-4205

Volunteer Leadership Lounge

Walter E. Washington Convention Center:
Salon F, (202) 249 - 4235

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Walter E. Washington Convention Center

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## First Aid and Hospital Numbers

First Aid Room

Walter E. Washington Convention Center:
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Hall D, (202) 249-3109

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Washington, DC 20009
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## Key to Poster Floor by Themes

The poster floor begins with Theme A in Hall C and ends with Theme J 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 and Education

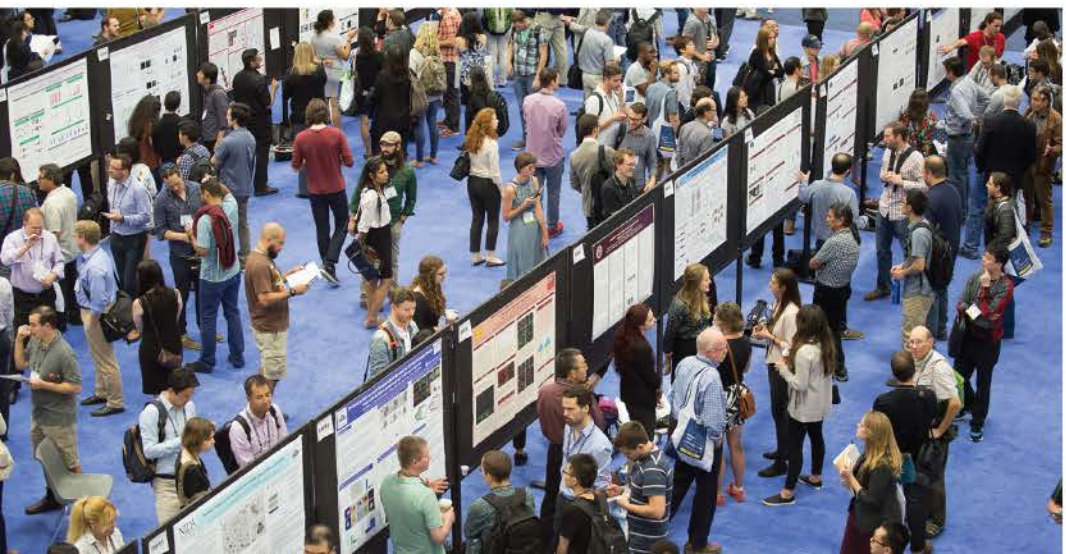
NOTE: Theme J Posters will be on display in Hall A beginning at 1 p.m. on Saturday, Nov. 11, and will remain posted until 5 p.m., Sunday, Nov. 12. One-hour presentations will occur either Saturday afternoon or Sunday morning.

## 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), and additional local social services resources are listed in one convenient location at the federal website www.changingourcampus.org. Any official report of sexual harassment should be brought to the designated Human Resources Officer in the SfN headquarters office at each meeting convention center, or sent via email to hrofficer@sfn.org. The HR Officer will facilitate the completion of a report by a complainant.

For more information on SfN's policy, please go to: www.sfn.org/Member-Center/Professional-Conduct/Code-of-Conduct-at-SfN-Events.



**Cover Image:** This transmission electron micrograph shows non-extracted cultured rat hippocampal neurons forming spiny synapses. A dendrite with dendritic spines is pseudocolored in green; axon(s) that form synapses with the spines are pseudocolored in red. **Courtesy, with permission:** Nadia Efimova, Farida Korobova, Michael C. Stankewich, Andrew H. Moberly, Donna B. Stolz, Junling Wang, Anna Kashina, Minghong Ma and Tatyana Svitkina, 2017, *The Journal of Neuroscience*, 37(27): 6442-6459.

# Complete Session Listing

# Tuesday AM

**LECTURE** *Walter E. Washington Convention Center*

**438. Bridge Over Troubled Synapses: C1q Proteins, Glud Receptors, and Beyond** — CME

Tue. 8:30 AM - 9:40 AM — Hall D

*Speaker:* M. YUZAKI, *Keio Univ. Sch. of Med.*

The C1q complement family has emerged as a new class of synaptic organizers. C1q is shown to regulate synapse elimination. In the cerebellum, Cbln1 binds to its pre- and postsynaptic receptors neurexin (Nrx) and the δ2 glutamate receptor (GluD2), respectively. The Nrx/Cbln1/GluD2 tripartite complex across the synaptic gap is essential not only for synapse formation, but also for synaptic plasticity. Similar mechanisms are beginning to be revealed for other Cbln- and C1q-like proteins in various circuits in the forebrain.

**SYMPOSIUM** *Walter E. Washington Convention Center*

**439. Tau Homeostasis and Toxicity in Neurodegeneration** — CME

Tue. 8:30 AM - 11:00 AM — Ballroom A

*Chair:* L. GAN
*Co-Chair:* K. ASHE

Microtubule-binding protein tau has emerged as a central player in neurodegenerative diseases. Imbalanced tau proteostasis, characterized with accumulation and spread, is linked with neuronal and synaptic toxicity. The aim of the symposium is to discuss how tau proteostasis becomes dysregulated and how tau becomes toxic. The symposium will focus on the post-translational mechanisms, as well as cell autonomous and non-cell autonomous forms of regulation in both animal models and human stem cells.

8:30 **439.01** Introduction.

8:35 **439.02** ● Tau lifespan in neurodegenerative diseases. B. T. HYMAN. *Massachusetts Gen. Hosp.*

9:10 **439.03** ● Insights into regulation of tau proteostasis in human stem cell models of dementia. R. LIVESEY. *Univ. of Cambridge.*

9:45 **439.04** Caspase-2 cleavage of tau reversibly impairs memory. K. H. ASHE. *Univ. of Minnesota.*

10:20 **439.05** Critical role of tau acetylation in tau homeostasis and toxicity. L. GAN. *Gladstone Institutes, UCSF.*

10:55 **439.06** Closing Remarks.

**SYMPOSIUM** *Walter E. Washington Convention Center*

**440. Exciting New Tools and Technologies Emerging From the BRAIN Initiative** — CME

Tue. 8:30 AM - 11:00 AM — Ballroom C

*Chair:* J. A. GORDON

The BRAIN Initiative seeks to reveal how brain cells and circuits dynamically interact in time and space to shape our perceptions and behavior. BRAIN investigators are accelerating the development and application of new tools and neurotechnologies to tackle these challenges. This symposium highlights advances that will enable exploration of how the brain records, stores, and processes vast amounts of information, shedding light on the complex links between brain function and behavior.

8:30 **440.01** Introduction.

8:35 **440.02** High density carbon fiber electrode array for the detection of electrophysiological and dopaminergic activity. C. A. CHESTEK. *Univ. of Michigan.*

9:10 **440.03** Multi-scale, multi-modal imaging of spontaneous activity in mice. M. C. CRAIR. *Yale Univ.*

9:45 **440.04** Magnetic nanotransducers for wireless neural excitation. P. ANIKEEVA. *MIT.*

10:20 **440.05** Sonogentics: A non-invasive method for manipulating neurons. S. CHALASANI. *The Salk Inst. For Biol. Studies.*

10:55 **440.06** Closing Remarks.

**MINISYMPOSIUM** *Walter E. Washington Convention Center*

**441. Glia-Neuron Interactions Regulate Sleep** — CME

Tue. 8:30 AM - 11:00 AM — Ballroom B

*Chair:* P. J. SHIROMANI
*Co-Chair:* M. FRANK

Current models of sleep-wake regulation are neuron-centric and cannot explain key aspects of sleep. This minisymposium will present research showing that sleep network models need to be revised to include glia. The session will present new evidence gathered using innovative methods that prove a glial-neuron network modulates sleep architecture and homeostatic sleep drive. This also explains why sleep is necessary, a topic of interest to everyone.

8:30 **441.01** Introduction.

8:35 **441.02** Optogenetic activation of astroglia induce sleep in mice. C. A. BLANCO-CENTURION. *Med. Univ. of South Carolina.*

8:55 **441.03** Wakefulness stimulates D-serine release from astrocytes. P. G. HAYDON. *Tufts Univ. Sch. of Med.*

9:15 **441.04** Conserved glial mechanisms in sleep architecture and regulation. M. FRANK. *Washington State University, Spokane.*

9:35 **441.05** Glial adenosine acts on A1 receptors to regulate sleep drive. R. W. GREENE. *UTSW & VAMC.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
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9:55 **441.06** Activation of the glymphatic system during sleep: A function of sleep. M. NEDERGAARD. *Univ. Rochester.*

10:15 **441.07** Sleep loss induces structural changes in astrocytes. M. BELLESI. *Univ. of Wisconsin-Madison.*

10:35 **441.08** Closing Remarks.

**MINISYMPOSIUM** *Walter E. Washington Convention Center*

**442. The Structure and Function of Specific Cell-Cell Interactions in Neural Development: Protocadherins and Atypical Cadherins** — CME

Tue. 8:30 AM - 11:00 AM — 145B

*Chair:* J. D. JONTES
*Co-Chair:* J. A. WEINER

Cell-cell interactions control nearly every process underlying neural circuit assembly. Protocadherins and atypical cadherins comprise a large and diverse group of molecules within the cadherin superfamily that mediate intercellular interactions in a broad range of developmental contexts. This minisymposium will explore recent advances in understanding the structure, function, and disease-associated disruption of these diverse cell-surface proteins.

8:30 **442.01** Introduction.

8:35 **442.02** The outs and ins of protocadherins in dendrite arborization. J. A. WEINER. *The Univ. of Iowa.*

8:55 **442.03** Dscam masks adhesion mediated by classical cadherins and protocadherins. A. M. GARRETT. *The Jackson Lab.*

9:15 **442.04** The role of d-protocadherins in the assembly of functional neural networks. J. D. JONTES. *Ohio State Univ.*

9:35 **442.05** The ins and outs of Fat3-dependent neuronal morphogenesis. L. V. GOODRICH. *Harvard Med. Sch.*

9:55 **442.06** Sound perception and brain wiring enabled by exceptional cadherins. M. SOTOMAYOR. *Ohio State Univ.*

10:15 **442.07** Molecular logic of neuronal self-avoidance through protocadherin interactions. R. RUBINSTEIN. *Columbia Univ.*

10:35 **442.08** Closing Remarks.

**MINISYMPOSIUM** *Walter E. Washington Convention Center*

**443. Good Vibrations: Genetic, Neural, and Behavioral Links Between Auditory and Tactile Perception** — CME

Tue. 8:30 AM - 11:00 AM — 146A

*Chair:* J. M. YAU
*Co-Chair:* S. HAEGENS

While the neural systems underlying perception have been well-studied, it remains debatable whether our senses rely on supramodal mechanisms. Recent evidence suggests that circuits traditionally considered modality-dedicated may support multiple senses. This minisymposium addresses the relationship between audition and touch — senses that signal by mechanotransduction. The speakers will consider cross-species evidence for links between audition and touch spanning genetics, neurophysiology, and behavior.

8:30 **443.01** Introduction.

8:35 **443.02** Do common genes govern tactile and auditory performance? G. LEWIN. *Max-Delbrück Ctr. for Mol. Med. (MDC).*

8:55 **443.03** Auditory-tactile interactions in mouse somatosensory cortex. D. H. O'CONNOR. *The Johns Hopkins Univ. Sch. of Med.*

9:15 **443.04** Where and how in the cerebral cortex do single neurons process more than one sensory modality during perceptual judgments? J. VERGARA. *Inst. de Fisiología Celular, Natl. Autonomous Univ. of Mexico & El Colegio Nacional.*

9:35 **443.05** The role of the beta rhythm in supramodal information processing. S. HAEGENS. *Columbia Univ. Col. of Physicians and Surgeons.*

9:55 **443.06** Neural correlates of auditory-tactile integration in meter perception. J. HUANG. *Johns Hopkins Univ.*

10:15 **443.07** Distributed representations of auditory and tactile frequency in the human brain. J. M. YAU. *Baylor Col. of Med.*

10:35 **443.08** Closing Remarks.

**MINISYMPOSIUM** *Walter E. Washington Convention Center*

**444. Functional Diversity of Prefrontal Cortical Regions and Networks** — CME

Tue. 8:30 AM - 11:00 AM — 151B

*Chair:* D. E. MOORMAN
*Co-Chair:* S. HEILBRONNER

The prefrontal cortex (PFC) is a complex structure that plays diverse roles in cognition and emotion and is disrupted in multiple diseases. Despite decades of research into rodent PFC, there is no formal model of how its heterogeneous anatomy predicts its multifaceted role in behavior and disease. This minisymposium will present recent research using a range of modern techniques to advance new perspectives on the intersection between structure and function in medial and orbital PFC networks.

8:30 **444.01** Introduction.

8:35 **444.02** Connectivity reveals PFC homologies across rodents and nonhuman primates. S. R. HEILBRONNER. *Univ. of Rochester.*

8:55 **444.03** Functional heterogeneity in the rat prefrontal cortex supports correctly timed responses. I. DIESTER. *Albert Ludwigs Univ. Freiburg.*

9:15 **444.04** Prefrontal cortical encoding of valence and action. D. E. MOORMAN. *Univ. of Massachusetts Amherst.*

9:35 **444.05** Toggling between actions and habits: Involvement of the orbitofrontal cortex. S. L. GOURLEY. *Emory Univ.*

9:55 **444.06** Time-dependent regulation of fear memories: Focus on prefrontal cortical circuits. F. H. DO MONTE. *The Univ. of Texas Hlth. Sci. Ctr.*

10:15 **444.07** The infralimbic cortex: What does it actually do during cocaine-seeking behavior? R. T. LALUMIERE. *Univ. of Iowa.*

10:35 **444.08** Closing Remarks.



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**BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE** *Walter E. Washington Convention Center*

**445. ● Advances and Challenges in Deep Brain Stimulation** — CME

Tue. 8:30 AM - 11:00 AM — 206

*Organizer:* A. M. LOZANO

*Speakers:* P. BROWN, C. C. McINTYRE, P. L. STRICK

More than 160,000 patients have received deep brain stimulation (DBS), mostly for Parkinson's disease. This session will provide an overview of new DBS applications and discuss some of the emerging mechanisms and biological effects being discovered. The overall aim is to identify areas that require further exploration to optimize DBS therapy and to develop novel directions for this technology.

**LECTURE** *Walter E. Washington Convention Center*

**446. Processing Gustatory Information in *Drosophila*** — CME

Tue. 10:00 AM - 11:10 AM — Hall D

*Speaker:* K. SCOTT, *Univ. of California, Berkeley.*

The gustatory system is intimately associated with feeding decisions, allowing animals to identify food that is caloric, and avoid toxic substances. *Drosophila melanogaster* detects many of the same taste compounds as mammals and provides an excellent model system for comparative studies of gustatory processing. This lecture will discuss how taste information is encoded in neural circuits and how activity in taste circuits is modulated by internal states to regulate feeding behavior.

**LECTURE** *Walter E. Washington Convention Center*

**447. Diversified Spinal and Brain Circuits for Locomotor Behavior** — CME

Tue. 11:30 AM - 12:40 PM — Hall D

*Speaker:* O. KIEHN, *Karolinska Institutet and Univ. of Copenhagen.*

The capacity for movement is at the center of most behaviors. Of movements, locomotion is one of the most fundamental. It requires complex coordination, temporal alteration, and dynamic control. This lecture will focus on recent work that has elucidated the functional diversification of locomotor circuits needed to perform these roles. The lecture will show that spinal locomotor networks are composed of molecularly defined circuit modules adapted to produce changes in timing and coordination of locomotion. The lecture will also address the role of designated brainstem circuits involved in gating or context-dependent selection of the motor behavior.

**NANOSYMPOSIUM**

**448. Neuronal Differentiation Mechanisms**

***Theme A: Development***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, 156

8:00 **448.01** A systems level view on miR-124 function during neuronal differentiation from human iPS cells. L. K. KUTSCHE*; D. M. GYSI; R. PETRI; K. LENK; K. NOWICK; J. JAKOBSSON; V. BUSSKAMP. *CRTD, Univ. of Leipzig, Wallenberg Neurosci. Ctr.*

8:15 **448.02** Investigation of the mechanisms underlying gyrification of the cerebral cortex using ferrets. H. KAWASAKI*; Y. SHINMYO; T. TODA. *Sch. of Med, Kanazawa Univ.*

8:30 **448.03** PIWI protein regulates retinoic acid-mediated neuronal differentiation of human embryonic carcinoma cells. C. S. SUBHRAMANYAM*; Q. HU. *Natl. Univ. Singapore, Natl. Univ. of Singapore.*

8:45 **448.04** Bicistronic 2A-peptide-based co-expression reporter knock-in hiPSC lines revealed gene expression profiles during human photoreceptor differentiation. K. HOMMA*. *Keio Univ. Sch. of Med.*

9:00 **448.05** Cellular diversity in the developing human brain. A. BHADURI*; T. NOWAKOWKSI; A. POLLEN; B. ALVARADO; C. SANDOVAL-ESPINOSA; A. KRIEGSTEIN. *Univ. of California San Francisco.*

9:15 **448.06** Combined substance use on adult endogenous neural stem cell differentiation and metabolic enzyme expression. E. L. MCGRATH*; C. SCHLAGAL; J. GAO; T. DUNN; R. FOX; S. STUTZ; K. T. DINELEY; B. KAPHALIA; K. A. CUNNINGHAM; P. WU. *UTMB, Univ. of Texas Med. Br., Univ. of Texas Med. Br. Dept. of Neurol., Univ. of Texas Med. Br. at Galveston, Univ. of Texas Med. Br. at Galveston, UTMB.*

9:30 **448.07** FGFR activity regulates adult hippocampal neurogenesis through two intracellular mediators. M. GRONSKA*; J. M. HEBERT. *Albert Einstein Col. of Med.*

9:45 **448.08** ● Inter-individual variation in genes governing human hippocampal progenitor differentiation is associated with hippocampal volume in adulthood. T. POWELL*; T. MURPHY; S. H. LEE; R. R. DUARTE; H. LEE; D. SMEETH; J. PRICE; G. BREEN; S. THURET. *King's Col. London.*

10:00 **448.09** Human foetal cholinergic neurons isolated from nucleus basalis of Meynert express functional cholinergic receptors whose activation modulates neuronal excitability. E. COPPI*; I. FUSCO; F. PEDATA; A. MORELLI; A. M. PUGLIESE; G. VANNELLI. *Univ. of Florence, Univ. of Florence, Univ. of Florence*.

10:15 **448.10** ▲ Functional maturation of tangled cells into glutamatergic neurons within the adult mouse piriform cortex. D. DANNEHL; M. BELLES; P. ROTHENEICHNER; R. KÖNIG; B. BENEDETTI; C. KREUTZER; P. ZAUNER; L. AIGNER; J. NACHER; M. ENGELHARDT; S. COUILLARD-DESPRES*. *Heidelberg Univ., Spinal Cord Injury and Tissue Regeneration Ctr. Salzburg (SCI-TReCS), Paracelsus Med. Univ., Univ. of Valencia, Paracelsus Med. Univ.*





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10:30 **448.11** Using single neuron RNA-seq to study the role of the transcription factor Ikaros in striatal development. P. SANDERS*; G. BOMBAU; M. GALOFRE CENTELLES; A. GUILLAUMET-ADKINS; G. RODRIGUEZ-ESTEBAN; H. HEYN; J. M. CANALS. *Univ. of Barcelona - IDIBAPS, Univ. of Barcelona, Univ. of Barcelona, Neurosci. Institute, Univ. of Barcelona, Networked Biomed. Res. Ctr. for Neurodegenerative Disorders (CIBERNED), Ctr. Nacional de Análisis Genómico (CNAG-CRG) - Ctr. for Genomic Regulation (CRG), Univ. Pompeu Fabra (UPF).*

10:45 **448.12** Pairing your Sox: Cross species function of Sox11 in neural development. K. S. SINGLETON*; J. JIN; C. CHEN; M. J. DONOGHUE; E. M. SILVA. *Georgetown Univ., Georgetown Univ.*

11:00 **448.13** Branching patterns of immature neurons in Long-Evans rats exposed to enriched environment. C. B. UZOKWE*. *Univ. of Jos, Univ. of the Witwatersrand.*

**NANOSYMPOSIUM**

**449. Dendrite Morphogenesis**

***Theme A: Development***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, 152A

8:00 **449.01** Semaphorin 6A elaborates direction-selective retinal circuits in an unexpected way. R. E. JAMES*; M. P. BROWN; A. L. KOLODKIN. *Johns Hopkins Univ. Sch. of Med.*

8:15 **449.02** A scaffold for cGMP-activity is necessary for dendrite formation during neuronal polarization. J. SZCZURKOWSKA*; S. LEE; M. SHELLY. *Stony Brook Univ.*

8:30 **449.03** The effect of Pou4f1/Brn3a on the dendritic morphology of mouse retinal ganglion cells. V. V. MUZYKA*; T. C. BADEA. *Natl. Eye Inst., Natl. Eye Inst.*

8:45 **449.04** TP5 regulates the neuronal dendritic spine number, shape and neurotransmitter receptor contents. S. P. YADAV*; M. BHASKAR; N. D. AMIN; S. SKUNTZ; C. A. WINTERS; P. GRANT; H. C. PANT. *NIH, NIH.*

9:00 **449.05** Experience-dependent regulation of dendritic arborization in primary visual cortex. S. E. RICHARDS*; A. R. MOORE; S. SAXENA; S. PARADIS; S. D. VAN HOOSER. *Brandeis Univ., Brandeis Unviersity, Indian Inst. of Sci., Brandeis Univ.*

9:15 **449.06** miR-125b toggles dynamics and structure of dendritic filopodia in developing hippocampal neurons. R. IYER*; T. KIM; Y. KIM; M. E. KANDEL; J. W. MITCHELL; G. POPESCU; M. U. GILLETTE. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*

9:30 **449.07** A screen to identify cell surface molecules that coordinate with semaphorin-1a to target olfactory projection neuron dendrites to the destined glomeruli in the *Drosophila* antennal lobe. H. YU*; H. SHEN. *Academia Sinica, Inst. Cell. & Organ. Biol.*

9:45 **449.08** Canonical Wnt signaling regulates dendritic arbor development of layer II pyramidal neurons in the rat retrosplenial cortex. B. VIALE; L. CONSTANTHIN; V. PETRENKO; R. BOCCHI; A. CONSTESTABILE; P. SALMON; J. Z. KISS*. *Univ. of Geneva, Dept. of Neurosciences.*

10:00 **449.09** *In situ* visualization of protein interactions reveals Cdc42's coordination of cytoskeletal pathways during dendrite morphogenesis. N. SHARIFAI*; A. CHIBA; D. KAMIYAMA. *Univ. of Miami, Univ. of Georgia.*

**NANOSYMPOSIUM**

**450. Advances in Understanding Rett Syndrome Pathophysiology**

***Theme A: Development***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, 140A

8:00 **450.01** ● Dendrimer nanoparticle delivery of antioxidant N-acetyl cysteine improves cognition in female MeCP2-deficient mice. E. S. SMITH*; C. L. O'FERRALL; M. E. BLUE; S. KANNAN. *Johns Hopkins Univ. Sch. of Med., Kennedy Krieger Inst.*

8:15 **450.02** ● Pridopidine treatment recovers gait abnormalities and rescues impaired BDNF expression in a Rett syndrome mouse model. M. GEVA*; J. DREYMANN; S. BARASH; T. HANANIA; A. ORBACH; D. LAIFENFELD; I. GROSSMAN; R. LAUFER; M. R. HAYDEN. *Teva, PsychoGenics Inc.*

8:30 **450.03** Altered hippocampal inputs to the mPFC result in deficits in social behaviors in Rett syndrome mice. M. PHILLIPS*; L. POZZO-MILLER. *Univ. of Alabama At Birmingham, Univ. Alabama-Birmingham.*

8:45 **450.04** Medial ganglionic eminence and cortical organoids model human brain development and interneuron migration . Y. XIANG*; Y. TANAKA; B. PATTERSON; Y. KANG; G. GOVINDAIAH; N. ROSELAAR; B. CAKIR; K. KIM; A. P. LOMBROSO; S. HWANG; M. ZHONG; E. G. STANLEY; A. ELEFANTY; J. R. NAEGELE; S. LEE; S. M. WEISSMAN; I. PARK. *Dept. of Genetics, Yale Sch. of Med., Yale Stem Cell Center, Yale Sch. of Med., Dept. of Neurology, Univ. of Arkansas for Med. Sci., Dept. of Biology, Program in Neurosci. and Behavior, Wesleyan Univ., Dept. of Cell Biology, Yale Sch. of Med., Murdoch Childrens Res. Institute, The Royal Children's Hosp., Dept. of Paediatrics, Fac. of Medicine, Dent. and Hlth. Sciences, Univ. of Melbourne Parkville, Dept. of Anat. and Developmental Biology, Fac. of Medicine, Nursing and Hlth. Sciences, Monash Univ.*

9:00 **450.05** Hippocampal circuit dysfunction underlies fear memory deficits in Rett syndrome mice. L. HE*; C. WU; R. T. ASH; S. HAO; Y. SUN; J. TANG; D. JI; X. JIANG; H. Y. ZOGHBI. *Baylor Col. of Med., Jan and Dan Duncan Neurolog. Res. Inst., Howard Hughes Med. Inst., Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med.*

9:15 **450.06** Rescue of mTOR/AKT pathway deficits in Rett syndrome mouse model : Translational potential for therapeutic strategy. S. RANGASAMY*; B. GERALD; L. LLACI*; J. DODSON*; G. MILLS*; M. STRINGER*; D. KABRA*; V. NARAYANAN*. *Translational Genomics Res. Inst. (TGen), Ctr. for Rare Childhood Disorders (C4RCD), Translational Genomics Res. Inst. (TGen), Phoenix, AZ, United States.*

9:30 **450.07** Perineuronal nets in a mouse model of Rett syndrome: Regulation by activity and disease in hippocampus. K. CARSTENS*; D. J. LUSTBERG; G. M. ALEXANDER; S. M. DUDEK. *NIEHS, NIEHS, Natl. Inst. of Envrn. Hlth. Sci., Natl. Inst. of Env. Hlth. Sci., NIH.*





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9:45 **450.08** Altered intracellular chloride level leads to reduced inhibition and cortical network deficits in Rett Syndrome. K. LI*; R. V. RIKHYE; C. LI; Z. FU; M. SUR. *MIT, Janelia Farm, Broad Inst. of MIT and Harvard, Broad Inst. of MIT and Harvard, MIT.*

10:00 **450.09** Total RNA-sequencing of Rett syndrome autopsy samples to facilitate preclinical target identification. R. G. GOGLIOTTI*; N. M. FISHER; B. J. STANSLEY; C. K. JONES; C. W. LINDSLEY; P. J. CONN; C. M. NISWENDER. *Vanderbilt Univ.*

10:15 **450.10** Rett syndrome gene therapy improves survival and ameliorates behavioral phenotypes in MeCP2 null mice. S. POWERS*; C. MIRANDA; C. DENNYS-RIVERS; A. HUFFENBERGER; L. BRAUN; F. RINALDI; S. SOLANO; K. KINLEY; N. WEIN; K. FOUST; K. MEYER; B. KASPAR. *Nationwide Children's Hosp., The Ohio State Univ.*

10:30 **450.11** The role of the cytoskeleton in mitochondrial trafficking in Rett syndrome. W. GOLD*; L. CANTRILL; N. BAHRAM SANGANI; B. LAW; V. SHAHEN; J. CHRISTODOULOU. *NSW Ctr. For Rett Syndrome Res., Discipline of Paediatrics & Child Health, Univ. of Sydney, Microscope Facility, Kids Res. Institute, Children's Hosp. at Westmead, Sydney, Chair of Genomic Medicine, Dept. of Paediatrics, Univ. of Melbourne, Neurodevelopmental Genomics Res. Group, Murdoch Childrens Res. Inst.*

10:45 **450.12** Cell type-specific analysis of gene expression in Rett syndrome by single-cell RNA sequencing. W. RENTHAL*; L. BOXER; E. LI; S. HRVATIN; A. NAGY; M. E. GREENBERG. *Harvard Med. Sch., Harvard Med. Sch.*

11:00 **450.13** Generation and analysis of MECP2 mutant marmoset. N. KISHI*; K. SATO; M. OKUNO; T. ITOU; H. J. OKANO; E. SASAKI; H. OKANO. *RIKEN BSI, Keio Univ. Sch. of Med., CIEA, Jikei Univ. Sch. of Med.*

**NANOSYMPOSIUM**

**451. Astrocytes: Disease Mechanisms**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, 150B

8:00 **451.01** Inhibiting EGFR/mTORC1 signaling in optic nerve astrocytes as a novel strategy for the treatment of persistent fetal vasculature (PFV) disease. M. YAZDANKHAH*; T. LUO; I. BHUTTO; R. GREBE; P. SHANG; S. MISHRA; G. LUTTY; S. HOSE; J. S. ZIGLER, Jr; D. SINHA. *Wilmer Eye Inst.*

8:15 **451.02** Glial-neuronal signaling mechanisms underlying the neuroinflammatory effects of manganese. K. A. POPICHAK*; M. F. AFZALI; K. S. KIRKLEY; R. B. TJALKENS. *Colorado State Univ.*

8:30 **451.03** Cell polarity in astrocytes - resolving the role of the scaffolding protein Par3 in astrocytes for better or for worse. H. M. JAHN*; J. GÖBEL; M. BERGAMI. *CECAD, Ctr. for Mol. Med.*

8:45 **451.04** Exosomes derived from ischemic astrocytes promote neurovascular protective effects *in vitro.* A. ZACHAREK*; M. CHOPP; J. CHEN. *Henry Ford Hosp., Henry Ford Hosp.*

9:00 **451.05** Astrocyte activation and disruption of the neurovascular unit in systemic sepsis and Alzheimer disease. C. E. BOND*; D. B. HOOVER. *Ferrum Col., East Tennessee State Univ.*

9:15 **451.06** Role of reactive astrocytes in multiple sclerosis. R. R. MASVEKER*; B. BIELEKOVA; P. KOSA; J. MILSTEIN. *NIH, NINDS / NIH.*

9:30 **451.07** Astrocytic aldehyde dehydrogenase 7a1 (ALDH7A1) protects the brain from oxidative stress; impairment destabilizes development of prefrontal excitatory/inhibitory balance and adult affective behavior. T. E. FAUST*; W. XIN; A. AGARWAL; T. CASH-PADGETT; S. SAHA; S. DESHPANDE; D. WOOD; C. DAVIS; A. BONCI; D. E. BERGLES; H. JAARO-PELED; A. SAWA. *Johns Hopkins Univ. Dept. of Psychiatry and Behavioral Sci., Johns Hopkins Univ., Washington State University-Spokane, Natl. Inst. On Drug Abuse, Johns Hopkins Univ. Sch. Med., Johns Hopkins Univ., Johns Hopkins Univ.*

**NANOSYMPOSIUM**

**452. Cognitive Aging and Memory**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, 143A

8:00 **452.01** Cognitive and white matter microstructure consequences of Alzheimer's disease pathology in an episodic memory system during cognitive aging. H. OH*; A. LEVITANUS; K. LE. *Columbia Univ., Columbia Univ., Barnard Col.*

8:15 **452.02** The association of total brain, hippocampal and ventricular volumes with subject and informant clinical dementia rating scale scores. M. KITNER-TRIOLO; S. E. KANDIGIAN; Y. AN; S. M. RESNICK*. *NIA/NIH, Vassar Col., Natl. Inst. On Aging.*

8:30 **452.03** Effects of age-related tau and amyloid deposition on domain-specific memory function. A. MAAß*; D. BERRON; T. J. MELLINGER; R. K. BELL; K. SWINNERTON; S. L. BAKER; E. DUZEL; W. J. JAGUST. *German Ctr. for Neurodegenerative Dis., Univ. of California, Otto-von-Guericke Univ., Lawrence Berkeley Natl. Lab.*

8:45 **452.04** Brain dopamine and tau pathology affect different aspects of memory performance in cognitively normal older adults. A. S. BERRY*; V. D. SHAH; K. N. SWINNERTON; T. J. MELLINGER; M. HSU; W. J. JAGUST. *E O Lawrence Berkeley Natl. Lab., Univ. of California Berkeley / Lawrence Berke, UC Berkeley, Univ. of California, Berkeley, UC Berkeley.*

9:00 **452.05** Examining associations between regional tau deposition, white matter microstructure, and cognition in normal aging. S. N. LOCKHART*; A. MAASS; S. M. MARKS; S. L. BAKER; W. J. JAGUST. *Univ. of California Berkeley, Lawrence Berkeley Natl. Lab.*

9:15 **452.06** Early accumulation of beta-amyloid drives tau deposition and memory decline in preclinical Alzheimer's disease. S. L. LEAL*; S. N. LOCKHART; A. MAASS; R. K. BELL; W. J. JAGUST. *Univ. of California, Berkeley.*

9:30 **452.07** Metabolic inefficiency in early life predicts the spatial pattern of amyloid-β in late life. K. ARNEMANN*; W. JAGUST. *Univ. of California Berkeley, Lawrence Berkeley Natl. Lab.*

9:45 **452.08** *In vivo* tau pathology predicts impaired NREM sleep oscillations and associated memory function in aging. J. R. WINER*; B. A. MANDER; R. F. HELFRICH; A. MAAß; R. T. KNIGHT; W. J. JAGUST; M. P. WALKER. *Univ. of California Berkeley, Univ. of California Berkeley, Otto-von-Guericke Univ. Magdeburg.*

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 **452.09** Longitudinal cognition in older adults with superior memory performance and preserved brain morphometry. T. M. HARRISON*; S. L. BAKER; W. J. JAGUST. *UC Berkeley, Lawrence Berkeley Natl. Lab., UC Berkeley.*

10:15 **452.10** Modifiable contributors to cognitive reserve. R. HENSON*; L. K. TYLER; F. MATTHEWS; R. KIEVIT; D. CHAN; C. CAN; M. SHAFTO. *Med. Res. Council, Univ. of Cambridge, Inst. of Hlth. and Society, MRC Cognition & Brain Sci. Unit, Dept. of Clin. Neurosciences, Univ. of Cambridge.*

10:30 **452.11** Preserved intrinsic functional connectivity in the default mode and salience networks contributes to youthful memory in superaging. J. ZHANG*; A. TOUROUTOGLOU; J. M. ANDREANO; B. C. DICKERSON; L. F. BARRETT. *Northeastern Univ., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp. Dept. of Neurol.*

10:45 **452.12** ● ▲Associations between simple EEG spectral measures and cognitive function in older adults. J. DREO*; M. KURAN; L. ZEVNIK; J. REJEC; Z. PIRTOŠEK. *Lab. For Cognitive Neurosci., BLCKB applied neuroscience.*

11:00 **452.13** ▲Impaired slow oscillation and sleep spindle coupling predicts memory deficits in older adults. R. F. HELFRICH*; B. A. MANDER; M. P. WALKER; R. T. KNIGHT. *Univ. of California Berkeley.*

11:15 **452.14** Hippocampal gray matter integrity declines in healthy aging and relates to mnemonic discrimination. A. VENKATESH*; N. HUFFMAN; S. M. STARK; C. E. STARK; I. J. BENNETT. *Univ. of California, Riverside, Univ. of California Irvine.*

**NANOSYMPOSIUM**

**453. Alzheimer's Disease: Neuroinflammation and Immune Actions**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, 146C

8:00 **453.01** iPS-derived glia for the study of neuroinflammatory mechanisms. W. W. POON*; E. M. ABUD; C. FIMBRES; S. SHEKARCHI; E. MARTINEZ; A. LIANG; R. JAIN. *UC-Irvine, UC-Irvine, UC-Irvine.*

8:15 **453.02** ● Retinal amyloid-related inflammatory biomarkers for Alzheimer's disease. M. KORONYO-HAMAOUI*; Y. KORONYO; D. FUCHS; E. BARRON; S. R. VERDOONER; C. A. MILLER; D. R. HINTON; K. L. BLACK. *Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr., USC, NeuroVision Imaging (NVI), USC Keck Sch. of Med., USC Keck Sch. of Med.*

8:30 **453.03** Effects of TLR4 inhibition on metabolic and neural consequences of diet-induced obesity. V. A. MOSER*; M. F. UCHOA; C. J. PIKE. *USC.*

8:45 **453.04** Exposure to traffic-related air pollution particulate matter impacts brain activities. T. E. MORGAN*; M. CACCIOTTOLO; N. C. WOODWARD; C. D'AGOSTINO; A. HAGHANI; N. SAFI; F. SHIRMOHAMMADI; R. JOHNSON; H. ALLAYEE; C. SIOUTAS; C. E. FINCH. *USC, USC, USC.*

9:00 **453.05** Voluntary exercise reduces ER stress and neuroinflammatory, behavioral and lysosomal dysfunction in tau transgenic mice. S. A. FRAUTSCHY*; S. HU; M. R. JONES; F. YANG; P. CHEN; G. M. COLE. *UCLA, Greater Los Angeles Veterans Admin., UCLA.*

9:15 **453.06** Ibuprofen suppresses aberrant tau kinases and ptau. G. M. COLE*; S. HU; M. JONES; P. KIM; S. A. FRAUTSCHY. *UCLA, VA Med. Ctr., UCLA/ W LA VA Med. Ctr., UCLA/WLA VA Med. Ctr., UCLA/WLA VA Med. Ctr.*

9:30 **453.07** Elevation of inflammation mediators in synaptosomes from AD and Down's syndrome cortex. T. V. BILOUSOVA; D. FAKHRUTDINOV; S. A. FRAUTSCHY; K. GYLYS*. *UCLA, Mary S. Easton Ctr. for Alzheimer's Dis. Res., Dept of Neurology, UCLA David Geffen Sch. of Med., UCLA, Mary S. Easton Ctr. for Alzheimer's Dis. Res.*

9:45 **453.08** ● ABCA-1 agonist treatment as a potential therapeutic for ApoE4 hypolipidation and impaired ABCA-1 activity in Alzheimer's disease. H. YASSINE; V. RAWAT; A. BOEHM-CAGAN; A. N. FONTEH; D. BUENNAGEL; J. JOHANSSON; J. BIELICKI; H. C. CHUI, 90033; D. M. MICHAELSON; M. G. HARRINGTON. *USC, Tel Aviv Univ., Huntington Med. Res. Inst., Artery Therapeut., UC Berkeley, Tel-Aviv Univ.*

10:00 **453.09** Sub-chronic to chronic high-fat diet feeding affects cognitive function, inflammation and insulin signalling in the brain. P. A. DENVER*; V. A. GAULT; P. L. MCCLEAN. *UCLA, Ulster Univ., Ulster Univ., Ulster Univ.*

10:15 **453.10** Dietary n-6 linoleic acid (high LA diet) and its n-6 metabolite DPAn-6 attenuate neuroinflammation and promote amyloid-β clearance. Q. MA*; B. TETER; M. R. JONES; T. MORIHARA; S. A. FRAUTSCHY; G. M. COLE. *UCLA, Veteran's Admin. Med. Ctr. (Greater Los Angeles Healthcare System, GLAHS), Geriatric Res. Educ. and Clin. Ctr. (GRECC), Osaka Univ. Sch. Med.*

10:30 **453.11** Long-term exercise delays onset of cognitive decline in a mouse model of Alzheimer's disease: Analysis of changes in hippocampal neurogenesis and neuroinflammation. A. M. KELLY*; S. M. RYAN; R. HENNESSY; M. A. LYNCH. *Trinity Col. Dublin.*

**NANOSYMPOSIUM**

**454. Preclinical Therapeutic Strategies for Neurodegenerative Disease I**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, 144A

8:00 **454.01** Immunotherapeutic targeting of corticotropin-releasing hormone in Alzheimer's disease. H. S. FUTCH*; B. D. MOORE; P. E. CRUZ; T. B. LADD; V. Q. TRUONG; P. CHAKRABARTY; Y. LEVITES; T. E. GOLDE. *Univ. of Florida, Univ. of Florida, Col. of Medicine, Univ. of Florida.*

8:15 **454.02** Neurotransmission spanning the Alzheimer's disease continuum: Glutamatergic tone, cognition, and early intervention. E. R. HASCUP*; S. O. BRODERICK; K. N. HASCUP. *Southern Illinois Univ. Sch. of Med., Southern Illinois Univ. Sch. of Med.*

8:30 **454.03** The pivotal role of spleen tyrosine kinase in the pathobiology of Alzheimer's disease. J. E. SCHWEIG*; H. YAO; D. BEAULIEU-ABDELAHAD; G. AIT-GHEZALA; M. MULLAN; F. CRAWFORD; D. PARIS. *Roskamp Inst.*

8:45 **454.04** Riluzole, but not LY379268, is an effective prodromal treatment in the AβPP/PS1 model of Alzheimer's disease. K. N. HASCUP*; S. O. BRODERICK; E. R. HASCUP. *Southern Illinois Univ. Sch. of Med., Southern Illinois Univ. Sch. of Med., Southern Illinois Univ. Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 **454.05** Theraputic effect of PD-1/PD-l1 axis checkpoint blockade in tau and amyloid-beta mouse models of Alzheimer's disease. N. ROSENZWEIG*; K. BARUCH; M. SCHWARTZ. *Weizmann Inst. of Sci.*

9:15 **454.06** ● Engineered zinc finger protein transcription factors as a next-generation platform for single gene regulation throughout the central nervous system. B. ZEITLER*; K. MARLEN; Q. YU; H. NGUYEN; I. ANKOUDINOVA; S. DEVOS; S. WEGMANN; L. ZHANG; J. C. MILLER; E. J. REBAR; B. T. HYMAN; H. S. ZHANG; M. C. HOLMES; B. E. RILEY. *Sangamo Therapeutics, Inc., Massachusetts Gen. Hosp.*

9:30 **454.07** ● Dynamic characterization of brain uptake of tau antibodies, their entry into neurons and efficacy in clearing tau aggregates in live animals by two-photon imaging. Q. WU*; Y. LIN; J. GU; E. M. SIGURDSSON. *New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

9:45 **454.08** ● Tau and astrocyte pathology are reduced in a mouse model of tauopathy following pazopanib treatment. M. JAVIDNIA*; M. L. HEBRON; C. E. MOUSSA. *Georgetown Univ., Georgetown Univ.*

10:00 **454.09** Inhibition of β-secretase activity prevents accumulation of amyloid-β (Aβ), but does not block Tau phosphorylation and aggregation in a neuronal cell culture model of sporadic Alzheimer's disease. V. MURESAN*; Z. LADESCU MURESAN. *Rutgers The State Univ. of New Jersey.*

10:15 **454.10** Large animal evaluation of clinical scale methods for focused ultrasound treatments of Alzheimer's disease. R. M. JONES; M. A. O'REILLY; L. DENG; K. LEUNG; D. MCMAHON; K. HYNYNEN*. *Univ. of Toronto / Sunnybrook Res. Inst., Sunnybrook Res. Inst.*

10:30 **454.11** Fasudil, a Rho kinase inhibitor, as a preventative therapeutic for Alzheimer's disease. M. WILLEMAN*; P. SHUKLA; A. L. SINIARD; M. DE BOTH; T. WANG; T. DUNCKLEY; P. PIRROTTE; S. ODDO; M. HUENTELMAN. *Arizona State Univ., Translational Genomics Res. Inst., Arizona Alzheimer's Consortium, Evelyn F. McKnight Brain Inst. at the Univ. of Arizona.*

**NANOSYMPOSIUM**

**455. Alpha-Synuclein: Models and Mechanisms**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, 147A

8:00 **455.01** $PrP^C$ mediates alpha-Synuclein synaptic dysfunction in the hippocampus. T. F. OUTEIRO*; D. G. FERREIRA; H. V. MIRANDA; M. SCHMITZ; I. ZERR; L. V. LOPES. *Univ. Med. Ctr. Goettingen, Chronic Dis. Res. Center, NOVA Med. Sch., Inst. de Medicina Molecular, Fac Med. Lisbon.*

8:15 **455.02** Molecular investigations into the presynaptic functions of synucleins. S. S. CHANDRA*; K. J. VARGAS. *Yale Univ.*

8:30 **455.03** Pathogenic synergy between PARK14/ $Ca^{2+}$signaling and α-synuclein aggregation in a new bigenic mouse model of age-dependent Parkinson's disease. V. M. BOLOTINA*; A. YEN; F. NIPA; J. W. SHIM; M. CHESSELET; E. MASLIAH. *Boston Univ. Sch. of Med., UCLA, Natl. Inst. of Aging.*

8:45 **455.04** Alpha-Galactosidase deficiency in Parkinson's disease brain is associated with the pathologic accumulation of alpha-synuclein. J. J. SHACKA*; M. NELSON; M. BOUTIN; T. TSE; X. OUYANG; J. ZHANG; C. AURAY-BLAIS. *Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham, Univ. of Sherbrooke.*

9:00 **455.05** ▲ Comparative analysis of the sensitivity and specificity of ser(P)-129 α-synuclein monoclonal antibodies. S. CHANDRA*; V. DELIC; X. HU; V. KRENDELCHTCHIKOVA; A. B. WEST. *Univ. of Alabama At Birmingham.*

9:15 **455.06** ● Identifying PET imaging biomarkers of alpha-synuclein pathology. K. HERFERT*; N. LANDECK; L. KUEBLER; A. MAURER; F. SCHMIDT; A. LEONOV; S. RYAZANOV; C. GRIESSINGER; A. GIESE; D. KIRIK; B. J. PICHLER. *Werner Siemens Imaging Ctr., Brain Repair And Imaging In Neural Systems (BRAINS) Unit, Lund Univ., Werner Siemens Imaging Ctr., MODAG GmbH, Max Planck Inst. for Biophysical Chem., Ctr. for Neuropathology and Prion Research, Ludwig-Maximilians-University.*

9:30 **455.07** Quantification of molecular and functional changes in a rat model of Parkinson's disease using a simultaneaous PET/fMRI protocol. L. KUEBLER*; K. HERFERT; N. LANDECK; A. MAURER; M. AMEND; A. THIELCKE; S. BUSS; S. MARCIANO; R. STUMM; H. F. WEHRL; D. KIRIK; B. J. PICHLER. *Univ. of Tübingen, Lund Univ.*

9:45 **455.08** Direct association of alpha-synuclein oligomers and calcium binding protein 1 mediate the aberrant form of calcium-induced calciuim release from $IP_3$ receptor. K. YAMAMOTO*; Y. IZUMI; H. SAWADA. *Utano Natl. Hosp., Grad. Sch. of Pharmaceut. Sciences, Kyoto Univ., Utano Natl. Hosp.*

10:00 **455.09** ● Potent small molecule Parkin activators for treating Parkinson's disease. P. ARSENAULT; M. KUMAR; I. SOKIRNIY; F. WANG; B. CUNNION; J. WU; D. STERNER; J. WEINSTOCK; M. MATTERN; V. L. DAWSON; T. M. DAWSON; S. KUMAR*. *Progenra, Johns Hopkins Univ. Inst. for Cell Engin., Progenra Inc, Johns Hopkins Univ. Sch. Med.*

10:15 **455.10** Stimulation of Sonic Hedgehog (Shh) signaling reduces formation and display of L-Dopa induced dyskinesia (LID) in models of Parkinson's disease (PD). L. B. MALAVE*; A. H. KOTTMANN. *Ctr. For Discovery and Innovation, CUNY, Neurosci. Collaborative, CUNY, Molecular, Cellular, and Biomed. Sci., CUNY Sch. of Med.*

**NANOSYMPOSIUM**

**456. Application of Imaging Techniques in Neurodegenerative Diseases**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, 152B

8:00 **456.01** Mapping the subcortical to cortical spread of degeneration in preclinical Alzheimer's disease. T. W. SCHMITZ*; R. N. SPRENG. *McGill Univ.*

8:15 **456.02** A novel phasing analysis for amnestic and non-amnestic phenotypes of Alzheimer's disease. F. DA RE*; J. S. PHILLIPS; S. X. XIE; L. DRATCH; C. FERRARESE; D. J. IRWIN; C. T. MCMILLAN; E. LEE; L. M. SHAW; J. Q. TROJANOWSKI; D. A. WOLK; M. GROSSMAN. *Univ. of Pennsylvania, Univ. of Milano-Bicocca, Univ. of Pennsylvania, Univ. of Milano-Bicocca, Ospedale San Gerardo, Univ. of Pennsylvania.*

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:30 **456.03** HFE mutations alter white matter diffusion and relaxation parametrics in Alzheimer's disease. C. J. PURNELL; J. WANG; P. J. ESLINGER; Q. X. YANG; J. R. CONNOR; M. D. MEADOWCROFT*. *The Pennsylvania State Univ. - Col. of Med., The Pennsylvania State Univ. - Col. of Med., The Pennsylvania State Univ. - Col. of Med.*

8:45 **456.04** Distinct spatiotemporal patterns of resting state neuronal synchronizations in Alzheimer's disease. K. RANASINGHE*; J. CHA; L. B. HINKLEY; A. J. BEAGLE; A. LA; D. MIZUIRI; S. HONMA; V. BOURAKOVA; W. J. JAGUST; J. F. HOUDE; B. MILLER; G. D. RABINOVICI; K. A. VOSSEL; S. S. NAGARAJAN. *Univ. of California San Francisco, Univ. of California San Francisco, UC San Francisco, Univ. od California San Francisco, Univ. of California San Francisco, UC Berkeley, UCSF, Univ. of Minnesota, UCSF.*

9:00 **456.05** Cerebral microbleed characterization in autosomal dominant Alzheimer disease. N. JOSEPH-MATHURIN*; E. MCDADE; T. BLAZEY; K. KANTARCI; C. JACK; K. FRIEDRICHSEN; Y. SU; B. GORDON; R. HORNBECK; B. ANCES; M. RAICHLE; V. BUCKLES; K. PAUMIER; J. MORRIS; R. BATEMAN; T. BENZINGER. *Washington Univ. In St Louis, Mayo Clin.*

9:15 **456.06** FTP tau PET imaging in semantic variant primary progressive aphasia. B. C. DICKERSON*; S. MAKARETZ; M. QUIMBY; J. COLLINS; N. MAKRIS; S. MCGINNIS; A. SCHULTZ; N. VASDEV; K. JOHNSON. *Massachusetts Gen. Hosp. Dept. of Neurol., Massachusetts Gen. Hosp. Dept. of Neurol., Massachusetts Gen. Hosp. Dept. of Neurol.*

9:30 **456.07** Resting state brain dynamics identify behavioural variant frontotemporal dementia. K. A. TSVETANOV*; J. B. ROWE. *Univ. of Cambridge, Univ. of Cambridge, Med. Res. Council Cognition and Brain Sci. Unit.*

9:45 **456.08** PiB-PET and pathological assessment of beta-amyloid in frontotemporal dementia syndromes. R. H. TAN*; J. KRIL; Y. YANG; J. HODGES; V. VILLEMAGNE; J. KWOK; L. M. ITTNER; G. M. HALLIDAY. *The Univ. of Sydney, Discipline of Pathology, Sydney Med. School, The Univ. of Sydney, Australia, Dept. of Mol. Imaging and Therapy, Ctr. for PET, Austin Hlth., Univ. of New South Wales, The Univ. of Sydney.*

10:00 **456.09** Brain functional network impairments and abnormal processing at rest in Gulf War Illness: A resting state fMRI study. K. GOPINATH*; U. SAKOGLU; B. A. CROSSON; R. HALEY. *Emory Univ., Univ. of Houston Clear-Lake, Atlanta VA Med. Ctr., Univ. of Texas Southwestern Med. Ctr.*

**NANOSYMPOSIUM**

**457. Therapeutics for Affective Disorders: Development, Delivery, and Animal Models**

***Theme G: Motivation and Emotion***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, 147B

8:00 **457.01** Superadditive neuromodulation induced by focused ultrasound-induced blood-brain barrier opening combined with intravenous GABA antagonists. W. XIONG*; T. HE; C. WANG; X. FENG; C. TSAI; H. LIU; H. LAI. *Zhejiang Univ., Chang Gung Univ.*

8:15 **457.02** ● Anc80L65 as a new gene transfer tool for the central nervous system. E. HUDRY*; E. ANDRES-MATEOS; E. P. LERNER; A. VOLAK; O. COHEN; B. T. HYMAN, MD,PhD; L. H. VANDENBERGHE. *MGH, Harvard Med. Sch., Massachusetts Eye and Ear Infirmary, Massachusetts Gen. Hosp. - Harvard, Massachusetts Gen. Hosp. and NeuroDiscovery Ctr., Massachusetts Gen. Hosp., Schepens Eye Res. Inst. and Massachusetts Eye and Ear Infirmary.*

8:30 **457.03** Novel Mixed surface PAMAM dendrimers cross the blood-brain barrier when systemically administered to C57BL/6J mice. B. SRINAGESHWAR*; S. T. PERUZZARO; M. M. ANDREWS; K. JOHNSON; A. HIETPAS; B. CLARK; C. MCGUIRE; E. D. PETERSEN; J. KIPPE; A. N. STEWART; O. V. LOSSIA; A. AL-GHARAIBEH; A. ANTCLIFF; R. CULVER; D. SWANSON; G. L. DUNBAR; A. SHARMA; J. ROSSIGNOL. *CENTRAL MICHIGAN UNIVERSITY, Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Field Neurosciences Inst. Lab.*

8:45 **457.04** The dynamics of intrathecal bolus and solute entrance into perivascular spaces. M. PAPISOV*; V. BELOV; J. APPLETON; B. DURCANOVA; D. LEVINE. *Shriners Hosp. For Children - Boston, Massachusetts Gen. Hosp., Harvard Med. Sch.*

9:00 **457.05** Epigenetic modulation of synaptic plasticity promotes resilience against stress disorder and depression. G. M. PASINETTI*; S. RUSSO; J. WANG. *Icahn Sch. of Med. at Mount Sinai, James J Peters VA Med. Ctr., Icahn Sch. of Med. at Mount Sinai.*

9:15 **457.06** Large retrospective study of electroconvulsive therapy investigates therapeutic effects associated with postictal suppression and anesthesia type. W. M. INGRAM*; S. POLER; F. T. NAHI; S. L. LARSON. *Geisinger Hlth. Syst., Geisinger Hlth. Syst., Geisinger Hlth. Syst., Geisinger Hlth. Syst.*

9:30 **457.07** Characterization of DHCA as a novel microbiome-derived epigenetic modifier in attenuation of inflammatory response in human PBMCs. J. WANG*; G. PASINETTI. *Icahn Sch. of Med. At Mount Sinai, James J Peters VA Med. Ctr.*

9:45 **457.08** ● Modulation of thalamo-cortical activity by ketamine in rats. M. AMAT FORASTER*; P. CELADA; A. A. JENSEN; N. PLATH; F. ARTIGAS; K. F. HERRIK. *Lundbeck A/S, IIBB-CSIC, IDIBAPS, CIBERSAM, SYMBION Sci. Park.*

10:00 **457.09** The GTPase RhoA mediates negative outcomes to stress in the nucleus accumbens. M. E. FOX*; R. CHANDRA; T. C. FRANCIS; H. NAM; M. ENGELN; M. LOBO. *Univ. of Maryland Baltimore.*

**NANOSYMPOSIUM**

**458. Social Decision-Making**

***Theme H: Cognition***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, 150A

8:00 **458.01** Neural prediction of community support providers. Y. LEONG*; S. MORELLI; R. CARLSON; M. KULLAR; J. ZAKI. *Stanford Univ., Univ. of Illinois, Chicago.*





• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:15 **458.02** First person experience in virtual reality modulates cortical synchronization and connectivity during perception of approaching social threat. A. W. DE BORST*; M. V. SANCHEZ-VIVES; M. SLATER; B. DE GELDER. *Maastricht Univ., IDIBAPS (Institut D'Investigacions Biomediques August Pi I Sunyer), ICREA, Univ. of Barcelona, Univ. of Barcelona.*

8:30 **458.03** Cooperation and trust between identity groups: An fMRI study. S. HONG*; A. MOORE; N. ROBERTS; K. NICOL; L. CRAM. *Univ. of Edinburgh, Univ. of Edinburgh, Univ. of Edinburgh, Univ. of Edinburgh.*

8:45 **458.04** Neural correlates of being imitated and imitating: A hyperscanning fMRI study. K. MIYATA*; T. KOIKE; E. NAKAGAWA; T. HARADA; M. SUMIYA; N. SADATO. *Natl. Inst. For Physiological Sci.*

9:00 **458.05** Why and how inter-individual neural synchronization occur by joint attention? Inter-individual network-level Hebbian learning account. T. KOIKE*; H. C. TANABE; S. ADACHI-ABE; E. NAKAGAWA; S. OKAZAKI; A. T. SASAKI; K. SHIMADA; S. K. SUGAWARA; H. K. TAKAHASHI; K. YOSHIHARA; N. SADATO. *Natl. Inst. for Physiological Sci., Nagoya Univ. Grad. Sch. of Envrn. Studies, Tokyo Med. and Dent. Univ., Waseda Univ., RIKEN Ctr. for Life Sci. Technologies, Univ. of Fukui, Kao Corp., Kyushu Univ.*

9:15 **458.06** Computational models differentiate between the social learning strategies of typically developing adolescents and adolescents with autism. G. ROSENBLAU*; C. W. KORN; A. DUTTON; D. LEE; K. PELPHREY. *George Washington Univ., Yale Univ., Univ. Med. Ctr. Hamburg-Eppendorf, Yale Univ. Sch. of Med.*

9:30 **458.07** Learning to approach or avoid in anticipation of rewards and losses: Insights across the human lifespan. M. BETTS*; M. GUITART MASIP; I. APOSTALOVA; R. BUCHERT; V. PEROSA; K. KRAUEL; J. TEGELBECKERS; A. RICHTER; H. AMTHAUER; E. DUZEL. *German Ctr. For Neurodegenerative Dis. (DZNE), Aging Res. Center/ Karolinska Inst., Univ. Med. Ctr. Hamburg - Eppendorf, Inst. Cognitive Neurol. and Dementia Res., Otto von Guericke Univ., Leibniz Inst. For Neurobio., Charité – Universitätsmedizin Berlin.*

9:45 **458.08** Children's brains respond more to winning money than food, regardless of weight status. S. ADISE*; C. F. GEIER; N. J. ROBERTS; A. M. CAPRIO; C. BELKO; N. A. REIGH; C. N. WHITE; K. L. KELLER. *The Pennsylvania State Univ., The Pennsylvania State Univ., The Pennsylvania State Univ., Missouri.*

10:00 **458.09** The social value of positive autobiographical memory retrieval. M. E. SPEER*; V. MAI; M. R. DELGADO. *Rutgers Univ. Newark.*

10:15 **458.10** Paying to seek or avoid social interactions. J. W. SCHULTZ*; G. CHAKKOUR; A. FRANKE; R. HURLEMANN. *Univ. of Bonn, Univ. Clin. Bonn, Univ. of Bonn, Univ. of Bonn Med. Ctr.*

10:30 **458.11** How the brain uses reward distributions to compute inequality and value. F. GESIARZ*; J. E. DE NEVE; T. SHAROT. *Univ. Col. London, Univ. of Oxford.*

10:45 **458.12** Neuro-representational accounts for process-dependent fairness decisions. R. AOKI*; T. IMAI; S. SUZUKI; K. IZUMA; Y. YOMOGIDA; K. IIJIMA; R. ADOLPHS; C. F. CAMERER; K. NAKAHARA; K. MATSUMOTO. *Kochi Univ. of Technol., Caltech, Tohoku Univ., Univ. of York, Tamagawa Univ.*

**POSTER**

**459. Cell Cycle Mechanisms in Neurogenesis I**

***Theme A: Development***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 A1 **459.01** ▲ RNA-binding protein Musashi1 inhibits let-7 miRNA activity in neural stem/progenitor cells. K. KUSANO*; T. IMAI; H. KAWAHARA; H. INOUE; H. OKANO. *Keio Univ. Sch. of Med., Keio Girls Senior High Sch., Keio Univ. Sch. of Med., Kanazawa Univ. Grad. Sch. of Med.*

9:00 A2 **459.02** ▲ Intrauterine and neonatal undernourishment deregulate microRNAs that controlling genes transcription that promote to proliferation, development and migration of the oligodendrocyte. P. RAMÍREZ-OROZCO; M. LARA-LOZANO; J. C. GUADARRAMA-OLMOS; I. JIMÉNEZ-ESTRADA; M. GONZÁLEZ-MAYA; J. A. GONZALEZ-BARRIOS*. *Escuela de Dietética y Nutrición del ISSSTE, CINVESTAV, Hosp Regional Octubre, ISSSTE, Hosp Regional Octubre, ISSSTE.*

10:00 A3 **459.03** The hippocampal neurovascular niche development is affected in fgfr1 mutant mice. R. GARCIA-LOPEZ; A. POMBERO; A. ESTIRADO; S. MARTINEZ*. *Inst. de Neurociencias, Univ. de Murcia, Inst. De Neurociencias. UMH-CISC.*

11:00 A4 **459.04** An embryonically expressed 40kD Carboxypeptidase E variant regulates gene expression and neuronal proliferation. L. XIAO*; X. YANG; Y. LOH. *Section On Cell. Neurobiology, NICHD, NIH.*

8:00 A5 **459.05** Prenatal stress on Gad1-heterozygotes perturbs GABAergic neurogenesis, GABAergic synapse formation and behavioral phenotypes. A. FUKUDA*; T. WANG; A. SINHA; Y. YANAGAWA; T. KAWAI; K. HATA. *Hamamatsu Univ. Sch. Med., Gunma Univ. Grad. Sch. of Med., Natnl. Res. Inst. Child Hlth. Dev.*

9:00 A6 **459.06** Tissue-specific regulation of gene expression by Pax6 in the developing mouse forebrain. Z. KOZIC*; I. QUINTANA-URZAINQUI; D. J. PRICE. *Univ. of Edinburgh.*

10:00 A7 **459.07** The sole role of PRPS-1 in the regenerative processes after experimental stroke. K. DANIELYAN*; R. D. VARDANYAN; A. SIMONYAN; A. S. SAGYAN. *H. Buniatian Inst. of Biochem., YSU, H Buniatian Inst. of Biochem.*

11:00 A8 **459.08** Enhanced Nrf2 expression improves neural stem cell function during a critical aging period. A. ANNADURAI*; M. J. CORENBLUM; S. RAY; K. KIRWAN; A. REED; C. A. BARNES; L. MADHAVAN. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

8:00 DP01/A9 **459.09** (Dynamic Poster) Microglial cells intimately interact with multiple cell types in the proliferative zones of the fetal primate cerebral cortex. S. C. NOCTOR*; A. F. TARANTAL; N. BARGER. *UC Davis, UC Davis, Univ. of California, Davis - MIND Inst.*

9:00 A10 **459.10** A multimodal single-cell approach identifies intercellular signaling networks in the developing human neocortex. S. MAYER*; J. CHEN; D. VELMESHEV; U. EZE; B. ALVARADO; M. PAREDES; C. E. CUNHA; A. R. KRIEGSTEIN. *Univ. of California, San Francisco.*

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**460. Migration During Neurogenesis**

***Theme A: Development***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 B1 **460.01** JNK signaling is required for the directed migration of cortical interneurons. S. E. HICKLING*; A. K. MYERS; M. P. WILSON; E. S. TUCKER. *West Virginia Univ., West Virginia Univ.*

9:00 B2 **460.02** Elucidating the roles of Jnk1, Jnk2, and Jnk3 in cortical interneuron development. J. G. CLEMENTE*; A. K. MYERS; K. M. STAKE; E. S. TUCKER. *West Virginia Univ., West Virginia Univ.*

10:00 B3 **460.03** Meningeal neural precursors contribute to cortical neurogenesis in aging mice. A. PINO*; S. DOLCI; S. ZORZIN; E. LLORENS-BOBADILLA; S. ZHAO; C. LANGE; G. PANUCCIO; S. VINCKIER; S. WYNS; A. BOUCHÉ; M. GIUGLIANO; M. DEWERCHIN; A. MARTIN-VILLALBA; P. CARMELIET; F. BIFARI; I. DECIMO. *Univ. of Verona, German Cancer Res. Ctr. (DKFZ), Vesalius Res. Center, VIB, Univ. of Antwerp, Swiss Federal Inst. of Technol., Univ. of Sheffield, Univ. of Milan.*

11:00 B4 **460.04** Redox dysregulation in the effects of prenatal stress on GABAergic progenitor migration in embryonic brain. J. BITTLE*; H. GION; K. MAPUSKAR; M. MCCORMICK; M. DAILEY; D. SPITZ; H. STEVENS. *Univ. of Iowa.*

8:00 B5 **460.05** The role of microglia and pia mater in malformations of cerebellar development. S. S. KULKARNI*; M. PEREZ-POUCHOULEN; M. M. MCCARTHY; R. L. RAMOS. *New York Inst. of Technol. Col. of Osteop, Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

9:00 B6 **460.06** Drebrin regulates cytoskeletal dynamics in migratory GnRH neurons through interacting with CXCR4. Y. SHAN*; S. WRAY. *NIH.*

10:00 B7 **460.07** Neuromesodermal progenitor-neural stem cells exhibit adhesive and collective migration properties during trunk elongation. M. R. SHAKER*; J. LEE; W. SUN. *Korea Univ. Col. of Med., Korea Univ., Brain Korea 21, Korea Univ.*

11:00 B8 **460.08** Regulation of cortical principal neuron migration by KCC2. M. PUSKARJOV*; M. MAVROVIC; P. UVAROV; L. VUTSKITS; K. KAILA. *Univ. of Helsinki, Univ. of Geneva Med. Sch.*

8:00 B9 **460.09** Ephrin-B expression in inhibitory neurons controls cortical excitatory-inhibitory homeostasis and seizure activity. A. TALEBIAN; R. BRITTON; S. AMMANUEL; J. R. GIBSON; M. HENKEMEYER*. *UT Southwestern.*

9:00 B10 **460.10** Dual origin of enteric neurons in vagal schwann cell precursors and the sympathetic neural crest. I. ESPINOSA MEDINA*; B. JEVANS; F. BOISMOREAU; Z. CHETTOU; H. ENOMOTO; T. MÜLLER; C. BIRCHMEIER; A. J. BURNS; J. BRUNET. *HHMI Janelia Res. Campus, IBENS, UCL Great Ormond Street Inst. of Child Hlth., RIKEN Ctr. for Developmental Biol., Max-Delbrück-Center for Mol. Med.*

10:00 B11 **460.11** Effects of alcohol abuse on proliferating cells, neural stem cells and immature cells in the adult human hippocampus. T. WARDI LE MAITRE*; G. DHANABALAN; N. BOGDANOVIC; K. ALKASS; H. DRUID. *Karolinska Institutet, Karolinska Institutet, Forensic Medicine, Karolinska Institutet.*

11:00 B12 **460.12** The role of Camdi during GnRH cell migration. H. CHO*. *NIH/NINDS.*

8:00 B13 **460.13** Impact of energy consumption and autophagy on neuronal migration. C. BRESSAN*; M. SNAPYAN; S. LABRECQUE; J. KLAUS; D. GAGNON; M. PARENT; P. DE KONINCK; S. P. ROBERTSON; S. CAPPELLO; A. SAGHATELYAN. *CERVO Brain Res. Ctr., Univ. Laval, Max Planck Inst. of Psychiatry, Dunedin Sch. of Med.*

9:00 B14 **460.14** New neuronal migration: Spatial distribution in the Nidopallium Caudale (NC) of the adult avian brain. M. A. ATAMNA*; A. HEFETZ; A. BARNEA. *Tel-Aviv Univ., Tel-Aviv Univ., The Open Univ. of Israel.*

10:00 B15 **460.15** Conditional knockout of paxillin disrupts the morphology and speed of migrating neurons and is associated with delayed cortical layer formation. M. RASHID*; J. BELMONT; D. CARPENTER; C. TURNER; E. OLSON. *SUNY Upstate Med. Univ., SUNY Upstate Med. Univ., SUNY Upstate Med. Univ.*

11:00 B16 **460.16** Alternative splicing of Disabled-1 controls multipolar-to-bipolar transition of migrating neurons in the neocortex. B. ZH*; W. WANG; Z. ZHANG; Y. HU; F. MENG; F. WANG; H. LOU; L. ZHU; R. GODBOUT; S. DUAN; Z. GAO. *Zhejiang Univ., Univ. of Alberta.*

8:00 B17 **460.17** ▲ Isolating deterministic, stochastic and directional persistence elements of migrating neurons: time-lapse analysis of *in vitro* cultures of GABAergic and glutamatergic cortical neurons. E. S. MORSCH*; D. RAYÊE*; M. LOURENÇO*; B. MOTA; P. GARCEZ. *Univ. Federal Do Rio De Janeiro, Univ. Federal Do Rio De Janeiro, Physics Institute, UFRJ Ctr. de Tecnologia, Av. Athos da Silveira Ramos, 149, Rio de Janeiro, Brazil, Inst. of Biomed. Sciences, UFRJ Ctr. de Ciências da Saude, Av. Brg. Trompowski, s/n, Rio de Janeiro, Brazil.*

9:00 B18 **460.18** Developmental nicotine exposure and GABA neuron development. M. M. MARTIN*; D. M. MCCARTHY; P. G. BHIDE. *Florida State Univ., Florida State Univ. Col. of Med.*

**POSTER**

**461. Stem Cell Applications and Neural Reprograming**

***Theme A: Development***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 B19 **461.01** Differentiation of human induced pluripotent stem cell (hiPSC)-derived neurons in mouse hippocampal slice cultures. T. HIRAGI*; M. ANDOH; T. ARAKI; T. SHIRAKAWA; T. ONO; R. KOYAMA; Y. IKEGAYA. *Grad Sch. Pharma Sci, Univ. Tokyo, Mitsubishi Tanabe Pharma Corp., Mitsubishi Tanabe Pharma Corp.*

9:00 B20 **461.02** Motor neurons derived from human embryonic stem cells- a human cell model for amyotrophic lateral sclerosis. T. R. RAJU*; R. SUMITHA; V. M. MANJUNATHA; K. SABITHA; P. A. ALLADI; A. NALINI; R. T. LAXMI; C. B. K. SAGAR; B. W. KRAMER; T. SATHYAPRABHA. *Natl. Inst. Mentl Hlth. Neurosci, Natl. Inst. of Mental Hlth. and Neurosciences, Natl. Inst. of Mental Hlth. and Neurosciences, Natl. Inst. of Mental Hlth. and Neurosciences, Natl. Inst. of Mental Hlth. and Neurosciences, Sch. of Mental Hlth. and Neuroscience, Maastricht Univ. Med. Center, The Netherlands.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 B21 **461.03** ● Stemdiff cerebral organoid kit: A new tool for the culture of 3-D brain organoids derived from human pluripotent stem cells. V. M. LEE*; L. H. CHEW; A. AÑONUEVO; S. LLOYD-BURTON; A. C. EAVES; T. E. THOMAS; S. A. LOUIS. *STEMCELL Technologies Inc, BC Cancer Agency.*

11:00 B22 **461.04** Characterization of Caudal Cell Mass (CCM): A key to understanding secondary neurulation in chick embryo. V. KIM*; A. ZAIDI; S. KIM; K. WANG; J. LEE. *Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ. Children's Hosp., Seoul Natl. Univ. Col. of Med.*

8:00 B23 **461.05** More efficient differentiation of iPSC derived neurons with controlled release of BDNF. D. C. BUTLER; S. LOTZ; S. K. GODERIE; E. H. STANTON; N. S. Z. KOTB; A. MESSER*; S. TEMPLE. *Neural Stem Cell Inst., NeuraCell Core Facility.*

9:00 B24 **461.06** Default patterning of human pluripotent stem cells results in pan-cortical and CGE/LGE-like subpallial specification. C. FLORUTA*; M. FISCHER; R. DU; H. KANG; J. L. STEIN; J. P. WEICK. *Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico, Univ. of North Carolina Sch. of Med.*

10:00 B25 **461.07** Augmented stem cell potential in response to environmental enrichment is seen in juveniles but not adults. K. CHANDLER*; H. DOSSO; N. SALMASO. *Carleton Univ., Child Study Center, Yale Univ.*

11:00 B26 **461.08** Retinal organoids derived from human pluripotent stem cells exhibit a defined ganglion cell layer and allow for the modeling of glaucomatous autophagy deficits and neurodegeneration. K. LANGER*; A. SRIDHAR; H. TSENG; J. S. MEYER. *IUPUI, Indiana University-Purdue Univ. Indianapolis, Duke Univ.*

8:00 B27 **461.09** Wnt5a regulates proliferation and differentiation of adult neural progenitor cells and morphological development of the derived neurons. S. B. ARREDONDO; F. GUERRERO; J. JENSEN-FLORES; D. B. BUSTAMANTE; L. VARELA-NALLAR*. *Ctr. Inv. Biomedicas, Univ. Andres Bello.*

9:00 B28 **461.10** Developmental characterization of human induced neurons. L. GIAM*; X. DU; I. T. HULL; T. C. SUDHOF. *Stanford Univ.*

10:00 B29 **461.11** Global gene expression changes associated with neuronalisation of the cortically-derived neural stem cell line CTX0E16: Potential implications for neurodevelopmental diseases. R. R. DUARTE*; T. R. POWELL; G. ANDERSON; D. F. NIXON; G. BREEN; S. LEE; R. M. MURRAY; N. J. BRAY; D. P. SRIVASTAVA. *King's Col. London, George Washington Univ., Cardiff Univ. Sch. of Med.*

11:00 B30 **461.12** Molecular and functional characterization of hiPSCs derived dopaminergic neurons. C. ÜBERBACHER*. *EURAC Res.*

8:00 B31 **461.13** Lineage reprogramming of astroglia into different neurons. M. CHOUCHANE*; A. FARIAS; D. MOURA; M. HILSCHER; R. LEAO; M. COSTA. *UCSF, UFRN, Vienna Univ. of Technol.*

9:00 B32 **461.14** A role of the SHH-GLI pathway in neuronal reprogramming in the adult mouse spinal cord. L. WANG*; C. ZHANG. *Univ. of Texas Southwestern Med. Ctr.*

10:00 B33 **461.15** Comparative transcriptome and gene regulation in iPSC-derived organoids and donor-identical brain tissue. S. SCUDERI*; A. AMIRI; G. COPPOLA; F. WU; D. FRANJIC; N. SESTAN; M. GERSTEIN; S. WEISSMAN; A. ABYZOV; F. M. VACCARINO. *Yale Univ., Yale Univ., Yale Univ. Sch. Med., Yale Univ., Yale Univ., Mayo Clin., Yale Univ.*

11:00 B34 **461.16** ● Generation and rapid maturation of cortical layer V glutamatergic neurons from human iPSCs. B. DUNGAR; K. XU; M. HENDRICKSON; Z. DU*. *BrainXell Inc.*

8:00 B35 **461.17** Optimization of factors in protocols to differentiate iPSCs to midbrain dopamine neurons for Parkinson's disease. T. M. OSBORN*; R. THOMAS; D. DINESH; E. FERRARI; J. A. KORECKA; J. PRUSZAK; O. ISACSON; P. J. HALLETT. *McLean Hospital/Harvard Med. Sch., Univ. of Freiburg.*

9:00 B36 **461.18** Nrf2 as a biomarker of oxidative stress induced by rotenone in a human iPSC neuronal model. F. PISTOLLATO*; D. ZAGOURA; D. CANOVAS-JORDA; A. PRICE. *Directorate Gen. Joint Res. Ctr.*

10:00 B37 **461.19** Role of FKBP5 disinhibition in neuronal development: Cerebral organoids as a model for stress-related disorders. S. MARTINELLI*; C. CRUCEANU; R. DI GIAIMO; C. KYROUSI; S. CAPPELLO; E. B. BINDER. *Max Planck Inst. of Psychiatry.*

11:00 B38 **461.20** Extensive axonal outgrowth and pathfinidng from retinal ganglion cells derived from human pluripotent stem cell-derived retinal organoids. C. FLIGOR*; A. SRIDHAR; K. LANGER; Y. REN; V. M. SLUCH; D. ZACK; D. M. SUTER; J. S. MEYER. *IUPUI, Indiana University-Purdue Univ. Indianapolis, IUPUI, Purdue Univ., Johns Hopkins Sch. of Med., Johns Hopkins Univ., Purdue Univ.*

8:00 B39 **461.21** Improved functional maturation of induced pluripotent stem cell-derived neurons with neonatal mouse astrocyte co-culture, forced cell cycle exit and enhanced GABA and calcium signaling. F. W. LISCHKA; Q. Z. ZHOU; A. G. EFTHYMIOU; M. D. NIEVES; N. MCCORMACK; M. WILKERSON; G. SUKUMAR; C. L. DALGARD; M. L. DOUGHTY*. *USUHS, Uniformed Services Univ. of the Hlth. Sci., Icahn Sch. of Med. at Mount Sinai, Uniformed Services Univ. of the Hlth. Sci., Uniformed Services Univ. of the Hlth. Sci., Uniformed Services Univ. of the Hlth. Sci., Uniformed Services Univ. of the Hlth. Sci.*

9:00 B40 **461.22** Vascular regeneration by reprogramming of ng2-derived angiogenic cells in the inner ear. X. SHI*, Dr.; X. WANG. *Oregon Hlth. & Sci. Univ.*

10:00 B41 **461.23** An elite model of reprogramming - Neural Crest cells are the preferred origin for cell Reprogramming. A. FAHMY*; J. XU; I. BROKHMAN; B. L. COLES-TAKABE; D. J. VAN DER KOOY. *Univ. of Toronto, Univ. of Toronto, Univ. of Toronto, Univ. Toronto.*

11:00 B42 **461.24** ● Calcium handling assays with human iPSC-derived neuronal cell types. K. KIM; K. MANGAN; M. HANCOCK; K. OELSTROM*; S. DU; C. CARLSON. *Cell. Dynamics Intl., Hamamatsu.*

8:00 B43 **461.25** Differentiation and enrichment of subtypes of cortical interneurons using human induced pluripotent stem cell derived serum free embryoid bodies. R. M. DERANIEH*; M. W. NESTOR. *Hussman Inst. For Autism.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**462. Autism: Environment and Pathology**

***Theme A: Development***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 B44 **462.01** Temporal processing deficits and other behavioral abnormalities in the valproic acid model of autism spectrum disorder. W. E. DECOTEAU*; E. BRETON; M. DEMERS-PEEL; E. L. MORGAN; A. M. NICHOLSON; S. PALIC; C. J. POULIN; A. ROBINSON; S. SIKANDAR; A. E. FOX. *St. Lawrence Univ., St. Lawrence Univ., St. Lawrence Univ.*

9:00 B45 **462.02** Epigenetics, DNA methylation, and potential biomarkers for fetal alcohol spectrum disorders. S. AMIRI; C. OLSON; W. XU; G. HICKS; J. R. DAVIE; M. RASTEGAR*. *Univ. of Manitoba.*

10:00 B46 **462.03** Maternal antibodies in Autism spectrum disorder: Toward protection studies. L. BRIMBERG*; S. MADER; D. COMOLETTI; P. HUERTA; B. VOLPE; B. DIAMOND. *The Feinstein Inst. for Med. Res., Feinstein Inst. for Med. Res., Robert Wood Johnson Med. Sch.*

11:00 B47 **462.04** Maternal factors promote autism-like behaviors in offspring. J. HUH*. *Univ. of Massachusetts Med. Sch.*

8:00 B48 **462.05** Maternal P2X7 receptors drive offspring autism-like behaviour in mice. B. SPERLAGH*; G. HORVÁTH; L. OTROKOCSI; Á. KITTEL. *Inst. of Exptl. Med.*

9:00 B49 **462.06** Prenatal air pollution and maternal stress alters brain development in the anterior cingulate cortex and motor cortex. C. L. BLOCK*; J. J. RAMIREZ; C. EROGLU; S. D. BILBO. *Duke Univ., Duke Univ., Duke Univ, DUMC, Harvard Med. School/MGH.*

10:00 B50 **462.07** ▲ The effects of maternal hyperglycemia on behavioral neurodevelopment in mice. S. HAIDERY*; L. THOMPSON; L. RUSSO; S. TRIMARCHI; J. BUSCINI; S. UGGIANO; S. GUARIGLIA. *St. Josephs By the Sea HS, CUNY Col. of Staten Island/Saint Joseph by the Sea High Sch.*

11:00 B51 **462.08** Sex-bias in a mouse model of maternal antibody induced Autism Spectrum Disorder. A. GATA GARCIA*; A. PORAT; B. T. VOLPE; B. DIAMOND. *Feinstein Inst. for Med. Res., Hofstra Northwell Sch. of Med., Feinstein Inst. for Med. Res., Feinstein Inst. For Med. Res.*

8:00 B52 **462.09** Altered dopaminergic markers in the basal ganglia in autism. K. SUBRAMANIAN*; J. SOGHOMONIAN; C. BRANDENBURG; K. ZHANG; I. SULKAJ; B. RANDOLPH; G. J. BLATT. *Hussman Inst. for Autism, Boston Univ. Sch. of Med., Boston Univ.*

9:00 B53 **462.10** Mitochondrial dysfunction and oxidative stress in rat brain prenatally exposed to valproic acid. K. MATSUO*; Y. YABUKI; K. FUKUNAGA. *Tohoku Univ. Grad Sch. of Pharm Sci.*

10:00 B54 **462.11** A novel role of S100B in neuronal trace metal homeostasis associated with dysregulation of autism-associated signaling pathways. S. HAGMEYER*; J. S. CRISTÓVÃO; T. M. BOECKERS; C. M. GOMES; A. M. GRABRUCKER. *Univ. Limerick, Dept. of Biol. Scie, Neurocenter of Ulm Univ., Univ. de Lisboa, Ulm Univ.*

11:00 B55 **462.12** Embryonic exposure to fluoxetine selectively reduces communication and increases anxiety in male mice while increasing repetitive behaviors in both sexes. M. P. LEUSSIS*; E. A. PETERSON; A. POWERS. *Emmanuel Col.*

8:00 B56 **462.13** Volatile organic chemical exposure affects general development and CNS cell type marker gene expression in zebrafish embryos. B. S. CARTER*; D. L. THOMAS; Y. Z. PRYOR; J. G. RUFFATTO. *Oberlin Col.*

9:00 B57 **462.14** Comparison of irisin plasma levels in autistic patients to control in Jordan. M. N. ALDAHABI*; Z. ALKAYED; L. ALZGHOUL; N. ABU TARBOUSH. *Univ. of Jordan, Univ. of jordan, Univ. of Jordan.*

10:00 B58 **462.15** A preliminary investigation on prenatal stress and associated risk factors for development of autism spectrum disorder. S. GOVINDARAJ*; P. KANAGASABAI; R. RAJAN. *Univ. of Madras, Swabhimaan.*

11:00 B59 **462.16** Association of zinc deficiency with gastro-intestinal abnormalities in an Autism Spectrum Disorder mouse model. A. SAUER*; T. M. BOECKERS; A. M. GRABRUCKER. *Univ. of Ulm, Univ. of Limerick.*

8:00 B60 **462.17** Elevated microglial populations in the cerebral cortex in autism spectrum disorders. M. S. MANIERKA*. *Univ. of Nevada Reno.*

9:00 B61 **462.18** Optogenetic stimulation of the basal forebrain parvalbumin neurons rectified excitation-inhibition imbalance in an animal model of autism. J. H. LEE; S. G. LEE; C. YEON; J. JUNG; J. LEE; T. KIM*. *Gwangju Inst. of Sci. and Technol. (GIST), Gwangju Inst. of Sci. and Technol.*

10:00 B62 **462.19** Maternal immune activationwith a TLR7 agonist results in a distinct behavioral phenotype with relevanceto neurodevelopmental psychiatric disorders. J. O. ROBBINS; E. L. MOKLER; C. J. MCDOUGLE; G. MISSIG; W. A. CARLEZON*, Jr. *McLean Hospital, Harvard Med. Sch., Lurie Ctr. for Autism.*

11:00 B63 **462.20** Impaired Purkinje neuron dendritic development and motor dysfunction in a VPA-induced mouse autism model. R. WANG; J. TAN; Y. ZHENG; L. ZHANG*. *Jinan Univ.*

8:00 B64 **462.21** Sleep, epileptiform activity, and EEG metrics to assess immune mouse models of autism spectrum disorder (ASD). G. MISSIG*; E. L. MOKLER; J. O. ROBBINS; A. J. ALEXANDER; C. J. MCDOUGLE; W. A. CARLEZON, Jr. *McLean Hosp., Lurie Ctr. for Autism, MGH.*

9:00 B65 **462.22** Lower serum 25-hydroxycalciferol levels in autistics compared to healthy controls in Jordan. L. ALZGHOUL*; M. ODEH; O. ABU HANTASH; M. ALDAHABI; L. AL-EITAN. *The Univ. of Jordan, The Univ. of Jordan, Jordan Univ. of Sci. and Technol.*

10:00 C1 **462.23** Developmental exposure to Prozac combined with maternal tryptophan depletion sex dependently worsens social behavior in adolescent mice. V. GARBARINO*; M. T. EDWARDS; L. F. FERREIRA; T. SANTOS; M. A. JAVORS; L. C. DAWS; G. G. GOULD. *Univ. of Texas Hlth. San Antonio, Univ. of Texas Hlth. San Antonio, Univ. of Texas Hlth. San Antonio.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

## 463. Neurodevelopmental Disorders: Molecular and Cellular Mechanisms I

***Theme A: Development***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 C2 **463.01** Implication of MUNC18-1-gene abnormalities in neurodevelopmental disorders. K. NAGATA*; N. HAMADA; H. TABATA. *Inst. For Developmental Research, Aichi Human Service Ctr.*

9:00 C3 **463.02** Folate receptor 1 is necessary for neural plate cell apical constriction during neural tube formation. O. A. BALASHOVA; O. VISINA; L. N. BORODINSKY*. *Univ. of California Davis, Univ. of California Davis, Univ. of California Davis.*

10:00 C4 **463.03** IGFBP3 deficiency leads to behavior impairment with monoaminergic dysfunction. M. ITOH*; H. DAI. *Natl. Ctr. of Neurol. and Psychiatry, Natl. Ctr. of Neurol. and Psychiatry.*

11:00 C5 **463.04** Conditional Dnmt3a deletion in cortical pyramidal neurons alters DNA methylation and gene expression in mouse frontal cortex and hippocampus. E. A. MUKAMEL*; J. LI; C. LUO; R. CASTANON; J. R. NERY; J. LUCERO; K. UM; J. R. ECKER; M. BEHRENS. *Univ. of California San Diego, UCSD, Salk Inst. For Biol. Studies, Salk Inst. for Biol. Studies, Salk Inst., The Salk Inst. For Biol. Studies, Howard Hughes Med. Inst., The Salk Inst. CNL-S.*

8:00 C6 **463.05** Environmental enrichment differentially influences transcription and epigenetic regulation in mouse dorsal vs. ventral dentate gyrus. C. L. KEOWN*; J. LI; X. WEN; N. O'TOOLE; U. BHATTACHARYYA; C. ANACKER; J. DIORIO; M. J. MEANEY; E. A. MUKAMEL; T. ZHANG. *UCSD, McGill Univ., McGill Univ., Singapore Inst. for Clin. Sci.*

9:00 C7 **463.06** Phenotypic characterization of a pyramidal-cell specific *de novo* methyltransferase Dnmt3a knock out mouse. A. PINTO-DUARTE*; J. LI; C. LUO; B. BUI; T. J. SEJNOWSKI; S. B. POWELL; E. MUKAMEL; J. R. ECKER; M. BEHRENS. *The Salk Inst. For Biol. Studies, UCSD, UCSD, The Salk Inst. For Biol. Studies, Howard Hughes Med. Inst., UCSD, UCSD.*

10:00 C8 **463.07** Sex and brain-region specific influences of prenatal stress and lead exposure on permissive and repressive post-translational histone modifications from embryonic development through adulthood. G. VARMA*; M. SOBOLEWSKI; D. ANDERSON; D. CORY-SLECHTA; J. SCHNEIDER. *Thomas Jefferson Univ., Univ. of Rochester Sch. of Med.*

11:00 C9 **463.08** Investigating the role of the schizophrenia risk gene ZNF804A in early brain development. Y. ZHOU*; F. DONG; Y. MAO. *Penn State Univ.*

8:00 C10 **463.09** *In vivo* assessment of infection route and vulnerability of neural progenitors to Zika virus. S. M. SHELTON*; K. N. PETERS; A. R. SOUCY; J. H. CONNOR; T. F. HAYDAR. *Boston Univ., Boston Univ.*

9:00 C11 **463.10** Identifying potential biomarkers and mechanisms associated with anesthetic-induced neurotoxicity in nonhuman primate. C. WANG*; C. WANG; X. HAN; F. LIU; Q. GU; S. LIU; T. A. PATTERSON; M. G. PAULE; J. P. HANIG; W. SLIKKER, Jr. *Natl. Ctr. for Toxicological Res., Ctr. for Metabolic Origins of Disease, Sanford Burnham Prebys Med. Discovery Inst. at Lake Nona, Ctr. for Drug Evaluation and Research/FDA, Natl. Ctr. for Toxicological Res.*

10:00 C12 **463.11** Paternal aging-induced DNA methylation in sperm: Possible effect on gene expression and behavior in offspring. N. OSUMI*; K. YOSHIZAKI; R. KIMURA; T. KOIKE; S. OKI; T. KIKKAWA; H. INADA; K. MOCHIZUKI; T. KONO; Y. MATSUI. *Tohoku Univ. Grad Sch. Med., AMED-CREST, Tokyo Univ. of Agr., Grad. Sch. of Med. Sciences, Kyushu Univ., Inst. of Development, Aging and Cancer, Tohoku Univ.*

11:00 C13 **463.12** Early developmental childhood leukodystrophy study via gene editing. S. KUMAR; C. SHIEH; N. SUWANNA; R. MATALON; J. DE VELLIS*. *UCLA, UCLA, Mahidol Univ., UTMB Children's Hosp., UCLA.*

8:00 C14 **463.13** Loss of PlxnA2-rasGAP forward signaling impairs the development of the dentate neurogenic niche and leads to schizophrenia-like behaviors. X. ZHAO*; R. KOHEN; R. PARENT; Y. DUAN; M. J. KORN; D. F. DOLAN; J. M. PARENT; G. G. MURPHY; R. J. GIGER. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, VA Ann Arbor Healthcare Syst., Univ. of Michigan.*

9:00 C15 **463.14** Alteration of cortical-striatal circuits in a new genetic mouse model of infantile spasms and seizures. A. PIRONE*; C. DULLA; M. JACOB. *Tufts Med. Sch.*

10:00 C16 **463.15** The dominant negative effects of genetic mutations identified in developmental delay. J. LEE*; S. LIM; C. CHEON. *KRIBB, Pusan Natl. Univ. Children's Hosp.*

11:00 C17 **463.16** Integrative and rapid discovery of wiring molecules. B. I. LIU; N. E. ALBRECHT*; D. JIANG; C. A. BURGER; F. LI; J. WANG; S. KIM; C. HSU; S. KALAGA; U. UDENSI; C. ASOMUGHA; R. BOHAT; A. GASPERO; K. MAY; L. LIN; M. J. JUSTICE; S. YAMAMOTO; J. R. SEAVITT; A. L. BEAUDET; M. E. DICKINSON; M. A. SAMUEL. *Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med., Texas Children's Hosp., Baylor Col. of Med., Baylor Col. of Med., The Peter Gilgan Ctr. for Res. and Learning.*

8:00 C18 **463.17** mTOR-dependent ULK1phosphorylation is rapamycin resistant in neural-derived cells. A. M. SOKOLOV*; D. M. FELICIANO. *Clemson Univ., Clemson Univ.*

9:00 C19 **463.18** Making sense of nonsense-mediated decay in neurodevelopmental disorders. J. L. JOHNSON*; L. G. STOICA GHITA; P. ZHU; S. A. BUFFINGTON; A. BHATTACHARYA; G. STINNET; E. ONORATI; N. T. EISSA; R. PAUTLER; B. T. PORSE; M. COSTA-MATTIOLI. *Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med., Univ. of Copenhagen, Baylor Col. of Med.*

10:00 C20 **463.19** Expression profiling of autism-related genes and their associated antisense transcripts in medial prefrontal cortex and striatum during mouse brain development. B. KOC; R. SCHMUCKI; D. MALHOTRA; B. J. HALL*. *F. Hoffmann-La Roche Ltd.*



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11:00 C21 **463.20** Hyper-excitation during critical developmental periods results in psychiatric behavioral phenotypes. W. E. MEDENDORP*; A. PAL; R. RIDGELL; U. HOCHGESCHWENDER. *Central Michigan Univ., Central Michigan Univ., Central Michigan Univ.*

8:00 C22 **463.21** GNAS, a new epigenetic player in cortical neurodevelopment and sleep architecture. C. GARCIA-GARCIA*; E. BALZANI; C. CHIABRERA; E. ALBANESI; M. MAZZI; F. NICASSIO; L. CANCEDDA; V. TUCCI. *Inst. Italiano di Tecnologia, Ctr. for Genomic Science, IIT.*

9:00 C23 **463.22** Inducible knockout of Lis1 in adult mice causes death following a progressive decline in autonomic functions. T. J. HINES*; S. SAHU; J. L. TWISS; D. S. SMITH. *Univ. of South Carolina.*

10:00 C24 **463.23** Mosaic mutations contribute to autism spectrum disorder risk. R. BARNARD*; D. R. KRUPP; S. A. EVANS; Y. DUFFOURD; R. M. MULQUEEN; R. BERNIER; J. RIVIÈRE; E. FOMBONNE; B. J. O'ROAK. *Oregon Hlth. and Sci. Univ., Univ. Bourgogne Franche-Comté, Univ. of Washington, McGill Univ.*

11:00 C25 **463.24** Descending control dysfunctions related to pain hypersensitivity in a pharmacological mouse model of attention deficit hyperactivity disorder (ADHD). O. BOUCHATTA; M. LANDRY*; S. BA M'HAMED; R. B. BENAZZOUZ; N. KEREKES; P. FOSSAT; M. BENNIS. *Univ. Bordeaux, Univ. Cadi Ayyad, Univ. West.*

8:00 C26 **463.25** Further evidence supporting a role of the dyslexia susceptibility gene KIAA0319 in neuronal migration revealed by a novel technique that investigates cellular forces. R. DIAZ*; N. M. KRONENBERG; P. LIEHM; A. MARTINELLI; M. C. GATHER; S. PARACCHINI. *Univ. of St Andrews, Univ. of St Andrews.*

9:00 C27 **463.26** A disintegrated interface in the prefrontal cortex of a rat animal model for the attention deficit hyperactivity disorder (ADHD). E. CARBONI; A. G. SADILE*; D. VALLONE; L. A. RUOCCO; C. TRENO; U. A. GIRONI CARNEVALE; G. BOATTO; A. TINO. *Univ. of Cagliari, Univ. of Campania Luigi Vanvitelli, Karlsruhe Inst. of Technol. (KIT), Univ. of Sassari, Inst. di Cibernetica "ICIB CNR Pozzuoli".*

**POSTER**

## 464. Animal Models of Brain: Environment Interactions

***Theme A: Development***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 C28 **464.01** Extrasynaptic $GABA_A$ receptors in age-related differences to ethanol responsively during social interaction. J. M. CARTER; C. A. DANNENHOFFER; D. F. WERNER*; L. P. SPEAR. *Binghamton Univ.*

9:00 C29 **464.02** ● In adolescence, elevation of GABA activity in the dentate granule cell induced by neonatal maternal separation is related with reduction of dentate gyrus-CA3 synaptic plasticity, anxiety- and aggressive-like behavior. S. SHIN*; S. MIN. *Eulji Univ.*

10:00 C30 **464.03** Adolescent stress induces long-lasting increases in social anxiety: A role for basolateral amygdala kappa opioid receptors. M. R. DIAZ*; J. HERMAN; T. DEAK; E. I. VARLINSKAYA. *Binghamton Univ., Binghamton Univ. - SUNY, Binghamton University-SUNY, Binghamton Univ.*

11:00 C31 **464.04** Nandrolone during adolescence increase sensitization to cocaine in juvenile, but not in adult male rats. J. A. FREIRE, Mr.; C. J. RIVERO, Mr.; A. C. SEGARRA*. *Univ. of Puerto Rico.*

8:00 C32 **464.05** ▲ Akt signaling is involved in neonatal stress-induced autistic-like behaviors. X. ZHANG*; Z. ZHOU. *Southeast Univ.*

9:00 C33 **464.06** Interacting effects of caffeine and nicotine on anxiety-like behavior but not on locomotion and conditioned place preference. A. D. TAVARES*; P. H. L. ROCHA; F. NUNES; A. C. MANHAES; C. C. FILGUEIRAS; A. R. CARVALHO; Y. A. VILLAÇA. *Univ. Do Estado Do Rio De Janeiro, Faculdade de Formação de Professores - UERJ.*

10:00 C34 **464.07** Puberty-dependent and puberty-independent regulation of exploration, novelty seeking, and social motivation across adolescent development. R. F. KYNE; Q. E. CARROLL; L. M. BROWN; K. C. SCHATZ; A. C. HO; L. LIN; M. J. PAUL*. *Univ. at Buffalo, SUNY, Univ. at Buffalo, SUNY.*

11:00 C35 **464.08** Ketamine treatment during late adolescent impairs with structure-specificity the inhibitory synaptic transmission and working memory during adulthood. M. PÉREZ LIZAMA*, SR; C. MORALES; O. SANTANDER; I. GOMEZ; P. R. MOYA; M. FUENZALIDA. *Univ. De Valparaiso, Univ. De Valparaiso.*

8:00 C36 **464.09** Developmental regulation of prefrontal plasticity by endocannabinoid-CB1R signaling *in vivo*. H. M. MOLLA*; D. R. THOMASES; K. Y. TSENG. *The Chicago Med. Sch. At RFUMS.*

9:00 C37 **464.10** ● Prenatal ethanol exposure reduces sensitivity to the aversive effects of ethanol in adolescence and increases later preference for a 5% ethanol solution in males but not females. J. K. GORE-LANGTON*; L. P. SPEAR. *Binghamton Univ.*

10:00 C38 **464.11** The role of microglia in comorbidity between adolescent asthma and anxiety. J. I. CAULFIELD*; S. A. CAVIGELLI. *The Pennsylvania State Univ., Pennsylvania State Univ.*

11:00 C39 **464.12** The role of redox dysregulation in behavior and perineuronal net formation after prenatal stress. P. ABBOTT*; H. E. STEVENS. *Univ. of Iowa, Univ. of Iowa.*

8:00 C40 **464.13** Estrogen modulates ethanol-induced memory deficit in post-pubertal female rats. R. SIRCAR*; J. TRAVIS. *New York City Col. of Technol., The City Col. of New York.*

9:00 C41 **464.14** Environmental enrichment promotes generation of new oligodendrocytes and attenuates hypoxia-induced perinatal white matter injury. T. FORBES*; B. JABLONSKA; V. GALLO. *Children's Natl. Hlth. Syst., Children's Natl. Med. Ctr., Children's Natl. Med. Ct.*

10:00 C42 **464.15** Prevent the onset of cognitive deficits induced by cannabis abuse during adolescence: Benefits of 5-$HT_6$/mTOR pathway early blockade. C. BECAMEL*; C. BERTHOUX; E. DOUCET; J. BOCKAERT; P. MARIN. *Inst. of Functional Genomic.*

11:00 C43 **464.16** Conditioned inhibition as a mechanism for enhancing fear regulation during adolescence. H. C. MEYER*; F. S. LEE. *Weill Cornell Med.*



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* Indicates abstract's submitting author

8:00 C44 **464.17** ▲ Impact of juvenile cannabinoid receptor targeting on adult restrictive-repetitive behaviors and cytokine expression. C. AMAYA; M. LEONARD; L. FERREIRA; N. A. WITT; H. XIA; S. T. SCHULTZ; G. G. GOULD*. *UT Hlth., UT Hlth., 59th Med. Wing Sci. and Technol.*

9:00 C45 **464.18** Maternal nicotine exposure elicits multigenerational nicotine preference and sex-specific behavioral anomalies in adolescent mice. J. M. BUCK*; H. C. O'NEILL; J. A. STITZEL. *Univ. of Colorado Boulder, Univ. of Colorado Boulder Inst. for Behavioral Genet., Univ. of Colorado Boulder Inst. for Behavioral Genet.*

10:00 C46 **464.19** ▲ Chronic Methylphenidate exposure in adolescent rats promotes reversible decreases in [3H] MK-801 binding. K. JALLOH*; J. HAMILTON; M. HADJIARGYROU; D. KOMATSU; P. THANOS. *Res. Inst. On Addictions, New York Inst. of Technol., Stony Brook Univ.*

**POSTER**

**465. Nicotinic Acetylcholine Receptors: Physiology and Function**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 C47 **465.01** Alpha7 nicotinic acetylcholine receptor silent agonists, but not agonists, reduce LPS-induced TNF-alpha release from primary microglia cells. J. D. MIKKELSEN*; M. SØRENSEN; L. PINBORG. *Univ. Copenhagen - Rigshospitalet.*

9:00 C48 **465.02** ● Exploring the role of lynx2, a cholinergic modulator, in anxiety mechanisms: A mouse to human correlative study. K. R. ANDERSON*; H. WANG; J. M. MIWA. *Lehigh Univ.*

10:00 C49 **465.03** α-Conotoxin antagonism extended to subunit interfaces outside of conventional nicotinic acetylcholine receptor agonist binding sites. B. EATON*; S. CHRISTENSEN; J. MCINTOSH; P. WHITEAKER. *Barrow Neurolog. Inst., Univ. of Utah, George E. Whalen Veterans Affairs Med. Ctr., Univ. of Utah.*

11:00 C50 **465.04** Nicotinic acetylcholine receptors (nAChR) control the release of norepinephrine in the mouse spinal cord. P. SCHOLZE*; F. GRÖSSL; S. HUCK. *Med. Univ. Vienna.*

8:00 C51 **465.05** Mecamylamine stimulates dorsal raphe serotonergic neurons by increasing glutamate release. O. HERNANDEZ; S. P. MIHAILESCU*. *Fac. of Medicine, UNAM, Fac. of Medicine, UNAM.*

9:00 C52 **465.06** Nicotinic modulation modelling of hierarchal inhibitory circuit control over resting state ultra-slow dynamics in the prefrontal cortex: Application to schizophrenia-related pathology. M. E. ROOY*; F. KOUKOULI; U. MASKOS; B. S. GUTKIN. *Ecole Normale Supérieure, Inst. Pasteur, Inst. Pasteur, Group For Neural Theory, LNC INSERM U960, Ecole Normale Superieure.*

10:00 C53 **465.07** Walking in the chemical space combined with functional study to identify new molecules active at the α7 neuronal nicotinic acetylcholine receptors. S. BERTRAND*; T. SCHAER; C. DELALANDE; K. MEIER; D. BERTRAND; J. REYMOND. *Hiqscreen, Univ. of Bern.*

11:00 C54 **465.08** Characterization and utilization of PhotoActivatable Nicotine (PA-Nic) for interrogation of the subcellular expression patterns of nicotinic acetylcholine receptors (nAChRs). M. C. ARVIN*; S. BANALA; N. M. BANNON; X. JIN; Y. WANG; J. J. MARSHALL; K. R. GEE; A. CONTRACTOR; H. A. LESTER; Y. KOZOROVISKIY; R. M. DRENAN; L. D. LAVIS. *Northwestern Univ., Janelia Res. Campus, Howard Hughes Med. Inst., Northwestern Univ., Northwestern Univ., Mol. Probes, ThermoFisher, Caltech.*

8:00 C55 **465.09** Novel α3β2 neuronal nicotinic acetylcholine receptor stable transfection cell line with inducible promoter to change subunit expression ratios. S. N. SUDWEEKS*; A. SEGO. *Brigham Young Univ., Brigham Young Univ.*

9:00 C56 **465.10** GTS-21 has cell-specific anti-inflammatory effects that are independent of α7 nicotinic receptors. B. K. GARG; R. H. LORING*. *Northeastern Univ., Northeastern Univ.*

10:00 C57 **465.11** ▲ Levamisole, a positive allosteric modulator for the α3β4 nicotinic acetylcholine receptors prevents weight gain in CD-1 mice on a high fat diet. A. A. PANDYA*; J. A. LEWIS; J. L. YAKEL. *UAF, Natl. Inst. of Envrn. Hlth. Sci.*

11:00 C58 **465.12** α7 nAChRs regulate the cytoskeleton through calcium-activated calpain. J. KING*; E. K. BAK, 22030; N. KABBANI. *George Mason Univ., Krasnow Inst.*

8:00 C59 **465.13** The antinociceptive effects of desformylflustrabromine in rat model of acute pain. F. DEBA; M. K. VANNOY; S. L. PETERSON; A. K. HAMOUDA*. *Texas A&M Hlth. Sci. Ctr.*

9:00 C60 **465.14** Region-specific changes in nAChR subunit expression following chronic co-application of nicotine with either (-)-menthol or (±)-menthol in the murine brain. M. J. MULCAHY*; S. M. HUARD; J. H. WANG; H. A. LESTER. *Caltech, Caltech.*

10:00 C61 **465.15** Neurosteroid modulation of α4β2* nicotinic acetylcholine receptors in the prefrontal cortex. B. Y. CHUNG*; C. D. C. BAILEY. *Univ. of Guelph.*

11:00 C62 **465.16** A hierarchy of interneuronal nicotinic receptors in mouse prefrontal cortex and ultra-slow fluctuations. F. KOUKOULI; M. E. ROOY; J. CHANGEUX; U. MASKOS*. *Inst. Pasteur, Ecole Normale Supérieure, Inst. Pasteur, Inst. Pasteur.*

8:00 C63 **465.17** Synthesis of α-conotoxin analogs using non-natural amino acids to selectively target α3β2 nicotinic acetylcholine receptors. A. J. HONE*; J. GAJEWIAK; J. MCINTOSH. *Univ. of Utah, Univ. Utah.*

9:00 D1 **465.18** Characterizing acetylcholine signaling in glioblastoma. E. G. THOMPSON*; H. SONTHEIMER. *Virginia Tech-Carilion Res. Inst., Univ. of Alabama-Birmingham, Virginia Tech. Sch. of Neurosci.*

10:00 D2 **465.19** Paternal nicotine exposure transgenerationally alters gene expression in the cholinergic signaling pathway. M. G. KUTLU*; R. COLE; J. TUMOLO; V. V. PARIKH; T. J. GOULD. *Penn State Univ., Temple Univ., Temple Univ., Temple Univ., Penn State.*



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* Indicates abstract's submitting author

**POSTER**

**466. Non-NMDA Receptors**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 D3 **466.01** AMPA-receptor specific biogenesis complexes control synaptic transmission and intellectual disability. J. SCHWENK; A. BRECHET; S. BOUDKKAZI; G. ZOLLES; W. BILDL; A. KULIK; U. SCHULTE; L. COLLEAUX; R. ABOU JAMRA; B. FAKLER*. *Inst. of Physiol., INSERM UMR 1163, Inst. IMAGINE, Inst. of Human Genet.*

9:00 D4 **466.02** ● Functional characterization of the potent AMPA positive allosteric modulator S 47445. S. BRETIN*; L. DANOBER; T. SCHAER; S. BERTRAND; D. C. BERTRAND. *Inst. de Recherches Internationales Servier, Inst. de Recherches Servier, Hiqscreen.*

10:00 D5 **466.03** AMPA and kainate receptors differentially modulate navigation in *C. elegans.* P. J. MALDONADO-CATALA*; P. BROCKIE; J. MELLEM; D. MADSEN; A. V. MARICQ. *Univ. of Utah, Univ. of Utah.*

11:00 D6 **466.04** FRRS1L associates with dynein vesicles and is critical for glutamatergic synaptic transmission. W. HAN*; H. WANG; J. LI; X. GU; W. LU. *NIH/NINDS.*

8:00 D7 **466.05** An insensitive kainate receptor mediates reliable signaling in the retina. S. H. DEVRIES*. *Northwestern Univ.*

9:00 D8 **466.06** Förster Resonance Energy Transfer (FRET) analysis of the structural organization of the intracellular domain of homomeric and heteromeric AMPA receptors. L. G. DORVIL; A. HAFFNER; D. CHOQUET; A. S. KRISTENSEN*. *Univ. of Copenhagen, Max Planck Inst. for Brain Res., UMR 5297 CNRS Univ. de Bordeaux, Univ. of Copenhagen.*

10:00 D9 **466.07** GluD1 plays a key role in slow glutamatergic transmission in midbrain dopamine neurons. L. TRICOIRE*; N. BENAMER; F. MARTI; R. LUJAN; R. HEPP; G. FRÉBOURG; S. PONS; U. MASKOS; P. FAURE; Y. HAY; B. LAMBOLEZ. *Univ. Pierre Et Marie Curie-CNRS-INSERM, Univ. Pierre Et Marie Curie-CNRS-INSERM, Inst. de Investigación en Discapacidades Neurológicas, Univ. Pierre Et Marie Curie-CNRS-INSERM, Inst. Pasteur.*

11:00 D10 **466.08** Bidirectional modulation of heteromeric acid-sensing ion channel 1a/3 channels by zinc. X. CHU*; Q. JIANG. *Univ. of Missouri Kansas City, Univ. of Missouri-kansas City.*

8:00 D11 **466.09** CMPDA is a novel potent positive allosteric AMPA receptor modulator affecting synaptic transmission and plasticity with distinct effects in SorCS3-deficient hippocampus. M. M. HOLM*; B. MORENO-LÓPEZ; V. GARCÍA-MORALES. *Aarhus Univ., Univ. of Cádiz.*

9:00 D12 **466.10** SynDIG4/Prrt1 is required for excitatory synapse development and plasticity underlying cognitive function. E. DIAZ*; L. MATT; L. M. KIRK; G. CHENAUX; D. J. SPECA; K. R. PUHGER; M. C. PRIDE; M. QNEIBI; T. HAHAM; Y. STERN-BACH; J. L. SILVERMAN; J. N. CRAWLEY; J. W. HELL. *UC Davis Sch. of Med., UC Davis Sch. of Med., The Hebrew Univ. of Jerusalem.*

10:00 D13 **466.11** Spatial assembly of heteromeric AMPA receptors. Y. SHI*. *Nanjing Univ.*

11:00 D14 **466.12** ABHD6 negatively regulates the surface delivery and synaptic function of AMPA receptors. M. WEI*. *Peking Univ.*

8:00 D15 **466.13** Emergence of circuit and behavioral deficits following conditional AMPAR deletion in CGE-derived interneurons. G. AKGUL*; C. J. MCBAIN. *Natl. Inst. of Hlth., NIH.*

**POSTER**

**467. Calcium Channel Modulation**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 D16 **467.01** Cav2.1 changes its number and relative distribution to the molecular machinery after stimulation in cerebellar parallel fibre-Purkinje cell synapses. H. HARADA*; Y. NAKAMURA; K. BEPPU; K. MATSUI; M. WATANABE; H. SAKAMOTO; S. NAMIKI; K. HIROSE; R. SHIGEMOTO. *IST Austria, The Jikei Univ. Sch. of Med., Tohoku Univ. Grad. Sch. of Med., Hokkaido Univ. Sch. Med., The Univ. of Tokyo, Grad. Sch. of Med.*

9:00 D17 **467.02** Molecular basis for CaMKII targeting to an L-type $Ca^{2+}$ channel nanodomain that is required for neuronal excitation-transcription coupling. X. WANG*; T. L. PERFITT; C. R. MARKS; S. WANG; T. NAKAGAWA; A. LEE; D. A. JACOBSON; R. J. COLBRAN. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Univ. of Iowa, Univ. of Iowa.*

10:00 D18 **467.03** Epigenetic modification of the CACNA1B gene controls exon choice during splicing of $Ca_V2.2$ pre-mRNA in nociceptors to affect $Ca_V2.2$ channel function in normal and in chronic pain states. E. J. LOPEZ SOTO*; D. LIPSCOMBE. *Brown Univ., Brown Univ.*

11:00 D19 **467.04** ▲ High-throughput chemical screening identifies SGM-45 as a selective inhibitor of N-type voltage-gated (Cav2.2) channels. A. DÓRAME*; Z. SHUJA; V. GOKHALE; X. YANG; Y. JI; A. MOUTAL; Y. WANG; L. A. CHEW; S. S. BELLAMPALLI; T. W. VANDERAH; M. KHANNA; H. M. COLECRAFT; R. KHANNA. *Univ. of Arizona, Columbia Univ.*

8:00 D20 **467.05** T-type calcium channels associate with FMRP to regulate calcium influx in Purkinje cells. C. SZALAY*; H. ASMARA; A. RIZWAN; X. ZHAN; G. SAHU; R. W. TURNER. *Univ. of Calgary, Univ. of Calgary, Univ. of Calgary.*

9:00 D21 **467.06** Phosphorylation of $Ca_v1.2$ on S1928 uncouples the L-type $Ca^{2+}$ channel from the beta-2 adrenergic receptor. J. L. PRICE*; T. PATRIARCHI; H. QIAN; M. NAVEDO; J. W. HELL. *Univ. of California Davis, UC Davis, Univ. of Iowa.*

10:00 D22 **467.07** Cdk5 regulates GABA release at striato-nigral terminals by inhibiting L-type calcium channels activity. S. LOYA*; M. RODRÍGUEZ; R. GONZALEZ; A. SANDOVAL; R. FÉLIX; R. CABALLERO; D. ERLIJ; B. FLORÁN. *Ctr. De Investigación Y Estudios Avanzados Del Inst. Politécnico Nacional, Hosp. Manuel Gea Gonzalez, Biología Celular y Mol. CINVESTAV-IPN, Univ. of Michigan, SUNY Downstate Med. Ctr.*



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11:00 D23 **467.08** Homology-guided mutational analysis reveals the functional requirements for antinociceptive specificity of CRMP2-derived peptides targeting N-type voltage-gated (CaV2.2) channels. S. CAI*; A. MOUTAL; W. LI; Y. WANG; W. JU; S. LUO; L. F. MOUTAL; S. P. MILLER; J. HU; E. DUSTRUDE; T. VANDERAH; V. GOKHALE; M. KHANNA; R. KHANNA. *Univ. of Arizona, Univ. of Arizona.*

8:00 D24 **467.09** ▲ Sustained relief of ongoing experimental neuropathic pain by a CRMP2 peptide aptamer with low abuse potential. L. A. CHEW*; J. Y. XIE; X. YANG; Y. WANG; C. QU; Y. WANG; L. M. FEDERICI; S. D. FRITZ; M. S. RIPSCH; M. R. DUE; A. MOUTAL; M. KHANNA; F. A. WHITE; T. W. VANDERAH; P. L. JOHNSON; F. PORRECA; R. KHANNA. *Univ. of Arizona, Univ. of Arizona, Xi'an Jiaotong Univ., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Lilly.*

9:00 D25 **467.10** ▲ Dissecting the role of the CRMP2-Neurofibromin complex on pain behaviors. S. BELLAMPALLI*; X. YANG; A. MOUTAL; Y. WANG; A. DORAME; L. A. CHEW; E. T. DUSTRUDE; B. S. SCHMUTZLER; M. KHANNA; C. M. HINGTGEN; T. VANDERAH; R. KHANNA. *Univ. of Arizona, UNiversity of Arizona, Indiana Univ., UNiversity of Arizona.*

10:00 D26 **467.11** Modulation of N-type $Ca^{2+}$ currents by agmatine in rat celiac ganglion neurons. Y. KIM*; S. CHUNG. *Yonsei Univ. Col. of Med.*

11:00 D27 **467.12** Regulation of $Ca_V3.2$ channels by Cyclin dependent kinase 5 (Cdk5). A. CALDERÓN-RIVERA*; A. SANDOVAL; R. GONZÁLEZ-RAMÍREZ; R. FELIX. *CINVESTAV, FES-Iztacala UNAM, FES Iztacala UNAM, Dept. of Mol. Biol. and Histocompatibility, "Dr. Manuel Gea González" Gen. Hospital, Ministry of Hlth.*

8:00 D28 **467.13** Adrenergic signaling promotes T-type $Ca^{2+}$ channel mediated oscillatory discharges in nucleus ambiguus neurons. I. AIBA*; J. L. NOEBELS. *Baylor Col. of Med.*

9:00 D29 **467.14** The N-type voltage-gated $Ca^{2+}$ channel is a novel substrate of the ubiquitin E3 ligase Parkin. L. GRIMALDO*; A. SANDOVAL; E. GARZA-LÓPEZ; R. FELIX. *Ctr. for Res. and Advanced Studies of the Na, Natl. Autonomous Univ. of Mexico (UNAM), Univ. of Iowa.*

10:00 D30 **467.15** GHSR1a constitutive activity reduces high- and low-voltage gated calcium channel surface density in a $Ca_V\beta$ dependent manner. E. R. MUSTAFA*; E. LOPEZ SOTO; V. MARTÍNEZ DAMONTE; S. RODRÍGUEZ; D. LIPSCOMBE; J. RAINGO. *Multidisciplinary Inst. of Cell Biol., Brown Univ.*

**POSTER**

**468. Calcium Channels**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 D31 **468.01** Visualizing native N-type calcium channels. A. C. DOLPHIN*; K. RAMGOOLAM; M. NIETO-ROSTRO. *UCL, UCL.*

9:00 D32 **468.02** Mesoscopic cortical calcium dynamics during wakefulness, natural sleep, and anesthesia. L. BRIER*; E. C. LANDSNESS; P. W. WRIGHT; A. Q. BAUER; G. BAXTER; J. LEE; J. P. CULVER. *Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis.*

10:00 D33 **468.03** Short-term plasticity of thalamocortical excitatory and inhibitory synaptic transmission in a mouse model of familial hemiplegic migraine: An excitation-inhibition imbalance revealed. A. TOTTENE; D. PIETROBON*; M. FAVERO. *Univ. Padova, Univ. of Verona.*

11:00 D34 **468.04** Development of T-type calcium channel bursting in thalamic association pathway precedes sensory pathways. Q. MIAO*; J. L. NOEBELS. *Dept. of Neurol., Dept. of Neurosci., Dept. of Mol. and Human Genet.*

8:00 D35 **468.05** Medial to lateral density gradient of T-type calcium currents in substantia nigra dopamine neurons. S. JAGANNATH*; K. M. COSTA; J. ROEPER. *Goethe Univ. Frankfurt, Intl. Max Planck Res. Sch. for Neural Circuits, Max Planck Inst. for Brain Res.*

9:00 D36 **468.06** "Leaky" ryanodine receptors: Potential role in age-related cognitive decline and the pathogenesis of Alzheimer's disease. D. DATTA*; A. F. T. ARNSTEN; C. D. PASPALAS. *Yale Univ.*

10:00 D37 **468.07** T-type calcium channels contribute to neuronal excitability within the ventral tegmental area. M. E. TRACY*; S. TODOROVIC. *Univ. of Colorado-Denver.*

11:00 D38 **468.08** Cav3.1 channels are important for isoflurane inhibition of neuronal excitability in the central medial thalamic nucleus. T. TIMIC STAMENIC*; S. TODOROVIC. *Univ. of Colorado Denver, Anschutz Med. Ca.*

8:00 D39 **468.09** Exaggerated homeostatic adaptation to inactivity in Timothy Syndrome. S. D. SUN*; B. S. SUUTARI; N. MANDELBERG; B. LI; N. CHENOUARD; R. W. TSIEN. *New York Univ., NYU Langone Med. Ctr.*

9:00 D40 **468.10** Attenuated L-type $Ca^{2+}$ currents, inactivation gating and action potential firing in adrenal chromaffin cells of a Timothy syndrome mouse model (TS2-neo) with autistic traits. E. CARBONE*; C. CALORIO; L. GUARINA; D. GAVELLO; A. MARCANTONI; P. DEFILIPPI; F. BALZAC; E. TURCO; G. C. L. BETT; R. L. RASMUSSON. *Univ. of Turin, The State Univ. of New York.*

10:00 D41 **468.11** Local $Ca_V1$ L-type calcium channel activity synergistically signals to the nucleus. N. MANDELBERG*; B. LI; R. W. TSIEN. *New York Univ. Sch. of Med., New York Univ.*

11:00 D42 **468.12** Alterations of the $Ca_v1.4$ C-terminal automodulatory domain unmasks an atypical form of calmodulin regulation on $Ca^{2+}$-dependent inactivation and activation. B. WILLIAMS*; A. LEE. *Univ. of Iowa, Univ. of Iowa.*

8:00 D43 **468.13** Rewiring of bipolar cells in a mouse model of congenital stationary night blindness type 2. I. KILICARSLAN*; H. SEITTER; E. STRETTOI; A. KOSCHAK. *Univ. of Innsbruck, Italian Natl. Res. Council (CNR).*

9:00 D44 **468.14** Light induced ganglion cell responses in Cav1.4 mutant mouse retinas. L. ZANETTI*; H. SEITTER; A. KOSCHAK. *Leopold Franzens Univ. Für Innsbruck.*

10:00 D45 **468.15** $\alpha_2\delta$-4 is required for maintaining the molecular and structural organization of rod and cone photoreceptor synapses. A. LEE*; V. KEROV; J. LAIRD; M. JOINER; D. SOH; J. HAGEN; S. GARDNER; B. WILLIAMS; T. YOSHIMATSU; S. BHATTARAI; T. PUTHUSSERY; N. ARTEMYEV; A. DRACK; R. O. WONG; S. BAKER. *Univ. of Iowa, Univ. of Iowa, Univ. of Washington, Univ. of Iowa, OHSU.*



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11:00 D46 **468.16** Mechanisms of modulating dendritic spine morphology by $Ca_V1.3$ L-type calcium channels. R. I. STANIKA*; J. STRIESSNIG; M. CAMPIGLIO; G. J. OBERMAIR. *Med. Univ. Innsbruck, Univ. of Innsbruck.*

8:00 D47 **468.17** Tissue-specific and developmental expression of Cav1.3 splice isoforms in the I-II linker. B. LACARUBBA*; A. BUNDA; K. SAVAGE; T. FOXALL; A. S. ANDRADE. *Univ. of New Hampshire, Univ. of New Hampshire, Univ. of New Hampshire, Univ. of New Hampshire.*

9:00 D48 **468.18** Alternative splicing of $Ca_V2.2$ pre-mRNA influences cued fear conditioning in a sex-dependent manner. A. BUNDA*; B. LACARUBBA; A. ANDRADE. *Univ. of New Hampshire.*

10:00 D49 **468.19** Regulation of astrocyte calcium signaling and gliotransmission by store-operated CRAC channels. A. B. TOTH*; K. HORI; M. PRAKRIYA. *Northwestern Univ.*

11:00 D50 **468.20** The role of store operated CRAC channels in mediating neural stem cell migration. A. K. SHUM*; T. DING; A. BELMADANI; R. MILLER; M. PRAKRIYA. *Northwestern Univ.*

**POSTER**

**469. CNS Co-Transporters**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 D51 **469.01** Native Kcc2 interactome reveals PACSIN1 as a critical regulator of synaptic inhibition. M. A. WOODIN*; S. KHADEMULLAH; Z. DARGAEI; J. CHEVRIER; P. UVAROV; J. KWAN; R. D. BAGSHAW; T. PAWSON; A. EMILI; Y. DE KONINCK; V. ANGGONO; M. AIRAKSINEN; V. MAHADEVAN. *Univ. of Toronto, Univ. of Toronto, Univ. of Toronto, Dept. of Cell & Systems Biol., Univ. of Helsinki, Univesity of Toronto, Mount Sinai Hosipital, Laval Univ. / IUSMQ, The Univ. of Queensland, Section on Cell. and Synaptic Physiol.*

9:00 D52 **469.02** KCC2 regulates neuronal excitability and hippocampal rhythmogenesis via direct interaction with Trek-2. M. GOUTIERRE; S. AL AWABDH; D. GOMEZ-DOMINGUEZ; E. FRANÇOIS; L. M. DE LA PRIDA; J. PONCER*. *INSERM, Inst. du Fer a Moulin, Inst. Cajal - CSIC.*

10:00 D53 **469.03** Chronic KCC2 extinction in mouse dorsal hippocampus compromises contextual memory. C. SIMONNET*; M. GOUTIERRE; Y. KOUIDRI; I. MOUTKINE; S. DAUMAS; J. PONCER. *Inst. Du Fer A Moulin, INSERM/ UPMC UMR-839, UPMC / Neurosciences Paris Seine, INSERM U1130 / CNRS UMR 8246.*

11:00 D54 **469.04** Expression, purification and characterization of full length 12 transmembrane helix potassium chloride cotransporter KCC2. Q. WANG*; M. AGEZ; P. SCHULTZ; I. MEDINA; D. BAKER; M. BURNHAM; R. CARDARELLI; L. CONWAY; K. GARNIER; S. GESCHWINDNER; A. GUNNARSSON; E. MCCALL; A. FRECHART; S. AUDEBERT; T. DEEB; S. MOSS; N. BRANDON; N. DEKKER; A. JAWHARI. *Astrazeneca R&D Boston, Calixar, Inst. de Génétique et de Biologie Moléculaire et Cellulaire INSERM, INMED INSERM, Discovery Sci. Astrazeneca, AstraZeneca Tufts Lab. for basic and translational Neurosci., Discovery Sci. AstraZeneca, Aix Marseille Univ, CNRS, INSERM, Tufts Univ.*

8:00 D55 **469.05** KCC2 modulates spontaneous network events in the perinatal rat and mouse hippocampus. M. PUSKARJOV; I. HIIRONNIEMI; A. SPOLJARIC; M. MAVROVIC; P. UVAROV; K. KAILA*. *Univ. of Helsinki, Univ. Helsinki.*

9:00 D56 **469.06** ● Membrane Bound SNAT10 (SLC38A10) regulates Mammalian Target of Rapamycin(mTORC1) Signaling under varied cellular stress. R. TRIPATHI*; T. AGGARWAL; K. NORDENANKAR; F. LINDBERG; R. FREDRIKSSON. *Uppsala Univ., UPPSALA University/Department of Pharm Biosci.*

10:00 D57 **469.07** Defining solute carrier distribution and function in the central nervous system. N. N. SCHWEIZER*; S. BAGCHI; R. FREDRIKSSON. *Uppsala Univ.*

11:00 D58 **469.08** Transcriptional regulation of the system $x_c^-$ light chain, xCT, in astrocytes. Y. HE*; C. P. ROSSER; J. SHI; J. A. HEWETT; S. J. HEWETT. *Syracuse Univ.*

8:00 D59 **469.09** ▲ Activation of AKT increases cell surface expression of System $x_c^-$. P. VERSLUIS*; A. GIBSON; M. SCHMIDT; D. SMITH; L. CHASE. *Hope Col.*

9:00 D60 **469.10** ▲ Regulation of System $x_c^-$: Effects of N-terminal and C-terminal mutations on xCT cell surface expression. A. GIBSON; P. VERSLUIS; M. SCHMIDT; L. A. CHASE*. *Hope Col.*

10:00 D61 **469.11** Extracellular matrix modulates system $x_c$- (SXC) mediated glutamate release from gliomas via CD44. J. MARTIN*; S. M. ROBERT; R. A. UMANS; H. SONTHEIMER. *Virginia Tech., Virginia Tech. Carilion Res. Inst.*

**POSTER**

**470. Synaptic Connectivity: Organization and Function**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 D62 **470.01** Anterior thalamic nuclei provide excitation and PV mediated feed-forward inhibition onto presubicular layer 3 neurons. M. NASSAR; J. SIMONNET; B. MATHON; L. HUANG; I. COHEN; M. BENDELS; R. MILES; D. FRICKER*. *Inst. Du Cerveau Et De La Moelle Epiniere, Humboldt Univ. zu Berlin, Inst. du Cerveau et de la Moelle, Univ. of Edinburgh, INSERM U1130 / CNRS UMR8246 / UPMC, Univ. Aachen, Insitut du Cerveau et de la Moelle, CNRS.*

9:00 D63 **470.02** Internal excitatory network in the subthalamic nucleus: An optogenetic functional mapping investigation. P. S. FREESTONE*; K. L. TODD; J. LIPSKI. *Univ. of Auckland, Univ. of Auckland.*

10:00 E1 **470.03** Mapping projection populations to striatal neurons. K. CHOI*; E. N. HOLLY; M. F. DAVATOLHAGH; K. BEIER; M. FUCCILLO. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania, Stanford Univ.*

11:00 E2 **470.04** ▲ Morphological complexity of human substantia nigra synapses. S. J. MABRY*; J. K. ROCHE; R. C. ROBERTS. *Univ. of Alabama Birmingham.*



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* Indicates abstract's submitting author

8:00 E3 **470.05** Localization and functional study of synaptic vesicle protein synaptogyrin3 (SYNGR3) on dopaminergic neuronal system and its potential link to Nurr1. L. LI*; P. HO; H. LIU; Z. TSE; C. LAM; M. LEUNG; M. KUNG; D. B. RAMSDEN; S. HO. *The Univ. of Hong Kong, Inst. of Metabolism and Systems Research, Univ. of Birminghm.*

8:00 DP02/E4 **470.06** (Dynamic Poster) The connectome of newly born neurons. G. WILDENBERG*; N. B. KASTHURI. *Univ. of Chicago/Argonne Natl. Lab., Univ. of Chicago.*

10:00 E5 **470.07** Mechanisms by which the prefrontal cortex distinguishes ventral hippocampal from mediodorsal thalamic inputs. E. TEBOUL*; S. CANETTA; S. S. BOLKAN; N. PADILLA COREANO; C. KELLENDONK. *New York State Psychiatric Inst., Columbia Univ., MIT.*

11:00 E6 **470.08** Mapping of excitatory and inhibitory activities of distinct neuronal populations in hippocampal slices using ArcLight. R. NAKAJIMA*; T. GEILLER; B. J. BAKER. *Korea Inst. of Sci. and Technol.*

8:00 E7 **470.09** Developmental characterization of hippocampal VGluT3-expressing interneurons. C. FANG; G. VARGISH; T. EKINS; K. AUVILLE; D. CALVIGIONI; R. CHITTAJALLU; K. A. PELKEY*; C. J. MCBAIN. *NIH.*

9:00 E8 **470.10** Pathway-specific recruitment of inhibition in motor cortex. J. J. COUEY*; B. M. HOOKS. *Univ. of Pittsburgh Sch. of Med., Univ. of Pittsburgh Sch. of Med.*

10:00 E9 **470.11** A comprehensive protein- Protein interaction map of the mammalian synaptic proteome. O. SOROKINA*; C. MCLEAN; K. F. HEIL; E. WYSOCKA; M. D. R. CRONING; D. C. STERRATT; S. G. GRANT; T. I. SIMPSON; J. D. ARMSTRONG. *The Univ. of Edinburgh.*

11:00 E10 **470.12** Developmental profiling of the actin-associated protein tropomyosin at central nervous system synapses. T. FATH*; A. K. SUCHOWERSKA; E. C. HARDEMAN; P. W. GUNNING. *Univ. of New South Wales.*

8:00 E11 **470.13** Fluorescent proteins for 2P FLIM analysis of presynaptic protein interactions. P. GULAKOVA*; D. DIETRICH; S. SCHOCH. *Inst. of Neuropathology, Deaprtment of Neurosurg.*

9:00 E12 **470.14** SALM4 suppresses excitatory synapse development by cis-inhibiting trans-synaptic SALM3-LAR adhesion. E. LIE*; J. KO; S. CHOI; J. D. ROH; Y. CHO; R. NOH; D. KIM; Y. LI; H. KANG; T. CHOI; J. NAM; W. MAH; D. LEE; S. LEE; H. KIM; H. KIM; S. CHOI; J. UM; M. KANG; Y. BAE; J. KO; E. KIM. *Inst. for Basic Sci., Yonsei Univ., Ctr. for Synaptic Brain Dysfunctions, Inst. for Basic Sci. (IBS), Sch. of Dentistry, Kyungpook Natl. Univ., Inst. For Basic Sci. (IBS), KAIST, Yonsei Univ. Col. of Med., Dept. of Physiology, Seoul Natl. Univ. Sch. of Dent., Dept. of Biol. Sciences, Korea Advanced Inst. for Sci. and Technol. (KAIST), Dept. of Anat. and Div. of Brain Korea 21, Biomed. Science, Col. of Medicine, Korea Univ., Grad. Sch. of Med. Sci. and Engineering, KAIST.*

10:00 F1 **470.15** Molecular organization at the synapse by cryo-electron tomography. A. MARTINEZ-SANCHEZ; Z. KOCHOVSKI; U. LAUGKS; C. PAPANTONIOU; W. BAUMEISTER; V. LUCIC*. *Max Planck Inst. of Biochem.*

11:00 F2 **470.16** Functional mapping of a synaptic adhesive code in neurons. A. M. GOMEZ*; L. TRAUNMÜLLER; P. SCHEIFFELE. *Univ. of Basel, Biozentrum Univ. Basel.*

8:00 F3 **470.17** Paired pulse facilitation and depression of intrinsic synaptic connectivity in the claustrum of the fruit bat, Carollia perspicillata. R. ORMAN*; S. E. FOX; M. G. STEWART. *SUNY Downstate Med. Ctr., State Univ. of New York Downstate Med. Ctr., SUNY Downstate Med. Ctr.*

**POSTER**

**471. Short-Term Plasticity**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 F4 **471.01** Identification of hypothalamic proteins involved in hormone-independent activation of progestin receptors by dopamine. K. D. ACHARYA*; S. A. NETTLES; C. F. LICHTI; L. DENNER; M. J. TETEL. *Wellesley Col., Washington Univ. Sch. of Med., Univ. Texas Med. Br.*

9:00 F5 **471.02** Inter-synaptic lateral diffusion of GABAA receptors shapes inhibitory synaptic currents. E. PETRINI*; T. RAVASENGA; E. DE LUCA; A. POLENGHI; T. NIEUS; A. BARBERIS. *Inst. Italiano di Tecnologia.*

10:00 F6 **471.03** Real-time mapping of the sensory homunculus by applying pseudorandomly coded peripheral nerve stimulation. V. C. CHEN*; W. YANG; L. PAN; M. CMIEL; L. CHOU. *Loyola Univ. Chicago, Natl. Yang-Ming Univ.*

11:00 F7 **471.04** Nmda receptor swapping during synaptic plasticity. D. LI*; D. V. MADISON. *Stanford Univ.*

8:00 F8 **471.05** ▲ The dependence on nerve evoked conditions in relation to the occurrence of spontaneous quantal events at *Drosophila* neuromuscular junctions. C. R. BALLINGER BOONE*; T. DONOVAN; R. SHUMARD; A. COOPER; M. MELODY; T. HICKEY; C. HERMANNS; Z. R. MAJEED; M. CORNELIUS; H. GARRIGUS; E. HIGGINS; M. LABARRE; A. LARSON; M. MCNABB; K. MONTICELLO; B. STOCKWELL; P. BOACHIE; A. HO; B. SLABACH; K. WEINECK; M. MEDLEY; N. D. PETTERSSON; J. MCCALL; C. MALLOY; R. L. COOPER. *Univ. of Kentucky, Univ. of Kentucky.*

9:00 F9 **471.06** Hp1bp3 influences neuronal excitability and cognitive function. S. DING*; S. NEUNER; K. O'CONNELL; C. KACZOROWSKI. *The Jackson Lab.*

10:00 F10 **471.07** How many release sites does a depressing synapse need to optimally transfer information? M. SALMASI*; S. GLASAUER; M. STEMMLER. *Ludwig-Maximilians-Universität, Ludwig-Maximilians-Universität, Bernstein Ctr. for Computat. Neurosci., Ludwig-Maximilians-Universität, Ludwig-Maximilians-Universität.*

11:00 F11 **471.08** Dopaminergic effects on optogenetically activated inputs on subcortical and commissural projecting layer V medial prefrontal pyramidal neurons. J. M. LEYRER; M. P. THOMAS*. *Univ. Of Northern Colorado, Univ. of Northern Colorado.*

8:00 F12 **471.09** ▲ Examining temporary loss of sensory perception over development in altering long-term function and neural circuitry effects behavioral responses. T. R. DONOVAN*; C. BALLINGER BOONE; B. SLABACH; K. WEINECK; M. MEDLEY; N. DZUBUK PETTERSSON; J. MCCALL; E. SOMASUNDARAM; C. MALLOY; R. COOPER. *Univ. of Kentucky, Univ. of Kentucky.*



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* Indicates abstract's submitting author

9:00 G1 **471.10** Rebound effect: A late onset replenishment mechanism at a fast auditory synapse. E. G. KRÄCHAN*; T. SCHMITT; M. FUHR; I. RÖMER; V. AUGUSTIN; E. FRIAUF. *TU Kaiserslautern.*

10:00 G2 **471.11** Isoflurane inhibits excitatory synaptic transmission. P. I. ZIMIN*; C. B. WOODS; J. RAMIREZ; P. G. MORGAN; M. M. SEDENSKY. *Seattle Children's Res. Inst., Univ. of Washington, Univ. Washington.*

11:00 G3 **471.12** Action potential counting at giant mossy fiber synapses gates information transfer in the hippocampus. S. CHAMBERLAND*; Y. TIMOFEEVA; A. EVSTRATOVA; K. E. VOLYNSKI; K. TOTH. *CRULRG, Univ. of Warwick, UCL Inst. of Neurol.*

8:00 G4 **471.13** Voltage-sensitive dye imaging study of the input-dependent GABAergic control of the paired burst facilitation (PBF) in area CA1 of the hippocampus. T. TOMINAGA*; Y. TOMINAGA. *Inst. of Neuroscience, Tokushima Bunri Univ.*

9:00 G5 **471.14** Bidirectional role of postsynaptic cAMP and cGMP in synaptic plasticity and memory. J. BOROVAC*; T. LUYBEN; K. TAKAO; K. OKAMOTO. *Univ. of Toronto, Samuel Lunenfeld Res. Inst., Univ. of Toyama, Samuel Lunenfeld research institute.*

10:00 G6 **471.15** Effects of adenosine on parameters of short-term plasticity in mouse anterior piriform cortex. L. G. NOWAK*; S. PERRIER; M. GLEIZES; C. FONTA. *Cerco Lab. - UMR 5549, CNRS.*

**POSTER**

**472. Transcription and Translation in Plasticity: Gene Expression**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 G7 **472.01** Distinct neuronal activity patterns induce different gene expression programs. K. TYSSOWSKI*; N. DESTEFINO; R. N. SAHA; J. CHO; R. JONES; S. CHANG; P. ROMEO; M. WURZELMANN; J. WARD; S. M. DUDEK; J. GRAY. *Harvard Med. Sch., Univ. of California Merced, Natl. Inst. of Env. Hlth. Sci., NIH.*

9:00 G8 **472.02** The effects of neural stimulation pattern on gene expression in the cerebral cortex. M. M. CHAUDHRY*; Q. S. FISCHER; H. KALIKULOV; M. J. FRIEDLANDER. *Virginia Tech. Carilion Sch. of Med., Virginia Tech. Carilion Res. Inst.*

10:00 G9 **472.03** Compulsive methamphetamine taking under punishment increases the expression of AP1 family of transcription factors in the rat nucleus accumbens. M. T. MCCOY*; B. LADENHEIM; L. CONTU; M. O. JOB; B. CAMPBELL; C. A. BLACKWOOD; S. JAYANTHI; J. CADET. *DHHS/NIH/NIDA/IRP.*

11:00 G10 **472.04** Role of the transcription factor Nurr1 on glutamatergic synapses in the hippocampus. J. CATALÀ-SOLSONA*; D. J. SIEDLECKI-WULLICH; S. LUTZU; P. J. LITUMA; C. FÁBREGAS-ORDOÑEZ; C. A. SAURA; A. J. MIÑANO-MOLINA; P. E. CASTILLO; J. RODRÍGUEZ-ÁLVAREZ. *Inst. De Neurociències, Univ. Autònoma de Barcelona (UAB), Ctr. de Investigación Biomédica en Red sobre Enfermedades Neurodegenerativas (CIBERNED), Dominick P. Purpura Dept. of Neuroscience, Albert Einstein Col. of Med.*

8:00 H1 **472.05** Impact of BDNF signaling on maternal care and oxytocin neuron gene expression. K. R. MAYNARD*; J. HOBBS; B. PHAN; C. WILLIAMS; A. GUPTA; J. SHIN; A. JAFFE; K. MARTINOWICH. *Lieber Inst., Johns Hopkins Bloomberg Sch. of Publ. Hlth., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med.*

9:00 H2 **472.06** Induction of BDNF by Electroconvulsive stimulation requires the immediate early gene early growth response 3 (Egr3). K. MEYERS*; K. K. MARBALLI; J. M. CAMPBELL; A. L. GALLITANO. *Univ. of Arizona - Col. of Med., Univ. of Arizona - Col. of Med., Univ. of Arizona.*

10:00 H3 **472.07** Early growth response 3 (Egr3) is a novel regulator of DNA damage response genes in the mouse hippocampus. K. MARBALLI*; S. BRUNWASSER; K. MEYERS; A. BARKATULLAH; J. CAMPBELL; A. L. GALLITANO. *Univ. of Arizona, Col. of Med., Arizona State Univ.*

11:00 H4 **472.08** Genomic identity and plasticity of cAMP-dependent genes in *Aplysia californica.* C. BOSTWICK*; T. P. MOROZ; A. B. KOHN; L. L. MOROZ. *Univ. of Florida Whitney Lab. for Marine Biosci.*

8:00 H5 **472.09** CoREST expression in the pilocarpine-induced status epilepticus in mice. M. E. ANDRES*; C. A. RIVERA; V. NOCHES. *Pontificia Univ. Catolica De Chile, Pontificia Univ. Catolica de Chile.*

9:00 H6 **472.10** Dynamic recruitment of CoREST proteins to neuronal chromatin. C. A. RIVERA*; V. NOCHES; M. E. ANDRES. *Pontificia Univ. Católica De Chile, Pontificia Univ. Católica de Chile, Pontificia Univ. Catolica De Chile.*

10:00 H7 **472.11** Upf1 contributes to Arc/Arg3.1 gene expression. H. RYU*; J. SEO; E. LEE; E. KIM; Y. JUNG; H. KIM; E. OH; D. KIM; K. KIM. *Pohang Univ. of Sci. and Technol., Pohang Univ. of Sci. and Technol., Pohang Technopark, Sch. of Dentistry, Kyungpook Natl. Univ. (KNU).*

11:00 H8 **472.12** The mRNA methyltransferase METTL14 is vital for survival and epitranscriptomic regulation of learning. J. KORANDA*; L. DORE; H. SHI; M. PATEL; L. VAASJO; M. RAO; W. CHI; K. CHEN; Z. LU; C. HE; X. ZHUANG. *Univ. of Chicago Dept. of Neurobio., Univ. of Chicago, Univ. of Chicago, Univ. of Chicago, Mr., Univ. of Chicago, Univ. of Chicago Dept. of Neurobio.*

8:00 H9 **472.13** *In vivo* 2pFLIM imaging of experience dependent dynamics of CREB with cellular resolution. T. LAVIV*; P. PARRA-BUENO; R. YASUDA. *Max Planck Florida Inst.*

9:00 H10 **472.14** Expression of the small G-protein Rem2 is transcriptionally regulated by CREB. H. L. PUHL*, III; D. J. LIPUT; M. D. AKBAR. *NIH.*

10:00 H11 **472.15** Self-Scission of the CPEB3 ribozyme is activity-dependent and may regulate expression of the CPEB3 mRNA. C. CHEN*; X. LI; K. KE; T. W. BREDY; A. LUPTÁK. *Univ. of California, Irvine, Queensland Brain Inst., Univ. of California, Irvine.*

11:00 H12 **472.16** Histone serotonylation: A novel mechanism of epigenetic plasticity. L. FARRELLY*; R. THOMPSON; S. ZHAO; A. E. LEPACK; B. J. LUKASAK; T. NAKADAI; Y. LOH; Y. LU; R. M. BASTLE; O. BERTON; H. ZEBROSKI III; N. ALENINA; M. BADER; N. BHANU; H. MOLINA; B. A. GARCIA; R. G. ROEDER; L. SHEN; H. LI; T. W. MUIR; I. MAZE. *Dept. of Neurosci., Princeton Univ., Tsinghua Univ., Rockefeller Univ., The Max Delbrück Ctr. for Mol. Med., Univ. of Pennsylvania.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 I1 **472.17** The role of histone serotonylation in neuronal plasticity and behavior. A. AL-KACHAK*; L. A. FARRELLY; C. MENARD; A. E. LEPACK; R. BASTLE; A. S. AGUSTINUS; Y. LU; A. TAN; S. J. RUSSO; Y. DAVID; I. MAZE. *Icahn Sch. of Med. At Mount Sinai, Mem. Sloan Kettering Cancer Ctr.*

9:00 I2 **472.18** Aberrant chromatin regulatory mechanisms in Down syndrome. Y. LU*; A. E. LEPACK; A. EAGLE; R. M. BASTLE; W. WENDERSKI; L. A. FARRELLY; J. STAFFORD; A. AL-KACHAK; S. FULTON; M. HEYER; H. MOLINA; R. CAO; A. BHATTACHARYYA; W. MOBLEY; P. J. KENNY; K. BRENNAND; R. ROPER; H. LI; A. FRIEDMAN; A. ROBISON; I. MAZE. *Icahn Sch. of Med. At Mount Sinai, Michigan State Univ., Stanford, NYU Langone Meidcal Ctr., Rockefeller, Tsinghua Univ., Univ. Wisconsin-Madison, UC San Diego, Indiana University-Perdue Univ. Indianapolis, Hunter Col.*

10:00 I3 **472.19** Histone turnover and chromatin accessibility in Major Depressive Disorder (MDD). S. L. FULTON*; J. FULLARD; T. HALENE; K. GLEASON; B. BUCHHOLZ; M. BIRTWISTLE; J. COPLAN; C. TAMMINGA; S. AKBARIAN; Y. DAVID; P. ROUSSOS; I. MAZE. *Mount Sinai Icahn Sch. of Med., Univ. of Texas Southwestern, Lawrence Livermore Natl. Lab., SUNY Downstate, Mem. Sloan Kettering Cancer Ctr.*

11:00 I4 **472.20** Novel chemical methodology for identification of endogenously dopaminylated substrates in brain. R. M. BASTLE*; R. THOMPSON; A. E. LEPACK; L. A. FARRELLY; Y. LU; H. MOLINA; T. W. MUIR; I. S. MAZE. *Icahn Sch. of Med. at Mount Sinai, Princeton Univ., Rockefellar Univ., Icahn Sch. of Med. at Mount Sinai.*

8:00 I5 **472.21** Functions for histone dopaminylation in cocaine-induced transcriptional and behavioral plasticity. A. LEPACK*; L. A. FARRELLY; C. WERNER; A. C. W. SMITH; Y. LU; R. THOMPSON; R. O'CONNOR; R. M. BASTLE; S. ZHANG; H. LI; Z. WANG; T. MUIR; D. DIETZ; P. J. KENNY; I. MAZE. *Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. at Mount Sinai, The State Univ. of New York at Buffalo, Princeton, Tsinghua Univ.*

9:00 I6 **472.22** H3K27M expression in neurons induces reversion to a more primitive molecular and functional state. J. STAFFORD*; A. LEPACK; C. LEE; D. KHODAGHOLY; B. UEBERHEIDE; J. CHAPMAN; G. LEROY; D. REINBERG; I. S. MAZE. *NYU LMC, Icahn Sch. of Med. At Mount Sinai, New York Univ. Langone Med. Ctr., Icahn Sch. of Med. At Mount Sinai.*

**POSTER**

**473. Transcription and Translation in Plasticity: mRNA and Protein Dynamics**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 I7 **473.01** Evidence for presynaptic protein synthesis and its requirement to maintain neurotransmitter release at the calyx of Held nerve terminal. M. S. SCARNATI; K. G. PARADISO*. *Rutgers Univ.*

9:00 I8 **473.02** Linking cannabinoid-1 receptor activation to presynaptically-synthesized target proteins in endocannabinoid-mediated long-term plasticity. H. R. MONDAY*; T. J. YOUNTS; M. E. KLEIN; B. A. JORDAN; P. E. CASTILLO. *Albert Einstein Col. of Med.*

10:00 I9 **473.03** Systematic identification of activity-dependent synaptonuclear signaling proteins in the hippocampus. W. A. HERBST*; A. A. VASHISHT; A. K. RAJBHANDARI; M. S. FANSELOW; C. R. HOUSER; J. A. WOHLSCHLEGEL; K. C. MARTIN. *UCLA.*

11:00 I10 **473.04** Examination of stalled polysomes *in vivo* in hippocampal cultures. K. GINZBERG*; T. GRABER; W. SOSSIN. *McGill Univ.*

8:00 J1 **473.05** The role of mTORC1 effectors eIF4A1 and PDCD4 in activity dependent translation. I. KATS*; E. KLANN. *New York Univ., New York Univ. Ctr. for Neural Sci.*

9:00 J2 **473.06** Synaptic specificity in late long-term potentiation (L-LTP) is influenced the location of polyribosomes and protein dynamics. H. Z. SHOUVAL*; M. A. HUERTAS; T. C. SACKTOR. *Univ. Tex Medl Schl Houston, Univ. of Texas Med. Sch. at Houston, SUNY Downstate Med. Ctr.*

10:00 J3 **473.07** The RNA binding protein ZBP1 regulates neuronal migration through control of beta actin mRNA. J. BISWAS*; Z. B. KATZ; A. R. BUXBAUM; M. LOPEZ-JONES; R. H. SINGER. *Albert Einstein Col. of Med., Salk Inst. for Biol. Studies, Univ. of California San Diego.*

11:00 J4 **473.08** Investigating non-canonical translation in neurons. H. WONG*; J. LEVENGA; C. A. HOEFFER. *Univ. of Colorado Boulder.*

8:00 DP03/J5 **473.09** (Dynamic Poster) Ribosome intersubunit FLIM-FRET to detect ribosome assembly in dendrites. Y. J. YOON*; H. CHOI; R. H. SINGER. *Albert Einstein Col. of Med., HHMI/Janelia Res. Campus, Albert Einstein Col. of Med.*

9:00 J6 **473.10** Dynamics of transcription and transport of labeled-endogenous Arc mRNA in live neurons. H. MOON*; S. DAS; R. H. SINGER; H. PARK. *Seoul Natl. Univ., Albert Einstein Col. of Med., Howard Hughes Med. Inst.*

8:00 DP04/J7 **473.11** (Dynamic Poster) A transgenic mouse for visualizing dynamics of endogenous Arc (Arg3.1) mRNA in hippocampal neurons. S. DAS*; H. MOON; H. PARK; R. H. SINGER. *Albert Einstein Col. of Med., Seoul Natl. Univ., Janelia Res. Campus.*

11:00 J8 **473.12** Altered protein synthesis and cortico-striatal synaptic function in Fragile X Syndrome (FXS) model mice. F. LONGO*; S. ARYAL; J. TABOR; E. SANTINI; E. KLANN. *New York Univ., New York Univ. Sch. of Med., Columbia Univ.*

8:00 J9 **473.13** Epigenetic and synaptic modifications associated with severe early life stress in the ventral tegmental area. R. D. SHEPARD*; H. KASSIS; S. GOUTY; M. E. AUTHEMENT; L. D. LANGLOIS; C. A. BROWNE; I. LUCKI; B. M. COX; F. S. NUGENT. *Uniformed Services Univ., Uniformed Services Univ. of the Hlth. Scienc, Uniformed Services Univ. of Hlth. Sci., Uniformed Services Univ. of the Hlth. Scienc, USUHS.*

9:00 J10 **473.14** Activity-driven regulation of Nogo receptor 1 expression and localisation. A. T. BRODIN*; D. T. DOMINGUES; K. WELLFELT; L. OLSON; T. E. KARLSSON. *Karolinska Institutet.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**474. Hippocampal and Entorhinal Neuronal Activity and Firing Properties**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 J11 **474.01** Network state-dependent recruitment of hippocampal CA1 interneuron-selective cells in awake mice. L. TOPOLNIK*; V. VILLETTE; R. FRANCAVILLA. *CRCHUQ-CHUL, Laval Univ.*

9:00 J12 **474.02** Constraining dendritic $I_h$ distributions in somatostatin-positive oriens-lacunosum/moleculare hippocampal interneurons using matched recordings and morphology. V. SEKULIC*; F. YI; T. GARRETT; F. K. SKINNER; J. J. LAWRENCE. *Krembil Res. Inst., Univ. of Toronto, Dept. of Biomed. and Pharmaceut. Sciences, Univ. of Montana, Oregon Hlth. and Sci. Univ., Univ. of Toronto, Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*

10:00 K1 **474.03** Simulating *in vivo*-like states for hippocampal CA1 interneuron specific 3 cells. A. T. GUET-MCCREIGHT*; L. TOPOLNIK; F. K. SKINNER. *Krembil Res. Inst., Univ. of Toronto, CRCHUQ-CHUL, Laval Univ., Laval Univ., Univ. of Toronto.*

11:00 K2 **474.04** Properties of connections established by local and extrinsic excitatory projections on the hippocampal CA1 interneuron-specific interneurons. X. LUO*; R. FRANCAVILLA; L. TOPOLNIK. *CHU de Quebec, Univ. Laval.*

8:00 K3 **474.05** Prolonged hyperexcitability of hippocampal mossy fibers after repetitive high frequency stimulation. H. KAMIYA*. *Hokkaido Univ. Grad. Sch. of Med.*

9:00 K4 **474.06** Dominant role of $\alpha_1$ $Na^+/K^+$ ATPase in generating the slow afterhyperpolarization in CA1 pyramidal cells. M. N. TIWARI*; S. MOHAN; Y. BIALA; Y. YAARI. *Dept. Of Med. Neurobio.*

10:00 K5 **474.07** Activity dependent scaling of H-current in mouse CA1 OLM-interneurons. D. YOUSEF YENGEJ*; W. J. WADMAN. *Univ. of Amsterdam.*

11:00 K6 **474.08** Group I metabotropic glutamate receptors generate two types of intrinsic membrane oscillations in hippocampal O-LM interneurons. G. GOVINDAIAH; Y. KANG; L. CHUNG; E. GARCIA-RILL; S. LEE*. *Univ. of Arkansas For Med. Sci., Duke Univ. Sch. of Med., Univ. of Arkansas For Med. Sci.*

8:00 K7 **474.09** Local circuitry in the medial entorhinal cortex layer V. A. V. EGOROV*; F. S. LORENZ; A. ROZOV; A. DRAGUHN. *Inst. Physiol. and Pathophysiol., Heidelberg Univ.*

9:00 K8 **474.10** Privileged recruitment of axon-carrying dendrite pyramidal cells in hippocampal network oscillations. M. E. KAISER; T. SACKMANN; M. ENGELHARDT; L. LANDECK; P. GESCHWILL; A. DRAGUHN; C. SCHULTZ; M. BOTH*. *Heidelberg Univ., Univ. Heidelberg, Med. Fac. Mannheim.*

10:00 K9 **474.11** ● Kv4.1 is a key player for sparse firing of mature granule cells in hippocampal dentate gyrus. K. KIM*; Y. SUH; S. LEE; W. HO. *Seoul Natl. University, Col. of Med., Seoul Natl. Univ. Col. of Med., Dept. of Physiol., Seoul Natl. Univ. Col. Med.*

11:00 K10 **474.12** Retroaxonal barrage firing in neuropeptide Y interneurons in hippocampus and cerebral cortex. T. DEEMYAD*; J. LÜTHI; J. WINNUBST; N. SPRUSTON. *Univ. of Pittsburgh, Univ. of Zurich, HHMI Janelia Res. Campus.*

8:00 K11 **474.13** Effects of dopamine on persistent firing in layer III entorhinal cortex neurons. A. A. BATALLAN BURROWES*; C. A. CHAPMAN. *Concordia Univ.*

9:00 K12 **474.14** Functionally distinct populations within anatomically similar CCK-expressing hippocampal interneurons. V. OLAH; D. LUKACSOVICH; J. WINTERER; C. FOLDY; Z. NUSSER; J. SZABADICS*. *Inst. of Exptl. Medicine, Hungarian Acad. of Sci., Univ. of Zurich.*

10:00 L1 **474.15** Changes in firing rates of CA3 place cells across sleep following a novel experience. E. HWAUN*; L. L. COLGIN. *UT Austin, Univ. of Texas At Austin.*

11:00 L2 **474.16** The role of calcium activated potassium channels in controlling excitability of neonatal hippocampal neurons in primary cultures. M. S. HUNSBERGER; A. J. MONICAL; M. MYNLIEFF*. *Marquette Univ.*

8:00 L3 **474.17** Ionic current correlations are ubiquitous and regulated - evidence from mammalian neurons. J. P. GOLOWASCH*; T. TRAN; C. T. UNAL; L. ZABORSZKY; H. G. ROTSTEIN; A. KIRKWOOD. *NJIT, Johns Hopkins Univ., Rutgers University-Newark, NJIT.*

9:00 L4 **474.18** Physiology, morphology and biophysically-realistic computational models of the human epileptic hippocampus. A. BUCHIN*; R. DE FRATES; P. CHONG; C. S. GERARD; B. E. KALMBACH; S. MCCONOUGHEY; U. RUTISHAUSER; R. GWINN; S. A. SORENSEN; J. T. TING; C. A. ANASTASSIOU. *Allen Inst. For Brain Sci., Swedish Med. Ctr., Cedars-Sinai Med. Ctr., Caltech, Univ. of British Columbia.*

10:00 L5 **474.19** Cell type-specific intrinsic theta and gamma oscillations in hippocampal GABAergic interneurons. Y. KANG*; G. GOVINDAIAH; H. E. SMASHEY; M. W. YOUNG; L. J. GREENFIELD, Jr.; E. GARCIA-RILL; S. LEE. *Univ. of Arkansas For Med. Sci., Univ. of Connecticut Hlth. Ctr., Univ. of Arkansas For Med. Sci.*

11:00 L6 **474.20** ▲ Influence of non-spatial information on spatial information in hippocampal granule cell. N. NAKAJIMA; T. OINUMA; H. HAYAKAWA; E. HIDA*; T. AIHARA. *Tamagawa Univ. ROOM154 BLDG.No.8, Tamagawa Univ.*

**POSTER**

**475. Demyelinating Disorders: Mechanisms and Treatment**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 L7 **475.01** JC virus propagation is potentiated by glial replication & is accelerated by demyelination-associated glial proliferation. C. LI*; J. BATES; S. J. SHANZ; M. S. WINDREM; S. A. GOLDMAN. *URMC, Univ. of Copenhagen.*

9:00 L8 **475.02** A highly expanded IgA B-cell in the cerebrospinal fluid of a multiple sclerosis patient. J. LIN*; A. LIANG; A. FINNEY-STABLE; S. SADIQ. *Tisch MS Res. Cntr NY.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 L9 **475.03** ● Evidence for neural-vascular uncoupling in multiple sclerosis: A calibrated functional MRI study in visual cortex. D. SIVAKOLUNDU*; K. WEST; M. TURNER; L. HIMES; N. A. HUBBARD; B. THOMAS; J. HART, Jr.; E. FROHMAN; D. T. OKUDA; B. P. RYPMA. *Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas, MIT, UT Southwestern Med. Ctr.*

11:00 L10 **475.04** ● Progressive neural-vascular uncoupling with persistent motor activity in multiple sclerosis. K. WEST*; D. SIVAKOLUNDU; M. TURNER; L. HIMES; B. THOMAS; N. HUBBARD; E. FROHMAN; J. HART, Jr.; D. OKUDA; B. RYPMA. *Univ. of Texas At Dallas, Univ. of Texas at Southwestern, Univ. of Texas at Southwestern, Univ. of Texas At Dallas, Univ. of Texas at Southwestern.*

8:00 M1 **475.05** ● Relationships between hemodynamic response function canonicality and cognitive slowing in relapsing-remitting multiple sclerosis. M. P. TURNER*; N. A. HUBBARD; L. M. HIMES; D. K. SIVAKOLUNDU; J. HART, Jr.; D. T. OKUDA; E. FROHMAN; B. RYPMA. *Univ. of Texas at Dallas, Massachussetts Inst. of Technol., Univ. of Texas at Dallas, Univ. of Texas Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr.*

9:00 M2 **475.06** Restoring vision in a mouse model of optic nerve demyelination through transplantation of iPSC-derived oligodendrocyte precursor cells. M. M. STANDIFORD*; K. MIRCHIA; E. TRIPLET; C. L. HOWE. *Mayo Grad. Sch., Mayo Clin.*

10:00 M3 **475.07** Conditional knockout of DARS2 results in white matter atrophy and neurobehavioral changes in mice. C. L. NEMETH*; S. N. TOMLINSON; C. F. MURRAY; C. TIFFANY; M. V. JOHNSTON; A. TRIFUNOVIC; A. FATEMI. *Kennedy Krieger Inst., Johns Hopkins Univ., Univ. of Cologne.*

11:00 M4 **475.08** Targeting protease activated receptor 1 improves CNS myelin regeneration. C. CHOI*; P. STARSKI; G. WALTERS; A. PAULSEN; I. A. SCARISBRICK. *Mayo Clin., Rehabil. Med. Res. Center, Mayo Clin., Neurobio. of Dis. Program Mayo Clin.*

8:00 M5 **475.09** Reduced myelin sheath thickness in aged forebrain-specific CTGF knockout mice. H. CHANG*; L. LEE. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ.*

9:00 M6 **475.10** Modulating molecular chaperones improves demyelinating neuropathy in the MPZ-RAF mouse model. X. ZHANG*; B. S. J. BLAGG; R. T. DOBROWSKY. *Univ. of Kansas, Univ. of Kansas.*

10:00 M7 **475.11** Lipid biochemistry probed with Nile Red spectral microscopy reveals novel features during cuprizone demyelination and remyelination. W. TEO*; A. V. CAPRARIELLO; M. MORGAN; P. K. STYS. *Hotchkiss Brain Institute, Univ. of Calgary, Univ. of Calgary, Univ. of Calgary.*

11:00 M8 **475.12** ● Antisense oligonucleotide therapy elicits rapid, sustained pathology reversal in a mouse model of Alexander disease. B. POWERS*; T. HAGEMANN; C. MAZUR; E. SWAYZE; A. MESSING. *Ionis Pharmaceuticals, Univ. of Wisconsin-Madison.*

8:00 M9 **475.13** IL-37 exerts therapeutic effects in experimental autoimmune encephalomyelitis. A. SÁNCHEZ FERNÁNDEZ*; C. DINARELLO; R. LÓPEZ-VALES. *Univ. Autonoma De Barcelona, Univ. of Colorado Denver, Radboud Univ. Med. Ctr.*

9:00 M10 **475.14** *In vitro* derivation of oligodendrocyte precursors from neural progenitors harbored in the adult bone marrow - implications for remyelination therapy. D. K. SHUM*; Y. P. TSUI; K. L. K. WU; Y. S. CHAN. *Sch. of Biomedic. Sci., Fac. Med., Univ. Hong Kong.*

10:00 N1 **475.15** Unable to Attend Serum enkephalin levels correspond to disease severity in EAE. P. J. MCLAUGHLIN*; M. D. LUDWIG; I. S. ZAGON. *Penn State Univ. Coll Med.*

11:00 N2 **475.16** Methionine metabolism is altered in multiple sclerosis. F. MIR*; Z. BALIC; J. JIAN; S. A. SADIQ. *Tisch MS Res. Ctr. of NY, Tisch MS Res. Ctr. of NY.*

8:00 N3 **475.17** ● Evaluation of dendrimer-4phenylbutyrate in X-linked adrenoleukodystrophy patient derived cells. C. L. NEMETH; B. TURK; C. F. MURRAY; C. TIFFANY*; O. GOK; A. SHARMA; S. KAMBHAMPATI; R. RAMIREDDY; A. B. MOSER; P. A. WATKINS; R. M. KANNAN; S. KANNAN; A. FATEMI. *KennedyKrieger Institute/Lipid Lab., Kennedy Krieger Inst., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ.*

9:00 N4 **475.18** Cerebrospinal fluid IgA levels correlate with disease activity in patients with multiple sclerosis; A novel finding. A. LIANG; S. A. SADIQ*; A. FINNEY-STABLE; J. LIN. *Tisch MS Res. Ctr.*

10:00 N5 **475.19** ● Treatment with cerium oxide nanoparticles in a mouse model of multiple sclerosis: Identifying the minimum effective subcutaneous dose. B. R. BARNES; W. E. DECOTEAU; J. E. BUCKLEITNER; T. A. BEDARD; S. C. HENEGAN; E. M. NEEDHAM; J. A. ROBINSON; M. M. GARDNER; A. Y. ESTEVEZ*; J. S. ERLICHMAN; K. L. HECKMAN. *St. Lawrence Univ., St. Lawrence Univ., St. Lawrence Univ.*

11:00 N6 **475.20** Adult oligodendrocytes can play a role in remyelination. I. D. DUNCAN*; L. A. WIERENGA; M. HEIDARI; A. B. RADCLIFF; G. KIDD. *Univ. Wisconsin Sch. Vet Med., Renovo Neural, Inc.*

8:00 N7 **475.21** Effects of intrathecal delivery of primary and secondary progressive MS cerebrospinal fluid on motor function and CNS pathology. J. K. WONG*; N. J. KUNG; S. A. SADIQ. *Tisch MS Res. Ctr. of New York.*

9:00 N8 **475.22** Drug screening for remyelination using a cerebral neural aggregate culture system. S. J. KIM*; H. KOI; D. MICHAUD; S. DONOVER; M. BITTNER; R. Q. LU; M. REICHMAN; J. LI. *Texas A&M Univ., Lankenau Inst. for Med. Res., Texas A&M Engin. Experiment Station, Cincinnati Children's Hosp. Med. Ctr.*

10:00 N9 **475.23** Demyelination causes recruitment of axon-specific CD8+ T cells to the CNS leading to further injury. B. CLARKSON*; K. MIRCHIA; M. M. STANDIFORD; C. L. HOWE. *Mayo Clin., Mayo Clin., Mayo Grad. Sch.*

**POSTER**

**476. The Role of ApoE in Mechanisms of Neurotoxicity**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 N10 **476.01** Peripherally-expressed apoE isoforms differentially affect brain functions. C. LIU*; Y. CHEN; N. ZHAO; W. QIAO; N. WANG; J. ROGERS; J. ZHAO; C. M. LINARES; J. KNIGHT; A. KURTI; J. FRYER; B. KIM; G. BU. *Mayo Clin.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 N11 **476.02** Gut microbiome association with APOE genotype in EFAD mice. I. PARIKH*; J. L. ESTUS; M. MALIK; L. M. TAI; M. LADU; S. J. GREEN; S. ESTUS. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Kentucky.*

10:00 N12 **476.03** The role of APOEs in regulating synaptogenesis. B. ZHOU*; Y. A. HUANG; M. WERNIG; T. C. SUDHOF. *Stanford Univ.*

11:00 O1 **476.04** Reversing apoE4 lipidation deficiency with a clinically tested HDL mimetic peptide. D. S. CHERNICK*; D. A. HOTTMAN; A. GRAM; L. LI. *Univ. of Minnesota, Univ. of Minnesota.*

8:00 O2 **476.05** ● Regulation of apolipoprotein E expression and secretion in astrocytes. E. DRESSELHAUS*; G. RAMASWAMY. *Pfizer, Pfizer Inc.*

9:00 O3 **476.06** Changes in the synaptic proteome in Alzheimer's disease indicate a role for Clusterin and ApoE in synapse degeneration. R. J. JACKSON*; A. G. HERRMANN; M. LLAVERO; C. HENSTRIDGE; D. J. LAMONT; T. M. WISHART; T. L. SPIRES-JONES. *Univ. of Edinburgh, Univ. of Edinburgh, 'FingerPrints' Proteomics Facility.*

10:00 O4 **476.07** Regulation of matrix metallopeptidase 9 by apolipoprotein E. C. RINGLAND*; B. SHACKLETON; M. EISENBAUM; L. ABDULLAH; F. CRAWFORD; C. BACHMEIER. *The Roskamp Inst., Bay Pines VA Healthcare Syst.*

11:00 O5 **476.08** ApoE isoforms differentially regulates cleavage and secretion of BDNF. A. SEN*; T. J. NELSON. *West Virginia Univ., Blanchette Rockefeller Neurosciences Inst.*

8:00 O6 **476.09** ● Anti-apoE antibodies reduced amyloid pathology by active recruitment of microglia in APPPS1-21/apoE4 mice. M. XIONG*; F. LIAO; N. BIEN-LY; A. P. SILVERMAN; R. J. WATTS; J. REMOLINA SERRANO; M. FINN; P. SULLIVAN; H. JIANG; J. D. ULRICH; D. M. HOLTZMAN. *Washington Univ. Sch. of Med., Denali Therapeut., Duke Univ.*

9:00 O7 **476.10** Differential effects of human and mouse apolipoprotein E on the metabolism and aggregation of amyloid-β peptides. A. KOKAWA*; Y. OHNO; T. HASHIMOTO; T. IWATSUBO. *The Univ. of Tokyo.*

10:00 O8 **476.11** ● ApoE facilitates the microglial response to amyloid pathology. J. D. ULRICH*; T. K. ULLAND; T. E. MAHAN; P. NILSSON; W. SONG; H. JIANG; F. STEWART; E. ANDERSON; Y. WANG; M. COLONNA; D. HOLTZMAN. *Washington Univ. of St Louis, Washington Univ., Linkoping Univ.*

11:00 O9 **476.12** Apolipoprotein e containing lipoproteins prevent optic nerve degeneration with a reduction of alpha 2 macroglobulin secretion from retinal glia. H. HAYASHI*; M. MORI; M. HARASHIMA; T. HASHIZUME; M. FURIYA; H. MORI; B. YUAN; N. TAKAGI. *Tokyo Univ. of Pharm. and Life Sci.*

8:00 O10 **476.13** ApoE2, E3 and E4 differentially activate MAP-kinase signaling to promote synaptogenesis, APP transcription and Aβ secretion paralleling their role in Alzheimer's disease. Y. A. HUANG*; B. ZHOU; M. WERNIG; T. C. SÜDHOF. *Stanford Univ. Sch. of Med., Stanford Univ. Sch. of Med.*

**POSTER**

## 477. Synaptic Deficits in Alzheimer's Disease and Neurodegeneration II

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 P1 **477.01** Abeta42 oligomers impair NMDA receptors function: A model for studying the early synaptic alterations following Alzheimer's disease onset. A. MARCANTONI*; M. CERULLO; P. BUXEDA; V. CARABELLI; E. CARBONE. *Univ. of Turin.*

9:00 P2 **477.02** G-protein gated inwardly-rectifying potassium (Kir3/GirK) channel activation rescues synaptic, network, and cognitive hippocampal functions in an *in vivo* murine model of early Alzheimer's disease. I. SÁNCHEZ-RODRÍGUEZ*; S. TEMPRANO-CARAZO; A. NÁJERA; S. DJEBARI; J. YAJEYA; A. GRUART; J. DELGADO-GARCIA; L. JIMÉNEZ-DÍAZ; J. D. NAVARRO-LOPEZ. *Univ. of Castilla-La Mancha, Univ. of Salamanca, Pablo de Olavide Univ.*

10:00 P3 **477.03** Early disruption of parvalbumin expression and perineuronal nets in the hippocampus of the Tg2576 mouse model of Alzheimer's disease. V. CATTAUD; C. BEZZINA; C. REY; C. LEJARDS; L. DAHAN; L. VERRET*. *CRCA CNRS Toulouse.*

11:00 P4 **477.04** Cell cycle re-entry followed by hyperploidy triggers synaptic dysfunction in differentiated cortical neurons: An Alzheimer's disease mechanism? E. BARRIO-ALONSO*; A. HERNÁNDEZ-VIVANCO; C. C. WALTON; G. PEREA; J. M. FRADE. *INSTITUTO CAJAL, Cajal Inst., Cajal Inst., Cajal Inst.*

8:00 P5 **477.05** Analysis of synaptic insulin signaling in the hippocampus and prefrontal cortex in diabetes-associated cognitive impairment. H. TADA*; A. TOKUNAGA; D. TANOKASHIRA; M. KASHIWADA; T. SAJI; M. IMAI; A. TAGUCHI. *Natl. Ctr. for Geriatrics and Gerontology, Natl. Ctr. for Geriatrics and Gerontology.*

9:00 P6 **477.06** ● Synaptic plasticity and animal behavior can be modulated by playing with the STIMs and ORAIs expression in neurons - The key players in the store operated calcium entry. L. MAJEWSKI*; F. MACIAG; P. M. BOGUSZEWSKI; J. KUZNICKI. *Intern. Inst. of Mol. and Cell Biol., Neurobio. Centre, Nencki Inst. of Exptl. Biol. of the Polish Acad. of Sci.*

10:00 P7 **477.07** Age-dependent changes in the synaptic regulator arc (activity-dependent cytoskeleton-associated protein) in the hippocampal formation of mice. A. KHAN*; K. LEE; H. WANG. *CUNY Sch. of Med., The Grad. Center, City Univ. of New York.*

11:00 P8 **477.08** Amyloid-β induces dendritic degeneration by altering Rho kinase (ROCK) signaling in Alzheimer's disease. B. W. HENDERSON*; J. H. HERSKOWITZ. *Univ. of Alabama At Birmingham.*

8:00 P9 **477.09** In diabetic rats, insulin within the hippocampus increased. A. S. SHINGO*; S. KITO; T. MURASE. *Okinaka Mem. Inst. For Med. Res., Shonan Hosp.*

9:00 P10 **477.10** ▲ Dendritic spine structural remodeling provides cognitive resilience against Alzheimer's disease pathology. B. D. BOROS*; E. G. GENTRY; E. L. BIRCHALL; M. GEARING; J. H. HERSKOWITZ. *Univ. of Alabama At Birmingham, Emory Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 Q1 **477.11** Evidence that mitochondrial sirt3 protects neuronal networks against amyloid β-peptide toxicity by constraining excitability. N. R. GHENA*; Y. LIU; A. CHENG; M. P. MATTSON. *Natl. Inst. On Aging, Natl. Inst. on Aging.*

11:00 Q2 **477.12** Altered cortical and hippocampal excitability in TgF344-AD rats modeling Alzheimer's disease pathology. M. STOILJKOVIC*; C. KELLEY; B. STUTZ; T. L. HORVATH; M. HAJÓS. *Yale Univ. Sch. of Med.*

8:00 Q3 **477.13** Opposing effects of Aβ42 on cholinergic synaptic activity and a role for synaptic homeostasis. E. HAHM*; R. Y. NAGARAJA; R. TOOKER; S. TSUNODA. *Colorado State Univ.*

9:00 Q4 **477.14** Intracellular Abeta oligomers increase AMPA neurotransmission by pre and postsynaptic actions. L. G. AGUAYO*; C. PETERS; J. GONZALEZ; N. O. RIFFO; B. MUÑOZ; E. J. FERNANDEZ. *Univ. Concepcion, Univ. Concepcion.*

10:00 Q5 **477.15** The acylated tripeptide Arg-Glu-Arg enhances hippocampal LTP and can reverse LTP deficits produced by $Abeta_{25\text{-}35}$. K. D. PARFITT*; S. F. WAKE; J. C. NECARSULMER; V. SRINIVASAN; I. SOLOMON; K. M. KNOX; S. A. CRAWFORD; D. J. O'LEARY; W. C. ABRAHAM. *Dept of Neurosci., Pomona Col., Pomona Col., Univ. of Otago.*

11:00 Q6 **477.16** ▲ Synaptology of the mesial temporal cortex in Alzheimer's disease. J. DEFELIPE*; M. DOMINGUEZ-ALVARO; M. MONTERO-CRESPO; R. INSAUSTI; L. BLAZQUEZ-LLORCA; L. ALONSO-NANCLARES. *Inst. Cajal (CSIC), Lab. Cajal de Circuitos Corticales, Ctr. de Tecnología Biomédica, Univ. Politécnica de Madrid, Univ. of Castilla-La Mancha, Facultad de Psicología (UNED).*

8:00 Q7 **477.17** Sigma-1 receptor and sex specificity in a mouse model of Alzheimer's disease. M. A. SNYDER*; K. MCCANN; E. HRISTOVA; R. BERGERON. *Ottawa Hosp. Res. Inst., Univ. of Ottawa.*

9:00 Q8 **477.18** Cargo-specific dynamics of neuronal intracellular transport (NIT). M. FEOLE*; V. M. POZO DEVOTO; M. CARNA; V. LACOVICH; K. TEXLOVA; G. STOKIN. *Intl. Clin. Res. Ctr. FNUSA-ICRC.*

10:00 Q9 **477.19** L-3-n-butylphthalide rescues hippocampal synaptic failure and attenuates neuropathology in aged app/ps1 mouse model of Alzheimer's disease. Y. PENG*. *Inst. of Materia Medica.*

11:00 Q10 **477.20** Activation of the melanocortin 4 receptor signaling pathway ameliorates Alzheimer's disease-like pathology. M. TIAN; Y. SHEN; A. FU*; N. IP. *The Hong Kong Univ. of Sci. and Technol., Mol. Neurosci. Ctr., State Key Lab. of Mol. Neurosci., Guangdong Key Lab. of Brain Science, Dis. and Drug Develop.*

8:00 Q11 **477.21** A new mechanism of Alzheimer's disease: $GABA_A$ receptor dysfunction induced neuronal hyperactivity. D. BI*; F. GAO; L. WEN; H. BAO; Z. WU; Y. SHEN. *Univ. of Sci. and Technol. of China, Material Sci. at Microscale Natl. Lab., Univ. of Sci. and Technol. of China, Roskamp Inst., Univ. of Florida.*

**POSTER**

**478. Preclinical Therapeutic Strategies for Neurodegenerative Disease II**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 Q12 **478.01** ● *In vivo* efficacy study of a small molecule inhibitor of tau oligomer formation in htau mice. J. G. MOE*; P. K. KRISHNAMURTHY; H. JIMENEZ; C. GLUCHOWSKI; M. E. MCDONNELL; A. B. REITZ; P. DAVIES; E. J. DAVIDOWITZ. *Oligomerix, Inc., The Feinstein Inst. for Med. Res., LifeScience Innovations LLC, Fox Chase Chem. Diversity Center, Inc.*

9:00 R1 **478.02** A novel domain receptor inhibitor reduces neuropathology and improves cognition in neurodegenerative models. M. HEBRON*; M. PEYTON; X. LIU; X. GAO; R. WANG; I. LONSKAYA; C. MOUSSA. *Georgetown Univ.*

10:00 R2 **478.03** ● *Ex vivo* autoradiography of GLP-1 receptors in mice. M. MORIN*; E. SHER; M. P. JOHNSON. *Eli Lilly and Co., Eli Lilly and Co.*

11:00 R3 **478.04** Gamma frequency entertainment ameliorates AD-associated pathology and transforms microglia in AD mouse models. A. J. MARTORELL*; D. NAM-WOO KIM; A. PAULSON; H. SUK; A. SINGER; L. TSAI. *MIT, Georgia Tech., MIT.*

8:00 R4 **478.05** Inosine improve cognition in aged rats-Possible antioxidant and anti-inflammatory mechanism. P. RUHAL*; D. DHINGRA. *Guru Jambheshwar Univ. of Sci. and Technol.*

9:00 R5 **478.06** Histone Deacetylase inhibitor, sodium butyrate, exerts neuroprotective actions in intracerebroventricular streptozotocin induced biochemical abnormalities in rats. S. SHARMA*; R. TALIYAN. *Birla Inst. of Technol. and Science, Pilani.*

10:00 R6 **478.07** Effects of metformin in combination with voluntary exercise in a female transgenic mouse model of Alzheimer's disease. A. JALDI; F. BELLO; T. SMITH; T. FALEGAN; J. S. ALLARD*. *Howard Univ. Col. of Med.*

11:00 R7 **478.08** Hydroxytyrosol protects TgCRND8 mice against Aβ toxicity. P. NARDIELLO; D. PANTANO; M. STEFANI; M. MEMO*; F. CASAMENTI. *Univ. of Florence, Univ. of Florence, Univ. of Brescia.*

8:00 R8 **478.09** Modulation of IGF-1R ameliorates Alzheimer's disease phenotype in a transgenic mouse model. M. SOHRABI*; G. D. MANOCHA; C. COMBS. *Univ. of North Dakota.*

9:00 R9 **478.10** Abeta oligomers mediate proteasome inhibition especially at synapse. F. CAMPOS RIBEIRO*; D. COZACHENCO FERREIRA; G. BRAGA; J. SATO FORTUNA; F. GUARINO DE FELICE; S. FERREIRA. *Federal Univ. of Rio De Janeiro, Federal Univ. of Rio de Janeiro, Federal Univ. of Rio de Janeiro, Fed. Univ. Rio de Janeiro.*

10:00 R10 **478.11** Intranasal delivery of Aβ oligomers impairs memory in mice. D. C. MEJIDO*; K. G. N. FERREIRA; H. M. MELO; F. G. DE FELICE. *Federal Univ. of Rio De Janeiro - UFRJ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 S1 **478.12** Brain infusion of alfa-synuclein oligomers induces motor and non motor Parkinson's disease-like symptoms in mice. P. DA SILVA FROST*; J. TIEMI SATO FORTUNA; M. GRALLE; D. BECKMAN; F. NEVES; L. PEREIRA DINIZ; F. GOMES DE QUEIROZ BARROS; L. E. SANTOS; R. GONÇALVES; L. ROMÃO; D. ZAMBERLAN; F. ANTUNES SOARES; C. BRAGA; D. FOGUEL; F. CARVALHO ALCANTÂRA GOMES; F. G. DE FELICE; S. FERREIRA; J. HELENA ROSAURO CLARKE; C. P. FIGUEIREDO. *UFRJ, Univ. Federal do Rio de Janeiro, UFRJ, UC Davis, UFRJ, Federal Univ. of Rio de Janeiro, UFRJ, UFSM, Fed Univ. Rio De Janeiro, UFRJ, Federal Univ. of Rio De Janeiro.*

8:00 S2 **478.13** IGF1 gene transfer protects against Abeta oligomer- induced neuronal damage and memory impairment in mice. M. SELLÉS*; M. F. ZAPPA VILLAR; P. C. REGGIANI; S. FERREIRA. *Federal Univ. of Rio de Janeiro, Natl. Univ. of La Plata, Federal Univ. of Rio de Janeiro.*

9:00 S3 **478.14** Investigating neuroprotective actions of irisin in the central nervous system. G. B. DE FREITAS*; M. V. LOURENCO; M. GRALLE; S. FERREIRA; F. G. DE FELICE. *Federal Univ. of Rio De Janeiro, Fed Univ. of Rio De Janeiro, Federal Univ. of Rio de Janeiro, Fed. Univ. Rio de Janeiro, Fed Univ. Rio De Janeiro.*

10:00 S4 **478.15** The saturated fatty acid palmitate induces cognitive impairment in mice. H. M. DE MELO*; S. FERREIRA; F. G. DE FELICE. *Federal Univ. of Rio De Janeiro.*

11:00 T1 **478.16** Brain-defective insuling signaling is associated to late cognitive impairment in post-septic mice. D. C. FERREIRA*; F. S. NEVES; F. BARROS-ARAGÃO; J. NUNES; A. M. VENANCIO; R. L. FROZZA; G. F. PASSOS; R. COSTA; J. DE OLIVEIRA; D. F. ENGEL; A. F. DE BEM; C. F. BENJAMIM; F. G. DE FELICE; S. T. FERREIRA; J. R. CLARKE; C. P. FIGUEIREDO. *Federal Univ. of Rio De Janeiro, Federal Univ. of Santa Catarina, Queen's Univ.*

8:00 T2 **478.17** Chronic sleep restriction promotes brain inflammation and synapse loss, and potentiates memory impairment induced by amyloid-β oligomers in mice. G. C. KINCHESKI*; I. S. VALENTIM; J. R. CLARKE; D. COZACHENCO; M. T. L. CASTELO-BRANCO; A. M. RAMOS-LOBO; V. M. B. D. RUMJANEK; J. DONATO JR; F. G. DE FELICE; S. FERREIRA. *Univ. Federal Do Rio de Janeiro, Federal Univ. of Rio De Janeiro, Federal Univ. of Rio De Janeiro, Federal Univ. of Rio De Janeiro, Univ. of São Paulo, Fed. Univ. Rio de Janeiro.*

9:00 T3 **478.18** Sesamin and sasamolin reduce amyloid-beta toxicity in a transgenic *Caenorhabditis elegans.* R. KEOWKASE*; N. SHOOMAROM; W. BUNARJIN. *Srinakharinwirot Univ.*

10:00 T4 **478.19** ● Antibodies targeting truncated Asp421 tau protein clear human Alzheimer's tau and prevent its toxicity in primary neuronal and mixed cortical cultures. S. R. MODAK*; E. M. SIGURDSSON. *New York Univ. Sch. of Med.*

11:00 T5 **478.20** ● Partial humanization alters antibody charge and impairs primarily intracellular- but to some extent extracellular efficacy in targeting pathological tau protein. E. E. CONGDON*; J. CHUKWU; D. UJLA; D. B. SHAMIR; H. B. R. SAIT; X. KONG; E. M. SIGURDSSON. *New York Univ. Sch. of Med., New York Univ. Sch. of Med., New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

8:00 T6 **478.21** ● Therapeutic potential of an anti-tau single chain variable antibody fragment assessed in *Drosophila* models of tauopathy. S. KRISHNASWAMY*; H. D. RYOO; E. M. SIGURDSSON. *New York Univ. Sch. of Med., New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

9:00 T7 **478.22** SCF+G-CSF synergistically increases amyloid beta removal by bone marrow-derived monocytes. L. ZHAO*; B. LI. *SUNY Upstate Med. Univ., LSUHSC-S.*

10:00 T8 **478.23** AAV9-mediated Cdk5 inhibitory peptide reverses pathological changes and behavioral deficits in the AD model mice. Y. HU*; Y. HE; S. PAN; M. XU; R. HE; W. HUANG; P. SONG; J. HUANG; H. ZHANG. *Nanfang Hosp., Nanfang Hosp., Nanfang Hosp., 421 Hosp., West Virginia Univ. Hlth. Sci. Ctr.*

11:00 T9 **478.24** Identifying locomotion kinematics changes reflect Alzheimer's pathological changes using supportive vector machine. R. HUANG*; H. GHASEMI DAMAVANDI; M. S. JOSEPH; R. R. ROY; H. ZHONG; E. H. KOO; J. LEITER; D. LU. *Univ. of California Los Angeles, Ucla, Univ. of California Los Angeles, UCLA, UCSD, Dartmouth Col., UCLA.*

8:00 T10 **478.25** ● Novel partial mitochondrial complex i inhibitors as disease-modifying therapy for Alzheimer's disease. S. TRUSHIN*. *Mayo Clin.*

9:00 T11 **478.26** Targeting mitochondrial complex i activity averts cognitive decline in symptomatic animal model of familial Alzheimer's disease. A. STOJAKOVIC*; B. GATENO; U. TRIPATHI; P. FLANNERY; S. TRUSHIN; J. WILKINS; E. TRUSHINA. *Mayo Clin., Mayo Clin.*

**POSTER**

**479. Preclinical Therapeutic Strategies for Neurodegenerative Disease III**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 T12 **479.01** ● Selection of general amyloid interaction motif (GAIM)-Ig-fusions with increased targeting activity for misfolded beta amyloid and tau. E. K. ASP*; M. PROSCHITSKY; M. LULU; C. CHUNG; C. ROCKWELL-POSTEL; H. TSUBERY; J. M. LEVENSON; K. MCDOWELL; J. WRIGHT; R. FISHER; R. KRISHNAN. *Proclara Biosci., Proclara Biosci.*

9:00 U1 **479.02** ● ▲ Evaluation of cGMP in CSF sampled from the cisterna magna as a biomarker for centratl PDE2 inhibition in the dog. H. BORGHYS*; D. DHUYVETTER; P. BUIJNSTERS; L. VER DONCK; R. VREEKEN. *Janssen Res. & Develop., Janssen Res. @ Develop.*

10:00 U2 **479.03** Adipose tissue-targeted stem cell therapy for Type 2 Diabetes-related CNS dysfunction. S. SAIEVA*; H. S. SALLAM; B. KRISHNAN; B. TUMURBAATAR; G. LA ROCCA; R. ANZALONE; G. TAGLIALATELA; N. ABATE. *Univ. of Texas Med. Br., Univ. of Palermo, Univ. of Texas Med. Br., Univ. of Texas Med. Br.*

11:00 U3 **479.04** Glutamatergic modulation rescues behavior in an amyloid mouse model of Alzheimer's disease. C. LARSON; R. DAVIDSON; M. OKAMOTO; B. S. MCEWEN; J. D. GRAY; A. C. PEREIRA*. *Rockefeller Univ., Rockefeller Univ., Rockefeller Univ., Rockefeller Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 U4 **479.05** Discovery of novel brain permeable and g-protein biased beta1-adrenergic receptor partial agonists for the treatment of neurocognitive disorders. B. YI*; A. JAHANGIR; A. K. EVANS; D. BRIGGS; K. RAVINA; J. ERNEST; A. B. FARIMANI; W. SUN; J. RAJADAS; M. J. GREEN; E. N. FEINBERG; V. S. PANDE; M. SHAMLOO. *Stanford Univ., Stanford Univ. Sch. of Med., Stanford Univ. Sch. of Med., Stanford Univ. Sch. of Med.*

9:00 U5 **479.06** Cannabinoid-based Alzheimer therapy: Effects of tetrahydrocannabinol on anxiety, memory and neuron loss in Tg4-42 mice. Y. BOUTER*; M. E. SICHLER; M. J. LOEW; P. TUCHOLLA; C. BOUTER; T. A. BAYER. *Univ. Med. Ctr. Göttingen, Univ. Med. Ctr. Goettingen.*

10:00 U6 **479.07** Withdrawn

11:00 U7 **479.08** Determination of sigma-2 receptor densities in rat cortical neurons, astrocytes and microglia. C. ZENG*; C. WENG; B. P. LIEBERMAN; J. L. MIKITSH; T. A. METZ; R. H. MACH. *Univ. of Pennsylvania Perelman Sch. of Medi.*

8:00 U8 **479.09** Epigenetic correction of defective plasticity in a tauopathy mouse model with an acetyltransferase activator molecule. A. BOUTILLIER*; S. CHATTERJEE; R. CASSEL; A. SCHNEIDER-ANTHONY; K. MERIENNE; B. COSQUER; S. HALDER SINHA; M. KUMAR; P. CHATURBEDY; M. ESWARAMOORTHY; S. LEGRAS; C. KEIME; P. DUTAR; P. PETSOPHONSAKUL; C. RAMPON; J. CASSEL; L. BUEE; D. BLUM; T. K. KUNDU. *LNCA - UMR 7364 UNISTRA CNRS, JNCASR, JNCASR, UMR 7104 UNISTRA CNRS INSERM, Ctr. of Psychiatry and Neurosciences, CNRS UMR 5169 Univ. Paul Sabatier, Inserm UMR_S1172.*

9:00 U9 **479.10** An FDA-approved drug as a therapeutic agent to upregulate PICALM. S. A. BAZZI*; K. KISLER; A. R. NELSON; A. P. SAGARE; Z. ZHAO; B. V. ZLOKOVIC. *USC.*

10:00 U10 **479.11** The mitochondria-targeted antioxidant MitoQ improves memory retention, neuropathology and alters the lipidomic profile of aged 3xTgAD mice. M. L. YOUNG*; S. PATI; B. S. CUMMINGS; J. L. FRANKLIN. *Univ. of Georgia.*

11:00 U11 **479.12** Arginine-rich beta-sheet breaker peptides as potential tau protein aggregation inhibitors. K. RALHAN*; V. GURU KRISHNAKUMAR; S. GUPTA. *IIT Gandhinagar.*

8:00 U12 **479.13** A tropomyosin receptor kinase A agonist targeted to the brain using MRI-guided focused ultrasound improves cholinergic activity in a mouse model of Alzheimer's disease. K. XHIMA*; H. SARAGOVI; K. HYNYNEN; I. AUBERT. *Sunnybrook Res. Inst., McGill Univ., Univ. of Toronto / Sunnybrook Res. Inst., Sunnybrook Res. Inst.*

9:00 V1 **479.14** Effects of varying voluntary aerobic exercise levels on behavior and neuropathology in aged Tg2576 mice. N. FRANCIS; D. L. POPESCU; M. P. MICHAELOS; L. S. ROBISON; S. SUBZWARI; S. I. BEIGELMAN; S. M. FITZGERALD; J. ARENA; S. A. AMREIN; A. E. KUZMINA; D. A. LITUMA; J. HATFIELD; R. KIM; J. K. SULLIVAN; F. XU; J. DAVIS; B. J. ANDERSON; J. K. ROBINSON*; W. E. VAN NOSTRAND. *Stony Brook Univ.*

10:00 V2 **479.15** Chronic deep brain stimulation in an Alzheimer's disease mouse model enhances memory and reduces pathological hallmarks. E. GONDARD*; A. MANN; D. TAMPELLINI; J. A. T. MILSTED; D. MARILLAC; C. HAMANI; S. K. KALIA; A. M. LOZANO. *Krembil Res. Inst-Toronto Western Hospital-UHN, U1195 Inserm - Univ. Paris Sud - Univ. Paris-Saclay, Toronto Western Hospital-UHN, Campbell Family Mental Hlth. Res. Institute, Ctr. for Addiction and Mental Hlth.*

11:00 V3 **479.16** The recombinant C-terminal fragment of the tetanus toxin prevents astrocytosis and protects cholinergic markers in rats with the amyloid-β 25-35 peptide. A. PATRICIO*; I. MARTÍNEZ-GARCÍA; G. D. APÓSTOL DEL R; V. ALEMÁN-ALEMÁN; J. AGUILERA; I. D. LIMÓN. *Benemérita Univ. Autónoma de Puebla, Benemérita Univ. Autónoma de Puebla, Ctr. de Investigación y de Estudios Avanzados del Inst. Politécnico Nacional (CINVESTAV), Inst. de Neurociències, Univ. Autònoma de Barcelona.*

8:00 V4 **479.17** ▲ The protein kinase C-epsilon (PKC-ε) activator 8-[2-(2-pentylcyclopropylmethyl)-cyclopropyl]-octanoic acid (DCP-LA) improves learning and memory, synaptic density and hippocampal neuronal health in a ferrous-amyloid-buthionine (FAB) rat model of Alzheimer's disease. C. R. MCKITTRICK*; R. F. CANDIA; R. B. KNOWLES. *Drew Univ., Drew Univ.*

9:00 V5 **479.18** ● Targeting extracellular cyclophilin A in Alzheimer's disease. G. L. SUIDAN*; K. WRIGHT; N. M. KABLAOUI; K. FONSECA; R. D. BELL. *Pfizer, Inc, Pfizer, Inc, Pfizer, Inc, Pfizer, Inc.*

10:00 V6 **479.19** Identification of a novel small molecule neutral sphingomyelinase 2 inhibitor: Implications for the treatment of Alzheimer's disease (AD). A. G. THOMAS*; M. SALA; C. ROJAS; A. D. CHAUDHURI; S. C. ZIMMERMANN; R. RAIS; N. J. HAUGHEY; R. NENCKA; B. S. SLUSHER. *Johns Hopkins Univ. Sch. of Med., Inst. of Organic Chem. and Biochem. of the Czech Acad. of Sci., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

11:00 V7 **479.20** A novel, small-molecule activator of glutamate transporter EAAT2 translation delays disease progression in a tauopathy model of Alzheimer's disease. J. B. FOSTER*; F. ZHAO; K. HODGETTS; C. G. LIN. *The Ohio State Univ., Brigham and Women's Hospital/Harvard Med. Sch.*

8:00 V8 **479.21** Comparing intranasal and intracerebral delivery of mesenchymal stem cells to treat a transgenic mouse model of Alzheimer's disease. L. DANIELYAN*; A. STOLZING; A. LOURHMATI; M. BUADZE; K. ARNOLD; C. FABIAN; H. NGUYEN; W. H. FREY, II; M. SCHWAB. *Univ. Hosp. of Tübingen, Leipzig Univ., Fraunhofer Inst. for Cell Therapy and Immunol. (IZI), Univ. of Tuebingen, Healthpartners Ctr. For Memory & Aging.*

9:00 V9 **479.22** ● Design and optimization of an anti-protein misfolding agent for Alzheimer's disease. D. F. WEAVER*; C. BARDEN; K. KESKAR; E. LU; M. REED; M. TAYLOR; Y. WANG; F. WU; S. YANG. *Krembil Res. Institute, UHN.*

10:00 V10 **479.23** Targeted brain BRICHOS domain delivery using focused ultrasound-induced blood-brain barrier opening > the treatment of Alzheimer's disease. C. J. SIERRA SANCHEZ*; L. GALAN ACOSTA; J. PRESTO; P. NILSSON; J. JOHANSSON; E. E. KONOFAGOU. *Columbia Univ., Karolinska Institutet, Columbia Univ.*



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* Indicates abstract's submitting author

11:00 V11 **479.24** Screening medicinal plants of Uttarakhand, India for BACE inhibitor. A. THAPLIYAL*; P. ANTHWAL; M. THAPLIYAL; N. KUMAR; R. CHATURVEDI; S. AHMAD. *Graphic Era Univ., Government Degree College, Raipur, Dehradun, Uttarakhand, JNU, Jamia Hamdard.*

8:00 V12 **479.25** Involvement of a novel phosphorylation site of BACE1 in amyloidogenic APP processing. Y. ZHENG*; H. AN; Y. HE; J. ZHANG; L. DONG; X. WANG. *Capital Med. Univ., Chinese Acad. of Med. Sci. and Peking Union Med. Col.*

**POSTER**

**480. Parkinson's Disease: Human Diagnostics and Molecular Genetics**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 V13 **480.01** Alteration of gene expression in brain tissue samples from living Parkinson's disease patients. S. M. BENOIT*; H. XU; S. SCHMID; R. ALEXANDROVA; G. KAUR; B. THIRUVAHINDRAPURAM; M. O. HEBB. *Univ. of Western Ontario, Univ. of Western Ontario, Univ. of Western Ontario, The Hosp. for Sick Children, Western Univ.*

9:00 V14 **480.02** Associations between single nucleotide polymorphisms in the mTOR pathway with early onset and severity of L-DOPA induced dyskinesia in Parkinson's disease patients. N. MARTIN-FLORES*; R. FERNANDEZ-SANTIAGO; F. ANTONELLI; C. CERQUERA; V. MORENO; M. J. MARTÍ; M. EZQUERRA; C. MALAGELADA. *Univ. De Barcelona, Inst. de Neurociències, Univ. de Barcelona, IDIBAPS-Institut d'Investigacions Biomèdiques August Pi i Sunyer, Neurol. Service, Hosp. Clínic de Barcelona, Ctr. de Investigación Biomédica en Red sobre Enfermedades Neurodegenerativas (CIBERNED).*

10:00 V15 **480.03** Parkinson's disease associated alterations in the DNA modifications, 5-methylcytosine and 5-hydroxymethylcytosine. A. I. BERNSTEIN*; S. VANOEVEREN. *Michigan State Univ.*

11:00 V16 **480.04** DNA methylation, gene expression and splicing analysis for Parkinson's disease blood biomarker discovery. A. R. HENDERSON-SMITH*; B. MEECHOOVET; A. L. SINIARD; E. DRIVER-DUNCKLEY; T. DUNCKLEY; M. J. HUENTELMAN. *Translational Genomics Res. Inst., Mayo Clin., Biodesign at Arizona State Univ.*

8:00 V17 **480.05** Genetic mechanisms of lysosomal dysfunction in Parkinson's disease - the effect of novel variants on alpha-synuclein accumulation. A. BLAZEKOVIC; K. GOTOVAC JERCIC; M. KOSICEK; M. MALNAR; T. F. OUTEIRO; S. HECIMOVIC; F. BOROVECKI*. *Dept. for Functional Genomics, Ctr. for Translational and Clin. Research, Univ. of Zagreb Sch. of Medicine, and Univ. Hosp. Ctr. Zagreb, Lab. for Neurodegenerative Dis. Research, Div. of Mol. Medicine, Rudjer Boskovic Inst., Dept. of Exptl. Neurodegeneration, Univ. Med. Ctr. Goettingen, Univ. of Zagreb Sch. of Med.*

9:00 V18 **480.06** NLRP3 polymorphism associated with a decreased risk of Parkinson's disease impacts NLRP3 protein life cycle. K. VON HERRMANN*; L. A. SALAS; E. M. MARTINEZ; W. W. FENG; W. F. HICKEY; A. N. KETTENBACH; B. C. CHRISTENSEN; S. L. LEE; M. S. FELDMAN; M. C. HAVRDA. *Geisel Sch. of Med. At Dartmouth.*

10:00 V19 **480.07** Basal forebrain histone deacetylase dysregulation in Parkinson's disease with and without dementia. S. E. PEREZ*; M. NADEEM; J. C. MIGUEL; S. GENTLEMAN; E. J. MUFSON. *Barrow Neurolog. Inst., Imperial Col.*

11:00 V20 **480.08** Single nuclei RNA-seq analysis of dopaminergic neuron degeneration. Y. ZHU*; S. S. KARUPPAGOUNDER; V. L. DAWSON; T. M. DAWSON; G. MING; H. SONG. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Univ. of Pennsylvania, Perelman Sch. of Med.*

8:00 V21 **480.09** Impaired temporal working memory in early stages of Parkinson's disease and atypical parkinsonism. Z. YE*; J. MA; S. MA. *Chinese Acad. of Sci., Xuanwu Hosp.*

9:00 V22 **480.10** Does amyloid-beta affect neuroinflammation and cognitive performance in Parkinson's disease? C. M. GHADERY*; Y. KOSHIMORI; J. KIM; S. COAKELEY; M. HARRIS; L. CHRISTOPHER; P. RUSJAN; A. LANG; S. HOULE; A. STRAFELLA. *Ctr. For Addiction and Mental Hlth., Krembil Res. Inst., Ctr. For Addiction and Mental Hlth., Res. Imaging Centre, Ctr. for Addiction and, Movement Disorder Unit, Univ. Hlth. Network, Ctr. for Addiction and Mental Hlth., Res. Imaging Centre, Ctr. For Addiction and, UHN, Univ. Toronto.*

10:00 V23 **480.11** Hemispheric-specific neuropsychological tests in stage I early-onset Parkinson's disease (EOPD) as a predictor for disease progression. K. M. LE*; B. MULLEN; K. VENKITESWARAN; M. SUBRAMANIAN; S. RAVI; D. WAGNER; S. SWAMINATHAN; K. ANANTHAKRISHNAN; M. IBRAHIMI; J. WANG; P. ESLINGER; T. SUBRAMANIAN. *Penn State Col. of Med., Pennsylvania State Univ. Col. of Med.*

11:00 V24 **480.12** Handwriting and effector independence in individuals with Parkinson's disease. D. L. OLIVEIRA; R. GIMENEZ; R. B. S. C. GARBUS; C. C. G. ALONSO; R. C. MARINHO; S. M. S. F. FREITAS; R. S. PIRES*. *Univ. Cidade De São Paulo.*

8:00 V25 **480.13** The locomotion automatization under cognitive load in Parkinson disease. Y. CHANG*; I. LIN; M. HSU; L. CHUNG; C. CHEN; C. LU. *Chang Gung Univ., Chang Gung Mem. Hospital, Linkou Med. Ctr., Kaohsiung Med. Univ., Kaohsiung Med. Univ. Hosp., Chang Gung Mem. Hospital, Linkou Med. Ctr., Chang Gung Univ., Chang Gung Univ.*

9:00 V26 **480.14** ● Biophysical properties of the hyperdirect pathway necessary to match clinical cortical evoked potentials from subthalamic deep brain stimulation. K. GUNALAN*; C. C. MCINTYRE. *Case Western Reserve Univ.*

10:00 W1 **480.15** Differences in neural activity during motor imagery in people with Parkinson disease with and without freezing of gait. P. S. MYERS*; M. E. MCNEELY; G. M. EARHART. *Washington Univ. Sch. of Med.*

11:00 W2 **480.16** ● The importance of using computers in populations with Parkinson's disease and spinal cord injury: A patients' and caregivers' perspective. M. PLOTNIK; A. GRINBERG*; Z. KATSAROUL; A. GOTLIEB; G. ZEILIG; R. KIZONY; S. BOSTANTJOPOULOU-KAMBOUROGLOU. *Sheba Med. Ctr., Sheba Med. Ctr., Hippokration Hosp., Sheba Med. Ctr., Univ. of Haifa, Univ. of Thessaloniki.*



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* Indicates abstract's submitting author

**POSTER**

**481. Motor Neuron Disease: Animal Models II**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 W3 **481.01** ● Intraspinal delivery of AAV2-NRTN for ALS - a dose-ranging study of safety, tolerability, biodistribution, and efficacy. S. K. GROSS*; B. SHIM; B. L. PETERSON; R. T. BARTUS; N. M. BOULIS; N. J. MARAGAKIS. *Johns Hopkins Univ., Above and Beyond NB LLC, RTBioconsultants, Inc, Emory Univ. Sch. of Med., Johns Hopkins Univ. Dept. of Neurol. and Neurosurg.*

9:00 W4 **481.02** Differential gene expression changes in vulnerable and non-vulnerable cortical pyramidal cell populations in ALS. M. V. MOYA*; R. D. KIM; C. E. SFERRAZZA; D. R. BLACKMAN; E. B. HOLZNER; S. B. PICKETT; N. HEINTZ; E. F. SCHMIDT. *The Rockefeller Univ., HHMI.*

10:00 W5 **481.03** Investigating the role of amyloid precursor like protein-2 in motor neuron disease. P. H. TRUONG*; G. D. CICCOTOSTO; P. J. CROUCH; R. CAPPAI. *The Univ. of Melbourne.*

11:00 W6 **481.04** Characterization of transgenic mice expressing ALS-associated CHCHD10-R15L. É. RYAN*; J. YAN; H. DENG; T. SIDDIQUE. *Northwestern Univ., Northwestern Univ.*

8:00 W7 **481.05** ● Differential onset of behavioral and electrophysiological symptoms in the rNLS8 (hTDP-43ΔNLS) mouse model of TDP-43 pathology. P. T. LEACH*; M. SHPOKAYTE; A. SHEEHY; B. J. FARLEY; J. AMACKER; A. MCCAMPBELL; H. M. ARNOLD. *Biogen, Biogen.*

9:00 W8 **481.06** Spinal muscular atrophy with respiratory distress: New CRISPR-based models and the search for a genetic modifier of disease. P. B. MARTIN*; P. MARTIN*; A. H. HICKS; J. E. STAUFFER; D. G. SCHROEDER; G. A. COX. *Jackson Lab.*

10:00 W9 **481.07** ● Similar muscle pathology but disparate phenotypes in transgenic mice expressing WT and F115C mutant Matrin 3. J. M. LEWIS*; C. MOLONEY; S. RAYAPROLU; J. HOWARD; S. FROMHOLT; M. SWANSON; H. BROWN; L. NOTTERPEK; D. R. BORCHELT. *Univ. of Florida, Univ. of Florida, UF Col. of Med., McKnight Brain Inst, Univ. Florida, Univ. of Florida.*

11:00 W10 **481.08** TRPV4-mediated motor impairment, aberrant calcium signaling, and disrupted mitochondrial axonal transport in a *Drosophila* model of CMT2C. B. WOOLUMS*; M. TABUCHI; H. SUNG; J. M. SULLIVAN; B. MCCRAY; C. MAMAH; M. YANG; M. N. WU; C. J. SUMNER; T. E. LLOYD. *Johns Hopkins Univ., Johns Hopkins Univ.*

8:00 W11 **481.09** Autophagolysosomal disruption in *Drosophila* models of ALS/FTD caused by C9orf72 mutations. K. CUNNINGHAM*; K. ZHANG; M. SENTURK; H. SUNG; K. RUAN; Z. ZUO; H. J. BELLEN; T. E. LLOYD. *Johns Hopkins Univ. Sch. of Med., Howard Hughes Med. Inst.*

9:00 W12 **481.10** Molecular desection of ALS pathogenesis of ubiquilinopathy using CRISPR/Cas9. Y. SHI; H. DENG*; H. ZHAI; E. LIU; T. SIDDIQUE. *Northwestern Univ., Northwestern Univ. Feinberg Sch. of Med.*

10:00 W13 **481.11** A new pathology hallmark of amyotrophic lateral sclerosis: Inflammation-independent dendropathy in excitatory neuronal subsets of the olfactory bulb and retina of SOD1-G93A mutant mice. B. SCHUETZ*; E. WEIHE; C. RINGER. *Philipps Univ., Inst. of Anat. & Cell Biology, Mol. Neurosciences, Univ. of Lübeck, Philipps-University, Inst. of Anat. and Cell Biol.*

11:00 W14 **481.12** C9orf72 zebrafish model relates RNA toxicity to autophagy and stress granules. B. SWINNEN; A. BENTO-ABREU; T. GENDRON; S. BOEYNAEMS; E. BOGAERT; R. NUYTS; M. TIMMERS; W. SCHEVENEELS; J. WANG; S. MIZIELINSKA; A. ISAACS; L. PETRUCELLI; P. VAN DAMME*; L. VAN DEN BOSCH; W. ROBBERECHT. *KU Leuven, VIB, Univ. Hosp. Leuven, KU Leuven, VIB, Mayo Clin. Florida, Johns Hopkins Univ., UCL Inst. of Neurol., Neurol. Department, UZ Leuven.*

8:00 W15 **481.13** *In vivo* imaging of axonal transport in a *Drosophila* model of c9-als. H. SUNG*; T. LLOYD. *Johns Hopkins Univ. Schl. Med.*

9:00 W16 **481.14** ● Gene-environment interactions in amyotrophic lateral sclerosis. R. SHER*; S. KWOK; E. LOVEJOY; T. LAVIN; S. POWERS; M. KRUGER. *Stony Brook Univ., Univ. of Maine, The Ohio State Univ.*

10:00 W17 **481.15** Transcriptome analysis of corticospinal motor neurons that lack Alsin function. M. GAUTAM*; L. A. LABOISSONNIERE; M. KANDPAL; M. C. SCHULTZ; Y. BI; J. M. TRIMARCHI; R. V. DAVULURI; P. H. ÖZDINLER. *Northwestern Univ., Iowa State Univ., Northwestern Univ.*

11:00 W18 **481.16** Defects in a dynamic tubular lysosomal network drive age-related degeneration of neurons and muscle. A. E. JOHNSON*; B. O. ORR; A. TONG; G. W. DAVIS. *UCSF, Kavli Inst. for Fundamental Neurosci.*

8:00 DP05/W19 **481.17** (Dynamic Poster) Calpain-dependent degradation of nucleoporins contributes to motor neuron death in a mouse model of chronic excitotoxicity. K. SUGIYAMA*; T. AIDA; K. TANAKA. *Tokyo Med. and Dent. Univ.*

9:00 W20 **481.18** Exploring neuron-specific RNA-protein regulatory networks in the tunicate Ciona robusta. M. RUGGIU*; M. F. HOSSAIN; A. STOLFI; L. CHRISTIAEN. *St. John's Univ., New York Univ.*

**POSTER**

**482. Neuroinflammation: Virus and Infections I**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 W21 **482.01** Reduced $Ca^{2+}$ influx through voltage-gated $Ca^{2+}$ channels is associated with hyper-activity of striatal medium spiny neurons in the HIV brain. C. KHODR*; L. CHEN; L. AL-HARTHI; X. HU. *Rush Univ. Med. Ctr.*

9:00 W22 **482.02** ● Neurostructural effects of age and serostatus in treated HIV infection. E. E. O'CONNOR; T. A. ZEFFIRO; J. T. BECKER; T. A. ZEFFIRO*. *Univ. of Maryland Med. Ctr., Neurometrika, Univ. of Pittsburgh Med. Ctr.*

10:00 W23 **482.03** HIV-1 mediated increased striatal medium spiny neuronal excitability is associated with enhanced $K^+$ efflux and influx. L. CHEN*; C. E. KHODR; L. AL-HARTHI; X. HU. *Rush Univ. Med. Ctr.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
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* Indicates abstract's submitting author

11:00 W24 **482.04** Differences in activity-regulated cytoskeleton (Arc) expression related to HIV-associated memory and learning deficits in male and female mice. Y. HAHN*; W. D. MARKS; J. J. PARIS; S. KIM; K. F. HAUSER; P. E. KNAPP. *Virginia Commonwealth Universi, Virginia Commonwealth Univ.*

8:00 W25 **482.05** Effects of dopamine D2 receptor activation on morphine and HIV-1 Tat-induced anxiety-like and motor behaviors in a transgenic mouse model of neuroAIDS. L. K. SILVA*; W. D. MARKS; J. J. PARIS; P. E. KNAPP; K. F. HAUSER. *Virginia Commonwealth Univ. Hlth. Syst., Virginia Commonwealth Univ.*

9:00 W26 **482.06** Dopaminergic and serotonergic dysfunction in HIV-1 transgenic rats: Implications for depression in HIV-1 patients. A. DENTON*; S. SAMARANAYAKE; R. ROSCOE, Jr.; S. HARROD; H. LI; C. MACTUTUS; P. HASHEMI; R. BOOZE. *Univ. of South Carolina.*

10:00 W27 **482.07** HIV-1 Tat increases MMP-13 expression in astrocytes and promotes MCP-1 release through the MMP/PAR-1 axis. P. BOZZELLI*; T. YIN; E. WENZEL; K. CONANT; K. A. MAGUIRE-ZEISS. *Georgetown Univ., Georgetown Univ., Georgetown Univ., Georgetown Univ.*

11:00 W28 **482.08** *In vivo* manipulation of the CXCL12/CXCR4 signaling axis increases dendritic spine density and enhances cognitive flexibility in wild-type and HIV-Tg rats: Role of the Rac1/PAK pathway and implications for neurocognitive disorders. L. FESTA*; Y. TIAN; B. PLATT; S. B. FLORESCO; O. MEUCCI. *Drexel Univ. Col. of Med., Univ. British Columbia.*

8:00 W29 **482.09** Regional brain volumes in HIV infection, alcohol use disorders, and hepatitis C co-morbidity. N. M. ZAHR*; D. KWON; K. POHL; E. V. SULLIVAN; A. PFEFFERBAUM. *Stanford Univ. Sch. of Med., SRI Intl.*

9:00 W30 **482.10** The effect of antiretroviral therapies on oligodendrocyte growth and maturation. L. ROTH*; B. ZIDANE; K. L. JORDAN-SCIUTTO; J. B. GRINSPAN. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania Med. Sch., Univ. of Pennsylvania Dent. Sch., Children's Hosp. Philadelphia.*

10:00 W31 **482.11** Peripheral neuropathies (degraded myelin and reduced axons) and temperature hyposensitivity in mice that are heterozygous for Pur-alpha. M. F. BARBE*; R. LOOMIS; J. OTTE; J. P. STELMACH; K. KHALILI; J. GORDON. *Temple Univ. Sch. of Med., Temple Univ. Sch. of Med., Temple Univ. Sch. of Med.*

11:00 W32 **482.12** Developing an HiPSC model to study HIV-associated neurocognitive disorder. S. RYAN*; S. A. ANDERSON; K. L. JORDAN-SCIUTTO. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia/Upenn Sch. Med.*

8:00 W33 **482.13** SDG mediates oxidative stress and viral replication in HIV-infected human macrophages. K. S. WILLIAMS*; H. NIEVES-ROSADO; S. PU; X. WANG; K. L. JORDAN-SCIUTTO. *Univ. of Pennsylvania, Univ. of Pennsylvania, Temple Univ., Univ. of Pennsylvania.*

9:00 W34 **482.14** ER stress regulator ATF6b contributes to HIV-induced neurotoxicity. C. AKAY ESPINOZA*; P. LIN. *Univ. of Pennslyvania Sch. of Dent. Med.*

10:00 W35 **482.15** HIV-1 viral proteins and Drd1α expression in medium spiny neurons of the nucleus accumbens. J. M. ILLENBERGER*; H. LI; S. B. HARROD; C. F. MACTUTUS; R. M. BOOZE. *Univ. of South Carolina.*

11:00 W36 **482.16** HIV-1 Tat impairs cognitive performance in an exposure-dependent manner. T. J. CIRINO*; J. J. PARIS; J. P. MCLAUGHLIN. *Univ. of Florida, Univ. of Mississippi.*

8:00 X1 **482.17** HIV-1 envelope protein gp120 potentiates extrasynaptic GABARs. M. GREEN*; S. THAYER. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

9:00 X2 **482.18** Inhibition of LTP in CA1 pyramidal neurons by the commonly prescribed antiretroviral, efavirenz. E. K. BICHLER*; P. S. GARCIA. *Atlanta VA Med. Ctr., Emory Univ., Atlanta VA Med. Ctr. / Emory Univ.*

10:00 X3 **482.19** Neurocognitive behavioral assessment following isoflurane anesthesia in a rat model of chronic administration of select HIV anti-retroviral drugs. J. FIDLER*; S. P. DOYLE; P. S. GARCIA. *Emory Univ. / Atlanta VAMC, Emory Univ., Atlanta VA Med. Ctr. / Emory Univ.*

**POSTER**

**483. Recovery After Ischemia**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 X4 **483.01** Low level laser promotes cortical neurogenesis in a photothrombotic stroke model. L. YANG*; D. TUCKER; Y. DONG; C. WU; Q. ZHANG. *South China Normal Univ., Augusta Univ.*

9:00 X5 **483.02** The combination of DNMT inhibitor and task-specific training contributes to recovery in chronic stroke. I. CHOI; D. CHOI*; J. LEE. *Konkuk Univ. Sch. of Med., Konkuk Univ. Med. Ctr.*

10:00 X6 **483.03** GPR81, a novel metabolic receptor reverses brain injury following a post hypoxic-ischemic stress. P. M. CHAUDHARI*; A. MADAAN; X. HOU; I. CHARFI; G. PINEYRO; S. CHEMTOB. *St. Justine Res. Ctr., St. Justine Res. Ctr., St. Justine Res. Ctr.*

11:00 X7 **483.04** A role for brain pericytes in cerebrovascular regeneration after stroke. L. BERNIER*; J. HEFENDEHL; C. LEWIS; W. SCOTT; L. DISSING-OLESEN; F. ROSSI; M. UNDERHILL; B. MACVICAR. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia.*

8:00 X8 **483.05** Targeting reactive glia in brain ischemia with a G5G2.5 core-shell tecto-dendrimer. V. MURTA*; P. SCHILRREF; G. ROSCISZEWSKI; M. J. MORILLA; A. J. RAMOS. *IBCN - UBA -CONICET, Univ. Nacional de Quilmes-CONICET.*

9:00 X9 **483.06** Wnt7a regulation of post-stroke neurogenesis. H. ZHAO*; T. B. LENGNING; M. MACHNICKI; A. BRUMM; S. T. CARMICHAEL. *UCLA, Univ. Med. Ctr.*

10:00 X10 **483.07** Effects of chronic administration of the selective histamine $H_4$ receptor antagonist JNJ7777120 on cerebral injury in a model of transient brain focal ischemia in the rat. I. DETTORI; L. GAVIANO; A. MELANI; L. LUCARINI; G. PEPEU*; E. MASINI; F. PEDATA. *Univ. of Florence, Univ. of Florence.*



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* Indicates abstract's submitting author

11:00 X11 **483.08** Axonal remodeling induced by rehabilitative training on the isometric pull task after middle cerebral artery occlusion in the rat. K. S. VALENZUELA*; S. LANGNER; M. BLAKER; S. BREWER; T. A. JONES; T. SCHALLERT. *The Univ. of Texas At Austin, Univ. of Texas at Austin.*

8:00 X12 **483.09** Intranasally delivered recombinant MANF protein reduces infarction volume and promotes recovery in a rat cortical stroke model. J. E. ANTTILA*; K. MÄTLIK; O. S. MATTILA; P. LINDHOLM; P. J. LINDSBERG; M. AIRAVAARA. *Univ. of Helsinki, Univ. of Helsinki.*

9:00 X13 **483.10** ▲ Extended therapy time window in rat model of ischemic stroke by salvianolic acid a. N. J. LI*; C. JIAO; L. XU. *Kunming Inst. of Zoology.*

10:00 X14 **483.11** Sensorimotor & fine motor skill deficits were chronically sustained in mild ischemic stroke rats. A. N. SATO*; Z. WARRAICH; E. MORADI; D. BATES; Y. ANDREWS-ZWILLING. *SanBio, Inc.*

8:00 DP06/X15 **483.12** (Dynamic Poster) The effects of increasing activation of cholinergic neurons in the nucleus basalis on stroke recovery. A. BECKER*; D. BETZ; M. P. GOLDBERG. *UT Southwestern, Dept. of Neurol. and Neurotherapeutics, UT Southwestern Med. Ctr., UT Southwestern Med. Ctr.*

8:00 X16 **483.13** ● Bioluminescence imaging visualizes osteopontin-induced neurogenesis and neuroblasts migration in the mouse brain after stroke. M. SCHROETER*; R. ROGALL; A. BACH; A. PIKHOVYCH; S. U. VAY; J. BAERMANN; M. HOEHN; S. COUILLARD-DESPRES; G. R. FINK; M. A. RUEGER. *Dept. of Neurology, Univ. Hosp. Cologne, Max-Planck-Institute for Metabolism Res., Paracelsus Med. Univ., Res. Ctr. Juelich.*

9:00 X17 **483.14** Effects of 3K3A APC on subcortical white matter stroke in mice. Y. WANG*; Z. ZHAO; A. MONTAGNE; B. V. ZLOKOVIC. *Keck Sch. of Medicine, USC.*

10:00 X18 **483.15** Casein kinase 2 inhibition promotes white matter recovery after ischemia. S. BRUNET*; C. BASTIAN; D. AQUILA; S. BALTAN. *Cleveland Clin. Fndn.*

**POSTER**

**484. Pain Models: Physiology and Behavior I**

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 X19 **484.01** Lamina I spinoparabrachial neurons: Sensitization to noxious stimuli in rats with chronic constriction injury of the sciatic nerve and poor response to pregabalin. J. ALLARD*; C. LE CUDENNEC; V. CASTAGNÉ. *E-Phys, Porsolt S.A.S.*

9:00 X20 **484.02** The molecular mechanism of acid sensitive ion channel mediated pain in promoting the proliferation of breast cancer cells. C. YANG*; G. DING. *Xinhua Hosp. Chongming Br., Shanghai Intl. Med. Ctr.*

10:00 X21 **484.03** Encoding of acute nociception by specific population of lamina I projection neurons. K. AGASHKOV; V. KROTOV; M. KRASNIAKOVA; B. V. SAFRONOV; N. V. VOITENKO*; P. BELAN. *Bogomoletz Inst. of Physiol., Bogomoletz Inst. of Physiol., IBMC, Bogomoletz Inst. of Physiol.*

11:00 X22 **484.04** Anti-nociceptive effect of dexmedetomidine co-administered with lidocaine in a mouse orofacial inflammatory pain model. J. YEO; S. YOON; S. KIM; D. ROH*. *Kyung Hee Univ., Seoul Nat'l Univ.*

8:00 X23 **484.05** Electrophysiological characteristics of SP-mediated antinociception in muscle nociceptors. C. CHANG*; C. LEE; C. CHEN. *Dept. of Life Science, Natl. Taiwan Univ., Inst. of BioMedical Sciences, Academia Sinica.*

9:00 X24 **484.06** Effects of neonatal vincristine administration on spinal nociceptive processing in the developing rat. K. A. SCHAPPACHER*; M. L. BACCEI. *Univ. of Cincinnati Dept. of Anesthesiol, Univ. of Cincinnati Dept. of Anesthesiol.*

10:00 X25 **484.07** Measuring anxiety- and depression-like behaviors in a mouse model of neuropathic pain is critically dependent on the testing environment. H. H. AHN*; S. MARTINEZ GONZALEZ; S. HONG; T. WILSON; Y. CARRASQUILLO. *NIH.*

11:00 X26 **484.08** Role of macrophage derived exosomes in inflammatory pain. R. JEAN-TOUSSAINT*; S. RAMANATHAN; Y. TIAN; H. HU; S. AJIT. *Drexel Univ. Col. of Med.*

8:00 X27 **484.09** Sexually motivated hedonic behavior is related to persistent pain-induced stress in male rats. M. H. PITCHER*; F. TARUM; M. LEHMANN; M. C. BUSHNELL. *NIH, Pain and Integrative Neurosci. Laboratory, Natl. Ctr. for Complementary and Integrative Health, Natl. Inst. of Hlth., Natl. Inst. of Mental Health, Section on Functional Neuroanatomy, Lab. of Cell. and Mol. Regulation, Natl. Inst. of Hlth.*

9:00 X28 **484.10** Physiological contribution of genetically-distinct cells of the central amygdala in the modulation of tactile hypersensitivity in a mouse model of neuropathic pain. T. WILSON*; H. AHN; S. VALDIVIA; A. KHAN; S. MARTINEZ GONZALEZ; Y. CARRASQUILLO. *NIH.*

10:00 X29 **484.11** Sleep pattern evaluation in adult rats submitted to nociceptive neonatal stimulation. J. M. MALHEIROS*; C. AMARAL; J. C. MUNIZ; L. RODRIGUES; L. COVOLAN. *Univ. Federal De Sao Paulo, Univ. Federal De Sao Paulo.*

11:00 X30 **484.12** Effects of chronic exposure to tumor necrosis factor on pain-related behavior and sodium channel gene expression in dorsal root ganglion neurons. M. E. O'LEARY; A. BOTTARO; I. KUZIN; C. HO; B. D. FISCHER*. *Cooper Med. Sch. of Rowan Univ.*

8:00 X31 **484.13** The experimental and clinical study: Persistent pain could be a potential stimulus on tumor. F. JIANG*; J. LI; G. DING. *Xinhua Hosp. Chongming Br., Shanghai Jiao Tong Univ. Sch. of Med., Shanghai Intl. Med. Ctr.*

9:00 X32 **484.14** Chronic pain state mediates development of renal inflammatory response. V. DURIC*; B. DUONG; M. CARDER; G. CROSBY; V. BABICH; F. DI SOLE. *Des Moines Univ., Mercy Col. of Hlth. Sci.*

10:00 X33 **484.15** Involvement of beta2-microglobulin and transient receptor potential vanilloid 1-expressed primary afferent neurons in uremic pruritus. T. ANDOH*; T. MAKI; S. LI; D. UTA. *Univ. Toyama.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 Y1 **484.16** No evidence for social contagion of itch in mice observing histamine-injected demonstrators. J. LILJENCRANTZ*; M. H. PITCHER; L. A. LOW; L. BAUER; M. C. BUSHNELL. *NCCIH, Natl. Inst. of Hlth., Pain and Integrative Neurosci. Laboratory, Natl. Ctr. for Complementary and Integrative Health, Natl. Inst. of Hlth.*

8:00 Y2 **484.17** Role of $Na_V1.6$ and $Na_V\beta4$ sodium channel subunits in the rat back pain model induced by chronic compression of the lumbar dorsal root ganglia. J. A. STRONG*; W. XIE; J. ZHANG; J. ZHANG. *Univ. of Cincinnati Col. of Med.*

9:00 Y3 **484.18** Long-lasting antinociceptive effects of green light in rats and humans. M. M. IBRAHIM*; A. PATWARDHAN; K. GILLBRAITH; J. HANSON; A. MOUTAL; W. LI; S. CAI; L. A. CHEW; X. YANG; A. DORAME; T. P. MALAN; T. W. VANDERAH, Ph.D.; F. PORRECA; R. KHANNA. *Univ. of Arizona Dept. of Anesthesiol., Univ. of Arizona, Univ. of Arizona, Princeton Univ., Univ. of Arizona, Univ. of Arizona Col. of Pharm.*

10:00 Y4 **484.19** Development and characterization of an injury-free rodent model of hyperalgesia relevant to fibromyalgia syndrome. R. KHANNA*; A. PATWARDHAN; K. GILBRAITH; J. HANSON; A. MOUTAL; W. LI; L. CHEW; S. S. BELLAMPALLI; A. DORAME; X. YANG; P. MALAN; T. VANDERAH; F. PORRECA; M. IBRAHIM. *Univ. of Arizona.*

11:00 Y5 **484.20** Enhanced analgesic effect of rough needle surface acupuncture in rats with peripheral nociceptive stimulus. S. KWON*; Y. LEE; S. KANG; O. KWON; J. MOON; S. SEO; K. CHOI; S. KIM; S. BANG; J. KIM; Y. RYU; H. PARK; D. HAHM. *Korea Inst. of Oriental Med., Kyung Hee Univ.*

8:00 Y6 **484.21** Median nerve stimulation of low frequency stimulator relieves pain behavior in docetaxel-induced neuropathic mice. S. KANG*; O. KWON; J. MOON; S. SEO; S. KWON; S. BANG; S. KIM; S. CHO; K. CHOI; J. KIM; Y. RYU. *Korea Inst. of Oriental Med.*

9:00 Y7 **484.22** Chemogenetic Gq-linked sensitization of nociceptive pathways in freely moving rodents. H. ALKHANI*; A. ASE; P. A. SEGUELA. *Montreal Neurolog. Institute, Dept of Neurol. and Neurosurgery, McGill Univ.*

10:00 Y8 **484.23** Dopaminergic modulation of the medial prefrontal cortex: A role in chronic pain? K. LANCON*; M. ZAMFIR; P. A. SEGUELA. *Montreal Neurolog. Institute, McGill Univ.*

11:00 Y9 **484.24** Dynorphin- and nNOS-containing neurons in the mouse spinal dorsal horn play different roles in itch and pain mechanisms. E. POLGAR*; H. WILDNER; H. U. ZEILHOFER; A. J. TODD. *Univ. Glasgow, Univ. of Zürich.*

8:00 Y10 **484.25** Effects of burn size on post-burn itch in mice. T. AKIYAMA*; K. SAKAI; K. SANDERS; G. YOSIPOVITCH. *Univ. of Miami.*

9:00 Y11 **484.26** Visualize nociceptor changes in neuropathic mice with chronic constriction injury. Y. WU; C. YEN*. *Natl. Taiwan Univ.*

10:00 Y12 **484.27** Effects of early noxious stimulation and early systemic infection on response to painful stimuli in Long-Evans hooded rats. C. GOMES*; G. A. BARR. *The Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia.*

11:00 Y13 **484.28** Using iPSC-derived noiceptor neurons from familial dysautonomia patients to study pain physiology. Y. SAPIR*; J. KOH; B. WAINGER. *Massachusetts Gen. Hosp.*

8:00 Y14 **484.29** ● ▲ Generation of patient-derived sensory neurons using iPSCs & smNPCs obtained from patients with Fabry disease. T. KLEIN; K. GÜNTHER; C. L. SOMMER; F. EDENHOFER; N. ÜÇEYLER*. *Univ. of Würzburg, Univ. of Würzburg.*

9:00 Y15 **484.30** The antimicrobial peptide hBD2 promotes itch through Toll-like receptor 4 signaling in mice. J. FENG; J. LUO; M. R. MACK; P. YANG; X. GONG; F. ZHANG; G. WANG; T. CAI; Z. MEI; B. S. KIM; S. YIN; H. HU*. *Washington Univ. In St. Louis, Washington Univ. in St. Louis, Col. of Pharmacy, South-Central Univ. for Nationalities, The First Affiliated Hosp. of Chongqing Med. Univ.*

**POSTER**

**485. Pain Models: Physiology and Behavior II**

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 Y16 **485.01** Gait analysis in mouse mouse models of chronic widespread pain. C. LEE*; S. HSIEH; T. HSIEH; C. CHEN. *Inst. of Biomed. Sci. Academia Sinica, Natl. Taiwan Univ., Chang Gung Univ., Academia Sinica.*

9:00 Y17 **485.02** Selective activation of membrane estrogen receptors rapidly attenuates opioid receptor-like 1 receptor-mediated suppression of nerve injury-induced tactile hypersensitivity possibly via GIRK channel modulation. D. M. HECKARD*; S. NAG; C. D. WEAVER; S. S. MOKHA. *Meharry Med. Col., Meharry Med. College, Dept of Neurosci. and Pharmacol., Vanderbilt Univ., Meharry Med. College, Dept of Neurosci. and Pharmacol.*

10:00 Y18 **485.03** Chemogenetic interrogation of anxiety- and depression-like behaviors in a mouse model of fibromyalgia. W. WONG*; C. LIEN. *Inst. of Neuroscience, Natl. Yang-Ming Univ., Brain Res. Center, Natl. Yang-Ming Univ.*

11:00 Z1 **485.04** Meal pattern differences between mid- and late-pregnant rats after CFA-induced temporomandibular joint (TMJ) nociception. M. UMORIN*; P. KRAMER; L. BELLINGER. *Texas A&M Univ. Col. of Dent.*

8:00 Z2 **485.05** The role of astrocyte elevated gene-1 in mouse models of inflammatory and neuropathic pain. D. BAGDAS*; M. CARPER; D. SARKAR; M. DAMAJ. *Virginia Commonwealth Univ., Uludag Univ.*

9:00 Z3 **485.06** Effects of oxaliplatin on the development of neuropathy and cognitive impairment in the mouse. L. CHEN*; Y. CHEN; H. HAN; M. SHEN. *Natl. Cheng Kung Univ., Instrument Technol. Res. Ctr.*

10:00 Z4 **485.07** Hypersensitivity to acute pain in a mouse model of early blindness. S. TOUJ*; S. ALAIN; G. BRONCHTI; M. PICHE. *UQTR, UQTR, Univ. Quebec Trois-Rivieres, Univ. Du Quebec A Trois-Rivieres.*

11:00 Z5 **485.08** ● ▲ Involvement of HMGB1 in postoperative pain. Y. KAWABATA*; M. TSUBOTA; R. TSUJITA; M. NISHIBORI; A. KAWABATA. *Kindai Univ., Asahi Kasei Pharma, Okayama Univ.*

8:00 Z6 **485.09** Evaluation of cannabinoid, opioid and serotoninergic receptors on the antinociceptive effect of peripheral administration of docosahexaenoic acid (DHA). A. G. ARROYO LIRA*; A. E. CHÁVEZ-PIÑA. *Inst. Politécnico Nacional.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 Z7 **485.10** The SAD weekend: A perilous north american tradition. S. K. TOTSCH*; S. A. LOPEZ; T. L. QUINN; R. Y. MEIR; R. E. SORGE. *Univ. of Alabama At Birmingham.*

10:00 Z8 **485.11** The impact of inflammatory pain on decision-making. C. A. SALCIDO*; M. K. GELTMEIER; P. N. FUCHS. *Univ. of Texas At Arlington.*

11:00 Z9 **485.12** Perturbation of central amygdala neuron excitability reduces pain- & anxiety-like behaviors. Y. LIN*; C. LIEN. *Natl. Yang Ming Univ. Inst. Of Neurosci.*

8:00 Z10 **485.13** $H_1$-antihistamines promote electroacupuncture analgesia. Y. CHEN*; I. MACDONALD; H. CHUNG. *China Med. Univ., China Med. Univ.*

9:00 Z11 **485.14** ▲ Mental nerve constriction as a multidimensional model to study trigeminal neuropathic pain in rodents. C. D. MONTES-ANGELES*; C. ACEVEDO-ROQUE; N. GUTIÉRREZ-CASTAÑEDA; C. SOSA-HUERTAS; M. GARCÍA-JACOME; I. PÉREZ-MARTÍNEZ. *Univ. Nacional Autonoma De Mexico.*

10:00 Z12 **485.15** Aggravation of inflammatory pain after sound stress exposure. C. HUNG*. *Kaohsiung Med. Univ. Hosp.*

11:00 Z13 **485.16** Evaluation of ZH853, a novel endomorphin analog, versus morphine in acute and long term dosing for chronic pain. A. K. FEEHAN*; X. ZHANG; A. T. AMGOTT-KWAN; J. E. ZADINA. *Tulane Univ., Tulane Univ. Sch. of Med., Tulane Univ., SE Louisiana Veterans HCS, Tulane Univ. Med. Sch.*

8:00 Z14 **485.17** A painful neuroma model in rats is objectively assessed using the automated neurobehavioral monitoring system - smartcage™. X. S. XIE*; C. PASCUAL; B. ZOU; W. S. CAO; K. XIAO; O. V. HORST. *Afasci Res. Laboratories, Afasci, Inc.*

9:00 Z15 **485.18** Classifying mouse pain faces using a machine learning algorithm. A. H. TUTTLE*; M. MOLINARO; M. J. ZYLKA. *UNC Sch. of Med., UNC, UNC Sch. of Med.*

10:00 Z16 **485.19** Pain in Autism: SHANK3 deficiency in sensory neurons impairs mGluR5-induced signaling via peripheral and presynaptic modulation. L. ZHANG*; Q. HAN; H. LUO; Y. KIM; X. WANG; Y. JIANG; R. JI. *Anesthesiology, Duke Univ., Duke Univ.*

11:00 Z17 **485.20** Antinociceptive effects of NSAIDs on acid-stimulated stretching and acid-depressed feeding in rats. A. ALTARIFI*; B. YOUNIS; M. ALSALEM; K. NUSEIR. *Jordan Univ. of Sci. and Technol., Jordan Univ. of Sci. and Technol., The Univ. of Jordan.*

8:00 Z18 **485.21** Differential patterns of glial expression in the hippocampus of rats with behavioural changes following nerve injury. N. T. FIORE*; P. J. AUSTIN. *Univ. of Sydney.*

9:00 Z19 **485.22** Pain tolerance measured with the Operant Plantar Thermal Assay is altered in inflammatory and neuropathic pain models. A. N. REKER*; S. CHEN; S. DAVIDSON. *Univ. of Cincinnati, Univ. of Cincinnati.*

10:00 Z20 **485.23** ● Behavioral characteristics of capsaicin mediated cutaneous, myogenic, and arthrogenic orofacial nociception in rats. E. L. ROHRS; J. K. NEUBERT; K. D. ALLEN; R. M. CAUDLE*. *Univ. of Florida, Univ. of Florida, UFCD.*

11:00 Z21 **485.24** Unable to Attend Antinociceptive effect of the methanol extract from ajuga chamaepytis. S. M. JAFFAL*; M. A. ABBAS. *Al-Ahliyya Amman Univ., Al-Ahliyya Amman Univ.*

8:00 Z22 **485.25** ▲ Binge-type ethanol consumption increased by trigeminal injury and periodontal lesion in rats. M. MARTÍNEZ-ORDOÑEZ; B. LOPEZ-NIETO; R. ACEVEDO-ROQUE; M. GARCÍA-JACOME; D. L. SOLIS-SUAREZ; A. L. GARCÍA-HERNÁNDEZ; I. O. PEREZ-MARTINEZ*. *Lab. of Neurobio. of Oral Sensations, Lab. of osteoinmunology.*

9:00 Z23 **485.26** Contribution of anoctamin 1 to burn injury hypersensitivity. A. WALLACE*; K. M. HARGREAVES. *Univ. of Texas Hlth. Sci. Ctr. At San A, UT Hlth. Sci. Ctr. at San Antonio.*

10:00 Z24 **485.27** ● Spinal nerve injury distal to dorsal root ganglion causes more persistent pain and more hypoxia than proximal to dorsal root ganglion. J. LIN*; Y. YU; C. CHEN; Y. CHIANG. *Taipei Med. Univ. Hosp., Col. of Sci. and Med. Technology, Taipei Med. Univ., Taipei Med. Univ., Academia Sinica, Taiwan Mouse Clinic-National Comprehensive Phenotyping and Drug Testing Ctr., Taipei Med. Univ.*

11:00 Z25 **485.28** ▲ Pronociceptive effect of calcium-activated chloride channel Bestrophin-1. G. GARCÍA*; R. NORIEGA-NAVARRO; P. A. MUÑOZ-CASTILLO; J. MURBARTIÁN. *Cinvestav Sede Sur.*

8:00 Z26 **485.29** An importin alpha knockout mouse with attenuated pain responses. L. MARVALDI*; N. PANAYOTIS; S. Y. DAGAN; I. RISHAL; K. COHEN-KASHI; F. ROTHER; N. OKLADNIKOV; V. BRUMFELD; Y. ADDADI; E. HARTMANN; M. BADER; M. FAINZILBER. *Weizmann Inst. of Sci., Weizmann Inst. of Sci., Max Delbrück Ctr. for Mol. Med., Weizmann Inst. of Sci., Weizmann Inst. of Sci., Univ. of Lübeck.*

9:00 Z27 **485.30** Distinct functions of alternatively spliced intracellular carboxyl termini of mu opioid receptors on morphine action. J. XU; Z. LU; A. NARAYAN; V. P. LE ROUZIC; M. XU; A. HUNKELE; T. G. BROWN; W. F. HOEFER; G. C. ROSSI; R. C. RICE; A. MARTINEZ-RIVERA; A. M. RAJADHYAKSHA; L. CARTEGNO; D. L. BASSONI; G. W. PASTERNAK; Y. PAN*. *Mem Sloan Kettering Cancer Ctr., Nanjing Univ. of Chinese Med., LIU Post, Long Island Univ., Weill Cornell Med. Col., The State Univ. of New Jersey, DiscoverX Corp.*

**POSTER**

**486. Thalamic and Cortical Pain Processing and Treatment**

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 Z28 **486.01** Dysgranular area in somatosensory cortex of mice represents nociceptive information. H. OSAKI*; Y. UETA; M. MIYATA. *Dept. Physiology, Tokyo Women's Med. Univ.*

9:00 Z29 **486.02** Alteration of thalamic submedius activity following lumbar spinal thrust. W. R. REED*; J. T. CRANSTON; S. M. ONIFER; J. W. LITTLE; R. S. SOZIO. *Univ. of Alabama Birmingham, Palmer Col. of Chiropractic, St. Louis Univ.*

10:00 Z30 **486.03** Excitatory input from the Anterior Cingulate Cortex to the dorsal Periaqueductal Gray facilitates the affective dimension of pain. J. DICKINSON*; G. F. CORDER; A. FRANCOIS; G. SCHERRER. *Stanford Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 Z31 **486.04** Group II mGluR+ neurons in anterior cingulate cortex are sensitized in mouse models of pain and are positioned to contribute to pain threshold and tolerance behaviors. S. CHEN*; S. DAVIDSON. *Univ. of Cincinnati, Univ. of Cincinnati.*

8:00 Z32 **486.05** ● Objective evaluation method for the sudden type of pain. A. NAKAE*; T. SOSHI; Y. TSUGITA. *Osaka Univ. Grad. Sch. of Frontier Biosc.*

9:00 AA1 **486.06** Assessing the functional specialization of prefrontal cortical neurons in acute pain versus non-pain-related processes. O. A. RETANA*; M. J. OSWALD; R. KUNER. *Universitätsklinikum Heidelberg.*

10:00 AA2 **486.07** Behavioural and cortical pain responses in human infants are dissociable by their relationship to physiological stress. L. JONES*; M. LAUDIANO-DRAY; K. WHITEHEAD; L. FABRIZI; J. MEEK; M. VERRIOTIS; M. FITZGERALD. *Univ. Col. London, Univ. Col. London Hosp., Univ. Col. London, Univ. Col. London.*

11:00 AA3 **486.08** Modulation of peripheral inflammatory response and analgesia: Understanding the cortical stimulation effect. D. V. ASSIS*; E. T. FONOFF; R. L. PAGANO. *Sirio-Libanes Inst. of Res. and Teaching, Univ. of Sao Paulo Med. Sch.*

8:00 AA4 **486.09** Multivariate mediation analysis separates functional networks of pain processing. S. GEUTER*; T. D. WAGER; M. A. LINDQUIST. *Johns Hopkins Univ., Univ. of Colorado Boulder, Univ. of Colorado Boulder Dept. of Psychology and Neurosci.*

9:00 AA5 **486.10** Modulation of itch in the brainstem monitored by fMRI compared to pain. R. RINGLER*; V. VIEROW; L. BOETTGER; S. KANSY; K. DETMAR; M. LELL; C. FORSTER. *Univ. of Technol. Amberg-Weiden, Univ. Erlangen-Nuremberg, Paracelsus Univ.*

10:00 AA6 **486.11** ● Community Structure of functional brain networks during visual stimulation in chronic pain. T. E. LARKIN*, JR; C. CUMMIFORD; E. ICHESCO; S. E. HARTE; R. E. HARRIS; D. J. CLAUW. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

11:00 AA7 **486.12** Robot guided neuronavigated rTMS in central neuropathic pain - Clinical experience and long term follow up. R. PEYRON*; C. QUESADA; B. POMMIER; C. CRÉAC'H; F. VASSAL. *Hosp. Nord.*

8:00 AA8 **486.13** Chronic *in vivo* imaging of dorsal root ganglion in a mouse model of inflammatory pain. L. SUN*; C. CHEN; W. GAN; G. YANG. *New York Univ., New York Univ.*

9:00 AA9 **486.14** ● Development of a human high throughput neuronal activity assay for chronic pain. P. KARILA*; A. KARLSSON; D. TAMS; A. BARNES; M. KARLSSON. *Cellectricon AB, Censo Biotechnologies.*

10:00 AA10 **486.15** Increasing the effectiveness of postcentral topectomy in chronic pain relief by targeted inactivation of nociresponsive area 3a. O. V. FAVOROV*; T. CHALLENER; B. L. WHITSEL; R. S. WATERS; F. P. MCGLONE; S. FRANCIS; R. SANCHEZ; S. ELDEGHAIDY. *Univ. North Carolina, Univ. North Carolina, Univ. Tennessee Hlth. Sci. Ctr., Liverpool John Moores Univ., Univ. of Nottingham.*

11:00 AA11 **486.16** Anti-NGF reverses pain behaviors and anterior cingulate cortex activation in a rat model of neuropathic pain. J. T. SILVA*; B. EVANGELISTA; R. VENEGA; D. A. SEMINOWICZ; M. CHACUR. *Univ. of Sao Paulo, Univ. of Maryland, Baltimore.*

8:00 AA12 **486.17** Pain-relieving effects of rapamycin, an mTOR inhibitor, in the anterior cingulate cortex of neuropathic rats. S. UM*; M. TANIOKA; K. KIM; B. LEE. *Col. of Medicine, Yonsei Univ., Brain Korea 21 PLUS Project for Med. Sci.*

9:00 AA13 **486.18** ● Cortical theta predicts pain and analgesia by spinal cord stimulation. C. Y. SAAB*; S. KOYAMA; J. GU. *Brown/RIH, Brown Univ. / Rhode Island Hosp., Boston Scientific.*

10:00 AA14 **486.19** ● Cortical theta predicts pain, analgesia and side effects of high dose analgesia. S. KOYAMA*; B. W. LEBLANC; C. Y. SAAB. *Brown Univ. / RIH / Asahi Kasei Pharma, Brown/RIH.*

## POSTER

### 487. Somatosensory System Plasticity

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 AA15 **487.01** Automated sensory association training reveals input-specific plastciity in mouse barrel cortex. N. AUDETTE*; M. MATSUSHITA; S. E. MYAL; R. GRANT; S. BERNHARD; A. L. BARTH. *Carnegie Mellon Univ., Carnegie Mellon U.*

9:00 AA16 **487.02** Sensory input-dependent structural plasticity of primary afferents in the trigeminal system of the adult rat. J. FERNÁNDEZ-MONTOYA*; Y. B. MARTIN; P. NEGREDO; C. AVENDAÑO. *Fac. Medicina, Univ. Autónoma De Madrid, Univ. Francisco de Vitoria, Univ. Autónoma De Madrid.*

10:00 AA17 **487.03** ● ▲ The effect of sensory deprivation on vasculature organization in the mouse barrel cortex. E. YAKUBOVA*; F. A. ISKHAKOVA; J. C. BRUMBERG. *1996, Queens College, CUNY, Queens Col.*

11:00 AA18 **487.04** Unilateral loss of whisker sensation leads to synaptic remodeling across the corpus callosum. E. R. PETRUS*; A. P. KORETSKY. *NIH.*

8:00 AA19 **487.05** Ipsilateral responsiveness in area 3b with and without treatment after dorsal column spinal cord injury in New World monkeys. J. L. REED*; H. QI; C. LIAO; M. P. SARAF; M. M. PAKULSKA; M. S. SHOICHET; J. H. KAAS. *Vanderbilt Univ., Univ. of Toronto.*

9:00 AA20 **487.06** Intracortical connections of area 3b after cortical treatment with chondroitinase ABC in squirrel monkeys with a dorsal column lesion. C. LIAO*; J. L. REED; H. QI; M. P. SARAF; J. H. KAAS. *Vanderbilt Univ.*

10:00 AA21 **487.07** Rapid remapping of hand-to-face representation in primary somatosensory SI cortex in rat following brachial plexus nerve cut and brachial plexus anesthesia. A. L. CURRY*; V. PELLICER MORATA; J. W. TSAO; O. V. FAVOROV; R. S. WATERS. *Univ. of Memphis, Univ. of Tennessee Hlth. Sci. Ctr., Univ. North Carolina, Univ. Tennessee Hlth. Sci. Ctr.*

11:00 AA22 **487.08** Motor and somatosensory reorganization in a patient with a somatosensory lesion. Y. LIU; O. FASEYITAN; H. B. COSLETT; J. MEDINA*. *Univ. of Delaware, Univ. of Pennsylvania.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 AA23 **487.09** Neurofeedback-induced modulation of somatosensory alpha power controls subsequent tactile learning. M. BRICKWEDDE*; H. R. DINSE. *Inst. for Neuroinformatics, Ruhr-University, Dept. of Neurology, BG-University Clin. Bergmannsheil, Ruhr-University.*

9:00 AA24 **487.10** Responses to outgrowing / young and old whiskers in layer 4 barrels of rat somatosensory cortex. E. MAIER*; M. BRECHT. *BCCN Berlin / Humboldt-University.*

**POSTER**

**488. Auditory Processing: Temporal, Frequency, and Spectral Processing**

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 AA25 **488.01** Distinct maturational trajectory of temporal processing in thalamocortical recipient layers 4 and 5. F. XIE*; L. YOU; D. CAI; M. LIU; Y. YUE; Y. WANG; K. YUAN. *Sch. of Medicine,Tsinghua Univ., Tsinghua Univ., Tsinghua Univ., Tsinghua Univ.*

9:00 AA26 **488.02** Behavioral assessment of sound intensity discrimination in rats exposed to noise as juveniles. D. SUTA*; N. RYBALKO; T. CHIU; J. SYKA. *CIIRC Czech Tech. Univ., Inst. of Exptl. Medicine, Czech Acad. of Sci., Dept of Biol. Sci. and Technology, NCTU.*

10:00 AA27 **488.03** A critical role of inhibition in temporal processing maturation in the primary auditory cortex. K. YUAN*; D. CAI; M. LIU; F. XIE; L. YOU; Y. WANG; Y. YUE. *Tsinghua Univ., Tsinghua Univ., Tsinghua Univ.*

11:00 AA28 **488.04** Adaptive granger causality analysis reveals functional network dynamics underlying attentive behavior at neuronal scale. A. SHEIKHATTAR*; S. MIRAN; J. LIU; J. B. FRITZ; S. A. SHAMMA; P. O. KANOLD; B. BABADI. *Univ. of Maryland, Univ. of Maryland, Inst. For Systems Res.*

8:00 AA29 **488.05** Effect of focal attention on the cortical entrainment of the speech envelope. D. LESENFANTS*; J. VANTHORNHOUT; E. VERSCHUEREN; L. DECRUY; B. SOMERS; T. FRANCART. *ExpORL, Dept. of Neurosciences, KU Leuven.*

9:00 AA30 **488.06** Auditory brainstem response changes following repeated mild closed head injury. R. SAHYOUNI; A. PRESACCO*; K. GOSHTASBI; H. MAHBOUBI; O. MOSHTAGHI; H. R. DJALILIAN; J. C. MIDDLEBROOKS; B. J. CUMMINGS; H. W. LIN. *UC Irvine, UC Irvine, Univ. of California, Irvine, Univ. of California: Irvine.*

10:00 AA31 **488.07** Data-driven segmentation of mouse auditory cortical fields based on mesoscale optical $Ca^{2+}$ imaging. S. A. ROMERO PINTO*; D. B. POLLEY; A. HIGHT; J. RESNIK. *Massachusetts Eye and Ear Infirmary, Harvard Med. Sch.*

11:00 AA32 **488.08** Acoustical enrichment during early postnatal period improves responses of AI cortical neurons in adult rats. J. M. SYKA*; K. PYSANENKO; J. LINDOVSKÝ; Z. BUREŠ. *Inst. Exptl. Med. ASCR.*

8:00 AA33 **488.09** Temporal sound processing in the auditory cortex is influenced by changes in myelin integrity. S. Y. MOORE CORONA*; W. MÖBIUS; T. RUHWEDEL; M. WEIL; K. NAVE; L. DE HOZ. *Max Planck Inst. For Exptl. Med., Intl. Max Planck Res. Sch. for Neurosciences, Göttingen Grad. Sch. of Neurosciences and Mol. Biosci., Ctr. for Nanoscale Microscopy and Mol. Physiol. of the Brain.*

9:00 AA34 **488.10** Distinct sensory and extra-sensory processing differences in two types of deep layer auditory cortex projection neuron. R. S. WILLIAMSON*; D. B. POLLEY. *Massachusetts Eye and Ear Infirmary, Harvard Med. Sch.*

10:00 AA35 **488.11** Musical chord change detection in the macaque monkey is hindered by insertion of silent gaps between chords: A scalp ERP study. K. ITOH*; M. NEJIME; N. KONOIKE; K. NAKAMURA; T. NAKADA. *Brain Res. Institute, Univ. of Niigata, Univ. of Tsukuba, Primate Res. Institute, Kyoto Univ.*

11:00 AA36 **488.12** Modulation of neural activity during locomotion in the mouse auditory midbrain. Y. YANG; J. YANG; G. KIM*. *Sungkyunkwan Univ.*

8:00 BB1 **488.13** Neural correlates of pitch encoding in the auditory cortex of awake mice. S. SYLVESTER*; N. A. FRANCIS; K. SHILLING-SCRIVO; P. O. KANOLD. *Univ. of Maryland, Univ. of Maryland Baltimore.*

9:00 BB2 **488.14** The organ of Corti extracts and processes the envelope pattern of a tonal complex. A. L. NUTTALL*; G. W. S. BURWOOD; A. FRIDBERGER. *Oregon Hlth. and Sci. Univ., Oregon Hlth. & Sci. Univ., Linköping Univ.*

10:00 BB3 **488.15** Differential encoding of auditory information by subgroups of neuronal spikes associated with coordinated neuronal ensembles. J. SEE*; C. ATENCIO; V. SOHAL; C. SCHREINER. *UCSF.*

11:00 BB4 **488.16** Activation and deactivation of somatostatin-expressing GABA neurons disrupts temporal coding of sound frequency in the auditory cortex. A. T. LANDAU*; W. GUO; D. B. POLLEY. *Harvard Univ., Massachusetts Eye and Ear Infirmary, MIT, Harvard Med. Sch.*

8:00 BB5 **488.17** Transforming continuous temporal cues to a categorical spatial code in human speech cortex. N. P. FOX*; M. J. SJERPS; M. K. LEONARD; E. F. CHANG. *Univ. of California San Francisco, UC Berkeley, UCSF, UCSF.*

9:00 BB6 **488.18** Unique roles for delta and theta frequency bands in the cortical analysis of temporal speech structure. J. C. LEE*; A. J. FALCONI; T. OVERATH. *Duke Univ.*

10:00 BB7 **488.19** Impact of articulator velocity-controlled rhythm in perceiving speech. S. HIROYA*; N. LAVAN; S. H. CHEN; S. MEEKINGS; S. K. SCOTT. *NTT Corp., Royal Holloway, Inst. of Cognitive Neurosci., UCL, Univ. Col. London.*

11:00 BB8 **488.20** Encoding of irregular amplitude modulations in gerbil auditory cortex. K. PENIKIS*; M. N. SEMPLE; D. H. SANES. *NYU.*

8:00 BB9 **488.21** Developmental hearing loss impairs fast temporal processing. J. YAO*; D. SANES. *New York Univ., New York Univ.*

9:00 BB10 **488.22** The representation of spatial location and temporal modulation in marmoset parabelt auditory cortex. D. GAMBLE*; X. WANG. *Johns Hopkins Univ., Johns Hopkins Univ. Sch. Med.*

10:00 BB11 **488.23** Cortical representations of attention to pitch or timbre. E. J. ALLEN*; P. C. BURTON; C. A. OLMAN; A. J. OXENHAM. *Univ. of Minnesota Twin Cities, Univ. of Minnesota.*

Tues. AM

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* Indicates abstract's submitting author

11:00 BB12 **488.24** Cortical mechanisms underlying responses to temporal gaps. B. H. AWWAD*; I. NELKEN. *Hebrew Univ. of Jerusalem.*

8:00 BB13 **488.25** Missing fundamental pitch perception with semitone precision in marmosets. X. SONG*; M. S. OSMANSKI; X. WANG. *Johns Hopkins Univ. Dept. of Biomed. Engin., Johns Hopkins Univ., Johns Hopkins Univ. Sch. Med.*

9:00 BB14 **488.26** Excitatory ON and OFF receptive field arrangement confers direction selectivity to slow frequency modulation in mouse auditory cortex. G. A. CHAPUIS*; J. SOLLINI; C. CLOPATH; P. CHADDERTON. *Imperial Col. London, UCL.*

10:00 BB15 **488.27** Passive mapping of receptive language function under general anesthesia. A. NOURMOHAMMADI*; A. DE PESTERS; P. BRUNNER; J. KNUTH; A. RITACCIO; G. SCHALK. *Natl. Ctr. For Adaptive Neurotechnologies, State Univ. of New York at Albany, Albany Med. Col., Albany Med. Col., Albany Med. Col.*

11:00 BB16 **488.28** Diverse configuration of synaptic tonal receptive fields in the auditory midbrain. J. LEE; J. LIN; G. K. WU*. *The George Washington Univ.*

**POSTER**

**489. Auditory Processing: Perception, Cognition, and Action I**

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 BB17 **489.01** Reduced acoustic startle response and peripheral hearing loss in the 5xFAD mouse model of Alzheimer's disease. R. E. BROWN*; T. P. O'LEARY; J. WANG. *Dept. of Psychology and Neurosci., Dalhousie Univ., Univ. of British Columbia, Dalhousie Univ.*

9:00 BB18 **489.02** Pharmacological inhibition of substantia nigra pars reticulata and sensorimotor gating function: Implications for differential organization of nigral outflow between rodents and monkeys. B. L. AGUILAR*; L. MALKOVA; P. A. FORCELLI. *Georgetown Univ., Georgetown Univ., Georgetown Univ.*

10:00 BB19 **489.03** Stochastic resonance as a putative cause of tinnitus. P. KRAUSS*; K. TZIRIDIS; C. METZNER; A. SCHILLING; U. HOPPE; H. SCHULZE. *Univ. of Erlangen-Nurnberg.*

11:00 BB20 **489.04** Psychophysics of auditory streaming based on spectral and spatial cues in rhesus monkeys. J. LEE*; T. BANNO; Y. I. FISHMAN; Y. E. COHEN. *Univ. of Pennsylvania, Perelman Sch. of Med., Albert Einstein Col. of Med., Univ. of Pennsylvania, Univ. of Pennsylvania.*

8:00 BB21 **489.05** Neural processing of delayed auditory feedback of involuntary self-body movement. T. MOMOKAWA*; K. UENO; S. SHIMADA. *Meiji Univ., Meiji Univ.*

9:00 BB22 **489.06** Auditory brainstem responses recorded from inferior colliculus in Miniopterus fuliginosus. T. FURUYAMA*; K. HASE; S. HIRYU; K. I. KOBAYASI. *Doshisha Univ., Doshisha Univ.*

10:00 BB23 **489.07** ▲ Listening to the mind's iPod: Are there two kinds of auditory imagery? L. RAJAN; S. A. LACEY*; K. SATHIAN. *Emory Univ., R&D Ctr. for Visual and Neurocognitive Rehabil.*

11:00 BB24 **489.08** Hippocampal reactivity relaying from medial septum only to noise in awake forebodes the sensibility of auditory fear conditioning independent of the sound characteristics. C. XIAO*; Y. LIU; Z. XIAO. *Southern Med. Univ.*

8:00 BB25 **489.09** Spiking activity in auditory cortex to identity-preserving changes in sounds. F. A. RODRIGUEZ CAMPOS*; J. MCDERMOTT; Y. E. COHEN. *Univ. of Pennsylvania, MIT, Univ. of Pennsylvania Dept. of Otorhinolaryngology.*

9:00 BB26 **489.10** Primate behavioral and functional-imaging model for auditory figure-ground segregation. F. SCHNEIDER*; P. DHEERENDRA; F. BALEZEAU; A. THIELE; T. D. GRIFFITHS. *Newcastle Univ.*

10:00 BB27 **489.11** Evaluation of acoustic information related to discriminability in avian higher-order auditory cortex. M. INDA*; R. TABATA; K. HOTTA; K. OKA. *Keio-Univ. Biophysics and Neuroinformatics Lab.*

11:00 CC1 **489.12** Breakdown of intercortical signaling upon propofol anesthesia: An intracranial human study of auditory responses using single-unit, LFP, iEEG and ECoG data. A. J. KROM*; A. MARMELSHTEIN; H. GELBARD-SAGIV; A. TANKUS; D. HAYAT; I. STRAUSS; M. SOEHLE; J. BOSTRÖM; F. MORMANN; I. FRIED; Y. NIR. *Tel Aviv Univ., Hadassah Hebrew Univ. Hosp., Tel Aviv Univ., Tel Aviv Univ., Tel Aviv Sourasky Med. Ctr., Tel Aviv Univ., Tel Aviv Sourasky Med. Ctr., Tel Aviv Sourasky Med. Ctr., Univ. of Bonn, Univ. of Bonn, Univ. of Bonn, UCLA Sch. Med., Tel Aviv Univ.*

8:00 CC2 **489.13** Neural correlates of sine wave speech intelligibility in human frontal and temporal cortex . M. K. LEONARD*; S. KHOSHKHOO; N. MESGARANI; E. F. CHANG. *UCSF, Harvard Med. Sch., Columbia Univ.*

9:00 CC3 **489.14** Characteristics of phase resetting in low-frequency oscillatory activity during a reaction time task. L. MOHEIMANIAN*; W. COON; P. BRUNNER; G. SCHALK. *New York State Dept. of Hlth., State Univ. of New York at Albany, Massachusetts Gen. Hospital, Harvard Med. Sch., Albany Med. Col.*

10:00 CC4 **489.15** Selective auditory attention to a single sound stream suppresses responses to temporally non-coherent sounds in ferret auditory cortex. K. LU*; W. LIU; J. B. FRITZ; S. A. SHIHAB. *Univ. of Maryland.*

11:00 CC5 **489.16** Sex differences in lifespan prolongation effect in mice induced by acoustic environmental enrichment. Y. YAMASHITA*; N. KAWAI; O. UENO; Y. MATSUMOTO; T. OOHASHI; H. MANABU. *Natl. Inst. of Neuroscience, Natl. Ctr. of Neurol. and Psychiatry, Fndn. for Advancement of Intl. Sci.*

8:00 CC6 **489.17** Phase entrainment of neural oscillations is causally relevant for neural responses to intelligible speech. B. ZOEFEL*; A. ARCHER-BOYD; M. H. DAVIS. *MRC Cognition and Brain Sci. Unit.*

9:00 CC7 **489.18** Electrocorticographic (ECoG) investigation of auditory predictive coding in the human brain across levels of consciousness. K. V. NOURSKI*; M. I. BANKS; A. E. RHONE; M. STEINSCHNEIDER; H. KAWASAKI; M. A. HOWARD, III. *The Univ. of Iowa, Univ. of Wisconsin - Madison, Albert Einstein Col. of Med.*



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* Indicates abstract's submitting author

10:00 CC8 **489.19** Effects of propofol anesthesia on connectivity within the human auditory cortical hierarchy: An intracranial electrophysiological study. M. I. BANKS*; K. V. NOURSKI; H. KAWASAKI; M. A. HOWARD, III. *Univ. of Wisconsin, The Univ. of Iowa, Univ. Iowa Hosp Clin., Univ. of Iowa Hosp. and Clinics.*

11:00 CC9 **489.20** ● EEG measurement of cognitive systems during effortful listening. D. RYAN*; S. SMITH; E. SELLERS; M. A. ECKERT; K. SCHAIRER. *James H. Qullien VAMC, East Tennessee State Univ., Med. Univ. South Carolina.*

8:00 CC10 **489.21** An anesthetic dose of ketamine disrupts mismatch activity in common marmosets. M. KOMATSU*; N. ICHINOHE. *RIKEN Brain Sci. Inst., Natl. Ctr. of Neurol. and Psychiatry.*

9:00 CC11 **489.22** Distinct timescales of population coding in auditory and parietal cortices. C. A. RUNYAN*; E. PIASINI; S. PANZERI; C. D. HARVEY. *Harvard Med. Sch., Inst. Italiano di Tecnologia, ISTITUTO ITALIANO DI TECNOLOGIA, Harvard Med. Sch.*

10:00 CC12 **489.23** Parallel processing of attended and unattended pattern violations in complex listening environments. R. M. SYMONDS*; E. S. SUSSMAN. *Albert Einstein Col. of Med., Albert Einstein Col. of Med.*

11:00 CC13 **489.24** Acoustic startle response for tinnitus screening: Concepts, statistics and limitations. A. SCHILLING*; P. KRAUSS; K. TZIRIDIS; H. SCHULZE. *Erlangen Univ. Hosp.*

8:00 CC14 **489.25** From behaviour to genes: Perceptual effects of FoxP1. F. HEIM*; K. RIEBEL; S. E. FISHER; C. SCHARFF; C. TEN CATE. *Leiden Univ., Max Planck Inst. for Psycholinguistics, Freie Univ. Berlin, Donders Inst. for Brain, Cognition and Behaviour, Leiden Inst. for Brain and Cognition.*

9:00 CC15 **489.26** Modulation of auditory cortex responses to pure tones by optogenetic stimulation of excitatory neurons in the posterior parietal cortex, using behavior and electrophysiology methods. M. KYWERIGA*; N. AFRASHTEH; C. I. CHADWICK; N. PATEL; J. STEIN; M. H. MOHAJERANI. *Univ. of Lethbridge.*

10:00 CC16 **489.27** Sensorimotor integration in the biosonar system of horseshoe bats. J. SUTLIVE*; H. RIQUIMAROUX; R. MUELLER. *Virginia Tech., Shandong University-Virginia Tech. Intl. Lab., Natl. Inst. of Sensory Natl. Hosp. Organization Tokyo Med. Ctr., Brown Univ., Virginia Tech.*

11:00 CC17 **489.28** Auditory attention detection in a non-stationary multi-speaker environment. E. TEOH*; E. C. LALOR. *Trinity Col. Dublin, Univ. of Rochester.*

**POSTER**

**490. Visual System: New Tools and New Views**

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 CC18 **490.01** Spike-linked hemodynamic response function (HRF) switches sign and functional form between alert engagement in a task, and drowsiness. A. DAS*; M. M. B. CARDOSO; B. R. LIMA; Y. B. SIROTIN. *Columbia Univ., Univ. of California at San Francisco, Federal Univ. of Rio de Janeiro, Columbia Univ.*

9:00 CC19 **490.02** Stimulus vignetting and coarse-scale biases for orientation in human visual cortex. Z. N. ROTH; D. J. HEEGER; E. P. MERRIAM*. *NIMH, New York Univ.*

10:00 CC20 **490.03** Viewing cortical processing in sensory space. A. T. MORGAN*; L. S. PETRO; L. MUCKLI. *Univ. of Glasgow, Univ. of Glasgow.*

11:00 CC21 **490.04** Multidimensional encoding of structural brain connectomes: Building quantitative biological networks with preserved edge properties to study the visual white matter and brain aging. F. PESTILLI*; B. MCPHERSON; D. BULLOCK; A. I. AVENA KOENIGSBERGER; J. A. CONTRERAS; C. F. CAIAFA; O. SPORNS; A. J. SAYKIN. *Indiana Univ., Indiana Univ. Bloomington, Indiana Univ. - Bloomington, Indiana Univ., Indiana Univ. Sch. Of Medicine, STARK, Indiana Univ. / CONICET, Indiana Univ., Indiana Univ. Sch. of Med.*

8:00 CC22 **490.05** ● Cortical depth and profile modeling for laminar MRI. P. BAZIN*; A. FRACASSO; S. O. DUMOULIN; N. PETRIDOU. *Spinoza Ctr. For Neuroimaging, Netherlands Inst. for Neurosci., Max Planck Inst. for Human Cognitive and Brain Sci., Univ. Med. Ctr. Utrecht, Univ. Med. Ctr. Utrecht.*

9:00 CC23 **490.06** Linear responses across lamina in early visual cortex using sub-millimetre resolution fMRI. J. VAN DIJK*; A. FRACASSO; S. O. DUMOULIN. *Spinoza Ctr. For Neuroimaging, Utrecht Univ., Univ. Med. Ctr. Utrecht.*

10:00 CC24 **490.07** A second-order orientation-contrast stimulus for population-receptive-field-based retinotopic mapping . F. YILDIRIM*; J. CARVALHO; F. W. CORNELISSEN. *Univ. of Groningen, Boston Univ.*

11:00 CC25 **490.08** ● Geostatistical mapping of high-resolution fMRI reveals size and arrangement of high-signal clusters of BOLD activity in visual cortex. A. J. PARKER*; H. BRIDGE. *DPAG, Oxford Univ., Oxford Univ.*

8:00 CC26 **490.09** Detecting eye-selective fMRI activity in the human primary visual cortex at 3T and 9.4T. N. ZARETSKAYA*; J. BAUSE; J. R. POLIMENI; K. SCHEFFLER; A. BARTELS. *Ctr. for Integrative Neuroscience, Univ. of Tübingen, Univ. of Tuebingen, Max Planck Inst. for Biol. Cypernetics, Bernstein Ctr. for Computat. Neurosci., Max Planck Inst. for Biol. Cypernetics, MGH/Harvard Med. Sch., MIT, Univ. of Tuebingen.*

9:00 CC27 **490.10** Improvements for periodic intrinsic signal imaging of mouse visual cortex. J. BOLZ*; M. TEICHERT. *Univ. Jena, Inst. Für Allgemeine Zoologie Und Tierphysiologie.*

10:00 CC28 **490.11** Anion channelrhodopsin suppresses neural activity in awake monkeys. S. DEBES*; A. R. ANDREI; R. JANZ; V. DRAGOI. *Univ. of Texas At Houston, McGovern Med. Sch., UT-Houston Med. Schl, Univ. of Texas at Houston Dept. of Neurobio. and Anat.*

11:00 CC29 **490.12** Neural signatures of dynamic stimulus selection in *Drosophila.* Y. SUN*; A. NERN; R. FRANCONVILLE; H. DANA; E. R. SCHREITER; L. L. LOOGER; K. SVOBODA; D. S. KIM; A. M. HERMUNDSTAD; V. JAYARAMAN. *HHMI Janelia Res. Campus.*

8:00 CC30 **490.13** Receptive field estimation from spikes using models of calcium dynamics. P. LEDOCHOWITSCH*; N. CAIN; R. IYER; S. DURAND; L. HUANG; L. LI; J. SIEGLE; X. JIA; G. OCKER; D. MILLMAN; K. LEPAGE; H. ZHENG; S. OLSEN; C. REID; S. MIHALAS; S. DE VRIES; M. BUICE. *Allen Inst. for Brain Sci.*



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* Indicates abstract's submitting author

9:00 CC31 **490.14** Measuring cellular-level interactions across multiple areas in mouse visual cortex using parallel silicon probe recordings. J. H. SIEGLE*; X. JIA; D. J. DENMAN; R. DIETZMAN; C. KOCH; S. R. OLSEN. *Allen Inst. for Brain Sci.*

10:00 CC32 **490.15** High contrast tissue preparation for large scale serial section electron microscopy of mice and humans. M. M. TAKENO*; J. BUCHANAN; A. BLECKERT; T. DAIGLE; R. P. GWINN; C. S. COBBS; H. ZENG; N. M. DA COSTA. *Allen Inst. For Brain Sci., Allen Inst. For Brain Sci., Swedish Neurosci. Inst., Allen Inst. For Brain Sci.*

11:00 CC33 **490.16** New TIGRE 2.0 transgenic reporters for functional analysis of neural circuits. T. L. DAIGLE*; L. SIVERTS; H. GU; M. MILLS; M. WALKER; E. GARREN; L. GRAY; L. MADISEN; B. TASIC; H. ZENG. *Allen Inst. For Brain Sci.*

8:00 DD1 **490.17** Cell-type-dependent relationship between *in vivo* calcium events and spiking activity in transgenic mouse lines. U. KNOBLICH; L. HUANG*; P. LEDOCHOWITSCH; M. A. BUICE; J. WATERS; C. REID; C. KOCH; H. ZENG; L. LI. *Allen Inst. for Brain Sci.*

9:00 DD2 **490.18** Recording from large ensembles of neurons with high-density electrophysiology and two-photon calcium imaging in primate primary visual cortex. A. K. GARG*; P. LI; E. M. CALLAWAY. *Salk Inst. for Biol. Studies, UCSD.*

10:00 DD3 **490.19** Whole-brain functional ultrasound imaging in awake mice reveals the brain regions processing retina-encoded visual motion. E. MACÉ*; G. MONTALDO; S. TRENHOLM; C. COWAN; A. URBAN; B. ROSKA. *Friedrich Miescher Inst., Lab. of neural circuits, NERF, IMEC, VIB, KU Leuven.*

8:00 DP07/DD4 **490.20** (Dynamic Poster) Mapping of the cerebral structures involved in visual information processing with ultrafast functional ultrasound imaging in rodents. K. BLAIZE*; M. GESNIK; T. DEFFIEUX; J. GENNISSON; J. SAHEL; M. FINK; M. TANTER; S. PICAUD. *Inst. De La Vision, Inst. Langevin.*

8:00 DD5 **490.21** Evaluation of functional connectivity in human visual system using invasive stimulation. A. SUGIURA*; Y. NAKAI; T. KAMBARA; H. MOTOI; E. ASANO. *Wayne State Univ., Japan Society for the Promotion of Sci. (JSPS), Wayne State Univ.*

9:00 DD6 **490.22** Local origins of electrocorticogram (ECoG) in visual cortex. A. DUBEY*; S. RAY. *Indian Inst. of Sci.*

10:00 DD7 **490.23** ● Focal source localization of visual evoked potentials with tripolar electroencephalography in realistic head models Focal source localization of visual evoked potentials with tripolar electroencephalography in realistic head models. C. TOOLE; P. STEELE; R. BARTELS; J. DICECCO; W. G. BESIO*. *Univ. of Rhode Island, CREmedical Corp., Univ. of Rhode Island.*

**POSTER**

## 491. Visual Pathways: To and From the Cortex

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 DD8 **491.01** Cortical projections to the two retinotopic maps of primate pulvinar are distinct. B. MOORE*; A. BOAL; J. H. KAAS; C. LIAO; J. MAVITY-HUDSON; V. CASAGRANDE. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt.*

9:00 DD9 **491.02** Causal role for the pulvinar in shaping cortico-cortical interactions. M. K. ERADATH*; M. A. PINSK; S. KASTNER. *Princeton Univ., Princeton Univ.*

10:00 DD10 **491.03** Effects of selective visual attention on macaque lateral, medial, and inferior pulvinar neurons. R. LY*; M. A. PINSK; S. KASTNER. *Princeton Univ., Princeton Univ.*

11:00 DD11 **491.04** Pulvinar inactivation modifies the dynamics of visual cortical responses. N. CORTES*; B. OLIVEIRA FERREIRA DE SOUZA; C. F. CASANOVA. *Univ. De Montreal, Univ. Montreal.*

8:00 DD12 **491.05** Potentiation of the pulvinar leads to reorganization of direction preference maps in the cat visual cortex. S. I. SHUMIKHINA*; A. A. POTEKHINA; M. M. SVINOV. *Inst. of Higher Nervous Activity and Neurophysiol. RAS.*

9:00 DD13 **491.06** Modulation of the mouse primary visual cortex neuronal activity by the pulvinar. U. KEYSAN*; C. CASANOVA. *Univ. de Montréal.*

10:00 DD14 **491.07** Functional and anatomical subdivisions of mouse visual thalamic area LP. C. BENNETT*; S. D. GALE; S. R. OLSEN. *Allen Inst.*

11:00 DD15 **491.08** Interactions between population activity in cortex and striatum. A. J. PETERS*; N. A. STEINMETZ; K. D. HARRIS; M. CARANDINI. *Univ. Col. London.*

8:00 DD16 **491.09** Visual response properties and receptive field structure in the thalamic reticular nucleus of the mouse. U. M. CIFTCIOGLU*; F. T. SOMMER; J. A. HIRSCH. *USC, Helen Wills Neurosci. Inst.*

9:00 DD17 **491.10** Functional characterization of distinct cortical inputs to higher-order visual thalamus. M. A. KIRCHGESSNER*; E. M. CALLAWAY. *Salk Inst., UC San Diego.*

10:00 DD18 **491.11** Differential volume loss of thalamic nuclei across aetiologies of cerebral visual impairment. L. MERABET*; E. BAILIN; C. M. BAUER. *MEEI-Harvard Med. Sch., Mass. Eye and Ear -- Harvard Med. Sch.*

11:00 DD19 **491.12** Development of a visual pathway model to optimize sensory stimuli for brain-computer interface. C. TREMMEL*; F. SOBREIRA; S. H. WEINBERG; D. J. KRUSIENSKI. *Old Dominion Univ., Virginia Commonwealth Univ., Old Dominion Univ.*

8:00 DD20 **491.13** A new human lateralized brain region: The primate pineal gland connects to v1 visual cortex and primary visual system. J. R. KORENBERG*; L. DAI; O. ABDULLAH; A. VANHOEK; M. C. BURBACK; M. SAUER; A. RAMIREZ; B. ZIMMERMAN; S. JOSHI. *Univ. of Utah, Univ. of Utah, Univ. of Utah, Univ. of Utah, Univ. of Utah.*



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* Indicates abstract's submitting author

9:00 DD21 **491.14** Ultrastructural analysis of synaptic connectivity of local interneurons in the ferret visual thalamus. S. AHN*; V. SURESH; A. KUMAR; J. K. DAMRON; J. A. HIRSCH; M. E. BICKFORD. *USC, USC, Univ. of Louisville Sch. of Med.*

10:00 DD22 **491.15** Anisotropic representation of orientation and direction selectivity in the visual wulst of owls. C. SOUZA AMORIM; P. VIEIRA; A. TURCHETTI MAIA; J. MACHADO DE SOUSA; C. GARCIA; L. LOPES BOREM PEIXOTO; K. E. SCHMIDT; S. NEUENSCHWANDER; J. BARON*. *Univ. Federal de Minas Gerais, Univ. Federal De Minas Gerais, Brain Institute, UFRN, Brain Inst. - UFRN.*

11:00 DD23 **491.16** Figure-ground modulation in the human lateral geniculate nucleus. S. POLTORATSKI*; D. MCCORMACK; A. NEWTON; A. V. MAIER; F. TONG. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ.*

8:00 DD24 **491.17** Photoreceptor-resolved receptive fields of parafoveal macaque LGN neurons. L. C. SINCICH*; A. MEADWAY; P. TELLERS. *Univ. of Alabama Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*

9:00 DD25 **491.18** Lateral geniculate neurons in adult mice show robust ocular dominance plasticity. T. ROSE*; J. JÄPEL; S. WEILER; M. HÜBENER; T. BONHOEFFER. *Max Planck Inst. of Neurobio.*

10:00 DD26 **491.19** Different modes of visual integration in the lateral geniculate nucleus revealed by single-cell-initiated transsynaptic tracing. S. ROMPANI*; F. MUELLNER; A. A. WANNER; C. ZHANG; C. ROTH; K. YONEHARA; B. ROSKA. *Friedrich Miescher Inst. For Biomed. Resear, Friedrich Miescher Inst. for Biomed. Res., Dept of ASNB, Univ. of Louisville, DANDRITE- Danish Res. Inst. of Translation.*

11:00 DD27 **491.20** Fractal property and non-Gaussian dynamics of maintained spiking activity in parvocellular, magnocellular and koniocellular cells of marmoset lateral geniculate nucleus. B. MUNN*. *Univ. of Sydney.*

8:00 DD28 **491.21** Functional organization of retinal ganglion cell axons in the dLGN of awake mice. L. LIANG*; A. FRATZL; G. J. GOLDEY; C. CHEN; M. L. ANDERMANN. *Boston Children's Hosp., Beth Israel Deaconess Med. Center, Harvard Med. Sch., École polytechnique fédérale de Lausanne, UCLA.*

9:00 DD29 **491.22** Temporal analysis of GABAergic effect on shaping the spatial frequency tuning of relay cells in the dorsal lateral geniculate nucleus of the cat. A. KIMURA; S. SHIMEGI*; F. UEDA; A. SATO; H. SATO. *Osaka Univ., Osaka Hlth. Sci. Univ.*

10:00 DD30 **491.23** The effects of stage II retinal waves on retinal ganglion cell projection to lateral hypothalamic area. P. CHEN*; C. WANG. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ. and Academia Sinica.*

11:00 DD31 **491.24** Gain-control interactions in the lateral genicualte nucleus of the alert macaque monkey. D. ARCHER*; W. M. USREY. *Univ. of California, Davis.*

8:00 DD32 **491.25** ▲ A model of multivalent distribution of bouton volumes reveals selective targeting of synaptic inputs on dendrite segments in lateral geniculate nucleus. S. IMTIAZ; E. N. KESKINÖZ; A. M. BAYA; C. LALA; E. E. MAHER; A. ERISIR*. *Univ. of Virginia, Acibadem Univ. Sch. of Med., Univ. of Virginia.*

9:00 DD33 **491.26** Organization of the retinofugal pathway in the nine-banded armadillo (Dasypus novemcinctus). B. E. SKINNER*; A. K. YORK; J. PADBERG. *Univ. of Central Arkansas.*

10:00 DD34 **491.27** Neuronal pathway of direction selective ganglion cells in the mouse visual system. J. ZHANG*; D. C. W. CHAN; X. WU; Y. KE; W. YUNG. *The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong.*

11:00 DD35 **491.28** Alpha (α) oscillations in the alert macaque lateral geniculate nucleus. H. J. ALITTO*; W. USREY. *Univ. of California Davis.*

8:00 DD36 **491.29** Wavelength-specific single cone responses in macaque LGN neurons. P. TELLERS*; L. C. SINCICH. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*

**POSTER**

**492. Representation of Faces and Bodies**

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 EE1 **492.01** Stimulus selectivity of macaque middle and anterior superior temporal sulcus body patches. S. KUMAR*; I. D. POPIVANOV; R. VOGELS. *KU Leuven, New Bulgarian Univ.*

9:00 EE2 **492.02** Sub-millimeter resolution fMRI reveals human-like fine-scale organization of body regions in macaque monkeys. X. LI*; Q. ZHU; W. VANDUFFEL. *Res. Group Neurophysiology, KU Leuven, A.A.Martinos Ctr. for Biomed. Imaging, MGH, Dept. of Radiology, Harvard Med. Sch.*

10:00 EE3 **492.03** Cortical representation of body part relationships. A. BRATCH*; P. C. BURTON; S. A. ENGEL; D. J. KERSTEN. *Univ. of Minnesota.*

11:00 EE4 **492.04** Monkey brain fMRI responses to custom-designed animations of monkey hand- and tail-grasping actions. M. M. VISSERS*; S. SHARMA; P. A. FIAVE; S. KUMAR; K. NELISSEN. *Katholieke Univ. Leuven.*

8:00 EE5 **492.05** Measuring neuronal selectivity for facial features in macaque inferotemporal cortex through adaptive sampling of feature space. A. P. MURPHY*; D. A. LEOPOLD. *Natl. Inst. of Mental Hlth.*

9:00 EE6 **492.06** Norm-based encoding of faces in AF and AM face patches. K. W. KOYANO*; A. P. JONES; J. H. HONG; B. E. RUSS; D. A. LEOPOLD. *NIMH/NIH, Univ. of Iowa, NIMH,NINDS,NEI/NIH.*

10:00 EE7 **492.07** fMRI mapping of retinotopy using complex objects in rhesus monkeys. A. MESSINGER*; B. JUNG; C. SPONHEIM; L. G. UNGERLEIDER. *NIMH.*

11:00 EE8 **492.08** Experience-dependent development of the visual system is anchored to an innate retinotopic organization. M. J. ARCARO*; P. F. SCHADE; M. S. LIVINGSTONE. *Harvard Med. Sch., Harvard Med. Sch., Harvard Med. Sch.*

8:00 EE9 **492.09** The effects of early face deprivation on the macaque face-patch system. M. S. LIVINGSTONE*; M. J. ARCARO; P. F. SCHADE; J. L. VINCENT; C. R. PONCE. *Harvard Med. Sch., Harvard Med. Sch.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 EE10 **492.10** Consequences of early face deprivation on viewing behavior in macaques. P. F. SCHADE*; M. S. LIVINGSTONE. *Harvard Med. Sch.*

10:00 EE11 **492.11** Using electrical microstimulation to manipulate gaze following and face perception. I. CHONG*; H. RAMEZANPOUR; P. DICKE; P. THIER. *Hertie Inst. For Clin. Brain Res.*

11:00 EE12 **492.12** The development and specialization of the visual system from infancy to adulthood. K. LESINGER*; G. ROSENTHAL; K. PIERCE; E. COURCHESNE; I. DINSTEIN; G. AVIDAN. *Ben-Gurion Univ. of the Negev, Dept. of Brain and Cognitive Sci., Ben-Gurion Univ., Univ. California San Diego, Ben Gurion Univ., Dept. of Psychology, Ben-Gurion Univ. of the Negev.*

8:00 EE13 **492.13** Don't represent what you cannot handle: Connectivity of category-specific regions in infants. L. M. CABRAL*; L. ZUBIAURRE; C. J. WILD; A. C. LINKE; R. CUSACK. *Western Univ., Univ. of Deusto, Brain and Mind Inst., San Diego State Univ., Trinity Col. Dublin.*

9:00 EE14 **492.14** Image reconstruction reveals the impact of aging and medial temporal lobe damage on face perception. C. CHANG*; A. NESTOR; A. C. LEE. *Univ. of Toronto, Rotman Res. Institute, Baycrest Ctr.*

10:00 EE15 **492.15** Behavioral mechanisms underlying visual expertise and their relation to face perception. N. WEISS; G. AVIDAN*. *Dept. of psychology, Ben-Gurion Univ., Dept. of Psychology, Ben-Gurion Univ. of the Negev.*

11:00 EE16 **492.16** Developmental prosopagnosics show reduced category-selectivity in right hemisphere areas selective for faces and other categories. J. GUO*; H. YANG; B. DUCHAINE. *Dartmouth Col., Univ. of Massachusetts Med. Sch.*

8:00 EE17 **492.17** Face perception: what we have learnt from face transplant patients. E. GÜLBETEKIN*; S. BAYRAKTAR; Ö. ÖZKAN; Ö. ÖZKAN. *Akdeniz Univ., Akdeniz Univ.*

9:00 EE18 **492.18** Face ensembles and identity processing: Decoding facial summary statistics from ERP signals. T. ROBERTS*; J. S. CANT; A. NESTOR. *Univ. of Toronto Scarborough.*

10:00 EE19 **492.19** Shape and surface-based facial image reconstruction: An evaluation of different neuroimaging modalities. D. NEMRODOV*; M. NIEMEIER; A. NESTOR. *Univ. of Toronto Scarborogh, Univ. of Toronto Scarborough.*

11:00 EE20 **492.20** Smaller, slower, and shorter-lived: Context-dependent temporal characteristics of visual adaptation in human ventral temporal cortex. V. RANGARAJAN*; K. S. WEINER; C. JACQUES; J. PARVIZI; R. T. KNIGHT; K. GRILL-SPECTOR. *UC Berkeley, Stanford Univ., Psychological Sci. Res. Inst. (IPSY), Univ. Catholique de Louvain, Stanford Univ., Univ. of California Berkeley.*

**POSTER**

## 493. Eye Movements and Perception

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 EE21 **493.01** An objective classifier of expertise in united state marine corps combat aviators. A. M. NOZIMA; S. MARTINEZ-CONDE*; J. I. CASTRO; L. L. DI STASI; M. B. MCCAMY; E. GAYLES; A. G. COLE; M. J. FOSTER; B. HOARE; F. TENORE; M. S. JESSEE; E. POHLMEYER; M. CHEVILLET; A. CATENA; W. C. DE SOUZA; G. A. JANCZURA; S. L. MACKNIK. *SUNY Downstate Med. Ctr., State Univ. of New York Downstate Med. Ctr., Univ. of Granada, Barrow Neurolog. Inst., Third Marine Aircraft Wing Marine Corps Air Station Miramar, 3D Marine Air Wing (MAW), Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Univ. of Granada, Univ. of Brasilia, SUNY Downstate Med. Ctr. Col. of Med.*

9:00 EE22 **493.02** Anti-saccade < visual search performance in schizophrenia. W. C. SENA*; L. GONÇALVES; L. GENARO; L. SCORIELS; A. GUIMARÃES; F. BRAGA; R. PANIZZUTTI. *Biomed. Sci. Inst. - UFRJ, Psychiatry Inst., Psychology Inst. - UFRJ, Biophysics Inst. - UFRJ.*

10:00 EE23 **493.03** Neural correlates of presaccadic compression: An ERP study. A. RODRIGUEZ*; S. M. LONG; M. A. GANNON; N. A. PARKS. *Univ. of Arkansas.*

11:00 EE24 **493.04** Population interactions between prefrontal and visual cortex during eye movement planning. M. A. SMITH*; S. B. KHANNA. *Univ. of Pittsburgh.*

8:00 EE25 **493.05** The interaction between Bayesian prior and attention in visually guided eye movements. S. KIM*; J. LEE. *Sungkyunkwan Univ., Sungkyunkwan Univ.*

9:00 EE26 **493.06** ● Is there tremor on the retinal image during active fixation? N. R. BOWERS*; K. G. FOOTE; E. BENSINGER; K. RATNAM; A. E. BOEHM; A. ROORDA. *UC Berkeley.*

10:00 EE27 **493.07** The implications of near work on academic success. A. S. HOCHMAN*; D. A. DEL CID; N. URENDA; J. MIER; S. A. DREW. *California State University, Northridge, California State University, Northridge, California State University, Northridge.*

11:00 EE28 **493.08** Parsing the contributions of perception, motor planning, and cognition to anti-saccade performance in human subjects. B. R. STEINBERG*; L. SUSSMAN; S. FRY; D. ANDERSON; C. K. HAUSER; E. SALINAS; T. R. STANFORD. *Wake Forest Sch. of Med., Natl. Inst. of Hlth., Wake Forest Univ.*

8:00 EE29 **493.09** Binocular alignment in mice during stereoscopic discrimination of depth. J. M. SAMONDS*; V. CHOI; N. J. PRIEBE. *Univ. of Texas At Austin, Univ. of Texas at Austin, Univ. Texas, Austin.*

9:00 FF1 **493.10** Dynamically tracking the neural signatures of visual attention across a saccade. J. CHEN*; X. ZHANG; J. D. GOLOMB. *Ohio State Univ., The Ohio State Univ.*

10:00 FF2 **493.11** Correlated variability during eye movement planning in the frontal eye fields and superior colliculus. S. B. KHANNA*; U. K. JAGADISAN; A. C. SNYDER; N. J. GANDHI; M. A. SMITH. *Univ. of Pittsburgh, Univ. of Pittsburgh, Carnegie Mellon Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 FF3 **493.12** Integrated representation of reward and sensory information in the macaque caudate during a perceptual decision. T. DOI*; Y. FAN; J. I. GOLD; L. DING. *Univ. of Pennsylvania.*

8:00 FF4 **493.13** ● Visual receptive field changes dynamically across saccade in macaque lateral intraparietal cortex. C. ZHANG*; L. YANG; M. ZHANG. *Institue of Neuroscience, Chinese Acad. Of Scien, Beijing Normal Univ.*

9:00 FF5 **493.14** Transsaccadic perception of moving objects. S. PRIME*; L. NEUBURGER. *Univ. of Saskatchewan.*

10:00 FF6 **493.15** The optokinetic response is maximally driven by stimuli located in the region of the retinal area centralis in larval zebrafish stimulated with a spherically surrounding stimulus arena. J. HINZ*; R. MEIER; F. A. DEHMELT; K. WANG; V. HAIKALA; D. REIFF; A. B. ARRENBERG. *Friedrich Miescher Inst. For Biomed. Resear, Ctr. for Integrative Neurosci., Inst. for Neurobio., Grad. Training Ctr. for Neurosci., Animal Physiology, Inst. for Biol. I, Univ. of Freiburg.*

11:00 FF7 **493.16** Correlations in pre-saccadic frontoparietal activity: Are they conserved across spike-spike, spike-lfp, and lfp-lfp comparisons? R. J. GERTH*; N. J. HALL; C. L. COLBY; C. R. OLSON. *Univ. of Pittsburgh, Duke Univ., Univ. Pittsburgh, Carnegie Mellon Univ.*

8:00 FF8 **493.17** Target selection for tracking eye movements in the common marmoset. N. J. PRIEBE*; J. PATTADKAL; J. KNÖLL; A. LEVI; H. CARNEY; A. HUK. *Univ. Texas, Austin, The Univ. of Texas at Austin, The Univ. of Texas At Austin, UT Austin, The Univ. of Texas At Austin, Univ. of Texas at Austin.*

9:00 FF9 **493.18** Tradeoff between expectations and evidence for visual continuity across saccades. D. SUBRAMANIAN*; Z. M. ABZUG; M. A. SOMMER. *Duke Univ., Duke Univ., Duke Univ.*

**POSTER**

**494. Sensorimotor Transformation: Neuroprocessing**

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 FF10 **494.01** Bold fMRI and somatosensory evoked potential response to electrical stimulation of tibial nerve: TBI pilot study. S. H. SALEH*; D. ALLEXANDRE; B. S. MAAS, 07052; D. A. CUNNINGHAM; A. HOXHA; G. H. YUE. *Kessler Fndn., Kessler Fndn., Kessler Fndn., Kessler Fndn. Res. Ctr.*

9:00 FF11 **494.02** Characterization of sensory and motor representation across rodent sensory, association, and motor cortices. M. KAWABATA*; S. SOMA; A. SAIKI; J. YOSHIDA; A. RIOS; Y. SAKAI; Y. ISOMURA. *Brain Sci. Institute, Tamagawa Univ.*

10:00 FF12 **494.03** Interrogating sensorimotor circuits of orientation: From lamprey to mouse. J. PÉREZ-FERNANDEZ; A. A. KARDAMAKIS*; S. GRILLNER. *Karolinska Inst.*

11:00 FF13 **494.04** Deactivation and activation of dorsal visual information processing pathway gates perception-action coupling. D. RAY*; N. HAJARE; A. BANERJEE. *Natl. Brain Res. Ctr.*

8:00 FF14 **494.05** Functional cell type specific expression of immediate-early genes in mouse visual cortex. D. MAHRINGER*; P. ZMARZ; H. OKUNO; H. BITO; G. KELLER. *FMI, Kyoto Univ. Grad Schl of Med., Univ. Tokyo Grad Sch. Med.*

9:00 FF15 **494.06** Previous trial effect in visuomotor integration depends on an implicit short-term memory mechanism in premotor cortex and hV5/MT+. R. M. DE AZEVEDO NETO*; E. AMARO, Jr.; A. BARTELS. *Sch. of Medicine, Univ. of São Paulo, Sch. of Medicine, Univ. of São Paulo, Univ. of Tuebingen, Univ. of Tuebingen, Max Planck Inst. for Biol. Cybernetics, Bernstein Ctr. for Computat. Neurosci.*

10:00 FF16 **494.07** Vergence responces induced by Radial flow motion visual stimulus in monkey. Y. KODAKA*. *Natl. Inst. AIST Tsukuba Central 2.*

8:00 DP08/FF17 **494.08** (Dynamic Poster) The primordial cortical microcircuit: Cytoarchitecture and sensory input. S. MYSORE SURYANARAYANA*; J. PÉREZ-FERNÁNDEZ; P. WALLÉN; B. ROBERTSON; S. GRILLNER. *Karolinska Institutet.*

8:00 FF18 **494.09** The lateral parabrachial neurons contribute to pain-respiratory coordination in pons-medulla-spinal cord preparation. S. TONOMURA*; M. TANAKA; K. NOGUCHI; A. ARATA. *Hyogo Col. Med., Hyogo Col. Med.*

9:00 FF19 **494.10** Intranasal oxytocin enhances EEG mu rhythm desynchronization during execution and observation of social action. F. FESTANTE*; P. F. FERRARI; S. G. THORPE; R. W. BUCHANAN; N. A. FOX. *Univ. of Parma, Univ. of Maryland, CNRS / Univ. Claude Bernard Lyon 1, Baltimore Sch. Med.*

10:00 FF20 **494.11** Effect of target-directed movements on mirror visual feedback processing in ipsilateral brain areas. T. MANUWEERA*; M. YAROSSI; S. H. SALEH; S. V. ADAMOVICH; E. TUNIK. *Rutgers, Grad. Sch. of Biomed. Sci., Kessler Fndn., New Jersey Inst. of Technol., Northeastern Univ.*

11:00 FF21 **494.12** Visual and motor deficits in grown-up mice with congenital zika virus infection. L. CUI*; P. ZOU; E. CHEN; H. YAO; H. ZHENG; Q. WANG; J. ZHU; S. JIANG; L. LU; J. ZHANG. *Fudan Univ., Shanghai Jiao Tong Univ. Sch. of Med., Nanjing Univ.*

**POSTER**

**495. Visually-Guided Reaching**

***Theme D: Sensory Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 FF22 **495.01** Brain areas involved in consciousness of a sensorimotor conflict. M. CORAZZOL*; G. LIO; A. SIRIGU. *Inst. of Cognitive Sci. Marc Jeannerod,UMR5, Inst. of Cognitive Sci. Marc Jeannerod.*

9:00 GG1 **495.02** Action decisions correlate with visuo-haptic matching errors. I. A. KULING*; J. B. J. SMEETS. *VU Univ. Amsterdam.*

10:00 GG2 **495.03** Contrasting effects of exogenous attention on saccades and reaches. A. MALIENKO*; A. Z. KHAN. *Univ. De Montréal.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 GG3 **495.04** Coordination of eye, head and hand movements during visually guided reaching in head unrestrained Rhesus monkeys. H. K. ARORA*; V. BHARMAURIA; X. YAN; H. WANG; S. SUN; J. D. CRAWFORD. *York Univ., York Univ.*

8:00 GG4 **495.05** ▲ The effects of varying cognitive and motor demand on an attention-mediated reaching task in older adults. L. PETROVSKA*; C. FUEGER; W. E. HUDDLESTON. *Univ. of Wisconsin - Milwaukee, Univ. of Wisconsin - Milwaukee.*

9:00 GG5 **495.06** Single-units in the lateral intraparietal area (LIP) distinguish between different patterns of unimanual and bimanual arm movements. E. F. MOOSHAGIAN*; C. D. HOLMES; L. H. SNYDER. *Washington Univ. Sch. of Med., Washington Univ. in St. Louis, Washington Univ. Sch. Med.*

10:00 GG6 **495.07** Don't watch where you are going: Cognitive-motor integration development in children and adolescents. M. DALECKI*; D. J. GORBET; L. E. SERGIO. *Louisiana State Univ., York Univ., York Univ.*

11:00 GG7 **495.08** Rotated visual feedback of self-movement affects long-latency stretch reflex. S. ITO*; H. GOMI. *NTT Communication Sci. Labs.*

8:00 GG8 **495.09** Haptic feedback from stabilization of the hand on an underlying surface facilitates the initial development of visually-guided finger movements for reaching and grasping in 12-month-old human infants. J. M. KARL*; A. M. WILSON; C. WILSON; N. S. SHUBEAR. *Thompson Rivers Univ.*

9:00 GG9 **495.10** Grasping 2D targets: The influence of shape and position on gaze and grasp accuracy. R. W. LANGRIDGE*; J. J. MAROTTA. *Univ. of Manitoba.*

10:00 GG10 **495.11** Potential models of allocentric coding for reaching in naturalistic visual scenes. P. ABEDI KHOOZANI*; M. KLINGHAMMER; P. R. SCHRATER; D. ENDRES; K. FIEHLER; G. BLOHM. *Queen's Univ., Justus-Liebig Univ. Giessen, Univ. Minnesota, Philipps-University Marburg.*

11:00 GG11 **495.12** Short-latency stimulus-locked responses on human upper limb muscles are preferentially evoked by low spatial frequency stimuli. R. A. KOZAK*; C. GU; K. D. JOHNSTON; B. D. CORNEIL. *Western Univ., Western Univ., Western Univ.*

8:00 GG12 **495.13** Temporal development of an interaction effect between internal motion and contour signals of drifting target on reaching adjustment. H. UEDA*; N. ABEKAWA; H. GOMI. *NTT Communication Sci. Labs.*

9:00 GG13 **495.14** Modulation difference in visuomotor responses in implicit and explicit motor tasks depending on postural stability. N. ABEKAWA*; H. GOMI. *NTT Communication Sci. Labs.*

10:00 GG14 **495.15** Multi-electrode recordings in the macaque frontal cortex reveal common processing of eye-, arm- and hand movements. T. DECRAMER*; E. PREMEREUR; T. THEYS; P. JANSSEN. *KU Leuven, KU Leuven, Lab. Exp. Neurochirurgie En Neuroanatomie.*

11:00 GG15 **495.16** Multi-electrode recordings in the macaque parietal cortex reveal common processing of eye-, arm- and hand movements. P. JANSSEN*; E. PREMEREUR. *KU Leuven.*

**POSTER**

## 496. Cortical Planning and Execution: Behavior

***Theme E: Motor Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 GG16 **496.01** Development of locomotor skills in children. M. F. LEVIN*; D. CHAN-VIQUEZ; N. A. TURPIN; A. LAMONTAGNE; A. G. FELDMAN. *McGill Univ., Ctr. for Interdisciplinary Res. in Rehabil., Univ. of Montreal.*

9:00 GG17 **496.02** Referent control of body orientation in the gravitational field: The role of the vestibulospinal system. L. ZHANG*; J. DAVOT; A. MULLICK; D. BARTHELEMY; M. F. LEVIN; A. G. FELDMAN. *Dept. of Neuroscience, Univ. of Montreal, Ctr. for Interdisciplinary Res. in Rehabil., Univ. Paris Descartes, McGill Univ., Univ. of Montreal.*

10:00 GG18 **496.03** Referent control of the orientation of posture and movement in the gravitational field. A. G. FELDMAN*; A. A. MULLICK; N. A. TURPIN; S. HSU; S. K. SUBRAMANIAN; M. F. LEVIN. *Univ. Montreal, Ctr. for Interdisciplinary Res. in Rehabil., McGill, McGill Univ., Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*

11:00 GG19 **496.04** ▲ Experts use the brainstem more for movement than non-experts: Evidence from startle-evoked-movement during typing. B. M. BARTELS*; M. QUEZADA; M. SANTELLO; C. F. HONEYCUTT. *Arizona State Univ.*

8:00 GG20 **496.05** Does startle enhance unrestricted, 2D reaching movement in stroke survivors? M. RAHIMI*; C. F. HONEYCUTT. *Arizona State Univ., Arizona State Univ.*

9:00 GG21 **496.06** ▲ Startle is able to evoke nearly identical movements in unrestricted, two dimensional reaching space. M. R. OSSANNA*; S. Y. SCHAEFER; C. F. HONEYCUTT. *Arizona State Univ.*

10:00 GG22 **496.07** Generalization of complex motor skills: the transfer of dance movement sequences from trained to untrained contexts. E. MCKENNA*; R. NORTH; E. PRICE; S. SHIELDS; W. M. JOINER. *George Mason Univ., George Mason Univ., George Mason Univ.*

11:00 GG23 **496.08** Presence and absence of prediction errors during action observation induce distinct motor contagions. T. IKEGAMI*; G. GANESH; H. NAKAMOTO. *Natl. Inst. of Information and Communications Technol., Natl. Inst. of Advanced Industrial Sci. and Technol. (AIST), Natl. Inst. of Fitness and Sports in Kanoya.*

8:00 GG24 **496.09** Cognitive-motor integration is impaired in varsity athletes cleared for return to play and up to three months post concussion. A. PIERIAS*; J. HURTUBISE; C. HUGHES; A. MACPHERSON; L. E. SERGIO. *York Univ., York Univ., York Univ., York Univ.*

9:00 GG25 **496.10** Engagement with a virtual clinician encourages gesture usage in speakers with aphasia. S. L. SNELL; N. MARTIN; E. A. KESHNER*. *Temple Univ., Temple Univ.*

10:00 GG26 **496.11** Antiseptic Dorogov's Stimulator skin application effect on the animal's behavioral response. G. A. PIAVCHENKO*; R. BULTHUIS; L. BACHDASARIAN; V. I. NOZDRIN. *Orel State University, Med. Inst., Metris B.V.*

11:00 GG27 **496.12** Reasoning about errors in humans and nonhuman primates. M. SARAFYAZD*, JR; M. JAZAYERI. *MIT, McGovern Inst. for Brain Res., MIT.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
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* Indicates abstract's submitting author

**POSTER**

**497. Cortical Planning and Execution: Reach and Grasp Neurophysiology**

***Theme E: Motor Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 GG28 **497.01** Cortico-cortical functional connectivity between the primary motor and somatosensory cortical areas during grasp. S. LEE*; J. M. GOODMAN; S. J. BENSMAIA; N. G. HATSOPOULOS. *Univ. of Chicago, Univ. of Chicago.*

9:00 GG29 **497.02** Temporal dynamics of neural tuning to kinematics in primary motor cortex during reach-grasp-manipulation. A. G. ROUSE*; R. A. JACOBS; M. H. SCHIEBER. *Univ. of Rochester, Univ. of Rochester.*

10:00 GG30 **497.03** Reconfiguration of population responses between normal and reversed-vision reach planning in monkey sensorimotor cortex. H. GUO*; S. KUANG; A. GAIL. *German Primate Ctr., Univ. of Goettingen, Inst. of Psychology, Chinese Acad. of Sci., Bernstein Ctr. for Computat. Neurosci.*

11:00 GG31 **497.04** Selectivity of posterior parietal cortex for observing action exemplars: A 100 actions fMRI study. S. FERRI*; G. A. ORBAN. *Univ. of Parma.*

8:00 GG32 **497.05** Neuronal selectivity for observed hand actions in monkey's anterior intraparietal area. M. LANZILOTTO*; M. MARANESI; A. LIVI; C. G. FERRONI; L. FOGASSI; L. BONINI; G. A. ORBAN. *Univ. of Parma, Univ. of Parma.*

9:00 GG33 **497.06** Anatomo-functional evidence on the role of pre-supplementary motor area F6 in the extended cortical grasping network. M. GERBELLA*; M. LANZILOTTO; M. MARANESI; A. LIVI; C. G. FERRONI; L. BONINI. *Italian Inst. of Technol., Univ. of Parma, Univ. of Parma, Univ. degli Studi di Parma, Unità di Neuroscienze, Univ. of Parma.*

10:00 HH1 **497.07** Anterior intraparietal (AIP) neurons encode actions and pantomimes from dynamic and static stimuli. M. MARANESI; M. LANZILOTTO; A. LIVI; C. G. FERRONI; M. ANDUJAR; L. BONINI*. *Inst. Italiano di Tecnologia (IIT), Univ. of Parma.*

11:00 HH2 **497.08** A visual-to-motor gradient in AIP: An anatomo-functional study. C. G. FERRONI; M. GERBELLA; M. LANZILOTTO; M. MARANESI; A. LIVI; E. BORRA; L. FOGASSI; L. BONINI; G. A. ORBAN*. *Univ. of Parma, Univ. of Parma, Inst. Italiano di Tecnologia (IIT).*

8:00 HH3 **497.09** Barriers in the brain: Pragmatic representation of objects by single neurons of the cortical grasping network. A. LIVI*; M. LANZILOTTO; C. G. FERRONI; M. MARANESI; L. BONINI. *Univ. of Parma, Inst. Italiano di Tecnologia.*

9:00 HH4 **497.10** Object and grasp-type information in premotor and MI neurons during imitated actions. J. B. ZIMMERMANN*; J. HYNES; C. E. VARGAS-IRWIN; J. P. DONOGHUE. *Brown Univ., Wyss Ctr. For Bio and Neuro Engin., Brown Univ.*

10:00 HH5 **497.11** Contribution of premotor and primary motor cortex to the execution of gross and fine reaching tasks in rats. D. T. BUNDY*; D. J. GUGGENMOS; M. D. MURPHY; M. SAMI; D. RITTLE; R. J. NUDO. *Univ. of Kansas Med. Ctr., Univ. of Kansas, Univ. of Kansas Med. Ctr., Washington Univ.*

11:00 HH6 **497.12** Properties of mirror neurons in the dorsal premotor cortex of the macaque brain. Comparison with F5 mirror neurons. V. PAPADOURAKIS*; V. RAOS. *FORTH/IACM, Univ. of Crete Sch. of Med.*

8:00 HH7 **497.13** ● Adaptation of grip forces to 3D printed surface textures. S. BILALOGLU*; C. TYMMS; E. P. GARDNER; P. RAGHAVAN. *New York Univ. Sch. of Med., New York Univ., New York Univ. Sch. of Med., New York Univ. Langone Med. Ctr.*

9:00 HH8 **497.14** ● Level of arm motor impairment predicts sensory modalities that optimize learning with the Bimanual Arm Trainer in patients with severe stroke. A. TANG*; S. BILALOGLU; C. BAYONA; J. STONE; M. WILFRED; C. HUNG; A. YOUSEFI; P. RAGHAVAN. *New York Univ. Langone Med. Ctr., New York Univ. Lutheran Med. Ctr., Icahn Sch. of Med. at Mount Sinai.*

10:00 HH9 **497.15** Eye-hand coordination during reaching to grasp task in the real world. A. YOUSEFI*; S. BILALOGLU; J. STONE; A. TANG; J. R. RIZZO; Y. LU; P. RAGHAVAN. *New York Univ. Sch. of Med., New York Univ. Sch. of Med., New York Univ., NYU Langone Med. Ctr., New York Univ., NYU Steinhardt, New York Univ. Langone Med. Ctr.*

11:00 HH10 **497.16** Enhanced upper limb motor control with intramuscular hyaluronidase injections in pediatric patients with cerebral injury. V. A. TSETLINA*; S. KWON; M. MIRCHANDANI; S. BILALOGLU; Y. LU; R. SUKHOV; A. STECCO; P. RAGHAVAN. *New York Univ. Sch. of Med., NewYork-Presbyterian Hosp., New York Univ. Sch. of Med., New York University, Steinhardt Sch. of Educ., New York Univ. Langone Med. Ctr., Univ. of Padua.*

8:00 HH11 **497.17** ● Using clustering algorithms to determine responders to alternate hand training for hand function rehabilitation. P. RAGHAVAN*; S. BILALOGLU; C. BAYONA; A. YOUSEFI; A. TANG; J. STONE; E. BELEN; Y. LU; A. RANGAN. *New York Univ. Langone Med. Ctr., New York Univ. Sch. of Med., NYU Langone Med. Ctr., New York Univ. Sch. of Med., NYU Langone Med. Ctr., New York Univ. Steinhardt Sch. of Culture, Education, and Human Develop., New York Univ. Courant Inst. of Mathematical Sci.*

9:00 HH12 **497.18** The influence of prior expectation on movement variability for two different movements. I. C. WEINBERG*; S. BESTMANN. *Univ. Col. London, Inst. of Neurol.*

10:00 HH13 **497.19** Perception-action linkage in top athletes during batting. D. NASU*; M. YAMAGUCHI; T. FUKUDA; N. SAIJO; M. KASHINO; T. KIMURA. *NTT Communication Sci. Labs.*

11:00 HH14 **497.20** ▲ Attentional modulation of visual search alters visuomotor performance without altering limb movements. J. R. NORKITIS*; C. PERRY; A. HARRISON; J. J. FRIDRIKSSON; S. L. FRITZ; T. M. HERTER. *Univ. of South Carolina, Univ. of South Carolina, Univ. of South Carolina, Univ. of South Carolina.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**498. Neurophysiology: Implanted Electrodes and Direct Interactions With Neurons - Stimulation and Closed-Loop**

***Theme E: Motor Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 HH15 **498.01** Injecting instructions into premotor cortex using intracortical microstimulation. K. A. MAZUREK*; M. H. SCHIEBER. *Univ. of Rochester.*

9:00 HH16 **498.02** Human perception and psychophysics of direct cortical stimulation of somatosensory cortex. J. A. CRONIN*; D. J. CALDWELL; G. M. BOYNTON; K. E. WEAVER; R. P. N. RAO; J. G. OJEMANN. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*

10:00 HH17 **498.03** Parameterization of electrical stimulation for modulating intensity of a sensory percept. D. A. BJANES*; S. KASSEGNE; C. T. MORITZ. *Univ. of Washington, Ctr. for Sensorimotor Neural Engin., San Diego State Univ., San Diego State Univ., Univ. of Washington, Univ. of Washington.*

11:00 HH18 **498.04** Spectrotemporal analysis of direct cortical stimulation compared to haptic stimulation in a response timing task in humans. D. J. CALDWELL*; J. A. CRONIN; J. WU; J. N. KUTZ; B. W. BRUNTON; K. E. WEAVER; R. P. RAO; J. G. OJEMANN. *Univ. of Washington, Ctr. for Sensorimotor Neural Engin., Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*

8:00 HH19 **498.05** Hind-limb motor responses to microstimulation of the dorsal root ganglia in behaving cats. M. A. URBIN*; A. C. NANIVADEKAR; K. K. KING; W. D. CUSACK; M. F. LIU; R. A. GAUNT; L. E. FISHER; D. J. WEBER. *Univ. of Pittsburgh Sch. of Med.*

9:00 HH20 **498.06** ● Artifact-free recording during human intracortical microstimulation. J. M. WEISS*; R. FRANKLIN; S. N. FLESHER; J. L. COLLINGER; R. A. GAUNT. *Univ. of Pittsburgh, Univ. of Pittsburgh, Blackrock Microsystems, Ctr. for the Neural Basis of Cognition, DVA.*

10:00 HH21 **498.07** Sub-millisecond electrical recordings of neural responses to stimulation with intracortical microelectrode arrays in somatosensory cortex. J. SOMBECK*; T. TOMLINSON; A. V. PETERCHEV; W. M. GRILL; L. E. MILLER. *Northwestern Univ., Northwestern Univ., Duke Univ., Duke Univ., Duke Univ., Duke Univ., Northwestern Univ., Shirley Ryan AbilityLab.*

11:00 HH22 **498.08** A neuromodulation integrated circuit for high-channel count, bidirectional, and minimally invasive neural interfaces. S. JUNG*; E. ALON; J. RABAEY. *Univ. of California, Berkeley.*

8:00 HH23 **498.09** Study on the deep brain stimulation to induce voluntary locomotion of a rat. N. SUDO*; O. FUKAYAMA; K. MABUCHI; Y. ABE. *Univ. of Tokyo.*

9:00 HH24 **498.10** The complex relationship between frequency and perceived magnitude of intracortical microstimulation in human somatosensory cortex. C. L. HUGHES*; S. N. FLESHER; J. M. WEISS; M. BONINGER; J. L. COLLINGER; R. GAUNT. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

10:00 HH25 **498.11** Effects of intracortical microstimulation feedback on functional task performance during human brain-computer interface control. S. N. FLESHER*; J. E. DOWNEY; J. M. WEISS; A. J. HERRERA; C. L. HUGHES; M. L. BONINGER; J. L. COLLINGER; R. A. GAUNT. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

11:00 HH26 **498.12** StimDust: An ultrasonically powered neural stimulator with temporally precise waveform control. B. C. JOHNSON*; K. SHEN; D. K. PIECH; M. GHANBARI; K. LI; R. NEELY; J. M. CARMENA; M. M. MAHARBIZ; R. MULLER. *Univ. of California, Berkeley.*

8:00 HH27 **498.13** Navigating a virtual environment using intracortical microstimulation of human somatosensory cortex. E. A. POHLMEYER; M. S. FIFER; S. J. BENSMAIA; M. RICH; J. PINO; S. N. FLESHER; J. M. WEISS; J. L. COLLINGER; R. A. GAUNT; J. BEATY; M. MCLOUGHLIN; F. TENORE*. *Johns Hopkins Univ. APL, Univ. of Chicago, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

9:00 HH28 **498.14** Wireless stimulation of pelvic floor motor efferents neuromodulate micturition in female rabbits. A. G. HERNANDEZ REYNOSO*; D. L. CORONA QUINTANILLA; F. CASTELÁN; M. MARTINEZ-GOMEZ; D. K. FREEMAN; S. F. COGAN; M. I. ROMERO-ORTEGA. *Univ. of Texas At Dallas, Univ. Autónoma de, Univ. Nacional Autonoma De Mexico, Inst. de Investigaciones Biomédicas UNAM, Charles Stark Draper Lab., Univ. of Texas at Dallas, Univ. of Texas at Dallas.*

10:00 HH29 **498.15** Evaluation of a neural interface for electrical stimulation of the mouse infraorbital nerve. A. J. SUMINSKI; J. NOVELLO; S. K. BRODNICK; J. NESS; W. ZENG; J. PISANIELLO; A. M. DINGLE; S. O. POORE; W. B. LAKE; J. C. WILLIAMS*. *Univ. of Wisconsin-Madison, Univ. of Wisconsin, Univ. of Madison WI, Univ. of Wisconsin-Madison, Univ. of Madison, WI.*

11:00 HH30 **498.16** Sub-threshold resonance organizes activity and optimizes learning in neural networks. J. P. ROACH*; A. PIDDE; J. WU; E. A. KATZ; N. OGNJANOVSKI; S. J. ATON; M. R. ZOCHOWSKI. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

8:00 HH31 **498.17** Microelectrode arrays chronically implanted into feline peripheral nerve elicit a characteristic response. C. L. KOLARCIK*; C. A. CASTRO; A. LESNIAK; A. J. DEMETRIS; D. J. WEBER; L. E. FISHER; X. T. CUI; R. A. GAUNT. *Univ. of Pittsburgh, Magee Womens Res. Inst.*

9:00 HH32 **498.18** Effect of asymmetric, charge balanced stimuli on elicited compound neural action potentials. F. DELGADO*; A. KUNDU; E. PATRICK; S. W. CURRLIN; K. J. OTTO. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

10:00 HH33 **498.19** Optimal spatial and frequency parameters of subthalamic neurostimulation for the neural and kinematic signatures of gait impairment in freely moving Parkinson's subjects. C. ANIDI*; J. O'DAY; M. F. AFZAL; J. SYRKIN-NIKOLAU; A. VELISAR; T. MARTIN; H. BRONTE-STEWART. *Stanford Univ.*

11:00 HH34 **498.20** Subthalamic neural closed-loop deep brain stimulation in Parkinson's disease using patient specific functionally relevant frequency bands. M. AFZAL*; C. ANIDI; A. VELISAR; J. SYRKIN-NIKOLAU; J. O'DAY; H. BRONTE-STEWART. *Stanford Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 HH35 **498.21** ● OMNI: A wireless,128-channel closed-loop neuromodulation device. A. ZHOU*; S. R. SANTACRUZ; B. C. JOHNSON; G. ALEXANDROV; A. MOIN; F. L. BURGHARDT; I. IZYUMIN; E. ALON; J. RABAEY; J. M. CARMENA; R. MULLER. *Univ. of California, Berkeley, Univ. of California, Berkeley, Cortera Neurotechnologies, Inc.*

9:00 HH36 **498.22** An implantable brain-computer interface for investigation of closed-loop therapies. J. RICKERT*; F. KOHLER; C. STOLLE; T. STIEGLITZ; J. FISCHER; M. SCHUETTLER; C. GKOGKIDIS; X. WANG; M. GIERTHMÜHLEN; C. SCHEIWE; T. BALL. *CorTec GmbH, BrainLinks-BrainTools, Univ. of Freiburg, Lab. for Biomed. Microtechnology, Dept. of Microsystems Engineering, Univ. Freiburg, Dept. of Neurosurgery, Med. Ctr. - Univ. of Freiburg, Fac. of Med.*

10:00 II1 **498.23** Electrical brain stimulation causes patient to sing. A. C. CONNOLLY*; K. A. BUJARSKI; C. MARTIN; B. C. JOBST; D. W. ROBERTS. *Dartmouth Col. Geisel Sch. of Med., Dartmouth-Hitchcock Med. Ctr., Dartmouth-Hitchcock Med. Ctr., Dartmouth-Hitchcock Med. Ctr.*

**POSTER**

**499. Brain-Machine Interface: Sensory Systems**

***Theme E: Motor Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 II2 **499.01** Effect of stimulus parameters on perceived sensation and phantom limb pain during stimulation of cervical spinal cord and dorsal roots in upper-limb amputees. S. CHANDRASEKARAN*; A. C. NANIVADEKAR; A. I. KASHKOUSH; E. R. HELM; M. L. BONINGER; J. L. COLLINGER; R. A. GAUNT; L. E. FISHER. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

9:00 II3 **499.02** ● A wireless brain-spine interface that alleviates gait deficits of Parkinson's disease. T. MILEKOVIC*; F. RASCHELLA; G. SCHIAVONE; Y. JIANZHONG; W. D. KO; L. QIN; C. QIN; M. CAPOGROSSO; S. P. LACOUR; J. BLOCH; S. MICERA; E. BEZARD; G. COURTINE. *Univ. of Geneva, Ecole Polytechnique Federale de Lausanne (EPFL), Ecole Polytechnique Federale de Lausanne (EPFL), Ecole Polytechnique Federale de Lausanne (EPFL), China Acad. of Med. Sci., Motac Neurosci. Ltd., Univ. of Fribourg, Lausanne Univ. Hosp. (CHUV), Scuola Superiore Sant'Anna, Univ. of Bordeaux.*

10:00 II4 **499.03** Model-based design of optimal spatiotemporal patterns of intracortical microstimulation for prosthetic sensation. K. KUMARAVELU*; T. TOMLINSON; T. CALLIER; S. J. BENSMAIA; L. E. MILLER; W. M. GRILL. *Biomed. Eng, Duke Univ., Northwestern Univ., Univ. of Chicago, Biomed. Engineering, Northwestern Univ., Physical Med. and Rehabilitation, Northwestern Univ., Electrical and Computer Engineering, Duke Univ., Neurobiology, Duke Univ., Dept. of Surgery, Duke Univ.*

11:00 II5 **499.04** Sensory feedback driven by intraneural stimulation allows amputees to reduce energy consume during walking and decreases phantom limb pain. F. M. PETRINI*; G. VALLE; F. BARBERI; D. BORTOLOTTI; P. CVANCARA; A. HIAIRRASSARY; D. GUIRAUD; J. DIVOUX; A. LESIC; T. STIEGLITZ; S. MICERA; S. RASPOPOVIC; M. BUMBASIREVIC. *EPFL, Scuola Superiore Sant'Anna, IMTEK, LIRMM, Axonic, Univ. of Belgrade.*

8:00 II6 **499.05** A comparison between encoding strategies for restoring sensory feedback in a bidirectional hand prosthesis. G. VALLE*; I. STRAUSS; F. M. PETRINI; G. GRANATA; R. DI IORIO; P. CVANCARA; M. MULLER; M. BARBARO; L. RAFFO; T. STIEGLITZ; S. RASPOPOVIC; P. M. ROSSINI; S. MICERA. *Scuola Superiore Sant'Anna, Ecole Polytechnique Federale De Lausanne, Universita' Cattolica del Sacro Cuore, IMTEK, Universita' degli studi di Cagliari.*

9:00 II7 **499.06** Learning object discrimination using electrotactile feedback. T. ARAKERI*; B. A. HASSE; A. J. FUGLEVAND. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

10:00 II8 **499.07** Decoding articulatory representation of speech from cortical recordings: A preliminary study. F. BOCQUELET*; T. HUEBER; S. CHABARDES; B. YVERT. *INSERM (U1205), CNRS, CHUGA, INSERM.*

11:00 II9 **499.08** ● The color of the phosphenes elicited by artificial vision by direct optic nerve electrical stimulation (AV-DONE). K. NISHIDA*; H. SAKAGUCHI; M. KAMEI; Y. TERASAWA; T. FUJIKADO. *Osaka Univ. Grad. Sch. of Med., Asociacion Para Evitar la Ceguera, Aichi Med. Univ., Vision Institute, Nidek Co.,Ltd.*

8:00 II10 **499.09** Evoking visual percepts via epicortical microstimulation of primary visual cortex. D. OSWALT*; D. ZHOU; P. DATTA; N. TALBOT; R. GREENBERG; Z. MIRZADEH; B. GREGER. *Arizona State Univ., Second Sight Med. Products, Barrow Neurolog. Inst., Arizona State Univ.*

9:00 II11 **499.10** An SSVEP-based brain-computer interface applied to patients with persistent vegetative state. Y. OKAHARA*; K. TAKANO; K. ODAKA; Y. UCHINO; M. ODAKI; Y. IWADATE; K. KANSAKU. *Res. Inst. of NRCD, Chiba university, Chiba Ryogo Ctr., Brain Sci. Inspired Life Support Res. Center, Univ. of Electro-Communications.*

**POSTER**

**500. CPGs: Non-Mammalian**

***Theme E: Motor Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 II12 **500.01** Motoneuronal and interneuronal control of rolling waves that mediate *Aplysia* locomotion. K. YU*; D. LIU; S. YIN; G. ZHANG; W. YUAN; E. C. CROPPER; K. R. WEISS; J. JING. *Nanjing Univ., Icahn Sch. of Med. at Mount Sinai.*

9:00 II13 **500.02** Morphological and physiological analysis of a coordinating circuit. F. BLUMENTHAL*; C. R. SMARANDACHE-WELLMANN. *Univ. of Cologne, Univ. of Cologne.*

10:00 II14 **500.03** Command-like modulation of motor neurons and interneurons. F. CLOTTEN*; C. SMARANDACHE-WELLMANN. *Univ. of Cologne.*

11:00 II15 **500.04** Dynamics of coordinated nerve-muscle-body-environment interaction in crustacean swimming. C. ZHANG*; C. R. SMARANDACHE-WELLMANN. *Univ. of Arizona, Univ. of Cologne.*

8:00 II16 **500.05** Characterization of postinhibitory rebound in spiking and nonspiking neurons in a chain of coupled oscillators. L. SCHLAEGER*; C. R. SMARANDACHE-WELLMANN. *Univ. of Cologne.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
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* Indicates abstract's submitting author

9:00 II17 **500.06** Stability of a coordinated circuit during temperature perturbations. C. R. SMARANDACHE-WELLMANN*; F. BLUMENTHAL. *Univ. of Cologne, Univ. of Cologne.*

10:00 II18 **500.07** Hysteresis as source of threshold variability in neurons encoding coordinating information. A. C. SCHNEIDER*; L. SCHLAEGER; C. R. SMARANDACHE-WELLMANN. *Univ. of Cologne, Univ. of Cologne.*

11:00 II19 **500.08** Robustness of central pattern generating circuits to changes in pH. J. HALEY*; D. KUSHINSKY; D. SHIN; E. MARDER. *Brandeis Univ.*

8:00 II20 **500.09** Critical slowing down as a predictor of transitions in a neuronal oscillator. J. M. RATLIFF*; T. O'LEARY; E. E. MARDER. *Brandeis Univ., Univ. of Cambridge, Brandeis Univ.*

9:00 II21 **500.10** A developmental switch in the organization of the dedicated neural network for swimming in Zebrafish spinal cord. Y. ROUSSEL*; T. V. BUI. *Univ. of Ottawa.*

10:00 II22 **500.11** Critical role of En1-positive neurons for silencing slow-component neurons during fast swimming in zebrafish. S. HIGASHIJIMA*; Y. KIMURA. *Okazaki Inst. for Integrative Biosci.*

11:00 II23 **500.12** Combining approaches for mapping connectivity and identifying cell types in the vertebrate spinal cord. A. S. DUMITRESCU*; C. DELEUZE; J. ROUSSEL; M. WU; C. WYART. *Inst. Du Cerveau Et De La Moelle Epinière.*

8:00 II24 **500.13** Neural mechanisms for intra- and intersegmental coupling between CPGs in an insect walking system. C. MANTZIARIS; T. BOCKEMUEHL; A. BORGMANN; S. DAUN; A. BUSCHGES*. *Univ. of Cologne, Inst. of Neurosci. and Med. (INM-3).*

9:00 II25 **500.14** Heterogeneity of V2b premotor neurons in zebrafish spinal cord. R. CALLAHAN*; Y. KIMURA; S. HIGASHIJIMA; M. BAGNALL. *Washington Univ. In St. Louis, Natl. Inst. Natl. Sci., Ctr. for Integrative Biosci.*

**POSTER**

**501. Spinal Cord Injury: Training, Rehabilitation, and Recovery**

***Theme E: Motor Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 II26 **501.01** Establishment of a theory on target neural regeneration guided by dorsal root stumps for repairing complete spinal cord transection in adult animals. S. LIN*; T. ZHAO; T. TANG; J. GAO; S. YANG; X. ZHANG; F. KONG; X. LIN; Z. YONG; J. MA; X. WENG; S. JING; S. LIU. *Beijing Inst. of Basic Med. Sci.*

9:00 II27 **501.02** Electro-acupuncture and pregabalin alleviated spasticity and orofacial and somatic allodynias in a clinically relevant rodent model of closed head traumatic brain injury. P. K. BOSE*; J. HOU; G. MUSTAFA; R. NELSON; J. WATTS; S. TSUDA; J. GODWIN; H. P. RAMIREZ; F. J. THOMPSON. *North Florida/South Georgia Veterans Hlth. Syst., Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

10:00 JJ1 **501.03** ● Intrathecal baclofen (ITB) combined with locomotor exercise provides better therapeutic outcome in reducing spasticity, improving anxiety, cognitive and activity performance, and no adverse effect on balance performance in a traumatic brain injury (TBI) rodent model. F. J. THOMPSON*; J. HOU; R. NELSON; G. MUSTAFA; J. WATTS; S. GANGU; S. TSUDA; L. PAGE; P. BOSE. *North Florida/South Georgia Veterans Hlth. Syst., Univ. of Florida, Univ. of Florida, Univ. of Florida, Medtronic Restorative Therapies Group, Univ. of Florida.*

11:00 JJ2 **501.04** Simultaneous application of treadmill locomotor exercise and magnetic stimulation improved cervical spinal cord injury (C-SCI)-induced spasticity and gait disabilities in acute and chronic setting. J. HOU*; R. NELSON; N. MOHAMMAD; J. WATTS; G. MUSTAFA; S. TSUDA; F. J. THOMPSON; P. BOSE. *North Florida/South Georgia Veterans Hlth. Syst., Univ. of Florida, Univ. of Florida, Univ. of Florida.*

8:00 JJ3 **501.05** Effects of locomotor training intensity on sympathetic-somatomotor coupling in spinal cord injury. T. ONUSHKO*; G. MAHTANI; T. G. HORNBY; B. D. SCHMIT. *Marquette Univ., Stanford Univ., Univ. of Illinois at Chicago, Marquette Univ. Dept. of Biomed. Engin.*

9:00 JJ4 **501.06** Epidural stimulation and pharmacological blockade of fast inhibition improve respiratory pacing following complete spinal cord injury. V. MARCHENKO*; T. BEZDUDNAYA; M. A. LANE. *Drexel Univ. Col. of Med.*

10:00 JJ5 **501.07** Development of a novel automated device for the assessment and training of skilled locomotion in spinal cord injured rats. T. RICHARDS*; P. SHARMA; A. KUANG; P. K. SHAH. *Stony Brook Univ., Stony Brook Univ., Stony Brook Univ.*

11:00 JJ6 **501.08** ADATS (automated device for the assessment and training of skilled locomotion) in action: Assessment and training of inter-limb coordination after a cervical spinal cord injury in rodents. P. D. SHARMA*; T. RICHARDS; A. KUANG; P. SHAH. *Stony Brook Univ., Stony Brook Univ., Stony Brook Univ.*

8:00 JJ7 **501.09** Consistencies and disparities in supraspinal and spinal neuronal mechanisms dictate the extent of commonalities in forelimb locomotion behaviors. M. ISLAM*; T. PENG; P. SHAH. *Stony Brook Univ., Stony Brook Univ.*

9:00 JJ8 **501.10** Selective excitation of large diameter sensory afferents with DREADDs enhances functional recovery post-spinal cord injury. B. D. ROBERTSON*; G. M. SMITH; M. A. LEMAY; A. SPENCE. *Temple Univ., Temple Univ., Temple Univ. Col. of Engin., Temple Univ.*

10:00 JJ9 **501.11** Inflammatory nociception attenuates training induced locomotor recovery after spinal cord injury by altering KCC2 expression. R. JEFFREY-GAUTHIER*; M. COTE; M. PICHE; H. LEBLOND. *Univ. Du Québec À Trois-Rivières, Drexel Univ. Col. of Med., Univ. Du Quebec A Trois-Rivieres, Univ. du Quebec a Trois-Rivieres.*

11:00 JJ10 **501.12** Enhancing chloride extrusion restores reflex modulation after spinal cord injury. J. BILCHAK STROUGHAIR*; M. COTE. *Drexel Univ.*

8:00 JJ11 **501.13** How timing of rehabilitation after electrical stimulation on rats with chronic corticospinal tract injury effects augmentation of functional recovery. T. T. BETHEA*; J. SANTOS; H. PARK; A. SINDHURAKAR; J. CARMEL. *Burke-Cornell Med. Res. Inst.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
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* Indicates abstract's submitting author

9:00 JJ12 **501.14** NKCC1 contributes to exercise-dependent recovery of presynaptic inhibition after spinal cord injury. G. CARON*; B. DUFFY; M. COTE. *Drexel Univ. Col. of Med.*

10:00 JJ13 **501.15** ▲ Locomotion training with closed-loop brain-machine interface and lower-limb functional electrical stimulation for complete paraplegic patients. A. SELFSLAGH*; S. SHOKUR; A. R. C. DONATI; D. S. F. CAMPOS; S. B. ALMEIDA; N. PADULA; H. BLEULER; M. BOURI; M. A. L. NICOLELIS. *Associação Alberto Santos Dumont Para Apoio À Pesq, École Polytechnique Fédérale de Lausanne, Associação de Assistência à Criança Deficiente, Acreditando, Ctr. de Recuperação Neuromotora, Saúde e Bem Estar, Santos Dumont Inst., Duke Univ., Duke Univ., Duke Univ.*

11:00 JJ14 **501.16** Timing-dependent conditioning of deep dorsal horn neural circuits: Methodology for closed-loop control and implications for spinal cord injury-related neuropathic pain. J. G. MCPHERSON*. *Florida Intl. Univ.*

8:00 JJ15 **501.17** ● Paired motor cortex and cervical spinal cord electrical stimulation is safe and effective over six months in awake rats. A. PAL*; A. M. MISHRA; A. GARCIA-SANDOVAL; S. RATNADURAI-GIRIDHARAN; W. VOIT; J. B. CARMEL. *Burke Med. Res. Inst., The Univ. of Texas at Dallas, Brain Mind Res. Institute, Weill Cornell Med.*

9:00 JJ16 **501.18** Improvement in pain sensation after transplantation of neuronal fetal progenitors into the injured spinal cord in the rat model. C. M. BATISTA*; E. D. MARIANO; F. ONUCHIC; C. S. DALE; A. F. CRISTANTE; J. P. OTOCH; M. J. TEIXEIRA; G. LEPSKI. *Univ. of São Paulo Med. Sch., Univ. of Sao Paulo, Univ. of Sao Paulo Med. Sch., Univ. of Sao Paulo Med. Sch., Eberhard-Karls Univ.*

10:00 JJ17 **501.19** Upregulation of spinal 5HT1A receptor and its roles in bladder dysfunction after spinal cord injury. C. LIN*; K. LI; R. THALLURI; Y. LEE. *Cleveland Clin.*

11:00 JJ18 **501.20** ● Diet induced obesity impairs neurobehavioral recovery after experimental spinal cord injury. H. KIM*; H. YOON; I. R. LANZA; N. K. LEBRASSEUR; A. MATVEYENKO; I. A. SCARISBRICK. *Mayo Clin., Mayo Clin., Mayo Clin.*

8:00 JJ19 **501.21** Ventral root crushing in mice: Time-course of glial reaction, synaptic changes and motoneuron survival. L. P. CARTAROZZI*; M. PEREZ; F. KIRCHHOFF; A. L. OLIVEIRA. *UNICAMP, Univ. of Campinas - Lab. of Nerve Regeneration, Univ. of Saarland.*

8:00 DP09/JJ20 **501.22** (Dynamic Poster) Neuroplasticity of glutamatergic neurotransmission at phrenic motor neurons following cervical spinal cord injury. S. RANA*; C. B. MANTILLA; H. M. GRANSEE; W. ZHAN; G. C. SIECK. *Mayo Clin., Mayo Clin., Mayo Clin.*

10:00 JJ21 **501.23** Repair of a lumbosacral ventral root avulsion injury using GDNF-releasing nerve guidance channels to bridge tissue gaps between the spinal cord and avulsed ventral roots in rhesus macaques. N. P. BISCOLA*; J. H. NIETO; R. MARTIN; M. OHLSSON; K. L. CHRISTE; H. MAO; A. HOKE; L. A. HAVTON. *David Geffen Sch. of Med. at UCLA, Johns Hopkins Sch. of Med., Karolinska Hosp., UC Davis, Johns Hopkins Sch. of Med., David Geffen Sch. of Med. at UCLA.*

11:00 JJ22 **501.24** Dual time course RNA-seq reveals level-specific neurovascular response after cervical and thoracic spinal cord injury. J. HONG*; M. CHAMANKHAH; A. BADNER; D. RIGHELLI; C. ANGELINI; M. FEHLINGS. *Krembil Res. Inst., Inst. Per le Applicazioni del Calcolo.*

8:00 JJ23 **501.25** Transplantation of human inducible pluripotent stem cell-derived neural stem cells promotes locomotor recovery after cervical spinal cord injury. Y. ZHENG; C. GALLEGOS; H. XUE; S. LI; D. KIM; Y. LIU; Q. CAO*. *UT Hlth. Sci. Ctr. at Houston, UT Hlth. Sci. Ctr. At Houston.*

9:00 JJ24 **501.26** Local BDNF and minocycline delivery to the injured cervical spinal cord using an engineered hydrogel preserves diaphragmatic respiratory function. B. GHOSH; Z. WANG; J. NONG; M. W. URBAN; V. A. TROVILLI; M. C. WRIGHT; Y. ZHONG*; A. C. LEPORE. *Sidney Kimmel Med. Col. at Thomas Jefferson Univ., Drexel Univ., Arcadia Univ.*

10:00 JJ25 **501.27** Neurotrophin-3 mediates descending afferents to lumbar motoneurons after an above-level spinal cord injury. Q. HAN*; B. P. MAUREY; W. WU; J. D. ORDAZ; G. M. SMITH; X. M. XU. *Stark Neurosciences Res. Inst., Temple Univ.*

11:00 JJ26 **501.28** ● Anti-Nogo-A antibodies as a potential treatment for neurogenic lower urinary tract dysfunction after spinal cord injury. A. M. SARTORI*; M. P. SCHNEIDER; A. K. ENGMANN; A. HOFER; M. E. SCHWAB; T. M. KESSLER. *Univ. and ETH Zurich, Balgrist Univ. Hosp.*

8:00 JJ27 **501.29** The gigantocellular reticular nucleus is a key player for locomotor recovery after incomplete spinal cord injury. A. ENGMANN*; F. BIZZOZZERO; S. IMOBERSTEG; D. PFYFFER; M. P. SCHNEIDER; R. SCHNEIDER; O. WEINMANN; M. WIECKHORST; M. E. SCHWAB. *Univ. Zürich, Brain Res. Inst.*

9:00 JJ28 **501.30** Further testing the robustness of "promising" neuro-protective drug candidates in a cervical hemi-contusion model of rats. W. T. PLUNET*; N. JANZEN; J. LIU; A. BEHRENS; E. RAFFAELE; O. SEIRA; L. MCPHAIL; W. TETZLAFF . *Univ. of British Columbia, ICORD, Univ. of British Columbia.*



**POSTER**

**502. Motor Neurons: Functional Relationships**

***Theme E: Motor Systems***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 JJ29 **502.01** ● Sensorimotor activity during attempted finger tapping in late-stage ALS. E. G. PELS*; L. C. M. BRUURMIJN; E. J. AARNOUTSE; M. J. VANSTEENSEL; N. F. RAMSEY. *Univ. Med. Ctr. Utrecht.*

9:00 JJ30 **502.02** Size-dependent axon loss in the corticospinal tract in sporadic ALS patients with predominant upper motor neuron symptoms. F. SONG*; J. LIU; J. RAVITS; J. A. LOEB. *Univ. of Illinois at Chicago, Univ. of California San Diego Dept. of Neurosciences.*

10:00 KK1 **502.03** The impact of imperceivable vibration stimuli on the central nervous system. A. D. PASSARO; M. S. TENAN; C. A. HAYNES; P. J. FRANASZCZUK*. *US Army Res. Lab., Johns Hopkins Univ. Med. Sch.*

11:00 KK2 **502.04** Altered motor axon excitability properties of the flexor carpi radialis following stroke. C. S. KLEIN*; C. ZHAO; W. HUANG; P. ZHOU. *Guangdong Work Injury Rehabil. Ctr., Univ. of Texas Hlth. Sci. Ctr. at Houston.*

8:00 KK3 **502.05** ▲ The effect of lower limb ischaemia on evoked potentials. J. M. BRADSHAW*; J. F. S. MILLWOOD HARGRAVE; P. S. SARAI; P. H. STRUTTON. *Imperial Col. London.*

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 KK4 **502.06** ▲ Vastus medialis oblique activity is positively correlated with functional ability in patients with patellofemoral pain syndrome. R. T. PHAM*; Y. PENG; D. GUPTA; L. GRIFFIN. *Univ. of Texas.*

10:00 KK5 **502.07** Cross-inhibition sharpens fast motor output in *C. elegans* locomotion. L. DENG; C. DOYLE; V. MARFIL; G. HASPEL*. *New Jersey Inst. of Technol., Bergen County Tech. High Sch.*

11:00 KK6 **502.08** Motor cortical activities in the animal model of Parkinson's disease. Y. LI*; C. LI; Y. GU; W. YUNG; Y. KE. *The Chinese Univ. of Hong Kong.*

8:00 KK7 **502.09** Cultured motor neuron-based microfluidic platform for neural regeneration study. H. YOO*; H. JEONG; Y. CHO; S. HWANG; S. JUN. *Ewha Womans Univ., Ewha Womans Univ., Ewha Womans Univ.*

9:00 KK8 **502.10** Improving the sensitivity and stability of detecting proximal muscle MEPs through high-density EMG. F. A. MUSSA-IVALDI*; D. DE SANTIS; B. AFSHARIPOUR; N. L. SURESH; W. Z. RYMER; L. M. ROGERS. *Shirley Ryan Abilitylab, Northwestern Univ., Rehabil. Inst. of Chicago, Rehabil. of Chicago, Rehabil. Inst. of Chicago, Shirley Ryan AbilityLab.*

10:00 KK9 **502.11** Alteration of surface electromyogram patterns after botulinum toxin injection in stroke survivors. B. AFSHARIPOUR*; S. CHANDRA; W. Z. RYMER; N. L. SURESH. *Shirley Ryan Ability Lab., Northwestern Univ.*

11:00 KK10 **502.12** Effect of botulinum-toxin on motor unit activity in stroke survivors. S. CHANDRA*; B. AFSHARIPOUR; N. SURESH; W. Z. RYMER. *Rehabil. Inst. of Chicago.*

8:00 KK11 **502.13** Acute intermittent hypoxia-induced neuroplasticity in individuals with incomplete cervical spinal cord injury. M. S. SANDHU*; B. AFSHARIPOUR; A. ADEKUNLE; S. ANASTASOPOULOS; W. Z. RYMER. *ShirleyRyan Ability Lab., Shirley Ryan AbilityLab.*

9:00 KK12 **502.14** Analysis of motor unit action potential shape and power spectral changes in surface EMG of hemiparetic stroke survivors. N. L. SURESH*; X. HU; B. JEON; W. Z. RYMER. *Shirley Ryan Ability Lab., UNC Chapel Hill, Carnegie Mellon Univ., Shirley Ryan Ability Lab.*

10:00 KK13 **502.15** Designer ubiquitinase targeting botulinum neurotoxin a is transgenically expressed and forestalls paralysis. T. RUSSO*; P. M. MCNUTT; A. B. BRADFORD; J. MACHAMER. *USAMRICD, US Army Med. Res. Inst. of Chem. Def, US Army Med. Res. Inst. of Chem. Def.*

11:00 KK14 **502.16** The effects of altered stretch reflex sensitivity on motor unit recruitment. A. BARRERA-CURIEL; Z. K. POPE*; R. J. COLQUHOUN; J. A. HERNANDEZ-SARABIA; J. M. DEFREITAS. *Oklahoma State Univ. Stillwater.*

8:00 KK15 **502.17** ▲ Recurrent laryngeal nerve regrowth post-injury: A temporal study of neurotrophic factor expression. I. HERNANDEZ-MORATO*; S. DODHIA; M. MONTALBANO; J. MARTINEZ; M. PITMAN. *Columbia Univ., Columbia Univ., Columbia Univ.*

9:00 KK16 **502.18** Does follistatin augment skeletal muscle fiber recovery following moderate periods of denervation? M. S. SHALL*; J. E. ISAACS; S. MALLU; G. PATEL; M. A. FEGER. *MCV/VCU, Virginia Commonwealth Univ., Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

10:00 KK17 **502.19** ▲ Optogenetic muscle activation to restore whisker movement after facial nerve lesion in mice. A. BANDI; A. UPADHYAY; H. CHANG; R. SAKHUJA; S. YIANTSOS; T. J. VAJTAY; C. R. LEE; D. J. MARGOLIS*. *Rutgers, The State Univ. of New Jersey, Rutgers Univ., Rutgers, The State Univ. of New Jersey.*

**POSTER**

**503. Neuroethology: Social Behaviors**

***Theme F: Integrative Physiology and Behavior***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 KK18 **503.01** ▲ Manipulation of the social environment alters activity and body morphology of Dugesia dorotocephala. L. GOODRIDGE; M. J. SAARI*; A. STILLAR; A. WEEKS. *Nipissing Univ.*

9:00 KK19 **503.02** The effects of social status on dopaminergic regulation of neural circuit activation and behavior. K. CLEMENTS*; T. MILLER; E. JI; F. ISSA. *East Carolina Univ., UCLA.*

10:00 KK20 **503.03** Social regulation of the endocannabinoid system and modulation of the escape and swim circuits in zebrafish (Danio rerio). S. A. ORR*; T. H. MILLER; F. A. ISSA. *East Carolina Univ.*

8:00 DP10/KK21 **503.04** (Dynamic Poster) Imaging of neural activity in the forebrain of adult zebrafish during social affiliative behavior. K. HUANG*; K. KITAMURA; M. SCHEBESTA; F. SERLUCA; T. BOUWMEESTER; R. FRIEDRICH. *Friedrich Miescher Inst., Tokyo Univ., Novartis Inst. for BioMedical Res.*

8:00 KK22 **503.05** Sexually-relevant visual and chemosensory signals induce distinct behaviors and brain activation patterns in the social African cichlid, Astatotilapia burtoni. K. FIELD*; C. T. MCVICKER; K. K. JOHNSON; K. P. MARUSKA. *Louisiana State Univ.*

9:00 KK23 **503.06** ▲ The behavioral effects of taurine in aggression of female crayfish, Procambarus clarkii. C. M. MECCA*; B. N. THOMAS; R. F. WALDECK. *Univ. of Scranton.*

10:00 KK24 **503.07** ▲ Socially induced sensorimotor filtering plasticity in female African cichlid fish Astatotilapia burtoni. M. ADELMAN; A. CHEN; H. NEUMEISTER; T. PREUSS*. *City Univ. of New York, Hunter Col.*

11:00 KK25 **503.08** Interneurons in the primary auditory center of the honeybee brain responsive to air vibration pulses as elicited during waggle dance communication. T. WACHTLER*; A. KUMARASWAMY; K. KAI; H. IKENO; H. AI. *Ludwig-Maximilians-Universität München, Fukuoka Univ., Univ. Hyogo.*

8:00 KK26 **503.09** ▲ Modeling visual perception, learning, and memory of wood ants navigating in naturalistic environments. A. J. MENDOZA*; D. D. LENT. *California State Univ. Fresno, CSU Fresno.*

9:00 KK27 **503.10** ▲ Behavioral and neuronal responses in male-exposed female cricket Acheta domesticus. B. A. NAVIA*; C. R. KENT. *Andrews Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 KK28 **503.11** Sex differences in sensorimotor coding for the production of duets in plain-tailed wrens. M. J. COLEMAN*; N. F. DAY; P. RIVERA-PARRA; E. S. FORTUNE. *Claremont McKenna, Pitzer and Scripps Colleges, Univ. of California Los Angeles, Escuela Politécnica Nacional, New Jersey Inst. of Technol.*

11:00 KK29 **503.12** ▲ State-dependency of viscerosensory input to the song motor system of passerine songbirds. J. BURKE*; J. MCLEAN; A. PERKES; M. F. SCHMIDT. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

8:00 KK30 **503.13** ▲ Combining auditory and viscerosensory feedback perturbations in adult male zebra finches causes rapid song destabilization without recovery. K. M. MILLER*; C. S. LY; M. F. SCHMIDT. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

9:00 KK31 **503.14** Neural activities during sexually dimorphic social behaviors. S. WANG*. *Inst. of Neurosci.*

**POSTER**

**504. Early-Life Stress: Neurophysiological and Neurochemical Consequences**

***Theme F: Integrative Physiology and Behavior***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 KK32 **504.01** Acute and long-term biobehavioral outcomes following reduced maternal care and neonatal pain. S. M. MOONEY-LEBER*; J. YOUNG; S. BRUMMELTE. *Wayne State Univ., Wayne State Univ.*

9:00 KK33 **504.02** Early life stress alters amygdala-prefrontal cortex and amygdala-hippocampal connectivity in adult mice. F. K. JOHNSON*; J. DELPECHE; G. J. THOMPSON; L. WEI; J. HAO; F. HYDER; A. KAFFMAN. *Yale Med. Sch., Yale Univ.*

10:00 KK34 **504.03** Alterations in developmental microglia morphology and pro-inflammatory cytokine release resulting from early life stress and lipopolysaccharide injection in rats. K. R. GILDAWIE*; S. A. GOFF; J. R. ROWE-HILL; J. A. HONEYCUTT; P. GANGULY; V. THOMPSON; H. C. BRENHOUSE. *Northeastern Univ.*

11:00 KK35 **504.04** ELS is associated with precocious amygdala development and an unexpected dip in threat-associated freezing. K. G. BATH*; A. JOHNSEN; M. BRAVO; H. SHIN; G. MANZANO-NIEVES. *Brown Univ., Brown Univ., Brown University, Neurosci., Dept. of Neuroscience, Brown Univ.*

8:00 KK36 **504.05** ● Early life stress: In depth analysis of maternal behavior in response to limited access to bedding. M. E. GALLO*; T. CAMPBELL; A. OLANIYAN; C. E. LOPEZ; K. G. BATH. *Brown Univ., Brown Univ.*

9:00 LL1 **504.06** Brain-derived neurotrophic factor: A potential driver of the accelerated neurobehavioral development induced by early-life stress. G. MANZANO-NIEVES*; K. B. HUNTZICKER; K. H. HAJDAROVIC; K. G. BATH. *Dept. of Neuroscience, Brown Univ., Brown Univ., Brown Univ.*

10:00 LL2 **504.07** Sex-selective effects of early life stress on the development of attentional deficits. H. GOODWILL*; S. LIN; E. OYERINDE; K. BATH. *Brown Univ.*

11:00 LL3 **504.08** ▲ Transgenerational effects of *in utero* stress on spontaneous behavior and glutamate receptor expression in *Caenorhabditis elegans.* K. J. HUGHES; A. D. MEUSER; L. E. BEANE; E. R. TAYLOR; Z. ZHU; J. K. ROSE*. *Western Washington Univ., Western Washington Univ., Northwest Univ.*

8:00 LL4 **504.09** Rescue of sex-specific phenotypic outcomes of exposure to early-life stress using pharmacological interventions. S. M. KELLER*; T. S. DOHERTY; A. NOWAK; T. L. ROTH. *Univ. of Delaware.*

9:00 LL5 **504.10** An investigation into pharmacological prevention of epigenetic traces left by early-life stress. T. S. DOHERTY*; J. R. CHAJES; T. L. ROTH. *Univ. of Delaware.*

10:00 LL6 **504.11** Effects of adverse maternal care on the development of hypothalamic-pituitary-adrenal axis function in nonhuman primates. S. N. BRAMLETT*; E. L. MORIN; D. B. GUZMAN; B. R. HOWELL; J. S. MEYER; M. SANCHEZ. *Emory Univ., Yerkes Natl. Primate Res. Ctr., Inst. of Child Develop., Univ. of Massachusetts.*

11:00 LL7 **504.12** Biochemical and behavioral effects of environmental enrichment on strain-dependent vulnerability to anxiety and depression in the chick separation stress paradigm. M. K. JOURDAN*; S. M. ANCHOR; S. W. WHITE; P. K. SHARMA; S. MURTHY; K. J. SUFKA. *Univ. of Mississippi, Univ. of Mississippi Pharm. Sch.*

8:00 LL8 **504.13** Limited bedding conditions during a first lactation episode induces morphological plasticity in the prefrontal cortex and increases attentional flexibility in early lactating multiparous female rats. C. WALKER*; E. A. OPALA; S. VERLEZZA; H. LONG; D. RUSU; B. WOODSIDE, H4A 2Z7. *McGill Univ., Douglas Mental Hlth. Univ. Inst., McGill Univ., Concordia Univ.*

9:00 LL9 **504.14** Effects of maternal separation on the serotonin system in the dorsal raphe nucleus of Tph2 deficient mice. M. W. LIEB; M. ARNOLD; K. T. NGUYEN; K. S. SCHNABEL; M. WEIDNER; J. WAIDER; C. A. LOWRY*; K. LESCH. *Univ. of Colorado, Univ. of Colorado Boulder, Univ. of Wuerzburg, Germany, Univ. of Wuerzburg, Germany, Univ. of Colorado Boulder.*

10:00 LL10 **504.15** Effects of delaying parturition on patterns of cell death in the perinatal mouse brain. A. CASTILLO-RUIZ*; M. MOSLEY; N. G. FORGER. *Georgia State Univ.*

11:00 LL11 **504.16** Neural activation triggered by birth in the neonatal mouse brain. Y. C. DAVILA-VAZQUEZ*; A. CASTILLO-RUIZ; C. CHEVER; N. G. FORGER. *Georgia State Univ., Eddie White Acad.*

8:00 LL12 **504.17** Transgenerational effects of parental dim light at night on offspring immunity and behavior. Y. M. CISSE*; K. L. RUSSART; R. J. NELSON. *The Ohio State Univ. Wexner Med. Ctr., The Ohio State Univ. Wexner Med. Ctr.*

9:00 LL13 **504.18** Early life stress reduces neuropathic pain in adulthood - is alteration of spinal microglial reactivity critically involved? J. GENTY; M. TETSI NOMIGNI; P. J. HEUSCHLING*; F. ANTON; U. HANESCH. *Univ. of Luxembourg, Univ. Luxenbourg.*

10:00 LL14 **504.19** The excitation-inhibition balance in prefrontal cortex neurons during development after early life stress: Influence of the mineralocorticoid receptor. H. KARST*; R. A. SARABDJITSINGH; M. JOELS. *Univ. Med. Ctr. Utrecht, Univ. Med. Ctr. Groningen.*



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* Indicates abstract's submitting author

11:00 LL15 **504.20** Unable to Attend Shaping genetic resilience to early life stress: Sex-specific modulation of mineralocorticoid receptor function on neuroendocrine stress reactivity and behavior in mice. R. A. SARABDJITSINGH*; R. A. SARABDJITSINGH*; V. BONAPERSONA; H. MEEUSEN; R. DAMSTEEGT; K. SPARNAAIJ; R. DE KLOET; M. JOËLS. *Brain Ctr. Rudolf Magnus, UMC Utrecht, Div. Endocrinology, Leiden Univ. Med. Ctr., Univ. of Groningen, Univ. Med. Ctr. Groningen.*

8:00 LL16 **504.21** Early life adversity and precocial maturation: Sex-specific changes in basolateral amygdala-derived innervation of the prefrontal cortex. J. A. HONEYCUTT*; C. DEMAESTRI; S. PETERZELL; H. C. BRENHOUSE. *Northeastern Univ.*

9:00 LL17 **504.22** ▲ Early Life Stress induces changes in neurometabolic profile in the Hippocampus, mPFC, and Amygdala. T. O. OBISESAN*, JR; M. C. GONDRE-LEWIS; P. WANG; S. LIN. *Howard Univ., Howard Univ., Howard Univ., Howard Univ.*

10:00 LL18 **504.23** The effects of early-life stress and histone deacetylase inhibition on maternal behavior in mice. O. V. BURENKOVA*; E. A. ALEKSANDROVA; I. Y. ZARAYSKAYA. *P.K. Anokhin Res. Inst. of Normal Physiol.*

11:00 LL19 **504.24** Early life stress in rats alters cerebellar endocannabinoid dynamics and recognition memory. A. B. MOUSSA-TOOKS*; K. MACKIE; L. A. BARTOLOMEO; H. BRADSHAW; E. LEISHMAN; B. F. O'DONNELL; W. P. HETRICK. *Indiana Univ. Bloomington, Linda and Jack Gill Ctr. for Biomolecular Sci., Larue D. Carter Mem. Hosp., Indiana Univ. Sch. of Med.*

8:00 LL20 **504.25** Resting-state functional connectivity of the basolateral amygdala is altered in preweaning rats subjected to chronic early life stress. A. GUADAGNO*; M. S. KANG; A. P. MATHIEU; E. GUMA; G. A. DEVENYI; P. ROSA-NETO; M. CHAKRAVARTY; C. WALKER. *Douglas Mental Hlth. Univ. Inst., McGill Univ., McGill Univ. Res. Ctr. for Studies in Aging, Douglas Mental Hlth. Univ. Inst., Douglas Mental Hlth. Univ. Inst.*

9:00 LL21 **504.26** Sex differences in early postnatal ultrasonic vocalizations and adult hippocampal microglial morphology in California mice (Peromyscus californicus) exposed to paternal deprivation. F. N. MADISON*; A. R. WHITAKER; S. KHANTSIS; E. R. GLASPER. *Univ. of Maryland.*

10:00 LL22 **504.27** ▲ Modification of the ghrelin system by early life stress and environmental enrichment. A. S. PILLAI*; G. A. LODOZA; J. A. SIERRA FONSECA; A. M. RASTEGARI; J. N. HAMDAN; S. SAUCEDO; K. L. GOSSELINK. *UTEP, UTEP, Univ. of Texas At El Paso, Univ. of Texas At El Paso, Univ. of Texas at El Paso.*

11:00 LL23 **504.28** Vulnerability to addiction is increased by early life stress: Dopaminergic effects and synaptic plasticity. J. N. HAMDAN*; S. SAUCEDO, Jr.; G. A. LODOZA; J. A. SIERRA FONSECA; L. E. O'DELL; K. L. GOSSELINK. *Univ. of Texas At El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso, Univ. of Texas At El Paso.*

8:00 LL24 **504.29** The proinflammatory cytokine TNFa alters neural network activity by injuring GABAergic interneurons. E. TRIPLET*; R. LAFRANCE-COREY; K. MIRCHIA; H. WANG; G. WORRELL; C. HOWE. *Mayo Clin.*

**POSTER**

**505. Early-Life Stress: Molecular Mechanisms**

***Theme F: Integrative Physiology and Behavior***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 LL25 **505.01** Pubertal stress programs a long-term, sex-specific disruption of the HPA axis. K. E. MORRISON*; T. L. BALE. *Univ. of Pennsylvania.*

9:00 LL26 **505.02** Mechanisms of paternal stress programming of neurodevelopment via dad's epididymis. J. CHAN*; N. V. BHANU; B. A. GARCIA; T. L. BALE. *Univ. of Pennsylvania.*

10:00 LL27 **505.03** ▲ Placental H3K27me3 promotes female resilience to prenatal insults. C. M. O'DONNELL*; B. M. NUGENT; T. L. BALE. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

11:00 LL28 **505.04** Circulating extracellular vesicles are novel mediators of sex differences in neurodevelopment. B. M. NUGENT*; J. M. FLUHARTY; T. L. BALE. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

8:00 LL29 **505.05** The maternal microbiome plays a causal role in programming offspring gut-brain development. E. JAŠAREVIC*; C. HOWARD; K. E. MORRISON; A. MISIC; T. WEINKOPFF; P. SCOTT; C. HUNTER; D. BEITING; T. L. BALE. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

9:00 LL30 **505.06** Adolescent stress alters fear conditioning and glucocorticoid receptor expression in basolateral amygdala. R. A. SKIPPER*; C. L. WELLMAN. *Indiana Univ. Bloomington Dept. of Psychological and Brain Sci.*

10:00 LL31 **505.07** Impaired proteostasis in rat hippocampus and cortex in response to early life stress. J. A. SIERRA FONSECA*; J. N. HAMDAN; G. A. LODOZA; S. SAUCEDO, Jr.; K. L. GOSSELINK. *Univ. of Texas At El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso.*

11:00 LL32 **505.08** Up-regulation of GLT-1, a glutamate transporter, expressed within glutamatergic axon terminals & on the plasma membrane of astrocytic processes abutting excitatory synapses in the hippocampus contributes to resilience of adolescent female C57BL6/J mice to food restriction-evoked hyperactivity in an animal model of anorexia nervosa relapse. C. J. AOKI*; A. D. SHERPA; O. BILASH; A. A. NAIK. *New York Univ.*

8:00 LL33 **505.09** Distinct populations of calbindin neurons modulate susceptibility and resilience to the effects of early-life stress. X. WANG*; J. LI; X. XIE; J. YU; T. SI. *Inst. of Neuroscience, Zhejiang Univ., Inst. of Mental Health, Peking Univ.*

9:00 MM1 **505.10** Early-life stress causes a heightened state of trigeminal nociception and gut dysbiosis: Evidence of risk factor for development of chronic orofacial pain conditions. L. CORNELISON*; O. PETERSON; J. L. HAWKINS; P. L. DURHAM. *Missouri State Univ., Missouri State Univ., Missouri State Univ.*

10:00 MM2 **505.11** Binge-like alcohol produces long-lasting epigenetic marks on the proopiomelanocortin gene and the stress axis only during the prenatal to prepubertal period but not after puberty. O. GANGISETTY; S. MURUGAN; M. CABRERA; L. CHASTAIN; D. K. SARKAR*. *Rutgers Univ., Rutgers, SUNJ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 MM3 **505.12** The impact of a vasopressin model of preeclampsia on neurodevelopment and neuroimmune outcomes in mouse offpsring. S. B. GUMUSOGLU*; A. CHILUKURI; S. HAIDER; S. SCROGGINS; J. SANDGREN; M. SANTILLAN; D. SANTILLAN; J. GROBE; H. E. STEVENS. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa, Univ. of Iowa.*

8:00 MM4 **505.13** Effects of early life stress and chronic fluoxetine administration on the expression of endogenous opioid genes in c57BL/6J mice. B. D. SACHS*; A. BUNCHER; K. DODSON. *Villanova Univ., Villanova Univ.*

9:00 MM5 **505.14** Isolation of a potential antipsychotic compound from a Peruvian traditional medicine plant. L. F. TUME*; C. GALLO; G. POLETTI; R. ROJAS; M. HURTADO; A. J. VAISBERG. *Univ. Peruana Cayetano Heredia, Univ. Peruana Cayetano Heredia, Univ. Peruana Cayetano Heredia, Univ. Peruana Cayetano Heredi.*

10:00 MM6 **505.15** ▲ Effect of embryonic stress on zebrafish GnRH neurons. G. N. MCHUGH*; S. RAMAKRISHNAN. *Univ. Of Puget Sound.*

11:00 MM7 **505.16** Early life stress predicts behavioral problem symptoms, cortisol rhythms, and epigenetic profiles in childhood. C. LEWIS*; R. S. STYLES; I. PIRAS; L. D. DOANE; M. J. HUENTELMAN; K. LEMERY-CHALFANT. *Arizona State Univ., Translational Genomics Res. Inst.*

**POSTER**

**506. Cardiovascular Regulation I**

***Theme F: Integrative Physiology and Behavior***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 MM8 **506.01** Vagus nerve stimulation directly activates limited myelinated afferents but indirectly increases unsynchronized activity in unmyelinated second and higher order sensory neurons in rat nucleus of the solitary tract. E. BEAUMONT*; R. P. CAMPBELL; M. C. ANDRESEN. *ETSU, Oregon Hlth. & Sci. Univ.*

9:00 MM9 **506.02** A method for the measurement of autonomic control: Quantitative analysis of the properties of cardiovascular dynamics using the scaling exponent computed by mDFA. T. YAZAWA*. *Tokyo Metropolitan Univ.*

10:00 MM10 **506.03** Development of NO-ergic synaptic transmission in sympathetic ganglia. P. M. MASLIUKOV*; K. MOISEEV. *Yaroslavl State Med. Univ.*

11:00 MM11 **506.04** ▲ Y1 and Y5 receptor localization and function in the guinea pig cardiac plexus. J. C. HARDWICK*; F. M. TIERNEY; S. E. ALLEN; A. M. GINSBURG. *Ithaca Col., Ithaca Col.*

8:00 MM12 **506.05** Brainstem circuitry supporting auricular vagus nerve stimulation effects on cardiovagal outflow in rats. I. AY*; C. S. HUBBARD; V. NAPADOW; R. SCLOCCO; R. BARBIERI; R. G. GARCIA. *Mass Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen. Hospital, Harvard Med. Sc, Massachusetts Gen Hosp, Martinos Ctr. For Biomed. Imaging.*

9:00 MM13 **506.06** Breathing and the amygdala: Potential implications for SUDEP. W. P. NOBIS; C. ZELANO*; J. TEMPLER; G. LANE; G. ZHOU; S. SCHUELE; C. ZELANO*. *Northwestern Univ., Northwestern Univ.*

10:00 MM14 **506.07** Direct projections from orexin neurons to pre-sympathetic neurons in the paraventricular nucleus of the hypothalamus. O. DERGACHEVA*; D. MENDELOWITZ. *GW Univ.*

11:00 MM15 **506.08** ● Establishing meadow voles as a model system for studying cardiac function and social behavior. J. D. CHRISTENSEN*; A. K. BEERY. *Univ. of Massachusetts, Smith Col.*

8:00 MM16 **506.09** Role of muscarinic acetylcholine receptor 2 in anti-myocardial ischemia effect by acupuncture. S. CHEN*; C. DUANMU; J. WANG; L. QIAO; J. LIU; J. ZHANG. *Inst. of Acupuncture and Moxibustion, CACMS.*

9:00 MM17 **506.10** Exercise training normalizes excitability of presympathetic neurons by increasing GABAergic transmission in heart failure rats. Y. SHEN; S. LEE; S. HAN; P. RYU*. *Seoul Natl. Univ., Chonbuk Natl. Univ.*

10:00 MM18 **506.11** Effect of sodium hydrosulfide on tachycardic responses induced by stimulation of the preganglionic sympathetic outflow in pithed rat. S. HUERTA*; S. V. CASTILLO-SANTIAGO; M. E. CHACON-BECERRIL; J. A. TORRES-PÉREZ; A. SÁNCHEZ-LÓPEZ; D. CENTURION. *Cinvestav-Sede Sur.*

11:00 MM19 **506.12** The role of periaqueductal gray (PAG) lesions on pain processing and cardiovascular regulation. S. NAIR*; P. BROWNING; E. A. MURRAY; B. B. AVERBECK. *Natl. Inst. of Mental Hlth.*

8:00 MM20 **506.13** Moderate intensity exercise improves heart rate variability in obese adults with type 2 diabetes. R. K. GOIT*. *Nepalgunj Med. Col.*

9:00 MM21 **506.14** Inhibition of catalase reduces arterial pressure and renal sympathetic nerve activity in hypertensive rats. M. R. LAUAR*; L. T. TOTOLA; T. S. MOREIRA; 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, Univ. of Sao Paulo, USP.*

10:00 MM22 **506.15** The development of cardiovascular dysfunction in a rat spinal cord crush model and responses to pharmacological interventions of serotonin and dopamine receptors. C. TRUEBLOOD*; I. IREDIA; V. J. TOM; S. HOU. *Drexel Univ. Col. of Med.*

11:00 NN1 **506.16** Monosynaptic excitatory projection from PVN oxytocin neurons to the LC. X. WANG*; D. S. MENDELOWITZ. *George Washington Univ., George Washington Univ.*

8:00 NN2 **506.17** Analysis of the vasopressor responses induced by sympathetic stimulation or several adrenergic agonists in pithed rats treated with high-fat diet. A. SACHEZ-LOPEZ*; M. E. BECERRIL-CHACON; E. J. GUTIÉRREZ-LARA; D. CENTURIÓN. *Cinvestav-Coapa.*

9:00 NN3 **506.18** ▲ Alpha and beta adrenergic receptors increase the serotonin-induced vascular smooth muscle contraction through $Ca^{2+}$ regulation. D. M. MEJÍA*; P. SEGURA MEDINA; V. CARBAJAL SALINAS; M. VARGAS BECERRA; E. TORREJÓN GONZÁLEZ; P. CAMPOS BEDOLLA. *Inst. Mexicano del Seguro Social, Inst. Nacional de Enfermedades Respiratorias.*

10:00 NN4 **506.19** Co-inhibition of neurons in the rostral ventrolateral medulla by GABA and Glycine. H. GAO; A. DERBENEV*. *Tulane Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 NN5 **506.20** Analysis of the vasodepressor responses induced by NaHS, sodium nitroprusside and acetylcholine in rats treated with high fat diet. C. B. GOMEZ*; M. BECERRIL-CHACÓN; E. GUTIÉRREZ-LARA; A. SÁNCHEZ-LÓPEZ; D. CENTURION. *CINVESTAV, CINVESTAV.*

8:00 NN6 **506.21** A cholinergic network for coordinating locomotor and sympathetic activities. J. CAZALETS*; M. SOURIOUX; S. S. BERTRAND. *Univ. de Bordeaux, INCIA CNRS UMR5287.*

9:00 NN7 **506.22** ▲ Effect of chronic administration of estradiol on the vasopressor responses induced by the sympathetic nervous system in rats with fructose induced insulin resistance. E. J. GUTIÉRREZ*; A. SÁNCHEZ-LÓPEZ; M. E. BECERRIL-CHACÓN; M. B. RAMÍREZ-ROSAS; D. CENTURIÓN. *CINVESTAV, Univ. Autónoma de Tamaulipas.*

10:00 NN8 **506.23** Activation of hypothalamic oxytocin neurons restores oxytocin release to parasympathetic cardiac vagal neurons of the brainstem in left ventricular hypertrophy induced heart failure. J. DYAVANAPALLI*; D. MENDELOWITZ. *George Washington Univ. Dept. of Pharmac, George Washington Univ.*

**POSTER**

**507. Cardiovascular Regulation II**

***Theme F: Integrative Physiology and Behavior***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 NN9 **507.01** Novel brain microrna therapy treats hypertension. J. GORKY; D. DECICCO; R. VADIGEPALLI; J. S. SCHWABER*. *Daniel Baugh Inst.*

9:00 NN10 **507.02** Association of depressive symptoms with regional brain tissue integrity in heart failure. B. ROY*; M. WOO; G. FONAROW; R. KUMAR. *Univ. of California at Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles.*

10:00 NN11 **507.03** The brain renin angiotensin system (RAS) is upregulated in sympathetic control regions in a female rodent model of anorexia nervosa. A. ARLINDO DE SOUZA*; G. S. CAMPOS; L. G. B. SANTOS; A. PAI; A. LINARES; R. C. SPETH; H. JI; D. A. CHIANCA, Jr; R. C. A. MENEZES; K. SANDBERG. *Univ. Federal De Ouro Preto, Georgetown Univ., Georgetown Univ., Nova Southeastern Univ., Nova Southeastern Univ., Georgetown Univ.*

11:00 NN12 **507.04** Carotid chemo-and baro-receptor in the ovariectomized and estrogen treated female. J. CIRIELLO*; M. MAXIMOS; C. V. R. DE OLIVEIRA. *Univ. Western Ontario, Univ. Western Ontario, Univ. Western Ontario.*

8:00 NN13 **507.05** Behavioral and pharmacological interactions on heart rate and performance on the rotarod endurance and coordination test. A. L. ZMAROWSKI*; S. REED; B. VISNICK; M. A. HAWK; R. LORDO; T. VINCI. *Battelle, Battelle.*

9:00 NN14 **507.06** Brain $AT_1$ angiotensin receptor binding and hippocampal gene methylation in Dahl salt-sensitive hypertensive rats as a function of ovariectomy. R. C. SPETH*; H. W. PANG, 33328; A. LINARES; N. ROSE, 33328; D. PATEL; A. V. PAI; A. A. DE SOUZA; E. J. POLLNER; C. A. WEST; M. S. TRIVEDI; H. JI; K. SANDBERG. *Nova Southeastern Univ., Georgetown Univ., Nova Southeastern Univ., Georgetown Univ.*

10:00 NN15 **507.07** ● Decrease in synaptic transmission induced by anoxia in NTS is prevented by short-term sustained hypoxia. D. ACCORSI-MENDONCA*; L. G. H. BONAGAMBA; B. H. MACHADO. *Univ. São Paulo, Sch. Med. Ribeirao Preto, USP.*

11:00 NN16 **507.08** Estrogen receptor beta regulates basal blood pressure and NMDA receptor-mediated signaling in the female mouse hypothalamic paraventricular nucleus and contributes to hypertension associated with accelerated ovarian failure. T. A. MILNER*; G. WANG; T. A. VAN KEMPEN; E. M. WATERS; B. S. MCEWEN; K. S. KORACH; M. J. GLASS. *Weill Cornell Med., The Rockefeller Univ., Natl. Inst. of Envrn. Hlth. Sciences/NIH.*

8:00 NN17 **507.09** Characterization of social behaviours, neurogenic pain and hemodynamic parameters in the model of acute intermittent porphyria. C. A. PENATTI*; R. F. BARROS; I. C. SANCHES; S. C. FREITAS; K. DE ANGELIS. *UNINOVE - Univ. Nove De Julho, Univ. São Judas Tadeu.*

9:00 NN18 **507.10** Brain axonal and myelin changes in patients with single ventricle congenital heart disease. S. SINGH*; B. ROY; N. HALNON; A. LEWIS; M. WOO; N. PIKE; R. KUMAR. *Univ. Of California at Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles, Children's Hosp. Los Angeles.*

10:00 NN19 **507.11** Brain inflammation in streptozotocin-treated diabetic rats contributes to development of cardiovascular complications and is modulated by oral saline intake. O. AL ZAHRANI; E. ALAHMADI; H. HABEEBALLAH; E. BADOER; M. J. STEBBING*. *RMIT Univ., Taibah Univ.*

8:00 DP11/NN20 **507.12** (Dynamic Poster) Post-stimulus persistent activation of the ventrolateral medulla in response to tetanic electrical stimulation of the hypothalamus analyzed by voltage imaging. Y. KONO*; H. ONIMARU; I. FUKUSHI; S. OKAZAKI; S. YOKOTA; K. TAKEDA; Y. HASEBE; K. KOIZUMI; K. SUGITA; Y. OKADA. *Univ. of Yamanashi, Clin. Res. Center, Natl. Hosp. Organization Murayama Med. Ctr., Showa Univ. Sch. of Med., Fac. of Human Sciences, Waseda Univ., Shimane Univ. Sch. of Med., Fac. of Rehabilitation, Sch. of Hlth. Sciences, Fujita Hlth. Univ.*

8:00 NN21 **507.13** RVLM C1 neuron ablation normalizes cardiorespiratory control in heart failure. R. DEL RIO*; D. C. ANDRADE; C. TOLEDO; H. S. DIAZ. *Univ. Autónoma De Chile.*

9:00 NN22 **507.14** Thyroid hormones set the beat: Thyroid hormone receptors control the development of hypothalamic parvalbuminergic neurons in charge of cardiovascular function in male mice. L. HARDER*; S. DUDAZY-GRALLA; H. MÜLLER-FIELITZ; J. HJERLING LEFFLER; B. VENNSTRÖM; H. HEUER; J. MITTAG. *Univ. of Luebeck, CBBM, Karolinska Institutet, Univ. of Luebeck, CBBM, Karolinska Institutet, IUF – Leibniz Res. Inst. for Envrn. Med.*

**POSTER**

**508. Gastrointestinal, Renal, Urinary, and Reproductive Regulation I**

***Theme F: Integrative Physiology and Behavior***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 NN23 **508.01** EFFECTS of cisplatin on the gut - brain -axis of the least shrew (Cryptotis Parva): Immunohistochemical studies using orexin R-1 receptor and serotonin. M. S. AL-TIKRITI*. *Western Univ. of Hlth. Sci.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 NN24 **508.02** Multiparity impairs the electrical activity of the pelvic floor nerves in rabbits. K. LÓPEZ-GARCÍA*; S. MORENO-PÉREZ; R. LÓPEZ-JUÁREZ; R. ZEMPOALTECA; D. CORONA-QUINTANILLA; M. ROMERO-ORTEGA; F. CASTELAN; M. MARTÍNEZ-GÓMEZ. *Inst. De Investigaciones Biomedicas, UNAM, Univ. Autónoma de Tlaxcala, Univ. Autónoma de Tlaxcala, Univ. Autónoma de Tlaxcala, Univ. of Texas at Dallas.*

10:00 NN25 **508.03** Mechanisms for communication between the gut and brain. D. C. PETERSON*; M. LYTE. *High Point Univ., Iowa State Univ.*

11:00 NN26 **508.04** External urethral sphincter and voiding function in unanesthetized decerebrate rats. J. S. CARP*; T. F. FULTON. *Natl. Ctr. For Adaptive Neurotechnologies.*

8:00 NN27 **508.05** Suppression of bladder activity following saphenous nerve stimulation in a continuous urodynamic model: A pre-clinical study. Z. MOAZZAM*; P. B. YOO. *Univ. of Toronto.*

9:00 NN28 **508.06** Mechanism of mechanosensitivity in primary intestinal enterochromaffin cells. C. ALCAINO; K. KNUTSON; G. YILDIZ; H. J. LI; A. B. LEITER; G. FARRUGIA; A. BEYDER*. *Mayo Clin., Univ. of Massachusetts Med. Sch.*

10:00 NN29 **508.07** Direct mechanism of autonomic influence on intestinal epithelial stem cell proliferation. E. A. DAVIS*; W. ZHOU; M. E. FELDNER; M. J. DAILEY. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*

11:00 NN30 **508.08** Effects of hypogastric nerve transection on the bladder-inhibitory reflex evoked by saphenous nerve stimulation in anesthetized rats. K. S. FRANZ*; P. B. YOO. *Univ. of Toronto, Univ. of Toronto.*

8:00 NN31 **508.09** Changes in bladder capacity and voiding efficiency estimated during continuous-fill cystometry in anesthetized rats that are provided with tibial nerve stimulation. J. P. PAQUETTE*; P. B. YOO. *Univ. of Toronto, Univ. of Toronto.*

**POSTER**

**509. Gastrointestinal, Renal, Urinary, and Reproductive Regulation II**

***Theme F: Integrative Physiology and Behavior***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 NN32 **509.01** Real-time estimation of bladder pressure through dorsal root ganglia recordings in an overactive bladder model. A. OUYANG*; T. M. BRUNS. *Univ. of Michigan.*

9:00 NN33 **509.02** Evaluating neurogenic oscillations in vaginal blood perfusion as a genital sexual arousal response to peripheral nerve stimulation in anesthetized female rats. L. L. ZIMMERMAN*; I. C. RICE; M. B. BERGER; T. M. BRUNS. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan Hlth. Syst.*

10:00 OO1 **509.03** Detecting bladder afferent activity from the surface of sacral dorsal root ganglia with a non-penetrating thin-film electrode array. Z. J. SPERRY*; K. NA; S. S. PARIZI; H. J. HILOW; J. P. SEYMOUR; E. YOON; T. M. BRUNS. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

11:00 OO2 **509.04** Kilohertz frequency electrical stimulation on renal nerves increases urine glucose excretion. A. A. JIMAN*; A. G. LEWIS; K. H. CHHABRA; P. S. CEDERNA; R. J. SEELEY; M. J. LOW; T. M. BRUNS. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

8:00 OO3 **509.05** ● Optogenetic manipulation of bladder function. A. D. MICKLE*; P. SRIVASTAVA; V. K. SAMINENI; H. LAI; R. W. GEREAU, IV. *Washington Univ., Washington Univ., Washington Univ., Washington Univ. Sch. Med.*

9:00 OO4 **509.06** Determining integrity of bladder innervation and smooth muscle function after long-term lower spinal cord injury. D. M. SALVADEO*; M. F. BARBE; N. FRARA; E. TIWARI; A. S. BRAVERMAN; M. MAZZEI; A. ROBERTS; M. R. RUGGIERI, Sr. *Lewis Katz Sch. of Med., Temple University, Col. of Enginnering, Lewis Katz Sch. of Med.*

10:00 OO5 **509.07** Monitor selective nerve activity during bladder filling in canines. E. TIWARI, 19140; M. A. LEMAY; D. M. SALVADEO; I. OBEID; Z. J. DELALIC; A. S. BRAVERMAN; G. M. BOVE*; M. F. BARBE; M. R. RUGGIERI, Sr. *Temple Univ., Temple Univ., Temple Univ. Sch. of Med., Univ. of New England.*

11:00 OO6 **509.08** ● State-dependent stimulation of the pudendal nerve increases bladder capacity and voiding efficiency. J. A. HOKANSON*; C. L. LANGDALE; A. SRIDHAR; P. H. MILLIKEN; W. M. GRILL. *Duke Univ., Galvani Bioelectronics, Duke Univ., Duke Univ., Duke Univ.*

8:00 OO7 **509.09** ● Voiding behavior in awake unrestrained untethered spontaneously hypertensive and control rats. C. L. LANGDALE*; J. HOKANSON; P. MILLIKEN; W. GRILL. *Duke Univ., Glaxosmithkline, Duke Univ., Duke Univ., Duke Univ.*

9:00 OO8 **509.10** Nerve stimulation increases voiding efficiency in a novel model of detrusor underactivity. E. J. GONZALEZ*; W. M. GRILL. *Duke Univ.*

10:00 OO9 **509.11** Localization of neuromuscular nicotinic receptors in the functionally reinnervated canine bladder after prolonged decentralization. N. F. FRARA, 19140-5104; A. S. BRAVERMAN; D. M. SALVADEO; E. TIWARI; A. ROBERTS; M. F. BARBE; M. R. RUGGIERI*, SR. *Lewis Katz Sch. of Med. at Temple Univ., Temple Univ., Temple Univ. Sch. of Med., Lewis Katz Sch. of Med. at Temple Univ.*

11:00 OO10 **509.12** Spinal dopamine receptors continue regulating the recovered urinary function in rats following complete spinal cord transection. S. HOU*; H. SHARIF; S. L. DAUGHERTY; J. H. DEFINIS; W. C. DE GROAT. *Drexel Univ. Col. of Med., Univ. of Pittsburg.*

8:00 OO11 **509.13** Systemic blockade of proNGF/p75 signaling improves urinary bladder function in mice with complete spinal cord injury (SCI). M. A. VIZZARD*; K. TOOKE; S. MALLEY; N. GANESH; F. FARHADI; J. C. RYU; S. O. YOON. *Larner Col. of Med. at UVM, The Ohio State Univ.*

9:00 OO12 **509.14** Regulation and expression of CXCL chemokines in mouse urinary bladder with inflammation. B. M. GIRARD*; M. GUO; S. MALLEY; M. A. VIZZARD. *Univ. of Vermont Dept. of Neurolog. Sci.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 OO13 **509.15** ▲ Ventral root avulsion, Effect on micturition and perineal muscles in female rabbit. L. ESPINOZA-ALVAREZ; N. RODRÍGUEZ; R. LÓPEZ-JUÁREZ; R. ZEMPOALTECA; F. CSTELÁN; X. NAVARRO; M. MARTÍNEZ-GÓMEZ; D. L. CORONA QUINTANILLA*. *Univ. Autónoma de, Univ. Autónoma de, Univ. Autónoma de, Inst. de Investigaciones Biomédicas, Univ. Autónoma de Barcelona, Univ. Nacional Autónoma de México, Univ. Autónoma de.*

11:00 OO14 **509.16** Propriospinal neurons coordinating activity of external urethral sphincter. S. V. KARNUP*; W. C. DE GROAT. *Univ. of Pittsburgh.*

8:00 OO15 **509.17** ● Increasing bladder capacity in a fully-conscious, large animal model: Sacral nerve stimulation targeted to late stages of bladder fill-cycle has efficacy similar to continuous stimulation. L. ZIRPEL*; T. S. BRINK. *Medtronic Inc.*

9:00 OO16 **509.18** Interneurons and propriospinal neurons presynaptic to motoneurons of the external urethral sphincter in rat. S. V. KARNUP; K. KIM; W. C. DE GROAT*. *Univ. Pittsburgh Med. Sch.*

10:00 OO17 **509.19** ● Multiple cortical areas influence the neural regulation of the rat colon. D. J. LEVINTHAL*. *Univ. of Pittsburgh.*

11:00 OO18 **509.20** Activation of voltage-gated calcium channels in urinary bladder epithelial cells alters reflex bladder activity. J. M. BECKEL*; S. ALTUNAL; K. A. ROSZKOWSKI; B. Y. TANDOC; C. VENKATRAM; W. C. DE GROAT. *Univ. of Pittsburgh.*

8:00 OO19 **509.21** Modulation of urothelial pannexin channels by intracellular calcium. L. A. BIRDER*; A. M. SILBERFELD; W. C. DE GROAT; J. M. BECKEL. *Univ. of Pittsburgh Sch. of Med., Univ. of Pittsburgh.*

9:00 OO20 **509.22** Liver-related neurons in the paraventricular nucleus of the hypothalamus are more active in db/db mice. A. ZSOMBOK*; H. GAO; A. J. R. MOLINAS; K. MIYATA; X. QIAO. *Tulane Univ.*

10:00 OO21 **509.23** Effect of electroacupuncture at ST36 and CV12 on visceral sensory in gastric nociceptive stimulus. X. WANG*; W. HE; H. SHI; Y. SU; L. HU; X. JING. *Inst. of Acupuncture and Moxibustion, CACMS.*

11:00 OO22 **509.24** Brain-gut axis: Early-life stress promotes alterations in intestinal permeability and hippocampal 5 HT1A mRNA expression in juvenile rats. J. A. BRAVO*; C. ASTUDILLO-GUERRERO; J. ESCOBAR-LUNA; G. ROSSI-VARGAS; C. BARRERA-BUGUEÑO; M. GOTTELAND; M. JULIO-PIEPER. *Pontificia Univ. Catolica de Valparaiso, Univ. de Chile.*

8:00 OO23 **509.25** State dependent lower urinary tract reflexes. Z. C. DANZIGER*; W. M. GRILL. *Florida Intl. Univ., Duke Univ.*

9:00 OO24 **509.26** Effects of water avoidance stress on peripheral and central responses during bladder filling in the rat: A multidisciplinary approach to the study of urologic chronic pelvic pain (MAPP) research network study. Z. WANG*; H. H. CHANG; Y. GAO; R. ZHANG; Y. GUO; L. V. RODRIGUEZ; D. P. HOLSCHNEIDER. *Univ. of Southern California, Univ. of Southern California.*

10:00 OO25 **509.27** Hypothalamic PVN neurons rapidly modify circulating insulin levels. I. PAPAZOGLOU*; Z. CUI; J. LEE; S. G. RANE. *NIDDK.*

11:00 OO26 **509.28** ● Comparison of bladder inhibitory effects of patterned spinal nerve stimulation with conventional neuromodulation in the rat. X. SU*; H. A. SIMENSON; K. J. PARALIKAR; H. D. ORSER. *Medtronic.*

8:00 OO27 **509.29** Effect on pelvic floor muscles activity, simulating changes during multiparity. R. LOPEZ JUAREZ*; R. ZEMPOALTECA; D. CORONA; F. CASTELAN; M. MARTINEZ-GOMEZ. *Univ. Autonoma De Tlaxcala, Univ. Nacional Autónoma México, México-DF, UNAM.*

**POSTER**

**510. Control of Feeding and Satiety**

***Theme F: Integrative Physiology and Behavior***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 OO28 **510.01** NPY/PYY receptor activation in the dorsal vagal complex increases food intake and attenuates satiation. R. C. RITTER*; N. HUSTON; L. BRENNER. *Washington State Univ.*

9:00 OO29 **510.02** Anorexigenic effect of alpha-melanocyte stimulating hormone in nucleus accumbens is mediated by frontal cortex throtropin-releasing hormone and dopamine pathways in rats. E. ALVAREZ*; F. GAMA; P. DE GORTARI. *Inst. Nacional De Psiquiatria, Inst. Nacional de Psiquiatria, Escuela de Dietetica y Nutricion del ISSSTE.*

10:00 OO30 **510.03** Neuropeptide Y modulates discrete elements of prey capture via receptors in the optic tectum. J. A. CARR*; R. ISLAM; B. N. HARRIS. *Texas Tech. Univ., Texas Tech. Univ.*

11:00 OO31 **510.04** Requirement of MRAP2 for ghrelin-mediated hunger sensing. T. YIN*; D. SRISAI; A. LEE; A. ROUAULT; J. A. SEBAG. *Univ. of Iowa, Univ. of Iowa / F.O.E.D.R.C., Univ. of Iowa.*

8:00 OO32 **510.05** The effect of methadone in the consumption of a high carbohydrate diet at weaning and its repercussion on the intake of hypercaloric diet in adult male rats. J. A. MATA-LUÉVANOS*; J. JUAREZ. *Inst. De Neurociencias, Univ. De Guadalajara, Univ. Guadalajara.*

9:00 OO33 **510.06** Tryptophan related genes in the gut microbiome are associated with hunger and are modified by long term resistant starch supplementation. A. NEFF*; K. A. NOWAK; K. E. CHAPPELLE; P. R. BURGHARDT. *Wayne State Univ., Wayne State Univ.*

10:00 OO34 **510.07** Post-meal optogenetic inhibition of dorsal or ventral hippocampal glutamatergic neurons promotes meal initiation and increases energy intake. R. C. HANNAPEL*; J. RAMESH; R. T. LALUMIERE; M. B. PARENT. *Georgia State Univ., Univ. of Iowa.*

11:00 OO35 **510.08** Identification of a brainstem circuit controlling energy balance. A. R. NECTOW*; M. SCHNEEBERGER; H. ZHANG; B. FIELD; N. RENIER; M. HAN; J. FRIEDMAN. *Princeton Univ., The Rockefeller Univ., Icahn Sch. of Med. At Mount Sinai, Univ. of Texas Southwestern, The Rockefeller Univ., Icahn Sch. of Med. at Mount Sinai, Rockefeller Univ.*

8:00 OO36 **510.09** Driving satiety through the control of hippocampal hilar mossy cells. E. AZEVEDO*; M. SCHNEEBERGER; S. STERN; J. CHENG; L. POMERANZ; P. GREENGARD; J. FRIEDMAN. *The Rockefeller Univ., The Rockefeller Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 PP1 **510.10** Elucidating metabolic and molecular mechanisms by which intermittent fasting enhances endurance and brain function in mice. K. MOEHL*; K. MAROSI; M. P. MATTSON. *Natl. Inst. On Aging.*

10:00 PP2 **510.11** Transcriptional profiling of lateral hypothalamic cell types following obesity at cellular resolution. M. L. BASIRI*; M. A. ROSSI; G. D. STUBER. *Univ. of North Carolina At Chapel Hill, Univ. of North Carolina At Chapel Hill.*

11:00 PP3 **510.12** Activity of glutamatergic neurons in lateral hypothalamus is suppressed by obesity. M. A. ROSSI*; M. L. BASIRI; J. M. OTIS; H. VAN DEN MUNKHOF; J. A. MCHENRY; O. KOSYK; W. GUO; G. D. STUBER. *Univ. of North Carolina-Chapel Hill.*

8:00 PP4 **510.13** Transiently opening the blood-brain-barrier in the diagonal band of Broca using MR-guided focused ultrasound results in short-term reductions in weight gain. S. MOONEY*; K. HYNYNEN. *Sunnybrook Res. Inst., Univ. of Toronto/ Sunnybrook Res. Inst.*

9:00 PP5 **510.14** Characterization of a novel ghrelin receptor knockout rat. L. J. ZALLAR*; B. J. TUNSTALL; Y. ZHANG; C. T. RICHIE; J. PICKEL; G. F. KOOB; L. F. VENDRUSCOLO; B. K. HARVEY; L. LEGGIO. *NIH, NIAAA, NIH, NIH.*

10:00 PP6 **510.15** Genome-wide expression profiling in single identified interneurons of the feeding circuit as functions of the feeding arousal. E. C. DABE*; C. LEE; R. GILLETTE; L. L. MOROZ. *Univ. of Florida Whitney Lab., Univ. of Illinois Urbana-Champaign, Univ. Illinois, Univ. of Florida.*

11:00 PP7 **510.16** ● CRH-1 and CRH-2 receptors are involved in vasoactive intestinal peptide-induced hypophgia. M. C. GARNICA-SIQUEIRA*; A. B. MARTINS; D. M. ZAIA; C. B. V. ZAIA; E. T. UCHOA. *State Univ. of Londrina, State Univ. of Londrina.*

8:00 PP8 **510.17** Divergent effects of high fat diet on intrinsic and synaptic excitability in AgRP neurons. W. WEI*; C. KACZOROWSKI; K. M. S. O'CONNELL. *The Jackson Lab.*

9:00 PP9 **510.18** ▲ Replacement of a high fat diet for healthier chow: Effects on explorative and anxiety-like behaviors. I. K. MONTEIRO DEPINA*; N. L. ARRUDA; R. R. GELINEAU; A. V. CUSHMAN; M. H. CHASSE; J. A. SEGGIO. *Bridgewater State Univ., Bridgewater State Univ.*

10:00 PP10 **510.19** Activation of CB2 receptors in the nucleus accumbens shell stimulates palatable food ingestion in pre-satiated rats. R. ESCARTIN-PEREZ*; F. CORTÉS-SALAZAR; M. HERNÁNDEZ-GAVIÑO; V. LÓPEZ-ALONSO; A. HERNÁNDEZ-GUTIÉRREZ; J. MANCILLA-DIAZ. *UNAM, FES Iztacala, Inst. Politécnico Nacional.*

11:00 PP11 **510.20** Nucleobindin-2/nesfatin-1 in the hypothalamic paraventricular nucleus is regulated by metabolic factors. D. GANTULGA*; Y. MAEJIMA; M. NAKATA; T. YADA. *Sch. of Pharm. and Biomedicine, Natl. Unive, Jichi Med. Univ.*

8:00 PP12 **510.21** Biogenic amine octopamine attenuates effects of acute starvation and environmental stress in the house cricket (acheta domesticus). G. M. DOWNING*; B. ARRIAGA; K. A. ALEGRETE; C. A. MOFFATT. *San Francisco State Univ.*

9:00 PP13 **510.22** Gastrointestinal vagal afferent signaling promotes hippocampal-dependent memory function in rats. A. N. SUAREZ*; T. M. HSU; G. DE LARTIGUE; S. E. KANOSKI. *USC, Yale Univ.*

10:00 PP14 **510.23** Ghrelin conditions an avoidance in rodents. S. L. DICKSON*; C. COOK; S. M. LUCKMAN; E. SCHELE. *The Sahlgrenska Academy, Univ. of Gothenburg, Univ. of Manchester.*

11:00 PP15 **510.24** Glutamatergic fast-spiking parvalbumin neurons in the lateral hypothalamus regulate feeding. A. KISNER*; J. E. SLOCOMB; S. SARSFIELD; J. F. GUPTA; A. KUMAR; Y. APONTE. *Natl. Inst. on Drug Abuse, NIH, KTH Royal Inst. of Technol., Johns Hopkins Univ. Sch. of Med.*

8:00 PP16 **510.25** Alternate day fasting schedule in rats decreases preference for calorically dense diet by increasing meal size and number of meals of standard chow. M. FRANKOT*; A. CARRILLO; Y. TREESUKOSOL. *California State University, Long Beach.*

9:00 PP17 **510.26** Reward sensitivity deficits in rats following intermittent access to a palatable diet. C. F. MOORE*; V. SABINO; P. COTTONE. *Boston Univ.*

10:00 PP18 **510.27** The function of hypothalamic microRNA in regulating energy homeostasis. H. YOON*; T. WHITE; P. ZHANG; A. KURTI; J. D. FRYER; N. K. LEBRASSEUR; J. KIM. *Mayo Clin. Grad. Sch. of Biomed. Sci., Dept. of Neuroscience, Mayo Clin. Col. of Med., Dept. of Physical Med. and Rehabilitation, Mayo Clin. Col. of Med.*

11:00 PP19 **510.28** A Neuronal circuit for the response to hypoglycemia in the insular cortex. I. DE ARAUJO SALGADO*; N. BENFREDJ; C. M. LAMY. *Univ. of Fribourg.*

**POSTER**

**511. Striatal Circuits in Behavior**

***Theme G: Motivation and Emotion***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 PP20 **511.01** Unraveling the discrete and cooperative game between the prefrontal cortex and striatum in the modulation of working memory capacity in mice. A. IEMOLO*; E. C. LATAGLIATA; A. ARPINO; S. PUGLISI-ALLEGRA; E. DE LEONIBUS. *UCSD Sch. of Med., Inst. of Genet. and Biophysics (IGB), Natl. Res. Council, Fondazione Santa Lucia, IRCCS, 2Telethon Inst. of Genet. and Medicine, Telethon Fndn.*

9:00 PP21 **511.02** Disruption of the ability of cues to direct movements following silencing of striatal cholinergic interneurons. C. AVILA*; A. J. KUCINSKI; M. SARTER. *Univ. of Michigan, Univ. of Michigan Dept. of Psychology.*

10:00 PP22 **511.03** Ventral striatum predicts reward during operant neuroprosthetic learning task. N. VENDRELL LLOPIS*; R. NEELY; R. M. COSTA; J. M. CARMENA. *Univ. of California-Berkeley, Helen Wills Neurosci. Institute, Univ. of California-Berkeley, Univ. of California-Berkeley, Zuckerman Mind Brain Behavior Institute, Columbia Univ., Champalimaud Ctr. for the Unknown.*

11:00 PP23 **511.04** A novel functional role for local striatal inhibitory circuits in goal-directed behavior. E. N. HOLLY*; M. F. DAVATOLHAGH; K. CHOI; M. V. FUCCILLO. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

8:00 PP24 **511.05** Visual function of the putamen tail: Stable choice of valuable objects. O. HIKOSAKA*; J. KUNIMATSU. *Natl. Eye Inst.*

9:00 PP25 **511.06** Visual function of the putamen tail: Flexible switching of object choice. J. KUNIMATSU*; O. HIKOSAKA. *Lab. Sensorimotor Res., Nati. Eye Inst.*



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* Indicates abstract's submitting author

10:00 PP26 **511.07** Post-training intra-dorsolateral striatum infusion of corticosterone enhances consolidation of habit memory. R. RESSLER*; M. G. PACKARD. *Texas A&M.*

11:00 PP27 **511.08** Decreased density of central dopamine type 2 receptors and cognitive impairments in high-sucrose diet-treated rats. D. E. GARCIA-DIAZ*; V. N. HERNANDEZ-SERRATOS; E. M. ACEVES-RODRIGUEZ; E. MARTINEZ-ALONSO; I. ARENAS; H. CASTRO; K. BERMEO. *Univ. Nacional Autónoma de México.*

8:00 PP28 **511.09** Monitoring of corticostriatal synaptic plasticity with an implantable microbiosensor device to understand cognitive performance in neurodegenerative diseases. N. MOORE*; C. A. CORDEIRO; L. KUHL; J. H. A. FOLGERING; T. CREMERS. *Brains On-Line Llc, Brains On-Line.*

9:00 PP29 **511.10** ● Behavioral states determine the effect of dopamine-receptor modulation on oscillatory activity in the rat ventral striatum. P. SCHOENENBERGER*; M. BAINIER; R. LÜTOLF; P. GARCES; O. FAJARDO; J. F. HIPP; R. L. REDONDO. *F.Hoffmann - La Roche Ltd.*

10:00 QQ1 **511.11** Organization of multisynaptic inputs from the basal ganglia and cerebellum to the anterior and posterior cingulate cortical areas in common marmosets: Retrograde transneuronal double labeling with fluorescent rabies viral vectors. S. UEZONO*; S. TANABE; M. FUJIWARA; H. TSUGE; K. NAKAMURA; K. INOUE; M. TAKADA. *Sys Neurosci Sec, Primate Res. Inst, Kyoto Univ., Cogn Neurosci Sec, Primate Res. Inst, Kyoto Univ.*

11:00 QQ2 **511.12** Optogenetic modulation of saccade-controlling circuits in the monkey basal ganglia. H. AMITA*; H. F. KIM; K. INOUE; M. TAKADA; O. HIKOSAKA. *NIH, Sungkyunkwan Univ., Primate Res. Institute, Kyoto Univ., NIDA, NIH.*

8:00 QQ3 **511.13** The cortico-striatal adenosine $a_{2a}$ receptors control spatial working memory in mice and monkeys. Z. LI*; X. CHEN; T. WANG; F. LI; L. CHEN; F. YUE; P. CHAN; J. CHEN. *The Eye Hosp. of Wenzhou Med. Univ., Wincon TheraCells, Biotechnologies Co., LTD, Dept. of Neurobiology, Beijing Inst. of Geriatrics, Dept. of Neurol.*

9:00 QQ4 **511.14** Striosome roles in anxiety and choice behavior. S. L. HAWES*; G. BARBERA; B. LIANG; D. LIN; H. CAI. *NIH, Natl. Inst. on Aging, NIH NIDA IRP, Natl. Inst. Aging.*

10:00 QQ5 **511.15** Chunk learning from complex sequences by mutually supervising recurrent neural networks. T. ASABUKI*; T. FUKAI. *RIKEN Brain Sci. Inst.*

11:00 QQ6 **511.16** Selective loss of dopamine D2 receptors in GABAergic interneurons modifies cerebral cortical architecture and motor behaviors. G. S. LEE*; D. L. GRAHAM; L. R. ANDERSON; T. S. TRAMMELL; M. RUBINSTEIN; G. D. STANWOOD. *Dept. Biomed Sci, Florida State Univ. Col. of Med., Consejo Nacional de Investigaciones Científicas y Técnicas and Univ. de Buenos Aires.*

8:00 QQ7 **511.17** ▲ Dorsolateral striatal modulation of choice learning and flexibility. A. G. LIEBERMAN*; H. C. BERGSTROM; C. GRAYBEAL; A. M. LIPKIN; A. HOLMES. *NIAAA, Vassar Col., Univ. of California San Francisco.*

9:00 QQ8 **511.18** ● Lumateperone (ITI-007) is a postsynaptic D2 receptor antagonist. J. P. HENDRICK*; L. ZHANG. *Intra-Cellular Therapies Inc.*

10:00 QQ9 **511.19** GluA1 AMPA receptor subunit deletion abolishes reinforcement rate learning in mice. J. M. AUSTEN*; R. SPRENGEL; D. J. SANDERSON. *Durham Univ., Max Planck Inst. for Med. Res.*

11:00 QQ10 **511.20** GluA1 AMPA receptor subunit deletion impairs blocking of flavour preference learning. J. A. STRICKLAND*; J. M. AUSTEN; R. SPRENGEL; D. J. SANDERSON. *Durham Univ., Max Planck Inst. for Med. Res.*

8:00 QQ11 **511.21** The GluA1 subunit of the AMPA receptor is necessary for rate-sensitive learning but not learning that is dependent on the number of reinforcements. D. J. SANDERSON*; R. SPRENGEL; J. AUSTEN. *Durham Univ., Max Planck Inst. for Med. Res.*

**POSTER**

**512. Reward: Motivational Mechanisms**

***Theme G: Motivation and Emotion***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 QQ12 **512.01** Encoding of conditioned motivation by midbrain dopamine neurons. B. T. SAUNDERS*; J. M. RICHARD; P. H. JANAK. *Johns Hopkins Univ., Johns Hopkins Univ.*

9:00 QQ13 **512.02** Extended experience does not alter the role of dopamine in the nucleus accumbens core, nor recruit dorsal lateral striatum, to facilitate Pavlovian cue approach. K. M. FRASER*; P. H. JANAK. *Johns Hopkins Univ., Johns Hopkins Sch. of Med.*

10:00 QQ14 **512.03** Lateral hypothalamic GABAergic projections to VTA mediate consummatory responses toward fat-enriched foods. M. F. BARBANO*; D. N. ACS; P. H. JANAK. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*

11:00 QQ15 **512.04** Ventral pallidal encoding of reward seeking depends on the underlying associative structure. J. M. RICHARD*; N. STOUT; D. ACS; P. H. JANAK. *Johns Hopkins Univ., Johns Hopkins Univ.*

8:00 QQ16 **512.05** Nucleus accumbens neural activity reflects reward preference and predicts consumption. D. J. OTTENHEIMER*; J. M. RICHARD; P. H. JANAK. *Johns Hopkins Univ., Johns Hopkins Univ.*

9:00 QQ17 **512.06** Phasic activation of ventral tegmental but not substantia nigra dopamine neurons promotes model-based pavlovian reward learning. R. KEIFLIN*; H. J. PRIBUT; N. B. SHAH; P. H. JANAK. *Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med.*

10:00 QQ18 **512.07** Motivational stake promotes goal-directed behavior. Y. VANDAELE*; H. PROVINCE; A. BERARDI; P. JANAK. *Johns Hopkins Univ., Johns Hopkins Sch. of Med.*

11:00 QQ19 **512.08** Chemogenetic manipulations of prelimbic inputs to the thalamic paraventricular nucleus affect individual differences in response to a reward associated cue. I. RIVERO-COVELO*; P. CAMPUS; B. N. KUHN; S. A. LOPEZ; S. M. FERGUSON; S. B. FLAGEL. *Univ. of Michigan, Univ. of Michigan Dept. of Psychiatry, Mol. and Behavioral Neurosci. Inst., Univ. of Michigan, Seattle Children's Res. Inst., Univ. of Michigan.*



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* Indicates abstract's submitting author

8:00 QQ20 **512.09** The role of cortico-thalamic circuitry in the reinstatement of drug-seeking behavior. B. N. KUHN*; M. S. KLUMPNER; P. CAMPUS; S. B. FLAGEL. *Univ. of Michigan, Univ. of Michigan Dept. of Psychiatry.*

9:00 QQ21 **512.10** The encoding of incentive salience in the ventral pallidum. A. M. AHRENS*; T. E. ROBINSON; J. W. ALDRIDGE. *Univ. of Michigan.*

10:00 QQ22 **512.11** Neural representation of sensory-state value in the stratal striosome compartment. T. YOSHIZAWA*; M. ITO; K. DOYA. *Okinawa Inst. of Sci. and Technol.*

11:00 RR1 **512.12** Nucleus accumbens serotonergic modulation of risky decision-making. A. POSTLE*; L. R. GLOVER; A. HOLMES. *NIAAA/NIH, NIH, NIAAA, NIH/NIAAA.*

8:00 RR2 **512.13** Individual differences in risky decision-making predict nicotine sensitivity and other addiction-relevant behaviors. D. B. GABRIEL*; T. G. FREELS; N. W. SIMON. *The Univ. of Memphis, Univ. of Memphis.*

9:00 RR3 **512.14** The effects of enhanced cannabinergic signaling on risky decision-making in rodents. T. FREELS*; D. B. GABRIEL; N. W. SIMON. *The Univ. of Memphis, Univ. of Memphis.*

10:00 RR4 **512.15** Eyes on the prize: Risk-promoting sensory reward features result in pupil dynamics consistent with a shift in locus coeruleus-mediated control states. M. V. CHERKASOVA*; J. J. S. BARTON; L. CLARK; A. STOESSL; C. A. WINSTANLEY. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Univ. British Columbia.*

11:00 RR5 **512.16** The abused inhalant toluene increases risky decision making in a rodent model of probabilistic discounting. K. M. BRAUNSCHEIDEL*; S. B. FLORESCO; J. J. WOODWARD. *Med. Univ. of South Carolina Dept. of Neurosciences, Univ. British Columbia, Med. Univ. of South Carolina.*

8:00 RR6 **512.17** vmPFC value signal for high calorie snack foods relates to weight gain in first year students. S. NESELILER*; K. LARCHER; Y. ZEIGHAMI; S. SCALA; R. REID; R. ANDERSEN; A. DAGHER. *Montreal Neurolog. Inst., Montreal Neurolog. Inst., McGill Univ., McGill Univ.*

9:00 RR7 **512.18** Intranasal oxytocin increases reward circuitry responses to monetary rewards in children with autism. R. K. GREENE*; C. ALDERMAN; M. SPANOS; E. WALSH; J. BIZZELL; G. D. STUBER; L. SIKICH; G. S. DICHTER. *The Univ. of North Carolina - Chapel Hill, Duke Univ., The Univ. of North Carolina - Chapel Hill, Univ. of North Carolina - Chapel Hill, The Univ. of North Carolina - Chapel Hill.*

10:00 RR8 **512.19** Reward and selection history shape neural representations of an attentional priority in human visual and parietal cortex. S. ITTHIPURIPAT*; V. A. VO; T. C. SPRAGUE; J. SERENCES. *UCSD, New York Univ., UCSD.*

11:00 RR9 **512.20** Using expectancy theory to quantitatively dissociate human neural activation for motivation from that of reward-related factors. A. KOHLI; R. W. LEFCO; C. F. ZINK*. *Lieber Inst. For Brain Develop.*

**POSTER**

**513. Fear and Aversive Learning and Memory: Neural Circuits II**

***Theme G: Motivation and Emotion***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 RR10 **513.01** Central amygdala model integrates intra-amygdalar inputs during fear conditioning. B. LATIMER*; P. SAMARTH; F. FENG; D. PARE; S. S. NAIR. *Univ. of Missouri, Rutgers Univ. Newark.*

9:00 RR11 **513.02** Differential recruitment of competing valence-related amygdala networks during anxiety. S. LEE*; A. AMIR; D. HAUFLER; D. PARE. *Rutgers Univ., Johns Hopkins Univ.*

10:00 RR12 **513.03** The brain mapping of contextual fear memory in rats using manganese enhanced MRI. T. LEE*; J. YANG; M. KIM; M. HAN; Y. CHANG. *Daegu Gyeongbuk Med. Innovation Fndn., Kyungpook Natl. Univ.*

11:00 RR13 **513.04** Human functional, structural, and biochemical neuroimaging of acute post-traumatic stress. N. G. HARNETT*; E. W. FERENCE, III; K. H. WOOD; M. A. REID; M. D. WHEELOCK; A. C. LAHTI; A. J. KNIGHT; D. C. KNIGHT. *Univ. of Alabama At Birmingham, Univ. of Alabama At Birmingham, Auburn Univ., Univ. of Alabama At Birmingham.*

8:00 RR14 **513.05** Neural computations underlying human Pavlovian threat learning. K. E. OJALA*; A. TZOVARA; D. R. BACH. *Psychiatric Univ. Hosp. Zurich, Univ. of Zurich, Univ. Col. London.*

9:00 RR15 **513.06** The neuroimaging of human fear conditioning: Quantitative seed-based and linguistic meta-analyses. D. STJEPANOVIC*; K. S. LABAR. *Duke Univ.*

10:00 RR16 **513.07** Enhancement of auditory processing by classic fear conditioning in humans: Observations from intracranial recordings. E. BARTOLI*; A. R. ARON; N. TANDON. *Uthealth Sci. Ctr. At Houston, UC San Diego, Univ. of Texas Med. Sch. at Houston.*

11:00 RR17 **513.08** Interactions of $GABA_A$ and oxytocin receptors in state-dependent memory. M. MEYER*; A. L. GUEDEA; K. NISHIMORI; G. MACCAFERRI; J. RADULOVIC. *Northwestern Univ. - Chicago, Tokuku Univ.*

8:00 RR18 **513.09** Altered network oscillatory activity in oxytocin receptor knockout mice. K. A. CORCORAN*; M. MEYER; K. NISHIMORI; J. M. RADULOVIC. *Northwestern Univ., Northwestern Univ. - Chicago, Tohoku Univ.*

9:00 RR19 **513.10** Corticotropin-releasing factor (CRF) neurons in the oval nucleus of the bed nucleus of the stria terminalis ($BNST_{ov}$) modulate fear and anxiety in rats. A. N. ROMAN*; D. MARTINON; J. A. DABROWSKA. *Rosalind Franklin Univ. of Med. and Scien, Rosalind Franklin Univ. of Med. and Scien.*

10:00 RR20 **513.11** Bidirectional interactions between basolateral amygdala and prefrontal cortex: Implications for development of novel anxiolytics and antidepressants. V. VALENTINI*; D. PHENIS; N. A. CAPACI; J. D. MIKKELSEN; J. P. BRUNO. *Univ. of Cagliari-Dept. Biomed. Sci., The Ohio State Univ., Neurobio. Res. Unit, Univ. Hosp.*

11:00 RR21 **513.12** Brain mechanisms mediating punishment-induced suppression of responding for ethanol. L. R. HALLADAY*; A. KOCHARIAN; A. HOLMES. *Natl. Inst. on Alcohol Abuse and Alcoholism.*



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* Indicates abstract's submitting author

8:00 RR22 **513.13** Conditioned taste aversion learning drives synaptic depression in rat primary gustatory cortex. M. HALEY*; A. FONTANINI; A. MAFFEI. *SUNY At Stony Brook.*

9:00 RR23 **513.14** Hubs involved in hipocampal loss compensation in contextual fear learning impair contextual discrimination. T. B. DOS SANTOS*; C. A. COELHO; M. G. M. OLIVEIRA. *Univ. Federal De São Paulo.*

10:00 RR24 **513.15** microRNA regulation of traumatic memory storage. S. SILLIVAN*; N. JOSEPH; S. JAMIESON; C. MILLER. *The Scripps Res. Institute-Florida.*

11:00 RR25 **513.16** μ-opioid receptor-mediated attenuation of midline thalamic inputs to the amygdala. L. GOEDECKE*; P. BLAESSE; H. PAPE; K. JÜNGLING. *Univ. of Muenster.*

**POSTER**

**514. Circuits Underlying Emotional States**

***Theme G: Motivation and Emotion***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 RR26 **514.01** Regional c-fos expression in rats confronted by a non-coevolved predator. D. C. BLANCHARD*; S. C. MOTTA; M. V. C. BALDO; J. M. TESSARI; N. C. COIMBRA; N. S. CANTERAS. *Univ. Hawaii, Univ. of Hawaii, Univ. of São Paulo, Univ. of São Paulo.*

9:00 RR27 **514.02** A novel naturalistic paradigm to study aerial predatory-induced fear in laboratory rats. P. R. ZAMBETTI*; E. KIM; J. J. KIM. *Univ. of Washington, Univ. of Washington.*

10:00 RR28 **514.03** A robot dinosaur as a predator like stressor to highlight susceptibility versus resilience and gender difference in response to acute stress. A. MENIGOZ*; C. BATTERMAN; D. G. RAINNIE. *Yerkes Natl. Primate Res. Ctr. - Emory Un, Emory Univ.*

11:00 RR29 **514.04** Stress neuroadaptation in the bed nucleus of the stria terminalis (bnst) may underlie social defeat-induced depression-related behaviors. S. E. HAYNES*; A. MENIGOZ; C. BATTERMAN; D. G. RAINNIE. *Emory, Yerkes Natl. Primate Res. Ctr., Emory Univ.*

8:00 RR30 **514.05** Genetically modified rabies tracing of global circuit connections to corticotropin-releasing hormone neurons in the hypothalamic paraventricular nucleus. X. XU*; P. RIGAS; Y. SUN; C. A. ITOGA; K. LAM; J. D. DELGADO; E. M. CALLAWAY; E. KIM. *Univ. California, Irvine, Univ. of California, Irvine, Salk Inst., Salk Inst. for Biol. Studies.*

9:00 RR31 **514.06** Functional dissection of the dorsal raphe serotonin systems. J. REN*; D. FRIEDMANN; J. XIONG; C. LIU; K. E. DELOACH; R. L. NEVE; C. RAN; A. PU; M. HOROWITZ; L. LUO. *Stanford Unibersity, Stanford Unibersity, MIT, Harker school, HHMI.*

10:00 RR32 **514.07** Cerebellar involvement in brain emotional circuits. J. L. FRONTERA*; C. MAILHES-HAMON; D. POPA. *Inst. De Biologie De L'Ens, Inst. de Biologie de l'Ecole Normale Supérieure.*

11:00 RR33 **514.08** Mesointerpeduncular circuitry and dopaminergic control of affective state. S. R. DEGROOT*; R. ZHAO-SHEA; P. D. GARDNER; A. R. TAPPER. *Univ. of Massachusetts Med. Sch.*

8:00 RR34 **514.09** Cortical neural correlates of major depressive disorder. A. VAZ*; A. H. TIPPUR; S. K. INATI; K. A. ZAGHLOUL. *Duke Univ. Sch. of Med., Emory Sch. of Med., Natl. Inst. of Neurolog. Disorders and Stroke, Natl. Inst. of Neurolog. Disorders and Stroke, NIH.*

9:00 RR35 **514.10** Cardiac interoceptive inference: Evidence from heart-beat evoked potentials. A. SEL*; A. GENTSCH; S. SCHÜTZ-BOSBACH; M. TSAKIRIS. *Univ. of Oxford, Gen. and Exptl. Psychology Unit, Royal Holloway Univ. of London.*

10:00 RR36 **514.11** Transient anticipatory anhedonia induced by over-activation of primate subgenual cingulate is reversed by ketamine. L. ALEXANDER*; H. F. CLARKE; S. J. SAWIAK; T. D. FRYER; Y. T. HONG; A. C. ROBERTS. *Univ. of Cambridge, Univ. of Cambridge.*

11:00 SS1 **514.12** Cingulate stimulation bidirectionally changes emotion regulation during an emotion conflict resolution task. A. C. PAULK*; K. FARNES; A. YOUSEFI; M. M. ROBERTSON; D. VALLEJO-LOPEZ; S. ZOROWITZ; B. CROCKER; N. PELED; K. ELLARD; T. DECKERSBACH; D. DOUGHERTY; A. S. WIDGE; E. N. ESKANDAR; S. S. CASH. *Massachusetts Gen. Hosp., MGH, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., MIT, MGH/HST Martinos Ctr. For Biomed. Imaging, Massachusetts Gen. Hosp. and Harvard Med. Sch., Mass Genl Hosp.*

8:00 SS2 **514.13** Cognitive networks are activated to compensate for emotion dysregulation during emotion versus cognitive conflict tasks. K. FARNES; M. M. ROBERTSON; A. C. PAULK; I. BASU*; A. YOUSEFI; D. I. VALLEJO; S. ZOROWITZ; A. AFZAL; N. PELED; N. NOSSENSON; K. ELLARD; T. DECKERSBACH; D. DOUGHERTY; E. N. ESKANDAR; A. S. WIDGE; S. S. CASH. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., MGH, Massachusetts Gen. Hosp. Dept. of Neurol., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., MGH/HST Martinos Ctr. For Biomed. Imaging, Massachusetts Gen. Hospital, Harvard Med. Sc, Mass Genl Hosp.*

9:00 SS3 **514.14** The nonlinear relationship between stimulation frequency, amplitude and local responses in cortical and subcortical regions of the human and non-human primate brain. M. M. ROBERTSON*; I. BASU; A. C. PAULK; K. FARNES; D. I. VALLEJO; B. CROCKER; D. D. DOUGHERTY; E. N. ESKANDAR; A. S. WIDGE; S. S. CASH. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., MIT, Massachusetts Gen. Hosp.*

10:00 SS4 **514.15** Decoding task states from distributed local field potential recordings. N. R. PROVENZA*; A. C. PAULK; K. FARNES; M. M. ROBERTSON; N. PELED; N. NOSSENSON; D. I. VALLEJO-LOPEZ; D. DOUGHERTY; S. S. CASH; E. N. ESKANDAR; A. S. WIDGE; D. A. BORTON. *Brown Univ., Draper, Massachusetts Gen. Hosp., MGH/HST Martinos Ctr. For Biomed. Imaging, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Brown Univ., Dept. of Veterans Affairs, Providence Med. Ctr.*

11:00 SS5 **514.16** Interhemispheric paired associative stimulation of the prefrontal cortex jointly modulates frontal asymmetry and emotional reactivity. S. ZIBMAN*; E. DANIEL; U. ALYAGON; A. ZANGEN. *Ben Gurion Univ.*

8:00 SS6 **514.17** Childhood exposure to violence predicts altered neural circuitry for emotion regulation in adulthood. S. S. MATTHEISS*; H. J. LEVINSON; N. ABOUKAFF; W. W. GRAVES. *Rutgers Univ. Newark.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 SS7 **514.18** Affective style modulates the relationship between cumulative violence exposure and change in functional connectivity after stress-induction. H. E. DARK*; N. G. HARNETT; A. M. GOODMAN; M. D. WHEELOCK; S. MRUG; M. A. SCHUSTER; M. N. ELLIOTT; S. TORTOLERO; D. C. KNIGHT. *Univ. of Alabama Birmingham, Washington Univ. in St. Louis, Boston Children's Hosp., Rand Corp., The Univ. of Texas at Austin.*

10:00 SS8 **514.19** Time-modulated neural networks support a positivity bias in later life. E. SOLESIO-JOFRE*; M. HERNÁNDEZ-LORCA; L. CARRETIÉ. *Univ. Autónoma De Madrid.*

11:00 SS9 **514.20** Cardiac and respiratory physiological noise corrections improved resting state functional connectivity in the limbic areas. A. YOSHIKAWA*; M. YOSHIDA; Y. MASAOKA; N. KOIWA; K. WATANABE; M. IDA; M. IZUMIZAKI. *Showa University, Sch. of Med., Jikei Univ. Sch. of Med., Univ. of Human Arts and Sci., Showa Univ. Sch. of Med., Ebara Hosp.*

8:00 SS10 **514.21** Cortical circuit dynamics during punishment-resistant alcohol drinking. C. SICILIANO*; Y. LEOW; X. CHEN; E. Y. KIMCHI; C. M. VANDER WEELE; K. M. TYE. *MIT.*

9:00 SS11 **514.22** Insular projections to the parabrachial nucleus in the macaque monkey. F. HORN*; T. O. SALEH; N. K. LOGOTHETIS; H. C. EVRARD. *Werner Reichardt Ctr. for Integrative Neuroscien, Max Planck Inst. for Biol. Cybernetics, Intl. Max Planck Res. Sch., Imaging Sci. and Biomed. Engineering, Universitty of Manchester.*

10:00 SS12 **514.23** Microstimulation of the anterior insular cortex in the macaque monkey. J. SMUDA*; C. KLEIN; Y. MURAYAMA; T. STEUDEL; E. KRAMPE; A. OELTERMANN; J. WERNER; N. LOGOTHETIS; H. C. EVRARD. *Max Planck Inst. For Biol. Cybernetics, Werner Reichardt Ctr. for Integrative Neurosci., Intl. Max Planck Res. Sch., Univ. of Manchester.*

11:00 SS13 **514.24** NET-fMRI examination of the relation between the anterior insula and whole-brain activity in the macaque monkey. C. KLEIN*; J. SMUDA; Y. MURAYAMA; T. STEUDEL; E. KRAMPE; A. OELTERMANN; J. WERNER; N. K. LOGOTHETIS; H. C. EVRARD. *Max Planck Inst. For Biol. Cybernetics, Werner Reichardt Ctr. for Integrative Neurosci., Intl. Max Planck Res. Sch., Univ. of Manchester.*

8:00 SS14 **514.25** Functional mapping of insular cortex activity using gustatory and interoceptive stimuli. R. E. HARTIG*; A. VEDOVELI; F. HORN; C. BATTAL; G. CHÁVEZ; E. KRAMPE; T. STEUDEL; J. WERNER; A. OELTERMANN; N. K. LOGOTHETIS; H. C. EVRARD. *Werner Reichardt Ctr. for Integrative Neurosci., Max Planck Inst. for Biol. Cybernetics, Intl. Max Planck Res. Sch., Ctr. for Mind/Brain Sciences, Univ. of Trento, Inst. of Psychology & Inst. of Neuroscience, Univ. of Louvain, Imaging Sci. and Biomed. Engin., Univ. of Manchester.*

9:00 SS15 **514.26** ▲ Characterization of the intrinsic functional connectivity of the habenula in children with adhd. M. ARFUSO*; A. K. ROY; F. X. CASTELLANOS; R. SALAS. *Fordham Univ., NYU Langone Med. Ctr., Baylor Col. of Med.*

10:00 SS16 **514.27** Withdrawn

11:00 SS17 **514.28** Cortical connections of primate subgenual cingulate area 25. M. P. JOYCE*; H. BARBAS. *Boston Univ., Boston Univ.*

8:00 SS18 **514.29** Simulating thalamo-cortical dynamics underlying discontinuous tracking in schizophrenia. Y. J. JOHN*; B. ZIKOPOULOS; D. H. BULLOCK; H. BARBAS. *Boston Univ., Boston Univ.*

**POSTER**

**515. Treatment Mechanisms for Substance Use Disorders**

***Theme G: Motivation and Emotion***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 SS19 **515.01** ▲ Does nature benefit everyone? Salivary cortisol responses of wilderness therapy clients. A. K. EAGLE; C. L. FRANSSEN*. *Longwood Univ., Longwood Univ.*

9:00 SS20 **515.02** Dezocine for opioid addiction and its molecular targets. R. LIU*; F. WU; H. BABAZADA; X. HUANG. *Univ. of Pennsylvania, Second Military Med. Univ., Perelman Sch. of Med. at the, Univ. of North Carolina at Chapel Hill.*

10:00 SS21 **515.03** Methadone induced retrieval extinction procedure inhibits the drug craving and relapse in heroin addicts under methadone maintenance treatment. P. WU*; J. YUE; X. GUO; X. LIN; S. CHEN; L. LU. *Natl. Inst. On Drug Dependence, Peking Univ., Beijing Key Lab. of Drug Dependence Res., Inst. of Mental Health/Peking Univ. Sixth Hospital, Key Lab. of Mental Health, Peking University, Inst. on Drug Dependence, Beijing Key Lab. of Drug Dependence Research/Peking Univ.*

11:00 SS22 **515.04** Beta-caryophyllene: A promising dietary CB2 receptor agonist for treatment of addiction in experimental animals. X. WANG; G. BI; Y. HE; E. L. GARDNER; Z. XI*. *Beijing Inst. of Pharmacol. and Toxicology, Natl. Inst. on Drug Abuse, Natl. Inst. on Drug Abuse Intramural Res. Program, NIDA/IRP.*

8:00 SS23 **515.05** Characterization of the effects of typical and atypical dopamine uptake inhibitors and other centrally acting drugs on the ElectroEncephaloGram of freely moving rats. C. ZANETTINI; A. SCAGLIONE; J. KEIGHRON; S. LIN; A. H. NEWMAN; G. TANDA*. *NIDA-IRP, NIA-NIH-IRP.*

9:00 SS24 **515.06** Exercise-induced down-regulation of D2 autoreceptors in the nucleus accumbens. K. BILLS*; J. YORGASON; S. MCCARTHY; M. WOODBURY; S. STEFFENSEN. *Brigham Young Univ., Brigham Young Univ.*

10:00 SS25 **515.07** Behavioral economic demand metrics for abuse liability quantification and clinical treatment prediction. L. P. SCHWARTZ*; P. G. ROMA; J. E. HENNINGFIELD; S. R. HURSH; E. J. CONE; A. R. BUCHHALTER; R. V. FANT; S. H. SCHOLL. *American Univ., Inst. for Behavior Resources, Johns Hopkins Univ. Sch. of Med., Pinney Associates.*

11:00 SS26 **515.08** Serotonin transporter density in binge eating disorder and pathological gambling: A PET study with [$^{11}$C]MADAM. J. MAJURI*; J. JOUTSA; J. JOHANSSON; V. VOON; R. PARKKOLA; H. ALHO; E. ARPONEN; V. KAASINEN. *Univ. of Turku, Univ. of Cambridge, Natl. Inst. of Hlth. and Welfare.*

8:00 SS27 **515.09** Infralimbic stimulation reduced cue-induced relapse to Cocaine seeking and normalize cue-induced electrophysiological activity in the rat conflict model. S. LOGANATHAN; T. GULEVSKY; N. BARNEA-YGAEL; A. ZANGEN*. *Ben-Gurion Univ.*

Tues. AM

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 SS28 **515.10** Psychological and metabolic effects of naltrexone in rats. H. M. MURPHY*; C. H. WIDEMAN. *John Carroll Univ. Dept. of Psychol., John Carroll Univ.*

10:00 SS29 **515.11** ▲ 10-days 20 hz repetitive magnetic stimulation (rtms) recovered functional connectivity in chronic smokers: A pilot study. Z. WANG*; Z. SHEN, 310005; D. CHANG; W. PENG; J. ZHANG; Q. GE; X. GAO; Y. JING; Y. DU; Z. ZHAO; A. R. CHILDRESS. *Hangzhou Normal Univ., Univ. PENN Perelman Sch. Med.*

11:00 SS30 **515.12** Model-free and model-based reinforcement learning in addiction-related behaviors. S. M. GROMAN*; B. MASSI; S. MATHIAS; D. LEE; J. TAYLOR. *Yale Univ., Yale Univ.*

8:00 SS31 **515.13** Exploring the neurochemistry of novel dopamine uptake inhibitors structurally related to Modafinil in Swiss-Webster mice. J. KEIGHRON*; M. COGGIANO; J. QUATERMAN; A. DIXON-GLEAVES; J. CAO; R. SLACK; A. H. NEWMAN; G. TANDA. *Natl. Inst. On Drug Abuse.*

9:00 SS32 **515.14** Pharmacological evaluation of potential therapeutics on smoking cessation: behavioral and computational analyses. Q. CHANG*; W. MIN; A. C. HACKETT; M. T. LANG; M. BANSAL; T. HANANIA. *PsychoGenics Inc.*

**POSTER**

**516. Regulation of Ethanol Intake**

***Theme G: Motivation and Emotion***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 SS33 **516.01** Exercise induced escalation of alcohol intake is modulated via BDNF/TrkB. A. THORSELL*. *Linköping Univ.*

9:00 SS34 **516.02** Self-initiated operant ethanol administration in male C57Bl/6j mice. K. P. ABRAHAO*; D. M. LOVINGER. *NIAAA/NIH, NIAAA/NIH.*

10:00 SS35 **516.03** ▲ Effects of chemogenetic activation and inhibition of the nucleus accumbens and insula neurons on alcohol drinking in rats. M. HAARANEN; S. HAKLI; S. IDRISS; P. HYYTIA*. *Univ. of Helsinki, Univ. of Helsinki.*

11:00 SS36 **516.04** Fibroblast growth factor 2 (FGF2) in the dorsomedial striatum is a positive regulator of alcohol consumption. O. EVEN-CHEN*; Y. SADOT-SOGRIN; O. SHAHAM; S. BARAK. *Tel Aviv Univ., Tel Aviv Univ.*

8:00 DP12/SS37 **516.05** (Dynamic Poster) Rodent ultrasonic vocalizations as biomarkers of future alcohol use: A predictive analytic approach. C. L. DUVAUCHELLE*; N. MITTAL; W. T. MADDOX; T. SCHALLERT. *Univ. of Texas, Univ. of Texas At Austin, Cognitive Design and Statistical Analyses, Univ. of Texas at Austin.*

9:00 SS38 **516.06** Effects of voluntary wheel running on Bdnf mRNA expression following chronic intermittent ethanol exposure in C57BL/6J mice. M. G. SOLOMON*; J. E. THOMPSON; R. I. ANDERSON; H. C. BECKER. *Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. South Carolina.*

10:00 SS39 **516.07** Glutathione-S-transferase pi and S-glutathionylation contribute to alcohol dependence and consumption. J. D. UYS*; A. E. PADULA; M. F. LOPEZ; W. C. GRIFFIN, III; C. OBELLIANNE; D. M. TOWNSEND; P. J. MULHOLLAND. *Med. Univ. South Carolina, Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. South Carolina, Med. Univ. of South Carolina, Med. Univ. of South Carolina, MUSC.*

11:00 SS40 **516.08** Lack of LRRK2, a Parkinson's disease-related protein, promotes compulsive-like and high alcohol intake in mice. D. DA SILVA E SILVA; A. B. GODARD; V. A. ALVAREZ*. *Natl. Inst. on Alcohol Abuse and Alcoholism, Univ. Federal de Minas Gerais.*

8:00 SS41 **516.09** A molecular mechanism for choosing alcohol over a natural reward in rats. E. AUGIER*; E. D. BARBIER; R. DULMAN; G. AUGIER; E. DOMI; R. BARCHIESI; M. HEILIG. *Dept. of Clin. and Exptl. Med., Dept. of Clin. and Exptl. Medicine, Lab. of Clin. and Translational Studies.*

9:00 SS42 **516.10** Role of the transcriptional regulator LMO4 in excessive alcohol consumption. R. MAIYA; R. O. MESSING*. *Univ. of Texas at Austin.*

10:00 SS43 **516.11** A role for neurotensin hindbrain-projecting central nucleus of the amygdala neurons in alcohol drinking and reward. M. L. TORRUELLA SUAREZ*; J. VANDENBERG; J. A. HARDAWAY; E. S. COGAN; J. D. DIBERTO; T. L. KASH; Z. A. MCELLIGOTT. *Univ. of North Carolina At Chapel Hill, Univ. of North Carolina At Chapel Hill, Univ. of North Carolina At Chapel Hill, Univ. of North Carolina At Chapel Hill.*

11:00 SS44 **516.12** Viral vector mapping of GABAergic projections stemming from the CeA in vgat-ires-cre and NPY1R-cre mice. M. A. COMPANION*; T. E. THIELE. *Univ. of North Carolina At Chapel Hill, Univ. North Carolina.*

**POSTER**

**517. Comorbidity and Risk Factors for Alcohol Use Disorder**

***Theme G: Motivation and Emotion***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 SS45 **517.01** Neural and psychological characteristics of college students with alcoholic parents differ depending on current alcohol use. J. L. SCHOLL*; K. A. BROWN-RICE; K. A. FERCHO; K. PEARSON; N. A. KALLSEN; G. E. DAVIES; E. A. EHLI; S. OLSON; A. SCHWEINLE; L. A. BAUGH; G. L. FORSTER. *Univ. of South Dakota, Univ. of South Dakota, Univ. of South Dakota, Avera Inst. for Human Genet.*

9:00 SS46 **517.02** Maternal separation reduced prenatal ethanol-induced changes in hyperactivity and extracellular signal-regulated kinase activity. P. C. SWART*; V. A. RUSSELL; J. J. DIMATELIS. *Univ. of Cape Town.*

10:00 SS47 **517.03** A murine model of female aggression: Escalation of aggressive behavior by ethanol and benzodiazepines. J. F. DEBOLD*; M. B. BICAKCI; E. L. NEWMAN; M. S. LAUZE; A. M. CASTANER; K. A. MICZEK. *Tufts Univ., Tufts Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 SS48 **517.04** Social defeat stress and escalated ethanol drinking by C57BL/6J mice: Modulation by CRF-R1 and glucocorticoid receptor antagonism. E. L. NEWMAN*; P. ANDREW; J. G. AULD; K. C. BURKE; B. KISBY; E. Y. ZHANG; J. F. DEBOLD; K. A. MICZEK. *Tufts Univ., Northeastern Univ., Tufts Univ.*

8:00 SS49 **517.05** Adolescent ethanol exposure increases adult anxiety-like behavior: Involvement of small conductance $Ca^{2+}$-activated $K^+$ channels in medium-sized spiny neurons of the nucleus accumbens. L. SHAN; J. C. CARPENTER; K. RYBCZYK; T. DEAK; Y. Y. MA*. *State Univ. of New York.*

9:00 SS50 **517.06** Adolescent social isolation increases kappa opioid receptor function in the nucleus accumbens and basolateral amygdala of rats. A. KARKHANIS*; J. L. WEINER; S. R. JONES. *Wake Forest Sch. of Med., Wake Forest Sch. of Med.*

10:00 SS51 **517.07** Manipulation of fear memories as a treatment for comorbid AUD and PTSD. C. E. SMILEY*; J. T. MCGONIGAL; R. J. NEWSOM; T. VALVANO; J. T. GASS. *Med. Univ. of South Carolina.*

11:00 SS52 **517.08** Genetic analysis of initial and subsequent consumption of ethanol in a large panel of BXD recombinant inbred mouse strains. B. C. JONES*; L. LU; M. K. MULLIGAN; S. A. CAVIGELLI; W. ZHAO; R. W. WILLIAMS; E. TERENINA; P. MORMÈDE. *Univ. of Tennessee Hlth. Sci. Ctr., Univ. Tennessee Hlth. Sci. Ctr. Memphis, Pennsylvania State Univ., INRA-UMR 1388.*

8:00 SS53 **517.09** Voluntary oral ethanol consumption as emotional self-medication. M. R. PAPINI*; R. DONAIRE; M. J. FERNANDEZ; C. MERINO; A. REINA; C. TORRES. *Texas Christian Univ., Univ. of Jaen.*

9:00 SS54 **517.10** ▲ Investigating the temporal relationship between chronic mild stress and alcohol intake in rats. C. S. BAILEY*; A. K. PATTERSON, 37614; C. A. BRADLEY; S. G. MALONE; M. I. PALMATIER. *East Tennessee State Univ., East Tennessee State Univ., East Tennessee State Univ.*

10:00 SS55 **517.11** Early life stress-induced alcoholism may be overcome through novel pharmacological manipulation: Implications on behavior and neurochemistry. O. O. KALEJAIYE*; R. BASSEY; I. BAMIDELE; V. TIRUVEEDHULA; J. M. COOK; M. C. GONDRÉ-LEWIS. *Howard Univ. Col. of Med., Howard Univ. Col. of Med., Univ. of Wisconsin.*

11:00 SS56 **517.12** Chronic intermittent ethanol alters hypothalamic synaptic plasticity and HPA axis hormonal, as well as behavioral responses to repeated stress. V. N. MARTY*; Y. MULPURI; K. NGUYEN; S. LELE; I. SPIGELMAN. *UCLA.*

8:00 SS57 **517.13** Functional neurocircuitry of vasopressin-mediated alcohol withdrawal-induced anxiety. R. K. BUTLER*; D. J. KNAPP; H. E. CRISWELL; G. D. STUBER; G. R. BREESE. *Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill, Univ. of North Carolina At Chapel Hill, UNC Sch. of Med.*

9:00 SS58 **517.14** Effect of chronic alcohol use on total plasma proteins, albumin and globulins levels among HIV-infected patients on d4T/3TC/NVP treatment regimen during the 9 months follow up period. G. S. BBOSA*; W. W. ANOKBONGGO; A. M. LUBEGA; A. MUGISHA; J. OGWAL-OKENG. *Makerere Univ. Col. of Hlth. Sci., Makerere Univ. Col. of Hlth. Sci., Mulago Natl. Referral Hosp. Complex.*

**POSTER**

**518. Sexual Dimorphism and Reproductive-Cycle Effects on Alcohol Use**

***Theme G: Motivation and Emotion***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 SS59 **518.01** Sex differences in drinking behavior following stress in mu-opioid receptor knockout mice. Y. MORIYA*; Y. KASAHARA; F. S. HALL; Y. HAGINO; G. R. UHL; K. IKEDA; I. SORA. *Tokyo Metropolitan Inst. of Med. Sci., Tohoku Univ. Grad. Sch. of Med., Intl. Res. Inst. of Disaster Scien, Univ. of Toledo Col. of Pharm. and Pharmaceut. Sci., Tokyo Metropolitan Inst. of Med. Sci., NMVAHCS, BRINM and NIH/NIDA, Kobe Univ. Grad Sch. of Med.*

9:00 SS60 **518.02** Sex differences in alcohol consumption, object recognition and rearing in male and female high alcohol drinking (had-1) rats. N. MITTAL*; A. MARTINEZ; S. M. FLEMING; W. MADDOX; T. SCHALLERT; C. L. DUVAUCHELLE. *Univ. of Texas At Austin, Univ. of Texas at Austin Behavioral Neurosci., Northeast Ohio Med. Univ., Univ. of Texas at Austin Dept. of Psychology, Univ. of Texas at Austin Behavioral Neurosci., Univ. of Texas.*

10:00 SS61 **518.03** Late-aging alters behavioral sensitivity to ethanol in a sex specific manner in Fischer 344 rats. A. E. PERKINS; A. S. VORE; E. I. VARLINSKAYA; T. DEAK*. *Binghamton Univ., Binghamton Univ., Binghamton University-SUNY.*

11:00 SS62 **518.04** Alcohol intake affects ketamine self-administration in a sex-dependent manner. C. E. STRONG*; K. N. WRIGHT; M. KABBAJ. *Florida State Univ.*

8:00 SS63 **518.05** Investigating sex differences in striatal control of aversion-resistant alcohol-drinking in mice. A. K. RADKE*; B. DAMES; J. FRANKEL; A. NADER; O. RAMSEY; D. SCHLEICHER; J. SETTERS; R. D. WHITE. *Miami Univ.*

9:00 SS64 **518.06** Sex differences in the effect of acute alcohol treatment on tyrosine hydroxylase immunoreactivity in the mesolimbocortical dopamine pathway in mice. E. RHINEHART*; D. E. WILSON; N. KOMARA; M. LATOURETTE; J. E. GRISEL. *Susquehanna Univ., Bucknell Univ.*

10:00 SS65 **518.07** Sensitivity to ethanol-induced hypnosis varies across estrous cycle: Mediating role of progesterone, mGluR5 and $GABA_A$ receptors. N. CAMERON*; D. POPOOLA. *Binghamton Univ.*

11:00 SS66 **518.08** Influences of experimental conditions and stress on the escalation of ethanol consumption in male and female mice. D. MUSKIEWICZ*; N. FROMMANN; B. PATEL; A. SIMON; F. S. HALL. *The Univ. of Toledo, Univ. of Toledo Col. of Pharm. and Pharmaceut. Sci.*

8:00 TT1 **518.09** Gender differences in binge-like ethanol drinking and dendritic spines in the nucleus accumbens of adolescent C57BL/6 mice. R. I. MELENDEZ*. *Univ. of Puerto Rico, Med. Sci. Campus.*

9:00 TT2 **518.10** Sex differences in ethanol consumption for alcohol preferring rats. P. J. DARIUS; M. C. GONDRE-LEWIS*. *Howard Univ. Col. of Med.*

10:00 TT3 **518.11** ▲ Alcohol specific effects of progesterone cycling on the amplitude of the P300 ERP component in adolescent human females. A. DOMINGO*; N. M. CAMERON; S. LASZLO. *Binghamton Univ.*

Tues. AM

• Indicated a real or perceived conflict of interest, see page 149 for details.
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* Indicates abstract's submitting author

**POSTER**

**519. The Hippocampal Horizon: Memory Consolidation and Reconsolidation Across Structures**

***Theme H: Cognition***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 TT4 **519.01** Factors influencing the acquisition and retention of spatial memories in juvenile rats. N. TZAKIS*; B. HOFFE; M. R. HOLAHAN. *Carleton Univ.*

9:00 TT5 **519.02** Adolescent high-fat diet intake impairs object recognition memory consolidation through hippocampal endocannabinoid system. G. FERREIRA*; Y. JANTHAKHIN; J. OLIVEIRA DA CRUZ; A. BUSQUETS-GARCIA; M. SANTOYO-ZEDILLO; F. NANEIX; J. HELBLING; S. ALFOS; I. MATIAS; G. MARSICANO. *Nutrineuro, Neurocentre Magendie, INSERM-Bordeaux Univ., Univ. Autonoma Metropolitana, INCIA, CNRS-Bordeaux Univ.*

10:00 TT6 **519.03** Fluoxetine prevents fear generalization and maintains hippocampal dependency. Implications for extinction enhancement. L. K. PEDRAZA CORREA*; R. O. SIERRA, SR; W. SOUZA NUNEZ; F. LOTZ ALVES; L. DE OLIVEIRA ALVARES. *Federal Univ. of Rio Grande Do Sul, Federal Univ. of Rio Grande do Sul.*

11:00 TT7 **519.04** Role of adult hippocampal neurogenesis in spatial memory reconsolidation. M. LODS; E. PACARY; W. MAZIER; V. CHARRIER; G. FERREIRA; F. MASSA; D. COTA; N. D. ABROUS; S. TRONEL*. *INSERM U1215, INRA.*

8:00 TT8 **519.05** Additive effects of NMDA receptor and protein synthesis inhibition on the reconsolidation of context fear discrimination memory. D. E. KOCHLI*; T. L. CAMPBELL; E. W. HOLLINGSWORTH; R. S. LAB; A. F. POSTLE; M. M. PERRY; V. C. MORDZINSKI; J. J. QUINN. *Miami Univ., Natl. Inst. on Alcohol Abuse and Alcoholism.*

9:00 TT9 **519.06** Involvement of hippocampal cannabinoid type-2 receptors in the reconsolidation of specific and generalized contextual fear memory. R. S. SILVA*; M. GIACHERO; L. J. BERTOGLIO. *UFSC.*

10:00 TT10 **519.07** ▲ Sex differences in blocking after context fear conditioning. D. E. FELDMAN; A. A. KEISER; N. C. TRONSON*. *Univ. of Michigan.*

11:00 TT11 **519.08** Context fear memory: Escaping the hippocampus. S. KISHUN; H. LEHMANN*. *Trent Univ.*

8:00 TT12 **519.09** Hippocampal projections to the ventral striatum are necessary to spatial memory consolidation. G. TORROMINO; G. M. BIASINI; A. PIGNATARO; L. AUTORE; V. KHALIL; S. MIDDEI; A. RINALDI; M. AMMASSARI-TEULE; A. MELE*. *Univ. Di Roma 'la Sapienza', IBCN-CNR.*

9:00 TT13 **519.10** Inhibition of protein transcription and translation in the striatum after retrieval of inhibitory avoidance learning. P. BELLO-MEDINA*; A. C. MEDINA; G. L. QUIRARTE; R. A. PRADO-ALCALA. *Inst. de Neurobiología-UNAM.*

10:00 TT14 **519.11** Retrieval-relearning: exploiting reconsolidation to strengthen contextual fear memories. J. L. LEE*; L. CASSINI; C. R. FLAVELL. *Univ. Birmingham.*

11:00 TT15 **519.12** On the transition from reconsolidation to extinction of contextual fear memories. L. F. CASSINI*; C. R. FLAVELL; O. B. AMARAL; J. L. C. LEE. *Univ. of Birmingham, Univ. Federal do Rio de Janeiro.*

8:00 TT16 **519.13** Prelimbic cortex is critical for encoding contextual fear memory storage. S. SWARNKAR; V. RIZZO; K. TOUZANI; B. L. RAVEENDRA; J. C. LORA; B. M. KADAKKUZHA; X. LIU; C. ZHANG; D. BETEL; R. W. STACKMAN, JR; S. V. PUTHANVEETTIL*. *The Scripps Res. Inst., Florida Atlantic Univ., Weill Cornell Med. Col.*

9:00 TT17 **519.14** Reconsolidation of episodic memory processing. K. TAY*; J. LEE; M. WIMBER. *Univ. of Birmingham, Univ. of Birmingham.*

10:00 TT18 **519.15** Boundary conditions on instrumental memory reconsolidation. C. CHENG*; J. LEE; M. EXTON-MCGUINNESS. *Univ. of Birmingham.*

11:00 TT19 **519.16** Reconsolidation-disruption of instrumental lever pressing memory reduces spontaneous seeking for sucrose, cocaine and nicotine reward. M. T. EXTON-MCGUINNESS*; M. L. DRAME; C. R. FLAVELL; J. L. C. LEE. *Univ. of Birmingham.*

8:00 TT20 **519.17** Effects of infralimbic cortex inactivation on performance of moderate and intense inhibitory avoidance training: Anterograde amnesia, state-dependency, or both? M. E. TORRES GARCÍA*; A. C. MEDINA; G. L. QUIRARTE; R. A. PRADO-ALCALÁ. *Inst. de Neurobiología, UNAM.*

9:00 TT21 **519.18** Remote memories are enhanced by COMT activity trough the dysregulation of the cannabinoid system in the prefrontal cortex. G. CONTARINI*. *Univ. of Padua.*

10:00 TT22 **519.19** Intense inhibitory avoidance training prevents amnestic effect of anisomycin administration in the dorsal striatum. D. A. GONZALEZ FRANCO*; P. C. BELLO-MEDINA; N. SERAFÍN; R. A. PRADO-ALCALA; G. L. QUIRARTE. *Inst. de Neurobiología UNAM, Inst. de Neurobiología-UNAM, Inst. de Neurobiología-UNAM, Inst. de Neurobiología-UNAM, Inst. de Neurobiologia, UNAM Juriquilla.*

11:00 TT23 **519.20** Estrogen depletion in female rats decreases glia expression in hippocampus and amygdala and affects memory formation in a "single trial learning" test. S. ERCAN; R. L. DAVIS; K. S. CURTIS*. *Oklahoma State Univ. Ctr. for Hlth. Sci.*

8:00 TT24 **519.21** Optimizing object recognition testing procedures to minimize experimental variability and maximize intra- and inter-laboratory data replicability. J. M. POVROZNIK*; J. W. SIMPKINS; E. B. ENGLER-CHIURAZZI. *West Virginia Univ.*

9:00 TT25 **519.22** Medial prefrontal cortex and secondary motor cortex are critical for the performance of an olfactory working-memory task in mice. A. BELLAFARD*; P. GOLSHANI. *Univ. of California Los Angeles.*

10:00 TT26 **519.23** Prefrontal cortex and memory consolidation of intense inhibitory avoidance training: Effects of anisomycin. A. C. MEDINA*; M. HERNANDEZ-AVILA; M. E. TORRES-GARCÍA; G. L. QUIRARTE; R. A. PRADO-ALCALÁ. *Neurobiologia Conductual y Cognitiva. Inst. de Neurobiologia-UNAM.*

11:00 TT27 **519.24** ▲ Effects of rottlerin and MK-801 on three stages of an aversive memory: Differential involvement of hippocampus. M. HSIUNG*; Y. CHEN; S. HU. *Natl. Cheng Kung Univ.*

8:00 TT28 **519.25** Sex difference in the effect of rimonabant on cocaine memory in mice. M. LAI*; H. CHANG; W. DAI; S. HU. *Natl. Cheng Kung Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 TT29 **519.26** ▲ Effects of the retrieval-extinction and extinction-retrieval procedures on cocaine-associated memory. Y. CHEN*; H. CHANG; M. LAI; S. HU. *Natl. Cheng Kung Univ.*

10:00 TT30 **519.27** ● ▲ The effects of music (Mozart's sonata) on the extinction of spatial memory. A. L. BERETA*; A. M. FARACO; J. L. D. R. LEAL; A. C. M. COLI; M. P. S. SILVA; C. M. F. TRESNIAK; P. J. O. CORTEZ; R. S. FARIA; D. A. R. MOREIRA. *Faculdade De Medicina De Itajuba/ AISI, Faculdade de Medicina de Itajubá.*

11:00 TT31 **519.28** Effects of hypergravity exposure on recent and remote associative memory in rats. J. MOREL; A. PULGA; A. VANDEN-BOSSCHE; B. BONTEMPI*. *Inst. of Neurodegenerative Diseases, CNRS UMR 5293, Sainbiose, UMR INSERM 1059.*

8:00 TT32 **519.29** ● Nucleus reuniens activity during consolidation influences fear memory specificity and long-term maintenance. L. J. BERTOGLIO*; M. A. BICCA; F. TROYNER. *Univ. Federal Santa Catarina.*

9:00 TT33 **519.30** Autophagy inhibition is required for long term depression in hippocampus. H. SHEN*; Z. LI. *Nantong Univ., national of institute.*

**POSTER**

**520. Modeling Cognitive Impairments: Mechanistic Insights and New Interventions**

***Theme H: Cognition***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 TT34 **520.01** Testing for cognitive impairments in a mouse model for congenital muscular dystrophy. A. SAYED*; R. B. SHER; G. A. COX. *The Jackson Lab., Stony Brook Univ., Jackson Lab.*

9:00 TT35 **520.02** Motion feature-based automatic identification of abnormal locomotor activity of ASD mice. M. SHYFUL ISLAM; S. MORIMOTO; S. KOMAI*. *Nara Inst. Sci. and Technol.*

10:00 TT36 **520.03** ● Vortioxetine reverses cognitive impairment induced by castration as a model of androgen deprivation therapy for prostate cancer in male rats. A. SHARP*; S. LERTPHINYOWONG; S. BULIN; D. PAREDES; A. SULLIVAN; I. THOMPSON; R. LEACH; J. GELFOND; T. JOHNSON-PAIS; D. MORILAK. *UT Hlth. San Antonio, UT Hlth. San Antonio, UT Hlth. San Antonio.*

11:00 TT37 **520.04** Attention and its underlying neuronal circuitry in both sexes of a rat model of Fragile X syndrome. C. GOLDEN*; H. HARONY-NICOLAS; S. SONAR; M. BREEN; M. G. BAXTER; J. D. BUXBAUM. *Icahn Sch. of Med. at Mount Sinai, Dept. of Psychiatry, Icahn Sch. of Med., Icahn Sch. of Med. at Mount Sinai, Mount Sinai Sch. Med., Mt Sinai Sch. Med.*

8:00 TT38 **520.05** Methylphenidate improves different cognitive aspects in a rat model of neonatal hypoxia-ischemia. P. M. MIGUEL*; B. DENIZ; H. CONFORTIM; L. BRONAUTH; B. DE OLIVEIRA; W. DE ALMEIDA; P. SILVEIRA; L. PEREIRA. *Univ. Federal Do Rio Grande Do Sul, Univ. Federal do Rio Grande do Sul, McGill Univ.*

9:00 TT39 **520.06** Low level laser therapy improves comorbidity of posttraumatic stress disorder in rat. Y. LI; Y. DONG; L. YANG; D. TUCKER; Q. ZHANG*. *Augusya Univ., Augusta Univ.*

10:00 TT40 **520.07** Impaired excitatory synaptic function in medial prefrontal cortex could mediate attention deficits caused by prenatal ethanol exposure. R. WANG*; K. A. HAUSKNECHT; J. B. RICHARDS; S. HAJ-DAHMANE; R. SHEN. *Res. Inst. on Addictions, SUNY at Buffalo, SUNY at Buffalo.*

11:00 TT41 **520.08** ● Neonatal ethanol exposure produces age and sex-specific impairments in attention. J. A. MCGAUGHY*; P. A. ROBINSON-DRUMMER; S. MACZKO; D. HUTCHINS; M. E. STANTON. *Univ. of New Hampshire, Univ. of Delaware, Univ. Delaware.*

8:00 TT42 **520.09** Restoring prefrontal inhibition to treat cognitive symptoms of schizophrenia. L. CHAMBERLIN*; B. R. FERGUSON; E. MCEACHERN; W. GAO. *Drexel Univ. Col. of Med.*

9:00 TT43 **520.10** ▲ Performance of heterozygous dopamine transporter mice in a 5-choice serial reaction time test for studies of attention deficit hyperactivity disorder. F. RESENDIZ GUTIERREZ*; D. MUSKIEWICZ; B. PATEL; A. SIMON; O. CHAKER; Y. SABER; F. S. HALL. *Univ. of Toledo.*

10:00 TT44 **520.11** A test for social behaviour in the common marmoset. J. CARRIOT*; R. J. NICOLSON; J. C. MARTINEZ-TRUJILLO. *McGill Univ., Western Univ., Univ. of Western Ontario.*

11:00 TT45 **520.12** ● The SLA16 rat strain, a potential new genetic model of ADHD. G. S. IZIDIO*; N. GRANZOTTO; F. J. CORREA; A. P. FRANCA; P. RAMBORGER; G. FADANNI; R. B. OLIVEIRA; R. C. N. MARCHETTE. *UFSC.*

8:00 TT46 **520.13** The role of brain serotonin in social and cognitive abilities : Lessons from tryptophan hydroxylase 2-deficient rats. L. ALONSO*; P. PEEVA; Y. WINTER; N. ALENINA; M. RIVALAN. *Humboldt Univ. Berlin, Max Delbrück Ctr.*

9:00 TT47 **520.14** Topologically invariant manifolds of *C. elegans* pan-neuronal activity. C. BRENNAN*; A. PROEKT. *Univ. of Pennslyvania.*

10:00 TT48 **520.15** History of winning remodels thalamo-PFC circuit to reinforce social dominance. H. ZHU*; T. ZHOU; Z. FAN; F. WANG; Y. CHEN; Z. YANG; L. ZHANG; L. LIN; Y. ZHAN; Z. WANG; H. HU. *Inst. of Neurosci., Inst. of Neurosci., Zhejiang Univ., Genelia Res. Campus, Fudan Univ., East China Normal Univ., Shenzhen Inst. of Advanced Technol., Zhejiang Univ. Sch. of Med.*

11:00 TT49 **520.16** μ-Opioid receptor activation in the locus coeruleus increases synchronization of the male, but not female medial prefrontal cortex. H. M. GUAJARDO*; A. L. CURTIS; S. BHATNAGAR; R. J. VALENTINO. *Univ. of Pennsylvania, Children's Hosp. Philadelphia, Univ. Pennsylvania, Children's Hosp Philadelphia, Natl. Inst. of Drug Abuse.*

8:00 TT50 **520.17** Impaired task-related firing and long-range 4 Hz synchrony of dopamine neurons underlies working memory deficits in a mouse model of cognitive dysfunction. S. DUVARCI*; E. H. SIMPSON; G. SCHNEIDER; E. R. KANDEL; J. ROEPER; T. SIGURDSSON. *Goethe-University Frankfurt, Columbia University/ NYSPI, Goethe Univ., Columbia Univ. / HHMI, Goethe Univ. Frankfurt.*

9:00 TT51 **520.18** Impact of task-phase specific optogenetic silencing of the medial prefrontal cortex on spatial working memory. P. VOGEL*; S. DUVARCI; T. SIGURDSSON. *Goethe Univ. Frankfurt.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 TT52 **520.19** Role of gamma and beta oscillatory activity sequence in a two-step working memory gating mechanism. N. NOVIKOV; B. S. GUTKIN*. *NRU Higher Sch. of Econ., Group For Neural Theory, LNC INSERM U960, Ecole Normale Superieure.*

11:00 TT53 **520.20** Exploring the limits in learning capabilities of biologically plausible neural networks performing in a serial reversal task. C. J. MININNI; B. S. ZANUTTO*. *Inst. de Biología y Medicina Exptl. - CONICET, Univ. Buenos Aires-CONICET.*

8:00 TT54 **520.21** Cerebellar D1DR-expressing neurons modulate the frontal cortex during timing tasks. K. HESLIN; K. WALSH; Y. KIM; E. CARLSON; K. L. PARKER*. *Univ. of Iowa, Univ. of Iowa, Univ. of Washington, Univ. of Iowa.*

**POSTER**

**521. Invertebrate Learning and Memory**

***Theme H: Cognition***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 TT55 **521.01** ▲ Role of endocannabinoids during generalization of habituation between non-nociceptive and nociceptive pathways. A. D. HANSON*; B. D. BURRELL. *Univ. of South Dakota, Univ. of South Dakota, Ctr. for Brain and Behavior Res.*

9:00 TT56 **521.02** Lapses during memory consolidation provide opportunities for memory replacement. M. CROSSLEY; F. LORENZETTI; N. SOUVIK; M. O'SHEA; P. R. BENJAMIN*; I. KEMENES. *Univ. of Sussex, Univ. of Sussex, Univ. Sussex.*

10:00 TT57 **521.03** Genetic, cellular, and behavioral dissociations of associative learning and sensory integration in *Caenorhabditis elegans.* G. S. WOLFE*; V. W. TONG; D. MERRITT; G. W. STEGEMAN; S. FLIBOTTE; D. VAN DER KOOY. *Univ. of Toronto, Univ. of Toronto, Univ. of British Columbia, Univ. of Toronto.*

11:00 TT58 **521.04** Nitric oxide erases/destabilizes existing memory during reconsolidation in snails and rats. P. M. BALABAN*; M. RYSAKOVA; A. VINARSKAYA; V. IVANOVA; A. ZUZINA; N. BAL. *Inst. Higher Nervous Activity & Neurophysiol. RAS.*

8:00 TT59 **521.05** Kamin blocking in *C. elegans* may be due to perceptual interference rather than memory storage. D. M. MERRITT*; J. G. MELKIS; B. KWOK; C. TRAN; D. VAN DER KOOY. *Univ. of Toronto, Univ. of Toronto.*

9:00 TT60 **521.06** ▲ Dactylobiotus dispar as a model organism to study the metabolic necessity for memory storage. S. Y. ZHOU; P. M. DWIVEDY; J. P. DEFRANCO; D. M. ZIMMET; M. MAGDITS; T. C. DUMAS*. *George Mason Univ.*

10:00 TT61 **521.07** Withdrawn

11:00 TT62 **521.08** Expression patterns of DD2R in different dopaminergic neuronal clusters and its role in *Drosophila* larval olfactory learning. C. QI*; D. LEE. *Ohio Univ.*

8:00 TT63 **521.09** Inhibition of protein degradation enables the induction of associative memory following sleep deprivation. E. J. NOAKES; H. C. KRISHNAN; L. C. LYONS*. *Florida State Univ.*

9:00 TT64 **521.10** Chronic and acute exposure of honey bees to fipronil reduces synaptic density in the mushroom bodies. J. J. PRIVITT*; S. E. FAHRBACH. *Cornell Univ., Wake Forest Univ.*

10:00 TT65 **521.11** Molecular correlates of components of training with inedible food in *Aplysia.* V. LUCHINSKY-BRISKIN; R. LEVY; I. HURWITZ; A. J. SUSSWEIN*. *Bar-Ilan Univ.*

11:00 TT66 **521.12** Partial training requires protein synthesis to reverse amnesia produced by posttraining protein synthesis inhibition in *Aplysia.* K. PEARCE; D. CAI; S. CHEN; S. APICHON; B. CHEEMA; D. MIRESMAILI; R. SUMNER; A. RANGCHI; A. ZOBI; D. L. GLANZMAN*. *UCLA, UCLA, UCLA.*

8:00 UU1 **521.13** Modulation of learning-induced long-term behavioral plasticity by prolonged food deprivation and extended sensitization training in *Aplysia.* R. MOZZACHIODI*; K. MAC LEOD; A. SEAS; M. L. WAINWRIGHT. *Texas A&M Univ. Corpus Christi.*

9:00 UU2 **521.14** Role of ribosomal S6 kinase (RSK) in long-term facilitation (LTF) at sensorimotor (SN-MN) synapses of *Aplysia.* R. LIU*; L. J. CLEARY; J. H. BYRNE. *McGovern Med. Sch. of UTHSC At Houston.*

10:00 UU3 **521.15** Biphasic regulation of p38 MAPK by serotonin in *Aplysia* sensory neurons. Y. ZHANG*; P. SMOLEN; D. A. BAXTER; J. H. BYRNE. *McGovern Med. Sch. of UTHSC At Houston.*

**POSTER**

**522. Learning and Memory: Neural Circuits**

***Theme H: Cognition***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 UU4 **522.01** Visualizing a lateral amygdala engram. E. KRAMER*; J. R. EPP; P. W. FRANKLAND; S. A. JOSSELYN. *Hosp. For Sick Children, Hosp. For Sick Children, Hosp. For Sick Children, Hosp. For Sick Children.*

9:00 UU5 **522.02** Modelling the impact of new learning and neurogenesis on memory stability in the hippocampus. L. M. TRAN*; S. A. JOSSELYN; B. A. RICHARDS; P. W. FRANKLAND. *Sickkids PGCRL, Univ. of Toronto, Hosp. For Sick Children, Univ. of Toronto Scarborough, Hosp. For Sick Children.*

10:00 UU6 **522.03** Neurocartography: Mapping cell signals brain wide. P. E. STEADMAN*; J. W. KENNEY; A. D. JACOB; M. AHMED; J. R. EPP; C. YAN; J. P. LERCH; S. A. JOSSELYN; P. W. FRANKLAND. *The Hosp. for Sick Children, Univ. of Toronto.*

11:00 UU7 **522.04** Identification of an inhibitory hippocampal-thalamic pathway that is necessary for remote memory retrieval. G. VETERE*; F. XIA; S. A. JOSSELYN; P. W. FRANKLAND. *Hosp. For Sick Children, Hosp. For Sick Children, Hosp. For Sick Children, Hosp. For Sick Children.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 UU8 **522.05** Temporal and circuit dynamics of memory allocation in the amygdala. J. YU*; A. J. RASHID; C. YAN; A. DE CRISTOFARO; P. W. FRANKLAND; S. A. JOSSELYN. *The Hosp. For Sick Children, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto.*

9:00 UU9 **522.06** Optogenetic recovery of memories 'lost' to infantile amnesia. A. GUSKJOLEN*; S. A. JOSSELYN; P. W. FRANKLAND. *Sick Kids Hosp.*

10:00 UU10 **522.07** Towards the generation of an adult zebrafish digital brain atlas. J. W. KENNEY*; P. E. STEADMAN; S. A. JOSSELYN; P. W. FRANKLAND. *The Hosp. for Sick Children, The Hosp. for Sick Children, Hosp. For Sick Children, Hosp. For Sick Children.*

11:00 UU11 **522.08** ▲ Communication between retrosplenial cortex and auditory cortex is necessary for the expression of remotely-acquired fear to an auditory cue. M. Y. JIANG*; T. P. TODD; N. E. DEANGELI; D. J. BUCCI. *Dartmouth Col.*

8:00 UU12 **522.09** Communication between retrosplenial cortex and prefrontal cortex is necessary for inhibitory learning and behavior. M. EDDY*; R. HUSZAR; D. J. BUCCI, PhD. *Dartmouth Col.*

9:00 UU13 **522.10** Damage to postrhinal cortex has no effect on the expression of remote cue-specific fear memory but does impair the renewal of conditioned fear. D. FOURNIER*; N. E. DEANGELI; D. J. BUCCI; T. P. TODD. *Dartmouth Col., Dartmouth Col., Dartmouth Col.*

10:00 UU14 **522.11** Retrosplenial cortex is required for the retrieval of remote fear memory for visual cues. D. J. BUCCI*; M. Y. JIANG; N. E. DEANGELI; T. P. TODD. *Dartmouth Col.*

11:00 UU15 **522.12** ● Characteristic neocortical circuits encode different visual shape discriminations. A. I. GELLER*; G. ZHANG; H. ZHAO; N. COOK; M. JAN; E. CHOI; M. SVESTKA; R. G. COOK. *LSUHSC, Tufts Univ.*

8:00 UU16 **522.13** In search of an objective measure of working memory. B. CONKLIN*; W. HAHN; N. M. DOTSON; C. M. GRAY; S. L. BRESSLER. *Florida Atlantic Univ., Florida Atlantic Univ., Montana State Univ. Bozeman, Montana State Univ. Bozeman, Florida Atlantic Univ.*

9:00 UU17 **522.14** Neuromodulatory predictions: Comparison of forebrain cholinergic and midbrain dopaminergic responses during reinforcement learning. J. F. STURGILL*; S. LI; B. HANGYA; A. KEPECS. *Cold Spring Harbor Lab., Cold Spring Harbor Lab., Inst. of Exptl. Med.*

10:00 UU18 **522.15** ▲ MRI volumetric changes in brain areas during taste learning: Effects of long-term sugar consumption. M. MIRANDA*; J. P. LERCH; N. MESA; D. A. VOUSDEN. *Inst. Neurobiologia-UNAM, Hosp. for Sick Children, Hosp. For Sick Children.*

11:00 UU19 **522.16** Evaluation of neuronal activity patterns at the population level during contextual fear discrimination learning. A. CORCHES*; A. HIROTO; T. BAILEY; J. SPEIGEL; J. PASTORE; J. MAYER; E. KORZUS. *Univ. of California, Riverside.*

8:00 UU20 **522.17** The thalamic reticular nucleus controls fear extinction. J. LEE*; C. V. LATCHOUMANE; J. PARK; J. KIM; K. LEE; H. SHIN. *Inst. for Basic Sci. (IBS), Korea Advanced Inst. of Sci. and Technol. (KAIST), Korea Inst. of Sci. and Technol.*

9:00 UU21 **522.18** ● Long-term imaging of ensemble neural calcium dynamics in the perirhinal cortex of freely behaving mice learning context-stimulus associations. T. ROGERSON*; J. MAXEY; P. JERCOG; T. H. KIM; S. EISMANN; B. AHANONU; B. GREWE; J. LI; M. J. SCHNITZER. *Stanford Univ., Stanford Univ.*

10:00 UU22 **522.19** Changes in membrane properties of neurons in the deep cerebellar nuclei as a result of eyeblink conditioning in adult rats. D. WANG; L. B. BURHANS; D. E. O'DELL; C. A. SMITH-BELL; B. G. SCHREURS*. *West Virginia Univ.*

11:00 UU23 **522.20** Improving working memroy performance by suppressing lateral orbitofronto-striatal pathway. C. QI*; R. Q. HOU; Z. Q. CHEN; H. M. FAN; C. Y. LI. *Inst. of Neurosci., Univ. of Chinese Acad. of Sci.*

8:00 UU24 **522.21** The effect of a high sugar diet on context-dependent memory and neuroinflammation in rats. K. N. ABBOTT*; M. J. MORRIS; R. F. WESTBROOK. *UNSW Sydney, UNSW Sydney.*

9:00 UU25 **522.22** Neural mechanisms of observational conditioning in zebrafish. J. PINHO*; P. LAL; K. KAWAKAMI; R. OLIVEIRA. *Inst. Gulbenkian De Ciência, ISPA - Inst. Universitário, Natl. Inst. of Genet., Champalimaud Ctr. for the Unknown.*

10:00 UU26 **522.23** Circuit mechanism of long term memory consolidation in *Drosophila.* U. DAG*; J. LE; Z. LEI; A. WONG; K. KELEMAN. *HHMI.*

11:00 UU27 **522.24** An unlikely circuit for cue-reward learning. M. SHARPE*; N. J. MARCHANT; L. R. WHITAKER; C. T. RICHIE; Y. J. ZHANG; E. J. CAMPBELL; P. P. KOIVULA; J. C. NECARSULMER; C. MEJIAS-APONTE; M. MORALES; J. PICKEL; J. C. SMITH; Y. NIV; Y. SHAHAM; B. K. HARVEY; G. SCHOENBAUM. *Natl. Inst. On Drug Abuse, Princeton Univ., UNSW Australia, Univ. of Melbourne, Natl. Institue on Alchohol Abuse and Alcoholism, NIH, NINDS, NIH, Univ. of Maryland, The Johns Hopkins Univ.*

8:00 UU28 **522.25** The ventral-striatum's role in learning from gains and losses. C. TASWELL*; V. D. COSTA; R. VICARIO FELICIANO; K. ROTHENHOEFER; B. B. AVERBECK. *NIH/NIMH, NIMH/NIH, Natl. Inst. of Health/ NIMH, NIH, NIMH/NIH.*

9:00 UU29 **522.26** Medial prefrontal cortex lesions increase vulnerability to uncontrollable stress, resulting in cognitive impairments. J. PARK*; D. CHOI; J. HAN. *Konkuk Univ.*

10:00 UU30 **522.27** Effects of long term sugar or high fructose corn syrup (HFCS-55) consumption withdrawal on anxiety and corticosterone levels: Correlation with glutamate realase in the insular cortex during new aversive learning. D. BADILLO JUAREZ*; M. I. MIRANDA. *Inst. De Neurobiología UNAM.*

11:00 UU31 **522.28** Memory of what happened when as a compressed timeline in monkey lPFC. Z. TIGANJ*; J. A. CROMER; J. E. ROY; E. K. MILLER; M. W. HOWARD. *Boston Univ., MIT.*

8:00 UU32 **522.29** Distinct patterns of neural co-ordination support the binding of multi-modal memories across multiple brain circuits. A. J. MORLEY*; D. DUPRET. *Univ. of Oxford, Univ. of Oxford.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**523. Spatial Navigation: Grid and Place Cells**

***Theme H: Cognition***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 UU33 **523.01** Hippocampal area CA3 is necessary for ripples and place field responses. H. DAVOUDI*; D. J. FOSTER. *Dept. of Psychology, UC Berkeley, UC Berkeley, Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med.*

9:00 UU34 **523.02** Effects of early experience on spatial representation of large-scale environments in the bat hippocampus. S. R. MAIMON; T. ELIAV; L. LAS; N. ULANOVSKY*. *Weizmann Inst. of Sci.*

10:00 UU35 **523.03** Gating and scaling of the head-direction signal by angular velocity. A. FINKELSTEIN*; H. ROUAULT; S. ROMANI; N. ULANOVSKY. *Howard Hughes Med. Inst., Weizmann Inst. of Sci.*

11:00 UU36 **523.04** Representation of 3D space in the entorhinal cortex of flying bats. G. GINOSAR*; A. FINKELSTEIN; L. LAS; N. ULANOVSKY. *Weizmann Inst. of Sci.*

8:00 UU37 **523.05** Social place cells in the bat hippocampus. D. OMER*; S. R. MAIMON; L. LAS; N. ULANOVSKY. *Weizmann Inst. of Sci.*

9:00 UU38 **523.06** Representation of large-scale spaces in the hippocampus of flying bats. T. ELIAV*; L. LAS; N. ULANOVSKY. *Weizmann Inst. of Sci.*

10:00 UU39 **523.07** ● Place cell ensemble function in a mouse model of chronic stress. T. INDERSMITTEN*; M. SCHACHTER; R. WYATT; N. WELTY; S. YOUNG; S. CAMPBELL; S. OTTE; J. NASSI; P. BONAVENTURE. *Janssen Res. & Develop., Inscopix, Inc.*

11:00 UU40 **523.08** Mechanisms of synchronization of hippocampal oscillations. K. SAFARYAN*; M. R. MEHTA. *UCLA, UCLA; W. M. Keck Ctr. for Neurophysics, UCLA; Integrative Ctr. for Learning and Memory, UCLA; Brain Res. Inst.*

8:00 UU41 **523.09** A generalized linear model approach to dissociate object-centric and allocentric directional responses in hippocampal place cells. M. SHAHI*; R. SANDLER; S. DHINGRA; R. RIOS; C. VUONG; L. ACHARYA; A. HACHISUKA; M. R. MEHTA. *UCLA, UCLA, UCLA, UCLA, Baylor Col. of Med., UCLA.*

9:00 UU42 **523.10** Visual cues evoke object-centric directional tuning across the entire hippocampal place cell ensemble. S. DHINGRA*; R. SANDLER; R. RIOS; C. VUONG; M. SHAHI; L. ACHARYA; A. HACHISUKA; M. R. MEHTA. *UCLA, W. M. Keck Ctr. for Neurophysics, Integrative Ctr. for Learning and Memory, Brain Res. Inst., Dept of Physics and Astronomy, Baylor Col. of Med., Univ. of California at Los Angeles (UCLA).*

10:00 UU43 **523.11** Rapid increase in navigational performance and hippocampal neural activation during a virtual water maze task. M. R. MEHTA*; J. J. MOORE. *Univ. of California at Los Angeles (UCLA), UCLA, UCLA, UCLA.*

11:00 UU44 **523.12** Large, sustained, dendritic depolarizing events in freely behaving rats. J. J. MOORE*; M. R. MEHTA. *W. M. Keck Ctr. For Neurophysics, UCLA, UCLA, UCLA, UCLA.*

8:00 UU45 **523.13** Memory recall induced hyperactivity of place cell populations in hippocampal CA3. F. ZITRICKY*; K. JEZEK. *Fac. of Med. in Pilsen, Charles Univ.*

9:00 UU46 **523.14** Egocentric bearing selectivity in lateral entorhinal cortex. X. CHEN*; C. WANG; H. LEE; G. RAO; D. YOGANARASIMHA; F. SAVELLI; J. J. KNIERIM. *Johns Hopkins Univ., The Zanvyl Krieger Mind/Brain Inst., Natl. Brain Res. Ctr., Johns Hopkins Univ. Sch. of Med.*

10:00 UU47 **523.15** Surface texture boundaries alter firing rates of CA1 place cells in 2-dimensional environments. C. WANG*; G. RAO; J. J. KNIERIM. *Johns Hopkins Univ.*

11:00 UU48 **523.16** Influence of objects on egocentric bearing tuning in lateral entorhinal cortex. C. WANG*; X. CHEN; S. S. DESHMUKH; J. J. KNIERIM. *Johns Hopkins Univ., The Zanvyl Krieger Mind/Brain Inst., Indian Inst. of Sci., Johns Hopkins Univ. Sch. of Med.*

8:00 UU49 **523.17** Recalibration of the path integrator in virtual reality as revealed in CA1 place cells. M. S. MADHAV*; R. P. JAYAKUMAR; F. SAVELLI; M. BREAULT; H. T. BLAIR, IV; N. J. COWAN; J. J. KNIERIM. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., UCLA.*

9:00 UU50 **523.18** Preconfigured, plastic networks: Unified view on integration of Hebbian and homeostatic processes during learning. G. DRAGOI*; U. FAROOQ; J. SIBILLE; K. LIU. *Yale Univ.*

10:00 UU51 **523.19** Ontogeny of ensemble spatial representation in the hippocampus. U. FAROOQ*; G. DRAGOI. *Yale Univ.*

11:00 UU52 **523.20** Generative predictive codes for future place cell sequences during pre-experience sleep. K. LIU*; J. SIBILLE; G. DRAGOI. *Yale Univ.*

8:00 UU53 **523.21** Grid scale drives the scale and long-term stability of place maps. C. S. MALLORY*; K. HARDCASTLE; J. S. BANT; L. M. GIOCOMO. *Stanford Univ., Stanford Univ.*

9:00 UU54 **523.22** Coordinated modulation of grid and speed cells by self-motion cues. M. G. CAMPBELL*; C. S. MALLORY; L. M. GIOCOMO. *Stanford Univ., Stanford Univ.*

10:00 UU55 **523.23** Environmental deformation causes commensurate changes in grid, head direction, and speed cells in entorhinal cortex. R. G. MUNN*; C. MALLORY; D. M. CHETKOVICH; L. M. GIOCOMO. *Stanford Univ., Northwestern Univ. Feinberg Sch. of Med.*

11:00 UU56 **523.24** Grid symmetry and bursting along the dorsoventral axis of medial entorhinal cortex. J. S. BANT*; K. HARDCASTLE; L. M. GIOCOMO. *Stanford Univ.*

8:00 UU57 **523.25** Visual task-relevant cues enhance MUA events across hippocampal place cells. I. MILOJEVIC*; J. S. MONTIJN; J. V. LANKELMA; S. I. RUSU; C. S. LANSINK; C. M. A. PENNARTZ. *Univ. of Amsterdam.*

9:00 UU58 **523.26** Distinct hippocampal place codes for goal-directed behavior in a two-dimensional open field. Y. AOKI*; H. IGATA; T. SASAKI; Y. IKEGAYA. *Univ. Tokyo.*

10:00 UU59 **523.27** An examination of the necessity of hippocampus temporal coordination for self-localization in a place accuracy spatial task. J. M. BARRY*; P. MOUCHATI; P. LENCK-SANTINI; G. HOLMES; J. L. KUBIE. *Univ. of Vermont, 2Institut de Neurobiologie de la Méditerranée, INSERM, SUNY Downstate Med. Ctr.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 UU60 **523.28** The statistics of hippocampal CA1 place field activity in large virtual environments. J. LEE*; J. BRIGUGULIO; S. ROMANI; A. K. LEE. *HHMI / Janelia Res. Campus.*

8:00 UU61 **523.29** Time-varying reactivated cell ensembles predict place cell firing. S. YAGI*; H. IGATA; Y. SHIKANO; Y. AOKI; T. SASAKI; Y. IKEGAYA. *The Univ. of Tokyo.*

**POSTER**

**524. Cognitive Development**

***Theme H: Cognition***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 UU62 **524.01** Sleep spindle topography in 6.5 month-old human infants is sexually dimorphic, correlated with language measures, and functionally left-lateralized. S. E. PETERS*; A. A. BENASICH. *Rutgers Univ. - Newark.*

9:00 UU63 **524.02** Direct brain recordings from children and adolescents reveal diverse patterns of PFC involvement in memory formation. E. L. JOHNSON*; Q. YIN; L. TANG; M. MALIK; E. ASANO; N. OFEN. *Univ. of California, Berkeley, Wayne State Univ., Children's Hosp. of Michigan.*

10:00 UU64 **524.03** Visual cortices assume distinct cognitive functions in congenital and adult-onset blindness. R. PANT*; S. KANJLIA; C. LANE; M. BEDNY. *Johns Hopkins Univ., Johns Hopkins Univ.*

11:00 UU65 **524.04** Gene co-expression patterns underlie cognitive process divisions of human neocortex. D. R. SCHONHAUT*; A. E. KAHN; R. BETZEL; D. S. BASSETT. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

8:00 UU66 **524.05** ● Statistical learning is associated with autism symptoms and verbal abilities in young children with autism. R. M. JONES*; T. TARPEY; A. HAMO; C. CARBERRY; G. J. BROUWER; C. LORD. *Weill Cornell Med., Wright State Univ., New York Univ.*

9:00 UU67 **524.06** Cognitive control training supports the functional integration of control networks in adolescence. R. LEE; S. KWAK; D. LEE; J. CHEY*. *Seoul Natl. Univ., Psychology, Seoul Natl. Univ.*

10:00 UU68 **524.07** ▲ Mvpa exploration of autism networks. D. P. PANFILI*; K. Z. OSIPOWICZ. *Drexel Univ., Drexel Univ.*

11:00 UU69 **524.08** fMRI with awake, behaving infants: Theoretical impact. C. T. ELLIS*; L. J. SKALABAN; N. I. CORDOVA; V. R. BEJJANKI; N. B. TURK-BROWNE. *Yale Univ., Princeton Univ., Hamilton Col.*

8:00 UU70 **524.09** fMRI with awake, behaving infants: Methodological considerations. L. SKALABAN*; C. T. ELLIS; N. I. CORDOVA; J. S. TUREK; V. R. BEJJANKI; N. B. TURK-BROWNE. *Yale Univ., Princeton Univ., Intel Corp., Hamilton Col.*

9:00 UU71 **524.10** Local functional connectivity development in early childhood: Associations with socioeconomic status. U. A. TOOLEY*; A. P. MACKEY. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

10:00 UU72 **524.11** Task control network brain activity before intervention relates to future reading gain in struggling readers. T. NUGIEL*; M. ROE; W. TAYLOR; J. M. FLETCHER; J. J. JURANEK; J. A. CHURCH. *Univ. of Texas At Austin, Univ. of Houston, Univ. of Texas at Houston.*

11:00 UU73 **524.12** Higher responsiveness to familiar scenes in the retrosplenial cortex develops in late childhood. T. W. MEISSNER*; S. WEIGELT. *Ruhr-Universität Bochum.*

8:00 UU74 **524.13** A sensitive period for higher-cognitive repurposing of visual cortex in blindness. S. KANJLIA*; L. FEIGENSON; M. BEDNY. *Johns Hopkins Univ.*

9:00 UU75 **524.14** White matter integrity is related to cognitive ability in early life. J. N. BULLINS*; E. CORNEA; B. D. GOLDMAN; R. C. KNICKMEYER; M. STYNER; J. H. GILMORE. *Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill.*

10:00 UU76 **524.15** Dorsal visual network connectivity develops earlier than ventral as reflected in cortical thickness and task-related ERPs. I. SOLIS*; M. STERN; B. FISCHL; C. BOUCHARD; S. MEYER; A. VAN DER KOUWE; K. REWIN CIESIELSKI. *Pediatric Neurosci. Laboratory, UNM, MGH/MIT/HMS Athinoula A. Martinos Ctr. for Biomed. Imaging, Radiology.*

11:00 UU77 **524.16** Early educational intervention for poor children modifies brain structure in adulthood. M. J. FARAH*; J. T. DUDA; T. A. NICHOLS; S. L. RAMEY; P. R. MONTAGUE; T. M. LOHRENZ; C. T. RAMEY. *Univ. Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania, Virginia Tech. Carilion Res. Inst., Virginia Tech. Carilion Res. Inst. & Dept. of Physics.*

8:00 UU78 **524.17** Neural and behavioral development of visual-spatial construction ability. K. FERRARA*; A. SEYDELL-GREENWALD; C. E. CHAMBERS; E. L. NEWPORT; B. LANDAU. *Ctr. For Brain Plasticity and Recovery, Johns Hopkins Univ.*

9:00 UU79 **524.18** Adolescents are sensitive to peer influence, but only for so long. J. M. RODRIGUEZ BURITICA*; H. R. HEEKEREN; W. VAN DEN BOS. *Freie Universität, Freie Univ. Berlin, Max-Planck-Institute for Human Develop.*

**POSTER**

**525. Human Motor and Sequence Learning**

***Theme H: Cognition***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 UU80 **525.01** Casual prefrontal cortex neuromodulation of reinforced skill learning. J. HERSZAGE*; E. DAYAN; R. LAOR MAAYANY; N. CENSOR. *Tel Aviv Univ., Univ. of North Carolina at Chapel Hill.*

9:00 UU81 **525.02** Enhancing cortical targeting for non-invasive brain stimulation in order to modulate the consolidation of motor sequence memory. M. A. GANN*; B. R. KING; D. MANTINI; M. DAVARE; S. SWINNEN; E. M. ROBERTSON; G. ALBOUY. *KU Leuven, Univ. of Glasgow.*

10:00 UU82 **525.03** The evolution of whole-brain community structure during sensorimotor adaptation. D. STANDAGE*; J. Y. NASHED; J. R. FLANAGAN; J. P. GALLIVAN. *Queen's Univ.*

11:00 UU83 **525.04** Age-related differences in brain activation during the acquisition and retention of a visuomotor skill. K. M. BERGHUIS*; S. FAGIOLI; N. M. MAURITS; I. ZIJDEWIND; T. HORTOBÁGYI; G. KOCH; M. BOZZALI. *Univ. of Groningen, UMCG, IRCCS Fondazione Santa Lucia, Univ. of Groningen, UMCG, Univ. of Groningen, UMCG.*

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 VV1 **525.05** tACS-applied slow-wave oscillations enhance repeated plasticity paradigm effects. C. BRADLEY*; G. KIESEKER; J. B. MATTINGLEY; G. TONONI; M. V. SALE. *The Univ. of Queensland, The Univ. of Queensland, Univ. of Wisconsin Madison, The Univ. of Queensland.*

9:00 VV2 **525.06** Individual differences in implicit probabilistic sequence learning. S. A. KISER*; P. KHOSRAVI; N. E. ADLEMAN. *DC VA Med. Ctr., The Catholic Univ. of America.*

10:00 VV3 **525.07** ▲ Gaze-hand coordination and learning in an unpredictable competitive marksmanship task. N. J. STEINBERG*; L. F. SCHETTINO; A. A. BROWN. *Lafayette Col., Lafayette Col., Lafayette Col.*

11:00 VV4 **525.08** Discovery-based learning affords neural facilitation enhancing generalization to a novel motor task. R. LAWSON*; J. JOHNSON; L. WHEATON. *Georgia Inst. of Technol., Georgia Inst. of Technol.*

8:00 VV5 **525.09** Implicit & explicit knowledge in visual statistical learning. K. HIMBERGER*; A. S. FINN; C. J. HONEY. *Johns Hopkins Univ., Univ. of Toronto.*

9:00 VV6 **525.10** tACS-applied slow wave oscillations promote consolidation of motor cortical plasticity in the awake human brain. M. V. SALE*; N. BLAND; C. BRADLEY; G. TONONI; J. B. MATTINGLEY. *Univ. of Queensland, The Univ. of Queensland, The Univ. of Queensland, Univ. of Wisconsin Madison.*

10:00 VV7 **525.11** ▲ Static magnetic field stimulation alters motor learning in humans. A. LACROIX*; L. PROULX-BÉGIN; F. MORIN-PARENT; J. LEPAGE. *Univ. De Sherbrooke, Univ. Du Québec à Trois-Rivières.*

11:00 VV8 **525.12** Intrinsic EEG functional connectivity in theta band is associated with individual differences in statistical learning. Z. KARDOS*; B. TOTH; A. KÓBOR; A. TAKACS; K. JANACSEK; D. NEMETH. *Hungarian Acad. of Sci., Hungarian Acad. of Sci., Boston Univ., Hungarian Acad. of Sci., Univ. of Glasgow, Eotvos Lorand Univ., Hungarian Acad. of Sci.*

8:00 VV9 **525.13** Frequency-dependent modulation of motor adaptation by cerebellar transcranial alternating current stimulation. J. J. MARIMAN*; D. ROJAS-LÍBANO; A. VALERO-CABRÉ; P. E. MALDONADO. *BNI and Dept. Neuroscience, Univ. De Chile, Univ. Metropolitana de Ciencias de la Educación, Univ. Alberto Hurtado, . Cerebral Networks, Plasticity and Rehabil. Team, FrontLab, Inst. du Cerveau et la Moelle, & CNRS UMR 7225.*

9:00 VV10 **525.14** Investigating the role of the cerebellum in motor, linguistic, and social prediction: A tDCS-fMRI study. C. J. STOODLEY*; S. E. MARTIN; B. C. DRURY; A. M. D'MELLO. *American Univ., American Univ.*

10:00 VV11 **525.15** Functional connectome changes induced by working memory and motor sequence trainings. S. MAGON*; P. ZUBER; L. GAETANO; A. GRIFFA; M. HUERBIN; L. PEDULLÀ; L. BONZANO; P. HAGMANN; J. WUERFEL; T. SPRENGER; O. SPORNS; L. KAPPOS. *Univ. Hosp. Basel, Med. Image Analysis Ctr. (MIAC, AG), Ctr. Hospitalier Universitaire Vaudois (CHUV), Universtiy of Genoa, Univ. of Genoa, DKD HELIOS Klinik, Indiana Univ.*

11:00 VV12 **525.16** ERPs differentiate the sensitivity to raw statistical probabilities and the learning of sequential structures during probabilistic sequence learning. A. KÓBOR*; Á. TAKÁCS; Z. KARDOS; K. JANACSEK; K. HORVÁTH; D. NEMETH. *Hungarian Acad. of Sci., Inst. of Neurosci. and Psychology, Univ. of Glasgow, Eotvos Lorand Univ., Inst. of Cognitive Neurosci. and Psychology, Res. Ctr. for Natural Sciences, Hungarian Acad. of Sci., Budapest Univ. of Technol. and Econ., Inst. of Cognitive Neurosci. and Psychology, Res. Ctr. for Natural Sciences, Hungarian Acad. of Sci.*

8:00 VV13 **525.17** Transcranial direct current stimulation improves the learning, retention and generalization of a new motor skill involving finger opposition sequence movements in healthy adults. M. E. PIEMONTE*; A. ZOMIGNANI; J. MOREIRA SANTOS; T. SILVA MARTINS; R. SILVA MARTINS; M. F. MENEGATTI. *Univ. Sao Paulo, Univ. of Sao Paulo, Univ. Paulista, Padre Anchieta Univ.*

9:00 VV14 **525.18** Impact of error magnitude on sensorimotor skill performance changes before and after consolidation. B. JOHNSON*; K. P. WESTLAKE. *Univ. of Maryland Sch. of Med.*

10:00 VV15 **525.19** Intersubject-similarity of BOLD activity while learning to fold origami. K. KOSTORZ*; V. L. FLANAGIN; S. GLASAUER. *German Ctr. for Vertigo and Balance Disorders, Grad. Sch. for Systemic Neurosci. (GSN), LMU, Ctr. for Sensorimotor Res. and Dept. of Neurology, LMU.*

**POSTER**

**526. Aging and Memory**

***Theme H: Cognition***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 VV16 **526.01** Cortical and hippocampal predictors of individual differences in episodic memory in putatively healthy older adults. A. N. TRELLE*; J. BERNSTEIN; V. A. CARR; C. FREDERICKS; S. GUERIN; W. GUO; M. JAYAKUMAR; J. JIANG; G. KERCHNER; A. KHAZENZON; C. LITOVSKY; S. SHA; M. THIEU; A. WAGNER. *Stanford Univ., Univ. of California San Diego, San Jose State Univ., Stanford Univ., Johns Hopkins Univ.*

9:00 VV17 **526.02** Playing 3D video games can improve memory and hippocampal structure in older adults. G. D. CLEMENSON*; C. E. STARK. *Univ. of California Irvine.*

10:00 VV18 **526.03** The relationships between global cortical thickness, intra-scan motion and recognition memory performance as a function of age. M. A. DE CHASTELAINE*; D. D. R. KING; B. E. DONLEY; K. M. KENNEDY; M. D. RUGG. *Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas Ctr. for Vital Longevity.*

11:00 VV19 **526.04** Age differences in pre-stimulus subsequent memory effects: A time-frequency analysis. N. HAUCK*; J. KOEN; E. HORNE; M. RUGG. *Univ. of Texas At Dallas.*

8:00 VV20 **526.05** Can spontaneous EEG activity predict spatial working memory performance during normal aging in humans? G. KLENCKLEN*; A. JABÈS; P. BANTA LAVENEX; P. LAVENEX. *Inst. of Psychology.*

9:00 VV21 **526.06** Age-related changes in resolving proactive interference in associative memory. B. CORBETT*; S. M. POLYN; A. DUARTE. *Georgia Tech., Vanderbilt Univ.*



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* Indicates abstract's submitting author

10:00 VV22 **526.07** Differences in prefrontal and hippocampal functional connectivity related to spatial memory performance across the adult lifespan. E. ANKUDOWICH*; S. PASVANIS; M. N. RAJAH. *McGill Univ., Douglas Mental Hlth. Univ. Inst., McGill Univ.*

11:00 VV23 **526.08** Aging effects on object and scene mnemonic discrimination in a large-scale adult lifespan approach. J. GÜSTEN*; D. BERRON; E. DUZEL. *Inst. Cognitive Neurol. and Dementia Res.*

8:00 VV24 **526.09** Age-related deficits in the mnemonic similarity task for objects and scenes. S. M. STARK*; C. E. STARK. *Univ. of California, Irvine, Univ. of California Irvine.*

9:00 VV25 **526.10** Establishing a new skill learning model, "pot-jumping" in rats. A. J. ERNYEI*; T. GROHMANN PEREIRA; K. KOZMA; F. KASSAI; I. GYERTYÁN. *Semmelweis University, Dept. of Pharmacol., Res. Ctr. for Natural Sci. - MTA.*

**POSTER**

**527. Cognitive Aging**

***Theme H: Cognition***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 VV26 **527.01** White matter tracts mediate age-related cognitive inhibition decline in Stroop interference. P. LI*; Y. GAZES. *Columbia Univ. Med. Ctr.*

9:00 VV27 **527.02** Age and education have fundamentally different multimodal neural substrates than verbal intelligence across the life span. C. G. HABECK*; Q. R. RAZLIGHI; Y. GAZES; Y. STERN. *Columbia Univ., Columbia Univ., Columbia Univ., Cognitive Neurosience Division, Columbia Univ.*

10:00 VV28 **527.03** Application of awFC, a technique combining functional and structural connectivity, in the context of aging and a reasoning task performance. Y. GAZES*; D. F. DRAKE; F. D. BOWMAN. *Columbia Univ., Columbia Univ.*

11:00 VV29 **527.04** Regional covariance patterns of white matter microstructure in healthy aging. L. A. NGUYEN*; P. K. BHARADWAJ; M. C. FITZHUGH; K. A. HAWS; G. A. HISHAW; J. R. MOELLER; C. G. HABECK; T. P. TROUARD; G. E. ALEXANDER. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Columbia Univ., Columbia Univ., Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

8:00 VV30 **527.05** Multimodal neuroimaging reveals white matter microstructure related covariance networks of subcortical gray matter volumes in healthy aging. P. K. BHARADWAJ*; M. C. FITZHUGH; L. A. NGUYEN; K. A. HAWS; G. A. HISHAW; T. P. TROUARD; J. R. MOELLER; C. G. HABECK; G. E. ALEXANDER. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Columbia Univ., Columbia Univ. Med. Ctr., Univ. of Arizona, Univ. of Arizona, Arizona Alzheimers Consortium.*

9:00 VV31 **527.06** Network covariance of hippocampal subfield volumes associated with healthy aging and the risk for Alzheimer's disease. G. E. ALEXANDER*; P. K. BHARADWAJ; D. A. RAICHLEN; Y. C. KLIMENTIDIS; M. C. FITZHUGH; L. A. NGUYEN; K. A. HAWS; G. A. HISHAW; J. R. MOELLER; C. G. HABECK; T. P. TROUARD. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Arizona Alzheimers Consortium, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Columbia Univ., Columbia Univ. Med. Ctr., Univ. of Arizona.*

10:00 VV32 **527.07** Relation of physical sport activity to regional white matter integrity in older adults. M. FRANCHETTI*; P. K. BHARADWAJ; L. A. NGUYEN; Y. C. KLIMENTIDIS; K. A. HAWS; M. C. FITZHUGH; G. A. HISHAW; T. P. TROUARD; D. A. RAICHLEN; G. E. ALEXANDER. *Univ. of Arizona, Evelyn F. McKnight Brain Inst., Arizona Alzheimer's Consortium, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

11:00 VV33 **527.08** The role of anxiety on the cognitive control of gait in older adults. M. E. HERNANDEZ*; M. E. KERSH; G. CHAPARRO. *UIUC.*

8:00 VV34 **527.09** Default to executive coupling is associated with divergent thinking in older adulthood. A. ADNAN*; R. BEATY; P. SILVIA; N. SPRENG; G. R. TURNER. *York Univ., Harvard Univ., Univ. of North Carolina at Greensboro, Montreal Neurolog. Inst., York Univ.*

9:00 VV35 **527.10** Factors associated with daytime sleepiness in older adult. M. M. MELENDEZ*; U. JIMENEZ-CORREA; F. AYALA-GUERRERO; A. JIMÉNEZ-ANGUIANO. *Univ. Autónoma Metropolitana, Doctorado en Ciencias Biológicas y de la Salud, Univ. Autónoma Metropolitana, Unidad Iztapalapa, México, D.F., México, Clínica de Trastornos de Sueño, División de Investigación, Facultad de Medicina, Univ. Nacional Autónoma de México, México, D.F., México, Lab. de Sueño, Facultad de Psicología, Univ. Nacional Autónoma de México, México, D.F., México.*

10:00 VV36 **527.11** ▲ Modified stroop task-set switching test: Brief screening for executive functioning across the life span. M. BELGHALI; C. CHESNEAU; D. DAVENNE; L. M. DECKER*. *UMR-S 1075 Inserm/Université de Caen Normandie, LMNO, Univ. de Caen, Campus 2, UMR-S 1075 Inserm/Université De Caen Normandie.*

11:00 VV37 **527.12** Structural integrity of the dorsal striatum correlates with learning rate in a valenced go/no-go task. V. PEROSA*; M. BETTS; M. GUITAT-MASIP; G. ZIEGLER; E. DUEZEL. *German Ctr. for Neurodegenerative Dis., Otto-von-Guericke University, Ageing Res. Ctr. Karolinska Inst., Inst. of Cognitive Neurol. and Dementia Res.*

8:00 VV38 **527.13** Neural network properties as a function of age and apoE genotype. L. JAMES*; A. C. LEUTHOLD; A. P. GEORGOPOULOS. *Univ. of Minnesota/Minneapolis VAHCS, VA Med. Ctr., Univ. Minnesota.*

9:00 VV39 **527.14** Peripheral visual perception and motor performance in younger and older adults: A MoBI-study. J. PROTZAK*; K. GRAMANN. *TU Berlin, TU Berlin.*

10:00 VV40 **527.15** Socioemotional and neural correlates of off-task thinking in young and old adults. J. R. ANDREWS-HANNA*; C. K. GARDINER; M. T. BANICH; A. D. BRYAN. *Univ. of Arizona, Univ. of Colorado Boulder, Univ. of Colorado Boulder.*



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* Indicates abstract's submitting author

11:00 VV41 **527.16** Increasing age differences in neural-vascular coupling with increasing task demand revealed by calibrated fMRI. M. P. TURNER; D. K. SIVAKOLUNDU; B. P. THOMAS; K. L. WEST; Y. ZHAO; H. LU; B. P. RYPMA*. *Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas Southwestern Med. Ctr., Univ. of Texas at Dallas, Johns Hopkins Univ., Univ. of Texas Southwestern Med. Ctr.*

8:00 VV42 **527.17** Modulation of alpha oscillations in humans during allocation of internal resources in relation to sub-regions of the striatum: Effects of aging. S. AURTENETXE*; E. VAN BIJNEN; R. KESSELS; A. NOBRE; O. JENSEN. *Donders Ctr. For Cognitive Neuroimaging, Donders Inst. for Brain Cognition and Behaviour, Oxford Univ., Univ. of Birmingham.*

9:00 VV43 **527.18** Anatomical substrates of cognitive fatigue and fatigability in aging. S. E. BURKE*; I. B. H. SAMUEL; Q. ZHOU; C. PRICE; B. KLUGER; M. DING. *Univ. of Florida, Univ. of Florida, Univ. of Colorado Denver.*

10:00 VV44 **527.19** Tissue correction strategies impact GABA-edited MRS findings. E. C. PORGES*; A. J. WOODS; D. G. LAMB; J. B. WILLIAMSON; R. A. COHEN; R. A. E. EDDEN; A. D. HARRIS. *Univ. of Florida, Malcom Randall VAMC, Univ. of Florida, The Johns Hopkins Univ. Sch. of Med., Univ. of Calgary.*

11:00 VV45 **527.20** Neural distinctiveness and GABA concentrations in the aging ventral visual cortex. J. D. CHAMBERLAIN*; H. GAGNON; P. S. LALWANI; K. E. CASSADY; M. SIMMONITE; B. FOERSTER; M. PETROU; R. D. SEIDLER; S. F. TAYLOR; D. WEISSMAN; T. A. POLK. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan - Ann Arbor, Univ. of Michigan Dept. of Psychiatry, Univ. of Michigan Dept. of Psychology.*

8:00 VV46 **527.21** ● Facilitating scalable cognitive science research through the human cognition project. E. CORDELL*; K. KERLAN; N. NG; B. SCHAFER. *Lumos Labs.*

9:00 VV47 **527.22** Effects of dietary habits and genotype on neural network properties. S. DOLAN*; L. JAMES; A. C. LEUTHOLD; A. P. GEORGOPOULOS. *Minneapolis VA Hlth. Care Syst., Univ. of Minnesota/Minneapolis VAHCS, VA Med. Ctr., Univ. Minnesota.*

10:00 VV48 **527.23** Changes in cognitive pupil responses across the lifespan. J. HUANG*; M. L. SMORENBURG; B. C. COE; C. WANG; D. P. MUNOZ. *Queen's Univ.*

11:00 VV49 **527.24** Bridging gaps: Validating use of rapid testing through technology for cognitive assessment in aging. T. C. CASTANHO*; L. AMORIM; P. MOREIRA; J. A. PALHA; N. SOUSA; N. C. SANTOS. *Sch. of Med., ICVS/3B's, PT Government Associate Lab., Clin. Academic Ctr. – Braga.*

8:00 VV50 **527.25** A 16-week visuomotor exercise program improves overall cognition and functional abilities in older adults with cognitive impairment. C. DE BOER*; A. ROGOJIN; B. BALTARETU; H. ECHLIN; L. E. SERGIO. *York Univ., York Univ., York Univ., York Univ., York Univ.*

9:00 VV51 **527.26** Associations between cardiovascular risk factors and cognition in aging Hispanics compared to Non-Hispanic Whites. A. STICKEL*; L. RYAN. *Univ. of Arizona, Univ. of Arizona.*

10:00 VV52 **527.27** ● SUVN-502 (pure 5-$HT_6$ antagonist): A promising therapeutic potential for menopause associated dementia. V. GRANDHI; J. TADIPARTHI; N. GANUGA; R. MEDAPATI; P. JAYARAJAN*; R. NIROGI. *Suven Life Sci. Ltd.*

**POSTER**

## 528. Optical Physiology, Electrodes, and Light Shaping

***Theme I: Techniques***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 VV53 **528.01** An all-optical system for rapid and deep interrogation of behaviorally relevant activity patterns. G. M. LERMAN*; J. V. GILL; D. RINBERG; S. SHOHAM. *New York Univ. Sch. of Med., New York Univ., New York Univ., Technion.*

9:00 VV54 **528.02** Effects of wireless optogenetic stimulation of medial prefrontal pyramidal neurons on within-session habituation of locomotor activity in freely moving rats. K. ISHIWARI*; A. M. GEORGE; C. D. MARTIN; R. Y. SHEN; S. HAJ-DAHMANE; J. B. RICHARDS. *Univ. at Buffalo.*

10:00 VV55 **528.03** ● Enhanced light delivery to multiwell microplates for high throughput optical control of activity and cellular processes. I. P. CLEMENTS; D. C. MILLARD; M. CLEMENTS; A. M. NICOLINI; S. A. CHVATAL; H. B. HAYES*; J. D. ROSS. *Axion Biosystems.*

11:00 VV56 **528.04** Implantable neural recording and stimulation capsules for *in vivo* electrophysiology. J. C. MORIZIO*; V. GO; D. PEREZ. *Triangle Biosystems, Inc.*

8:00 VV57 **528.05** Distinct thalamic reticular cell types differentially modulate normal and pathological cortical rhythms. A. CLEMEMTE*; S. L. MAKINSON; B. HIGASHIKUBO; S. BROVARNEY; F. S. CHO; A. URRY; S. HOLDEN; M. WIMER; L. E. FENNO; C. DAVID; L. ACSADY; K. DEISSEROTH; J. PAZ. *Univ. of California, Gladstone Inst., Gladstone Inst., UCSF, UCSF, Stanford Univ., Lab. of Thalamus, Inst. Exp. Med. Hung Acad Sci., Stanford Univ. Dept. of Psychology, Gladstone Inst. of Neurolog. Dis.*

9:00 VV58 **528.06** An open-source PCIe based electrophysiology system for high data rate, low-latency closed-loop experiments. J. P. NEWMAN*; J. ZHANG; J. VOIGTS; A. CUEVAS LOPEZ; M. A. WILSON. *MIT, MIT, MIT, Univ. Politècnica De València, MIT.*

10:00 VV59 **528.07** ▲ Dissecting the functional structure of CA1 assemblies with light. T. TRESSARD*; E. RONZITTI; A. MALVACHE; E. PAPAGIAKOUMOU; V. EMILIANI; R. COSSART. *INMED, INSERM U-901, Neurophotonics Lab.*

11:00 VV60 **528.08** Direct measure of the collection diagram of fiber optics for *in vivo* photometry. F. PISANELLO*; H. MINSUK; F. PISANO; M. PISANELLO; L. SILEO; E. MAGLIE; M. DE VITTORIO, 73010; B. SABATINI. *Inst. Italiano Di Tecnologia, Dept. of Neurobiology, Howard Hughes Med. Institute, Harvard Med. Sch., Inst. Italiano di Tecnologia, Inst. Italiano Di Tecnologia.*

8:00 VV61 **528.09** Frequency-agile, low-intensity, broadband ultrasonic array as a brain computer interface technology for improving neurological health. S. W. LANI; A. P. ROSENBERG; S. F. MAGRUDER; G. M. HWANG*. *Johns Hopkins Univ. Applied Physics Lab.*

9:00 VV62 **528.10** Wavefront engineered multiphoton microscopy for functional imaging of mouse visual cortex during visual behavior. R. LIU*; N. BALL; J. BROCKILL; S. NISHIWAKI; A. STEGER; D. SULLIVAN; C. SLAUGHTERBECK; C. FARRELL; J. LECOQ; P. SAGGAU. *Allen Inst. For Brain Sci., Allen Inst. for Brain Sci.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 VV63 **528.11** ● Medium-retaining Petri dish inserts to grow and image miniaturized cultured cells. L. KIEDROWSKI*; A. FEINERMAN. *Univ. of Illinois At Chicago, Spot Cells LLC, Univ. of Illinois at Chicago.*

11:00 VV64 **528.12** Electrical and biocompatibility properties of different soft intra-cortical implant designs. P. VILLARD*; J. MAYAUDON; C. ZENGA; A. QUESNEL-HELLMANN; L. ROUSSEAU; B. YVERT; G. PIRET. *INSERM U1205, Esiee-Paris.*

8:00 VV65 **528.13** Effects of drugs of abuse on channelrhodopsin 2 kinetics. D. A. GIOIA*; W. N. WAYMAN; M. XU; C. RIEGEL; C. M. REICHEL; J. J. WOODWARD. *Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. South Carolina, Med. Univ. of South Carolina, Med. Univ. of South Carolina.*

**POSTER**

**529. Methods: Physiology and Circuitry II**

***Theme I: Techniques***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 VV66 **529.01** Biomarkers for fiber recruitment within the vagus nerve and impact of cuff geometry. J. BUCKSOT*; J. RILEY; K. LOERWALD; K. RAHEBI; M. RIOS; M. KILGARD; R. RENNAKER; S. HAYS. *Univ. of Texas At Dallas, Univ. of Texas At Dallas.*

9:00 VV67 **529.02** Electrochemical neuromodulation using cuff electrodes modified with ion-selective membranes. M. T. FLAVIN*; J. HAN; D. K. FREEMAN. *MIT, Draper Lab.*

10:00 VV68 **529.03** Targeting of DREADD expressing vectors into cytoarchitecturally different monkey brain regions at high penetrance. W. LERCHNER*; M. A. G. ELDRIDGE; D. MILLER; J. M. FREDERICKS; D. ROSE; V. DER MINASSIAN; V. D. COSTA; B. B. AVERBECK; B. J. RICHMOND. *NIH.*

11:00 VV69 **529.04** A deep-brain multi-wire electrode array and cartridge-based implantation system for high-resolution recording and stimulation with demonstration as a visual prosthesis. N. J. KILLIAN*; J. S. PEZARIS. *Massachusetts Gen. Hosp.*

8:00 VV70 **529.05** ● Going wireless: Validation of a novel neurostimulation technology in a conditioned place preference task. L. Y. MAENG*; M. F. MURILLO; M. LO; D. K. FREEMAN; M. R. MILAD; A. S. WIDGE. *Massachusetts Gen. Hospital/Harvard Med. Sch., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Draper Lab., Harvard Med. School, Mass. Gen. Hospital.*

9:00 VV71 **529.06** ● Simultaneous monitoring of changes in neuronal oscillations and behavior of unrestrained animals: A novel technique in neuropharmacology. S. DARIPELLI*; C. TIRUMALASETTY; V. BENADE; G. BHYRAPUNENI; R. MEDAPATI; P. JAYARAJAN; R. NIROGI. *Suven Life Sci. Ltd.*

10:00 VV72 **529.07** Stable, high-throughput giga-seal intracellular recordings *in vivo* using biomimetic nanopipettes. K. JAYANT*; J. Y. CARRILLO; A. HARTEL; M. WENZEL; S. SHEKAR; V. MEUNIER; O. SAHIN; R. YUSTE; K. L. SHEPARD. *Columbia Univ., Oak Ridge Natl. Lab., Columbia Univ., Columbia Univ., Rensselaer Polytechnic Inst.*

11:00 VV73 **529.08** Triple-microdrive assembly for simultaneous juxtacellular neural recording and labeling in freely moving rats. R. G. AVERKIN*; G. TAMAS. *Univ. of Szeged.*

8:00 VV74 **529.09** Major depression index derived from the relationship between hurst exponent and zero crossing rate in voice. S. SHINOHARA*; Y. OMIYA; M. NAKAMURA; M. HIGUCHI; N. HAGIWARA; T. TAKANO; H. TODA; T. SAITO; M. TANICHI; A. YOSHINO; S. MITSUYOSHI; S. TOKUNO. *The Univ. of Tokyo, PST Corporation, Inc., Natl. Def. Med. Col.*

9:00 VV75 **529.10** ● Robotic automation of *in vivo* two photon targeted whole-cell patch clamp electrophysiology. L. A. ANNECCHINO*; A. R. MORRIS; C. S. COPELAND; O. E. AGABI; P. CHADDERTON; S. R. SCHULTZ. *Imperial Col. London.*

10:00 VV76 **529.11** Animal locomotion control using electrical brain stimulation on amygdala for “Go” and “Back” commands. Y. LEE*; J. LEE; Y. CHO; S. KIM; C. KONG; J. SHIN; C. KO; H. JUNG; J. CHANG; S. JUN. *Ewha Womans Univ., Ewha Womans Univ., Yonsei Univ., Ewha Womans Univ.*

11:00 VV77 **529.12** Fear conditioning altered BOLD responses in dexmedetomidine sedated rats. K. CHEN*; D. CHEN; K. LIANG. *Dept. of Psychology, Natl. Taiwan Univ., Dept Psychology, Natl. Cheng Kung Univ., Natl. Taiwan Univ.*

8:00 VV78 **529.13** Targeted wireless neuromodulation using magnetoelectric thin films. A. WICKENS*; J. ROBINSON. *Rice Univ., Rice Univ.*

9:00 VV79 **529.14** Effects of VTA electrical stimulation on whole-brain fMRI activity. S. R. MURRIS*; J. T. ARSENAULT; W. VANDUFFEL. *KU Leuven.*

10:00 VV80 **529.15** Neuromodulation with microelectrodes: Elasticity of water window and implication for tissue damage. P. A. TAKMAKOV*; Y. WANG. *US Food and Drug Admin.*

11:00 VV81 **529.16** OpenBehavior: Accelerating behavioral neuroscience through the promotion of collaboration and open science. M. W. PRESTON*, JR; H. C. GOLDBACH; S. R. WHITE; T. K. SWANSON; L. M. AMARANTE; A. V. KRAVITZ; M. LAUBACH. *Natl. Inst. of Neurolog. Disorders and Stroke, American Univ., NIDDK, Natl. Inst. of Hlth.*

8:00 VV82 **529.17** Electrode design and test for spinal cord stimulation. L. R. C. CAVALCANTI; H. S. PEREIRA; E. MORYA*. *Federal Inst. for Education, Sci. and Technol. of Rio Grande do Norte, Santos Dumont Inst., Inst. Santos Dumont.*

**POSTER**

**530. Machine Learning**

***Theme I: Techniques***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 VV83 **530.01** Circuits in the retina: A deep learning framework for biological modeling and experimental design. D. BAGHERIAN*; T. KIM; Y. YUE; M. MEISTER. *Caltech.*

9:00 VV84 **530.02** Multi-input deep learning models for brain computer interface headset transfer. A. SOLON*; S. M. GORDON. *DCS Corp., DCS Corp.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract’s submitting author

10:00 VV85 **530.03** Classification of neural cell types from extracellular signatures on multi-electrode arrays using deep learning. A. P. BUCCINO*; T. V. NESS; G. T. EINEVOLL; G. CAUWENBERGHS; T. HAFTING-FYHN; M. FYHN; P. HÄFLIGER. *Univ. of Oslo, UCSD, Norwegian Univ. of Life Sci., Univ. of Oslo, Univ. of Oslo.*

11:00 VV86 **530.04** When to use what algorithm: An empirical exploration of machine learning for prediction with neuroimaging data. L. JOLLANS*; R. WHELAN. *Trinity Col. Dublin.*

8:00 VV87 **530.05** Using machine learning for automated animal call detection and classification. S. SHARMA; R. LANDMAN; K. SRINIVASAN; R. T. CHEUNG; J. SHARMA*; M. SUR; G. FENG; R. DESIMONE. *MIT, Broad Inst., Broad Inst., MIT, MIT and MGH, MIT, MIT, McGovern Inst. Brain Res.*

9:00 VV88 **530.06** Learning multi-layer and feedback network structures in mu-ECoG data. M. SAHRAEE-ARDAKAN; A. FLETCHER*; M. TRUMPIS; B. BENT; J. VIVENTI. *UCLA, Duke Univ. Dept. of Electrical and Computer Engin.*

10:00 VV89 **530.07** Deep dynamic programming: Learning state-action space on-line to rapidly generate optimal controllers. A. LONSBERRY; R. QUINN. *Case Western Reserve Univ.*

11:00 VV90 **530.08** Transfer learning model of sensory inputs in the external plexiform layer network of olfactory bulb. A. BORTHAKUR*; T. A. CLELAND. *Cornell Univ.*

8:00 VV91 **530.09** A local supervised learning rule protects memories from catastrophic interference during subsequent unsupervised learning. A. J. DECOSTANZO*; T. FUKAI. *RIKEN, RIKEN.*

9:00 VV92 **530.10** Whole brain architecture for open development of general artificial intelligence based on connectomes. H. MIZUTANI*; M. UENO; N. ARAKAWA; H. YAMAKAWA. *Dwango, Whole Brain Architecture Initiative.*

10:00 WW1 **530.11** Application of game theory and optimization techniques to intelligent decision making. H. C. YUAN*; M. CHAO. *Independent Lab., Independent Lab.*

11:00 WW2 **530.12** A dynamic perceptron model. N. GRAYSON*; G. SILVA; V. GEORGE; F. PUPPO. *UCSD.*

8:00 WW3 **530.13** Drowning in Data: Using predictive analytics to advance outcome measures in neurosciences research settings. A. L. ORTIZ-VELEZ*; A. MARCUZ. *Pontifical Catholic Univ. of Puerto Rico (PUC, Syracuse VA Med. Ctr., Naval Hosp. Camp Lejeune.*

9:00 WW4 **530.14** Robust reservoir computing achieved by self-organized criticality. G. ZENG; X. HUANG; T. JIANG; S. YU*. *Inst. of Automation, Chinese Acad. of Sci.*

**POSTER**

## 531. Computational Tools for Circuit Mapping

***Theme I: Techniques***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 WW5 **531.01** Tools for registering 11T *ex vivo* MRI of the human medial temporal lobe to a standard atlas coordinate system. D. J. TWARD*; T. BROWN; B. LEE; J. T. RATNANATHER; S. MORI; J. C. TRONCOSO; M. MILLER. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins University, Sch. of Med.*

9:00 WW6 **531.02** Application of a novel CLARITY-MRI pipeline to mPFC projections improves connectivity mapping. M. GOUBRAN*; C. LEUZE; B. HSUEH; M. ASWENDT; L. YE; Q. TIAN; M. CHENG; A. CROW; G. STEINBERG; J. MCNAB; K. DEISSEROTH; M. ZEINEH. *Stanford Univ.*

10:00 WW7 **531.03** A probabilistic atlas of the human thalamus based on *ex vivo* MRI and histology. J. E. IGLESIAS; R. INSAUSTI; G. LERMA-USABIAGA; G. ARTACHO-TRILLOFIGUEROA; K. VAN LEEMPUT; S. OURSELIN; B. FISCHL; C. CABALLERO-GAUDES; P. M. PAZ-ALONSO*. *Univ. Col. London, Univ. of Castilla La Mancha, Basque Ctr. On Cognition, Brain and Language, Martinos Ctr. for Biomed. Imaging (Massachusetts Gen. Hospital), Tech. Univ. of Denmark, MIT.*

8:00 DP14/WW8 **531.04** (Dynamic Poster) A virtual reality visualization tool for neuron tracing. W. USHER; P. KLACANSKY; F. FEDERER*; P. BREMER; A. KNOLL; A. ANGELUCCI; P. VALERIO. *Univ. of Utah, Univ. of Utah.*

8:00 WW9 **531.05** A computational framework for automated neuron tracing using scalar field topology. A. GYULASSY; F. FEDERER; A. VENKAT; V. PASCUCCI; A. ANGELUCCI*. *Univ. of Utah, Univ. of Utah.*

9:00 WW10 **531.06** An online system for continuous image acquisition of long-range circuits in cleared primate cortex. A. VENKAT*; F. FEDERER; C. CHRISTENSEN; A. GYULASSY; A. ANGELUCCI; V. PASCUCCI. *Univ. of Utah, Univ. of Utah.*

10:00 WW11 **531.07** ▲ Neurocircuitry changes in response to unconditioned fear in mouse models of PTSD. A. REVIERE*; R. E. JACOBS; E. L. BEARER. *Univ. of New Mexico Hlth. Sci. Ctr., USC Keck Sch. of Med., UNM Sch. of Med., Caltech.*

11:00 WW12 **531.08** NeuroGFX: A graphical functional explorer for fruit fly brain circuits. Y. ZHOU*; C. YEH; N. H. UKANI; A. A. LAZAR. *Columbia Univ.*

8:00 WW13 **531.09** Fast learning-free 2D segmentation and 3D reconstruction software for sparse neuronal circuit tracing. W. SCHEIRER*; A. SHAHBAZI; M. JOESCH; N. B. KASTHURI. *Univ. of Notre Dame, Univ. of Notre Dame, IST Austria, Argonne Natl. Laboratory, Univ. of Chicago.*

9:00 WW14 **531.10** Summarization of a brain-wide data set of anterograde tracer injections in mouse using topological skeletonization. S. WANG*; X. LI; Y. WANG; P. P. MITRA. *Ohio State Univ., Cold Spring Harbor Lab.*

8:00 DP13/WW15 **531.11** ● (Dynamic Poster) Interactive 3D visualization of terabyte-sized nanoscale brain images at 8K resolution. Y. BANDO*; K. HIWADA; M. KANAYA; T. ITO; S. ASANO; M. BOVE, Jr.; E. S. BOYDEN. *Toshiba America Electronic Components, Inc., MIT, Toshiba Memory Corp., NHK Japan Broadcasting Corp.*

11:00 WW16 **531.12** Identification of driver regions in macaque brain network using controllability analysis. V. TRIPATHI*; R. BADHWAR; G. BAGLER. *Indraprastha Inst. of Information Technol., Indian Inst. of Technol. Jodhpur.*

8:00 WW17 **531.13** Multiscale general purpose segmentation pipeline for connectomics. H. LI*; R. VESCOVI; M. DU; V. DE ANDRADE; D. GURSOY; S. MIKULA; W. SCULLIN; V. VISHWANATH; C. JACOBSEN; N. B. KASTHURI. *Univ. of Chicago, Univ. of Chicago, Northwestern Univ., Argonne Natl. Lab., Max-Planck Inst. For Neurobio.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

## 532. Software Tools I

***Theme I: Techniques***

Tue. 8:00 AM – *Walter E. Washington Convention Center*, Halls A-C

8:00 WW18 **532.01** An open-source, general-purpose software toolkit for analysis of dynamical behavioral signals. A. YOUSEFI*; Y. LEI; D. D. DOUGHERTY; E. N. ESKANDAR; A. S. WIDGE; U. EDEN. *MGH, Harvard Med. Sch., Harvard Med. Sch., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Boston Univ.*

9:00 WW19 **532.02** Maximum likelihood based cell sorting of large-scale neural calcium imaging data. B. AHANONU*; L. J. KITCH; T. H. KIM; M. C. LARKIN; E. O. HAMEL; J. LECOQ; M. J. SCHNITZER. *Stanford Univ., Stanford Univ., Stanford Univ., Allen Inst.*

10:00 WW20 **532.03** Utilizing state of the art rendering techniques and virtual reality to better visualize neuroscientific data. T. D. ARD*; J. STANIS; D. DUNCAN; A. W. TOGA. *USC Stevens Neuroimaging and Informatics Inst.*

11:00 WW21 **532.04** Software tools for high-throughput stitching and processing of micron-resolution 3D images of brain samples. G. MAZZAMUTO*; L. SILVESTRI; P. FRASCONI; L. SACCONI; F. S. PAVONE. *European Lab. For Non-Linear Spectroscopy, Natl. Inst. of Optics (INO-CNR), Univ. of Florence.*

8:00 WW22 **532.05** Tackling the normalization of 2-D rodent histology sections in a 3-D coordinate space. C. COELLO; T. B. LEERGAARD; J. G. BJAALIE*. *Univ. of Oslo.*

9:00 WW23 **532.06** A semi-automated lesion mapping approach for rhesus macaques. M. PUJARA*; E. A. MURRAY. *NIH, Section on the Neurobio. of Learning and Memory, Lab. of Neuropsychology.*

10:00 WW24 **532.07** NIMH MonkeyLogic 2: Open source experimental control and data acquisition. J. HWANG*; A. R. MITZ; E. A. MURRAY. *Lab. of Neuropsychology, NIMH/NIH, NIMH/NIH, NIMH/NIH.*

11:00 WW25 **532.08** Using spike train distances to evaluate neuronal population coding, Part II. E. A. SATUVUORI*; M. MULANSKY; T. KREUZ. *Univ. of Florence, Inst. for Complex Systems, CNR, Vrije Univ. Amsterdam.*

8:00 WW26 **532.09** Using spike train distances to evaluate neuronal population coding, part I. T. KREUZ*; E. A. SATUVUORI; M. MULANSKY. *Inst. For Complex Systems, Univ. of Florence.*

9:00 WW27 **532.10** ● A novel approach to biomarker discovery through conceptual integration of multimodal datasets. H. UNG; M. C. HOLLENBECK; A. CHRISTINI; J. B. WAGENAAR*. *Blackfynn Inc.*

8:00 DP15/WW28 **532.11** (Dynamic Poster) A digital 3D atlas set of the marmoset brain based on multimodal MRI. C. LIU*; F. Q. YE; C. C. YEN; J. D. NEWMAN; A. C. SILVA. *NINDS/NIH, Natl. Inst. of Hlth., Natl. Institues of Hlth., NICHD /NIH, NIH.*

11:00 WW29 **532.12** QuickNII: Neuroinformatics tool and workflow for anchoring of serial histological images in rodent brain 3D space. M. PUCHADES*; G. CSUCS; M. CHECINSKA; M. ØVSTHUS; I. E. BJERKE; K. ANDERSSON; T. B. LEERGAARD; J. G. BJAALIE. *Univ. of Oslo.*

8:00 WW30 **532.13** Formats, tools and services for efficient data management, reproducibility and collaboration in neuroscience. A. KOUTSOU; C. GARBERS; M. SONNTAG; C. J. KELLNER*; A. STOEWER; J. GREWE; T. WACHTLER. *Ludwig-Maximilians-Universität München, Eberhard Karls Univ.*

9:00 WW31 **532.14** Towards real-time, online spike sorting for large-scale extracellular recordings. B. LEFEBVRE; G. SPAMPINATO; E. ESPOSITO; H. KHABOU; M. STIMBERG; D. DALKARA; J. DUEBEL; O. MARRE*; P. YGER. *Inst. de la Vision.*

10:00 WW32 **532.15** Assessing cluster tendency in neuronal spike waveform data. S. MAHALLATI*; J. C. BEZDEK; M. R. POPOVIC; T. A. VALIANTE. *Inst. of Biomaterials and Biomed. Engineeri, Univ. of Toronto, Univ. of Melbourne, Toronto Rehabil. Institute, Univ. Hlth. Network, Krembil Res. Institute, Univ. of Toronto, Univ. of Toronto.*

11:00 WW33 **532.16** Efficient deformable alignment of large EM image volumes: A matrix solver approach. K. KHAIRY*; G. DENISOV; S. SAALFELD. *Howard Hughes Med. Inst.*

8:00 WW34 **532.17** Pre-processing methods for denoising and hemodynamic artifact estimation in wide-field optical imaging data. M. G. MOORE*; Z. LI; J. K. ABADCHI; M. YAN; M. H. MOHAJERANI; M. REIMERS. *Michigan State Univ., Michigan State Univ., Univ. of Lethbridge.*

9:00 WW35 **532.18** To infinity and beyond Bitcoin: Blockchain technology for beginners. L. V. LONG; J. H. REUSING; S. T. MANION*. *Network Centric Sci.*

10:00 WW36 **532.19** Kilosort and Suite2p: robust and scalable frameworks for neural activity extraction in large-scale recordings. M. PACHITARIU*; C. STRINGER; N. STEINMETZ; S. N. KADIR; M. DIPOPPA; F. ROSSI; S. SCHRÖDER; M. CARANDINI; K. D. HARRIS. *Univ. Col. London.*

11:00 WW37 **532.20** The neurogram development kit: A software infrastructure for analysis of peripheral nerve neurograms. C. I. CONNOLLY*; C. BOUTON; S. S. CHAVAN; J. CORNWELL; P. D. LINCOLN; K. J. TRACEY; M. YADAV. *SRI Intl., The Feinstein Inst. For Med. Res., Feinstein Inst. For Med. Res., SRI Intl., Feinstein Inst. For Med. Res.*

8:00 WW38 **532.21** ● WAVESURFER, a freely available data acquisition, signal generation, and device control software package for experimental neuroscience. J. M. BARRETT*; A. L. TAYLOR; L. S. LAMBOT; X. LI; H. INAGAKI; K. SVOBODA; B. KIMMEL; G. M. G. SHEPHERD. *Northwestern Univ., Howard Hughes Med. Inst., Vidrio Technologies.*

9:00 WW39 **532.22** Spike sorting via source localization. P. GREENE*; J. FELLOUS; K. LIN. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

10:00 WW40 **532.23** ● Dexterity: Software for analysis and visualization of automated and manual motor tasks. S. D. BUTENSKY*; A. M. SLOAN; E. MEYERS; A. SINDHURAKAR; J. B. CARMEL. *Burke Med. Res. Inst., Vulintus, LLC, Univ. of Texas At Dallas.*

11:00 WW41 **532.24** Automated identification of dendritic spines for live imaging. M. S. SMIRNOV*; R. YASUDA. *Max Planck Florida Inst.*

8:00 WW42 **532.25** Inter-patient seizure classification using 1-D convolutional neural networks. G. CHAU*. *Pontificia Univ. Catolica Del Peru.*



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# Tuesday PM

**LECTURE** *Walter E. Washington Convention Center*

**533. Artificial Intelligence and Imagination: Exploring the Frontiers of Knowledge** — CME

Tue. 1:00 PM - 2:10 PM — Hall D

*Speaker:* D. HASSABIS, *DeepMind.*

Artificial intelligence (AI) research has been advancing at an incredible pace. Neuroscience plays a big role in both inspiring and validating AI architectures and algorithms. This lecture will look at the deep connection between AI and neuroscience and how both fields can help each other, drawing on examples of work in areas such as imagination, memory, and planning.

**SYMPOSIUM** *Walter E. Washington Convention Center*

**534. Social Origins of Developmental Risk for Mental and Physical Illnesses** — CME

Tue. 1:30 PM - 4:00 PM — Ballroom A

*Chair:* J. L. CAMERON
*Co-Chair:* P. LEVITT

Young children experiencing intense adversity have profound changes in neural systems that regulate behavior, cardiovascular, metabolic, and immune function. This symposium will show the importance of timing of stress exposure, critical periods of intervention, and sex on various brain systems in young children, monkeys, and mice. The session will also focus on how changes in parental interaction with children can modify the long-term consequences of early-life stress exposure across species.

1:30 **534.01** Introduction.

1:35 **534.02** Exposure to adversity, timing of intervention and long term effects on brain and behavior in young children. N. FOX. *Univ. of Maryland.*

2:10 **534.03** ● Biological impact of early life stress dependent on the timing of stress exposure, state of neural development, and post-stress parental interaction. J. L. CAMERON. *Univ. of Pittsburgh Dept. of Psychiatry.*

2:45 **534.04** Sex-specific circuit impact and reversibility of early life adversity. T. K. HENSCH. *Harvard Univ.*

3:20 **534.05** Developmental trajectory of adaptive metabolic and functional systems due to early life stress. P. LEVITT. *Children's Hosp. Los Angeles and Univ. of Southern CA.*

3:55 **534.06** Closing Remarks.

**SYMPOSIUM** *Walter E. Washington Convention Center*

**535. Circuit and Synaptic Plasticity Mechanisms of Drug Relapse** — CME

Tue. 1:30 PM - 4:00 PM — Ballroom B

*Chair:* Y. SHAHAM

Relapse is a core feature of drug addiction and a subject of intense basic research investigation. The symposium will highlight new developments in our understanding of circuits and synaptic plasticity mechanisms of drug relapse from studies combining established and novel animal models with state-of-the-art cellular, electrophysiology, anatomical, chemogenetic, and optogenetic methods. The speakers will also discuss the translational implications of these new developments.

1:30 **535.01** Introduction.

1:35 **535.02** Role of cortico-striatal, cortico-amygdalar, and amygdalo-striatal projections in drug relapse. J. TAYLOR. *Yale Univ. Sch. Med.*

2:10 **535.03** Interaction of NMDAR- and AMPAR-dependent synaptic plasticity mechanisms in drug relapse. M. E. WOLF. *Rosalind Franklin Univ. of Med. and Sci.*

2:45 **535.04** Cascades of homeostatic dysregulation progressively intensify cocaine seeking and relapse. Y. DONG. *Univ. of Pittsburgh.*

3:20 **535.05** Role of anterior insula and amygdala circuits in relapse after voluntary abstinence. Y. SHAHAM. *Natl. Inst. on Drug Abuse Intramural Res. Program, NIH.*

3:55 **535.06** Closing Remarks.

**SYMPOSIUM** *Walter E. Washington Convention Center*

**536. Unconventional NMDA Receptor Signalling** — CME

Tue. 1:30 PM - 4:00 PM — Ballroom C

*Chair:* P. J. SJOSTROM
*Co-Chair:* K. ZITO

In the classical view, postsynaptic NMDA receptors (NMDARs) act via calcium to signal coincidence detection in Hebbian learning. However, growing evidence shows that NMDARs can signal metabotropically, without the need for calcium influx. Moreover, NMDARs have been found presynaptically, where they do not act as Hebbian coincidence detectors. This symposium will highlight novel findings indicating how the NMDAR field needs to be expanded to include unconventional modes of NMDAR action.

1:30 **536.01** Introduction.

1:35 **536.02** Non-Hebbian roles of NMDA receptors in the hippocampus. P. E. CASTILLO. *Albert Einstein Coll Med.*

2:10 **536.03** A double dissociation of presynaptic NMDA receptor signalling in neocortex. P. J. SJOSTROM. *McGill Univ.*

2:45 **536.04** Molecular mechanisms of metabotropic NMDAR function. K. DORE. *UCSD.*

3:20 **536.05** Non-ionotropic signaling of NMDA receptors drives plasticity of neuronal structure. K. M. ZITO. *Univ. of California Davis.*

3:55 **536.06** Closing Remarks.



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**MINISYMPOSIUM** *Walter E. Washington Convention Center*

**537. Delineating the Diversity of Spinal Interneurons in Locomotor Circuits** — CME

Tue. 1:30 PM - 4:00 PM — 145B

*Chair:* Y. ZHANG
*Co-Chair:* S. GOSGNACH

Spinal interneuronal circuits control locomotion. One important breakthrough in understanding the organization of locomotor circuits was the discovery of genetically-defined interneuron classes. However, the recent identification of distinct subsets of interneurons within each cardinal class has posed urgent questions that will be addressed in this minisymposium, including how to discern and define these subpopulations, the specific role each plays during locomotion, and how they are formed during development.

1:30 **537.01** Introduction.

1:35 **537.02** Inhibitory circuits for limb motor control. J. B. BIKOFF. *Depts. of Neurosci. and Biochem. and Mol. Biophys., Columbia Univ.*

1:55 **537.03** Functional diversity of interneurons controlling locomotor speed in adult zebrafish. A. EL MANIRA. *Karolinska Inst.*

2:15 **537.04** Subpopulations of commissural interneurons exhibit functional diversity during mammalian locomotion. S. GOSGNACH. *Univ. of Alberta.*

2:35 **537.05** Molecularly-defined classes of interneurons linked to locomotor rhythm generation in the mammalian spinal cord. K. J. DOUGHERTY. *Drexel Univ. Col. of Med.*

2:55 **537.06** Development of molecularly-defined V3 interneuronal subpopulations in the mouse spinal cord. Y. ZHANG. *Dalhousie Univ.*

3:15 **537.07** Identification of novel spinal cord neuronal types and the developmental mechanisms of their specialization. G. M. LANUZA. *Inst. Leloir.*

3:35 **537.08** Closing Remarks.

**MINISYMPOSIUM** *Walter E. Washington Convention Center*

**538. Neural Circuits Supporting Cognitive Maps for Goal-Directed Behavior** — CME

Tue. 1:30 PM - 4:00 PM — 146A

*Chair:* T. KAHNT
*Co-Chair:* E. D. BOORMAN

Animals must represent various types of information, such as associations between events and outcomes, contextual, and spatial contingencies. These features constitute a cognitive map for goal-directed behavior. Different brain regions including the hippocampus, entorhinal cortex, orbitofrontal cortex, and ventromedial prefrontal cortex have been shown to encode aspects of this map. This session will bring together recent findings across methods and species to discuss how maps observed in different brain areas may converge to guide behavior.

1:30 **538.01** Introduction.

1:35 **538.02** Prefrontal cortex outcome representations in the context of primate evolution. E. A. MURRAY. *NIMH, NIH.*

1:55 **538.03** Representations of specific outcomes in the orbitofrontal cortex. T. KAHNT. *Northwestern Univ.*

2:15 **538.04** Hippocampal contributions to OFC representations for decision making. A. M. WIKENHEISER. *Natl. Inst. on Drug Abuse.*

2:35 **538.05** Retrospective choice codes for causal learning. E. D. BOORMAN. *Univ. of California, Davis.*

2:55 **538.06** A map of discrete, non-spatial relational knowledge in the human hippocampal-entorhinal cortex. M. GARVERT. *Univ. of Oxford.*

3:15 **538.07** Reactivation of associative structure specific outcome responses during prospective evaluation. M. WANG. *Univ. of Rochester.*

3:35 **538.08** Closing Remarks.

**MINISYMPOSIUM** *Walter E. Washington Convention Center*

**539. Sensation in Action** — CME

Tue. 1:30 PM - 4:00 PM — 151B

*Chair:* A. B. SALEEM
*Co-Chair:* L. BUSSE

Under natural conditions, humans constantly engage the sensory system during a myriad of everyday actions: finding food, detecting threats, or exploring. How do sensory systems work during active behaviors? This minisymposium will share novel perspectives of sensory processing during active, multidimensional behavior in different systems (fly vision, rodent vision, audition, somatosensation) and at different processing levels (fly lobula plate, mammalian thalamus and cortex).

1:30 **539.01** Introduction.

1:35 **539.02** Linking visual motion processing with locomotion in the fly *Drosophila melanogaster.* E. CHIAPPE. *Champalimaud Ctr. for the Unknown.*

1:55 **539.03** Projection-specific signals of somatosensation in mouse barrel cortex during active behavior. T. YAMASHITA. *Nagoya Univ.*

2:15 **539.04** State-dependent neural dynamics in visual cortex during active behavior. J. A. CARDIN. *Yale Univ.*

2:35 **539.05** Thalamic roles in attentional control and perception. M. HALASSA. *NYU Langone Med. Ctr.*

2:55 **539.06** Modulation of auditory cortical processing and active behavioral sound detection by pupil-indexed arousal state. M. J. MCGINLEY. *Baylor Col. of Med.*

3:15 **539.07** Sensation during locomotion and navigation in the mouse primary visual cortex and beyond. A. B. SALEEM. *Univ. Col. London.*

3:35 **539.08** Closing Remarks.



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**LECTURE** *Walter E. Washington Convention Center*

**540. HISTORY OF NEUROSCIENCE LECTURE: Neuronal Migration and Brain Map Formation During Evolution, Development, and Disease**

Tue. 2:30 PM - 3:40 PM — Hall D

*Speaker:* P. RAKIC, *Yale Sch. of Med.*

Neuronal position is fundamental to a neuron's identity, synaptic connections, and ultimately function. For example, cortical neurons are not generated locally and acquire their areal, laminar, and columnar positions by migration from multiple, distant sites of origin. Over the years, new experimental approaches enabled identification of cellular mechanisms, genes, and molecular pathways that control neuronal production, fate, and migration to the proper position. These findings provide insights into brain evolution, development, and the pathogenesis of its congenital disorders.

**LECTURE** *Walter E. Washington Convention Center*

**541. PRESIDENTIAL SPECIAL LECTURE: Polymorphous Polygenicity: The Story of the Genome in Schizophrenia** — CME

Tue. 5:15 PM - 6:30 PM — Hall D

*Speaker:* P. SKLAR, *Icahn Sch. of Med. at Mount Sinai.*

Advances in human genetics are reshaping the way we understand many mental illnesses, including schizophrenia. We know infinitely more about the DNA changes that are part of the risk of becoming ill, with a key finding being their overall number, type, and pleiotropy. This lecture will explore the genetic factors leading to schizophrenia, their biological follow-up and implications for neuroscientists.

**NANOSYMPOSIUM**

**542. Control of Neuronal Firing**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, 150A

1:00 **542.01** The epigenetic factor CDYL inhibits intrinsic neuronal excitability and suppresses epileptogenesis through repression of axonal nav1.6 sodium channel expression. Z. HUANG*; S. LAI; Y. LIU; M. FAN; M. LI. *Peking Univ.*

1:15 **542.02** ● Axonal D2 receptors induce functional plasticity by modulation of cav3.2 calcium channels in stellate cells of entorhinal cortex. X. JIN*; Q. CHEN; Z. HUANG. *Peking Univ.*

1:30 **542.03** Hyper-excitability of Dentate gyrus (DG) granule neurons and CA3 hippocampal neurons derived from patients with Bipolar Disorder. S. STERN*; R. SANTOS; C. MARCHETTO; A. SARKAR; A. G. BANG; M. ALDA; F. H. GAGE. *Salk Inst. For Biol. Studies, Ecole Normale Supérieure, PSL Res. Univ., Salk Inst., Salk Inst., Sanford Burnham Prebys Med. Discovery Inst., McGill University, 3801, Salk Inst.*

1:45 **542.04** Brain-Derived Neurotrophic Factor regulates the development of electrical activity in hippocampal neuron networks cultured on microelectrode arrays. K. M. O'NEILL*; B. L. FIRESTEIN. *Rutgers, the State Univ. of New Jersey, Rutgers, the State Univ. of New Jersey.*

2:00 **542.05** Role of the axon initial segment of midbrain dopaminergic neurons in the control of spontaneous frequency *in vivo.* C. C. CANAVIER; R. MEZA; L. LOPEZ-JURY; P. HENNY*. *Louisiana State Univ. Hlth. Sci. Ctr., Pontificia Univ. Catolica de Chile.*

2:15 **542.06** Axon initial segment plasticity and its influence on neural function. Y. LIU*; Y. ZHANG. *Col. of Life Sciences, Peking Univ., PKU-IDG/McGovern Inst. for Brain Research, Peking Univ.*

2:30 **542.07** Electrophysiological characterization of expiratory motoneurons of rats submitted to sustained hypoxia. M. P. SILVA*; D. J. A. MORAES; L. H. BONAGAMBA; W. A. VARANDA; B. H. MACHADO. *Sch. of Med. of Ribeirao Preto.*

2:45 **542.08** Regulation of neuronal firing set point by mitochondrial enzyme DHODH. B. STYR*; N. GONEN; I. VERTKIN; I. SHAPIRA; E. RUPPIN; I. SLUTSKY. *Sackler Fac. of Med. , Tel-Aviv Univ., Blavatnik Sch. of Computer Sciences, Tel-Aviv Univ., Dept. of Computer Sci. and Ctr. for Bioinformatics and Computat. Biology, UMD, Sagol Sch. of Neurosci.*

3:00 **542.09** Serotonergic modulation of layer II/III prefrontal interneurons: An electrophysiological and neuroanatomical study. J. V. SCHWEIMER*; T. SHARP. *Univ. of Oxford.*

3:15 **542.10** The transcription factor, Shox2, regulates ion channel expression and neuronal function in the thalamus. D. YU*; S. ROWE; L. SCHRADER. *Tulane Univ., Tulane Univ.*

**NANOSYMPOSIUM**

**543. Brain Wellness and Aging**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, 143A

1:00 **543.01** The tyrosine phosphatase STEP is involved in age-related memory decline. J. BROUILLETTE*; D. CASTONGUAY; J. DUFORT-GERVAIS; C. MENARD; M. CHATTERJEE; R. QUIRION; B. BONTEMPI; J. S. SCHNEIDER; A. F. ARNSTEN; A. C. NAIRN; C. M. NORRIS; G. FERLAND; E. BEZARD; P. GAUDREAU; P. J. LOMBROSO. *Univ. de Montréal, Hôpital du Sacré-Coeur de Montréal, Icahn Sch. of Med. At Mount Sinai, Yale Univ., Fonds Recherche Quebec, Inst. of Neurodegenerative Diseases, CNRS UMR 5293, Thomas Jefferson Univ., Yale Univ. Sch. Med., Yale Univ., Univ. Kentucky, Univ. de Montréal, Inst. of Neurodegenerative Dis., Ctr. Hospitalier de l'Université de Montréal Res. Ctr.*

1:15 **543.02** ● Brain infiltration by age-related CD8 T cells promotes progressive neurodegeneration and proteinopathy. C. J. WHEELER*. *Cedars-Sinai Med. Ctr.*





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1:30 **543.03** Examining the effects of *de novo* NAD+ in Alzheimer's disease: Modulating immunometabolism and mitochondrial bioenergetics. P. S. MINHAS*; S. MHATRE; Q. A. WANG; P. K. MOON; M. CORONADO; C. DOVE; A. RUBIN; C. TSAI; A. JOSHI; D. MOCHLY-ROSEN; D. BERNSTEIN; K. ANDREASSON. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

1:45 **543.04** Heme and hemoglobin modulate amyloid beta-mediated astrocyte activation. S. B. SANKAR*; R. DONEGAN; A. REDDI; L. WOOD. *Georgia Inst. of Technol., Georgia Inst. of Technol., Georgia Inst. of Technol.*

2:00 **543.05** Aberrant myelin phagocytosis by complement-expressing microglia causes obesity-induced white matter damage. G. R. HOWELL*; L. C. GRAHAM; W. A. GRABOWSKA; Y. CHUN; S. RISACHER; V. PHILIP; A. J. SAYKIN. *Jackson Lab., The Jackson Lab., Indiana Univ., Indiana Univ. Sch. of Med.*

2:15 **543.06** The intersection of Golgi stress and redox homeostasis in Huntington's disease. J. I. SBODIO*; B. D. PAUL; S. SNYDER. *Johns Hopkins Univ.*

2:30 **543.07** Metabolic control of redox balance in Huntington's disease. B. D. PAUL*; J. I. SBODIO; S. SNYDER. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ.*

2:45 **543.08** Direct interaction of molecular chaperone. Y. ATOMI*; Y. FUJITA; E. KATAYAMA; E. FUJITA; M. SHIMIZU; S. HAYASAKI; A. ATOMI. *Tokyo Univ. of Agr. and Technol., Prevent Sci. Co. Ltd., Osaka City Univ.*

3:00 **543.09** Transcriptome profiling of hippocampal subregions reveals a role for mitochondria in CA2 physiology and function. S. FARRIS*; J. M. WARD; Y. WANG; K. CARSTENS; S. M. DUDEK. *NIEHS/NIH.*

3:15 **543.10** Cognitive superagers are protected from cholinergic axonal abnormalities found in cognitively normal elderly. A. REZVANIAN; T. GEFEN; S. WEINTRAUB*; E. BIGIO; E. ROGALSKI; M. MESULAM; C. GEULA. *Northwestern University, Feinberg Sch. of Medici.*

3:30 **543.11** Neurofibrillary tangle and amyloid plaque burden in the oldest-old with superior memory and the full range of Alzheimer pathology. C. GEULA*; A. REZVANIAN; G. KIM; T. GEFEN; S. WEINTRAUB; E. J. ROGALSKI; M. MESULAM; M. CORRADA; C. KAWAS. *Northwestern Univ. Med. Sch., Northwestern Univ., Northwestern Univ., Feinberg Sch. of Medicine, Northwestern Univ., Northwestern University, Feinberg Sch. of Medici, Northwestern Univ. Feinberg Sch. of Med., Cognitive Neurol. and Alzheimer's Dis. Ctr., Univ. of California at Irvine.*

**NANOSYMPOSIUM**

## 544. Alzheimer's Disease: APP and Its Processing

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, 152A

1:00 **544.01** Lack of adverse phenotypes related to BACE1 inhibition in adult conditional knockout of BACE1 in mice. M. OU-YANG*; J. KURZ; T. NOMURA; J. POPOVIC; T. RAJAPAKSHA; H. DONG; A. CONTRACTOR; D. M. CHETKOVICH; W. G. TOURTELLOTTE; R. J. VASSAR. *Northwestern Univ. Dept. of Cell and Mol. Biol., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ.*

1:15 **544.02** Computational analysis used for structure and function of PSEN1 involved in neurodegeneration for Alzheimer's disease. M. CORREDOR*; A. SOTO; P. ARAQUE; A. VILLEGAS. *Univ. of Antioquia, Univ. of Antioquia, Universdad EIA, Univ. of Antioquia.*

1:30 **544.03** ● Changes in kinetics and newly generated soluble APP-β in the human central nervous system in Alzheimer's disease. J. A. DOBROWOLSKA ZAKARIA*; B. W. PATTERSON; R. J. BATEMAN; R. J. VASSAR. *Northwestern Univ. Feinberg Sch. of Med., Washington Univ. in St. Louis, Washington Univ. Sch. of Med., Northwestern Univ. Feinberg Sch. of Med.*

1:45 **544.04** Chlamydia pneumoniae-infection upregulates astrocyte BACE1 and PSEN1 protease expression and activity to promote Alzheimer disease pathology. Z. AL-ATRACHE; A. CADER; D. LOPEZ; S. HINGLEY; D. M. APPELT*. *Philadelphia Col. of Osteo. Med., Philadelphia Col. of Osteo. Med., Philadelphia Col. Osteo. Med.*

2:00 **544.05** PS1/γ-secretase promote angiogenesis and angiogenic complexes via ephrinB2 processing a function inhibited by PS1 FAD mutants. A. GEORGAKOPOULOS*; Y. YOON; G. VOLOUDAKIS; N. WARREN; N. ROBAKIS. *Icahn Sch. of Med. at Mount Sinai.*

2:15 **544.06** Differential inhibition of the alpha-secretase ADAM10 by amyloid-beta variants containing FAD mutations. A. HATAMI*; S. DUTTA; P. SPILMAN; A. RODRIGUEZ; J. RASKATOV; V. JOHN. *UCLA, Univ. of California, Santa Cruz.*

2:30 **544.07** ER-associated degradation regulates gamma-secretase activity, memory function and Alzheimer's amyloid pathology. L. JIANG*; B. ZHU; T. HUANG; Y. ZHAO; D. ZHANG; H. XU. *Sanford Burnham Prebys Med. Discovery Inst.*

2:45 **544.08** Presenilin 1, a double agent, decreases abeta levels through activation of autophagy. V. BUSTOS*; M. PULINA; F. GORELICK; M. FLAJOLET; P. GREENGARD. *The Rockefeller Univ., Yale Univ., The Rockefeller Univ., Rockefeller Univ.*

3:00 **544.09** BACE1 cleavage site selection critical for amyloidogenesis. Z. WANG; S. ZHANG; F. CAI; M. ZHANG; Y. WU; W. SONG*. *The Univ. of British Columbia.*

3:15 **544.10** Metformin decreases APP protein level and phosphorylation through AMPK-mediated inhibition of the JNK signaling pathway. B. KIM*; C. BACKUS; E. L. FELDMAN. *Univ. of Michigan.*

3:30 **544.11** Functional pruning of mitochondria by amyloid-beta: A hypothesized ameliorating action of amyloid-beta in hypoxia-associated neurodegenerative disease. D. R. PEPPERBERG*. *Univ. of Illinois at Chicago.*

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3:45 **544.12** Endolysosomal dysfunction in neurons produces exosomes enriched for APP C-terminal fragments and bioactive lipids. A. M. MIRANDA*; Z. M. LASIECKA; Y. XU; S. SHAHRIAR; R. B. CHAN; T. G. OLIVEIRA; G. DI PAOLO. *Life and Hlth. Sci. Res. Inst., Columbia Univ., ICVS/3Bs, Univ. of Minho, Braga.*

4:00 **544.13** The effects of soluble amyloid precursor protein α (sAPPα), a non-amyloidogenic cleavage product of APP, at the synapse of human induced pluripotent stem cell-derived neurons. N. J. CORBETT*; A. C. JONES; H. A. ROWLAND; K. FISHER; N. M. HOOPER. *Univ. of Manchester.*

4:15 **544.14** Palmitoylated app forms dimers, cleaved by bace. R. BHATTACHARYYA*; R. H. FENN; R. E. TANZI; D. M. KOVACS. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen Hosp, Harvard Med. Sch., Massachusetts Gen. Hosp. / Harvard Med. Sch.*

**NANOSYMPOSIUM**

**545. Synaptic Signaling Deficits in Alzheimer's Disease II**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, 144A

1:00 **545.01** Computational approaches to untangling networks of dementia. E. L. OHAYON*; A. LAM. *Neurolinx Res. Inst., Physicians Committee For Responsible Med., Neurolinx Res. Inst.*

1:15 **545.02** Identifying regulators of lipid dyshomeostasis for mitigation of A-β triggered synapse loss. L. B. MCINTIRE*; S. PAMPOU; C. KARAN; T. KIM. *Columbia Univ., Columbia Univ.*

1:30 **545.03** Increasing the frequency of slow cortical oscillations exacerbates the neuropathophysiology of Alzheimer's disease. K. KASTANENKA*; M. CALVO RODRIGUEZ; S. TAKEDA; M. ARBEL; A. KIM; J. M. HAWKES; R. LOGAN; D. FENG; X. CHEN; B. J. BACSKAI. *Massachusetts Gen. Hosp.*

1:45 **545.04** Suppression of eukaryotic elongation factor 2 phosphorylation alleviates memory and synaptic plasticity defects in a mouse model of Alzheimer's disease. B. C. BECKELMAN*; W. YANG; X. ZHOU; T. MA. *Wake Forest Sch. of Med., Wake Forest Baptist Med. Ctr., Wake Forest Baptist Med. Ctr., Wake Forest Sch. of Med.*

2:00 **545.05** Distinct biophysical and pharmacological properties of voltage-gated L-type $Ca^{2+}$ currents in the hypothalamic neurons of wild-type and amyloid precursor protein overexpressing mice. G. WANG*; M. ISHII; L. PHAM; C. IADECOLA. *Weill Cornell Med. Col.*

2:15 **545.06** Re-evaluating Rho GTPase signaling as a potential therapeutic target for Alzheimer's disease. Y. ZHU*; B. AGUILAR; C. BOYKIN; T. TRAN; Q. LU. *Brody Sch. Of Med., East Carolina Univ.*

2:30 **545.07** Deficient postsynaptic KIBRA signaling underlies tau-mediated synaptic dysfunction and memory loss. T. E. TRACY*; Y. LI; D. LE; Y. ZHOU; L. GAN. *Gladstone Inst. of Neurolog. Dis., UCSF.*

2:45 **545.08** ● BACE inhibition rescues neural circuit impairments in a mouse model of Alzheimer´s disease. M. A. BUSCHE*; A. KESKIN; M. KEKUS; H. ADELSBERGER; U. NEUMANN; D. SHIMSHEK; B. SONG; B. ZOTT; T. PENG; H. FÖRSTL; M. STAUFENBIEL; I. NELKEN; B. SAKMANN; A. KONNERTH. *Massachusetts Gen. Hosp., Tech. Univ. of Munich, Novartis Inst. for BioMedical Res., Helmholtz Ctr. Munich, Tech. Univ. of Munich, Hertie Inst. for Clin. Brain Res., Hebrew Univ.*

3:00 **545.09** Elucidating the role of Methyl-CPG-binding protein 2 in Alzheimer's disease-related synaptic dysfunction. M. A. TAKALO*; M. MARTTINEN; T. NATUNEN; K. PALDANIUS; A. HAAPASALO; M. HILTUNEN. *Univ. of Eastern Finland, Univ. of Eastern Finland, Univ. of Eastern Finland.*

3:15 **545.10** Axonal transport of Cdk5/p35 is mediated by a lemur tyrosine kinase2-Kinesin1 complex. G. M. MOROTZ*; E. SEDLAK; A. VAGNONI; W. NOBLE; C. C. J. MILLER. *King's Col. London, IoPPN.*

3:30 **545.11** TMS, a useful biomarker for detecting functional decline in the early staged dementia. T. MURAKAMI*; Y. UGAWA. *Fukushima Med. Univ., Fukushima Med. Univ., Fukushima Med. Univ.*

**NANOSYMPOSIUM**

**546. Models, Mechanisms, and Modifiers of Amyotrophic Lateral Sclerosis (ALS)**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, 146C

1:00 **546.01** Insights into MEA recordings of iPS cells in ALS patients. J. KOH*; D. MOAKLEY; E. BEREZOVSKI; A. DEVLIN; J. PEREIRA; B. WAINGER. *Mssachusetts Gen. Hosp. MIND Inst.*

1:15 **546.02** Properties of motor neurons in spinal cord from TDP-43 Q331K knock-in mouse model of ALS. J. P. WHITT*; A. M. DUFFY; J. SREEDHARAN; J. R. FALLON; R. H. BROWN; D. LIPSCOMBE. *Brown Univ., Babraham Inst., Brown Univ., Univ. of Massachusetts Sch. of Med., Brown Univ.*

1:30 **546.03** Activation of BMP signaling in non-motor neurons rescues motor dysfunction in a *Drosophila* model of amyotrophic lateral sclerosis. A. H. HELD*; P. MAJOR; D. LIPSCOMBE; K. WHARTON. *Brown Univ.*

1:45 **546.04** Multiple genetic models and modifiers of Amyotrophic Lateral Sclerosis in *C. elegans.* S. N. BASKOYLU*; K. S. YANAGI; M. B. WALSH; J. YERSAK; P. J. O'HERN; J. LINS; J. SIMON; L. STINSON; S. GROSSER; A. MAHAPATRA; A. C. HART. *Brown Univ., The ALS Assn.*

2:00 **546.05** Protein-protein interactions in RNP granules are disrupted by the motor neuron degeneration-associated mutation in hnRNPA2. V. RYAN*; C. V. CHABATA; J. AMAYA; A. E. CONICELLA; N. L. FAWZI. *Brown Univ., Brown Univ., Brown Univ.*

2:15 **546.06** ● Automated continuous behavioral monitoring reveals early phenotypes in a novel TDP-43 knock-in mouse model of ALS-FTD. A. M. DUFFY*; M. WHITE; Y. BARHOMI; T. SERRE; R. H. BROWN, Jr; J. SREEDHARAN; J. R. FALLON. *Brown Univ., Babraham Inst., Vium, Inc, Brown Univ., Brown Inst. for Brain Sci., Univ. of Massachusetts Med. Sch.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**NANOSYMPOSIUM**

**547. Tautopathies: Mechanisms**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, 140A

1:00 **547.01** Aha1 stimulates tau fibrilization. L. B. SHELTON*; J. D. BAKER; D. ZHENG; J. KOREN, III; C. A. DICKEY; L. J. BLAIR. *Univ. of South Florida.*

1:15 **547.02** ● Human Cyclophilin 40 dissolves neurotoxic amyloid fibrils. J. D. BAKER*; L. B. SHELTON; D. ZHENG; J. KOREN, III; C. A. DICKEY; L. J. BLAIR. *Univ. of South Florida.*

1:30 **547.03** Palmitoylated DNAJC5 recruits tau to endosomes and promotes tau release from cells. D. ZHENG*; Z. SUN; D. POLANCO; Y. YAN; L. SULLIVAN; A. DARLING; B. NORDHUES; J. WEBSTER; L. BLAIR; C. DICKEY; R. DESCHENES. *Univ. of South Florida.*

1:45 **547.04** Tau-mediated disruption of the spliceosome in Alzheimer's disease models. Y. HSIEH*; C. GUO; H. K. YALAMANCHILI; Y. LI; C. A. LASAGNA-REEVES; Y. XU; H. ZHENG; Z. LIU; J. M. SHULMAN. *Baylor Col. of Med.*

2:00 **547.05** Preventing tauopathy by targeting MSUT2. B. C. KRAEMER*; J. M. WHEELER; P. MCMILLAN; T. STROVAS. *Veterans Affairs Puget Sound Hlth. Care Syst., SIBCR, Univ. of Washington.*

2:15 **547.06** Tau-dependent polyamine dysregulation promotes feed-forward cycle of disease progression. L. A. SANDUSKY*; A. KOVALENKO; J. HUNT; D. PLACIDES; S. N. FONTAINE; C. A. DICKEY; M. FAHNESTOCK; M. B. SELENICA; K. R. NASH; M. N. GORDON; D. G. MORGAN; D. C. LEE. *Byrd Alzheimer's Inst., Univ. of Kentucky, Byrd Alzheimer's Inst., McMaster Univ., Byrd Alzheimer's Inst.*

2:30 **547.07** Postnatal changes in isoforms and phosphorylation of tau are independently regulated in mouse brains. D. TUERDE*; T. KIMURA; T. MIYASAKA; K. ANDO; M. HASEGAWA; S. HISANAGA. *Tokyo Metropolitan Univ., Doshisha Univ., Tokyo Metropolitan Inst. of Med. Sci.*

2:45 **547.08** Pathological phosphorylation of tau and TDP-43 by TTBK1 and TTBK2 drives neurodegeneration. L. M. TAYLOR*; P. J. MCMILLAN; N. LIACHKO; B. GHETTI; T. BIRD; D. KEENE; B. C. KRAEMER. *Univ. of Washington, Univ. of Washington, VA Puget Sound Hlth. Care Syst., Indiana Univ., GRECC, Univ. of Washington, Veterans Affairs Puget Sound Hlth. Care Syst.*

3:00 **547.09** Resilience to alpha-synuclein and TDP-43 co-pathology in primary age-related tauopathy. C. MCMILLAN*; E. B. LEE; D. IRWIN; M. GROSSMAN; J. Q. TROJANOWSKI; D. WOLK. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

3:15 **547.10** *In vitro* phosphorylated tau allows investigation of aggregation and seeding in the absence of inducers. J. DI*; A. J. MASON; C. DESPRES; F. KLÄRNER; T. SCHRADER; C. SMET-NOCCA; G. BITAN. *David Geffen Sch. of Med. At UCLA, Univ. de Lille, Univ. of Duisburg-Essen.*

3:30 **547.11** Hyper-homocysteinemia modulates tau neuropathology through 5-lipoxygenase in a mouse model of tauopathy. A. DI MECO*; J. LI; C. BARRERO; S. MERALI; D. PRATICO. *Lewis Katz Sch. of Med. Temple Univ., Lewis Katz Sch. of Med. Temple Univ.*

3:45 **547.12** Tau-dependent suppression of adult neurogenesis in the stressed hippocampus. I. SOTIROPOULOS*; C. DIOLI; P. PATRÍCIO; J. SILVA; E. FERREIRO; A. MATEUS-PINHEIRO; N. SOUSA; L. PINTO. *ICVS, Med. School, Univ. Minho, ICVS/3B's - PT Government Associate Lab., Ctr. for Neurosci. and Cell Biol. (CNC), Univ. of Coimbra.*

4:00 **547.13** Local somatodendritic translation of tau protein triggered by AMPA and NMDA receptor stimulation. A. TAKASHIMA*; S. KOBAYASHI; T. TANAKA; Y. SOEDA. *Gakushuin Univ., Nihon Univ., Fukushima Med. Univ.*

**NANOSYMPOSIUM**

**548. Hair cells**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, 156

1:00 **548.01** Coordinate roles for Itgα8 and Pcdh15 in the regulation of cilia biogenesis in sensory cells. M. ZALLOCCHI*; L. CHEUNG. *Boys Town Natl. Res. Hosp.*

1:15 **548.02** Characterization of a new mouse model with a non-sense mutation in loxhd1 dfnb77. N. GRILLET*; M. CARRARO; A. TROUILLET. *Stanford Univ.*

1:30 **548.03** Adaptation to temperature changes at auditory ribbon synapses increases synaptic vesicle exocytosis efficiency. M. CHEN*; H. P. VON GERSDORFF. *Oregon Hlth. and Sci. Univ., Oregon Hlth. & Sci. Univ.*

1:45 **548.04** Activin signaling instructs hair cell differentiation in the mammalian cochlea. A. DOETZLHOFER*; A. BENITO-GONZALEZ; M. PRAJAPATI; E. GOLDEN. *Johns Hopkins Med. Institutions, Univ. of Colorado, Denver.*

2:00 **548.05** Inner ear mitochondria exhibit structural features that differ between hair cells, afferents and efferents. A. LYSAKOWSKI*; S. SOBKIV; J. LESUS; K. ARIAS; A. KAMBALYAL; M. PATEL; S. VAZIRIAN; V. BABU; L. GHATALAH; A. JAYAKUMAR; F. PADRON; M. H. ELLISMAN; G. PERKINS. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Illinois Math and Sci. Acad., UCSD BSB 1000, UCSD BSB 1000.*

2:15 **548.06** New mechanism of auditory hair cell protection from gentamicin toxicity revealed by drugs targeting somatostatin receptors and PPARs. V. PETKOVIC*; M. SEKULIC JABLANOVIC; K. KUCHARAVA; M. B. WRIGHT; D. BODMER. *Univ. Hospital,Otorhinolaryngology, Strekin AG.*

2:30 **548.07** ● The Notch ligand Jagged1 is required for the survival of supporting cells in the postnatal mouse cochlea. B. C. COX*; M. R. RANDLE; K. A. GRAVES; Y. L. DARCY. *Southern Illinois Univ. Sch. of Med.*

**NANOSYMPOSIUM**

**549. Visually-Guided Reach and Grasp**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, 152B

1:00 **549.01** ● Study of target interception in a virtual reality setup using deep lstm recurrent neural network. K. BINAEE*; E. KRUEGER; G. J. DIAZ. *Rochester Inst. of Technol.*

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:15 **549.02** Neural encoding of far-located reach goals in motor, premotor, and parietal cortex in a physically unconstrained monkey performing a walk-and-reach task. M. BERGER*; A. GAIL. *German Primate Ctr., Univ. of Goettingen, Bernstein Ctr. for Computat. Neurosci.*

1:30 **549.03** Three categorical subspaces explain population dynamics in the fronto-parietal grasping network. B. DANN*; J. A. MICHAELS; A. AGUDELO-TORO; H. SCHERBERGER. *German Primate Ctr.*

1:45 **549.04** A modular neural network model of the primate grasping circuit. J. A. MICHAELS*; S. SCHAFFELHOFER; A. AGUDELO-TORO; H. SCHERBERGER. *German Primate Ctr., The Rockefeller Univ., Univ. of Göttingen.*

2:00 **549.05** Combining choice-related activity measurement and electrical perturbation to probe readout of sensory signals. X. YU*; Y. GU. *Inst. of Neurosci., Inst. of Neurosci.*

2:15 **549.06** Parietal cortical responses to grasping actions. E. P. GARDNER*; D. GARDNER; J. L. BAKER; K. P. PURPURA; J. RYOU; J. CHEN. *New York Univ. Sch. of Med., Joan and Sanford I Weill Med. Col. of Cornell Univ., Joan and Sanford I Weill Med. Col. of Cornell Univ.*

2:30 **549.07** PPC encodes an internal model of arm position in visual coordinates. T. AFLALO*; M. ABBAS; C. ZHANG; M. JAFARI; N. POURATIAN; R. A. ANDERSEN. *Caltech, Cambridge Univ., Caltech, Univ. of California Los Angeles.*

2:45 **549.08** Transsaccadic updating of object orientation for grasp planning: An fMRIa study. B. BALTARETU*; S. MONACO; J. VELJI-IBRAHIM; G. N. LUABEYA; J. CRAWFORD. *York Univ., York Univ., Ctr. for Mind/Brain Sci.*

3:00 **549.09** Wide-field imaging of cortical activity in mice performing reach-to-grasp movements. E. QUARTA*; A. L. ALLEGRA MASCARO; C. CAMPAIOLI; L. SACCONI; F. S. PAVONE. *European Lab. For Non-Linear Spectroscopy, Univ. of Florence, Natl. Res. Council, Natl. Res. Council.*

3:15 **549.10** Interference between oculomotor and limb motor movements in stroke survivors. T. SINGH*; C. M. PERRY; T. M. HERTER. *Med. Univ. of South Carolina, Univ. of South Carolina.*

3:30 **549.11** ● RecoveriX - A clinical study for improvement motor functions of stroke patients with a brain-computer interface that control and avatar and functional electrical stimulation. G. EDLINGER*; W. CHO; R. ORTNER; J. SWIFT; S. DIMOV; C. GUGER. *G.Tec Med. Engin. Gmbh, g.tec medical engineering GmbH, g.tec neurotechnology USA Inc.*

**NANOSYMPOSIUM**

**550. Motor Control and Internal Representations**

***Theme E: Motor Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, 147A

1:00 **550.01** Movement-related dynamics of thalamocortical oscillatory activity in Essential tremor. S. NIKETEGHAD*; M. MALEKMOHAMMADI; N. POURATIAN. *Univ. of California Los Angeles, Univ. of California Los Angeles.*

1:15 **550.02** Anodal transcranial direct current stimulation modulates motor cortex plasticity and enhances motor performances in healthy and stroked mice. M. V. PODDA; S. COCCO; S. A. BARBATI; V. LONGO; K. GIRONI; L. LEONE; M. MAINARDI; C. GRASSI*. *Med. School, UCSC.*

1:30 **550.03** Enhancing bimanual motor coordination in healthy young and older adults using EEG and transcranial direct current stimulation (tDCS). R. MEESEN*; M. K. RAND; K. CUYPERS; M. A. NITSCHE; A. JAMIL. *Univ. Hasselt REVAL, IfADo-Leibniz Res. Ctr., Univ. Hasselt, Leibniz Res. Ctr. For Working Envrn. An, Leibniz Res. Ctr. for Working Envrn. and Human Factors.*

1:45 **550.04** Spontaneous emergence of behaviorally relevant motifs in human motor cortex. T. LIVNE*; D. KIM; N. V. METCALF; G. L. SHULMAN; M. CORBETTA. *Weizmann Inst. of Sci., Washington Univ. In St. Louis, Washington Univ. Sch. Med., Univ. of Padua.*

2:00 **550.05** ● Brain-machine interface guided movements share a common neural substrate with overt movements. S. VYAS*; N. EVEN-CHEN; S. D. STAVISKY; S. RYU; P. NUYUJUKIAN; K. V. SHENOY. *Stanford Univ., Palo Alto Med. Fndn., Howard Hughes Med. Inst. - Stanford Univ.*

2:15 **550.06** A normative theory of motor plan representation for optimized neural encoding. D. MCNAMEE*; M. LENGYEL; D. M. WOLPERT. *Univ. of Cambridge, Univ. of Cambridge.*

2:30 **550.07** Spatial bias versus variance in pointing to visual and proprioceptive representations of hand position. H. J. BLOCK*; Y. LIU; B. M. SEXTON. *Indiana Univ.*

2:45 **550.08** The influence of social motivation on reaching precision. I. COS-AGUILERA*; G. DECO. *Univ. Pompeu Fabra, Univ. Pompeu Fabra.*

3:00 **550.09** Visual and somatosensory properties of the caudal aspect of the macaque superior parietal lobule. M. GAMBERINI*; G. DAL BÒ; R. BREVEGLIERI; S. BRIGANTI; P. FATTORI; C. GALLETTI. *Univ. of Bologna.*

**NANOSYMPOSIUM**

**551. Animal Models for Depression: Behavioral and Chemical Approaches**

***Theme G: Motivation and Emotion***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, 147B

1:00 **551.01** Chronic high fat diet leads to increased neural excitability and cognitive deficits. M. FENG*; N. A. CROWLEY; A. PATEL; B. LUSCHER. *Penn State Univ., Penn State Univ.*

1:15 **551.02** Glutamatergic markers in the lateral habenula and caudal dorsal raphe are associated with neurocircuitry of depressive-like behavior. M. M. MIRRIONE*; A. S. ALHARBI; J. WILLIAMS; C. E. LARKIN; C. M. MERCUGLIANO; J. S. MEARS; M. A. MUCCI; F. HENN. *Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ., Mount Sinai.*

1:30 **551.03** Perinatal exposure to the SSRI paroxetine increases offspring's depression-like behavior through changes in hippocampal DNA methylation. M. E. GLOVER*; C. R. MCCOY; N. L. JACKSON; S. M. CLINTON. *Virginia Tech., Univ. of Alabama at Birmingham.*





• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:45 **551.04** Social stress induces neurovascular pathology promoting depression. C. MENARD*; M. L. PFAU; G. E. HODES; V. KANA; V. X. WANG; S. BOUCHARD; A. TAKAHASHI; M. FLANIGAN; H. ALEYASIN; K. LECLAIR; W. G. JANSSEN; B. LABONTÉ; E. M. PARISE; Z. S. LORSCH; S. A. GOLDEN; M. HESHMATI; C. A. TAMMINGA; G. TURECKI; M. CAMPBELL; Z. FAYAD; C. Y. TANG; M. MERAD; S. J. RUSSO. *Icahn Sch. of Med. At Mount Sinai, Virginia Tech., Icahn Sch. of Med. at Mount Sinai, Translational and Mol. Imaging Inst. at Mount Sinai, Univ. of Tsukuba, Icahn Sch. of Med. Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Ichan Sch. of Med. At Mount Sinai, Icahn Sch. of Med. At Mount Sinai, Natl. Inst. on Drug Abuse, Univ. of Texas Southwestern Med. Ctr. at Dallas, McGill Univ., Trinity Col.*

2:00 **551.05** Longterm isolation elicited depression and anxiety-related behaviors by modulating oxytocinergic systems. T. HAN*; E. PARK; J. LEE; H. KIM; S. BACK; Y. KIM; H. NA. *Korea Univ. Col. Med., Korea Univ. Col. of Med., Dept. of Pharmaceutics and Biotechnology, Col. of Med. Engineering, Konyang Univ.*

2:15 **551.06** Ketamine inoculation immediately after forced ethanol abstinence inhibits the development of time-dependent affective disturbances. O. VRANJKOVIC*; G. WINKLER; S. PATEL; D. G. WINDER. *MPB, Vanderbilt, Vanderbilt, Vanderbilt Univ. Sch. Med.*

2:30 **551.07** Human experimenter gender modulates mouse behavioral responses to stress and to the antidepressant ketamine. P. GEORGIOU*; P. ZANOS; C. JENNE; J. N. HIGHLAND; D. GERHARD; R. S. DUMAN; T. D. GOULD. *Univ. of Maryland, Baltimore, Univ. of Maryland, Univ. of Maryland Baltimore, Univ. of Maryland Sch. of Med., Yale Univ., Yale Univ. Sch. Med., Univ. of Maryland Sch. of Med.*

2:45 **551.08** Evaluating sensitive developmental periods necessary for photoperiodic effects on the serotonin system. J. K. SIEMANN*; N. H. GREEN; N. REDDY; D. G. MCMAHON. *Vanderbilt Univ., Vanderbilt Univ.*

**NANOSYMPOSIUM**

**552. Functional Basis of Attention**

***Theme H: Cognition***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, 150B

1:00 **552.01** Deep neural network activity decoded from fMRI responses to scenes predicts eye movements. T. P. O'CONNELL*; M. M. CHUN. *Yale Univ.*

1:15 **552.02** Face processing is attenuated during mind wandering: An ERP investigation. E. DENKOVA; A. P. JHA*; E. BRUDNER; K. ZAYAN; J. DUNN. *Univ. of Miami.*

1:30 **552.03** Spatial uncertainty modulates object and spatial representations in IPS. A. J. COLLEGIO*; S. L. SHEREMATA; D. J. KRAVITZ; S. SHOMSTEIN. *The George Washington Univ., Florida Atlantic Univ.*

1:45 **552.04** Attention to breathing modulates anterior cingulate cortex responses and its coherence to prefrontal cortex. J. L. HERRERO*; A. LUTZ; S. KHUVIS; E. M. YEAGLE; A. D. MEHTA, 11549. *The Feinstein Inst. For Med. Res., Lyon Neurosci. Res. Ctr., The Feinstein Inst. For Med. Res., Feinstein Inst. For Med. Res.*

2:00 **552.05** The joint impact of alpha amplitude and frequency on visual detection. S. NELLI*; A. MALPANI; M. BOONJINDASUP; J. SERENCES. *UC San Diego, Univ. of California San Diego, UCSD.*

2:15 **552.06** Task-irrelevant semantic properties of objects modulate early visual cortical activity. J. C. NAH*; G. L. MALCOLM; S. SHOMSTEIN. *The George Washington Univ., Univ. of East Anglia.*

2:30 **552.07** Interfering with dorsal and ventral parietal network nodes during endogenous and exogenous visuospatial attention: A TMS study. M. M. AHRENS*; D. VENIERO; M. HARVEY; G. THUT. *Insititute of Neurosci. and Psychology, Sch. of Psychology.*

2:45 **552.08** Perception of illusory contour is interfered by a task-irrelevant distractor. J. YANG*; H. WU; Q. WU; X. WU. *Sun Yat-Sen Univ. (SYSU).*

3:00 **552.09** Object-based attentional selection emerges late in visual cortex for object percepts of varying strength. S. AL-JANABI*; N. STROMMER-DAVIDOVICH; S. GABAY; A. S. GREENBERG. *Univ. of Wisconsin-Milwaukee, Univ. of Haifa.*

**POSTER**

**553. Synapse Maturation**

***Theme A: Development***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 A1 **553.01** A single calcium-binding domain is sufficient to mediate the Syt III's regulation of retinal waves. H. CHEN*; C. WANG. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ. and Academia Sinica.*

2:00 A2 **553.02** Role of RNA Binding Proteins in the stress response: RNA metabolism and consequences in motor behavior in mice. C. M. FREIRE-COBO*; B. JORDAN. *Albert Einstein Col. of Med.*

3:00 A3 **553.03** FGF22-IGF2 signaling regulates hippocampal synaptic stabilization and affective behaviors. A. TERAUCHI*; E. JOHNSON-VENKATESH; B. BULLOCK; M. LEHTINEN; H. UMEMORI. *Boston Children's Hosp., Boston Children's Hosp.*

4:00 A4 **553.04** Functional mapping of synaptic inputs *in vivo* followed by molecular identification of synaptic origin. A. H. LEIGHTON*; N. ZABOURI; J. E. CHEYNE; C. LOHMANN. *Netherlands Inst. For Neurosci., Univ. of Auckland.*

1:00 A5 **553.05** Non-hebbian activity-dependent synaptic refinement at the *Drosophila* nmj. F. J. VONHOFF*; H. S. KESHISHIAN. *Yale Univ.*

2:00 A6 **553.06** Dendritic spine remodeling promoted by NrCAM in cortical pyramidal neurons during adolescence through the Semaphorin3F holoreceptor. P. F. MANESS*; V. MOHAN; C. SULLIVAN; J. GUO; S. WADE; S. MAJUMDER; A. AGARWAL; E. S. ANTON; B. TEMPLE. *UNC Sch. of Med., UNC Sch. of Med., Johns Hopkins Med. Inst.*

3:00 A7 **553.07** Conditional deletion of all neurexins defines diversity of essential synaptic organizer functions for neurexins. L. Y. CHEN*; M. JIANG; B. ZHANG; O. GOCKE; T. C. SUDHOF. *Stanford Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 A8 **553.08** The role of ipRGCs in mediating Synaptotagmin I's regulation of retinal waves during development. Y. LIN; C. WANG*. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ. and Academia Sinica.*

1:00 A9 **553.09** Climbing fiber synapse proliferation precedes pruning at Purkinje cells in the developing mouse cerebellum. A. M. WILSON*; R. SCHALEK; A. SUISSA-PELEG; T. JONES; S. KNOWLES-BARLEY; J. W. LICHTMAN. *Harvard Univ., Broad Inst., Google.*

2:00 A10 **553.10** Stromalin is a master regulator of synaptic vesicle biogenesis. A. PHAN*; C. I. THOMAS; M. CHAKRABORTY; J. A. BERRY; N. KAMASAWA; R. L. DAVIS, Prof. *The Scripps Res. Inst., Max Planck Florida Inst., The Scripps Res. Inst.*

3:00 B1 **553.11** Spontaneous activity and mitochondrial dynamics during synapse development. C. SILVA*; M. V. F. BUSCH; M. V. ZWIETEN; C. LOHMANN. *Netherlands Inst. For Neurosci., Netherlands Inst. for Neurosci., Univ. of Amsterdam, Netherlands Inst. For Neurosci.*

4:00 B2 **553.12** Synergistic action of mAChR receptors,adenosine receptors and TrkB receptors in synapse elimination during neuromuscular junction development. N. GARCIA*; L. NADAL; E. HURTADO; A. SIMÓ; M. TOMÀS; V. CILLEROS; M. A. LANUZA; J. M. TOMÀS. *Univ. Rovira i Virgili.*

1:00 B3 **553.13** BMP signaling modulates presynaptic neurotransmitter release in *Drosophila* neuromuscular junction synapses. S. LEE; Y. KIM; S. CHOI*. *Seoul Natl. Univ., Seoul Natl. Univ.*

2:00 B4 **553.14** ArhGAP22 is a new regulator of spines development and function. A. LONGATTI*; L. MURRU; L. PONZONI; E. MORETTO; M. SALA; M. PASSAFARO. *CNR-IN, Univ. of Milan, Univ. of Milan, Fondazione Umberto Veronesi.*

3:00 B5 **553.15** Role of serotonin signaling on synaptic plasticity in tuberous sclerosis complex. W. FRANCESCONI*; R. KIRCHNER; F. BERTON; A. YOSHII. *Univ. of Illinois Chicago, Harvard Chan Sch. of Publ. Hlth., Univ. of Illinois at Chicago, UIC.*

4:00 B6 **553.16** Altered perineuronal net structure in Ptprz1 knockout mice. G. J. EILL*; A. SINHA; R. T. MATTHEWS. *Upstate Med. Univ.*

1:00 B7 **553.17** Synaptic pruning and phenylketonuria. G. M. RUNE*; G. SCHLEGEL. *Univ. Hamburg.*

**POSTER**

**554. Neural Circuit Maturation and Remodeling II**

***Theme A: Development***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 B8 **554.01** Mesoscale calcium imaging of neonatal cortical connectivity. C. CROSS*; J. AGULLO CAMPELLO; M. C. ASHBY. *Univ. of Bristol.*

2:00 B9 **554.02** Contribution of NKCC1-mediated GABAergic depolarization to neuronal network activity in the neonatal mouse hippocampus. J. GRAF*; C. ZHANG; O. W. WITTE; C. A. HÜBNER; K. HOLTHOFF; K. KIRMSE. *Jena Univ. Hosp., Jena Univ. Hosp.*

3:00 B10 **554.03** Functional network connectivity during looming stimulus detection in midbrain tectal networks. A. S. KHAKHALIN*; C. D. AIZENMAN. *Bard Col., Brown Univ.*

4:00 B11 **554.04** Short-term plasticity and vesicle pool replenishment at inhibitory synapses of the auditory brainstem: Adaptations and refinements after hearing onset. D. J. WEINGARTEN*; N. MÜLLER; E. FRIAUF; H. VON GERSDORFF. *TU Kaiserslautern, Oregon Hlth. & Sci. Univ.*

1:00 B12 **554.05** Impaired topographic map refinement and synaptic strengthening of an inhibitory auditory microcircuit in Otoferlin knock-out mice. N. MÜLLER*; M. SONNTAG; E. FRIAUF. *TU Kaiserslautern, Paul Flechsig Inst. for Brain Res.*

2:00 B13 **554.06** Mechanisms of a plasticity window closure in the CA1 region of the hippocampus. A. RODRIGUEZ-MORENO*; L. E. ARROYO-GARCÍA; M. PÉREZ-RODRÍGUEZ; G. FLORES. *Univ. Pablo de Olavide, Univ. Autonoma de Puebla / Inst. de Fisiologia.*

3:00 B14 **554.07** ▲ A role for integrin beta 3 in dendritic spinogenesis and pruning in cerebral cortex. K. M. BLAND; Z. O. CASEY; C. J. HANDWERK; Z. L. HOLLEY; G. S. VIDAL*. *James Madison Univ.*

4:00 B15 **554.08** MicroRNA-218 regulates early postnatal synchronized activity to promote proper hippocampal network function. S. R. TAYLOR*; G. LIPPI; M. KOBAYASHI; J. J. FAK; C. GIRGISS; J. LIU; R. B. DARNELL; D. K. BERG. *UCSD, The Rockefeller Univ.*

1:00 B16 **554.09** A non-sensory activity based checkpoint for interneuron wiring in the olfactory system. B. THROESCH*; K. N. JAMES; K. K. BALDWIN. *TSRI.*

1:00 DP01/B17 **554.10** (Dynamic Poster) Cortical parvalbumin interneurons require postnatal expression of Sox6 for synaptic maturation and function. H. MUNGUBA*; J. N. CORRICO; S. NILSSON; P. OBERST; A. MUNOZ-MANCHADO; R. BATISTA-BRITO; G. J. FISHELL; B. CHATTOPADHYAYA; G. DI CRISTO; J. HJERLING LEFFLER. *Karolinska Institutet, Montréal Univ., Univ. of Geneva, Yale Univ., New York Univ. Langone Med. Ctr., CHU Ste. Justine, Univ. of Montreal, CHU Ste.justine-University of Montreal.*

3:00 B18 **554.11** Developmentally specific expression and network function of cb1 receptors in the newborn rat cerebellum. J. L. BARNES*; D. J. ROSSI. *Washington State Univ.*

4:00 B19 **554.12** Nicotine enhances depolarizing $GABA_AR$ synaptic currents and signal transmission through the developing cerebellar cortex. H. SHIINA*; D. J. ROSSI. *Washington State Univ.*

1:00 B20 **554.13** Postnatal development of GABAergic-dependent brain oscillations during sevoflurane anesthesia in children 0 to 3 years old. L. CORNELISSEN*; S. KIM; J. M. LEE; E. N. BROWN; P. L. PURDON; C. B. BERDE. *Boston Children's Hosp. (EN311.1), Boston Children's Hosp. & Harvard Med. Sch., MIT, Massachusetts Gen. Hosp.*

2:00 B21 **554.14** ● VIP interneurons mediate cortical phenotypes in a genetic model of schizophrenia. R. BATISTA-BRITO*; J. A. CARDIN. *Yale Univ., Yale Univ.*

3:00 B22 **554.15** Development of neuronal microcircuits in neocortex layer1. S. JIANG*; Y. YU; X. YAO. *Fudan Univ., Fudan Univ.*





• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 B23 **554.16** Investigating synaptic plasticity and the balance of protein palmitoylation-depalmitoylation in the pathogenesis of a pediatric neurodegenerative disorder. K. P. KOSTER*; W. FRANCESCONI; F. BERTON; A. YOSHII. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*

1:00 B24 **554.17** Maternal regulation of pups' cortical activity: Role of serotonergic signaling. E. COURTIOL; C. M. TEIXEIRA*; D. A. WILSON; R. SHAH; R. M. SULLIVAN. *Nathan Kline Inst., Nathan Kline Inst., New York Univ. Sch. of Med.*

2:00 B25 **554.18** Role of calcium activity during neural development. S. PAUDEL*; M. SEHDEV; W. HERBST; M. SAHA. *Col. of William and Mary, Col. of William and Mary, UCLA.*

3:00 B26 **554.19** Patchwork-type spontaneous activity in layer 4 of neonatal barrel cortex transferred via thalamocortical projections. H. MIZUNO*; K. IKEZOE; T. SATO; K. KITAMURA; T. IWASATO. *Natl. Inst. of Genet., SOKENDAI, Univ. of Yamanashi.*

4:00 B27 **554.20** Elucidating the organization and regulation of lipid nanodomains on neuronal plasma membrane. M. J. DEEPAK*; D. KUMARAN NAIR; V. CHAUHAN. *Indian Inst. of Sci.*

1:00 B28 **554.21** Mother-pup interactions and oxytocin during early brain development. P. P. MALDONADO*; A. NUNO-PEREZ; Y. HAN; M. CARRILLO; P. DE GOEDE; A. KALSBEEK; C. KEYSERS; C. LOHMANN. *Netherlands Inst. For Neurosci., Netherlands Inst. For Neurosci., Academic Med. Ctr. (AMC).*

**POSTER**

**555. Genetics of Neurodevelopmental Disease**

***Theme A: Development***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 B29 **555.01** Transcriptomic and allelic-specific expression analysis in a family quartet with autism spectrum disorder. C. LIN*; J. WU; C. LIN; H. COON; P. HUANG; H. HO; S. AKBARIAN; S. S. GAU; H. HUANG. *Col. of Medicine, Natl. Taiwan Univ., Yong-He Cardinal Tien Hosp., Univ. of Utah Sch. of Med., Natl. Taiwan Univ. Hosp. and Col. of Medicine, Natl. Taiwan Univ., Col. of Medicine, Natl. Taiwan Univ., Natl. Taiwan Univ. Hosp. and Col. of Medicine, Natl. Taiwan Univ., Icahn Sch. of Med. at Mount Sinai, Natl. Taiwan Univ. Hosp. and Col. of Medicine, Natl. Taiwan Univ., Neurodevelopment Club in Taiwan.*

2:00 B30 **555.02** Determining the role of gene-environment interactions in mouse models of neurodevelopmental disorders. M. KIELHOLD*; A. NARAYAN; B. BABINEAU; H. M. MOON; J. SU; T. PALMER. *Stanford Univ.*

3:00 B31 **555.03** Differential methylation across multiple tissues as a means of determining causality in Autism Spectrum Disorder. E. L. BEARER*; B. S. MULLIGAN; J. M. STEPHEN. *UNM Sch. of Med., Univ. of New Mexico Hlth. Sci. Ctr., Mind Res. Network.*

4:00 B32 **555.04** Histone binding protein, PHF21A, is required for rapid induction of cAMP-responsive immediate early genes. R. S. PORTER*; Y. MURATA-NAKAMURA; H. NAGASU; H. KIM; S. IWASE. *Univ. of Michigan, Augusta Univ.*

1:00 B33 **555.05** ● Maturation of corticospinal tracts in children with congenital hemiplegia using diffusion tensor imaging. C. PAPADELIS*; M. RUBENSTEIN; H. L. KAYE; K. KAPUR; B. SNYDER; E. GRANT; A. ROTENBERG. *Boston Children's Hosp., Boston Children's Hosp., Boston Children's Hosp., Boston Children's Hosp., Boston Childrens Hosp., Boston Children's Hosp.*

2:00 B34 **555.06** Genome clustering for clinical subtype detection in autism. D. N. AMATYA*; D. NGUYEN; S. NAVLAKHA; F. H. GAGE. *The Salk Inst. For Biol. Studies, Univ. of California San Diego, Univ. of California San Diego, The Salk Inst. for Biol. Studies, The Salk Inst. for Biol. Studies.*

3:00 B35 **555.07** Transcriptional regulation mediated via dosage-sensitive Chd8 genomic interaction in mouse forebrain. A. S. NORD*; A. A. WADE; L. SU-FEHER; I. ZDILAR; R. CATTA-PRETA; K. J. LIM; T. W. STRADLEIGH; A. L. GOMPERS. *Univ. of California Davis Ctr. for Neurosci.*

4:00 B36 **555.08** Topographical shifts in functional connectivity reveal correlation differences between large-scale networks in 16p11.2 deletion carriers. A. Y. QURESHI*; J. A. NIELSEN; W. CHUNG; T. P. ROBERTS; E. H. SHERR; J. SEPULCRE; R. L. BUCKNER; . AND THE SIMONS VIP CONSORTIUM. *Harvard Univ., Brigham and Women's Hosp., Simons Fndn., Children's Hosp. of Philadelphia, UCSF, Martinos Ctr. at Massachusetts Gen. Hosp., Simons Fndn.*

1:00 B37 **555.09** Neuronal brain region-specific DNA methylation and chromatin accessibility are associated with neuropsychiatric disease heritability. L. RIZZARDI*; P. F. HICKEY; V. RODRIGUEZ DIBLASI; R. TRYGGVADÓTTIR; C. M. CALLAHAN; A. IDRIZI; K. D. HANSEN; A. P. FEINBERG. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

2:00 B38 **555.10** Investigating autism-associated behaviours and neural circuits in mice deficient for the chromatin-remodelling factor Chd8. S. HURLEY*; P. SUETTERLIN; K. L. H. RIEGMAN; M. PAGANI; A. GALBUSERA; A. CARUSO; J. ELLEGOOD; J. P. LERCH; M. L. SCATTONI; A. GOZZI; C. FERNANDES; M. BASSON. *King's Col. London, King's Col. London, Inst. Italiano di Tecnologia, Inst. Superiore Di Sanità, Univ. of Toronto, Hosp. for Sick Children, King's Col. London.*

3:00 B39 **555.11** Evaluating the effect of high-frequency beta oscillations on sleep and cognition in Dup15q syndrome. V. SARAVANAPANDIAN*; R. BHATT; J. T. LERNER; S. S. JESTE. *UCLA, UCLA, UCLA.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**556. Fragile X: Disease Predictors and Treatments**

***Theme A: Development***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 B40 **556.01** Rational design of exquisitely selective inhibitors of the GSK3 kinase isoforms for the treatment of Fragile X Syndrome. F. F. WAGNER*; L. J. STOPPEL; R. K. SENTER; M. C. L. LEWIS; J. P. GALE; A. J. CAMPBELL; J. R. SACHER; M. WEIWER; A. J. HEYNEN; L. BENJIBA; K. STEGMAIER; Y. ZHANG; J. MADISON; J. Q. PAN; V. SRIDHAR; K. M. HUBER; J. R. COTTRELL; E. B. HOLSON; E. M. SCOLNICK; M. F. BEAR. *Broad Inst., MIT, Broad Inst., Massachussetts Inst. of Technol., Dana-Farber Cancer Inst., Univ. of Texas Southwestern Med. Ctr.*

2:00 B41 **556.02** Investigating disease progression of Fragile X-associated Tremor/Ataxia Syndrome (FXTAS) using an inducible mouse model. M. M. FOOTE*; E. NEVEROVA; C. VIEIRA; K. VALENTINE; A. SAHA; C. HSIEH; J. KOTNIK; E. DOISY; R. HUKEMA; R. WILLEMSEN; R. F. BERMAN. *Univ. of California Davis, Whitman Col., Erasmus Med. Ctr., Univ. California, Davis.*

3:00 B42 **556.03** ● Development of a sensitive and quantitative assay to detect FMRP in cell lines and human tissues. M. ROTH; S. WEBB; H. WU; A. M. CACACE; L. V. RONCO*. *FULCRUM Therapeut., Fulcrum Therapeut.*

4:00 B43 **556.04** ● Functional assessment of spontaneous and evoked activity in iPSC-derived Fragile X neurons using multielectrode array (MEA) and fluorometric imaging plate reader (FLIPR) platforms. J. D. GRAEF*; C. SUN; L. LIN; S. WEBB; V. VILLEGAS; S. T. WARREN; A. M. CACACE. *Fulcrum Therapeut., Fulcrum Therapeut., Emory Univ. Sch. of Med.*

1:00 B44 **556.05** ● Quantitative assessment of the contribution of FMR1 to function in iPSC-derived Fragile X neurons. H. WU*; J. D. GRAEF; C. NG; C. SUN; M. ROTH; L. WITT*; S. WEBB; V. VILLEGAS; L. V. RONCO; S. T. WARREN; A. M. CACACE. *Fulcrum Therapeut., Fulcrum Therapeut., Fulcrum Therapeut., Fulcrum Therapeut., Fulcrum Therapeut., Emory Univ. Sch. of Med., FULCRUM Therapeut.*

2:00 B45 **556.06** Rescue cognition defects in Fragile X mice by activating autophagy. J. YAN*; M. W. PORCH; M. V. BENNETT; R. ZUKIN. *Albert Einstein Col. of Med., Albert Einstein Col. Med.*

3:00 B46 **556.07** Fmrp and mitochondria: Enhancement of mitochondrial efficiency in the treatment of fragile x syndrome. P. LICZNERSKI*; H. PARK; P. MIRANDA; V. K. GRIBKOFF; L. EL-HASSAR; L. K. KACZMAREK; R. J. LEVY; E. A. JONAS. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Columbia Univ.*

4:00 B47 **556.08** Restoration of FMRP in the prefrontal cortex of adult Fragile X mice post-development rescues prefrontal-associated deficits. J. J. SIEGEL*; R. A. CHITWOOD; J. M. DING; R. GRAY; B. V. ZEMELMAN; D. JOHNSTON. *Univ. of Texas at Austin, Univ. of Texas at Austin.*

1:00 B48 **556.09** Chronic minocycline treatment improves hippocampal NMDA receptor function, dendritic atrophy and memory processing in Fmr1 knockout mice. S. YAU*; M. VETRICI; A. TRUESDELL; J. CHIU; C. CHIU; B. R. CHRISTIE. *Hong Kong Polytechnic Univ., Univ. of Victoria, Univ. of Victoria.*

2:00 B49 **556.10** Cellular X chromosome inactivation ratio densities amongst defined brain regions predicts female behavioral penetrance of fragile x syndrome in mice. E. SZELENYI*; D. FISENNE; Y. KIM; K. UMADEVI VENKATARAJU; P. OSTEN. *Cold Spring Harbor Lab., Hofstra Univ., Col. of Medicine, Penn State Univ.*

3:00 B50 **556.11** Inhibiting mGluR5 activity by Mavoglurant rescues circuit specific long-range connectivity in Fmr1 knockout mice: A rs-fMRI study. V. ZERBI*; M. MARKICEVIC; M. RUDIN; N. WENDEROTH. *Neural Control of Movement Lab, ETH Zurich, Univ. and ETH Zürich.*

4:00 B51 **556.12** ▲ Intranasal oxytocin fails to increase sociability in male offspring of fmr1 deficient dams. K. NEWHALL*; A. KOO; B. ZUPAN. *Vassar Col., Vassar Col., Vassar Col.*

1:00 B52 **556.13** Functional deficiency in Fragile X neurons derived from human induced pluripotent stem cells. A. ZHANG*; H. KJELDSEN; M. MASTERS; M. J. BOLAND; A. SZÜCS; K. L. NAZOR; M. SZYMANSKI; Y. WANG; J. LORING. *The Scripps Res. Inst., Truust Neuroimaging, Columbia Univ., UCSD, MYi Diagnostics & Discovery.*

**POSTER**

**557. Neurodevelopmental Disorders: Models and Mechanisms**

***Theme A: Development***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 B53 **557.01** Developmental excitatory to inhibitory GABA switch (DEIGS) is delayed in Ts65Dn mice, a genetic model of Down syndrome. L. LYSENKO; J. KIM; F. MADAMBA; A. A. TYRTYSHNAIA; A. RUPARELIA; A. M. KLESCHEVNIKOV*. *Univ. of California San Diego, Acad. of Biol. and Biotech. of Southern Federal Univ., Far Eastern Federal Univ.*

2:00 B54 **557.02** Characterization of brain region-specific Dyrk1a protein levels and kinase activity during development of Ts65Dn Down syndrome mice to guide pharmacotherapy by Dyrk1a inhibition. M. STRINGER; J. M. LACOMBE; C. R. GOODLETT*; R. J. ROPER. *IUPUI, IUPUI, IUPUI.*

3:00 B55 **557.03** Human iPSC-based organoid and chimeric mouse models reveal OLIG2-dependent abnormal production of GABAergic neurons in down syndrome. R. XU*; P. JIANG. *UNMC.*

4:00 B56 **557.04** Examining the effects of the $GABA_A$ antagonist pentylenetetrazol on seizure activity and EEG spectral power in the Dp16 mouse model of down syndrome. D. J. PETERSON*; J. LEVENGA; H. WONG; P. CAIN; C. HOEFFER, Jr. *Univ. of Colorado - Boulder, Univ. of Colorado Boulder, Univ. of Colorado Boulder, Univ. of Colorado, Boulder, Univ. of Colorado, Boulder.*

1:00 B57 **557.05** Incomplete developmental excitatory-inhibitory GABA shift alters neuronal network dynamics in Down syndrome. M. ALBERTI*; S. NASKAR; I. COLOMBI; M. PARRINI; S. MAGARA; M. NANNI; V. PASQUALE; M. CHIAPPALONE; A. CONTESTABILE; L. CANCEDDA. *Inst. Italiano Di Tecnologia, Univ. degli studi di Genova, Dulbecco Telethon Inst.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 B58 **557.06** ● RCAN1 knock-down restores exocytosis in a neuronal cell line derived from the cerebral cortex of a trisomy 16 mouse, an animal model of Down syndrome. J. VÁZQUEZ-NAVARRETE; X. BAÉZ-MATUS; M. ACUÑA; A. M. GONZÁLEZ-JAMETT; S. BRAUCHI; A. MARTÍNEZ; P. A. CAVIEDES*; A. CÁRDENAS. *CINV, Univ. of Valparaiso, Univ. of Bern, Fac. of Medicine, Austral Univ. of Chile, ICBM Fac Medicine, Univ. of Chile.*

3:00 B59 **557.07** Functional interaction between Down syndrome cell adhesion molecule and Amyloid precursor protein in axon development. M. VELING*; G. R. STERNE; B. YE. *Univ. of Michigan Ann Arbor, Life Sci. Institute, Univ. of Michigan, Life Sci. Institute, Univ. of Michigan.*

4:00 B60 **557.08** Disrupted sleep architecture in a mouse model of Down syndrome. P. CAIN*; D. J. PETERSON; J. LEVENGA; C. A. HOEFFER. *Univ. of Colorado, Boulder, Univ. of Colorado, Boulder, Univ. of Colorado.*

1:00 B61 **557.09** Glucagon-like peptide cleavage produce rescues long-term potentiation in a mouse model of Down syndrome. S. M. DAY*; W. YANG; X. ZHOU; T. MA. *Wake Forest Sch. of Med., Wake Forest Sch. of Med.*

2:00 B62 **557.10** Upregulation of NKCC1 chloride importer impairs GABAAR-mediated inhibition and memory in Down syndrome. M. PARRINI*; S. NASKAR; M. ALBERTI; M. NANNI; G. RONZITTI; F. MINGOZZI; A. CONTESTABILE; L. CANCEDDA. *FONDAZIONE ISTITUTO ITALIANO DI TECNOLOGIA, Genethon, Telethon Dulbecco Inst.*

3:00 B63 **557.11** Molecular mechanisms underlying tubulin gene variants in malformations of cerebral cortex development. A. V. DERRICK*; T. D. CHUSION; A. E. FRY; J. G. L. MULLINS; W. B. DOBYNS; M. I. REES; S. CHUNG. *Swansea Univ. Med. Sch., Inst. of Med. Genet., Ctr. for Integrative Brain Res.*

4:00 B64 **557.12** A novel, *de novo* FBXO28 frameshift in a patient presenting with the predominant form of Chromosome 1q41-q42 deletion syndrome. C. BALAK*; N. BELNAP; K. RAMSEY; A. SINIARD; S. SZELINGER; M. RUSSELL; R. RICHHOLT; M. DE BOTH; W. JEPSEN; I. PIRAS; M. NAYMIK; S. RANGASAMY; I. SCHRAUWEN; D. CRAIG; V. NARAYANAN; M. HUENTELMAN. *Translational Genomics Res. Inst., UCLA, USC Keck Sch. of Med.*

1:00 B65 **557.13** ● Phenotypic rescue with neuroprotective therapeutics in an Angelman syndrome mouse model. H. A. BORN*; A. T. DAO; L. A. MARTINEZ; A. N. CARTER; A. T. LEVINE; E. J. WEEBER; D. J. SEGAL; A. E. ANDERSON. *Baylor Col. of Med., Baylor Col. of Med., Univ. of South Florida, Univ. of California Davis, Baylor Col. of Med.*

2:00 C1 **557.14** The angelman syndrome protein Ube3a regulates the assembly of PP2A. J. WANG*; Q. Z. XIONG. *Inst. of Neurosci.*

3:00 C2 **557.15** Delta rhythmicity is a reliable EEG biomarker in Angelman syndrome. M. S. SIDOROV*; H. DEN BAKKER; G. M. DECK; M. DOLATSHAHI; R. L. THIBERT; L. M. BIRD; C. J. CHU; B. D. PHILPOT. *Univ. of North Carolina, Univ. of North Carolina, Massachusetts Gen. Hosp., Rady Children's Hosp.*

4:00 C3 **557.16** Epigenome wide association study of DNA methylation in Williams syndrome. R. KIMURA*; T. AWAYA; M. NAKATA; T. KATO; Y. FUNABIKI; K. TOMIWA; T. HEIKE; M. HAGIWARA. *Kyoto Univ., Kyoto Univ., Todaiji Ryoiku Hosp. for Children.*

1:00 C4 **557.17** The Williams syndrome/7q11.23 gene DNAJC30 links mitochondria to neural development and behavior. A. T. TEBBENKAMP*; L. VARELA; J. CHOI; M. I. PAREDES; A. GIANI; D. FRANJIC; A. M. M. SOUSA; Z. LIU; M. LI; M. KOCH; K. SZIGETI-BUCK; A. TOBIAS; Z. LI; Y. I. KAWASAWA; C. D. PASPALAS; P. PRONTERA; G. MERLA; A. F. T. ARNSTEN; T. L. HORVATH; N. SESTAN. *Yale Univ., Yale Univ., Penn State Col. of Med., Hosp. "S. Maria della Misericordia", IRCCS Casa Sollievo della Sofferenza Hosp.*

2:00 C5 **557.18** ATRX specifies stem cell identity during human brain development. T. SANOSAKA*; R. TOMOOKA; M. CHAI; I. KOYA; T. ANDO; H. OKANO; J. KOHYAMA. *Kieo Univ. Sch. of Med.*

3:00 C6 **557.19** Identifying mechanisms underlying intellectual disability linked to β-catenin disruptive mutations. R. WICKHAM*; J. ALEXANDER; A. PIRONE; L. EDEN; P. ZAMAN; S. JIN; L. FEIG; M. JACOB. *Tufts.*

4:00 C7 **557.20** Mice lacking cyclin-dependent kinase-like 5 manifest autistic and ADHD-like behaviors. W. LIAO*; C. JHANG; W. CHUANG. *Inst. Neurosci., Nat'l Cheng-Chi Univ.*

1:00 C8 **557.21** ● Dasotraline is a monoamine reuptake inhibitor not a releasing agent as revealed by tetrodotoxin (TTX) sensitivity in microdialysis in the nucleus accumbens of freely-moving rats. D. J. HEAL; R. S. KULKARNI; L. PINDER; H. L. ROWLEY*; T. DEATS; S. C. HOPKINS; K. S. KOBLAN. *Renasci Ltd, Sunovion Pharmaceuticals Inc.*

2:00 C9 **557.22** ▲ Molecular genetic etiology of an ADHD-like phenotype in a selectively bred mouse model. A. M. SOROKINA*; P. MAJDAK; M. C. SAUL; J. V. GOGOLA; J. S. RHODES. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*

3:00 C10 **557.23** ● Dasotraline - Evaluation of its dopamine reuptake characteristics in comparison to stimulants and non-stimulants by microdialysis in the nucleus accumbens of freely-moving rats. H. L. ROWLEY; R. S. KULKARNI; L. PINDER; D. J. HEAL*; T. DEATS; S. C. HOPKINS; K. S. KOBLAN. *RenaSci Ltd, Sunovion Pharmaceuticals Inc.*

4:00 C11 **557.24** The Atxn7 overexpressing mice: A potential animal model of the hyperactive endophenotype of attention-deficit/hyperactivity disorder (ADHD). I. I. DELA PENA*; J. DE LA PENA; I. DELA PENA; H. KIM; C. BOTANAS; R. CUSTODIO; M. KIM; J. RYU; B. KIM; D. HAN; J. CHEONG. *Uimyung Res. Inst. For Neuroscience, Sahmyook Univ., Loma Linda Univ., Sch. of Life Science, Kyungpook Natl. Univ., Div. of Child & Adolescent Psychiatry, Dept. of Psychiatry, Chung Ang Univ. Med. Sch.*

1:00 C12 **557.25** Age-dependent neurological deficits induced by molecularly targeted drugs are reversible. J. SCAFIDI*; J. RITTER; J. EDWARDS; B. M. TALBOT; V. GALLO. *Children's Natl. Med. Ctr., Children's Natl. Med. Ctr.*

2:00 C13 **557.26** Postnatal erythropoietin repairs executive function deficit detected with touchscreen in adult rats with CNS injury that mimics preterm birth. L. L. JANTZIE; A. OPPONG; F. CONTEH; S. ROBINSON*. *Univ. of New Mexico Dept. of Pediatrics, Johns Hopkins Univ.*

3:00 C14 **557.27** Desflurane-induced neuronal damage in infant monkey after prolonged exposure. F. LIU*; Q. YIN; S. LIU; C. M. FOGLE; T. A. PATTERSON; M. G. PAULE; J. P. HANIG; W. SLIKKER, Jr.; C. WANG. *Natl. Ctr. for Toxicological Res., Ctr. for Drug Evaluation and Research/ FDA.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 C15 **557.28** Adeno-associated virus mediated expression of a functional human SLC6A8 in a mouse model of Creatine Transporter Deficiency. K. C. UDOBI*; M. K. PERNA; N. R. DELCIMMUTO; M. R. SKELTON. *Cincinnati Children's Res. Fndn., CCHMC, Univ. of Cincinnati, Cincinnati Childrens Res. Fndn.*

1:00 C16 **557.29** Sex differences in the 20HETE induction and toxicity in primary cortical neurons after oxygen-glucose deprivation. N. E. MOHAMMED*; R. KOEHLER; Z. YANG. *John Hopkins Sch. of Med., John Hopkins Sch. of medicine, John Hopkins school of medicine.*

2:00 C17 **557.30** A novel preclinical model of chronic pain from cerebral palsy. A. Y. OPPONG*; T. R. YELLOWHAIR; J. KIM; L. L. JANTZIE; S. ROBINSON. *Johns Hopkins Univ., Univ. of New Mexico Sch. of Med.*

**POSTER**

**558. NMDA Receptors II**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 C18 **558.01** Extracellular domain mutations increase memantine potency for GluN2A subunit containing NMDA receptors. D. BLEDSOE; B. LAUBE; B. G. KLEIN; B. M. COSTA*. *Virginia Col. of Osteo. Med., TU Darmstadt, Virginia Tech, Col. of Vet. Med., VT Sch. of Neurosci.*

2:00 C19 **558.02** NMDAR-mediated excitation-transcription coupling in hippocampal interneuron subtypes revealed by RNA sequencing. V. MAHADEVAN*; R. CHITTAJALLU; K. A. PELKEY; X. YUAN; S. HUNT; D. ABEBE; C. J. MCBAIN. *Section on Cell. and Synaptic Physiol.*

3:00 C20 **558.03** Influence of species differences at NMDA receptors pharmacology. D. C. BERTRAND*; S. BERTRAND; E. NEVEU; K. KAMBARA; M. A. ACKLEY. *Hiqscreen, SAGE Therapeut.*

4:00 C21 **558.04** ● Stereoselective actions of a positive allosteric modulator of NMDA receptors reflect unique structural determinants of action. R. E. PERSZYK*; K. L. STRONG; M. P. EPPLIN; D. MENALDINO; M. J. MCDANIEL; H. KUSUMOTO; K. K. OGDEN; J. ZHANG; P. LE; D. C. LIOTTA; S. F. TRAYNELIS. *Emory Univ., Emory Univ., Scripps Florida, Emory Univ. Sch. of Med.*

1:00 C22 **558.05** Amnesia: Passive transfer from man to mouse by a patient-derived, recombinant monoclonal antibody. N. GOEBELS*; M. MALVIYA; S. BARMAN; K. S. GOLOMBECK; J. PLANAGUMA; F. MANNARA; N. STRUTZ-SEEBOHM; F. DEMIR; N. KLOECKER; K. K. FALK; H. HARTUNG; G. SEEBOHM; F. LEYPOLDT; J. DALMAU; N. MELZER. *Heinrich-Heine-University Duesseldorf, Univ. of Muenster, Univ. of Barcelona, Univ. of Schleswig-Holstein.*

2:00 C23 **558.06** An *in vitro* characterization of mtor, eef2k/eef2 and bdnf signaling in the antidepressant actions of ketamine and (2r,6r)- hydroxynorketamine. M. A. HERNANDEZ*; K. S. JONES. *Univ. of Michigan, Univ. of Michigan.*

3:00 C24 **558.07** The uncharged form of memantine can access the NMDAR channel through a hydrophobic route. M. WILCOX*; N. G. GLASGOW; A. L. TURCU; S. VAZQUEZ; J. W. JOHNSON. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Barcelona and IBUB.*

4:00 C25 **558.08** Hemiester analogues of pregnenolone sulfate: A new class of positive modulators of N-methyl-D-aspartate receptors. P. HUBALKOVA*; B. KRAUSOVA; B. SLAVIKOVA; M. NEKARDOVA; V. VYKLICKY; H. CHODOUNSKA; E. KUDOVA; L. VYKLICKY. *Inst. of Physiol. CAS, Charles Univ. in Prague, Inst. of Organic Chem. and Biochem. of the CAS.*

1:00 C26 **558.09** Intracellular state affects NMDA receptor positive allosteric modulator activity. K. SAPKOTA*; D. E. JANE; D. T. MONAGHAN. *Univ. of Nebraska Med. Ctr., Univ. of Bristol.*

2:00 C27 **558.10** A gating motif in NMDA receptors targeted by disease mutations. J. AMIN*; A. GOCHMAN; X. DONG; H. ZHOU; L. P. WOLLMUTH. *Stony Brook Univ., Stony Brook Univ., Stony Brook Univ., Florida State Univ.*

3:00 C28 **558.11** Biochemical characterization of glutamate receptors and associated proteins. S. WON*; K. W. ROCHE. *NIH.*

4:00 C29 **558.12** Synaptically-induced slow inward currents mediated by pannexin-1 in CA3 pyramidal neurons. M. SOULA*; D. L. HUNT; E. SCEMES; P. E. CASTILLO. *Albert Einstein Col. of Med., Janelia Res. Campus, Albert Einstein Col. of Med., Albert Einstein Col. of Med.*

1:00 C30 **558.13** ▲ Activity-Dependent postsynaptic signaling in hippocampal neurons is altered by transgenic expression of chimeric NMDA receptor GLuN2 subunits. J. P. FOTANG*; C. LEONG; F. BOURA; S. HUSSAIN; R. HOPWOOD. *George Mason Univ., George Mason Univ.*

2:00 C31 **558.14** ● NYX-2925 promotes GluN2B-PSD95 colocalization and LTP in rat hippocampal neurons. M. S. BOWERS*; P. K. STANTON; A. L. GROSS; R. M. MITCHELL; M. A. KHAN; R. A. KROES; J. R. MOSKAL. *Aptinyx, Inc., McCormick Sch. of Engin., Northwestern Univ., New York Med. Col.*

3:00 C32 **558.15** ● ▲ Coupling ligand binding to ion channel opening in NMDA receptors. A. GOCHMAN*; J. AMIN; K. CHAN; L. WOLLMUTH. *Stony Brook Univ.*

4:00 C33 **558.16** ● Single channel properties of triheteromeric GluN1/GluN2A/GluN2C NMDA receptors are distinct from diheteromeric GluN1/GluN2A and GluN1/GluN2C. S. F. TRAYNELIS*; A. KHATRI; S. A. SWANGER; S. BHATTACHARYA; K. B. HANSEN; H. YUAN. *Emory Univ. Sch. of Med., Univ. of Montana.*

1:00 C34 **558.17** ● Triheteromeric GluN1/GluN2A/GluN2C NMDA receptors have unique pharmacological properties. S. BHATTACHARYA*; A. KHATRI; S. A. SWANGER; K. B. HANSEN; H. YUAN; S. F. TRAYNELIS. *Emory Univ., Univ. of Montana.*

**POSTER**

**559. Amino Acid Transporters**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 C35 **559.01** Region-and activity- dependent regulation of transporter-mediated glutamate uptake. N. F. PINKY*; C. M. WILKIE; M. P. PARSONS. *Mem. Univ. of Newfoundland, Mem. Univ. of Newfoundland, Mem. Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 C36 **559.02** Mapping the spatial extent of climbing fiber-mediated spillover to cerebellar interneurons. K. ABIRAMAN*; A. NIETZ; L. CODDINGTON; L. OVERSTREET-WADICHE; J. I. WADICHE. *Univ. of Alabama At Birmingham.*

3:00 C37 **559.03** Release/uptake mismatch in corticostriatal synaptic connections due to astrocyte dysfunction in mice suffering from Huntington's disease (HD). A. DVORZHAK; A. WÓJTOWICZ; R. GRANTYN*. *Univ. Med. Charité, Univ. Med. Charité.*

4:00 C38 **559.04** Neuronal glutamate transporters control dopaminergic signaling in the striatum. M. DE; J. P. MCCAULEY, III; S. BELLINI; K. E. FLEMING*; L. Y. D'BRANT; M. A. PETROCCIONE*; A. SCIMEMI. *Univ. At Albany.*

1:00 C39 **559.05** Modulatory effects of Ampicillin-Sulbactam on glial glutamate transporters and metabotropic glutamate receptor 1 as well as reinstatement to cocaine seeking behavior. A. M. HAMMAD; F. ALASMARI; Y. ALTHOBAITI; Y. SARI*. *Univ. of Toledo Col. of Pharm. and Pharmaceut. Sci.*

2:00 C40 **559.06** Effects of ceftriaxone with/without excitatory amino acid transporter blockers on GBM cell line. K. A. NALCI*; A. HACIMUFTUOGLU; U. OKKAY; A. TAGHIZADEHGHALEHJOUGHI; N. TASPINAR; M. TASPINAR. *Atatürk Üniversitesi, Atatürk Üniversitesi, Yüzüncü Yıl Üniversitesi.*

3:00 C41 **559.07** The glutamate transporter GLT-1 expressed in neurons is important for glutamate homeostasis and synaptic energy metabolism. P. A. ROSENBERG*; L. F. MCNAIR; Y. SUN; K. D. FISCHER; J. D. NISSEN; J. V. ANDERSEN; N. NYBERG; M. C. HOHNHOLT; B. I. ALDANA; C. J. AOKI; U. SONNEWALD; H. S. WAAGEPETERSEN. *Boston Children's Hosp., Univ. of Copenhagen, Boston Children's Hosp., Univ. of Copenhagen, New York Univ., NTNU.*

1:00 DP02/C42 **559.08** ● (Dynamic Poster) Modulation of the excitatory amino acid transporter 2 by spider venoms. A. TORA*; M. RIVES; A. D. WICKENDEN. *Janssen R&D Johnson&Johnson.*

1:00 DP03/C43 **559.09** (Dynamic Poster) Subcellular distribution of astroglial receptors monitored with super-resolution microscopy. J. P. HELLER*; K. ZHENG; D. A. RUSAKOV. *Univ. Col. London, UCL Inst. of Neurol.*

2:00 C44 **559.10** Effects of clavulanic acid treatment on GLT-1, xCT and mGluR2/3 expression on co-abuse of methamphetamine and ethanol in alcohol-preferring rat model. Y. ALTHOBAITI*; F. ALSHEHRI; A. HAKAMI; A. HAMMAD; Y. SARI. *Univ. of Toledo, Taif Univ.*

3:00 C45 **559.11** Characterization and functional relevance of SLC38 (SNAT) homologues in *D. Melanogaster*. T. AGGARWAL*; M. M. ERIKSSON; R. FREDRIKSSON. *Dept of Pharm Biosciences, Uppsala Univ.*

4:00 C46 **559.12** ▲ Modulation of anion channel gating in Excitatory Amino Acid Transporters by c-terminal domains. A. M. KARA; A. D. GONZALEZ; J. GARCIA-OLIVARES; D. TORRES-SALAZAR*; S. G. AMARA. *Natl. Inst. of Hlth., Yale Univ.*

1:00 C47 **559.13** Astroglial glutamate transporters and reversed-mode $Na^+/Ca^{2+}$-exchange contribute to neurovascular coupling. J. G. JACKSON*; H. TAKANO; D. A. COULTER; M. B. ROBINSON. *Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia, Children's Hospital/Univ Pennsylvania.*

2:00 C48 **559.14** Nano- and micro-scale composite materials for tracking modification of brain cell growth over time. U. KANSAKAR*; R. YENDLURI; Y. LVOV; N. H. NGUYEN; M. A. DECOSTER. *Louisiana Tech. Univ., Louisiana Tech. Univ.*

3:00 C49 **559.15** Targeting glial glutamate transporters for the treatment of cannabinoids dependence in rat model. A. Y. HAKAMI*; F. S. ALSHEHRI; Y. S. ALTHOBAITI; Y. SARI. *Univ. of Toledo.*

4:00 C50 **559.16** Characterization and modelling of a putative glycine transporter in *Drosophila melanogaster.* A. B. LOPEZ*; F. FRATEV; A. SILVA; S. SIRIMULLA; M. MIRANDA. *Univ. of Texas At El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso.*

1:00 C51 **559.17** Glycine transporter 2 (GlyT2) surface expression is reduced by the calcium-dependent secretion activator 1 (CAPS1). S. X. MARZ; M. JONES; C. FECHER-TROST; M. JUNG; R. T. ALEXANDER; E. FRIAUF*. *Univ. of Kaiserslautern, Dept of Biol., Saarland University, Exptl. and Clin. Pharmacol. and Toxicology, Saarland University, Med. Biochem. and Mol. Biol., Univ. of Alberta, Dept. of Physiology, Canada Dept. of Pediatrics.*

**POSTER**

**560. Epilepsy: Genetics - Phenotype Modelling of Human Mutations**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 C52 **560.01** PADI4/PADI6 gene variations are associated with common forms of human generalized epilepsy. R. J. BUONO*; T. N. FERRARO; J. P. BRADFIELD; H. HAKONARSON. *Cooper Med. Sch. of Rowan Univ., The Children's Hosp. of Philadelphia.*

2:00 C53 **560.02** ▲ Functional insights of *de novo* mutations in DNM1 on epileptic encephalopathy and mitochondrial dysfunction. L. LLACI*; G. MILLS; J. DODSON; E. FRANKEL; V. NARAYAN; B. GERALD; R. C4RCD; S. RANGASAMY; V. NARAYANAN. *Translational Genomics Res. Inst. (TGen).*

3:00 C54 **560.03** Loss-of-function mutations in the epileptic encephalopathy candidate gene TRIO impair the pre- and post-natal development of cortical GABAergic interneurons. L. EID*; F. CHARRON-LIGEZ; P. RAJU; F. HANSSON; M. LACHANCE; E. ROSSIGNOL. *Ctr. De Recherche Du CHU Sainte-Justine.*

4:00 C55 **560.04** ▲ The ketogenic diet regulates catalase via the transcription factor peroxisome proliferator activated receptor gamma 2. S. KNOWLES*; S. BUDNEY; S. MATTHEWS; M. DEODHAR; K. A. SIMEONE; T. A. SIMEONE. *Creighton Univ., Creighton Univ. Sch. of Med., Creighton Univ. Sch. of Med.*

1:00 C56 **560.05** The role of T-cell intracellular antigen-1 in epileptogenesis. Y. GONG*; J. A. HEWETT. *Dept. of Biology, Syracuse Univ., Syracuse Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 C57 **560.06** PTEN deletion from a subset of hippocampal granule cells produces seizures and hippocampal cell loss. S. KHADEMI*; C. L. LASARGE; I. V. A. LIMA; B. E. HOSFORD; A. C. P. DE OLIVEIRA; S. C. DANZER. *Cincinnati Children's Hosp., Univ. Federal de Minas Gerais.*

3:00 C58 **560.07** Endogenous expression of epigenetically regulated genes in a genetically-selected rat model of epilepsy. A. FERNANDES*; H. R. MAGALHÃES; A. L. F. DONATTI; J. A. C. OLIVEIRA; Á. F. L. RIOS; C. C. P. PAZ; N. GARCIA-CAIRASCO; E. S. RAMOS. *Univ. of São Paulo, Univ. of São Paulo, Univ. of São Paulo, Univ. of São Paulo, Univ. Estadual do Norte Fluminense Darcy Ribeiro, Inst. de Zootecnia, Univ. of São Paulo.*

4:00 C59 **560.08** Cell-type-specific Rbfox3 (NeuN) deletion causes spontaneous seizures through excitation/inhibition imbalance. D. HUANG*; R. WU; C. LIEN; H. HUANG. *Col. of Medicine, Natl. Taiwan Univ., Natl. Yang-Ming Univ.*

1:00 C60 **560.09** The Cacng2 gene promoter: Multiple repressive elements and bi-directional organization with a long non-coding RNA. D. A. CARTER*; B. P. A. CORNEY; C. L. WIDNALL; D. J. REES; J. S. DAVIES. *Cardiff Univ., Swansea Univ.*

2:00 C61 **560.10** ● High-throughput phenotypic screen to validate candidate epilepsy genes. J. F. ULLMANN*; C. M. LACOURSIERE; T. JOBST-SCHWAN; F. HILDEBRANDT; A. PODURI. *Boston Children's Hosp. and Harvard Med. Sch., Boston Children's Hosp.*

3:00 C62 **560.11** Movement disorder in GNAO1 encephalopathy associated with GOF mutations. H. FENG*; B. SJÖGREN; Y. YUAN; R. R. NEUBIG. *Michigan State Univ.*

4:00 C63 **560.12** ● Mouse model of childhood epilepsy caused by a *de novo* GRIN2A missense mutation. A. AMADOR*; C. BOSTICK; J. PETERS; H. OLSON; A. PODURI; H. YUAN; W. CHEN; S. J. MYERS; S. F. TRAYNELIS; M. BOLAND; D. GOLDSTEIN; W. N. FRANKEL. *Columbia Univ., Columbia Univ., Harvard Med. Sch. & Epilepsy Genet. Program, Boston Children's Hosp., Emory Univ. Sch. of Med., Collabtech, Emory Univ. Sch. of Med., Columbia Univ. Med. Ctr.*

1:00 D1 **560.13** ● Modeling of an epilepsy-related neurodevelopmental disorder caused by *de novo* GNB1 missense mutations and identification of targeted treatments. S. COLOMBO*; M. J. BOLAND; W. N. FRANKEL; D. B. GOLDSTEIN. *Columbia Univ., Columbia Univ., Columbia Univ.*

2:00 D2 **560.14** ● Characterization and therapeutic screening of a gain of function mutation in KCNT1 utilizing multielectrode arrays. C. D. BOSTICK*; S. COLOMBO; M. J. BOLAND; V. A. LETTS; W. N. FRANKEL; D. B. GOLDSTEIN. *Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr., Columbia Univ.*

3:00 D3 **560.15** Developmental trajectory of interneuron dysfunction in a mouse model of Dravet syndrome. M. FAVERO*; E. LOPEZ; N. P. SOTUYO; E. M. GOLDBERG. *The Children's Hosp. of Philadelphia, Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

**POSTER**

**561. Epilepsy: Post-Seizure Modifications - Novel Genes and Inflammation**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 D4 **561.01** Heterogeneity of gene associated with retinoid-interferon-induced mortality-19 (GRIM-19) expression in the adult mouse brain. S. HWANG; J. KIM; S. KIM*. *The Catholic Univ. of Korea Col. of Med., The Catholic Univ. of Korea Col. of Med., The Catholic Univ. of Korea.*

2:00 D5 **561.02** Cx3cr1 inhibition modulates synaptic integration of adult born hippocampal neurons following an epileptogenic insult in the rat brain. U. AVDIC*; I. ALI; C. EKDAHL. *Lund Univ., Lund Univ.*

3:00 D6 **561.03** Transcriptome analysis of hippocampal CA1 in rat model of early life seizures. H. O'LEARY*; A. M. CASTANO; L. VANDERLINDEN; L. M. SABA; T. A. BENKE. *Univ. of Colorado, Denver.*

4:00 D7 **561.04** ▲ Time course and isoform specificity of JNK activation during epileptogenesis. A. N. PARIKH; F. A. CONCEPCION; R. D. BOEHM; N. P. POOLOS*. *Univ. of Washington.*

1:00 D8 **561.05** Pattern of expression of proinflammatory cytokines on a model of acute seizures under time-restricted feeding. J. SANTILLAN-CIGALES*; J. LANDGRAVE-GÓMEZ; V. S. ARRIAGA-ÁVILA; O. F. MERCADO-GOMEZ; S. GONZALEZ-REYES; R. GUEVARA-GUZMAN. *Univ. Nacional Autonoma De Mexico, FM.*

2:00 D9 **561.06** Time-restricted feeding confers an anti-oxidative effect in rat hippocampus on pilocarpine seizure model. O. F. MERCADO-GOMEZ*; V. S. ARRIAGA-ÁVILA; J. J. SANTILLAN-CIGALES; M. ÁLVAREZ-HERRERA; R. GUEVARA-GUZMAN. *Natl. Autonomous Univ. of Mexico, Natl. Autonomous Univ. of Mexico.*

3:00 D10 **561.07** Early life seizures chronically alter the requirement of L-type voltage gated calcium channels to induce mGluR dependent long term depression. P. B. BERNARD*; A. M. CASTANO; T. A. BENKE. *Univ. of Colorado, Anschutz Med. Campus.*

4:00 D11 **561.08** Cannabidiol as a potential effector of epileptogenesis through microglial modulation. T. R. VICTOR*; J. C. NISSEN; M. W. ELMES; D. G. DEUTSCH; S. E. TSIRKA. *Stony Brook Univ., Stony Brook Univ.*

1:00 D12 **561.09** Changes in the expression of gene associated with retinoid-interferon induced mortality-19 (GRIM-19) after pilocarpine-induced status epilepticus in the mouse hippocampus. J. KIM; S. HWANG; I. KIM*; S. KIM. *The Catholic Univ. of Korea, Col. of Medicine, the Catholic Univ. of Korea.*

2:00 D13 **561.10** Status epilepticus during infancy impairs male sexual behavior during adulthood. F. CHENA BECERRA*; V. X. DIAZ-ESTRADA; E. VELAZCO-CERCAS; I. ZAMORA-BELLO; L. BELTRAN-PARRAZAL; J. MANZO; G. A. CORIA-AVILA; L. LOPEZ-MERAZ. *DOCTORADO EN INVESTIGACIONES CEREBRALES, UV, MAESTRÍA EN NEUROETOLOGIA, CENTRO DE INVESTIGACIONES CEREBRALES.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**562. Epilepsy: *In Vivo* and Behavior - *In vivo* Imaging, Seizure Mapping, and Mechanisms**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 D14 **562.01** Antiseizure actions of a ketone body and its analog in a chronic seizure model. N. SADA*; A. KADOWAKI; T. INOUE. *Okayama Univ., Kawasaki Med. Sch.*

2:00 D15 **562.02** Dynamic modulation of intrinsic excitability and sensory inputs processing in cortical neurons during absence seizures. M. WILLIAMS*; S. LECAS; S. MAHON; S. CHARPIER. *ICM, Brain and Spine Inst., UPMC, Pierre and Marie Curie université - Paris 6.*

3:00 D16 **562.03** Autonomic dysfunction and increased arrhythmogenic potential in mice following status epilepticus. A. LEVINE*; A. DAO; A. E. ANDERSON. *BAYLOR COLLEGE OF MEDICINE, Baylor Col. of Med., Baylor Col. of Med.*

4:00 D17 **562.04** Faster flux of neurotransmitter glutamate during seizure --- *In vivo* evidence from $^{13}$C-enrichment of extracellular glutamate in the hippocampus of the kainate rat model of temporal lobe epilepsy. K. KANAMORI*. *Lab. Launch, Huntington Med. Res. Inst.*

1:00 D18 **562.05** Running as a modulator of epileptogenesis in a genetic mouse model of epilepsy. M. AHL*; U. AVDIC; T. DEIERBORG; C. T. EKDAHL. *Lund University, Clin. Neurophysiol., Lund Univ., Div. of Clin. Neurophysiol., Exptl. Neuroinflam. Lab., Div. Clin. Neurophysiol.*

2:00 D19 **562.06** Effect of early life seizures on development of autistic-like behavior in two mouse strains: 129SvEvTac and C57BL/6 mice. S. L. HODGES*; S. O. NOLAN; A. J. HOLLEY; M. S. BINDER; J. T. OKOH; K. J. ACKERMAN; J. N. LUGO. *Baylor Univ., Baylor Univ.*

3:00 D20 **562.07** The impact of early-life seizures on ultrasonic vocalization behavior in 129 SvEvTac mice: A seizure model comparison. S. O. NOLAN*; S. L. HODGES; C. D. REYNOLDS; A. J. HOLLEY; M. S. BINDER; G. D. SMITH; J. N. LUGO, JR. *Baylor Univ., Baylor Univ., Univ. of North Texas Hlth. Sci. Ctr.*

4:00 D21 **562.08** Optical mapping of neuronal activity in a zebrafish model of epilepsy. L. TURRINI*; C. FORNETTO; G. MARCHETTO; M. C. MÜLLENBROICH; N. TISO; A. VETTORI; F. RESTA; A. MASI; G. MANNAIONI; F. S. PAVONE; F. VANZI. *European Lab. for Non-linear Spectroscopy, Univ. of Florence, Natl. Res. Council, Univ. of Padua, Univ. of Florence, Univ. of Florence.*

1:00 D22 **562.09** Models, mechanisms and therapeutic development of focal cortical dysplasia. Y. WANG*; S. HU; T. JI, 48105; K. GLANOWSKA; G. G. MURPHY; J. M. PARENT. *Univ. of Michigan, Central South Univ. Xiangya Sch. of Med., Univ. of Michigan.*

2:00 D23 **562.10** Changes in spatial encoding specificity of CA1 pyramidal cells in models of heightened dentate gyrus excitability. H. TAKANO*; I. PETROF; S. A. PARK; F. HSU; M. L. KLIMA; J. B. KAHN; D. A. COULTER. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania.*

3:00 D24 **562.11** Neuron Restrictive Silencing Factor mediates long term learning and memory deficits provoked by developmental long febrile seizures. M. M. CURRAN*; K. P. PATTERSON; J. M. BARRY; A. SINGH-TAYLOR; G. P. BRENNAN; N. RISMANCHI; M. PAGE; Y. NOAM; G. M. HOLMES; T. Z. BARAM. *Univ. of California Irvine, Univ. of California- Irvine, Univ. of Vermont, Univ. of California Irvine Dept. of Anat. and Neurobio., Royal Col. of Surgeons Ireland, UC Irvine, Univ. of California, Irvine.*

4:00 D25 **562.12** ● Online classification of behavior using miniature motion sensors during electrical recordings in freely moving rodents. H. POLDER*; N. ZIEGENSPECK; P. ZHAO; B. KLEINER; J. PLANCK; M. WESKAMP; A. DRAGUHN; M. BOTH; J. BRANKAčK. *npi electronic GMBH, Fraunhofer-Institute for Manufacturing Engin. and Automation, Ruprecht-Karls-University.*

1:00 D26 **562.13** Does atomoxetine, a norepinephrine reuptake inhibitor, reduce seizure-induced respiratory arrest by modulating cardiorespiratory function? H. FENG*; H. ZHAO; J. COTTEN; X. LONG. *Massachusetts Gen. Hosp., Central South Univ.*

**POSTER**

**563. Epilepsy: Interneurons and Animal models**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 D27 **563.01** Knock-in mutation in Na/K-ATPase α3 increases hippocampal excitability with underlying GABAergic dysfunction. A. S. HUNANYAN*; A. R. HELSETH; E. ABDELNOUR; M. SACHDEV; M. SZABO; L. CHUNG; M. MASOUD; J. RICHARDSON; Q. LI; J. V. NADLER; S. D. MOORE; D. W. HOCHMAN; M. A. MIKATI. *Duke Univ. Sch. of Med., Duke Univ. Sch. of Med., Duke Univ. Med. Ctr., Durham VA Med. Ctr., Duke Univ. Med. Ctr., Duke Univ. Sch. of Med.*

2:00 D28 **563.02** Capnotaxis in the African naked mole-rat regulates GABA efficacy. M. ZIONS*; D. P. MCCLOSKEY. *CUNY CSI, City Univ. of New York.*

3:00 D29 **563.03** Altered functional efficacy of hippocampal interneuron during epileptogenesis following febrile seizures. Y. YU*; D. KIM. *Col. of Medicine, Soonchunhyang Univ., Col. of Medicine, Soonchunhyang Univ.*

4:00 D30 **563.04** Synaptic balance of adult-generated dentate granule cells in the rat pilocarpine temporal lobe epilepsy model. K. M. GLANOWSKA*; G. G. MURPHY; J. M. PARENT. *Univ. of Michigan.*

1:00 D31 **563.05** Immediate hippocampal granule cell epileptogenesis in experimental temporal lobe epilepsy. A. V. BUMANGLAG; R. S. SLOVITER*. *MOREHOUSE SCHOOL OF MEDICINE.*

2:00 D32 **563.06** Electrical stimulation of the reticular nucleus of the thalamus protected against the epileptic status induced by pentylenetetrazole. G. CONTRERAS-MURILLO*; D. M-AGUASCALIENTES; A. VALDÉS-CRUZ; D. MARTÍNEZ-VARGAS; J. ESCOTTO-RAMÍREZ; A. MARTÍNEZ; V. MAGDALENO-MADRIGAL. *Inst. Nacional De Psiquiatría Ramón De La Fuen, Inst. Nacional de Psiquiatría Ramón de la Fuente, Inst. Nacional De Psiquiatría RFM, Inst. Nacional De Psiquiatría, Inst. Nacional de Psiquiatría Ramón de la Fuente Muñiz.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 D33 **563.07** Loss of parvalbumin-immunoreactive interneurons in epileptic California sea lions. S. CAMERON*; R. GLABMAN; E. ABRAMS; S. JOHNSON; F. GULLAND; P. BUCKMASTER. *Stanford Univ., Univ. of Pennsylvania, Marine Mammal Ctr., Stanford Univ.*

4:00 D34 **563.08** Early-life seizures disrupt parvalbumin circuit maturation and spread of thalamocortical activity in auditory cortex. Y. J. SONG*; E. E. DIEL; A. E. TAKESIAN; L. T. MASSARO; E. L. HONIG; J. J. LIPPMAN-BELL; T. K. HENSCH; F. E. JENSEN. *Univ. of Pennsylvania, Harvard Univ., Boston Children's Hosp., Philadelphia Col. of Osteo. Med.*

1:00 D35 **563.09** Long-term seizure suppression and rescue of behavioral comorbidities in epileptic mice with hippocampal transplantation of GABA progenitors from the medial ganglionic eminence. M. L. CASALIA*; M. A. HOWARD; S. C. BARABAN. *Univ. of California San Francisco, Univ. of California San Francisco, Univ. California San Francisco.*

2:00 D36 **563.10** Slow $Cl^-$ extrusion promotes the spread of activity among reticular thalamic neurons. P. M. KLEIN*; A. LU; M. P. BEENHAKKER. *Univ. of Virginia, Univ. of Virginia, Univ. of Virginia.*

**POSTER**

**564. Microglia in Disease**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 D37 **564.01** Impact of maternal separation on dorsal and ventral hippocampal expression of protein markers for inflammation, deacetylation, and glutamatergic function. K. S. JONES*; L. TELISKA; I. SCHIANO; R. ROTOLO; C. LITTLE; T. STRANGE; C. FLYNN; C. QUAILEY; C. ROSE; T. MEDWID; M. SZAHAJ; J. DEMURO; T. FRAZIER; M. MIRRIONE; A. J. BETZ. *Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ.*

2:00 D38 **564.02** Molecular evolution of adeno-associated virus for targeting of microglia. A. O. GEZER*; S. MISHRA; F. P. MANFREDSSON. *Michigan State Univ., Michigan State Univ.*

3:00 D39 **564.03** Selective loss of glutamine synthetase in the cerebral cortex initiates a sequence of neuropathological events that culminate in epilepsy and neurodegeneration. N. C. DANBOLT*; Y. ZHOU; R. DHAHER; M. PARENT; Q. HU; B. HASSEL; S. YEE; F. HYDER; S. E. GRUENBAUM; T. EID. *Univ. of Oslo, Univ. of Oslo, Yale Univ., Yale Sch. of Med., Univ. of Oslo, Univ. of Connecticut Hlth.*

4:00 D40 **564.04** Phagocytic profile of microglia in postmortem autism spectrum disorder temporal cortex. A. S. LEE*; M. PEREZ-POUCHOULEN; P. M. WHITAKER-AZMITIA; E. C. AZMITIA. *Univ. of Maryland Sch. of Med., Stony Brook Univ., Stony Brook Univ., New York Univ.*

1:00 D41 **564.05** Increased microglial activation in anorexia nervosa: A [$^{11}$]DPA713 PET study. M. YOKOKURA*; T. TERADA; T. BUNAI; K. NAKAIZUMI; Y. KATO; M. FUTATSUBASHI; E. YOSHIKAWA; H. YAMASUE; Y. OUCHI. *Hamamatsu Univ. Sch. of Med., Hamamatsu Univ. Sch. of Med., Hamamatsu Photonics KK.*

2:00 D42 **564.06** Microglial activation regulates cognitive deficit in young offspring of maternal immune activation. Q. ZHAO*; Z. YOU. *Univ. of Electronic Sci. and Technol. of, Univ. of Electronic Sci. and Technol. of China.*

3:00 D43 **564.07** Microglia are more active in schizophrenia as evidenced by gene expression signatures. C. L. SAVONEN*; M. A. REIMERS. *Michigan State Univ.*

4:00 D44 **564.08** The agonists of $PGE_2$ EP1 receptor potentiate microglial CD36 recycling without affecting migration. B. MA*; K. GOODWIN; S. DORÉ. *Univ. of Florida Col. of Med., Ctr. for Translational Res. in Neurodegenerative Dis., Univ. of Florida.*

1:00 DP04/D45 **564.09** (Dynamic Poster) Electroconvulsive shock enhances microglial responsive motility in the mouse hippocampus. A. SEPULVEDA RODRIGUEZ*; C. A. CARLONE; S. VICINI; P. A. FORCELLI. *Georgetown Univ. Med. Ctr., Georgetown Univ. Med. Ctr., Georgetown Univ. Med. Ctr.*

2:00 D46 **564.10** ▲ Activation of microglia and loss of synapse in the developing hippocampus of mice prenatally treated by valproate. T. HONDA*; Y. ISHIHARA; A. ISHIDA; T. YAMAZAKI. *Graduated Sch. of Hiroshima Univ., Univ. of California.*

3:00 D47 **564.11** ▲ Effects of microglial phenotypic on hippocampal neurogenesis and depressive-like behavior in CMS-exposed mice. J. ZHANG; L. ZHANG; H. HE; L. MO; M. WANG; Y. HAN; Z. YOU. *Univ. of Electronic Sci. and Technol. of.*

4:00 D48 **564.12** A potential role for class IIa HDACs in mediating neuroinflammation following traumatic brain injury. D. P. CROCKETT*; R. PATEL; M. PAUL; A. WACH; R. GRAZIANO; L. P. BERNARD; V. L. DIBONA; H. ZHANG. *Rutgers Robert Wood Johnson Med. Sch., Rutgers Univ., GSBS, Robert Wood Johnson Med. Sch.*

1:00 D49 **564.13** Cathepsin B contributes to NLRP3 inflammasome activation via lysosomal membrane permeabilization in mouse microglial cells exposed to Rotenone and LPS. V. LAWANA; N. SINGH; H. JIN; V. ANANTHARAM; A. G. KANTHASAMY; A. KANTHASAMY*. *Iowa State Univ., Iowa State Univ.*

2:00 D50 **564.14** Microglia priming through maternal immune stress influences brain function and behavior. L. N. HAYES*; K. AN; M. KIM; R. NARODU; A. J. CHANG; G. DOLEN; A. SAWA. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*

3:00 D51 **564.15** Morphological and ultrastructural characterization of NG2 glia in the striatum of rats subjected to the mitochondrial toxin 3-nitropropionic acid. X. JIN; T. RIEW; H. KIM; J. CHOI; M. LEE*. *Catholic Univ. Med. Col., Catholic Neurosci. Inst., Cell Death Dis. Res. Ctr., Integrative Res. Support Center, Lab. of Electron Microscopy, Col. of Medicine, The Catholic Univ. of Korea.*

4:00 D52 **564.16** Norepinephrine deficiency accelerates ascending sequential neurodegeneration and progression of non-motor/motor symptoms in an inflammatory Parkinson's diseases mouse model. S. SONG*; S. CHEN; S. S. MOY; Q. WANG; J. HONG. *Natl. Inst. of Envrn. Hlth. Sci., Univ. of North Carolina at Chapel Hill Sch. of Med., NIEHS, NIEHS.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 D53 **564.17** Brain-derived neurotrophic factor-TrkB receptor signaling negatively regulates the pro-inflammatory response of microglia to lipopolysaccharide. A. M. GARRISON*; J. M. PARROTT; L. REDUS; J. C. O'CONNOR. *Univ. of Texas Hlth. Sci. Ctr. at San Antonio, Univ. of California Davis Sch. of Med., UT Hlth. San Antonio, UTHSCSA.*

2:00 D54 **564.18** Microglia mediate early loss of specific synaptic connections in Huntington's disease. D. WILTON*; M. HELLER; A. DAGGETT; A. KIM; A. FROUIN; M. ESZES; R. L. FAULL; X. W. YANG; B. A. STEVENS. *Boston Children's Hosp., UCLA, Univ. Auckland Med. Sch.*

3:00 D55 **564.19** MiR-146a mediates tumorigenic gene expression by targeting SMAD4 in glioma-associated microglia. A. KARTHIKEYAN*; N. GUPTA; L. LEI; C. TANG; B. T. ANG; K. MALLILANKARAMAN; E. A. LING; S. T. DHEEN. *YLL Sch. of Medicine, NUS, Natl. Technological Univ., Natl. Neurosci. Inst., YLL Sch. of Medicine, NUS.*

4:00 D56 **564.20** Nicotine increases limbic microglial expression and cocaine self-administration in the adolescent rat by a D2 receptor mechanism. K. LINKER*; M. A. WOOD; P. TAWADROUS; F. M. LESLIE. *Univ. of California, Irvine, Univ. of California Irvine, Univ. of California, Irvine, UC Irvine.*

1:00 D57 **564.21** Acetaminophen rescues microglial defects and cognitive impairment in the DP16 murine model of Down syndrome. B. PINTO*; A. PETRETTO; M. BARTOLUCCI; L. PERLINI; L. CANCEDDA. *Inst. Italiano Di Tecnologia, Scuola Normale Superiore, Inst. Giannina Gaslini.*

2:00 D58 **564.22** Microglia isolated from offspring of dams with allergic asthma exhibit methylation and transcriptional alterations to genes dysregulated in autism. A. VOGEL CIERNIA*; M. CAREAGA; J. LASALLE; P. ASHWOOD. *Univ. of California Davis.*

3:00 D59 **564.23** ● ITI-214, a novel and selective phosphodiesterase inhibitor, reverses LPS-induced inflammatory responses in BV2 cells and in mice. J. J. O'BRIEN*; L. P. WENNOGLE; J. P. O'CALLAGHAN; D. B. MILLER; S. DUTHEIL; G. L. SNYDER; R. E. DAVIS; J. P. HENDRICK. *Intra-Cellular Therapies Inc, Intra-Cellular Therapies Inc, Centers for Dis. Control and Prevention, Natl. Inst. for Occup. Safety and Hlth., Intra-Cellular Therapies Inc.*

4:00 D60 **564.24** $CX_3CR_1$ deficiency elevates neuroinflammation and potentiates cocaine-mediated psychomotor activity. M. GUO*; Y. KOOK; E. CHIVERO; S. CALLEN; S. BUCH. *Univ. Nebraska Med. Ctr., Univ. of Nebraska Med. Ctr., Univ. of Nebraska Med. Ctr.*

1:00 D61 **564.25** A novel mechanism of action for carbonoxolone via the inhibition of mitochondrial glutaminase. Y. LI; J. ZHENG; Y. HUANG*. *Shanghai Tenth People's Hosp. affiliated to Tongji Univ. Sch. of Med., Dept Pharmacol. & Exptl. Neurosci., Univ. Nebraska Med. Ctr.*

2:00 D62 **564.26** Microglial activation of the nuclear GAPDH cascade mediates cognitive inflexibility in an inflammatory mouse model. A. RAMOS*; F. E. DOMINGUEZ; N. J. ELKINS; K. MAULDING; K. ISHIZUKA; A. SAWA. *Johns Hopkins Univ. Sch. of Med., Johns Hokins Sch. of Med., Johns Hopkins Univ. Dept. of Psychiatry and Behavioral Sci., Johns Hokins Univ. Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ.*

**POSTER**

## 565. Oligodendrocytes

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 D63 **565.01** Mechanisms of myelin loss after mild traumatic brain injury. A. A. ADAMS*; B. J. PFISTER; H. A. KIM. *Rutgers Univ., New Jersey Inst. Technol.*

2:00 E1 **565.02** Chd7 collaborates with Sox2 to regulate activation of oligodendrocyte precursor cells after spinal cord injury. T. DOI*; T. OGATA; Y. SAWADA; S. TANAKA; M. NAGAO. *Res. Institute, Natl. Rehabil. Ctr., Grad. Sch. of Medicine, The Univ. of Tokyo.*

3:00 E2 **565.03** A novel system for functional analysis of adult oligodendrocyte progenitor cells. N. KIKUCHI(NIHONMATSU)*; Y. XIUJUN; Y. MATSUDA; M. WATANABE; K. AOKI; H. KONDO; Y. TATEBAYASHI. *Tokyo Metropolitan Inst. of Med. Sci., Second Hosp. of Hebei Med. Univ., Tokyo Metropolitan Inst. of Med. Sci., Tokyo Metropolitan Inst. of Med. Sci.*

4:00 E3 **565.04** RyR3-mediated ER calcium release is dynamically regulated and crucial for oligodendroglial differentiation RyR3-mediated ER calcium release is dynamically regulated and crucial for oligodendroglial differentiation. L. XIAO*; T. LI. *Dept. of Histology and Embryology, Third Military Med. Univ.*

1:00 E4 **565.05** Role of ionotropic glutamate receptor-mediated calcium signaling in oligodendrocyte regeneration after neonatal white matter injury. R. R. KHAWAJA*; A. AGARWAL; H. JEONG; M. MISHINA; D. E. BERGLES; S. H. KANG. *Temple Univ., Temple Univ., Johns Hopkins Univ. Sch. Med., Ritsumeikan Univ., Temple Univ. Sch. of Med.*

2:00 E5 **565.06** Brain-derived neurotrophic factor haploinsufficiency results in region-specific, differential oligodendroglial development in the central nervous system. M. NICHOLSON*; R. J. WOOD; J. FLETCHER; S. S. MURRAY; J. XIAO. *The Univ. of Melbourne, The Florey Inst. of Neurosci. and Mental Hlth. Res.*

3:00 E6 **565.07** Motor neuron sonic hedgehog specifies the first wave of oligodendrogenesis in the vertebrate spinal cord. L. STARIKOV*; A. SAJAN; A. H. KOTTMANN. *CUNY City Col., CUNY The Grad. Ctr., CUNY Sch. of Med.*

4:00 E7 **565.08** Calcium-dependent Erk1/2 MAPK activation following mechanical stretch injury induces myelin loss in oligodendrocytes. J. KIM*; P. GOKINA; M. T. LONG; B. J. PFISTER; H. A. KIM. *Rutgers Univ., New Jersey Inst. of Technol.*

1:00 E8 **565.09** Teneurin-4 is a transmembrane protein regulating cell adhesion and cytoskeleton organisation in oligodendrocytes. N. SUZUKI*; C. HAYASHI; N. KIKURA; M. HYODO; Y. MABUCHI; S. DE VEGA; Y. YAMADA; C. AKAZAWA. *Tokyo Med. and Dent. Univ., Juntendo Univ., NIDCR, NIH.*

2:00 E9 **565.10** Expression of Rictor in oligodendrocyte precursor cells is required for proper maturation and myelination. H. A. HATHAWAY*; W. B. MACKLIN. *Univ. of Colorado Anschutz Med. Campus.*

3:00 E10 **565.11** Apoptosis and proliferation in mixed glial culture from connexin knockout mice. S. KEIL*; M. FREIDIN; C. K. ABRAMS. *Univ. of Illinois Chicago, Univ. of Illinois At Chicago, Univ. of Ilinois Col. of Med. At Chica.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 E11 **565.12** Selective estrogen receptor modulators enhance remyelination in an estrogen receptor-independent manner. K. A. RANKIN; F. MEI; Y. A. SHEN; S. R. MAYORAL; C. DESPONTS; D. S. LORRAIN; A. J. GREEN; R. BOVE; J. R. CHAN*. *Univ. of California, San Francisco, Univ. of California San Francisco, UCSF, Univ. of California San Francisco Dept. of Neurol., Inception Sci.*

1:00 E12 **565.13** Gli1 fate-labeling during postnatal development identifies sonic hedgehog (Shh) responsive cells that give rise to oligodendrocyte lineage cells during myelination and in adulthood contribute to remyelination. M. A. SANCHEZ*; R. C. ARMSTRONG. *Uniformed Services Univ. of the Hlth. Scienc.*

2:00 F1 **565.14** Selective activation of adenosine $A_{2B}$ receptors reduces outward $K^+$ currents and maturation of oligodendrocyte precursor cells *in vitro* by interacting with sphingosine kinase/sphingosine 1-phosphate signaling axis. I. FUSCO; I. DETTORI; F. CENCETTI; L. GAVIANO; R. CORRADETTI*; F. PEDATA; E. COPPI; A. M. PUGLIESE. *Univ. Florence, Dept. Neuroscience, Psychology, Drug Res. and Child Hlth., Univ. Florence, Dept. of Exptl. and Clin. Biomed. Sci.*

3:00 F2 **565.15** RNA methylation plays a critical role in CNS myelination. H. XU*; R. B. KUNJAMMA; X. ZHUANG; Q. FEI; C. HE; B. J. POPKO. *Univ. of Chicago, Univ. of Chicago Dept. of Neurobio., Dept. of Chem. and Inst. for Biophysical Dynamics.*

4:00 F3 **565.16** BRCA1 BRCA2-containing complex subunit 3 mediates oligodendrocyte maturation. C. WANG; C. HO; S. TZENG*. *Natl. Cheng Kung Univ., Natl. Cheng Kung Univ.*

1:00 F4 **565.17** Oligodendrocyte contact induces presynaptic specialization in axons. A. N. HUGHES*; B. APPEL. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus.*

2:00 F5 **565.18** Differential targeting of sodium channels in axons with intermittent myelination. C. M. BACMEISTER; S. R. LEVINSON; E. G. HUGHES*. *Univ. of Colorado Sch. of Med., Univ. of Colorado Sch. of Med., Univ. of Colorado Sch. of Med.*

**POSTER**

**566. Brain Tumor Biology**

***Theme B: Neural Excitability, Synapses, and Glia***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 F6 **566.01** Decoding of single extracellular vesicles. K. B. FRASER*; K. LEE; B. GHADDAR; K. YANG; L. BALAJ; E. A. CHIOCCA; X. O. BREAKEFIELD; H. LEE; R. WEISSLEDER. *Harvard Med. Sch. / Massachusetts Gen. Hos.*

2:00 F7 **566.02** Determining the elastic moduli of normal and cancerous brain to develop a 3D culture mimic. T. RIGGINS*; H. MCNALLY; R. T. BENTLEY; J. RICKUS, 47907. *Purdue Univ., Purdue Univ., Purdue Univ., Purdue Univ.*

3:00 F8 **566.03** Pharmacological modulation of calcium signaling to overcome acquired cisplatin resistance in neuroblastoma cells. A. M. FLOREA*; J. MCCALLUM; E. VARGHESE; G. REIFENBERGER; D. BÜSSELBERG. *Heinrich Heine Univ. Düsseldorf, Uniklinikum, Weill Cornell Med. in Qatar, Qatar Foundation-Education City.*

4:00 F9 **566.04** Alterations in phenotype and intracellular calcium ($[Ca^{2+}]_i$) management in chemoresistant neuroblastoma cells following cisplatin treatment. D. BUSSELBERG*; J. E. MCCALLUM; E. VARGHESE; A. M. FLOREA. *Weill Cornell Med. Col. In Qatar, Heinrich Heine Univ. Düsseldorf, Uniklinikum.*

1:00 F10 **566.05** The small molecule GAG-antagonist surfen decreases glioma infiltration *in vitro* and attenuates tumor growth in a rodent model of glioma. M. LOGUN*; A. NARAYANAN; P. CHOPRA; W. ZHAO; L. MAO; L. KARUMBAIAH. *UGA, Univ. of Georgia, Univ. of Georgia, Univ. of Georgia.*

2:00 F11 **566.06** Tspo deficiency promotes glioma development. D. WANG*; Y. FU; H. WANG; H. CHEN; Y. HU; J. ZHANG. *Peking Union Med. Col.*

3:00 F12 **566.07** The N - alkyl carbazole derivative 4OHCARB6BSAL induces neuroblastoma cell death by promoting p53 protein translocation into the nucleus. S. L. NORI*; A. SANTORO; M. ZANETTI; V. NICOLIN. *UNIVERSITY OF SALERNO, Univ. of Trieste.*

4:00 G1 **566.08** Plasticity of cognitive functions after resection of glioma: new evidence from voxel-based lesion symptom mapping. C. NIKI*; T. KUMADA; T. MARUYAMA; M. TAMURA; Y. MURAGAKI. *Tokyo Women's Med. Univ., Kyoto Univ.*

1:00 G2 **566.09** Implications of the inhibitors of HuR multimerization in glioma treatment. N. FILIPPOVA*; X. YANG; L. B. NABORS. *Univ. of Alabama At Birmingham.*

2:00 G3 **566.10** Bradykinin induces cell migration and interleukin-8 production through the bradykinin B1 receptor in glioblastoma. Y. LIU*; C. TSAI; D. LU. *China Med. Univ., China Med. Univ., Asia Univ., Asia Univ.*

3:00 G4 **566.11** ▲ Sirtuins mediated metabolic stress in HIV associated brain lymphoma. D. PATEL*; P. R. GUDA; S. RAY; R. SUBEDI; M. GHOSH; G. ASEMU; T. K. MAKAR; J. L. BRYANT. *Univ. of Maryland, Inst. of Human Virology.*

4:00 G5 **566.12** Anti-cancer activity of brown seaweed Egregia menziesii's extracts against nervous system cell lines. A. G. GUTIÉRREZ-RODRÍGUEZ; R. MÉNDEZ; S. HUERTA; R. TOVAR; L. C. R. HERNÁNDEZ-KELLY; L. E. AGUILAR-ROSAS; A. ORTEGA; T. OLIVARES-BAÑUELOS; R. C. ZEPEDA*. *Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana, Cinvestav, Univ. Autónoma de Baja California, Cinvestav-IPN, Univ. Veracruzana.*

1:00 G6 **566.13** Does dual pharmacological inhibition of aquaporin-1 water and ion channel activity inhibit glioma cell migration? M. DE IESO*; J. PEI; M. KOURGHI; S. NOURMOHAMMADI; J. E. HARDINGHAM; A. J. YOOL. *Univ. of Adelaide, The Basil Hetzel Inst.*

2:00 G7 **566.14** Pericyte dysfunction in radiation induced brain injury. Y. TANG*; J. CHENG; Y. GUAN; Y. LI; J. CAI; X. WANG. *Sun Yat-Sen Mem. Hospital, Sun Yat-Sen Univ., Sun Yat-Sen Mem. Hosp.*

3:00 G8 **566.15** Oral administration of a novel histone deacetylase 6 inhibitor MPTOB291 reduces glioblastoma volume and changes gene expression in tumor surrounding stromal tissue in orthotopic xenograft mouse model. B. BATSAIKHAN*; K. HUNG; J. WANG. *Taipei Med. Univ., Wan Fang Hospital, Taipei Med. Univ.*

4:00 G9 **566.16** Caffeine modulates the hypoxic/angiogenic pathway in glioblastoma cells. G. MAUGERI*; A. D'AMICO; D. RASÀ; S. CAVALLARO; V. D'AGATA. *Univ. of Catania, San Raffaele Open Univ. of Rome, Italian Natl. Res. Council.*



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

1:00 G10 **566.17** TAK1 inhibitor 5Z-7-oxozeaenol sensitizes glioma to chemotherapy. E. ESPOSITO*; M. CAMPOLO; M. LANZA; G. CASILI; I. PATERNITI; A. FILIPPONE; S. CUZZOCREA. *Univ. of Messina.*

2:00 H1 **566.18** Tumor microtubes are present also in glioma cell line cultures. V. TORRE*; X. LI; V. FARZAMRAD; D. POZZI; Y. YANG. *SISSA, Joint laboratory of ISM-SISSA, Suzhou Inst. of Systems Med., Univ. of Zanjan.*

3:00 H2 **566.19** Inhibition of prostaglandin E2 receptor EP2 suppresses malignant gliomas. J. QIU; Q. LI; K. BELL; E. ZHANG; J. YU; Z. SHI; J. JIANG*. *Univ. of Cincinnati, Jinan Univ. Col. of Life Sci. and Technol., Univ. of Cincinnati Col. of Med.*

4:00 H3 **566.20** Effects of serum-free media on the growth of astrocytoma in hydrogel and monolayer environments. M. P. JOGALEKAR*; E. E. SERRANO. *New Mexico State Univ., New Mexico State Univ.*

1:00 H4 **566.21** Reciprocal facilitation of proliferation and migration between Schwann cells and cancer cells through Adenosine A2B receptor. Y. YE*; E. SALVO. *New York Univ., New York Univ.*

2:00 H5 **566.22** The use of rs-fMRI to identify glioblastoma infiltration for preoperative planning. A. G. DANIEL*; J. L. ROLAND; J. S. SHIMONY; E. C. LEUTHARDT. *Washington Univ. In St. Louis, Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*

3:00 H6 **566.23** ● BPM 31510, a clinical stage metabolic modulator, alters mitochondrial bioenergetics and resensitizes Temozolomide resistant glioma lines to TMZ induced cell death. T. DADALI; P. AWATE; S. MOGRE; A. DIERS; S. GESTA; V. K. VISHNUDAS; K. THAPA*; N. NARAIN; R. SARANGARAJAN. *Berg, LLC.*

4:00 H7 **566.24** ● A rapid, pH-sensitive screening method to detect internalization of cell surface markers for development of antibody-based pharmaceuticals to treat brain tumors. P. A. SHRAMM; L. ANCHETA; D. HIGGINS; D. A. LAPPI*. *Advanced Targeting Systems, Cytologistics, LLC, Veiove Animal Hlth.*

1:00 H8 **566.25** Characterization of an alternatively spliced NTRK2 variant in cancer: Employing novel reagents to uncover novel functions. S. S. PATTWELL*; B. G. HOFFSTROM; N. E. BOIANI; H. BOLOURI; S. ARORA; T. A. GOODPASTER; J. RANDOLPHI-HABECKER; E. C. HOLLAND. *Fred Hutchinson Cancer Res. Ctr., Fred Hutchinson Cancer Res. Ctr.*

2:00 H9 **566.26** ● Curcumin GBM: Solid lipid curcumin particles kill more human glioblastoma cells than does dietary curcumin. P. MAITI*; G. DUNBAR. *Central Michigan University/St. Mary's of Michigan, Central Michigan University/St. Mary's of Michigan.*

3:00 H10 **566.27** Enhanced peritumoral hyperexcitability in a pediatric glioma model: The role of KCC2. S. L. CAMPBELL*; A. NYITRAY; L. CHAUNSALI; H. SONTHEIMER. *Virginia Tech. Carilion Res. Inst., Virginia Tech. Carilion Sch. of Med., Virginia Tech. Carilion Res. Inst., Virginia Tech. Sch. of Neurosci.*

**POSTER**

## 567. Alzheimer's Disease: Biochemistry Approaches and Mechanisms

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 H11 **567.01** VEGFR1 and VEGFR2 in Alzheimer's disease and vascular dementia. R. HARRIS*; S. MINERS; S. ALLEN; S. LOVE. *Univ. of Bristol.*

2:00 H12 **567.02** Role of Unc5c, an Alzheimer's risk gene in late-onset Alzheimer's disease in a novel mouse model. D. KARUNAKARAN*; R. J. VASSAR; R. J. WATTS; J. K. ATWAL. *Northwestern Univ., Genentech, Denali Therapeut. Inc.*

3:00 I1 **567.03** Dysregulation of protein prenylation in aging and Alzheimer's disease. A. JEONG*; M. DISTEFANO; D. A. BENNETT; G. WOOD; L. LI. *Univ. of Minnesota-Twin Cities, Univ. of Minnesota-Twin Cities, Rush Alzheimer's Dis. Center, Rush Univ., Univ. of Minnesota-Twin Cities.*

1:00 DP05/I2 **567.04** (Dynamic Poster) Neurons are not postmitotic: DNA replication, mitotic entry and initiation of cell division amidst canonical mitotic checkpoint regulation. C. C. WALTON*; I. PATIÑO-PARRADO; E. BARRIO-ALONSO; J. M. FRADE. *Cajal Institute, CSIC.*

1:00 I3 **567.05** Fus1 KO mice as new model for sAD: Dysfunction of the electron transport chain and compensatory enhanced blood volume responses in the olfactory bulb. G. CORONAS-SAMANO*; K. L. BAKER; A. GUMASTE; W. J. T. TAN; A. V. IVANOVA; J. V. VERHAGEN. *The John B. Pierce Lab., Yale Sch. of Med., Yale Sch. of Med.*

2:00 I4 **567.06** Delta-secretase phosphorylation by SRPK2 enhances its enzymatic activity, provoking the pathogenesis in Alzheimer's disease. Z. WANG*; K. YE. *Emory Univ., Dept. of Pathophysiology, Key Lab. of Ministry of Educ. of Neurolog. Diseases, Tongji Med. College, Huazhong Univ. of Sci. and Technol.*

3:00 I5 **567.07** Amyloid beta-induced alterations in basal forebrain cholinergic intrinsic excitability are sub-region specific. A. A. GEORGE*; H. A. BIMONTE-NELSON; R. J. LUKAS; P. WHITEAKER. *Barrow Neurolog. Inst., Arizona State Univ., Barrow Neurol Inst., Barrow Neurolog. Inst.*

4:00 I6 **567.08** ● Bidirectional modulation of Alzheimer phenotype by alpha-synuclein in mice. G. BOYLE*; M. LACROIX; M. SHERMAN; F. AMAR; M. LEE; T. COLE; S. LESNE. *Univ. of Minnesota, Ionis Pharmaceuticals.*

1:00 I7 **567.09** Allosteric BACE inhibition by Deformable Nanovesicle-delivered sAPPα *in vitro* and *in vivo.* J. J. CAMPAGNA*; A. IVANOVA; P. SPILMAN; H. GALLO; D. BAI; V. JOHN. *UCLA.*

2:00 I8 **567.10** Neurofilament light chain is increased in induced pluripotent stem cell-derived three dimensional neurons from Alzheimer patients. W. XIA; M. CHEN; T. D. STEIN*. *Boston Univ. Sch. of Med., ENR Mem. Veterans Hospital, Bedford, MA, Boston VA Med. Ctr.*

3:00 I9 **567.11** Proteolytic cleavage modulates TREM2 function and regulates gene expression for microglia lineage. J. SIMA*. *NIA/NIH.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 I10 **567.12** Frontal cortex epigenetic dysregulation during the progression of Alzheimer's disease. L. MAHADY*; M. NADEEM; B. HE; S. PEREZ; M. MALEK-AHMADI; J. MIGUEL; E. MUFSON. *Barrow Neurolog. Inst., Arizona State Univ., Banner Alzheimer's Inst.*

1:00 J1 **567.13** Fluorogenic probes to monitor cytosolic phospholipase $A_2$ activity. C. LOW*; C. NG; T. KWOK; F. TAN; Y. LAM. *Yong Loo Lin Sch. of Med., Natl. Univ. of Singapore, Yong Loo Lin Sch. of Med.*

2:00 J2 **567.14** Analysis of physicochemical interaction GM1 ganglioside cluster containing lipid membrane with amyloid beta peptides: Alzheimer's related protein. M. VAHED*; T. HOSHINO; S. NEYA; M. KATSUMI. *Chiba Univ., Chiba Univ., Kyoto Univ.*

3:00 J3 **567.15** Dramatic changes in mitochondria and calcium homeostasis during differentiation of induced pluripotent stem cells. A. THAKKAR*; H. CHEN; X. HUI; D. PAULL; H. ZHOU; A. LI; S. NOGGLE; G. GIBSON. *Weill Cornell Medicine,Burke Med. Res. Inst., New York Stem Cell Fndn. Res. Inst.*

4:00 J4 **567.16** Exploring the role of BRCA1 in neurodegenerative disease. N. M. SHANBHAG*; M. D. EVANS; L. MUCKE. *Gladstone Inst. of Neurolog. Dis.*

1:00 J5 **567.17** Role of polyphenols in kinase complex mammalian target of rapamycin complex 1 (mTORC1) - Dependent protein translation as novel mechanisms in promoting resilience against sleep deprivation - Induced cognitive impairment. T. FROLINGER*; A. SHARMA; S. DE BOER; A. BELL; S. SIMS; G. M. PASINETTI. *Icahn Sch. of Medicine, Mount Sinai Med. Cent.*

2:00 J6 **567.18** Multiple Herpes Simplex Virus-1 (HSV-1) reactivations induce oxidative damages in mouse brains. M. FABIANI*; A. TRAMUTOLA; M. E. MARCOCCI; F. DI DOMENICO; M. PERLUIGI; A. T. PALAMARA; G. DE CHIARA. *Sapienza Univ. of Rome, Sapienza Univ. of Rome, Sapienza Univ. of Rome, Pasteur Inst. – Cenci-Bolognetti Fndn. Sapienza Univ. of Rome, IRCCS San Raffaele Pisana, Natl. Res. Council.*

3:00 J7 **567.19** Progranulin is proteolytically cleaved into stable, lysosomal granulins that are haploinsufficient in frontotemporal dementia with GRN mutations. C. J. HOLLER*; G. TAYLOR; Q. DENG; T. L. KUKAR. *Emory Univ., Emory Univ.*

4:00 J8 **567.20** Aβ proteolytic degradation at the N- and C-terminus modulates the mechanisms of brain clearance and amyloid formation. J. GHISO*; E. CABRERA; P. MATHEWS; E. MEZHERICHER; T. BEACH; T. A. NEUBERT; A. ROSTAGNO. *New York Univ. Langone Med. Ctr., Nathan Kline Inst., Banner Sun Hlth. Res. Inst.*

1:00 J9 **567.21** AnkyrinG disruption and axon initial segment breakdown lead to neuronal polarity loss in Alzheimer's disease transgenic mouse models. F. MA*; K. HERRUP. *Hong Kong Univ. of Sci. and Technol., Hong Kong Univ. of Sci. & Technol.*

2:00 J10 **567.22** ● Interaction of Aβ, oxidative stress, and PKCε in hippocampal neurons and microvascular endothelium in Alzheimer's disease. J. HONGPAISAN*; A. SEN; T. J. NELSON; D. L. ALKON. *West Virginia Univ., NeuroDiagnostics LLC.*

3:00 J11 **567.23** Staging Alzheimer's disease-like pathology in 3xTg-AD mice. R. BELFIORE*; E. FERREIRA; R. VELAZQUEZ; C. BRANCA; N. DAVE; A. RODIN; A. CACCAMO; S. ODDO. *Arizona State Univ. Biodesign Inst., Univ. of Catania, Arizona State Univ.*

4:00 J12 **567.24** Acute knockdown of tau in the adult hippocampus impairs spatial learning and memory. R. VELAZQUEZ*, JR; E. FERREIRA; A. TRAN; O. SALVATORE. *Biodesign Inst. At Arizona State Univ., Arizona State Univ.*

1:00 K1 **567.25** ▲ Central insulin dysregulation precedes peripheral insulin resistance in two mouse models of Alzheimer's disease. A. L. TRAN*; R. VELAZQUEZ, Jr; E. ISHIMWE; L. DENNER; N. DAVE; O. SALVATORE; K. T. DINELEY. *Biodesign Inst. At Arizona State Univ., Univ. of Texas Med. Br. at Galveston (UTMB), Univ. of Texas Med. Br. at Galveston (UTMB), Arizona State Univ.*

2:00 K2 **567.26** Mechanisms of neuronal loss in Alzheimer's disease. A. CACCAMO*; C. BRANCA; I. S. PIRAS; E. FERREIRA; M. J. HUENTELMAN; W. S. LIANG; B. READHEAD; J. T. DUDLEY; E. E. SPANGENBERG; K. N. GREEN; R. BELFIORE; W. WINSLOW; S. ODDO. *Arizona State Univ., Translational Genomics Res. Inst., Icahn Sch. of Med. at Mount Sinai, Univ. of California, Univ. of Catania.*

**POSTER**

**568. Tau Biochemistry and Physiology**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 K3 **568.01** Characterizing the interaction between tau and protein phosphatase 1. K. CHRISTENSEN*; B. COMBS; C. RICHARDS; N. M. KANAAN. *Michigan State Univ., Michigan State Univ., Michigan State Univ., Michigan State Univ.*

2:00 K4 **568.02** Regulation of tau sumoylation by SUMO ligases and proteases. H. WADA; T. NIIKURA*. *Sophia Univ.*

3:00 K5 **568.03** Modulation of hyperphosphorylated tau accumulation by chaperone proteins in a neuroblastoma cell culture model of Alzheimer's disease. S. MAY*; N. H. ZAWIA; J. L. CAMBERG. *Univ. of Rhode Island, Univ. of Rhode Island, Univ. of Rhode Island.*

4:00 K6 **568.04** Quantitative live cell imaging reveals critical influence of a highly conserved pseudorepeat region on tau's interaction with neuronal microtubules. R. BRANDT*; B. NIEWIDOK; M. IGAEV; F. SUENDERMANN. *Univ. of Osnabrueck.*

1:00 K7 **568.05** LKB1 and tau phosphorylation in Alzheimer's disease. A. VOLKERLING; M. BI; F. DELERUE; S. CHUA*; L. M. ITTNER; A. ITTNER. *UNSW, UNSW, Neurosci. Res. Australia.*

2:00 K8 **568.06** Implication of Rab35/ESCRT pathway in Tau proteostasis and its impact on the stressed brain. J. V. SILVA*; S. QUINTREMIL; C. CUNHA; T. MEIRA; C. DIOLI; J. SILVA; I. SOTIROPOULOS; C. WAITES. *Columbia Univ., Life and Hlth. Sci. Res. Inst. (ICVS), Sch. of Medicine, Univ. of Minho, ICVS/3B's, PT Government Associate Lab., Dept. of Neuroscience, Columbia Univ.*

3:00 K9 **568.07** P53 and Tau in Alzheimer's disease. K. FARMER*; P. SARKAR; R. KAYED. *Univ. of Texas Med. Br., Univ. of Texas Med. Br.*

4:00 K10 **568.08** Seaweed reduces phosphorylation of tau protein in the olfactory bulb. M. IMAI; F. KAWAKAMI; H. AKITA*; K. YOSHINAGA; T. KAHARA; H. MARUYAMA. *Kitasato Univ., Kitasato Univ., Dept Physiol Sch. Allied Helth Sci, Kitasato Univ., Riken Vitamin Co., Ltd., Kitasato Univ.*



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* Indicates abstract's submitting author

1:00 K11 **568.09** Soluble tau oligomer species detection by western blot and mass spectrometry. A. FRANCOIS*; V. PASTEAU; R. BILLIRAS; K. ALBINET; G. ROLLIN-JEGO; F. IOP; C. BARDET; T. FORTIN; F. PANAYI; C. LOUIS; A. GOBERT. *Servier Res. Inst., Anaquant.*

2:00 K12 **568.10** Phosphorylation of the carboxyl terminal tail of tau drives its insolubility. W. S. LEE; D. C. TAN; M. BI; A. VAN HUMMEL; S. IPPATI; L. M. ITTNER*; Y. D. KE. *Univ. of New South Wales, The Univ. of New South Wales, Univ. of New South Wales, UNSW, The Univ. of New South Wales.*

1:00 DP06/L1 **568.11** (Dynamic Poster) Tau protein disrupts nucleocytoplasmic transport in Alzheimer's disease. B. EFTEKHARZADEH*; J. G. DAIGLE; S. WEGMANN; S. DUJARDIN; A. B. SCHMIDER; M. D. GODIN; M. MAESAKO; S. DEVOS; R. E. BENNETT; J. MERTENS; R. J. SOBERMAN; F. H. GAGE; J. D. ROTHSTEIN; B. T. HYMAN, MD,PhD. *Massachusetts Gen. Hospital/ Harvard Med. Sc, Johns Hopkins Sch. of Med., Mass Gen. Hosp. / Harvard Med. Sch., Massachusetts Gen. Hospital, Harvard Med. Sc, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp. Dept. of Neurol., The Salk Inst. for Biol. Studies, Salk Inst., Johns Hopkins Univ.*

4:00 L2 **568.12** Regulation of microtubule dynamics by Tau. R. ALI*; C. L. BERGER. *Univ. of Vermont, Univ. of Vermont.*

**POSTER**

**569. Neuroinflammation and Alzheimer's Disease**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 L3 **569.01** Cerebrovascular pericytes in an Alzheimer's microenvironment secrete cytokines and modulate endothelial barrier function. L. WEINSTOCK*; L. WOOD. *Georgia Inst. of Technol., Georgia Inst. of Technol.*

2:00 L4 **569.02** CCR2-mediated peripheral macrophage recruitment is essential for regulating tau pathological outcomes. T. MCCRAY*; V. JADHAV; C. M. MILLER; G. E. LANDRETH; B. T. LAMB; S. PUNTAMBEKAR; S. M. BEMILLER. *Indiana Univ. Sch. of Med., Hathaway Brown Sch., Indiana Univ. Sch. of Med., Stark Neurosciences Res. Inst., IU Sch. of Med. Stark Neurosciences Res.*

3:00 L5 **569.03** Specific serum antibody binding to phosphorylated and non-phosphorylated tau in non-cognitively impaired, mildly cognitively impaired, and Alzheimer's disease subjects. A. C. KLAVER*; M. P. COFFEY; D. A. BENNETT; D. A. LOEFFLER. *Beaumont Res. Inst., Beaumont Res. Inst., Rush Alzheimer's Dis. Ctr.*

4:00 L6 **569.04** ● Bexarotene modifies hippocampal neuroinflammation to enhance and sustain cognitive improvements in an AD mouse model. B. CASALI*; E. G. REED-GEAGHAN; G. E. LANDRETH. *Case Western Reserve Univ.*

1:00 L7 **569.05** Resolution of inflammation - Relation to Alzheimer neuropathology. C. EMRE; M. SCHULTZBERG*; E. HJORTH; A. GRANHOLM. *Karolinska Institutet, Denver Univ.*

2:00 L8 **569.06** Relationship between BRCA1 and neuroinflammation mediated by PGJ2: Relationship to Alzheimer's disease and cancer-related cognitive impairment. J. DINE*; T. JEAN-LOUIS; M. E. FIGUEIREDO-PEREIRA. *The Grad. Ctr. of the City Univ. of New, Hunter Col., Hunter Col.*

3:00 L9 **569.07** Assessing the effects of various fractalkine cleavage products on microglial activation. D. J. FINNERAN*; S. KAMATH; D. G. MORGAN; K. R. NASH. *Univ. of South Florida, Univ. of South Florida, Byrd Alzheimer's Inst., Univ. of South Florida.*

4:00 L10 **569.08** Anti-inflammatory effects of sea cucumber (holothuria scabra) extracts on memory deficits from vascular dementia in mice. S. CHOMPOOPONG*; F. PADUNGRAKSART; T. NAOWASIRI; N. PAKAPROT; T. RUNGRUANG; T. TAECHOWISAN; P. SOBHON. *Fac. of Med. Siriraj Hospital, Mahidol Univ., Fac. of Med. Siriraj Hospital, Mahidol Univ., Fac. of Med. Siriraj Hospital, Mahidol Univ., Fac. of Science, Silpakorn Univ., Fac. of Science, Mahidol Univ.*

1:00 M1 **569.09** Neurodegeneration and cognitive deficits in aged CIZ1 knock-out mice. M. KHAN*; J. XIAO; D. PATEL; J. TIAN; M. LEDOUX. *Univ. of Tennessee Hlth. Sci. Ctr.*

2:00 M2 **569.10** ▲ Diazoxide as a protective therapeutic against the neurotoxic effects of neuroinflammation induced by the cyclooxygenase product prostaglandin J2: Relevance to Alzheimer's disease. A. LEVINE*; J. SEPULVEDA; L. XIE; P. ROCKWELL; M. E. FIGUEIREDO-PEREIRA. *Hunter Col., Hunter Col., CUNY Grad. Ctr., CUNY Grad. Ctr.*

3:00 M3 **569.11** Frontal cortex chitinase 3-like protein 1 (CH13L1) and complement component C1q protein levels during the progression of Alzheimer's disease. M. NADEEM*; S. PEREZ; E. J. MUFSON. *Barrow Neurolog. Inst.*

4:00 M4 **569.12** Microglial TYROBP deficiency modulates brain C1q phenotype in mouse models of Alzheimer's amyloidosis and tauopathy. M. AUDRAIN*; J. HAURE-MIRANDE; S. KIM; T. FANUTZA; R. D. BLITZER; M. WANG; B. ZHANG; E. E. SCHADT; M. E. EHRLICH; S. E. GANDY. *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. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

1:00 M5 **569.13** The role of IL-6 trans-signalling in the Tg2576 animal model of Alzheimer disease. A. ESCRIG*; A. MONTILLA; G. COMES; O. FERNÁNDEZ-GAYOL; M. GIRALT; A. MOLINERO; P. SANCHIS; S. ROSE-JOHN; J. HIDALGO. *Univ. Autònoma de Barcelona (UAB), Univ. Autònoma de Barcelona (UAB), Christian-Albrechts-Universität zu Kiel.*

2:00 M6 **569.14** MicroRNAsmiR-155 and miR-146a modulate neuroinflammation in Alzheimer's disease. M. S. ALOI*; K. E. PRATER; S. DAVIDSON; B. WATHEN; S. JAYADEV; G. A. GARDEN. *Univ. of Washington, Univ. of Washington.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
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* Indicates abstract's submitting author

**POSTER**

## 570. Mechanisms of Alzheimer's Disease

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 M7 **570.01** ● Clinical significance of functional connectome measures in Alzheimer's disease. J. E. JOSEPH*; D. VANDERWEYEN; O. BRAWMAN-MINTZER; B. DEAN; B. MUNSELL; D. CLARK; J. MINTZER. *MUSC, MUSC, Ralph H. Johnson VA Med. Ctr., Clemson Univ., Col. of Charleston, MUSC, MUSC, Roper St. Francis Healthcare Syst.*

2:00 M8 **570.02** Posttranslational-modification impacts on the mechanism by which oligomeric Aβ triggers synaptic dysfunction. P. YUANXIANG*; K. GROCHOWSKA; M. KREUTZ. *Leibniz Inst. for Neurobio.*

3:00 M9 **570.03** ● Heterogeneity in local hippocampal connectivity as measured by functional magnetic resonance imaging increases with Alzheimer's disease progression. K. SHATTUCK*; S. ASHBURN; W. HORTON; J. H. HOWARD, Jr.; G. W. REBECK; R. S. TURNER; X. JIANG. *Georgetown Univ., Georgetown Univ., Georgetown Univ., Catholic Univ. of America.*

4:00 M10 **570.04** AβO-mediated calcium disruption connects excitotoxicity to cell cycle re-entry and subsequent neuron death in Alzheimer's disease. E. J. KODIS*; S. CHOI; G. S. BLOOM. *Univ. of Virginia, Univ. of Virginia, Univ. of Virginia.*

1:00 N1 **570.05** Alzheimer's disease-related dementias research programs at the National Institute of Neurological Disorders and Stroke. J. T. GLADMAN; S. JEON; D. BABCOCK; M. EMR; A. K. GUBITZ, Ph.D.; C. MOY; P. A. SCOTT; B. SIEBER; M. SUTHERLAND; C. TORBORG; W. J. KOROSHETZ; R. A. CORRIVEAU*. *NINDS/NIH, NINDS/NIH.*

2:00 N2 **570.06** ▲ The impacts of family history of Alzheimer's disease and education on white matter integrity. N. J. GALLEGOS*; A. STICKEL; L. RYAN. *Univ. of Arizona, Univ. of Arizona.*

3:00 N3 **570.07** Altered resting-state brain complexity in Alzheimer's disease: A multiscale entropy analysis. P. REN*; F. LIN. *Univ. of Rochester, Univ. of Rochester Med. Ctr.*

4:00 N4 **570.08** The effects of SDC3 and FGFRL1 on neurodegeneration in AD and PD. J. WANG*; W. SONG. *UBC.*

1:00 N5 **570.09** Effect of app and tau pathology in humanized serotonergic and nonserotonergic neurons. A. P. REDDY*. *ttuhsc.*

2:00 N6 **570.10** Loss of basal forebrain cholinergic neurons in primary progressive aphasia with Alzheimer pathology. N. LALEHZARI; D. T. OHM*; F. RAHMANI; G. KIM; S. WEINTRAUB; E. BIGIO; M. MESULAM; C. GEULA. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Northwestern University, Feinberg Sch. of Medici, Cognitive Neurol. and Alzheimer's Dis. Ctr., Northwestern Univ. Med. Sch.*

3:00 N7 **570.11** Can probiotics alter the progression of Alzheimer's disease? K. MCMURRY*; M. STANLEY; A. SILVER; P. SACCHETTI. *Univ. of Hartford, Univ. of Hartford.*

4:00 N8 **570.12** ● Arsenic exposure aggravates neurobehavioral deficits, amyloid and tau pathology in a triple transgenic model of Alzheimer´s disease. S. A. ESQUIVEL NIÑO*; E. CHI-AHUMADA; A. AGUILAR-VÁZQUEZ; M. MARTEL-GALLEGOS; R. SALGADO-DELGADO; S. DIAZ-CINTRA; M. JIMENEZ-CAPDEVILLE; S. ZARAZUA. *Univ. Autonoma De San Luis Potosi-Facultad D, Univ. Autonoma de San Luis Potosi-Facultad de Medicina, UNAM Campus Juriquilla, Univ. Autonoma de San Luis Potosi.*

1:00 N9 **570.13** *In vivo* calcium imaging of hippocampal neuronal network activity associated with memory behavior deficits in the Alzheimer's disease mouse model. X. LIN; S. GRIECO*; S. JIN; P. ZHOU, 92697; Q. NIE; T. SHUMAN; P. GOLSHANI; J. KWAPIS; M. WOOD; D. BAGLIETTO-VARGAS; F. LAFERLA; X. XU. *Univ. of California, Irvine, Carnegie Mellon Univ., UCLA, UCLA Dept. of Neurol., Univ. of California, Irvine, Univ. California, Irvine.*

2:00 N10 **570.14** Oxidative stress and antioxidant response in frontal cortex of demented and non-demented individuals with Alzheimer's neuropathology. A. FRACASSI*; S. MORENO; G. TAGLIALATELA. *Univ. of Texas Med. Br., Univ. Roma Tre.*

3:00 N11 **570.15** Traumatic brain injury induced amyloid beta peptide and tau is aggravated at high environmental temperature. Nanowired delivery of anti-tau antibodies and cerebrolysin induces marked neuroprotection. A. NOZARI*; A. SHARMA; D. F. MURESANU; J. V. LAFUENTE; A. OZKIZILCIK; R. TIAN; R. PATNAIK; H. MOESSLER; H. S. SHARMA. *Massachusetts Gen. Hosp., Uppsala Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Basque Country, Univ. of Arkansas, Univ. of Arkansas, Indian Inst. of Technology,Banaras Hindu Univ., Ever NeuroPharma.*

4:00 N12 **570.16** Alzheimer's disease neuropathology is exacerbated following traumatic brain injury. Neuroprotection by co-administration of nanowired mesenchymal stem cells and cerebrolysin. H. S. SHARMA*; D. F. MURESANU; J. V. LAFUENTE; A. OZKIZILCIK; Z. TIAN; R. PATNAIK; H. MOESSLER; A. NOZARI; R. J. CASTELLANI; A. SHARMA. *Uppsala Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Basque Country, Univ. of Arkansas, Univ. of Arkansas, Indian Inst. of Technology,Banaras Hindu Univ., Ever Neuro Pharma, Massachusetts Gen. Hosp., Univ. of Maryland, Uppsala Univ.*

1:00 O1 **570.17** Hypusinated eIF5A governs TDP-43 accumulation in the cytoplasm and stress granules. M. B. SELENICA*; C. OSORNO CRUZ; S. SMELTZER; F. ZAMUDIO; Z. QUADRI. *Col. of Pharmacy, Byrd Alzheimer Institute, USF, Col. of Pharmacy, Byrd Alzheimer Institute, USF.*

2:00 O2 **570.18** ▲ Gold nanoparticles (AuNPs) exacerbate spinal cord injury induced amyloid beta peptide and tau production, cord pathology and functional disturbances. Neuroprotection by nanodelivery of cerebrolysin. P. K. MENON*; A. SHARMA; D. F. MURESANU; J. V. LAFUENTE; R. PATNAIK; A. OZKIZILCIK; R. TIAN; A. NOZARI; H. MOESSLER; H. S. SHARMA. *Banaras Hindu Univ., Uppsala Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Basque Country, Indian Inst. of Technology,Banaras Hindu Univ., Univ. of Arkansas, Univ. of Arkansas, Massachusetts Gen. Hosp., Ever Neuro Pharma.*



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* Indicates abstract's submitting author

3:00 O3 **570.19** Methamphetamine exacerbates traumatic brain injury at high altitude. Neuroprotective effects of TiO2 nanodelivery of antioxidant compound H-290/51. J. V. LAFUENTE*; A. SHARMA; D. F. MURESANU; A. OZKIZILCIK; R. TIAN; A. NOZARI; P. SJOQUIST; H. S. SHARMA. *Univ. of Basque Country, Uppsala Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Arkansas, Univ. of Arkansas, Massachusetts Gen. Hosp., Karolinska Institutet, Karolinska Univ. Hosp.*

4:00 O4 **570.20** ▲ Traumatic brain injury exacerbates Parkinson's disease neuropathology. Neuroprotective effects of co-administration of TiO2 nanowired mesenchymal stem cells and cerebrolysin. A. OZKIZILCIK*; A. SHARMA; D. F. MURESANU; J. V. LAFUENTE; R. TIAN; R. PATNAIK; H. MOESSLER; H. S. SHARMA. *Univ. of Arkansas, Uppsala Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Basque Country, Univ. of Arkansas, Indian Inst. of Technology,Banaras Hindu Univ., Ever NeuroPharma, Uppsala Univ.*

1:00 O5 **570.21** Astrocyte-produced lipoxins protect retinal neurons from acute and chronic stress. I. LIVNE-BAR*; J. WEI; H. LIU; S. ALQAWLAQ; K. GRONERT; J. G. FLANAGAN; J. M. SIVAK. *UHN, Univ. of California at Berkeley, Univ. of California at Berkeley, UHN, Univ. of California at Berkeley, UHN.*

2:00 O6 **570.22** Intraspinal administration of TiO2-nanowired mesenchymal stem cells and cerebrolysin improved functional outcome and induces neuroprotection following spinal cord injury. L. FENG*; A. SHARMA; D. F. MURESANU; J. V. LAFUENTE; A. OZKIZILCIK; R. TIAN; R. PATNAIK; H. MOESSLER; A. TRIPATHI; H. S. SHARMA. *Bethune Intl. Peace Hosp., Uppsala Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Basque Country, Univ. of Arkansas, Univ. of Arkansas, Indian Inst. of Technology,Banaras Hindu Univ., Ever NeuroPharma, Mahatma Gandhi Univ.*

3:00 O7 **570.23** Melanocortin receptors modulate spinal cord pathophysiology. An experimental study in the rat using co-administration of melanocortin receptor 4 agonists and an antioxidant compound H-290/51 for superior neuroprotection. A. K. PANDEY*; A. SHARMA; R. PATNAIK; D. F. MURESANU; J. V. LAFUENTE; A. NOZARI; A. OZKIZILCIK; R. TIAN; P. SJOQUIST; L. FENG; H. S. SHARMA. *Senior Res. Fellow, IIT-BHU, Uppsala Univ., Indian Inst. of Technology,Banaras Hindu Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Basque Country, Massachusetts Gen. Hosp., Univ. of Arkansas, Univ. of Arkansas, Karolinska Institutet, Karolinska Univ. Hosp., Bethune Intl. Peace Hosp.*

4:00 O8 **570.24** Stabilizing neuronal cytoskeleton facilitates neurite development and repair. Y. SONG*; T. J. MITCHISON, 02115. *Harvard Med. Sch., Harvard Med. Sch., Mass Gen. Hosp.*

1:00 O9 **570.25** Neuroprotective and behavioral effects of weak static magnetic fields in the rat. R. UZAN*; Y. LOBODA; L. SCHACHTER; J. FINBERG. *Technion-Israel Inst. of Technol.*

2:00 O10 **570.26** Diabetes exacerbates brain pathology following focal blast brain injury. New roles of a multimodal drug cerebrolysin and nanomedicine. D. F. MURESANU*; A. SHARMA; J. V. LAFUENTE; A. NOZARI; R. PATNAIK; A. OZKIZILCIK; R. TIAN; H. MOESSLER; H. S. SHARMA. *THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Uppsala Univ., Univ. of Basque Country, Massachusetts Gen. Hosp., Indian Inst. of Technology,Banaras Hindu Univ., Univ. of Arkansas, Univ. of Arkansas, Ever NeuroPharma.*

3:00 P1 **570.27** Brain injury exacerbates neuropathology of sleep deprivation. Superior neuroprotection by co-administration of TiO2-nanowired alpha-MSH and cerebrolysin. A. SHARMA*; D. F. MURESANU; J. V. LAFUENTE; A. OZKIZILCIK; R. TIAN; A. NOZARI; R. PATNAIK; H. MOESSLER; H. S. SHARMA. *Uppsala Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Basque Country, Univ. of Arkansas, Univ. of Arkansas, Massachusetts Gen. Hosp., Indian Inst. of Technology,Banaras Hindu Univ., Ever Neuro Pharma, Uppsala Univ.*

4:00 P2 **570.28** Repeated emotional stress exacerbates amyloid-beta peptide induced Alzheimer's disease brain pathology. Neuroprotective effects of PLGA NPs-loaded cerebrolysin. G. TOSI*; A. SHARMA; D. F. MURESANU; J. V. LAFUENTE; B. RUOZI; F. FORNI; M. A. VANDELLI; F. PEDERZOLI; J. T. DUSKEY; N. ODDONE; H. MOESSLER; R. PATNAIK; R. J. CASTELLANI; H. S. SHARMA. *Te.far.t.I, Dept of Life Sciences, Univ. of Modena and Reggio Emilia, Uppsala Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Basque Country, Univ. of Modena and Reggio Emilia, Ever NeuroPharma, Indian Inst. of Technology,Banaras Hindu Univ., Univ. of Maryland, Uppsala Univ.*

1:00 P3 **570.29** Histamine H3 and H4 receptors modulate Parkinson's disease induced brain pathology. An experimental study using BF-2639 and clobenpropit in association with anti-histamine-antibody therapy for neuroprotection. R. PATNAIK*; A. SHARMA; D. F. MURESANU; J. V. LAFUENTE; A. OZKIZILCIK; R. TIAN; A. NOZARI; H. S. SHARMA. *Indian Inst. of Technology,Banaras Hindu Univ., Uppsala Univ., THE FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEU, Univ. of Basque Country, Univ. of Arkansas, Univ. of Arkansas, Massachusetts Gen. Hosp.*

2:00 P4 **570.30** Which factor has a stronger effect on cerebral $^{18}$F-FDG distribution in cognitively normal older subjects, plasma glucose level or insulin resistance? K. ISHIBASHI; A. ONISHI; Y. FUJIWARA; K. ISHIWATA; K. ISHII*. *Tokyo Metro Inst. Gerontology.*

3:00 P5 **570.31** Memantine and simvastatin improve memory in humanized Amyloid-Beta mice after CCI injury: A dual intervention study. M. D. IKONOMOVIC*; E. E. ABRAHAMSON; Z. MI; S. CULVER; X. MA; C. DIXON. *Univ. of Pittsburgh, GRECC, Univ. of Pittsburgh.*

**POSTER**

**571. Alpha-Synuclein Normal Function**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 P6 **571.01** A novel immunregulatory action of alpha-synuclein on human natural killer cells. R. H. EARLS*; J. CHUNG; J. LEE. *Univ. of Georgia, Univ. of Georgia.*

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 P7 **571.02** Loss of alpha synuclein function within nigrostriatal neurons initiates a toxic, neuronally-mediated neuroinflammatory cascade. M. J. BENSKEY*; R. C. SELLNOW; I. M. SANDOVAL; C. E. SORTWELL; J. W. LIPTON; F. P. MANFREDSSON. *Michigan State Univ., Michigan State Univ., St. Mary's Hlth.*

3:00 P8 **571.03** Characterization of a novel conditional alpha-synuclein knockout mouse model using somatic brain transgenesis. K. MILLER*; S. C. KELLY; M. J. BENSKEY; C. E. SORTWELL; I. M. SANDOVAL; F. P. MANFREDSSON. *Michigan State Univ., Michigan State Univ., Michigan State Univ. Clin. and Translational Sci. Inst., Michigan State Univ.*

4:00 P9 **571.04** α-Synuclein expression levels determine neuronal subpopulation vulnerability to Lewy-like pathology induced neurodegeneration. E. LUNA*; A. CAPUTO; B. ZHANG; Y. LIANG; D. M. RIDDLE; S. C. DECKER; V. M. LEE; K. C. LUK. *Perelman Sch. of Med. At the Univ. of P, Univ. of Pennsylvania, UPENN, Dept. of Pathology and Lab. Medicine, Univ. of Pennsylvania Perelman Sch. of Med., Univ. Pennsylvania Sch. Med., Univ. Pennsylvania.*

1:00 P10 **571.05** Characterization of systemic metabolic abnormalities in alpha-synuclein mutant mice. S. ZHANG*; S. CAMANDOLA; K. W. FISHBEIN; R. G. SPENCER; M. C. MARING; M. PETR; J. F. O'CONNELL; M. P. MATTSON. *NIH, Ctr. for Healthy Aging.*

2:00 Q1 **571.06** α-Synuclein mediates neuronal cholesterol efflux. T. HSIAO*; G. M. HALLIDAY; W. S. KIM. *Brain and Mind Ctr., Neurosci. Res. Australia, Univ. of New South Wales, The Univ. of Sydney.*

3:00 Q2 **571.07** Pum2-dependent translational regulation of alpha-synuclein mRNA on mitochondrial outer surface. Y. KIM*; S. GUHATHAKURTA; S. BASU; G. JE. *Burnett Sch. of Biomed. Sci.*

4:00 Q3 **571.08** Endogenous alpha-synuclein expression patterns revealed using a novel mouse model. A. CAPUTO*; Y. LIANG; V. M. KEHM; E. LUNA; S. C. DECKER; B. ZHANG; K. C. LUK. *Perelman Sch. of Med. at UPenn, Perelman Sch. of Med. at the Univ. of Pennsylvania.*

1:00 Q4 **571.09** Glucocerebrosidase expression patterns in the non-human primate brain. J. L. LANCIEGO*; D. SUCUNZA; A. J. RICO; D. PIGNATARO; D. MARIN-RAMOS; E. RODA; I. G. DOPESO-REYES. *Fima-University of Navarra, Ctr. de Investigacion Biomedica en Red sobre Enfermedades Neurodegenerativas (CIBERNED).*

**POSTER**

**572. Parkinson's Disease: Neuroprotective Therapeutic Strategies**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 Q5 **572.01** Neuroprotective effects of novel osmotin against MPTP/MPP$^+$-induced neurodegenerative disease model. M. JO; M. IKRAM; M. S. KHAN; M. KIM. *Gyeongsang Natl. Univ.*

2:00 Q6 **572.02** Copaifera reticulata Ducke oil-resin reduces apomorphine-induced rotations in the striatal 6-OHDA mouse model of Parkinson's disease. A. VALENTE*; R. D. M. GOMES; S. M. G. SERRÃO; E. T. COSTA; D. C. F. LOPES; V. S. L. CARDOSO; W. GOMES-LEAL; E. S. YAMADA. *Univ. Hosp. João De Barros Barreto, UFPA, Inst. of Biol. Sciences, UFPA.*

3:00 Q7 **572.03** Cerebral dopamine neurotrophic factor (CDNF) attenuates endoplasmic reticulum stress-induced apoptosis. D. A. ARANCIBIA*; P. ZAMORANO; M. E. ANDRES. *Pontificia Univ. Católica De Chile, Univ. de Antofagasta, Pontificia Univ. Catolica De Chile.*

4:00 Q8 **572.04** Pakinson's disease provokes oxidative stress and movement disorders: Neuroprotective potential of purple grape juice. C. S. FUNCHAL*; M. ROCHA FRUSCIANTE; A. SOUTO FERREIRA; J. PEREIRA MARINHO; A. QUINCOZES DOS SANTOS; D. POCHMANN; C. DANI. *Methodist Univ. Ctr. - IPA, UFRGS.*

1:00 Q9 **572.05** Silymarin corrects chaperon-mediated autophagy and contributes to neuroprotection in MPTP-induced Parkinsonism. M. K. TRIPATHI*; M. S. U. RASHEED; A. K. MISHRA; M. P. SINGH. *CSIR-INDIAN INSTITUTE OF TOXICOLOGY RESEARCH.*

2:00 Q10 **572.06** Neuroprotective effects of the standardized extract of Centella asiatica ECa233 in rotenone-induced parkinsonism rats. N. TEERAPATTARAKAN*; H. BENYA-APHIKUL; R. TANSAWAT; O. WANAKHACHORNKRAI; M. TANTISIRA; R. RODSIRI. *Fac. Of Pharmaceut. Sciences, Chulalongkorn, Fac. of Pharmaceut. Sciences, Chulalongkorn Univ., Fac. of Sciences, Rangsit Univ., Fac. of Pharmaceut. Sciences, Burapha Univ.*

3:00 Q11 **572.07** NADPH oxidase (NOX1) mediates testosterone-induced neurodegeneration. M. A. TENKORANG*; R. L. CUNNINGHAM. *Univ. of North Texas Hlth. Sci. Ctr., Univ. North Texas Hlth. Sci. Ctr.*

4:00 Q12 **572.08** Physical activity alone is not enough in Parkinsonism; but significantly protective when combined with an antioxidant. A. GIL-MARTÍNEZ*; L. CUENCA; C. ESTRADA; E. FERNÁNDEZ; M. HERRERO. *Univ. of Murcia.*

1:00 R1 **572.09** Is combined treatment neuroprotective in old parkinsonian mice? Story of NAC and HA-1077. L. CUENCA-BERMEJO*; A. GIL-MARTÍNEZ; C. ESTRADA; E. FERNÁNDEZ; M. HERRERO. *Univ. of Murcia, Univ. of Murcia.*

2:00 R2 **572.10** Neuroprotection induced by HDAC inhibitor in Parkinson's disease model. S. SONG*; T. KIM; J. KIM; H. NOH; S. KANG; H. SEO. *Hanyang Univ.*

3:00 R3 **572.11** Neuroprotection using a novel PAAN1 inhibitor in model of Parkinson's disease. H. PARK*; T. KAM; H. PENG; J. LIU; T. M. DAWSON; V. L. DAWSON. *Johns Hopkins Univ., Johns Hopkins Univ.*

4:00 R4 **572.12** Block of A1 astrocyte conversion is neuroprotective in models of Parkinson's disease. T. KAM*; S. YUN; N. PANIKER; Y. OH; J. PARK; Y. PARK; S. KWON; S. S. KARUPPAGOUNDER; H. PARK; S. KIM; S. LEE; S. BRAHMACHARI; D. KIM; D. NA; Z. MARI; V. L. DAWSON; S. LEE; T. M. DAWSON; H. KO. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Chung-Ang Univ., Johns Hopkins Univ. Sch. of Med.*

1:00 R5 **572.13** Neuroprotective effect of MHY908, a PPAR α/γ dual agonist, on the MPTP-induced Parkinson's disease model. Y. LEE*; S. LEE; W. LEE; J. LEE. *Pusan Natl. Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 R6 **572.14** Melatonin protects from aberrant mitochondrial dynamics in cypermethrin model of Parkinson's disease. A. K. MISHRA*; M. K. TRIPATHI; M. P. SINGH. *Csir-Indian Inst. of Toxicology Res.*

3:00 R7 **572.15** ▲ Plasticidade Promovida pelo Exercício Físico no Córtex Motor e no Comportamento Motor de Ratos na Fase Inicial do Modelo da Doença de Parkinson. K. H. BINDA*; P. C. GARCIA; C. D. CARNEIRO; D. D. FARIA; C. A. BUCHPIGUEL; L. R. G. BRITTO; C. C. REAL. *Inst. of Biomed. Sci., Lab. of Nuclear Med. (LIM 43), Univ. of São Paulo Med. School, Univ. of São Paulo.*

4:00 R8 **572.16** Neuroprotective effect of the C-Terminal domain of the heavy chain of tetanus toxin on dyskinesia caused by Levodopa in 6-hydroxydopamine-lesioned rats. V. PALAFOX*; L. MENDIETA; G. RAMIREZ GARCÍA; A. CANDALIJA; J. AGUILERA; I. D. LIMON. *Lab. of Neuropharmacology, Benemerita Univer, Univ. Nacional Autonoma de Mexico, Inst. de Neurociencies, Univ. Autonoma de Barcelona.*

1:00 R9 **572.17** Neuroprotective effects of spinal cord stimulation on Parkinson's disease model of rats. K. KUWAHARA*; T. SASAKI; Y. TOMITA; M. UMAKOSHI; I. KIN; K. KIN; J. MORIMOTO; M. OKAZAKI; A. SHINKO; M. KAMEDA; T. YASUHARA; N. TAJIRI; I. DATE. *Okayama Univ. Grad. Sch. of Med.*

2:00 R10 **572.18** ▲ Neuroprotective effect of chronic spinal cord stimulation (SCS) in a alpha-synuclein animal model of Parkinson's disease. R. A. FUENTES*; A. PARRA PEÑA; R. VIDAL. *Univ. De Chile, Univ. De Chile, Inst. de neurociencias biomédicas (BNI), Núcleo Milenio Biología de Enfermedades Neuropsiquiátricas (nuMIND), Univ. Mayor.*

3:00 S1 **572.19** Post mortem evaluation of sympathetic neurodegeneration and neuroprotection in a nonhuman primate model of cardiac dysautonomia. J. SHULTZ*; R. FLEDDERMANN; H. MATSOFF; G. WACHOWSKI; V. BONDARENKO; H. SIMMONS; A. KAPOOR; T. ZIEGLER; C. MOORE; M. E. EMBORG. *Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison.*

4:00 S2 **572.20** Modulation of peripheral and central inflammation via cannabinoid type 2 receptors to protect against Asyn-induced PD-like pathologies. V. JOERS*; B. MURRAY; D. OLIVER; S. KELLY; F. P. MANFREDSSON; B. M. MOORE, III; M. G. TANSEY. *Emory Univ., Michigan State Univ., Univ. of Tenesee Hlth. Sci. Ctr.*

1:00 S3 **572.21** Transplantation of partial differentiated dopaminergic like cell into in the 6-ohda rat model of Parkinson's disease. R. WELCHKO*; L. R. SIEGEL; N. JONES-CAMP; S. S. PARKER; G. P. SHALL; T. D. HULSE; X. T. LEVEQUE; J. ROSSIGNOL; M. LU; G. L. DUNBAR. *Field Neurosciences Inst. Lab. For Restorative Neurol., Central Michigan Univ., Central Michigan Univ., Col. of Med. Central Michigan Univ., Field Neurosciences Inst.*

2:00 S4 **572.22** ANAVEX 2-73, a clinical Alzheimer drug candidate, induces neurorestoration in experimental parkinsonism. V. FRANCARDO*; F. BEZ; J. S. SPROUSE; C. MISSLING; A. CENCI. *Lund Univ., Anavex Life Sci.*

3:00 T1 **572.23** Doxycycline protective role upon dopaminergic neuron. E. DEL BEL*; M. BORTOLANZA; M. DOS-SANTOS-PEREIRA; G. CRIVELARO-DO-NASCIMENTO; K. BARIOTTO-DOS-SANTOS; S. MARTIN; M. LAZZARINI; R. RAISMAN-VOZARI; W. STUEHMER. *Univ. of Sao Paulo- Ribeirao Preto Dent. Sch., Univ. of Sao Paulo- Ribeirao Preto Dent. Sch., Univ. of Sao Paulo Med. Sch. of Ribeirao Preto, 5Department of Mol. Biol. of Neuronal Signals, Max Planck Inst. of Exptl. Med., Dept. of Mol. Biol. of Neuronal Signals, Max Planck Inst. of Exptl. Med., INSERM U1127/CNRS UMR 7225, ICM-CRICM.*

**POSTER**

**573. Parkinson's Disease: Therapeutic Strategies**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 T2 **573.01** Ectonucleotidase CD73-mediated adenosine signaling regulates neuroinflammation in a Parkinson's disease model. F. MENG*; Z. GAO. *Inst. of Neurosci.*

2:00 T3 **573.02** ● The catalyzed assembly hypothesis: Novel drug-like small molecules that modulate assembly and toxicity of alpha-synuclein in a cell culture model of Parkinson´s disease . A. MUELLER-SCHIFFMANN*; K. PAULVANNAN; V. ASUNDI; S. SELVARAJAH; V. LINGAPPA; C. KORTH. *Heinrich Heine Univ. of Duesseldorf, Prosetta Biosciences, Inc.*

3:00 T4 **573.03** AAV2/1-hVEGF-B overexpression improves motor function in PINK1 gene knockout rats and prevents dopamine loss. M. J. BARTLETT*; D. C. Y. MULLER; B. D. SILASHKI; D. C. FARRELL; K. L. PARENT; K. P. DOYLE; M. L. HEIEN; S. J. SHERMAN; T. FALK. *Univ. of Arizona Col. of Med., Univ. of Arizona Col. of Med., Univ. of Arizona, Univ. of Arizona Col. of Med.*

4:00 T5 **573.04** Proteomic change by Korean Red Ginseng in the striatum of a Parkinson's disease mouse model. S. KIM*; D. KIM; S. KWON; H. JEON. *Pusan Natl. Univ., Korea Inst. of Oriental Med.*

1:00 T6 **573.05** ● PK-PD analysis identifies similar high amantadine plasma concentrations needed to reduce L-DOPA-induced dyskinesia across multiple species. B. BRIGHAM*; T. H. JOHNSTON; C. BROWN; J. D. S. HOLT; S. H. FOX; M. P. HILL; P. A. HOWSON; J. BROTCHIE; J. T. NGUYEN. *Adamas Pharmaceuticals, Atuka Inc., Movement Disorders Clinic, Toronto Western Hospital, Univ. Hlth. Network.*

2:00 T7 **573.06** Antiparkinsonian-like effects of Nigella sativa-oil and latent targets for microglia regulation. T. MALIK*. *Natl. Univ. of Hlth. Sciences, Basic Scie, Karachi Univ.*

3:00 T8 **573.07** Role of REV-ERBα on dopaminergic neuronal death in the 6-OHDA-induced mouse model of Parkinson's disease. J. KIM*; S. JANG; M. CHOI; D. KIM; I. PARK; S. CHUNG; G. SON; H. CHOE; K. KIM. *Daegu Gyeongbuk Inst. of Sci. and Technol. (DGIST), Seoul Natl. Univ., Seoul Natl. Univ., Ewha Womans Univ., Korea Univ., Korea Brain Res. Inst. (KBRI).*

4:00 T9 **573.08** ● MLR1019 reduces dyskinesias and subthalamic neuron bursting in rat 6OHDA Parkinsons disease model. J. A. GRUNER*; J. R. CIALLELLA; A. G. REAUME; J. WANG; E. ZUVICH; K. JONES. *Melior Discovery.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 T10 **573.09** Aav-mediated silencing of striatal cav1.3 channels provides long-term prevention of dyskinesias. K. A. STEECE-COLLIER*; L. R. BEGG; T. J. COLLIER; J. A. STANCATI; I. M. SANDAVOL; C. E. SORTWELL; C. J. KEMP; B. F. DALEY; N. J. COLLIER; N. KUHN; F. P. MANFREDSSON. *Michigan State Univ. Clin. and Translational Sci. Inst., Mercy Hlth. St. Mary's, Grand Valley State Univ., Michigan State Univ.*

2:00 T11 **573.10** ● Validation of p53 inducible gene 3 (PIG3) as a novel therapeutic target for Parkinson's disease using dopaminergic cell lines and patient-specific induced pluripotent stem cell (iPSC) derived neurons. J. C. CHAUFTY*; R. ROESSLER; K. HA; J. RANJAN; S. PHAT; S. KIM; S. AKELLA; L. SHANAHAN; C. BARLOW; K. THAPA; M. KIEBISH; S. GESTA; B. SCHUELE; V. VISHNUDAS; N. NARAIN; R. SARANGARAJAN; P. NARAIN; J. LANGSTON. *Berg Biosystems, Parkinson's Inst.*

3:00 T12 **573.11** Inhibition of brain-derived neurotrophic factor signaling prevents effects of vagus nerve stimulation in a preclinical model of Parkinson's disease. A. FARRAND*; R. GREGORY; M. GOOZ; D. TOWNSEND; V. HINSON; K. HELKE; H. BOGER. *Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. of South Carolina.*

4:00 U1 **573.12** Anti-high mobility group 1 antibody suppresses neuroinflammation in the plasma and brain tissue of Parkinson's disease model rat. K. ITTETSU*; T. SASAKI; M. OKAZAKI; K. KUWAHARA; J. MORIMOTO; K. KIN; M. UMAKOSHI; Y. TOMITA; T. YASUHARA; M. KAMEDA; I. DATE; M. NISHIBORI; K. LIU; N. TAJIRI. *Okayama Univ., Okayama Univ., Kibi Intl. Univ. Grad. Sch. of Psychology.*

1:00 U2 **573.13** Oxyresveratrol attenuates motor deficits in rotenone-induced parkinsonism rats via an antioxidative effect. R. RODSIRI*; H. BENYA-APHIKUL; N. TEERAPATTARAKAN; B. SRITULARAK; K. LIKHITWITAYAWUID. *Chulalongkorn Univ., Chulalongkorn Univ.*

2:00 U3 **573.14** Nuetralizing TLR2 alleviates synucleinopathies. C. KIM*; B. SPENCER; E. ROCKENSTEIN; H. YAMAKADO; M. MANTE; A. ADAME; J. A. FIELDS; D. MASLIAH; H. LEE; P. DISPLATS; R. RISSMAN; S. LEE; E. MASLIAH. *Natl. Inst. on Aging, Unversity of California, San Diego, Konkuk Univ. Sch. of Med., Seoul Natl. Univ.*

3:00 U4 **573.15** N-palmitoylethanolamide prevents parkinsonian phenotypes in aged mice. R. CRUPI*; D. IMPELLIZZERI; M. CORDARO; R. SIRACUSA; G. CASILI; S. CUZZOCREA. *Univ. of Messina, St. Louis Univ.*

4:00 U5 **573.16** ● The neuroprotective effect of Astaxanthin from white shrimp shell on C57BL/6 mice model of MPTP-induced Parkinsonism-like symptoms via antioxidant activity and neuro-inflammatory marker. P. BOONRUAMKAEW*; M. SROYRAYA; W. KLAYPRADIT; P. CHONPATHOMPIKUNLERT. *Walailak Univ., Walailak Univ., Mahidol Univ., Kasetsart Univ., Chandrakasem Rajabhat Univ.*

1:00 U6 **573.17** Copper sulfate pretreatment prevents mitochondrial electron transport chain damage and apoptosis against MPP+-induced neurotoxicity. R. OSORNIO*; M. OROZCO-IBARRA; S. MONTES; E. BRAMBILA; A. DIAZ-RUIZ; C. RIOS; J. GUEVARA. *INNN, MVS., Natl. Inst. of Neurol. and Neurosurg., Natl. Inst. Neurol. Neurosurg, Facultad de Ciencias Químicas, Benemérita Univ. Autónoma de Puebla, Natl. Inst. of Neurol Mexico, Natl. Inst. Neurology, Neurosurg, Natl. Autonomus Univ. of Mexico.*

2:00 U7 **573.18** ▲ GW5074, Raf 1 kinase inhibitor induced neuroprotection and motor improvement in LRRK2 G2019S PD model. Y. PARK*; J. KIM; T. KIM; H. SEO. *Hanyang Univ.*

3:00 U8 **573.19** Synphilin-1 has neuroprotective effect on Parkinson's disease-model cells by inhibiting apoptosis. Y. NAGANO*; T. SHISHIDO; M. ARAKI; T. TAKAHASHI; H. MARUYAMA. *Hiroshima Univ.*

4:00 U9 **573.20** Evidence for improved motor function by ceftriaxone despite striatal tyrosine hydroxylase loss following nigrostriatal lesion. E. A. KASANGA*; S. M. MEADOWS; T. MCINNIS; M. CANTU; M. F. SALVATORE; C. R. BISHOP. *Univ. of North Texas Hlth. Sci. Ctr., Binghamton Univ., Univ. of North Texas Hlth. Sci. Ctr., Univ. of North Texas Hlth. Sci. Ctr., Binghamton Univ.*

1:00 U10 **573.21** ● Cryopreserved dopamine neurons derived from human induced pluripotent stem cells survive and partially reverse motor asymmetry in the 6-hydroxydopamine-lesioned athymic nude rat. B. M. HILLER*; D. J. MARMION; C. W. MCMAHON; D. R. WAKEMAN; J. H. KORDOWER. *Rush Univ. Med. Ctr., Cell. Dynamics Intl. Inc., a FujiFilm Co., RxGen, Inc.*

2:00 U11 **573.22** TRPC3 mediates ROS-dependent regulation and dysregulation of spontaneous firing activity in the midbrain dopamine neurons. S. KIM*; Y. LEE; M. PARK; H. KIM. *SKKU Sch. of Med.*

3:00 U12 **573.23** Role of gut microbiota-derived metabolites in neurodegenerative disorders involving protein misfolding and C9orf72 expansion. L. HO*; K. RUAN; K. ONO; T. LLOYD; G. M. PASINETTI. *The Icahn Sch. of Med. At Mount Sinai, James J. Peters Veterans Affairs Med. Ctr., The Icahn Sch. of Med. at Mount Sinai, Johns Hopkins Sch. of Med., Showa Univ. Sch. of Med.*

4:00 V1 **573.24** ▲ Bioluminescent optogenetics activation of transplanted neural precursor cells improves motor deficits in a Parkinson disease mouse model. B. L. PALMATEER; N. DORKA; L. WAGNER; E. D. PETERSEN; M. PRAKASH; U. HOCHGESCHWENDER*. *Central Michigan Univ.*

**POSTER**

**574. Cell Biology of Huntington's Disease II**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 V2 **574.01** ATAD3A oligomerization causes Huntington's disease-associated neurodegeneration by coupling mitochondrial fragmentation and bioenergetics defects. Y. ZHAO*; X. SUN; C. HOPPEL; R. RAMACHANDRAN; X. QI. *Case Western Reserve Univ. Sch. of Med., center for mitochondrial disease, Case Western Reserve Univ. Sch. of Med.*

2:00 V3 **574.02** Striatal projection neurons require Huntingtin for synaptic connectivity. C. BURRUS*; S. U. MCKINSTRY; N. KIM; H. YIN; C. EROGLU. *Duke Univ.*

3:00 V4 **574.03** Neuromuscular transmission and muscle hyperexcitability in Huntington's disease. S. ROMER*; A. KHEDRAKI; E. J. REED; Q. WANG; M. M. RICH; R. J. TALMADGE; A. A. VOSS. *Wright State Univ., Wright State Univ., California State Polytechnic University, Ponoma.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 V5 **574.04** The moonlighting role of $NAD^+$ salvage pathway proteins in huntingtin proteotoxicity protection. A. RUETENIK*; A. OCAMPO; A. BARRIENTOS. *Univ. of Miami Sch. of Med., The Salk Inst., Univ. of Miami.*

1:00 V6 **574.05** Mutant huntingtin is secreted via a late endosomal/lysosomal unconventional secretory pathway. K. TRAJKOVIC*; H. JEONG; D. KRAINC. *Northwestern University, Feinberg Sch. of Medici.*

2:00 V7 **574.06** The autophagy receptor p62/SQSTM1 is palmitoylated and significantly decreased in brains of Huntington disease patients. D. D. MARTIN*; S. S. SANDERS; N. S. CARON; Y. T. NYUGEN; D. J. KLIONSKY; M. R. HAYDEN. *Univ. of British Columbia, Univ. of Michigan.*

3:00 V8 **574.07** Mitochondrial iron dysregulation in mouse and human Huntington's disease brain. S. AGRAWAL; J. A. FOX; J. H. FOX*. *Univ. of Wyoming.*

1:00 DP07/V9 **574.08** (Dynamic Poster) Gene therapy based on SMaRT for Huntington's disease: Fluorescent screening to assess trans-splicing RNA molecule activity. S. C. MAIRE*; M. GAILLARD; A. BERGER; N. DUFOUR; C. JOSÉPHINE; P. HANTRAYE; E. BROUILLET; A. BEMELMANS. *CEA, Neurodegenerative Dis. Lab., Inst. de la Vision.*

1:00 V10 **574.09** Mutant Huntingtin disrupts CELF1-MBNL1 regulation in patient brain and model systems. S. RAMACHANDRAN*; S. L. COFFIN; G. G. CAJKA; M. S. KEISER; C. A. ROSS; B. L. DAVIDSON. *The Children's Hosp. of Philadelphia, Johns Hopkins Med. Sch.*

2:00 V11 **574.10** Mutant huntingtin disrupts the nuclear pore complex. J. C. GRIMA*; J. G. DAIGLE; N. ARBEZ; K. C. CUNNINGHAM; K. ZHANG; J. OCHABA; C. GEATER; E. MOROZKO; J. STOCKSDALE; J. C. GLATZER; J. T. PHAM; I. AHMED; Q. PENG; H. WADHWA; O. PLETNIKOVA; J. C. TRONCOSO; W. DUAN; S. H. SNYDER; L. P. RANUM; L. M. THOMPSON; T. E. LLOYD; C. A. ROSS; J. D. ROTHSTEIN. *The Johns Hopkins Univ. Sch. of Med., Univ. of California Irvine, Univ. of Florida.*

3:00 V12 **574.11** Changes in PT and IT corticostriatal projections in the Q175 mouse model of Huntington's disease. T. PANCANI*; J. KONDAPALLI; J. SURMEIER. *Northwestern Univ. Feinberg Sch. of Medicin.*

4:00 V13 **574.12** Targeting Gpr52 lowers mutant huntingtin levels and rescues Huntington's disease-associated phenotypes. B. LU*; X. XIE; H. SONG. *Fudan Univ., CAS Key Lab. of Receptor Research, Natl. Ctr. for Drug Screening.*

1:00 V14 **574.13** ● Cerebrospinal fluid mutant huntingtin concentration: What does it mean? A. L. SOUTHWELL*; N. S. CARON; C. YANICK; S. E. SMITH; Y. XIE; J. SONG; I. SEONG; B. LEAVITT; M. HAYDEN. *Univ. of Central Florida, Univ. of British Columbia, Seattle Childrens Res. Inst., Korea Advanced Inst. of Sci. and Technol., Massachusetts Gen Hosp.*

2:00 V15 **574.14** Evidence for altered regulation of the Rac-Actin pathway in mouse and human models of Huntington's disease. K. B. KEGEL*; A. TOUSLEY; J. ALEXANDER; E. SAPP; E. WEISMAN; P. VODICKA; M. IULIANO; L. GATUNE; H. CHO; H. RICHARDSON; J. RITCH; X. LI; N. ARONIN; N. ZHANG; L. M. ELLERBY; D. IRIMIA; M. DIFIGLIA. *Mass Gen. Hosp., Tufts Univ., Univ. Massachusetts Med. Ctr., Buck Ctr. Res. Aging, Massachusetts Gen. Hosp.*

**POSTER**

**575. Animal Models of Huntington's Disease**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 V16 **575.01** A novel automated home-cage system to assess learning and performance of a skilled motor task in a mouse model of Huntington's disease. C. L. WOODARD*; F. BOLAÑOS; J. D. BOYD; G. SILASI; T. H. MURPHY; L. A. RAYMOND. *Univ. of British Columbia.*

2:00 V17 **575.02** Longitudinal analysis of mutant allele specific silencing in the YAC128 mouse using transcription activator-like effectors. P. DENG*; J. N. A. M. HALMAI; A. KOMARLA; G. T. THARMARAJAH; I. M. SANDOVAL; F. P. MANFREDSSON; D. J. SEGAL; J. A. NOLTA; K. FINK. *UC Davis, UC Davis, Univ. of California, Davis, Precision Nanosystems Inc., Michigan State Univ. Clin. and Translational Sci. Inst., Michigan State Univ., UC Davis Med. Ctr.*

3:00 V18 **575.03** $^{18}$F-fallypride pet imaging of d2/d3 receptors in Huntington's disease mouse model q175dn. T. HUHTALA*; P. POUTIAINEN; J. RYTKÖNEN; A. AIRAKSINEN; T. KOIVULA; T. PARKKARI; I. KASANEN; O. M. KONTKANEN; C. DOMINIQUEZ; L. C. PARK. *Charles River Discovery, A.I. Virtanen Inst. for Mol. Medicine, Univ. of Eastern Finland, Kuopio Univ. Hosp., Univ. of Helsinki, CHDI Management/ CHDI Fndn. Inc.*

4:00 V19 **575.04** Characterization of behavioral changes, MRI brain volumetry and MR spectroscopy in ZQ175 knock-in delta neo minus mouse model of Huntington's disease. T. BRAGGE*; T. HEIKKINEN; K. LEHTIMÄKI; T. PARKKARI; J. T. PUOLIVALI; D. HOWLAND; I. MUNOZ-SANJUAN; L. C. PARK. *Charles River Discovery, CHDI Management/CHDI Fndn., CHDI Management/ CHDI Fndn. Inc.*

1:00 V20 **575.05** Deficient object location/paired associates learning in Q175KI mouse model of Huntington's disease. M. KOPANITSA*; T. O. PIIPONNIEMI; T. PARKKARI; A. J. NURMI. *Charles River Discovery.*

2:00 V21 **575.06** Use of CRISPR/Cas9 to alter huntingtin expression in Huntington's disease mice. H. YANG*; S. YANG; R. CHANG; S. LI; X. LI. *Sch. of Medicine, Emory Univ.*

3:00 V22 **575.07** ▲ Study of the neuroprotector mechanism induced by PPARbeta/delta activation in HD models. A. MORALES*; A. ZAMORANO- CARRILLO; S. MONTES; H. PEDRAZA-ESPITIA; L. RAMOS-LANGUREN; C. RIOS; F. PÉREZ-SEVERIANO. *THE NATIONAL INSTITUTE OF NEUROLOGY AND NEUROSURGERY, ENMH-IPN, Univ. Autónoma Metropolitana, Xochimilco.*

4:00 V23 **575.08** Striatal projection neuron pathology in heterozygous Q175 knock-in Huntington's disease mice. Y. DENG*; H. WANG; M. JONI; A. REINER. *Univ. of Tennessee Hlth. Sci. Ctr.*

1:00 V24 **575.09** Tumour necrosis factor-αlpha alters striatal synapses in YAC128 mouse model of Huntington's disease. P. KOMAL*; G. M. LEWITUS; H. PRIBIAG; H. ALTIMIMI; D. STELLWAGEN. *McGill Univ. Hlth. Ctr., Technion, UCSD, McGill Univ., McGill Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 V25 **575.10** Microstructural alterations of corpus callosum in developing brains of macaques with Huntington's disease. Y. MENG*; J. BACHEVALIER; A. W. CHAN; X. ZHANG. *Yerkes Natl. Primate Res. Ctr., Emory Univ. Sch. of Med., Yerkes Natl. Primate Res. Ctr., Emory Univ. Sch. of Med., Yerkes Natl. Primate Res. Ctr.*

3:00 V26 **575.11** Measuring glutamate transmission in Huntington disease using iGluSnFr, an optogenetic probe. E. KOCH*; C. WOODARD; M. SEPERS; L. A. RAYMOND. *Univ. of British Columbia.*

4:00 W1 **575.12** Pathological changes in descending cortical projections in the zQ175 mouse model of Huntington's disease. N. FOSTER*; M. BECERRA; I. BOWMAN; M. ZHU; M. S. BIENKOWSKI; H. HINTIRYAN; H. DONG. *USC, USC Stevens Neuroimaging and Informatics Inst., Univ. of Southern California Keck Sch. of M, Keck Sch. of Med. of USC.*

1:00 W2 **575.13** Mptp mouse model of Parkinson's disease - imaging modalities for metabolic, anatomical and 1h-spectroscopic changes. K. LEHTIMÄKI*; T. HUHTALA; J. RYTKÖNEN; P. POUTIAINEN; R. O. PUSSINEN; J. KURKIPURO; J. T. PUOLIVÄLI; A. J. NURMI. *Charles River Discovery, A.I. Virtanen Inst. for Mol. Medicine, Univ. of Eastern Finland, Kuopio Univ. Hosp.*

2:00 W3 **575.14** Identification of chemical compounds that interfere with Supt4h/Supt5h complex formation and suppress mutant HTT gene expression. Y. WU*. *Natl. Yang-Ming Univ. / Molecule Med., Inst. of Biochem. and Mol. Biol.*

3:00 W4 **575.15** ▲ Age-related decline in complex cognitive function in the HttQ111/+ mouse model of Huntington's disease. R. MARX; K. CRICHTON; R. GATLIN; L. HOFFMANN; J. O'SELL; Y. RYBALKA; J. CARROLL; J. M. FINLAY*. *Western Washington Univ.*

4:00 W5 **575.16** Polyq huntingtin levels in ecf, csf, and brain tissue of q175 mice. M. S. HEINS; K. HUININK; A. RASSOULPOUR; M. MONBUREAU*; K. LO; S. DIJKSTRA; G. MCALLISTER; D. MACDONALD; I. MUNOZ SANJUAN; R. CACHOPE; L. MRZLJAK. *Brains On-Line, Brainlink, Brains On-Line, Charles River, Charles River, CHDI Management/CHDI Fndn., CHDI Mgmt. / CHDI Fndn.*

1:00 W6 **575.17** Development of primary neuronal cortico-striatal co-cultures derived from knock-in mice as a model for Huntington's disease therapy. K. BOEKHOORN; R. VAN DE BOSPOORT; A. STRIJBOSCH; S. LACHIZE; N. VAN DEN BERG; W. GRERNRUM; L. GEERTS; S. DIJKSTRA; M. DA SILVA; P. HALONEN; D. F. FISCHER*; G. MCALLISTER; S. JANG; I. MUNOZ-SANJUAN. *Charles River, Charles River, CHDI Fndn.*

**POSTER**

**576. Mechanisms of Neurodegeneration II**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 W7 **576.01** Calcium regulation of dorsal root ganglion neurons after peripheral nerve injury. M. WALTERS*; D. R. LADLE; M. J. SONNER. *Wright State Univ.*

2:00 W8 **576.02** Pupil diameter as biomarker of tauopathy-related degeneration of the locus coeruleus. H. LEFUMAT*; D. J. IRWIN; J. LEVINE; S. JOSHI; J. L. GOLD. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

3:00 W9 **576.03** Transmission of scrapie into sheep after passage through white-tailed deer results in a phenotype change. R. KOKEMULLER*; S. J. MOORE; M. H. W. GREENLEE; J. J. GREENLEE. *Iowa State Univ., United States Dept. of Agr.*

4:00 W10 **576.04** Wallerian degeneration: Is it regulated by NAD, NMN or both? M. P. COLEMAN*; A. LORETO; M. DI STEFANO; C. ANGELETTI; J. GILLEY; C. HUNG; N. RAFFAELLI; G. ORSOMANDO; L. CONFORTI. *Univ. of Cambridge, Univ. Col. London, Polytechnic Univ. of Marche, Univ. of Cambridge, Univ. of Nottingham.*

1:00 W11 **576.05** Structural plasticity in rat cortical neuron induced by Pentacalia nitida. S. L. ALBARRACIN*; D. M. RAMIREZ; R. VERA; J. J. SUTACHAN. *Pontificia Univ. Javeriana.*

2:00 W12 **576.06** Thalamic proteome changes and behavioral impairments in thiamine deficient rats. A. M. RIBEIRO*; P. T. NUNES; D. P. GOMEZ-MENDOZA; C. P. REZENDE; H. C. P. FIGUEIREDO. *Univ. Federal De Minas Gerais.*

3:00 W13 **576.07** The anti-diabetic drug metformin prevents neurodegeneration and hippocampal-dependent learning deficits after chronic systemic administration of adenosine A1 receptor agonist. A. AMAH*; F. S. CAYABYAB. *Univ. of Saskatchewan, Univ. of Saskatchewan.*

4:00 W14 **576.08** ● Role of CAMKK2-AMPK stress response pathway in chemotherapy induced peripheral neuropathy. A. SAHASRABUDHE*; F. BARTOLINI; F. POLLEUX. *Columbia Univ., Columbia Univ.*

1:00 W15 **576.09** Neuroprotection generated by ischemic preconditioning involves protein O-GlcNAcylation in a rat model of cerebral ischemia. J. RENGIFO*; C. F. CARDOZO; E. VIVEROS; A. VERA; J. GONZALEZ; L. V. BECERRA-HERNANDEZ. *Univ. Icesi, Univ. De Caldas, Univ. Icesi, Pontificia Univ. Javeriana de Cali.*

2:00 W16 **576.10** Multiple target of hAmylin on rat primary hippocampal neurons. W. ZHANG*. *Insitute of Chinese Integrative Medicine, Hebei Med. Univ.*

3:00 W17 **576.11** ▲ Assessment of lead and tellurium induced neurotoxicity *in vitro.* J. A. EATMAN*; T. SAAFIR; K. R. SHEPHERD. *Morehouse Sch. of Med., Morehouse Sch. of Med., Morehouse Sch. of Med.*

4:00 W18 **576.12** Methamphetamine produces deficits in egocentric and allocentric learning and memory and in brain monoamines after a single dose in rats. A. GUTIERREZ*; M. T. WILLIAMS; C. V. VORHEES. *Cincinnati Children's Hosp. Med. Ctr., Cincinnati Children's Res. Found, Cincinnati Children's Hosp & Univ. of Cincinnati.*

1:00 W19 **576.13** ▲ Investigation of the autophagic process in the hippocampal neurons response to anhydroecgonine methyl ester exposure, a cocaine pyrolysis product. S. D. PRATES*. *Univ. of São Paulo.*

2:00 W20 **576.14** Phthalates affect synaptic growth and stability at the *Drosophila* nmj. K. M. DE LEON*; B. MARIE. *Inst. of Neurobio., Inst. of Neurobio.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 W21 **576.15** Epigenetic control of early neurodegenerative events in Diabetic Retinopathy by the histone deacetylase SIRT6. Involvement of Müller glia. D. M. SILBERMAN*; M. A. ZORRILLA-ZUBILETE; A. YESTE; F. J. QUINTANA; D. TOIBER; R. MOSTOSLAVSKY. *CEFYBO-CONICET, Ctr. de Estudios Farmacológicos y Botánicos (CEFYBO-CONICET), Brigham and Women's Hospital, Harvard Med. Sch., Broad Inst. of MIT and Harvard, Ben-Gurion Univ. of the Negev, The Massachusetts Gen. Hospital, Cancer Center, Harvard Med. Sch.*

4:00 W22 **576.16** Gestational and chronicexposure to inorganic As (iAs) generates up regulation of Xc- system with changes in the hippocampus glutamatergic neurotransmission. J. NELSON-MORA*; M. GONSEBATT; L. MASSIEU-TRIGO; M. L. ESCOBAR; T. MONTIEL; L. RODRÍGUEZ-DURÁN; V. RODRÍGUEZ. *Univ. Nacional Autonoma De México.*

1:00 W23 **576.17** Recombinant human erythropoietin protects hippocampal neurons against excitotoxic damage through expression change of mediators signaling. S. F. CORNELIO-MARTINEZ*; C. BEAS ZARATE; A. FERIA-VELASCO; M. RIVERA CERVANTES. *Ctr. Universitario De Ciencias Biológicas Y Agro, Univ. de Guadalajara, Univ. Guadalajara, Univ. De Guadalajara.*

2:00 W24 **576.18** MicroRNA-200b attenuates increases in cytosolic calcium and improves survival from oxidative stress in neuronal N2a cells. J. D. BELL; X. SUN; C. STARY*; R. G. GIFFARD. *Univ. of Toronto, Stanford Univ.*

3:00 W25 **576.19** Increased cellular glutathione with a thiol-containing compound to attenuate neuroinflammation. A. SRI HARI*; L. LIANG; B. J. DAY; M. N. PATEL. *Univ. of Colorado (anschutz Med. Campus), Univ. of Colorado, Anschutz Med. campus, Natl. Jewish Hlth., Univ. Colorado, Anschutz Med. Campus.*

4:00 W26 **576.20** Hydrogen peroxide-specific sensors for *in vivo* measurements using carbon-fiber microelectrodes. L. R. WILSON*; S. PANDA; L. A. SOMBERS. *North Carolina State Univ., North Carolina State Univ., North Carolina State Univ.*

1:00 W27 **576.21** The effect of adenosinergic modulation on oxidative stress in convulsive seizure induced by pentylenetetrazol. F. DEDE*; S. KARADENİZLİ; O. OZSOY; D. SAHIN; F. ERALDEMIR; N. ATES. *Kocaeli Univ. Med. Fac. Physiol. Dept, Kocaeli Univ. Med. Fac., Kocaeli Univ. Med. Fac., Kocaeli Univ. Med. Fac.*

2:00 W28 **576.22** Increased striatal vulnerability to 3-nitroproponic acid in male mice lacking interleukin-1r1. M. ALLEN*; S. J. HEWETT. *Syracuse Univ.*

3:00 W29 **576.23** DLK/Wnd MAP kinase signaling promotes synapse loss in mutants defective for axonal transport. E. ASGHARI ADIB*; J. LI; Y. V. ZHANG; T. M. RASSE; C. A. COLLINS. *Univ. of Michigan, Univ. of Michigan, Hertie-Institute for Clin. Brain Res., Univ. of Michigan.*

4:00 W30 **576.24** Reperfusion reoxygenation brain injury following rabbit fetal hypoxia-ischemia increases reactive nitrogen species. A. SHARMA, 48201; Z. SHI; M. MAHASETH; K. LUO; G. NATARAJAN; J. VASQUEZ-VIVAR; S. TAN*; M. BAJAJ. *Wayne State Univ., Med. Col. of Wisconsin.*

1:00 W31 **576.25** Regulation of activity-dependent synaptic plasticity and synaptic expression of glutamate receptors by the neurosteroid pregnenolone sulfate: Implications for learning and memory. V. KUMARESAN*; M. H. RATNER; K. SUGUNAN; S. DOWNING; A. CASARELLA; N. LI; A. JOYAL; D. H. FARB. *Boston Univ. Sch. of Med.*

2:00 W32 **576.26** Inhibition of Src-PSD-95 interaction may enhance NMDA receptor function in schizophrenia. A. BANERJEE*; M. HELLER; A. SENGAR; M. SALTER; S. SIEGEL; K. E. BORGMANN-WINTER; C. HAHN. *Univ. Pennsylvania, The Hosp. for Sick Children, USC, Univ. Pennsylvania and The Children Hosp. of Philadelphia.*

3:00 W33 **576.27** ● Optimization of culture conditions and evaluation of cell health in human induced pluripotent stem cell-derived neurons using quantitative live-cell analysis. A. C. OVERLAND; J. N. RAUCH; L. OUPICKA; D. M. ROCK; C. SCHRAMM*; D. M. APPLEDORN. *Essen BioScience Inc.*

4:00 W34 **576.28** NiPSCEs propagate human tau in the mouse brain. C. N. WINSTON*; E. M. ROCKENSTEIN; J. C. AKERS; S. YUAN; R. A. RISSMAN. *UC San Diego, UC San Diego.*

1:00 W35 **576.29** Ifitm3 regulates polyI:C-inducced neuronal impairment via rab small gtpases. N. ITOH*; T. NAGAI; D. IBI; A. NAKAJIMA; T. NABESHIMA; K. YAMADA. *Nagoya University, Grad. Sch. of Med., Meijo Univ., Hirosaki Univ., Fujita Hlth. Univ. Grad. Sch. of Hlth. Sci., Nagoya Univ. Grad Sch. Med.*

2:00 W36 **576.30** The neuropeptide substance P elicits cortical spreading depolarization (CSD) in adult rats via activation of the NK1-receptor - could this be important in brain pathophysiology? F. RICHTER; J. LEUCHTWEIS; A. EITNER; A. LEHMENKUHLER*; H. SCHAIBLE. *Univ. Hosp. Jena, Pain Inst.*

**POSTER**

**577. Brain and Neuronal Injury: Cellular and Molecular Mechanisms**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 X1 **577.01** Plasticity-related gene protein type 3 modulates neurite outgrowth inhibition through the RHOA-ROCK pathway. C. AGBAEGBU*. *Georgetown University/ Nih.*

2:00 X2 **577.02** Long-term evaluation of vascular remodeling after traumatic brain injury in mice. M. R. MCCRARY*; J. Y. ZHANG; P. SETHAPUTRA; K. K. JESSON; X. GU; L. WEI; S. YU. *Emory Univ., Emory Univ.*

3:00 X3 **577.03** Acute and chronic behavioral outcomes following closed head injury in adolescent mice are dependent on sex. L. PLYLER*; M. ZEMEL; M. BRANHAM; R. RAGHUPATHI. *Drexel Univ. Col. of Med.*

4:00 X4 **577.04** Short-term fructose ingestion disrupts peripheral and central metabolism and aggravates the outcome of brain trauma. Z. YING*; L. ROYES; A. JIMÉNEZ MALDONADO; S. REGE; G. KRISHNA; F. GOMEZ-PINILLA. *UCLA, UCLA.*

1:00 X5 **577.05** Differential regulation of Sirt1 and Sirt2 in white matter after neonatal hypoxia. B. JABLONSKA*; L. CHEW; V. GALLO. *Children's Natl. Med. Ctr.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 X6 **577.06** Identification of genes that promote axonal regeneration of injured cortical neurons. C. CHANG*; L. CHEN. *Inst. of Mol. Med.*

3:00 X7 **577.07** Cyclin-dependent kinase inhibitors attenuate mitochondrial injury in neuronal apoptosis. T. G. AUBRECHT*; B. SABIRZHANOV; B. ROELOFS; B. M. POLSTER; B. A. STOICA; A. I. FADEN. *The Univ. of Maryland Baltimore, Univ. of Maryland Sch. of Med., Univ. of Maryland Baltimore, Univ. of Maryland Dept. of Anesthesiol., Univ. of Maryland Sch. of Med., Univ. of Maryland Med. Ctr.*

4:00 X8 **577.08** ABCA1 deficiency affects brain transcriptome following traumatic brain injury in APOE3 and APOE4 mice. E. L. CASTRANIO*; C. M. WOLFE; K. NAM; F. LETRONNE; A. MOUNIER; J. SCHUG; N. F. FITZ; R. KOLDAMOVA; I. LEFTEROV. *Univ. of Pittsburgh, Univ. of Pennsylvania.*

1:00 X9 **577.09** Microglial activation and hyperexcitability in piriform cortex after repeated TBI. E. WITKOWSKI*; I. G. DAVISON, 02215; G. DEWALT; B. ELDRED. *Boston Univ.*

2:00 X10 **577.10** Effect of treadmill exercise on cognitive and behavioral outcomes following repeated mild traumatic brain injury. M. ZEMEL; M. BRANHAM; L. PLYLER; R. RAGHUPATHI*. *Drexel Univ. Col. of Med.*

3:00 X11 **577.11** Insulin-like growth factor-1 overexpression enhances neurogenesis and activates the mTOR pathway after moderate TBI. E. LITTLEJOHN*; D. SCOTT; A. DESANA; J. JURAS; K. SAATMAN. *Univ. of Kentucky.*

4:00 X12 **577.12** Adolescent binge alcohol consumption affects hippocampal function through the impairment of mitochondrial dynamics and bioenergetics in the adulthood. C. TAPIA-ROJAS*; A. TORRES; F. CARVAJAL; R. MIRA; C. ARCE; W. CERPA; R. QUINTANILLA. *Univ. Autonoma De Chile, Pontificia Univ. Católica de Chile.*

1:00 X13 **577.13** GluN2B mediates activity-driven circuit recovery following injury. A. C. GAMBRILL*; C. MCKEOWN; R. L. FAULKNER; H. T. CLINE. *The Scripps Res. Inst., Scripps Res. Inst.*

2:00 X14 **577.14** Gene expression analysis reveals how Abcd1 alters tight junction, cell cycle and extracellular matrix function in human brain endothelium. Y. SUBBURAJ*; N. SASIDHARAN; A. BERENSON; Y. GONG; P. MUSOLINO; F. EICHLER. *MGH,Harvard Med. Sch.*

3:00 X15 **577.15** Lipid nanoparticles delivery nucleic acids, including CRISPR components into primary neurons. G. T. THARMARAJAH*; A. THOMAS; R. DESOUZA; I. BACKSTORM; A. BROWN; E. OUELLET; S. GARG; K. MARSHALL; S. CHANG; T. LEAVER; A. WILD; P. DENG; K. FINK; J. TAYLOR; E. RAMSAY. *Precision Nanosystems Inc., UC Davis, UC Davis Med. Ctr.*

4:00 X16 **577.16** MiRNA expression profiling and systems biology indicate BACE-1 upregulation and APP loss during severe TBI progression. A. M. BOUTTE*; D. JOHNSON; B. WILFRED; S. GRANT; B. ABBATIELLO; B. STEPHEN; J. GILSDORF; D. SHEAR. *Walter Reed Army Inst. For Res., Landstuhl Regional Med. Center, US Army.*

1:00 X17 **577.17** Critical role of acid sphingomyelinase in mitochondrial dysfunction due to glutamate/cystine antiporter-dependent ferroptosis in oligodendrocytes. S. A. NOVGORODOV; J. A. VOLTIN; M. A. GOOZ; J. J. LEMASTERS; T. I. GUDZ*. *Med. Univ. South Carolina, Med. Univ. South Carolina.*

2:00 X18 **577.18** Alternate strategies for ablation of microglia during brain injury in adult zebrafish. K. SKAGGS*. *Univ. of Findlay.*

3:00 X19 **577.19** Polycomb protein family member cbx7 regulates intrinsic axon growth and regeneration. C. LIU*; R. DUAN; G. TANG; H. DU; Y. HU; R. WANG; Z. TENG. *Inst. of Zoology, Chinese Acad. of Sci., Affiliated Hosp. of Guilin Med. Univ.*

**POSTER**

**578. Spinal Cord Injury: Therapeutic Strategies**

***Theme C: Neurodegenerative Disorders and Injury***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 X20 **578.01** Using the international spinal cord injury data sets to assess pain and thermosensory dysfunction in persons with chronic sci. O. BLOOM*; A. BEAUFORT; K. GIBBS; R. MONAHAN; A. STEIN. *The Feinstein Inst. For Med. Res., Hofstra Northwell SOM.*

2:00 X21 **578.02** Transplantation of human spinal oligodendrogenic neural progenitor cells enhances remyelination and functional recovery after traumatic spinal cord injury. M. KHAZAEI*; C. S. AHUJA; H. NAKASHIMA; N. NAGOSHI; J. WANG; M. G. FEHLINGS. *Krembil Res. Institute, Univ. Hlth. Netw, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto.*

3:00 X22 **578.03** Corticospinal regeneration and optogenetic verification of synapse formation after combined gene therapy and stem cell grafting. N. JAYAPRAKASH*; N. KRUEGER; D. NOWAK; M. BLACKMORE. *Marquette Univ.*

4:00 X23 **578.04** Rolipram-loaded polymeric nanoparticle reduces secondary injury after rat compression spinal cord injury. C. MACKS*; S. GWAK; M. LYNN; J. LEE. *Clemson Univ., Clemson Univ., Greenville Hosp. Syst.*

1:00 X24 **578.05** Combined ChIP and RNAseq analysis identifies a Cited2-H3K27/H3K9ac-dependent regenerative network at the core of opposed axonal regenerative ability between the injured peripheral and central nervous system. E. MCLACHLAN*; I. PALMISANO; M. C. DANZI; L. ZHOU; G. KONG; A. HERVERA ABAD; T. H. HUTSON; F. DE VIRGILIIS; J. L. BIXBY; V. LEMMON; S. DI GIOVANNI. *Imperial Col. London, Univ. of Miami, Hertie Inst. For Clin. Brain Res., Univ. Miami, Miller Sch. Med., Univ. of Miami.*

2:00 X25 **578.06** Neural stem cell mediated recovery is enhanced by chondroitinase ABC pretreatment in chronic cervical spinal cord injury. H. SUZUKI*; A. G. CHRISTOPHER; R. P. SALEWSKI; L. LI; K. SATKUNENDRARAJAH; N. NAGOSHI; T. TAGUCHI; M. G. FEHLINGS. *Yamaguchi Univ., Div. of Genet. and Development, Krembil Res. Inst., Toronto Western Res. Inst., Keio Univ. Sch. of Med., Yamaguchi Univ. Grad. Sch. of Med., Toronto Western Hosp.*

3:00 X26 **578.07** The beneficial effect of systemic IL-4 treatment after spinal cord injury. N. SILVA*; R. LIMA; S. MONTEIRO; E. GOMES; R. SILVA, MSc; F. TEIXEIRA; M. MORAIS; N. SOUSA; A. SALGADO. *Life and Hlth. Sci. Res. Inst. (ICVS).*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 X27 **578.08** ▲ Characterization of forelimb or hindlimb corticospinal tract regeneration into neural progenitor cell graft after upper cervical spinal cord injury. D. DANIEL KULINICH; J. CONNER; D. GIBBS; M. TUSZYNSKI; P. P. LU*. *UCSD, VA San Diego Healthcare Syst., VA-San Diego Healthcare Syst.*

1:00 X28 **578.09** Structural dynamics in the injured spinal cord. B. SVOBODOVA*; O. ZELENKA; P. JENDELOVA. *Inst. of Exptl. Med. AS CR, Inst. of Exptl. Med. AS CR.*

2:00 X29 **578.10** Nanosphere delivery of neurotrophins mobilizes oligodendrocyte progenitor cells after spinal cord injury. D. J. OSTERHOUT*; A. NABIJOHN; K. SWIECK; C. D. L. JOHNSON; J. M. ZUIDEMA; R. J. GILBERT; J. R. SIEBERT. *SUNY Upstate Med. Univ., Rensselaer Polytechnic Inst., UCSD, Slippery Rock Univ.*

3:00 X30 **578.11** Longitudinal assessment of cerebrovascular dysfunction after Traumatic Brain Injury (TBI) using functional near-infrared spectroscopy (FNIRS). M. A. SANGOBOWALE*; F. AMYOT; R. R. DIAZ-ARRASTIA; H. AYAZ; Y. REDDY; E. SILVERMAN; T. MEREDITH-DULIBA; M. MOYER; D. SANDSMARK. *Penn Presbyteriam Med. Ctr., Uniformed Services Univ. of the Hlth., Univ. of Pennsylvania, Drexel Univ., Drexel Univ., Univ. of Pennsylvania.*

4:00 X31 **578.12** ● Thrombospondin repeat-derived peptide (NX210) induces axonal regrowth and functional recovery in a spinal cord injury rat model. S. GOBRON*; N. DELÉTAGE; L. SAKKA. *NEURONAX, Neurodol - Faculté de Médecine.*

1:00 X32 **578.13** TLR4 activation restores window of opportunity for rehabilitative training in rats with chronic cervical spinal cord injury. A. TORRES ESPÍN*; J. FORERO; K. K. FENRICH; A. M. LUCAS-OSMA; E. SCHMIDT; D. J. BENNETT; P. G. POPOVICH; K. FOUAD. *Univ. of Alberta, Univ. of Alberta, The Ohio State Univ.*

2:00 X33 **578.14** Effects of activity-based training on upper and lower urinary tract function following spinal cord injury. L. R. MONTGOMERY*; C. YANG; J. E. ARMSTRONG; C. H. HUBSCHER. *Univ. of Louisville.*

3:00 Y1 **578.15** Locomotor training alters penile reflex responses in a rat model of spinal cord injury. C. J. STEADMAN*; R. F. HOEY; L. R. MONTGOMERY; C. H. HUBSCHER. *Univ. of Louisville.*

4:00 Y2 **578.16** Task-specific training effects on at-level allodynia in a rat model of spinal cord injury. J. GUMBEL*; J. D. FELL; C. H. HUBSCHER. *Univ. of Louisville.*

1:00 Y3 **578.17** AAV vector mediated delivery of NG2 function neutralizing antibody and neurotrophin NT-3 improves synaptic transmission, locomotion and urinary tract function after mild spinal cord injury (SCI) but not in severe injury model of adult rats. H. A. PETROSYAN*; M. LENZI; S. GUMUDAVELLI; R. MUFFALETTO; K. LASEK; V. ALESSI; N. PHAGU; J. LEVINE; W. COLLINS; V. ARVANIAN. *Stony Brook Univ., Northport VA Med. Ctr.*

2:00 Y4 **578.18** Non-invasive bioluminescence-activated optogenetic stimulation for rehabilitation following traumatic spinal cord injury. E. D. PETERSEN*; A. PAL; E. D. SHARKEY; J. R. ZENCHAK; A. J. PENA; P. OTERO; W. E. MEDENDORP; T. BROWN; B. PALMATEER; M. PRAKASH; U. HOCHGESCHWENDER. *Central Michigan Univ.*

3:00 Y5 **578.19** Ketogenic diet improves mitochondrial function and reduces inflammation after spinal cord injury in rodents. W. TETZLAFF*; K. KOLEHMAINEN; O. SEIRA; W. PLUNET; R. BOUSHEL. *Univ. of British Columbia, ICORD, Univ. of British Columbia, Univ. of British Columbia, Sch. of Kinesiology.*

4:00 Y6 **578.20** Retrograde AAV delivery of pro-regenerative genes for spinal cord injury. Z. WANG*; B. MAUNZE; M. BLACKMORE. *Marquette Univ.*

1:00 Y7 **578.21** Identifying factors that stimulate or improve propriospinal axon regrowth after severe spinal cord injury. M. A. ANDERSON*; T. M. O'SHEA; J. E. BURDA; S. BARLATEY; Y. AO; A. BERNSTEIN; A. WOLLENBERG; R. KAWAGUCHI; G. COPPOLA; C. WANG; Z. HE; T. J. DEMING; G. COURTINE; M. V. SOFRONIEW. *Swiss Federal Inst. of Technology, Lausanne, UCLA, UCLA, UCLA, Children's Hosp Boston.*

2:00 Y8 **578.22** ● Self-deliverable siRNA compounds to evaluate PTEN as a therapeutic target to promote axon regeneration after central nervous system injury. J. RUSCHEL*; T. SHMUSHKOVICH; M. D. ABBINANTI; L. GUO; F. YANG; E. NIEDERST; M. BETANCUR-BOISSEL; A. WOLFSON; K. M. ROSEN; L. J. MCKERRACHER. *BioAxone BioSciences, Inc., Advirna LLC.*

3:00 Y9 **578.23** Complement proteins and receptor are required for optic nerve regeneration induced by several pro-regenerative treatments. S. L. PETERSON*; Y. LI; T. KURIMOTO; K. YUKI; B. STEVENS; L. BENOWITZ. *Boston Children's Hosp.*

4:00 Y10 **578.24** Olfactory ensheathing cell transplantation combined with epidural stiumation and climb training as a treatment for severe spinal cord injury. K. L. INGRAHAM*; M. A. THORNTON; A. K. YEUNG; M. D. MEHTA; P. AKKARA; K. AGGARWAL; T. T. MORAD; E. A. DALE; H. ZHONG; V. R. EDGERTON; P. E. PHELPS. *Univ. of California Los Angeles, Univ. of California Los Angeles.*

1:00 Y11 **578.25** Effect of adelmidrol, a palmitoylethanolamide analogue, on overactive urinary bladder syndrome induced by SCI in mice. S. CUZZOCREA*; M. CAMPOLO; R. SIRACUSA; E. ESPOSITO. *Univ. of Messina, Univ. of Messina.*

2:00 Y12 **578.26** Treating spinal cord injury with the co-transplantation of mesenchymal stem cells that overexpress SDF-1 and neural stem cells. A. N. STEWART*; G. KENDZIORSKI; Z. M. DEAK; D. J. BROWN; M. N. FINI; K. L. COPELY; J. ROSSIGNOL; G. L. DUNBAR. *Field Neurosciences Inst. At Central Michigan, Central Michigan Univ., Field Neurosciences Inst. Lab., Central Michigan Univ.*

3:00 Y13 **578.27** SMaRT neural stem cells to degrade scar and optimize regeneration of the traumatically injured cervical spinal cord injury. C. S. AHUJA*; M. KHAZAEI; P. CHAN; J. MERCHANT; S. BAIG; J. WANG; M. G. FEHLINGS. *Univ. of Toronto, Krembil Res. Institute, Univ. Hlth. Netw, Univ. of Toronto, Toronto Western Hosp.*

4:00 Y14 **578.28** Promoting targeted reinnervation of phrenic motor neurons with BDNF after cervical spinal cord injury to restore respiratory function. B. A. CHARSAR*; M. URBAN; B. GHOSH; G. M. SMITH; A. C. LEPORE. *Thomas Jefferson Univ., Temple Univ. Sch. of Med.*

1:00 Y15 **578.29** Direct osmotherapy for the reduction of edema following spinal cord injury. J. M. YONAN*; C. HALE; V. G. J. RODGERS; D. K. BINDER. *Univ. of California Riverside, Univ. of California Riverside.*



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* Indicates abstract's submitting author

2:00 Y16 **578.30** Targeting towards early vascular responses following contusive SCI. C. CHEN*; X. XU. *Indiana Univ. Dept. of Neurolog. Surg, Program in Med. Neuroscience, Paul and Carole Stark Neurosciences Res. Institute, Indiana Univ. Sch. of Med.*

**POSTER**

**579. Headache and Migraine**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 Y17 **579.01** Investigating the effect of stress and exercise in models of elicited headache pain in mice. O. ELLER-SMITH*; X. YANG; J. A. CHRISTIANSON. *Univ. of Kansas Med. Ctr.*

2:00 Y18 **579.02** Vascular contributions of peripheral CGRP in migraine-like photophobia. B. N. MASON*; A. KUBURAS; W. J. KUTSCHKE; M. W. CHAPLEAU; A. F. RUSSO. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa, Univ. of Uiowa.*

3:00 Z1 **579.03** Potential brain regions involved in light-aversive behavior. L. P. SOWERS*; B. REA; R. TAUGHER; Y. KIM; A. KUBURAS; J. WEMMIE; A. RUSSO. *Univ. of Iowa, Veterans Affairs Med. Ctr.*

4:00 Z2 **579.04** Neural basis for chronic headache and photophobia after mild traumatic brain injury. A. TASHIRO*; H. OHTA. *Natl. Def. Med. Col.*

1:00 Z3 **579.05** Neck muscle inflammation induces trigeminal central sensitization: A risk factor for episodic migraine. P. L. DURHAM*; J. L. HAWKINS; B. BLANKENSHIP. *Missouri State Univ., Missouri State Univ., Missouri State Univ.*

2:00 Z4 **579.06** Intrinsic brain network abnormalities in chronic migraine are reversed following Onabotulinum toxin-A. A. K. KANUNGO*; D. TURCOTTE; J. KORNELSON; T. KOLESAR; B. MANSOURI. *Univ. of Manitoba, Univ. of Manitoba.*

3:00 Z5 **579.07** Association between migraine-related disability and co-morbid depressions among migraineurs having follow up at two neurology referral clinics in Addis Ababa, Ethiopia. B. A. AYELE*; Y. MAMUSHET. *Addis Ababa University, Col. of Hlth. Sceinces.*

4:00 Z6 **579.08** RNA-Seq investigations of human post-mortem trigeminal ganglia: A transcriptomic perspective on migraine genetics. M. J. IADAROLA*; M. R. SAPIO; D. M. LAPAGLIA; J. THIERRY-MIEG; D. THIERRY-MIEG; S. J. RAITHEL; P. D. BURBELO; C. E. RAMSDEN; A. J. MANNES. *Dept. of Perioperative Med., Natl. Library of Med., Natl. Inst. of Dent. and Craniofacial Res., Natl. Inst. of Aging.*

1:00 Z7 **579.09** Conditioned place aversion prolongs craniofacial cutaneous allodynia induced by acute nitroglycerin (NTG) administration: Novel animal model of chronic migraine. S. S. KOKANE*; A. NGO; R. BROWN; J. GULLACE; T. DUONG; E. KALAFCHI; F. TAO; Q. LIN. *The Univ. of Texas At Arlington, Texas A&M Univ. Col. of Dent., The Univ. of Texas at Arlington.*

2:00 Z8 **579.10** Medullary pain-modulating neurons show enhanced responses to light in rodent model of migraine headache. Y. ZHANG; M. E. MARTENSON; A. P. LASSETER; M. M. HEINRICHER*. *Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ., Oregon Hlth. and Sci. Univ. Dept. of Neurol.*

3:00 Z9 **579.11** The greater occipital nerve: An anatomical, immunohistochemical and tract-tracing study. N. GARCÍA MAGRO*; Y. B. MARTIN; M. GARCÍA-AMADO; C. AVENDAÑO; P. NEGREDO. *Autonoma Univ. of Madrid, Francisco de Vitoria Univ.*

4:00 Z10 **579.12** Targeted deletion of TRESK $K^+$ channel preferentially enhances cephalic pain in mice. Z. GUO*; C. QIU; Y. CAO. *Washington Univ. Sch. of Med.*

**POSTER**

**580. Mechanisms of Peripheral Neuropathic Pain II**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 Z11 **580.01** Lacrimal gland excision causes sex-specific corneal damage and alterations in corneal sensitivity. N. E. MECUM*; D. W. DEMERS; W. C. BUSHEY; T. E. DENIS; C. E. SULLIVAN; I. D. MENG. *Univ. of New England, Univ. of Maine, Univ. of New England, Univ. of Maine, Univ. of New England.*

2:00 Z12 **580.02** Spinal D-serine modulates nNOS-PSD95 protein-protein interactions leading to the development of mechanical allodynia in a mouse model of neuropathic pain. S. CHOI; H. CHOI; M. LEE; H. HAN; 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., Col. of Vet. Medicine, Univ. of Minnesota.*

3:00 Z13 **580.03** $Na_V1.6$ in peripheral sensory neurons: An emerging role in pain. M. R. ISRAEL*; J. R. DEUIS; T. DUREK; I. VETTER. *Inst. For Mol. Biosci., Univ. of Queensland.*

4:00 Z14 **580.04** CRISPR/Cas9 editing of Nf1 gene identifies CRMP2 as a therapeutic target in neurofibromatosis type 1 (NF1)-related pain that is reversed by (S)-Lacosamide. A. MOUTAL*; X. YANG; W. LI; K. GILBRAITH; S. YEON; S. LUO; C. QU; J. Y. XIE; M. IBRAHIM; K. PARK; F. PORRECA; R. KHANNA. *Univ. of Arizona, Univ. of Sci. and Technol. and Ctr. for Neuro-Medicine.*

1:00 Z15 **580.05** Increased N-methyl-D-aspartate receptor-mediated synaptic transmission and nociceptive behavior in serine racemase knockout mice. E. KATO*; T. FUKUSHIMA; M. MAEKAWA; R. KONNO; Y. HORI. *Dept Physiol & Biol Inf, Dokkyo Med. Univ.*

2:00 Z16 **580.06** Pi16 secretion by fibroblasts as a novel regulator of neuropathic pain. P. SINGHMAR*; J. MA; F. BAAMEUR; X. HUO; B. PENG; C. J. HEIJNEN; A. KAVELAARS. *MD Anderson Cancer Ctr.*

3:00 Z17 **580.07** Functional and transcriptional changes in somatosensory neurons after peripheral nerve injury. I. TOCHITSKY*; W. RENTHAL; B. SINGH; I. CHIU; M. E. GREENBERG; C. J. WOOLF. *Harvard Med. Sch., Boston Children's Hosp., Harvard Med. Sch., Boston Children's Hosp. Harvard Med. Sch., Harvard Med. Sch., Children's Hosp. Boston.*

4:00 Z18 **580.08** The role of intrinsic excitability in peripheral sensory neuropathy. N. WIMALASENA*; Y. CHENG; J. SHIM; C. J. WOOLF. *Harvard Univ., Children's Hosp. Boston.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 Z19 **580.09** Slow changes in neuronal excitability in the spinal superficial dorsal horn evoked by the activation of unmyelinated primary afferents. K. KANEKO*; T. SAOTOME; Y. NUMATA; T. TERASHIMA; S. YAMAGUCHI; Y. HORI. *Dokkyo Med. Univ.*

2:00 Z20 **580.10** GABAergic system in the spinal sensory ganglia. R. RAMLI*; J. DEUCHARS; X. DU; H. ZHANG; N. GAMPER. *Univ. of Leeds, Universiti Sains Malaysia, Hebei Med. Univ.*

3:00 Z21 **580.11** Identifying key residues involved in α-conotoxin RgIA blockade of α9α10 nicotinic acetylcholine receptors: Insights into a long-lasting, non-opioid analgesia. P. HUYNH*; P. J. HARVEY; S. B. CHRISTENSEN; D. J. CRAIK; J. M. MCINTOSH. *Univ. of Utah, The Univ. of Queensland.*

4:00 Z22 **580.12** ▲ T cell sex differences unmasked by β2-integrin antagonist in neuropathic mice. M. S. SUN*; S. NOOR; A. G. VANDERWALL; M. A. HAVARD; J. E. SANCHEZ; N. W. HARRIS; J. J. SANCHEZ; M. V. NYSUS; T. ANDERSON; J. P. NORENBERG; E. D. MILLIGAN. *Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico.*

1:00 Z23 **580.13** Nicotinic acetylcholine receptor beta 2 may be involved in pain pathways: Pilot study from CCI model. S. OCHI*; T. NISHIHARA; Y. YOSHINO; K. YAMAZAKI; J. IGA; T. YOROZUYA; S. UENO. *Ehime Univ. Grad. Sch. of Med., Ehime Univ.*

2:00 Z24 **580.14** Epigenetic regulation by sigma-1 receptor in dorsal root ganglion: Link to neuropathic pain. H. WU*; T. SU; D. HUNG; T. SU. *IRP/NIDA/NIH, IRP/NIDA/NIH.*

3:00 Z25 **580.15** Search of BEGAIN binding protein in the brain. T. KATANO*; S. ITO. *Kansai Med. Univ.*

4:00 Z26 **580.16** Amygdala NMDA receptor involvement in mediating sensory-discriminative and affective-motivational pain responses after chronic constriction nerve injury. T. ZHANG; H. XU; W. CHEN; W. HUANG; C. CHOU*. *The First Affiliated Hospital, Sun Yat-Sen Univers.*

1:00 Z27 **580.17** Blocking MCP-1/CCR2 signaling attenuates oxaliplatin-induced mechanical allodynia. P. M. DOUGHERTY*; A. M. ILLIAS; H. ZHANG; A. K. KOSTURAKIS. *Howard Hughes Med. Inst. - Univ. of Texas MD Anderson Cancer Ctr., The Univ. of Texas M.D. Anderson Cancer Ctr., The Univ. of Texas Hlth. Sci. Ctr. Houston, The Univ. of Texas Hlth. Sci. Ctr. San Antonio.*

2:00 Z28 **580.18** Injured dorsal root ganglion neuron-derived FLRT3 induces neuropathic pain via Unc5b. M. YAMADA*; Y. FUJITA; T. YAMASHITA. *Osaka Univ., Osaka Univ.*

3:00 Z29 **580.19** Endogenous IL-10 is not required for spinal non-viral IL-10 transgene expression to treat neuropathic pain resulting in anti-inflammatory factors in DRG and spinal cord. A. G. VANDERWALL*; S. NOOR; J. E. SANCHEZ; M. S. SUN; X. O. YANG; L. L. JANTZIE; N. MELLIOS; E. D. MILLIGAN. *Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico.*

4:00 Z30 **580.20** Cellular census of dorsal root ganglia by Drop-seq reveals new molecular targets for chronic pain. R. TONELLO*; S. LEE; A. CHAMESSIAN; Y. QADRI; Y. KIM; G. CHUNG; T. BERTA. *Univ. of Cincinnati, Univ. of Cincinnati, Duke Univ., Duke Univ., Duke Univ. Med. Ctr., Seoul Natl. Univ.*

1:00 Z31 **580.21** Characterization of peripheral neuron enhancer profiles in a model of neuropathic pain. F. DENK*; D. LOPES; S. B. MCMAHON. *King's Col. London.*

2:00 Z32 **580.22** Metabolic mechanisms of bortezomib-induced painful peripheral neuropathy. O. K. MELEMEDJIAN*; T. LUDMAN. *Univ. of Maryland Dent. Sch., Univ. of Maryland.*

3:00 AA1 **580.23** Up-regulation of inflammatory cytokines in trigeminal ganglia after infraorbital nerve constriction. T. IWASA; R. ARAKAKI; M. OSHIMA; S. AFROZ; M. INOUE; N. GOTO; N. ISHIMARU; Y. MATSUKA*. *Tokushima University/ Biomed. Sci., Tokushima University/ Biomed. Sci.*

4:00 AA2 **580.24** ● Diode laser nociceptor-selective quantitative sensory test standardized for large-scale clinical trials. M. I. NEMENOV; D. D. DESOUZA; S. NAGPAL; M. KLUKINOV; D. C. YEOMANS*. *Stanford Univ., LasMed, LLC., Stanford Univ., Stanford Univ.*

1:00 AA3 **580.25** Alternative therapeutic approach to attenuate orthodontic pain -$CO_2$ laser therapy. T. TSUCHIYA*; N. HASEGAWA; N. SUDA; K. ADACHI. *Meikai Univ. Sch. of Dent., Meikai Univ. Sch. of Dent.*

2:00 AA4 **580.26** ● Results of fiber specific quantitative sensory test (QST) explains pain sensory deficits in patients with spontaneous peripheral neuropathic pain. M. I. NEMENOV*; M. KLUKINOV; D. C. YEOMANS; M. SCHMELZ. *Lasmed LLC, Stanford Univ., Stanford Univ., Heidelberg Univ.*

**POSTER**

**581. Mechanisms of Peripheral Neuropathic Pain I**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 AA5 **581.01** Comparison of diode laser and 8% capsaicin patch depletions of cutaneous nociceptors. M. I. NEMENOV; M. KLUKINOV; D. C. YEOMANS; F. L. RICE*. *Lasmed LLC, Stanford Univ., Stanford Univ., Integrated Tissue Dynamics LLC.*

2:00 AA6 **581.02** Human-like chronic pain pathologies induced in porcine skin innervation and epidermal keratinocytes by proximal sciatic nerve insult: A translational platform to develop therapeutics for neuropathic pain. P. J. ALBRECHT*; I. SABBAG; D. CASTEL; E. RUGGIERO; M. DOCKUM; S. B. MEILIN; F. L. RICE. *Integrated Tissue Dynamics, LLC, Lahav Res. Inst., Tel-Aviv Univ., Integrated Tissue Dynamics LLC, MD Biosci., Integrated Tissue Dynamics LLC.*

3:00 AA7 **581.03** Cannabinoid CB2 receptors on epidermal keratinocytes and langerhans cells as potential targets for blocking paclitaxel-induced neuropathic pain. X. LIN; L. DENG; K. MACKIE; J. ROMERO; C. J. HILLARD; P. J. ALBRECHT; F. L. RICE; A. G. HOHMANN*. *Indiana Univ., Univ. Francisco De Vitoria, Med. Col. Wisconsin, Integrated Tissue Dynamics LLC, Indiana Univ.*

4:00 AA8 **581.04** Activation of EphB receptor facilitates calcium influx via modulation of NMDA receptor in dorsal root ganglion neurons. P. MA*; Z. ZHOU; F. RAO; X. SONG. *Southern Univ. of Sci. and Techology, Southern Univ. of Sci. and Technol.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 AA9 **581.05** Overexpressing Tet1 in primary sensory neurons attenuated nerve injury-induced nociceptive hypersensitivity. Z. PAN*; Q. WU; G. WEI; S. WU; L. LIANG; A. BEKKER; Y. TAO. *The State Univ. of New Jersey, Dept. of Anesthesiol., Dept. of Anesthesiology, New Jersey Med. School, Rutgers, The State Univ. of New Jersey.*

2:00 AA10 **581.06** Contribution of DNMT3a to paclitaxel-induced neuropathic pain via silencing K2p1.1 expression in primary sensory neurons. J. XIAO*; Q. MAO; S. WU; L. LIANG; K. MO.; A. BEKKER; Y. TAO. *Rutgers, the State Univ. of New Jersey.*

3:00 AA11 **581.07** MicroRNA 143 contributes to neuropathic pain through DNMT3a-triggered epigenetic silencing of MOR in DRG. S. WU*; B. XU; K. MO; L. LIANG; A. BEKKER; Y. TAO. *Rutgers, The State Univ. of New Jersey.*

4:00 AA12 **581.08** The transcription factor CEBPβ in the dorsal root ganglion contributes to peripheral nerve trauma-induced nociceptive hypersensitivity. Y. TAO*; Y. MAO; L. LIANG; S. WU; W. CAI; A. BEKKER. *New Jersey Med. School, Rutgers, New Jersey Med. School, Rutgers, The State Univ. of New Jersey, Rutgers, New Jersey Med. Sch.*

1:00 AA13 **581.09** The involvement of Nrcam variants in nerve injury-induced neuropathic pain in mice. L. LIANG*; S. WU; Z. PAN; Y. CHANG; B. LUTZ; A. BEKKER; Y. TAO. *Rutgers, New Jersey Med. Sch., Rutgers, The State Univ. of New Jersey, Xuzhou Med. Univ., High Performance Computing, New Jersey Med. School, Rutgers, The State Univ. of New Jersey, Dept. of Anesthesiology, New Jersey Med. School, Rutgers, The State Univ. of New Jersey.*

2:00 AA14 **581.10** Characterization of a humanized $Na_v1.7$ rat model for the study of neuropathic pain. B. GRUBINSKA*; C. YANG; N. RAMPAL; K. TABORN; D. MATSON; M. ZHANG; T. KORNECOOK; S. LEHTO; B. MOYER; J. GINGRAS. *Amgen Inc, Amgen Inc.*

3:00 AA15 **581.11** ● Paclitaxel alters enzymes involved in the biosynthesis of nicotinamide adenine dinucleotide ($NAD^+$) in the dorsal root ganglia and dorsal horn of the rat: reversal by nicotinamide riboside. D. L. HAMMOND*; R. Y. WALDER; G. OURTIES; S. R. WHITE; M. V. HAMITY. *Univ. Iowa, Univ. of Iowa Hosp. and Clinics, Univ. d'Auvergne, Univ. of Iowa.*

4:00 AA16 **581.12** The nicotinamide adenine dinucleotide ($NAD^+$) precursor nicotinamide riboside (NR) relieves paclitaxel-induced peripheral neuropathy in tumor bearing rats and does not facilitate tumor growth or interfere with the effects of paclitaxel. M. V. HAMITY*; S. WHITE; K. GIBSON-CORLEY; D. HAMMOND. *Univ. of Iowa, Univ. of Iowa.*

1:00 AA17 **581.13** Role of Adenosine monophosphate-activated kinase in mechanical allodynia mediated by reactive oxygen species. K. M. HANKERD*; J. WANG; J. LA; J. M. CHUNG. *Univ. of Texas Med. Br., Univ. of Texas Med. Br.*

2:00 AA18 **581.14** Peripheral nerve activity maintains neuropathic mechanical allodynia but not hyperalgesia. J. LA*; J. WANG; H. SHIM; J. CHUNG. *Univ. of Texas Med. Br.*

3:00 AA19 **581.15** Decrease in excitatory synaptic response of spinal dorsal horn GABAergic neurons during burst inputs. C. BAE*; J. LA; H. SHIM; S. TANG; J. M. CHUNG. *Univ. of Texas Med. Br. At Galveston.*

4:00 AA20 **581.16** Nerve injury induces distinct changes in central terminals among nociceptor and mechanoreceptor subpopulations. L. K. CRAWFORD*; S. JEON; D. CHANG; D. D. GINTY; M. J. CATERINA. *Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Harvard Med. Sch., Johns Hopkins Sch. of Med.*

1:00 AA21 **581.17** GFAP promoter determines gene transfer to satellite glial cells following intraganglionic delivery in adult rats. H. YU*; H. XIANG; H. XU; Q. H. HOGAN. *Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin, Zablocki VAMC.*

2:00 AA22 **581.18** Effects of peripheral nerve injury on the kinetics of electrically evoked GABA receptor-mediated currents in GABAergic and non-GABAergic neurons of the spinal dorsal horn. T. AJIMA; E. KATO; S. TANAKA; Y. HORI; T. FUKUSHIMA*. *Dokkyo Med. Univ.*

3:00 AA23 **581.19** Localized sympathectomy reduces regeneration and associated mechanical pain in the spinal nerve ligation model. W. XIE*; J. A. STRONG; J. ZHANG. *Univ. Cincinnati Coll Med.*

4:00 AA24 **581.20** Collagens modulate sensitization signaling and CGRP expression of nociceptive neurons. K. MÖLLER*; C. LOOS; J. ISENSEE; J. HASENAUER; T. HUCHO. *Univ. Hosp. of Cologne, Helmholtz Zentrum München - German Res. Ctr. for Envrn. Hlth.*

1:00 AA25 **581.21** GSK-3 and microRNA-29 regulating blood nerve barrier tightness in neuropathy. H. L. RITTNER*; J. T. CHEN; S. YANG; S. SAUER; L. HU; A. BRACK. *Universitätklinikum Würzburg, Tongji Hosp. of Tongji Med. College, Huazhong Univ. of Sci. and Technology, 430030 Wuhan, China.*

2:00 AA26 **581.22** Nanotechnology-based non-viral approaches for gene delivery to peripheral nerves. N. HIGUITA-CASTRO*; C. G. WIER; J. MOORE; A. SUNYECZ; C. K. SEN; S. J. KOLB; D. GALLEGO-PEREZ. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*

3:00 AA27 **581.23** Optogenetic manipulation of pain: Characterization of VGluT1:ChR2 dorsal root ganglion neurons and its implication in mechanical pain. M. YOUNG*; A. CHAMESSIAN; T. VAN DE VEN; R. JI. *Duke Univ., Duke Univ.*

4:00 AA28 **581.24** Sex difference of oxytocin-induced antiallodynia. J. KAO*; L. CHOW; Y. CHEN; Y. CHEN; E. HUANG. *Natl. Def. Med. Ctr., Natl. Def. Med. Ctr., Taipei Veterans Gen. Hosp., Tri-Service Gen. Hospital, Natl. Def. Med. Ctr.*

1:00 AA29 **581.25** Percutaneous electrical nerve stimulation elevates agmatine in spinal cords of nerve-injured rats. S. J. ERB*; C. PETERSON; R. H. SPELTZ; K. F. KITTO; K. A. SLUKA; G. L. WILCOX; C. A. FAIRBANKS. *Univ. of Minnesota Twin Cities, Univ. of Minnesota Twin Cities, Univ. of Minnesota Twin Cities, Univ. of Iowa, Univ. of Minnesota Twin Cities, Univ. of Minnesota Twin Cities.*

2:00 AA30 **581.26** A real-time rodent neural interface for deciphering acute pain signals. S. HU*; Q. ZHANG; J. WANG; Z. CHEN. *Zhejiang Univ., New York Univ., New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

3:00 AA31 **581.27** Interaction of VGF-derived peptides in microglial signaling. J. L. COOK*; K. KITTO; M. S. RIEDL; C. N. HONDA; C. A. FAIRBANKS; L. VULCHANOVA. *Univ. of Minnesota, Univ. Minnesota, Univ. of Minnesota, Univ. Minnesota, Univ. of Minnesota Dept. of Neurosci.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**582. Mechanisms of Central Neuropathic Pain**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 AA32 **582.01** Enduring pathological effects of prenatal alcohol exposure on touch hypersensitivity following peripheral nerve damage via neuroimmune mechanisms in adult rat offspring. J. SANCHEZ*; J. E. SANCHEZ; M. V. NYSUS; J. P. NORENBURG; D. D. SAVAGE; E. D. MILLIGAN. *Univ. of New Mexico, Univ. of New Mexico.*

2:00 AA33 **582.02** ● Neuroglia activated by TREZ compression injury on trigeminal neuralgia animal model. D. LUO*; Y. YU. *Fujian Med. University/School of Basic Med.*

3:00 AA34 **582.03** Characterizing immune cell phenotype and function in middle-aged male prenatal alcohol-exposed rats. S. NOOR*; J. J. SANCHEZ; A. G. VANDERWALL; S. DAVIES; D. D. SAVAGE; E. D. MILLIGAN. *Univ. of New Mexico, Univeirsity of New Mexico.*

4:00 AA35 **582.04** The hippocampal extracellular matrix regulates pain and memory dysfunction after peripheral injury. M. TAJERIAN*; V. HUNG; H. NGUYEN; T. HUANG; D. CLARK. *Stanford University/ VAPAHCS, VAPAHCS, Stanford University/ VAPAHCS.*

1:00 AA36 **582.05** A key role of RGS4 protein in the maintenance of chronic pain. K. AVRAMPOU*; F. CARR; S. GASPARI; E. LOH; V. MITSI; A. OBRADOVIC; L. SHEN; V. ZACHARIOU. *Icahn Sch. of Med. At Mount Sinai.*

2:00 BB1 **582.06** Neural circuits for mechanical allodynia in the spinal dorsal horn. C. PEIRS*; X. ZHAO; S. G. WILLIAMS; J. GEDEON; R. P. SEAL. *Univ. of Pittsburgh, Tsinghua Univ.*

3:00 BB2 **582.07** Separate spinal substrates transmitting dynamic versus static mechanical pain. L. CHENG*; B. DUAN; T. HUANG; Y. ZHANG; X. SONG; O. BRITZ; L. GARCIA-CAMPMANY; X. REN; Y. CHEN; Q. ZHANG; X. XIE; R. ZHANG; J. WEI; Q. SUI; M. D. GOULDING; Y. WANG; Q. MA. *Fudan Univ., Dana-Farber Cancer Institute, Harvard Med. Sch., Univ. of Michigan, Southern Univ. of Sci. and Technol., The Salk Inst. For Biol. Studies, The Salk Inst. For Biol. Studies, Salk Inst., The Salk Inst. For Biol. Studies.*

4:00 BB3 **582.08** ▲ Functional roles of the spinoparabrachial pathway in nociception. J. DENG*; D. MU; Y. SUN. *Inst. of Neurosci., Univ. of Chinese Acad. of Sci.*

1:00 BB4 **582.09** Neuropathic pain creates an enduring deficit in medial prefrontal cortex-dependent behavioral performance that is resistant to gabapentin treatment but reversed by metformin. S. SHIERS*; G. PRADHAN; G. MEJIA; S. KROENER; T. PRICE. *Univ. of Texas At Dallas.*

2:00 BB5 **582.10** Long-term changes in sensory input to dorsal horn interneurons after neonatal tissue injury. J. LI*; M. L. BACCEI. *Univ. Cincinnati, Univ. of Cincinnati Dept. of Anesthesiol.*

3:00 BB6 **582.11** Locus coeruleus (LC)-noradrenergic system plays a different role at short- and long-term of a neuropathic pain model. M. LLORCA-TORRALBA*; I. SUAREZ-PEREIRA; C. CAMARENA-DELGADO; L. BRAVO; J. A. GARCIA-PARTIDA; H. WEI; A. PERTOVAARA; J. A. MICO; E. BERROCOSO. *Univ. of Cadiz, CIBER of Mental Hlth. (CIBERSAM), Inst. de Investigación e Innovación en Ciencias Biomédicas de Cádiz (INiBICA), Helsinki Univ., Fac Med. Univ. Helsinki.*

4:00 BB7 **582.12** Microglial activation mapping in sensory and affective brain regions following peripheral nerve injury. M. J. LACAGNINA*; T. J. FABISIAK; P. M. GRACE. *Univ. of Texas MD Anderson Cancer Ctr.*

1:00 BB8 **582.13** Involvement of $GABAB_B$ receptor within the CSF-contacting nucleus in neuropathic pain of rats. L. ZHANG*; S. CHEN; S. SONG. *Xuzhou Med. Univ., Xuzhou Med. Univ.*

2:00 BB9 **582.14** Time- and sex-dependent TrkB activation after nerve injury. R. GORE*; A. G. SKORPUT; M. S. RIEDL; J. L. COOK; C. HUFFMAN; L. VULCHANOVA. *Univ. of Minnesota.*

3:00 BB10 **582.15** The chemokine receptor cxcr2 supports nociceptive sensitization after traumatic brain injury. D. LIANG*; X. SHI; P. LIU; Y. SUN; P. SAHBAIE; W. LI; D. C. YEOMANS; D. J. CLARK. *Stanford Univ. Dept. of Anesthesia.*

4:00 BB11 **582.16** Involvement of IFN-gamma of trigeminal spinal sub nucleus caudal neurons in neuropathic pain in ruts with infraorbital nerve injury. S. YUKA*; A. OKADA-OGAWA; M. SHINODA; Y. IMAMURA; K. IWATA. *Nihon Univ. Sch. of Dent. Dent. Hospit, Nihon Univ. Sch. of Dent., Nihon Univ. Sch. of Dent.*

1:00 BB12 **582.17** Involvement of the HMGB1-TLR4 signaling in the development of central post-stroke pain. S. TOKUYAMA*; W. MATSUURA; S. HARADA. *Kobe Gakuin Univ.*

2:00 BB13 **582.18** Possible involvement of spinal nicotinic receptor subtypes in a rat model of trigeminal neuropathic pain. K. NAKAI*; A. NAKAE; T. KUBO; Y. MINEGISHI; K. HOSOKAWA. *Univ. of Fukui Hosp., Osaka Univ. Grad. Sch. of Frontier Bioscience, Special Res. Promotion Group, Dept. of Plastic Surgery, Osaka Univ. Grad. Sch. of Med., Dept. of Plastic and Reconstructive Surgery, Univ. of Fukui Hosp.*

3:00 BB14 **582.19** Activated spinal astrocytes sensitize the nociceptive transmission through the release of L-lactate. K. MIYAMOTO; K. ISHIKURA; K. KUME; M. OHSAWA*. *Nagoya City Univ.*

4:00 BB15 **582.20** Synergistic antinociceptive interaction between Syzygium aromaticum and Rosmarinus officinalis. K. BELTRÁN-VILLALOBOS*; M. DÉCIGA- CAMPOS; H. AGUILAR- MARISCAL; J. LÓPEZ- MUÑOZ. *IPN, Univ. de Juarez Autonoma de Tabasco, UJAT, CINVESTAV-Sur.*

1:00 BB16 **582.21** Circuit-specific adaptations in mesoaccumbal circuitry modulate distinct features of chronic pain. W. REN*; M. V. CENTENO; X. WEI; I. WICKERSHAM; M. MARTINA; A. V. APKARIAN; D. J. SURMEIER. *Northwestern Univ., MIT.*

**POSTER**

**583. Somatosensation: Thalamocortical Processing**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 BB17 **583.01** Effect of isoflurane on selectively activated afferent pathways in neocortex. C. MURPHY*; B. KRAUSE; S. GRADY; M. I. BANKS. *Univ. of Wisconsin, Univ. of Wisconsin.*

Tues. PM

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 BB18 **583.02** Quantifying sensory encoding from thalamus to cortex in topographically aligned neuron pairs. Y. LIEW*; C. J. WHITMIRE; A. PALA; W. A. STOY; P. Y. BORDEN; A. D. ORTIZ; B. YANG; C. R. FOREST; G. B. STANLEY. *Georgia Inst. of Technol., Georgia Inst. of Technol.*

3:00 BB19 **583.03** Thalamic state modulation of somatosensory encoding in the thalamocortical circuit. C. J. WHITMIRE*; Y. LIEW; A. PALA; G. B. STANLEY. *Georgia Inst. of Technol.*

4:00 BB20 **583.04** Thalamic control of sensory evoked spatiotemporal cortical responses. P. Y. BORDEN*; I. KOLB; A. D. ORTIZ; A. J. SEDERBERG; C. WAIBLINGER; W. STOY; C. FOREST; A. MORRISSETTE; D. JAEGER; G. B. STANLEY. *Georgia Inst. of Technol., Georgia Tech., Georgia Inst. Of Technol., Emory Univ.*

1:00 BB21 **583.05** Closed loop optogenetic control of thalamocortical activity. M. F. BOLUS*; A. A. WILLATS; C. J. WHITMIRE; C. J. ROZELL; G. B. STANLEY. *Georgia Inst. of Technol., Georgia Inst. of Technol.*

2:00 BB22 **583.06** Encoding of whisker motion versus arousal by secondary somatosensory thalamus. A. K. KINNISCHTZKE*; Y. HONG; R. M. BRUNO. *Columbia Univ., Columbia Univ., Columbia Univ.*

3:00 BB23 **583.07** A sensorimotor pathway via higher order thalamus. C. MO*; S. SHERMAN. *Univ. of Chicago, Univ. of Chicago.*

4:00 BB24 **583.08** Diverse coding of higher-order thalamocortical projections during sensory perception. R. CHEREAU; S. PAGÈS; T. BAWA; A. HOLTMAAT*. *Univ. of Geneva.*

1:00 BB25 **583.09** The inhibitory influences in the somatosensory thalamus. J. YI*; E. IAVARONE; C. O'REILLY; Y. SHI; R. PERIN; H. MARKRAM. *EPFL, Blue Brain Project.*

2:00 BB26 **583.10** Impact of the superior colliculus on cortical processing of somatosensory (whisker) input. S. GHARAEI*; E. ARABZADEH; G. J. STUART. *Australian Natl. Univ.*

3:00 BB27 **583.11** Functional benefits of spatially inhomogeneous cortical state. T. NUR; S. GAUTAM; L. PINTO; M. GOARD; J. A. STENKEN; W. L. SHEW*. *Univ. of Arkansas, Princeton Univ., Univ. of California, Santa Barbara, Univ. of Arkansas Fayetteville, Univ. of Arkansas Fayetteville.*

4:00 CC1 **583.12** Basal forebrain activation changes the vibrotactile responses of neurons in the hindpaw representation of rat SI cortex. B. VARDAR*; B. GÜÇLÜ. *Bogazici Univ.*

**POSTER**

**584. Barrel Cortex**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 CC2 **584.01** Transcriptional variation across cortical neurons reflects axonal projection bias, laminar position and neuronal activity state. M. CHEVEE*; J. D. ROBERTSON; G. H. CANNON; S. P. BROWN; L. A. GOFF. *Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med.*

2:00 CC3 **584.02** A quantitative morphological analysis of supragranular neurons in the mouse barrel cortex. F. PALAGUACHI*; D. KANDOVA; A. EDMUND; A. TSIMOUNIS; J. C. BRUMBERG. *City Univ. of New York At Queens Col., City Univ. of New York At Queens Col., Queens Borough Community Col., Queens Col.*

3:00 CC4 **584.03** Diversity of VIP neurons: Insights into electrophysiological types and the influence of neuromodulation. A. PRÖNNEKE*; M. MÖCK; M. WITTE; J. F. STAIGER. *Univ. Med. Ctr. Göttingen.*

4:00 CC5 **584.04** Coupling of tactile LFP signals between mouse cortex and olfactory bulb. A. PARABUCKI*; I. LAMPL. *Weizmann Inst. of Sci.*

1:00 CC6 **584.05** Organization of the whisker receptive field map in L2 of somatosensory cortex in awake behaving mice. H. WANG*; A. M. LEMESSURIER; D. E. FELDMAN. *Univ. of California, Berkeley.*

2:00 CC7 **584.06** Tactile enrichment refines whisker map subcolumnar structure and population coding in L2/3 of S1. A. M. LEMESSURIER*; D. E. FELDMAN. *UC Berkeley, UC Berkeley.*

3:00 CC8 **584.07** Selectivity for multi-whisker stimuli by single neurons in mouse somatosensory cortex. K. J. LABOY-JUAREZ*; S. AHN; D. E. FELDMAN. *Univ. of California Berkeley, Univ. of California, Berkeley, UC Berkeley.*

4:00 CC9 **584.08** A subset of 'super-responding' neurons dominates output signaling in layer 5A of mouse barrel cortex. A. BIRKNER*; Z. VARGA; V. D. J. BONFARDIN; M. TOHMI; B. SAKMANN; A. KONNERTH. *Inst. of Neuroscience, TU Munich.*

1:00 CC10 **584.09** Fast-spiking interneurons of barrel cortex show increased activity on detected trials in a vibrissae deflection detection task. H. SHIN*; J. BOTROS; S. R. JONES; C. I. MOORE. *Brown University, Neurosci.*

2:00 CC11 **584.10** Phase dependent differences in excitatory and inhibitory modulation of somatosensory cortex during active touch. S. SUNIL*; J. B. SCHROEDER; J. T. RITT. *Boston Univ.*

3:00 CC12 **584.11** Precisely-timed feedback inhibition in the barrel cortex. J. YU*; A. AGMON; K. SVOBODA. *HHMI Janelia Res. Campus, West Virginia Univ. Sch. of Med., HHMI / Janelia Farm Res. Campus.*

4:00 CC13 **584.12** Spatio-temporal coding in the rat primary and secondary somatosensory cortices. M. A. GOLDIN*; E. R. HARRELL; L. ESTEBANEZ; D. E. SHULZ. *Unite Neurosciences Information Complexite (UNIC).*

1:00 CC14 **584.13** Visualizing learning-induced cortical plasticity in the barrel cortex with intrinsic signal optical imaging. A. M. POSLUSZNY*; R. ZAKRZEWSKA; M. KOSSUT. *Nencki Inst. of Exptl. Biol. PAS, Univ. of Social Sci. and Humanities (SWPS).*

2:00 CC15 **584.14** Cortical control of sensory gating in the rodent whisker system. S. CHAKRABARTI; C. SCHWARZ*. *Werner Reichardt Ctr. For Integrative Neurosci., Univ. Tuebingen.*

3:00 CC16 **584.15** Bidirectional rate coding through the core descending intracortical microcircuit. S. PLUTA*; H. ADESNIK. *Univ. of California Berkeley.*



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* Indicates abstract's submitting author

4:00 CC17 **584.16** Whisker activation evokes network desynchronization and formation of functional small-world subnetworks in the primary and secondary somatosensory cortex of the rat. M. KHATEB; J. SCHILLER; Y. SCHILLER*. *Technion Med. Sch.*

1:00 CC18 **584.17** Functional impact of subtypes of somatostatin-expressing interneurons in cortical circuits. A. S. NAKA*; J. VEIT; H. ADESNIK. *UC Berkeley, Univ. of California, Berkeley.*

2:00 CC19 **584.18** Neuronal and non-neuronal factors mediate behavioral-state dependent development of functional hyperemia in the somatosensory cortex of juvenile mice. K. W. GHERES*; Q. ZHANG; P. J. DREW. *Pennsylvania State Univ. Univ. Park, The Pennsylvania State Univ., Pennsylvania State Univ.*

3:00 CC20 **584.19** The differential patterns of the sensory evoked-hemodynamic response of mouse barrel cortex at two- and six-weeks post soft- cranial window installation. H. PARK*; N. YOO; B. KANG; C. HEO; M. SUH. *Inst. For Basic Sci. (IBS), Sungkyunkwan Univ., Sungkyunkwan Univ., Sungkyunkwan Univ., Sungkyunkwan Univ.*

**POSTER**

**585. Auditory Processing: Sound Localization and Binaural Interactions**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 CC21 **585.01** Decoding the cortical representation of auditory motion using EEG . A. BEDNAR*; E. C. LALOR. *Trinity Col. Dublin, Univ. of Rochester.*

2:00 CC22 **585.02** ▲ Psychophysics of free-field sound localization using a novel pointing system. D. BRICHETTO; B. M. CARLSON; M. GASTON; T. OLSON; J. L. LOEBACH*. *St. Olaf Col., St. Olaf Col., St. Olaf Col., St. Olaf Col.*

1:00 DP08/CC23 **585.03** ● (Dynamic Poster) Auditory recalibration in Virtual Reality. M. GONZALEZ-FRANCO*; C. C. BERGER; D. FLORENCIO; Z. ZHANG. *Microsoft Res., Univ. de Barcelona, Karolinska Institutet, Univ. of Washington.*

4:00 CC24 **585.04** Neuronal discharging to ipsilateral acoustic stimuli in central nucleus of inferior colliculus from the activation of contralateral cochlear via bone-conduction. J. WEI*; C. XIAO; Z. XIAO. *Southern Med. Univ.*

1:00 CC25 **585.05** Stimulus dependent versus cell specific computational strategies in localization of two simultaneous sounds. S. M. WILLETT*; V. C. CARUSO; S. T. TOKDAR; J. M. GROH. *Duke Univ., Duke Univ.*

2:00 CC26 **585.06** ▲ How many sound locations can humans distinguish at a time? Implications for neural processing of auditory space. L. FARRELL; J. M. GROH*. *Duke Univ., Duke Univ.*

3:00 CC27 **585.07** Interaural time difference sensitivity in turtles. K. L. WILLIS*; C. E. CARR. *Univ. of Oklahoma, Univ. of Maryland.*

4:00 CC28 **585.08** The responses of neurons in central nucleus of inferior colliculus to binaural acoustic stimulation is either from ipsilateral or contralateral rather than binaural integration. Y. LIU*; J. WEI; Z. XIAO. *Southern Med. Univ.*

1:00 CC29 **585.09** Pressure difference receiving ears influence ITD coding in American alligators. L. KETTLER*; C. E. CARR. *Univ. of Maryland - Dept. of Biol.*

2:00 CC30 **585.10** Excitatory inputs in cortical layer IV reinforced by ipsilateral acoustic stimuli through the inhibition from contralateral auditory cortex to ipsilateral layer VI. X. HAITING*; X. ZHANG; Z. XIAO. *Dept. of Physiol., Southern Med. Univ., Southern Med. Univ.*

3:00 CC31 **585.11** Response types of the superior olivary nucleus of the barn owl. A. KRAEMER*; C. CARR. *Univ. of Maryland, Univ. of Maryland.*

**POSTER**

**586. Auditory System: Cortical Processing and Perception**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 CC32 **586.01** Perceptual Classification of Sounds: Why three auditory cortical fields are better than one. H. L. READ*; A. OSMAN; C. M. LEE; M. A. ESCABI. *Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut, Univ. of Illinois, Univ. of Connecticut.*

2:00 CC33 **586.02** Dynamic neuron to neuron correlation statistics can contribute to sound category identification. M. SADEGHI*; I. STEVENSON; M. ESCABI. *Univ. of Connecticut, Univ. of Connecticut.*

3:00 DD1 **586.03** Using neuron-to-neuron correlation statistics to categorize sounds in the mammalian auditory midbrain. M. A. ESCABI*; F. KHATAMI; M. SADEGHI; H. L. READ; I. STEVENSON. *Univ. of Connecticut, Univ. of Connecticut.*

4:00 DD2 **586.04** A freely-moving operant system for auditory discrimination in common marmosets. M. J. METKE*. *UC San Diego.*

1:00 DD3 **586.05** A comparison of marmoset frontal cortex neuron responses to acoustic stimuli in multiple behavioral contexts. V. JOVANOVIC*; C. T. MILLER. *UCSD, UCSD.*

2:00 DD4 **586.06** Association between marmoset vocal variability and social context in naturalistic social environments. J. TSUNADA*; S. ELIADES. *Univ. of Pennsylvania Sch. of Med.*

3:00 DD5 **586.07** Auditory cortical activity predicts feedback-dependent vocal control in marmoset monkeys. S. ELIADES*; J. TSUNADA. *Univ. of Pennsylvania Sch. of Med., Univ. of Pennsylvania Sch. of Med.*

4:00 DD6 **586.08** Behavioral significance and auditory cortical representation of harmonic vocalizations. N. L. SO*; S. M. N. WOOLLEY. *Columbia Univ., Zuckerman Inst., Columbia Univ.*

1:00 DD7 **586.09** Optimal features for auditory recognition. S. LIU; X. WANG; S. SADAGOPAN*. *Univ. of Pittsburgh, Johns Hopkins Univ. Sch. Med., Univ. of Pittsburgh.*

2:00 DD8 **586.10** Emergence of selectivity and invariance in primary auditory cortex. P. MONTES LOURIDO*; S. LIU; S. SADAGOPAN. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*



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* Indicates abstract's submitting author

1:00 DP09/DD9 **586.11** (Dynamic Poster) Aural contrast in midbrain responses to speech: Effects of noise and hearing loss. L. H. CARNEY*. *Univ. of Rochester.*

4:00 DD10 **586.12** The emergence of neural representations of auditory objects and the influence of acoustic features. M. OGG*; C. NEUFELD; T. A. CARLSON; L. R. SLEVC. *Univ. of Maryland, Univ. of Maryland, Univ. of Maryland, Univ. of Sydney.*

1:00 DD11 **586.13** Cortical responses in human superior temporal gyrus that differentiate intonation contours in speech are a response to pitch, not fundamental frequency. C. TANG*; L. S. HAMILTON; E. F. CHANG. *Univ. of California, San Francisco, UCSF.*

2:00 DD12 **586.14** Context dependence of ultrasonic vocalizations of mice. S. AGARWALLA*; S. BANDYOPADHYAY. *INDIAN INSTITUTE OF TECHNOLOGY, IIT Kharagpur.*

3:00 DD13 **586.15** Adaptive spectral changes in pulses of echolocating bats during group flight with multiple conspecifics. K. HASE*; Y. KADOYA; Y. MAITANI; T. MIYAMOTO; K. I. KOBAYASI; S. HIRYU. *Doshisha Univ., Doshisha Univ., JST PRESTO.*

4:00 DD14 **586.16** Motor cortex suppresses auditory cortical responses to self-generated sounds. D. M. SCHNEIDER*; R. D. MOONEY. *Duke Univ., Duke Univ. Hosp.*

1:00 DD15 **586.17** Dopamine modulates the peripheral auditory system of a vocal fish. J. PERELMUTER*; J. A. SISNEROS; P. M. FORLANO. *The Grad. Center, City Univ. of New York (, Univ. Washington, City Univ. of New York, Brooklyn Col.*

2:00 DD16 **586.18** Temporal and rate coding of sound envelope and temporal fine structures of vocalizations in the primary auditory cortex of marmoset monkeys. T. BANNO*; W. SUZUKI; N. MIYAKAWA; T. TANI; N. ICHINOHE. *Univ. of Pennsylvania Sch. of Med., Natl. Ctr. of Neurol. and Psychiatry, Natl. Inst. of Neurosci., RIKEN BSI, Natl. Inst. for Quantum and Radiological Sci. and Technol.*

3:00 DD17 **586.19** Direct effects of social vocalizations on serotonin in the auditory midbrain. K. HOOD*; L. M. HURLEY. *Indiana Univ.*

4:00 DD18 **586.20** Mechanisms of movement-related changes to auditory detection thresholds. J. SUNDARARAJAN*; D. M. SCHNEIDER; R. D. MOONEY. *Duke Univ.*

1:00 DD19 **586.21** Serial reversal learning in humans and gerbils: Data and network model. A. L. SCHULZ*; M. L. WOLDEIT; A. BRECHMANN; C. JARVERS; T. BROSCH; M. LOMMERZHEIM; H. NEUMANN; F. W. OHL. *Leibniz Inst. for Neurobio., Leibniz Inst. for Neurobio., Inst. of Neural Information Processing.*

2:00 DD20 **586.22** Neural discrimination of novel acoustic signals improves with repeated stimulus presentation. E. SOYMAN*; D. S. VICARIO. *Rutgers Univ.*

3:00 DD21 **586.23** Corticostriatal plasticity underlying a sensory-motor association in an auditory discrimination task. S. GHOSH*; F. CARNEVALE; A. M. ZADOR. *Cold Spring Harbor Lab., Cold Spring Harbor Lab., Cold Spring Harbor Lab.*

4:00 DD22 **586.24** Encoding of modulation frequencies and depths by surface and micro electrodes for a cochlear nucleus auditory prosthesis. M. HAN*; D. B. MCCREERY. *Univ. of Connecticut, Huntington Med. Res. Inst.*

1:00 DD23 **586.25** Robust discrimination of sounds embedded in noise by adapting cortical gain. C. F. ANGELONI*; K. C. WOOD; M. N. GEFFEN. *Univ. of Pennsylvania.*

**POSTER**

**587. Auditory Processing: Perception, Cognition, and Action II**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 DD24 **587.01** Sound symbolism - Related brain area relative to language processing. S. ITAGAKI*; S. MURAI; K. I. KOBAYASI. *Doshisha Univ.*

2:00 DD25 **587.02** Mapping out cortical contributions to auditory timing: A causal transcranial magnetic stimulation study of interval and beat-based timing perception. J. M. ROSS*; J. R. IVERSEN; R. BALASUBRAMANIAM. *Univ. of California, Merced, UC San Diego.*

3:00 DD26 **587.03** Experimental design for investigating the acoustic preference in rats. K. OKAMOTO*; K. FUJIMOTO; Y. KOMURA; R. KAJIWARA. *Meiji Univ., Kyoto Univ.*

4:00 DD27 **587.04** The cost of control in perceptual decision-making. J. R. CASTIÑEIRAS*; J. L. PARDO-VÁZQUEZ; M. VALENTE; A. RENART. *Champalimaud Fndn.*

1:00 DD28 **587.05** Contribution and interaction of auditory and posterior parietal cortex during an auditory delayed response task in head-fixed mice. R. STEINFELD*; A. TACÃO-MONTEIRO; A. RENART. *Champalimaud Fndn.*

2:00 DD29 **587.06** Effect of stimulus intensity versus stimulus identity in perceptual decision-making. A. RENART*; M. VALENTE; J. CASTIÑEIRAS; J. PARDO-VAZQUEZ. *Champalimaud Fndn.*

3:00 DD30 **587.07** Neural activity in the mouse mPFC during a memory-guided spatial task on a treadmill. J. AFONSO*; A. TACÃO-MONTEIRO; C. GOLDEN; S. ROYER; P. T. CHADDERTON; A. RENART. *Champalimaud Fndn., Imperial Col., Ctr. For Functional Connectomics, Korea Inst. of Sci. and Technol.*

4:00 DD31 **587.08** Representations of amplitude modulations in auditory onsets, ramp tones, and speech in the human superior temporal gyrus. Y. OGANIAN*; E. F. CHANG. *Univ. of California, San Francisco, UCSF.*

1:00 DD32 **587.09** Neural correlates of single phoneme versus rapid auditory processing in adults with and without dyslexia. T. M. CENTANNI*; S. D. BEACH; O. OZERNOV-PALCHIK; S. MAY; J. D. E. GABRIELI. *MIT, Texas Christian Univ., Harvard Univ., Tufts Univ.*

2:00 DD33 **587.10** Dissociation of knowledge and performance during sensorimotor learning. K. KUCHIBHOTLA*; T. A. HINDMARSH STEN; E. PAPADOYANNIS; S. OSTOJIC; R. C. FROEMKE. *New York Univ. Sch. of Med., Ecole Normale Superieure, NYU Med.*

3:00 DD34 **587.11** Feature selective attention shifts noise correlations based on both target and distractor tuning in A1. J. D. DOWNER*; K. N. O'CONNOR; M. L. SUTTER. *UC Davis, UC Davis, Univ. of California Davis.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 DD35 **587.12** Improved attentional decoding at a cocktail party for audiovisual speech. A. E. O'SULLIVAN*; E. C. LALOR. *Trinity Col. Dublin, Univ. of Rochester, Trinity Col. Inst. of Neurosci., Univ. of Rochester.*

1:00 DD36 **587.13** Dissociation of stimulus and outcome expectations in perceptual decision making. A. FUNAMIZU*; F. MARBACH; A. M. ZADOR. *Cold Spring Harbor Lab., Watson Sch. of Biol. Sci.*

2:00 EE1 **587.14** Cortical processing of spectrally degraded speech revealed by intracranial electrophysiology. M. STEINSCHNEIDER*; K. V. NOURSKI; A. E. RHONE; H. KAWASAKI; M. A. HOWARD, III. *Albert Einstein Col. of Med., The Univ. of Iowa, Univ. of Iowa, Univ. Iowa Hosp Clin., Univ. of Iowa Hosp. and Clinics.*

3:00 EE2 **587.15** Neural substrates of behavioral performance in a speech-in-noise task. I. CHOI*; S. KIM; A. T. SCHWALJE. *Univ. of Iowa, Univ. of Iowa Hosp. and Clinics.*

4:00 EE3 **587.16** A new behavioral paradigm for investigating auditory perception of untrained animals: Application of novel object recognition procedure to hearing research. Y. TAMAI*; T. NOGUCHI; S. HIRYU; K. I. KOBAYASI. *Doshisha Univ., Doshisha Univ., Doshisha Univ.*

1:00 EE4 **587.17** Real-time tracking of the selective auditory attention from M/EEG via Bayesian filtering. S. MIRAN*; S. AKRAM; J. Z. SIMON; T. ZHANG; B. BABADI. *Univ. of Maryland, Starkey Hearing Technologies, Univ. of Maryland.*

2:00 EE5 **587.18** Machine-learning classification of speech-evoked electroencephalographic signals reveals speech intelligibility. Y. NA*; S. KIM; I. CHOI; J. WOO. *Univ. of Ulsan, Univ. of Iowa.*

3:00 EE6 **587.19** Differential phoneme confusion patterns linked with performance in a speech-in-noise task. A. T. SCHWALJE*; S. KIM; I. CHOI. *Univ. of Iowa Hosp. and Clinics, Univ. of Iowa.*

4:00 EE7 **587.20** Perceptual manifestations of auditory modulation during speech planning. Y. MERRIKHI; R. EBRAHIMPOUR; A. DALIRI*. *Inst. For Res. In Fundamental Sci. (IPM), Arizona State Univ. - Tempe Campus.*

1:00 EE8 **587.21** Auditory processing of mate choice cues in the female songbird. K. S. LAWLEY*; J. DUNNING; J. F. PRATHER. *Univ. of Wyoming.*

2:00 EE9 **587.22** Interaction between top-down and bottom-up predictions in auditory decision-making. L. SURIYA-ARUNROJ*; Y. E. COHEN; J. I. GOLD. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

3:00 EE10 **587.23** Neural responses to behaviorally relevant syllable sequences in the ferret auditory- and frontal cortices. D. DUQUE*; N. H. JOSHI; D. ELGUEDA; J. B. FRITZ; S. A. SHAMMA. *Univ. of Maryland, Univ. of Maryland.*

4:00 EE11 **587.24** Perceptual alternation in auditory streaming as an evidence accumulation process. J. M. RINZEL*; A. NGUYEN; R. CURTU. *New York Univ. Ctr. for Neural Sci., The Univ. of Iowa.*

1:00 EE12 **587.25** Neural correlates of decision-making in primary auditory cortex neuronal populations. N. A. FRANCIS*; D. E. WINKOWSKI; Z. BOWEN; A. SHEIKHATTAR; K. ARMENGOL; B. BABADI; D. PLENZ; P. O. KANOLD. *Univ. of Maryland, Univ. of Maryland, Univ. of Maryland, Univ. of Maryland, Natl. Inst. of Mental Health, NIH.*

2:00 EE13 **587.26** Cortical responses and functional connectivity derived from electrocorticography (ECoG) during speech in noise task. A. S. LIU*; P. E. GANDER; C. K. KOVACH; H. KAWASAKI; M. A. HOWARD, III; T. D. GRIFFITHS; I. CHOI. *Univ. of Iowa Hosp. and Clinics, Univ. of Iowa Hosp. and Clinics, Inst. of Neurosci., Univ. of Iowa.*

3:00 EE14 **587.27** Brain sources of the human MMN identified from intracranial recordings. A. O. BLENKMANN*; H. N. PHILLIPS; T. BEKINSCHTEIN; J. ROWE; P. G. LARSSON; J. IVANOVIC; C. MURAVCHIK; T. ENDESTAD; S. KOCHEN; A. SOLBAKK. *Univ. of Oslo, Univ. of Cambridge, Oslo Univ. Hosp., Univ. of La Plata, Conicet.*

4:00 EE15 **587.28** The roles of specific striatal cell types in an auditory discrimination task. C. J. STONEKING*; A. M. ZADOR. *Cold Spring Harbor Lab.*

1:00 EE16 **587.29** Dissociating the neural response to contingency errors: Agency- and prediction-error accounts. M. SUGIURA*; T. KIKUCHI; Y. YAMAMOTO; Y. SASAKI; S. HANAWA; A. SAKUMA; K. MATSUMOTO; H. MATSUOKA; R. KAWASHIMA. *IDAC, Tohoku Univ., IRIDeS, Tohoku Univ., Dept. Psychiatry, Tohoku Univ. Grad. Sch. of Med., Tohoku Univ. Hosp.*

**POSTER**

**588. Visual Cortex: Development and Plasticity**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 EE17 **588.01** Duration dependent changes in visual plasticity via monocular deprivation. S. MIN*; A. BALDWIN; A. REYNAUD; R. HESS. *McGill Univ.*

2:00 EE18 **588.02** Contributions of the supragranular layers to the short term monocular deprivation response in adult macaque V1. R. A. MILLER*, III; M. BEGUM; D. Y. TS'O. *SUNY Upstate Med. Univ., SUNY Upstate Med. Univ.*

3:00 EE19 **588.03** Role of matrix metalloproteinase-9 (MMP-9) in the response to chronic monocular deprivation and the reactivation of plasticity by light reintroduction following dark exposure. S. MURASE*; C. L. LANTZ; E. M. QUINLAN. *Univ. of Maryland at Col. Park Dept. of Biol.*

4:00 EE20 **588.04** 17-alpha estradiol rejuvenates excitatory synapse density in amblyopic rodents. D. C. SENGUPTA*; E. M. QUINLAN. *Univ. of Maryland, Col. Park.*

1:00 EE21 **588.05** Understanding of how retinal inactivation induces recovery from amblyopia. H. J. DE JESÚS-CORTÉS*; M. FONG; R. W. KOMOROWSKI; M. F. BEAR. *MIT, MIT.*

2:00 EE22 **588.06** Sensory deprivation promotes cross-modal plasticity at thalamocortical (TC) synapses in the adult mouse brain. G. RODRIGUEZ*; H. LEE. *Johns Hopkins Univ., Johns Hopkins Univ.*

3:00 EE23 **588.07** Binocular vision restores glutamatergic and GABAergic proteins for regulating experience-dependent plasticity mechanisms to normal level. J. L. BALSOR*; B. BESTON; D. G. JONES; K. M. MURPHY. *McMaster Univ., Univ. of Toronto, Pairwise Affinity Inc., McMaster Univ.*

4:00 EE24 **588.08** Early establishment and stability of cortical network synchronization during development. M. T. COLONNESE*. *The George Washington Univ. Sch. of Med.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 EE25 **588.09** Neuromodulator induced bidirectional changes in ocular dominance in the mouse primary visual cortex. S. Z. HONG*; S. HUANG; A. KIRKWOOD. *Johns Hopkins Univ., Hussman Inst. for Autism, Johns Hopkins Univ.*

2:00 EE26 **588.10** An unexpected period of neurochemical imbalance during postnatal development of the rat visual cortex. H. ZHANG*; L. MU; D. WANG; Q. LIU; M. T. WONG-RILEY. *Med. Col. of Wisconsin.*

3:00 EE27 **588.11** Activation of somatostatin inhibitory neurons by Lypd6-nAChRα2 system restores juvenile-like plasticity in adult visual cortex. M. SADAHIRO*; M. P. DEMARS; P. N. BURMAN; P. E. YEVOO; M. R. SMITH; A. ZIMMER; H. MORISHITA. *Icahn Sch. of Med. At Mount Sinai, Univ. of Bonn.*

4:00 EE28 **588.12** Integrative bioinformatics approach identifies that postnatal lead exposure disrupts critical period plasticity in visual cortex. P. E. YEVOO*; M. SMITH; M. SADAHIRO; J. DUDLEY; H. MORISHITA. *Icahn Sch. of Medicine, Mount Sinai, Icahn Sch. of Medicine, Mount Sinai, Icahn Sch. of Medicine, Mount Sinai.*

1:00 EE29 **588.13** Integrative bioinformatics approach to systematically identify environmental chemicals that disrupt critical periods of plasticity. M. R. SMITH*; P. YEVOO; M. PENG; M. SADAHIRO; B. KIDD; J. T. DUDLEY; H. MORISHITA. *Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Medicine, Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Mount Sinai Sch. of Med.*

2:00 FF1 **588.14** Experience-dependent survival of newly formed spine is gated by Lynx1. M. SAJO*; G. ELLIS-DAVIES; H. MORISHITA. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

3:00 FF2 **588.15** Synapse-organizing protein SynCAM 1 controls the cortical critical period closure. A. RIBIC*; M. C. CRAIR; T. BIEDERER. *Tufts Univ. Sch. of Med., Yale Univ.*

4:00 FF3 **588.16** Functional reorganization of visual cortical network following a partial optic nerve injury: A longitudinal wide field calcium imaging study using gcamp6s mice. M. GROLEAU*; M. NAZARIAHANGARKOLAEE; M. P. VANNI; B. A. SABEL; M. H. MOHAJERANI; E. H. VAUCHER. *Univ. De Montreal, Univ. of Lethbridge, Univ. of British Columbia, Univ. of Magdeburg, Univ. of Lethbridge, Univ. of Montreal.*

1:00 FF4 **588.17** Functional organisation of the visual cortex in a unique case of achiasma. K. AHMADI*; A. FRACASSO; A. D. GOUWS; A. B. MORLAND; S. O. DUMOULIN; M. B. HOFFMANN. *Otto-von-Guericke Univ., Utrecht Univ., Univ. Med. Ctr. Utrecht, Spinoza Ctr. for Neuroimaging, Univ. of York, Univ. of York, Ctr. for Behavioral Brain Sci.*

2:00 FF5 **588.18** Cortical processing of visual inputs in Retinitis pigmentosa. L. BARONCELLI*; G. PIETRA; T. BONIFACINO; T. BEGENISIC; M. CENNI; A. SALE; G. BONANNO; L. GALLI. *Neurosci. Institute, CNR, Sch. of Med. and Pharmaceut. Sciences, Dept. of Pharm. (DIFAR) Pharmacol. and Toxicology Unit, Univ. of Genoa.*

3:00 FF6 **588.19** Phosphorylation of CREB at serine 142/143 is required for visual cortex plasticity. N. S. PULIMOOD; M. CONTRERAS; T. BLANPIED; A. E. MEDINA*. *Univ. of Maryland Baltimore, Univ. of Maryland Baltimore, Univ. of Maryland Baltimore.*

4:00 FF7 **588.20** Thalamic inhibition regulates critical period plasticity in visual cortex and thalamus. M. AHMADLOU; J. SOMMEIJER; M. SAIEPOUR; K. SEIGNETTE; R. MIN; J. A. HEIMEL; C. N. LEVELT*. *Nederlands Herseninstituut, Netherlands Inst. for Neurosci., Netherlands Inst. for Neurosci., Netherlands Inst. For Neurosci.*

1:00 FF8 **588.21** Exercise affects human ocular dominance plasticity. R. F. HESS*; H. GREEN; E. FINN; A. S. BALDWIN; N. GANT. *McGill, The Univ. of Auckland.*

2:00 FF9 **588.22** Development of orientation selectivity without Mexican hat input correlations. F. FUMAROLA; K. D. MILLER*. *Columbia Univ.*

3:00 FF10 **588.23** Development of synaptic mechanisms in human extra-striate cortex. C. SIU*; J. L. BALSOR; D. G. JONES; K. M. MURPHY. *McMaster Univ., McMaster Univ., Pairwise Affinity Inc., McMaster Univ.*

4:00 FF11 **588.24** Probing visual field integrity using an anatomical measure of the stria of Gennari at ultra-high field MRI. A. FRACASSO*; C. ROELOFZEN; G. PORRO; D. BERGSMA; M. VAN GENDEREN; S. O. DUMOULIN. *Spinoza Ctr. for Neuroimaging, Spinoza Ctr. for Neuroimaging, Univ. Med. Ctr., Donders Inst., Bartiméus Diagnos. Ctr. for rare visual disorders.*

1:00 FF12 **588.25** Development of social-visual engagement in rhesus macaques (Macaca mulatta). A. WANG*; C. PAYNE; S. MOSS; T. JONESTELLER; J. N. WESSON; W. R. JONES; L. PARR; J. BACHEVALIER. *Emory Univ., Yerkes Natl. Primate Res. Ctr., Marcus Autism Ctr., Emory Sch. of Med., Yerkes Natl. Primate Res. Ctr., Yerkes Natl. Primate Ctr.*

2:00 FF13 **588.26** ▲ Developmental changes in visual processing of faces: A combined eye-tracking and structural MRI study in infant rhesus macaques. J. STEELE*; Z. AMMAR; C. PAYNE; S. MOSS; T. JONESTELLER; J. WESSON; L. LI; M. STYNER; W. JONES; J. BACHEVALIER; M. SANCHEZ; Z. A. KOVACS-BALINT. *Emory Univ., Emory Univ. Sch. of Med., Children's Healthcare of Atlanta, Univ. of North Carolina, Emory Univ., Emory Univ. Sch. of Med.*

3:00 FF14 **588.27** Developmental changes in visual processing of faces: A combined eye-tracking and resting state functional connectivity study in infant rhesus macaques. Z. AMMAR*; J. STEELE; C. PAYNE; S. MOSS; T. JONESTELLER; J. WESSON; E. FECZKO; E. EARL; L. LI; M. STYNER; D. FAIR; W. JONES; L. PARR; J. BACHEVALIER; M. SANCHEZ; Z. A. KOVACS-BALINT. *Emory Univ., Emory Univ. Sch. of Med., Children's Healthcare of Atlanta, Emory Univ., Oregon Hlth. and Sci. Univ., Univ. of North Carolina, Emory Univ., Emory Univ. Sch. of Med.*

4:00 FF15 **588.28** Plasticity for stimulus selectivity in the visual cortex of adult mice induced by patterned optogenetic stimulation. T. TSUBOTA*; E. FRANDI; A. BENUCCI. *RIKEN.*

1:00 FF16 **588.29** Increased use of peripheral vision is associated with increased functional connectivity between peripheral V1 and functionally specialized visual areas. L. L. FLEMING*; W. K. BURGE; M. DEFENDERFER; D. K. DECARLO; K. M. VISSCHER. *Univ. of Alabama At Birmingham Sch. of Med., Univ. of Alabama At Birmingham, Univ. of Alabama At Birmingham Sch. of Med.*



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* Indicates abstract's submitting author

2:00 FF17 **588.30** Experience-dependent development of PV neurons and impact on cortical processing in primary visual cortex. B. D. FEESE*; M. SCHMEHL; J. BREZINSKY; T. PRIGG; S. J. KUHLMAN. *Carnegie Mellon Univ., Carnegie Mellon, Carnegie Mellon Univ.*

**POSTER**

**589. Representation of Objects and Scenes**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 FF18 **589.01** Figure-ground modulation in higher visual areas in mice. H. E. VAN BEEST*; A. BARSEGYAN; M. W. SELF; U. H. SCHNABEL; P. R. ROELFSEMA. *Netherlands Inst. For Neurosci.*

2:00 FF19 **589.02** The role of the superior colliculus in figure-ground segregation and saccade planning. A. F. VAN HAM*; M. W. SELF; P. R. ROELFSEMA. *Netherlands Inst. For Neurosci.*

3:00 FF20 **589.03** Modeling spike synchrony in the visual cortex for figure-ground organization. N. WAGATSUMA*; B. HU; R. VON DER HEYDT; E. NIEBUR. *Tokyo Denki Univ., Johns Hopkins Univ., Johns Hopkins Univ. Dept. of Neurosci.*

4:00 FF21 **589.04** Neural sensitivity to concavity and convexity of spatial boundary cues. R. CHENG*; D. B. WALTHER; S. PARK. *Johns Hopkins Univ., Emory Univ., Univ. of Toronto, Yonsei Univ.*

1:00 FF22 **589.05** Dissecting Infants' comprehension of arrow-like icons, an innate shift from sensory to symbolic system. M. EKRAMNIA*; J. MEHLER. *Neurospin, SISSA.*

2:00 GG1 **589.06** Contour integration as a function of collinearity, task, and age: An EEG study. A. HASHEMI*; J. N. CALI; E. ROUDAIA; P. J. BENNETT; A. B. SEKULER. *McMaster Univ., Univ. de Montréal.*

3:00 GG2 **589.07** 2D vs. 3D shape processing in area V4. R. SRINATH; K. J. NIELSEN; C. E. CONNOR*. *Johns Hopkins Univ., Johns Hopkins Univ.*

4:00 GG3 **589.08** Cue integration for 3D surface orientation perception in macaque monkeys. A. ROSENBERG*; B. KIM; A. SUNKARA; T. CHANG. *Univ. of Wisconsin - Madison, Univ. of Wisconsin-Madison.*

1:00 GG4 **589.09** Probabilistic mapping of 3D visual cortical circuits in the macaque monkey. T. CHANG*; N. A. KAMBI; E. KASTAR; J. PHILLIPS; Y. B. SAALMANN; A. ROSENBERG. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

2:00 GG5 **589.10** Object recognition based on informative object components. T. S. ALTAVINI*; G. ASTORGA; D. HARARI; S. ULLMAN; G. N. REEKE; W. FREIWALD; C. D. GILBERT. *Rockefeller Univ., Weizmann Inst.*

3:00 GG6 **589.11** Adaptive processing and top-down influences in areas V1 and V4. G. ASTORGA; Y. YAN; W. LI; C. D. GILBERT*. *Rockefeller Univ., Beijing Normal Univ.*

4:00 GG7 **589.12** Intrinsic neural spaces from human electrocorticography. G. W. MILSAP*; M. J. COLLARD; K. RUPP; M. J. ROOS; C. CACERES; C. RATTO; M. WOLMETZ; N. E. CRONE. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ. Applied Physics Lab., Johns Hopkins Hosp.*

1:00 GG8 **589.13** Investigating the spatiotemporal dynamics of human visual category processing with intracranial EEG. M. J. BORING*; Y. LI; N. M. BRUNET; M. J. WARD; M. RICHARDSON; A. S. GHUMAN. *Univ. of Pittsburgh, Carnegie Mellon Univ., Univ. of Pittsburgh Sch. of Med., Univ. of Pittsburgh, Univ. of Pittsburgh.*

2:00 GG9 **589.14** Mathematical processing of differential visualizations of numbers. S. R. BAEK*; A. L. DAITCH; J. PARVIZI. *Stanford Univ.*

3:00 GG10 **589.15** Abstractness of value representation in orbitofrontal cortex. T. YOSHIMOTO*; J. CHIKAZOE; S. OKAZAKI; M. SUMIYA; H. K. TAKAHASHI; E. NAKAGAWA; T. KOIKE; R. KITADA; S. OKAMOTO; M. NAKATA; H. KOSAKA; T. YADA; N. SADATO. *Natl. Inst. For Physiological Sci., SOKENDAI (The Grad. Univ. for Advanced Studies), Fac. of Human Sciences, Waseda Univ., Kao Corp., Nanyang Technological Univ., Grad. Sch. of Medicine, Univ. of the Ryukyus, Jichi Med. Univ. Sch. of Med., Res. Ctr. for Child Mental Development, Univ. of Fukui.*

4:00 GG11 **589.16** Typical real-world locations impact object coding across the visual field. D. KAISER*; M. MOESKOPS; R. M. CICHY. *Freie Univ. Berlin.*

1:00 GG12 **589.17** Mental rotation around the cardinal axes. B. P. GEE*; S. CONGDON; C. AQUINO; B. ROMAGNA. *Western Connecticut State Univ.*

2:00 GG13 **589.18** A role for parietal area LIP in goal oriented object recognition. J. W. BISLEY*; K. MIRPOUR; W. ONG. *UCLA, UCLA, Univ. of Pennsylvania.*

3:00 GG14 **589.19** Knowledge of physical properties aids visual search for real-world objects. L. GUO*; S. COURTNEY; J. FISCHER. *The Johns Hopkins Univ.*

4:00 GG15 **589.20** Using EEG to compare brain responses to graspable real-world objects versus 2D pictures. F. MARINI*; K. A. BREEDING; J. C. SNOW. *Univ. of Nevada, Univ. of Nevada Reno Dept. of Psychology.*

1:00 GG16 **589.21** The development of action encoding in learning a novel prehistoric task. L. A. WHEATON*; A. Y. BAYANI; N. NATRAJ; N. KHREISHEH; D. STOUT. *Georgia Tech., Georgia Inst. of Technol., Univ. of California, San Francisco, Mission B, Emory Univ.*

2:00 GG17 **589.22** Visual encoding of context and grasp posture throughout adolescent development. A. Y. BAYANI*; L. A. WHEATON. *Georgia Inst. of Technol., Georgia Tech.*

3:00 GG18 **589.23** The coding of navigational distance in scene-selective regions of human visual cortex. J. PARK*; S. PARK. *Johns Hopkins Univ., Yonsei Univ.*

4:00 GG19 **589.24** Rapid allocentric coding in the monkey precuneus. M. UCHIMURA*; H. KUMANO; S. KITAZAWA. *Osaka Univ., Grad. Sch. of Medicine, Osaka Univ., Ctr. for Information and Neural Networks (Cinet), Japan Society for Promotion of Sci.*



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* Indicates abstract's submitting author

**POSTER**

**590. Visual Learning, Memory, and Categorization**

***Theme D: Sensory Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 GG20 **590.01** Touchscreen-based visual temporal discrimination task in the behaving mouse by the constant method. M. OIKAWA*; Y. NOMURA; A. AMANO; K. SHIMONOMURA; Y. SEYA; C. KOIKE. *Grad. Sch. of Life Sciences, Ritsumeikan Univ., Ritsumeikan Univ., Ritsumeikan Univ., Ritsumeikan Univ., Ritsumeikan Univ., Ritsumeikan Univ., Aichi Shukutoku Univ.*

2:00 GG21 **590.02** Network level deficits in primary visual cortex underlie perceptual learning deficits in Fragile X mice. A. GOEL*; D. CANTU; G. CHAUDHARI; A. NEWADKAR; B. TODISCO; S. COHEN; C. PORTERA-CAILLIAU. *Univ. of California, Univ. of California.*

3:00 GG22 **590.03** Fitting the neural dynamics in V1 during visual perceptual learning. L. YU*; Y. YAN; D. WANG; W. LI; M. J. RASCH. *Beijing Normal Univ., Beijing Normal Univ., Beijing Normal Univ., IBM TJ Watson Res. Ctr.*

4:00 GG23 **590.04** Perceptual learning is predicted by enhanced resting-state functional connectivity after training. M. TAGHIZADEH SARABI*; R. AOKI; K. TSUMURA; R. KEERATIVITTAYAYUT; K. JIMURA; K. NAKAHARA. *Kochi Univ. of Technol., Keio Univ.*

1:00 GG24 **590.05** Visual familiarity evoked theta oscillations in primary visual cortex (V1). S. T. KISSINGER*; A. PAK; S. MASMANIDIS; A. A. CHUBYKIN. *Purdue Univ. Dept. of Biol. Sci., UCLA.*

2:00 GG25 **590.06** Use of awake fMRI in dogs to model learning of visual and olfactory stimuli. A. PRICHARD*; M. SPIVAK; G. BERNS. *Emory Univ., Comprehensive Pet Therapy.*

3:00 GG26 **590.07** The role of the inferior temporal area TEO in visual categorization. T. SETOGAWA*; M. ELDRIDGE; M. FREDERICKS; R. SAUNDERS; B. J. RICHMOND. *NIH.*

4:00 GG27 **590.08** Comparison between monkeys with bilateral removals of visual area TE and a deep neural network in categorizing feature-ambiguous stimuli. N. MATSUMOTO*; M. A. ELDRIDGE; B. J. RICHMOND. *AIST, NIMH.*

1:00 GG28 **590.09** Hippocampus is not required for visual perceptual categorization in the rhesus monkey. G. MAMMARELLA*; M. A. G. ELDRIDGE; R. C. SAUNDERS; B. J. RICHMOND. *NIH, NIH, NIMH, NIMH.*

2:00 GG29 **590.10** Upright and inverted faces are separately represented in feed-forward processing in the visual cortex. Y. SUGASE-MIYAMOTO*; N. MATSUMOTO; Y. MOTOTAKE; K. KAWANO; M. OKADA. *AIST, The Univ. of Tokyo.*

3:00 GG30 **590.11** Escaping the frontal bottleneck: Extensive practice of a visual categorization task shifts category representations from dorsolateral prefrontal cortex to ventral occiptio-temporal cortex. P. H. COX*; C. A. SCHOLL; C. A. SPROUSE; J. C. RONKIN; R. L. KLEIN; K. WIMMER; K. GLOMB; N. E. JAIMES; G. DECO; X. JIANG; M. RIESENHUBER. *Georgetown Univ., Univ. Pompeu Fabra.*

4:00 GG31 **590.12** A prefrontal long-term memory mechanism for discrimination of objects with stable reward associations. A. GHAZIZADEH*; O. HIKOSAKA. *NIH, Natl. Eye Inst.*

1:00 GG32 **590.13** Visual image familiarity learning at multiple timescales in the inferotemporal cortex. K. MOHAN*; D. J. FREEDMAN. *The Univ. of Chicago.*

2:00 GG33 **590.14** Differential roles of LIP and MST during motion categorization. Y. ZHOU*; K. MOHAN; D. J. FREEDMAN. *The Univ. of Chicago, Univ. of Chicago.*

3:00 HH1 **590.15** Tracking response changes due to familiarity and adaptation in AM and AF face patch neurons. J. H. HONG; K. W. KOYANO; B. E. RUSS; D. A. LEOPOLD*. *NIMH.*

4:00 HH2 **590.16** Using real-time magnetoencephalography neurofeedback training to reduce the time of shifting spatial attention from one visual field to another. K. D. RANA; J. VOJTECH; S. BROWN; L. M. VAINA*. *Boston Univ., Boston Univ. & Harvard Med. Sch.*

1:00 HH3 **590.17** Maintenance of spatial information enhances visual processing via phase modulation of ongoing brain rhythms. Z. BAHMANI DEHKORDI*; Y. MERRIKHI; K. L. CLARK; M. DALIRI; B. NOUDOOST. *Inst. For Res. In Fundamental Sci., Montana State Univ., Iran Univ. of Sci. and Technol.*

2:00 HH4 **590.18** Neural responses in non-memory tasks predict the likelihood that LIP neurons will exhibit environmental memory. M. SEMEWORK*; M. E. GOLDBERG. *Columbia Univesity, Columbia Univ. Press.*

**POSTER**

**591. Cerebellum: Physiology and Circuit Function**

***Theme E: Motor Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 HH5 **591.01** ● Inhibition of polyamine catabolism leads to cerebellar injury and overt ataxia. K. ZAHEDI; S. BARONE; J. XU; R. CASERO; M. SOLEIMANI*. *Univ. of Cincinnati, Univ. of Cincinnati Med. Ctr., The Johns Hopkins Sch. of Med., VA Res. Services.*

2:00 HH6 **591.02** Comparison of anodal and cathodal tDCS on cerebellum using an *in vivo* approach. R. MANCHANDA; A. KEITH; A. DE LA CRUZ; H. LU*. *GA Campus Philadelphia Col. of Osteo. Med., PCOM - Georgia Campus.*

3:00 HH7 **591.03** Trajectories of myelinated axons that travel within the purkinje cell layer. M. ARIEL*; D. T. DALY. *St. Louis Univ. Sch. of Med., St. Louis Univ. Sch. of Med.*

4:00 HH8 **591.04** Graded sign inversion via chemical and electrical circuits in the cerebellar cortex. B. A. CLARK*; S. RIEUBLAND; A. ROTH; C. ARLT; M. HÄUSSER. *WIBR, UCL, UCL.*

1:00 HH9 **591.05** Morphological constraints on cerebellar granule cell layer recombination. J. GILMER*; A. L. PERSON. *Univ. of Colorado, Univ. of Colorado Sch. of Med.*

2:00 HH10 **591.06** Diverse modes of cerebellar Golgi cell recruitment. S. TABUCHI*; A. L. PERSON. *Univ. of Colorado Sch. of Med.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 HH11 **591.07** ▲ Multiunit recording of the cerebellum after electrolytic lesion of the ventrolateral striatum. L. VASQUEZ CELAYA*; J. R. GUTIERREZ; Z. S. HERNANDEZ; M. E. HERNANDEZ; G. A. CORIA-AVILA; P. CARRILLO; J. MANZO; M. A. MIQUEL; L. I. GARCIA. *Doctorado en Investigaciones Cerebrales, UV, Ctr. de Investigaciones Cerebrales, UV, Inst. de Neuroetologia, UV, Area de Psicobiologia.*

4:00 HH12 **591.08** Direct current stimulation modifies activity of Purkinje cells: Using *in vitro* and *in computo* approaches. C. MOORE*; A. WANG; T. PHAN; H. LU. *Philadelphia Col. of Osteo. Med.*

1:00 HH13 **591.09** Sensory and motor representations in Purkinje cell firing during spontaneous and sensory-evoked whisking. S. BROWN; I. M. RAMAN*. *Northwestern Univ.*

2:00 HH14 **591.10** Cerebellar complex spikes encode error direction and magnitude. D. J. HERZFELD*; Y. KOJIMA; R. SOETEDJO; R. SHADMEHR. *Johns Hopkins Univ., Univ. of Washington.*

3:00 HH15 **591.11** Unique circuit organization of novel cerebellar molecular layer interneurons receiving Purkinje cell feedback inhibition. J. KIM*; G. J. AUGUSTINE. *Lee Kong Chian Sch. of Med. - NTU.*

4:00 HH16 **591.12** Purkinje cell inhibition charges the neural integrator. T. KODAMA*; S. DU LAC. *Johns Hopkins Univ.*

1:00 HH17 **591.13** Temporal processing in the cereballar cortex enabled by dynamical synapses. A. BARRI; M. WIECHERT; F. CHABROL; D. A. DIGREGORIO*. *Inst. Pasteur, Univ. of Bern, Univ. of Basel.*

2:00 HH18 **591.14** Differentiation of cerebellar functioning: The role of TRPC3 in physiology and behavior. B. WU*; F. BLOT; C. OSORIO; H. BOELE; C. DE ZEEUW; M. SCHONEWILLE. *Erasmus MC, Netherlands Inst. for Neurosci.*

3:00 HH19 **591.15** Imaging cerebellar granule cells in behaving mice. M. J. WAGNER*; T. H. KIM; M. J. SCHNITZER; L. LUO. *Stanford Univ., Howard Hughes Med. Inst.*

4:00 HH20 **591.16** Presynaptic $GABA_A$ receptors can enhance or inhibit vesicle release depending on $GABA_B$ receptor activity. R. D. HOWELL*; Y. YANG; S. MELLEY SADANANDAN; J. R. PUGH. *UT Hlth. San Antonio, UTHSCSA.*

1:00 HH21 **591.17** Probing the functional interactions between neural populations in the cerebellar cortex and deep nuclei of awake behaving mice. M. BEAU*; D. KOSTADINOV; M. BLANCO POZO; M. HAUSSER. *UCL, Univ. Col. London, UCL.*

2:00 HH22 **591.18** Cerebellar-dependent motor memory depends on patterned changes in molecular layer interneuron activity. A. BONNAN*; M. A. GAFFIELD; K. ZHANG; J. M. CHRISTIE. *MPFI, Max Planck Florida Inst.*

3:00 HH23 **591.19** Recordings across sessions is the foundation for using eyelid conditioning as a model system to study aging. H. E. HALVERSON*; M. D. MAUK. *Univ. of Texas At Austin, Univ. of Texas at Austin.*

4:00 HH24 **591.20** Structured synaptic input to spiny branchlets of cerebellar Purkinje cells. A. ROTH*; M. BOZNAKOVA; S. RIEUBLAND; M. JAKUBOWSKA; M. HAUSSER. *Univ. Col. London.*

1:00 HH25 **591.21** Loss of serine rasemase lead a transient delay in CGC migration. H. ZHANG*; S. WU. *Wenzhou Med. Univ., Wenzhou Med. Univ.*

2:00 HH26 **591.22** Conditional deletion of Cadherin13 perturbs inhibitory synaptic function in the cerebellum and disrupts cognitive behaviors. L. GUO*; M. TANTRA; A. CHEN. *Nanyang Technological Univ.*

3:00 HH27 **591.23** Cerebellar modulation of substantia nigra. S. G. KEE*; R. BHUVANASUNDARAM; K. KHODAKHAH. *Albert Einstein Col. of Med.*

**POSTER**

**592. Transmitters and Modulators**

***Theme E: Motor Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 HH28 **592.01** Cortico-subthalamic projection stimulation increases maximum running speed in 6-OHDA lesioned mice. L. HOGEWOOD; T. H. SANDERS*. *Vanderbilt Univ.*

2:00 HH29 **592.02** Enhancement of K-ATP currents by AMP kinase activation is modified by phosphoinositol metabolism in substantia nigra dopamine neurons. S. W. JOHNSON*; A. C. MUNHALL; K. SHEN. *Portland VA Med. Ctr., Oregon Hlth. & Sci. Univ.*

3:00 HH30 **592.03** ST8 alpha-N-acetyl-neuraminide alpha-2,8-sialyltransferase 3 (ST8SIA3) mediates sialylation of striatal proteins and functions as a signal coordinator in the striatum. C. LIN*; H. LAI; H. CHEN; J. SIEW; C. CHANG; Y. CHERN. *Academia Sinica/Institute of Biomed. Sci.*

4:00 HH31 **592.04** ▲ Real-time striatal measurements of oxidative stress and dopamine in the dyskinetic rat during chronic l-dopa treatment for Parkinson's disease. C. MASON*; L. R. WILSON; C. A. LEE; L. A. SOMBERS. *North Carolina State Univ.*

1:00 HH32 **592.05** ▲ Untangle glycinergic immunoreactivity in the basal ganglia. R. A. PEREZ*; V. GARCIA; R. ORTEGA; E. CASTAÑEDA; M. MIRANDA-ARANGO. *Univ. of Texas At El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso.*

2:00 HH33 **592.06** Angiotensin II type 1/adenosine $A_{2A}$ receptor heteromerization in mice striatum: A novel potential target for tardive dyskinesia. P. A. DE OLIVEIRA*; J. A. R. DALTON; J. GIRALDO; M. LÓPEZ-CANO; X. MORATÓ; V. FERNÁNDEZ-DUEÑAS; C. E. MÜLLER; A. S. CUNHA; F. C. MATHEUS; R. N. TAKAHASHI; R. D. S. PREDIGER; F. CIRUELA. *Univ. Federal de Santa Catarina, Univ. Autònoma de Barcelona, Univ. de Barcelona, Univ. Bonn.*

3:00 HH34 **592.07** Histamine deficient mice display altered exploratory activity and striatal monoamine neurotransmitter metabolism. S. ABDURAKHMANOVA*; S. SEMENOVA; P. PANULA. *Helsinki Univ.*

4:00 HH35 **592.08** The role of Gas2-like 2 (Gas2l2) in the $A_{2A}$R adenosine receptor-mediated signaling. M. LIN*; H. PAI; C. CHANG; H. LAI; H. CHEN; Y. WU; Y. CHERN. *Inst. of Biomed. Science, Academia Sinica, Taiwan Intl. Grad. Program in Mol. Medicine, Natl. Yang-Ming Univ. and Academia Sinica, Inst. of Life Sciences, Natl. Def. Med. Ctr.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 HH36 **592.09** Stereological estimations and neurochemical characterization of neurons expressing $GABA_A$ receptor gamma 2 subunit in the rat pedunculopontine and laterodorsal tegmental nuclei. B. PATERNAIN; E. LUQUIN; E. MENGUAL*. *Depto. Anatomía, Fac Med, Univ. de Navarra.*

2:00 II1 **592.10** Mapping projections of molecularly-defined dopamine neurons using intersectional genetic strategies. J. POULIN*; G. CARONIA-BROWN; Q. CUI; S. CHAN; D. A. DOMBECK; R. AWATRAMANI. *Northwestern Univ. - Chicago, Northwestern Univ. - Chicago, Northwestern Univ., Northwestern University, Feinberg Sch. of Med., Northwestern Univ.*

3:00 II2 **592.11** Pramipexole promotes dopamine transporter internalization and lysosomal degradation through dopamine $D_3$ receptor. T. GONZÁLEZ-HERNÁNDEZ*; D. LUIS-RAVELO; F. FUMAGALLO-READING; D. AFONSO-ORAMAS; I. CRUZ-MUROS; J. SALAS-HERNÁNDEZ; J. RODRÍGUEZ-NÚÑEZ. *Univ. de La Laguna.*

4:00 II3 **592.12** Ontogenetic effects of DA receptor inactivation on the efficacy of D2 receptors and the cAMP and Akt signaling pathways. V. REAL; A. TERAN; C. A. CRAWFORD; S. A. MCDOUGALL*. *California State Univ.*

1:00 II4 **592.13** Burst firing of dopamine neurons co-releases dopamine and sonic hedgehog which have opposing effects on cholinergic neurons. D. ZUELKE; A. W. STUCKY; A. H. KOTTMANN*. *Ctr. for Discovery and Innovation, CUNY Sch. of Med., CUNY Sch. of Med., City Univ. of New York, Ctr. for Discovery and Innovation, CUNY The Grad. Ctr.*

2:00 II5 **592.14** D3 receptor blockade increases dopamine, glutamate and GABA levels in the substantia nigra reticulata and increases locomotor activity. M. RODRÍGUEZ*; S. LOYA; E. ESCARTÍN; V. AYALA; F. PAZ; D. ERLIJ; B. FLORÁN. *Cinvestav, Farmacología CINVESTAV, Cinvestav, FES-IZTACALA UNAM, Cinvestav, Suny Downstate Med. Ctr.*

3:00 II6 **592.15** Dissecting the biochemical properties of dopamine D1-D3 receptor heterotetramers and their role in the modulation of locomotor activity. X. GUITART*; E. MORENO; W. REA; C. QUIROZ; M. SANCHEZ-SOTO; V. KUMAR; A. CORTES; E. I. CANELA; C. BISHOP; A. H. NEWMAN; V. CASADO; S. FERRE. *Natl. Inst. On Drug Abuse, IRP/NIH, Univ. of Barcelona, Univ. of Binghamton.*

4:00 II7 **592.16** Beyond “high” and “low” dopamine: complex spatio-temporal concentration maps and receptor activation in the striatum. L. HUNGER*; A. KUMAR; R. SCHMIDT. *The Univ. of Sheffield, KTH Royal Inst. of Technol., Univ. of Sheffield.*

1:00 II8 **592.17** Phasic dopamine response in the dorsal striatum correlates with specific movements. H. R. KIM*; N. UCHIDA. *Harvard Univ.*

2:00 II9 **592.18** Regulation of midbrain dopamine systems by oxytocinergic projections. L. XIAO*; M. F. PRIEST; J. NASENBENY; T. LU; Y. KOZOROVITSKIY. *Northwestern Univ., Northwestern Univ.*

3:00 II10 **592.19** Effect of membrane cholesterol removal and replenishment on rat and monkey brain monoamine transporters. T. P. DIPAOLO*; M. MORISSETTE; N. MORIN; C. ROUILLARD. *Ctr. de Recherche du CHUQ-CHUL, Laval Univ.*

4:00 II11 **592.20** ● Dynamic monitoring of phase-amplitude coupling for phase-dependent stimulation. Y. SALIMPOUR; K. A. MILLS*; W. S. ANDERSON. *Johns Hopkins Sch. of Med., Johns Hopkins Univ., Johns Hopkins Sch. of Med.*

**POSTER**

**593. Human Motor Learning: Behavior and Models**

***Theme E: Motor Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 II12 **593.01** Variability and motor learning: Neural processing noise supports visuomotor adaptation. J. N. VAN DER GEEST*; R. VAN DER VLIET; L. DE VREEDE; Z. JONKER; G. RIBBERS; R. SELLES; M. A. FRENS; O. DONCHIN. *Erasmus MC - Neurosci., Erasmus MC, Erasmus Univ. Col., Ben Gurion Univ.*

2:00 II13 **593.02** Simulation of inertial augmentation to counteract abnormal synergies in arm movement. F. C. HUANG*. *Shirley Ryan Abilitylab.*

3:00 II14 **593.03** Error-augmented feedback accelerates adaptation to nonlinear visuomotor distortions but leads to unstable learning. P. N. PARMAR*; J. L. PATTON. *Shirley Ryan Ability Lab., Univ. of Illinois at Chicago, Shirley Ryan Ability Lab.*

4:00 II15 **593.04** Influence of haptic feedback on exploration of movement variability during motor learning. R. LOKESH*; R. RANGANATHAN. *Michigan State Univ., Michigan State Univ., Michigan State Univ.*

1:00 II16 **593.05** Modifying coordination pattersn in throwing by reinforcement. T. LIN*; R. RANGANATHAN. *Michigan State Univ., Michigan State Univ.*

2:00 II17 **593.06** Detecting state-dependency of patient involvement during force field training. Z. A. WRIGHT*; J. L. PATTON; F. C. HUANG. *Univ. of Illinois At Chicago, Shirley Ryan AbilityLab.*

3:00 II18 **593.07** Sensorimotor learning and co-adaptation in body-machine interfaces. D. DE SANTIS*; L. FEENEY; F. A. MUSSA-IVALDI. *Northwestern Univ., Dartmouth Col.*

4:00 II19 **593.08** The effect of discrete versus continuous training in hand movement remapping. N. SHAKERDGE*; D. DE SANTIS; F. MUSSA-IVALDI. *Northwestern Univ., Northwestern Univ.*

1:00 II20 **593.09** ▲ Gradual practice is not superior to random practice for leg motor skill learning during gait. C. REID; E. P. WASHABAUGH, IV; A. DHARIA; R. RANGANATHAN; C. KRISHNAN*. *Univ. of Michigan, Univ. of Michigan, Michigan State Univ.*

2:00 II21 **593.10** Force production during holding suggests the presence of a neural integrator in reach adaptation. S. T. ALBERT*; R. SHADMEHR. *Johns Hopkins Sch. of Med.*

3:00 II22 **593.11** Motor learning rate is influenced by prior motor learning through reconfiguration of directional preference of motor primitives. T. HAYASHI*; K. TAKIYAMA; D. NOZAKI. *Tokyo Univ. of Agr. and Technol., Grad School, Univ. of Tokyo.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract’s submitting author

4:00 II23 **593.12** The effect of energy-matched exercise intensity on brain-derived neurotrophic factor and motor learning. J. BAER*; M. GAUGHAN; H. SAFFER; M. SARZYNSKI; T. HERTER; S. FRITZ; D. DEN OUDEN; J. C. STEWART. *Univ. of South Carolina.*

1:00 II24 **593.13** Adaptation to visuomotor rotation along a three-dimensional axis has two components. S. YEO*. *Sportexr Univ. of Birmingham.*

2:00 II25 **593.14** Low-dimentional modification of musculoskeletal variables in motor adaptation. S. HAGIO*; M. KOUZAKI; D. NOZAKI. *The Univ. of Tokyo, Kyoto Univ., Grad School, Univ. of Tokyo.*

3:00 II26 **593.15** Target size effects on sensorimotor adaptation. H. E. KIM*; D. E. PARVIN; M. A. HERNANDEZ; R. B. IVRY. *Univ. of California, Berkeley, Univ. of California, Berkeley.*

4:00 II27 **593.16** Practicing a *de novo* skill alters the adaptive response to subsequent perturbations. A. M. HADJIOSIF*; A. M. HAITH. *Johns Hopkins Univ., Johns Hopkins Univ.*

1:00 JJ1 **593.17** Trial-by-trial updates of internal models during interactive motor learning. S. GAKU*; S. KASUGA; J. USHIBA. *Keio Univ., Keio Univ.*

2:00 JJ2 **593.18** Subject-specific biomechanical modeling of motor learning. Q. WEI*; Q. XING; S. YEO; W. M. JOINER. *George Mason Univ., George Mason Univ., Univ. of Birmingham, George Mason Univ.*

3:00 JJ3 **593.19** The influence of sequence learning on force adaptation. Y. LIU*; H. BLOCK. *Indiana Univ. Bloomington.*

4:00 JJ4 **593.20** Increasing motor noise impairs reinforcement learning in healthy individuals. A. S. THERRIEN*; D. M. WOLPERT; A. J. BASTIAN. *Johns Hopkins Sch. of Med., Kennedy Krieger Inst., Univ. of Cambridge.*

1:00 JJ5 **593.21** Dissociating learning- and non-learning-related performance changes during motor skill training in older adults. S. Y. SCHAEFER*; N. SCHWEIGHOFER. *Arizona State Univ., USC.*

2:00 JJ6 **593.22** Using clinical neuropsychological assessments to predict motor learning in non-demented older adults. J. LINGO VANGILDER*; C. R. HENGGE; K. DUFF; S. Y. SCHAEFER. *Arizona State Univ., Creighton Univ., Univ. of Utah, Arizona State Univ.*

3:00 JJ7 **593.23** Predicting motor skill retention in older adults with the visuospatial/executive subtest of the Montreal cognitive assessment. P. WANG*; S. Y. SCHAEFER. *Arizona State Univ.*

4:00 JJ8 **593.24** Using a real-world chopping task to study motor memory of competent and expert choppers. A. H. NEPOTIUK*; L. E. BROWN. *Trent Univ.*

1:00 JJ9 **593.25** Dissociating the influence of postural and visual shifts on the transfer of motor adaptation to novel workspace locations. W. ZHOU*; K. COLUCCI-CHANG; S. M. CHASE; W. M. JOINER. *George Mason Univ., Carnegie Mellon Univ., Carnegie Mellon Univ.*

2:00 JJ10 **593.26** . M. A. SMITH*. *Harvard Univ.*

3:00 JJ11 **593.27** Fast-forwarding feedback to improve performance in motor skill learning. R. B. SINGH*; L. ALHUSSEIN; M. A. SMITH. *Harvard Univ., Harvard Univ., Harvard Univ.*

**POSTER**

**594. Neurophysiology: Implanted Electrodes and Direct Interactions With Neurons - Recording**

***Theme E: Motor Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 JJ12 **594.01** ▲ Evaluating electrocorticography signals during sustained grasping and upper-limb kinectic output. K. LY*; J. WU; R. P. RAO; J. G. OJEMANN. *Ctr. of Sensorimotor Neural Engin., Univ. of Washington, Univ. of Washington, Univ. of Washington.*

2:00 JJ13 **594.02** ● Transient paresthesias experienced during closed-loop deep brain stimulation. M. C. THOMPSON*; B. C. HOUSTON; T. E. BROWN; J. G. OJEMANN; A. L. KO; H. J. CHIZECK. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*

3:00 JJ14 **594.03** Neural prediction of motor activity in natural data with multimodal techniques. X. WANG*; A. FARHADI; J. OJEMANN; R. RAO; B. BRUNTON. *Univ. of Washington.*

4:00 JJ15 **594.04** Human parahippocampal dynamics during visuomotor rotation tasks. J. WU*; L. LEVINSON; K. CASIMO; R. P. RAO; J. G. OJEMANN. *Univ. of Washington, Wesleyan Univ., Univ. of Washington, Univ. of Washington, Univ. of Washington.*

1:00 JJ16 **594.05** ● Electrodeposited platinum-iridium coating (EPIC) improves *in vivo* chronic recording performance of microwire electrode arrays (MEA). I. R. CASSAR*; C. YU; A. PETROSSIANS; J. J. WHALEN; C. D. LEE; J. SHARKEY; W. M. GRILL. *Duke Univ., Platinum Group Coatings LLC., Platinum Group Coatings LLC., Duke Univ., Duke Univ., Duke Univ.*

2:00 JJ17 **594.06** The “Oops” Detector: Spontaneous vs in-task error-related potentials in long-term humanelectrocorticography. N. R. WILSON*; X. WANG; R. C. SHEAN; J. G. OJEMANN; R. P. RAO; B. BRUNTON. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*

3:00 JJ18 **594.07** Changes in network properties of a neuronal ensemble with acceleration and deceleration of point-to-point arm movements. M. KIM*; J. SOHN; S. KIM. *UNIST, Daegu-Gyeongbuk Med. Innovation Fndn., Ulsan Natl. Inst. of Sci. and Technol.*

4:00 JJ19 **594.08** Chronic intracortical recordings from microelectrode arrays implanted in common marmosets (Callithrix jacchus). S. DEBNATH*; N. W. PRINS; R. MYLAVARAPU; E. A. POHLMEYER; S. GENG; J. C. SANCHEZ; A. PRASAD. *Univ. of Miami, Univ. of Miami, Johns Hopkins Univ., DARPA, Univ. of Miami.*

1:00 JJ20 **594.09** ● Blood-brain barrier (BBB) disruption following implantation of intracortical silicon microelectrodes. C. BENNETT*; M. SAMMIKKANNU; F. MOHAMMED; D. W. DIETRICH; S. RAJGURU; A. PRASAD. *Univ. of Miami, Univ. of Miami, The Miami Project to Cure Paralysis.*

2:00 JJ21 **594.10** ● The effect of task dimensionality on BMI performance. N. EVEN-CHEN*; S. VYAS; S. RYU; K. V. SHENOY. *Stanford Univ. Dept. of Electrical Engin., Stanford Univ., Palo Alto Med. Fndn., Howard Hughes Med. Inst. - Stanford Univers, Stanford Neurosciences Inst., Bio-X Program Stanford.*

3:00 JJ22 **594.11** Long-term performance of intracranial electrodes and their effects on brain tissue. Y. GAO*; M. YE; C. M. ALTIMUS; H. RAFI; D. X. HAMMER. *US Food and Drug Admin.*

4:00 JJ23 **594.12** ● Accurate recovery of neural population dynamics without spike sorting. E. TRAUTMANN*; S. D. STAVISKY; K. C. AMES; M. T. KAUFMAN; S. RYU; S. LAHIRI; S. GANGULI; K. V. SHENOY. *Stanford Neurosciences, Stanford Univ., Columbia Univ., Cold Spring Harbor Lab., Palo Alto Med. Fndn., Stanford Univ., Stanford, Howard Hughes Med. Inst. - Stanford Univers.*

1:00 JJ24 **594.13** Methods for analyzing electrocorticographic signals during motor execution and imagery. T. PAILLA*; K. J. MILLER; V. GILJA. *Univ. of California San Diego, Stanford Univ. Sch. of Med., UCSD.*

2:00 JJ25 **594.14** ● Chronic evaluation of the measured neural signal quality of a stent-based neural interface. G. GERBONI; S. E. JOHN; N. L. OPIE; G. S. RIND; S. M. RONAYNE; C. N. MAY; T. J. OXLEY; Y. T. WONG; D. B. GRAYDEN*. *The Univ. of Melbourne, The Univ. of Melbourne, The Florey Inst. of Neurosci. and Mental Hlth., Synchron Inc., Monash Univ.*

3:00 JJ26 **594.15** ● Long-term safety and performance of microelectrode arrays in rodent peripheral nerves. S. VASUDEVAN*; B. SHAFER; R. SHARMA; R. B. CALDWELL; L. RIETH; C. G. WELLE. *U.S. Food and Drug Admin., Univ. of Maryland, Univ. of Utah, Univ. of Utah, Blackrock Microsystems, 6Feinstein Inst. for Med. Res., Univ. of Colorado.*

4:00 JJ27 **594.16** Utah electrode arrays for cortical neural recording in rat. R. RIHANI; C. FREWIN; A. KANNEGANTI; B. J. BLACK; B. CHAKRABORTY; R. AYUB; J. J. PANCRAZIO*; S. F. COGAN. *Univ. of Texas At Dallas.*

1:00 JJ28 **594.17** ● The Nanoclip: A microscale interface for recording and manipulating activity in small nerves. T. M. OTCHY*; T. M. OTCHY*; C. MICHAS; T. J. GARDNER. *Boston Univ.*

2:00 JJ29 **594.18** 3D visualization of cellular biomarkers surrounding MicroProbes/NeuroNexus/Blackrock “hybrid” arrays implanted chronically in cats. N. NOLTA*; M. HAN. *Univ. of Connecticut.*

3:00 JJ30 **594.19** ● ▲ Direction and distance decoding accuracy from plan activity in monkey motor cortex. B. B. SHEFFER*; N. EVEN-CHEN; S. VYAS; S. RYU; K. V. SHENOY. *Stanford Univ., Stanford Univ. Dept. of Electrical Engin., Stanford Univ., Palo Alto Med. Fndn., Howard Hughes Med. Inst. - Stanford Univers, Stanford Univ., Stanford Univ., Stanford Univ.*

4:00 KK1 **594.20** Motor and pre-motor cortical activity during attempted, observed, passive and overt movements. S. V. HIREMATH*; W. WANG; R. M. RICHARDSON; A. ALHOURANI; W. LIPSKI; E. C. TYLER-KABARA; M. L. BONINGER. *Temple Univ., Univ. of Pittsburgh, Washington Univ. in St. Louis, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Dept. of Veterans Affairs Med. Ctr.*

1:00 KK2 **594.21** Asynchronous detection and classification of spoken phonemes using mouth motor neural correlates in high-density ECoG. Z. V. FREUDENBURG*; J. BEREZUTSKAYA; M. J. VANSTEENSEL; E. J. AARNOUTSE; N. F. RAMSEY. *UMC Utrecht-Rudolf Magnus Inst., Brain Ctr. Rudolf Magnus, Univ. Med. Ctr., Univ. Med. Ctr. Utrecht, Brain Ctr. Rudolf Magnus, Utrecht, The Netherlands.*

2:00 KK3 **594.22** Amplitude bias in low-frequency oscillatory activity: Experimental evidence and implications. A. VATO*; G. SCHALK. *Inst. Italiano di Tecnologia, Wadsworth Ctr, NYSDOH.*

**POSTER**

**595. Neurophysiology: Implanted Electrodes and Direct Interactions With Neurons - Tissue Reactions**

***Theme E: Motor Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 KK4 **595.01** ● Lifetime improvements for penetrating electrodes in chronic clinical investigations. L. RIETH*; R. B. CALDWELL; B. BAKER; R. SHARMA. *Univ. of Utah, Univ. of Utah, Univ. of Utah, Univ. of Utah.*

2:00 KK5 **595.02** Investigation of blackrock microelectrode arrays chronic electrical and recording performance in rat motor cortex. B. CHAKRABORTY*; A. KANNEGANTI; R. RIHANI; B. J. BLACK; F. DEKU; R. AYUB; C. FREWIN; A. JOSHI-IMRE; J. J. PANCRAZIO; S. F. COGAN. *Univ. of Texas At Dallas, Univ. of Texas at Dallas.*

3:00 KK6 **595.03** *In vivo 2*-photon microscopy mapping of acute mechanical damage due to neural electrode array implantation. J. R. ELES*; A. VAZQUEZ; Q. YANG; T. D. KOZAI; T. CUI. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

4:00 KK7 **595.04** Lightsheet and two-photon imaging of a CLARITY processed regenerative peripheral nerve implant. E. ATKINSON*; J. B. GRAHAM; E. NUNAMAKER; B. SPEARMAN; V. H. DESAI; R. WACHS; C. SCHMIDT; J. W. JUDY; K. J. OTTO. *Univ. of Florida, Univ. of Texas At Arlington, Univ. of Nebraska-Lincoln, Univ. of Florida.*

1:00 KK8 **595.05** Modification of perineuronal nets following implantation of intracortical neural interface devices. J. B. GRAHAM*; J. GAIRE; E. ATKINSON; K. J. OTTO. *Univ. of Florida.*

2:00 KK9 **595.06** RAA 2.0: an automated and high throughput reactive accelerated aging (RAA) system to evaluate performance of neural implants. M. G. STREET*; C. G. WELLE; P. A. TAKMAKOV. *US Food and Drug Admin., Univ. of Colorado.*

3:00 KK10 **595.07** CLARITY based 3D histology assessment of neural electrodes with antifouling coating implanted in mouse cortex. Q. YANG*; J. R. ELES; B. WU; A. VAZQUEZ; T. D. KOZAI; T. CUI. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

4:00 KK11 **595.08** Self-assembled neural microtissue as a relevant, reliable, and high throughput *In vitro* model of the device-tissue interface. E. ATHERTON*; J. SEVETSON; D. HOFFMAN-KIM; D. A. BORTON. *Brown Univ., Brown Univ., Brown Univ., Brown Univ., Brown Inst. for Brain Sci., Brown Univ., Dept. of Veterans Affairs, Providence Med. Center, Ctr. for Neurorestoration and Neurotechnology.*

1:00 KK12 **595.09** Increasing base permeability of the utah electrode array improves integration in cortical tissue. B. VELAGAPUDI*; M. D. POLEI; P. A. TRESCO. *The Univ. of Utah.*

2:00 KK13 **595.10** The effect of headstage tethering on the orientation of high density electrode arrays implanted in rat cortex. M. POLEI*; B. VELAGAPUDI; P. A. TRESCO. *Univ. of Utah, The Univ. of Utah, Univ. of Utah.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract’s submitting author

3:00 KK14 **595.11** Drg stimulation prevents inflammatory arthritis in the rat CIA model. Q. H. HOGAN*; Z. ZHANG; B. PAN. *Med. Col. of Wisconsin.*

4:00 KK15 **595.12** Intracortical stimulation affects synaptogenesis and long-term potentiation in the sensorimotor cortex. J. NGUYEN*; D. J. GUGGENMOS; S. BARBAY; J. D. MAHNKEN; R. J. NUDO. *Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr.*

1:00 KK16 **595.13** Soft and elastomeric electrodes for muscle and nerve interfaces. X. S. ZHENG*; K. M. WOEPPEL; M. J. LOOKER; E. CHANG; B. CLAPSADDLE; A. M. ARAL; V. GORANTLA; L. E. FISHER; X. T. CUI. *Univ. of Pittsburgh, Univ. of Pittsburgh, TDA Research, Inc., Univ. of Pittsburgh, McGowan Inst. for Regenerative Med., Univ. of Pittsburgh.*

1:00 DP10/KK17 **595.14** (Dynamic Poster) Multi-scale, multi-modal analysis of the brain tissue-implant interface reveals new depths of the biological research field at the neuroelectronic interface. T. D. KOZAI*; A. L. VAZQUEZ; J. R. ELES; N. J. MICHELSON; X. CUI; J. J. WILLIAMS. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

**POSTER**

**596. Motor Systems, Variability, and Stability**

***Theme E: Motor Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 KK18 **596.01** Network degeneracy and the dynamic of task switching in the feeding circuit in *Aplysia.* Y. WANG*; M. CAMBI; K. R. WEISS; E. C. CROPPER. *Icahn Sch. of Med. At Mount Sinai.*

2:00 KK19 **596.02** Synaptic and circuit mechanisms for variability in motor programs elicited by a command neuron in a feedforward network. T. CHEN; G. ZHANG; K. YU; W. YUAN; S. YIN; S. CHEN; D. LIU; E. C. CROPPER; K. R. WEISS; J. JING*. *Nanjing Univ., Icahn Sch. of Med. at Mount Sinai.*

3:00 KK20 **596.03** Imaging spontaneous motor neuron activity and hormone-induced reorganization. A. D. ELLIOTT*; F. DIAO; Y. WU; R. SCOTT; H. SHROFF; B. H. WHITE. *NIH/NIMH, NIH, NIH, NIH, NIMH.*

4:00 KK21 **596.04** Output variability in a motor system: From CPG to motor plant. A. WENNING*; B. J. NORRIS; R. L. CALABRESE. *Emory Univ., California State Univ.*

1:00 KK22 **596.05** Variation across network output, excitatory post synaptic potentials, ionic conductances, and ion channel and receptor mRNAs within motor neurons of the crustacean cardiac ganglion. D. R. KICK*; B. J. LANE; J. L. RANSDELL; S. S. NAIR; D. J. SCHULZ. *Univ. of Missouri, Brandeis Univ., Washington Univ., Univ. of Missouri Columbia.*

2:00 KK23 **596.06** Locomotion in insects (cockroaches and ants): Waves and discrete states of neural activity in modules for central pattern generation. U. M. RICOY*; J. F. GOMEZ-MOLINA; A. L. GOMEZ-MOLINA. *Northern New Mexico Col., Intl. Group of Neurosci. (IGN).*

3:00 KK24 **596.07** ▲ Short and long-term effects of high potassium ion concentration saline on the crab pyloric rhythm. L. HE*; E. JAMES; D. POWELL; M. KAR; E. MARDER. *Brandeis Univ.*

4:00 KK25 **596.08** Neuromodulators differentially affect the motor output of the stomatogastric ganglion across temperature. S. A. HADDAD*; E. E. MARDER. *Brandeis Univ., Volen Ctr.*

1:00 KK26 **596.09** Neuromodulators stabilize the activity phase of neurons in an oscillatory network. H. ANWAR*; D. M. FOX; F. NADIM. *New Jersey Inst. of Technol., NJIT, New Jersey Inst. of Technol.*

2:00 KK27 **596.10** Variability in modulator innervation of the stomatogastric ganglion. J. PIPKIN*; E. E. MARDER. *Brandeis Univ., Volen Ctr.*

3:00 KK28 **596.11** An *in vivo* exploration of cardiac and pyloric activity in Cancer borealis. D. KUSHINSKY*; J. HALEY; E. MARDER. *Brandeis Univ.*

4:00 KK29 **596.12** Neuromolecular imaging and BRODERICK PROBE® nanobiosensors reveal temporal synchrony patterns between neurotransmitter concentration and movement in the physiologic state and temporal asynchrony between neurotransmitter concentration and movement in the pathologic state. L. WENNING*; P. A. BRODERICK. *City Col. of New York, CUNY Sch. of Med.*

**POSTER**

**597. Motor Neuron: Muscle Exercise and Movement**

***Theme E: Motor Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 KK30 **597.01** ● A novel sublethal mouse model of botulism using running wheel activity as an indirect readout of respiratory function. A. B. BRADFORD*; M. J. STENSLIK; E. J. VAZQUEZ-CINTRON; M. C. MANGKHALAKHILI; M. EISEN; D. L. NGUYEN; C. A. ONDECK; P. M. MCNUTT. *US Army Med. Res. Inst. of Chem. Def.*

2:00 KK31 **597.02** The effect of exercise on aging spinal cord and peripheral nerves. E. GIORGETTI*; M. PANESAR; M. RONCO; C. LAMBERT; M. OBRECHT; N. ACCART-GRIS; N. BECKMANN; S. BRACHAT; D. SHIMSHEK; M. BIDINOSTI; M. NASH. *Novartis Inst. For Biomed. Res., Novartis Inst. for Biomed. Res., Novartis Inst. for Biomed. Res., Novartis Inst. for Biomed. Res., Novartis Inst. for Biomed. Res.*

3:00 KK32 **597.03** Biophysical characterization of two Nav1.4 mutations identified in patients with cold-induced myotonia or periodic paralysis. H. POULIN; S. VICART; K. HABBOUT; D. STERNBERG; S. GIULIANO; B. FONTAINE; S. BENDAHHOU; S. NICOLE; M. CHAHINE*. *IUSMQ Ctr. de recherche CERVO, Hôpital de la Pitié Salpêtrière, Paris, France, UMR7370 CNRS, LP2M, Labex ICST, Univ. Nice Sophia-Antipolis, INSERM, U1127, Paris, France, Sorbonne universités, UPMC Univ. Paris 6, UMR S1127, NSERM, U1127, Paris, France, Sorbonne universités, UPMC Univ. Paris 6, UMR S1127.*

4:00 KK33 **597.04** Real time monitoring system for lactic acid released from *ex vivo* preparations. K. SHOTO*; S. NEGISHI; I. TAKASHIMA; H. KUDO; R. KAJIWARA. *Meiji Univ., AIST.*

1:00 KK34 **597.05** Evidences of mitochondrial dysfunction in the muscle biopsy of patients with lipid storage disorders. D. BANDOPADHYAY*. *Natl. Inst. of Mental Hlth. and Neuroscien.*

Tues. PM

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 KK35 **597.06** Comparison of small ankryin 1 and sarcolipin regulation of SERCA1 in myocytes to SERCA2B in neurons. A. LABUZA*; P. F. DESMOND; J. MURIEL; M. L. MARKWARDT; A. E. MANCINI; M. A. RIZZO; R. J. BLOCH. *Univ. of Maryland Baltimore.*

3:00 KK36 **597.07** Morphological of peripheral axons for ultrasound neuromodulation. T. LEMAIRE*; S. MICERA. *Swiss Federal Inst. of Technol. Lausanne (EP, Ecole Polytechnique Federale De Lausanne.*

4:00 LL1 **597.08** Grasp smarter, not harder: Proportional control of an electromyographic prosthesis with a touch of automation. K. Z. ZHUANG*; N. SOMMER; E. FORMENTO; E. D'ANNA; A. BILLARD; S. MICERA. *EPFL STI CNP TNE lab, Ecole Polytechnique Federale De Lausanne, Ecole Polytechnique Federale De Lausanne.*

1:00 LL2 **597.09** Rostrocaudal activation patterns in the human cervical spinal cord identified by fMRI during upper limb motor tasks. N. KINANY*; E. PIRONDINI; R. MARTUZZI; L. MATTERA; D. VAN DE VILLE; S. MICERA. *Ecole Polytechnique Fédérale De Lausanne, Univ. of Geneva, Fondation Campus Biotech.*

2:00 LL3 **597.10** Effect of tibialis anterior fatigue on the recruitment curve of the soleus h-reflex. I. E. JESUS MAGALHÃES*; R. B. NETO; M. BOTTARO; R. A. MEZZARANE. *Univ. of Brasilia, Univ. of Brasilia.*

3:00 LL4 **597.11** Primary motor cortex TMS-evoked ERPs decomposed using ICA. M. MIYAKOSHI*; M. R. BORICH; T. MULLEN; S. MAKEIG. *Swartz Ctr. For Computat. Neuroscience, INC, UCSD, Emory Univ., Qusp Labs, UCSD/INC/SCCN.*

4:00 LL5 **597.12** Primary motor cortex (M1) inhibition increases during fatiguing repetitive movements but force and central drive to the muscle are preserved. P. ARIAS; E. MADINABEITIA; A. MADRID; J. CUDEIRO*. *Univ. A Coruña, NEUROcom, Univ. of A Coruña, NEUROcom and Ctr. de Estimulación Cerebral de Galicia.*

1:00 LL6 **597.13** Modulations in corticospinal excitability accompanying contraction mode conversion during joint movements. A. HIGASHIHARA*; K. NAKAGAWA; K. NAKAZAWA. *Waseda Univ., The Univ. of Tokyo, The Japan Society for the Promotion of Sci., The Univ. of Tokyo.*

2:00 LL7 **597.14** Influence of passive finger movement with & without duty cycle on corticospinal excitability. S. TSUIKI*; R. SASAKI; S. MIYAGUCHI; S. KOJIMA; K. SAITO; Y. INUKAI; M. MASAKI; N. OTSURU; H. ONISHI. *Niigata Univ. of Hlth. and Welfare, Grad. School, Niigata Univ. of Hlth. and Welfare.*

3:00 LL8 **597.15** Integration of sensory and motor inputs in spinal motoneurons. A. A. MAHROUS*; S. M. ELBASIOUNY. *Wright State Univ.*

2:00 LL10 **598.02** GABAB receptors modulate the synapsis between motoneurons and dorsolateral funiculus. C. X. DELGADO-RAMÍREZ*; C. CUELLAR-RAMOS; R. DELGADO-LEZAMA. *Ctr. De Investigación Y De Estudios Avanzados CI, Ctr. De Investigación Y De Estudios Avanzados.*

3:00 LL11 **598.03** Restoration of motoneuron KCC2 following peripheral nerve injury is dependent on successful muscle reinnervation. E. T. AKHTER*; A. W. ENGLISH; F. J. ALVAREZ. *Emory Univ., Emory Univ., Emory Univ.*

4:00 LL12 **598.04** The distribution of motoneuron excitability among upper extremity motor pools. L. M. MCPHERSON*; J. M. WILSON; N. K. RENDOS; R. K. POWERS; C. HECKMAN; C. K. THOMPSON. *Florida Intl. Univ., Northwestern Univ., Andrews Res. and Educ. Fndn., Florida Intl. Univ., Univ. Washington, Northwestern Univ., Temple Univ.*

1:00 LL13 **598.05** A nova-dependent microexon splicing program controls neuromuscular junction in the tunicate ciona robusta. M. HOSSAIN*; A. STOLFI; L. CHRISTIAEN; M. RUGGIU. *St. John's Univ., New York Univ., St. John's Univ.*

2:00 LL14 **598.06** Acute MeHg exposure alters immunofluorescence of the Renshaw Cell Area in the C57BL/6J mouse model. M. RIOS CABANILLAS*; W. ATCHISON. *Michigan State Univ.*

3:00 LL15 **598.07** Comparison of mu rhythm ERS and ERD for cranial nerve and spinal cord related activities. H. BAGHERZADEH*; Q. XIE; K. DEMMERLE; D. GUPTA; F. CHOA. *Univ. of Maryland, Baltimore County.*

4:00 LL16 **598.08** ▲ A unique adult insect muscle with polyneuronal innervation displays distinct domains of innervation from different segmental nerves. M. J. VALESKY*; G. W. SMITH; R. J. BAYLINE. *Washington & Jefferson Col.*

1:00 LL17 **598.09** ● Changes in spinal motor networks when cocultured with astrocytes or striated changes in spinal motor networks when cocultured with astrocytes or striated muscle. A. THARANEETHARAN*; M. A. HARRINGTON. *Delaware State Univ.*

2:00 LL18 **598.10** Gene expression analysis in spinal motoneurons of defined subtypes. N. ISOO*; N. MURABE; S. FUKUDA; M. TANIGUCHI-IKEDA; S. TERAMOTO; S. KWAK; M. SAKURAI. *Univ. of Teikyo, Kobe Univ. Grad. Sch. of Med., Univ. of Tokyo Grad. Sch. of Med.*

3:00 LL19 **598.11** The functional role of activity-dependent plasticity in motoneurons during development revealed by metabotropic glutamate receptor activation. S. S. BERTRAND*; J. CAZALETS; M. SOURIOUX. *INCIA CNRS UMR5287.*

**POSTER**

**598. Motor Neuron: Development**

***Theme E: Motor Systems***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 LL9 **598.01** Dissecting classical cadherins roles in motor neuron positioning. C. DEWITZ*; P. HACKEL; N. ZAMPIERI. *Max Delbruck Ctr. For Mol. Med., Charité - Universitätsmedizin, Cluster of Excellence NeuroCure.*

**POSTER**

**599. Neuroethology: Navigation and Locomotion**

***Theme F: Integrative Physiology and Behavior***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 LL20 **599.01** A novel learning and extinction algorithm enhances goal-directed foraging decisions in simulation. E. D. GRIBKOVA; R. GILLETTE*. *Univ. of Illinois At Urbana-Champaign, Univ. Illinois.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 DP11/LL21 **599.02** (Dynamic Poster) Computational strategies underlying arm coordination of Octopus rubescens during naturalistic foraging. D. M. SIVITILLI*; V. GOPAL; A. SEMINARA; J. A. SISNEROS; D. H. GIRE. *Univ. of Washington, Elmhurst Col., CNRS, Univ. Nice Sophia Antipolis.*

3:00 LL22 **599.03** Robotic platform for understanding peristaltic locomotion. A. KANDHARI*; K. A. DALTORIO; H. J. CHIEL; R. D. QUINN. *Case Western Reserve Univ., Case Western Res. Univ.*

4:00 LL23 **599.04** Algorithms underlying olfactory navigation in walking fruit flies. E. ALVAREZ-SALVADO*; K. NAGEL. *NYU Langone Med. Ctr.*

1:00 LL24 **599.05** The role of neural activities in AIY interneurons for controlling behavior of *Caenorhabditis elegans.* H. MORI*; H. SHIDARA; K. ASHIDA; T. NIKAI; K. HOTTA; K. OKA. *Keio Univ. Sch. of Fundamental Sci. and, Hokkaido Univ., Keio Univ., Keio Univ.*

2:00 LL25 **599.06** Innate locomotor bias in larval zebrafish influences behavioral choice. E. J. HORSTICK*; Y. BAYLEYEN; H. A. BURGESS. *NIH/NICHD.*

3:00 LL26 **599.07** Natural echolocation sequences evoke target range selectivity of neurons in the inferior colliculus of the big brown bat (Eptesicus fuscus). S. MACIAS*; J. LUO; C. F. MOSS. *Johns Hopkins Univ.*

4:00 LL27 **599.08** Midbrain responses to communication and echolocation sounds in big brown bats. A. SALLES*; S. MACIAS; M. WARNECKE; C. F. MOSS. *Johns Hopkins Univ.*

1:00 LL28 **599.09** Clutter modulates midbrain SC activity in bats tracking sonar targets along the range axis. M. J. WOHLGEMUTH*, III; N. B. KOTHARI; C. F. MOSS. *Johns Hopkins Univ., Johns Hopkins Univ.*

2:00 LL29 **599.10** Fast ripple in the inferior colliculus of big brown bat encodes precise timing of sonar vocalization. J. LUO*; S. MACIAS HERRERA; C. F. MOSS. *Johns Hopkins Univ.*

3:00 LL30 **599.11** Density of echo flow patterns guides navigation in echolocating big brown bats. M. WARNECKE*; B. FALK; S. MACIAS HERRERA; C. F. MOSS. *Johns Hopkins Univ., Johns Hopkins Univ.*

4:00 LL31 **599.12** Adaptive echolocation behavior modulates sensory, sensorimotor and premotor neural activity in free flying bats. N. B. KOTHARI*; M. J. WOHLGEMUTH; C. F. MOSS. *Johns Hopkins Univ.*

**POSTER**

**600. Early-Life Stress: Clinical Studies**

***Theme F: Integrative Physiology and Behavior***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 LL32 **600.01** Factors assocciated to symptoms of depression and stress during pregnacy. N. SANDBERG*; B. BERTONI; G. REY; D. MUSETTI; G. GRANDI; A. S. FLEMING; D. E. OLAZÁBAL. *Facultad de Medicina, Univ. de la República, Facultad de Medicina, Univ. de la República, Hosp. de Clínicas Manuel Quintela, Facultad de Medicina, Mutualista CASMU, Univ. of Toronto.*

2:00 LL33 **600.02** Systematical investigation of plasma metabolomics alteration among experienced meditators of Tibet Buddhism monks . T. XUE; T. J. XU; H. LI; D. H. CUI*. *Shanghai Mental Hlth. Ctr.*

3:00 MM1 **600.03** Emotional and pleasure circuit alterations associated with fragmented and unpredictable early-life sensory signals. S. J. GRANGER*; M. E. MONTCHAL; B. G. VEGETABILE; E. HADDAD; A. OBENAUS; D. KEATOR; A. SOLODKIN; S. L. SMALL; H. S. STERN; C. A. SANDMAN; E. P. DAVIS; L. M. GLYNN; T. Z. BARAM; M. A. YASSA. *Univ. of California, Irvine, Univ. of California, Irvine, Loma Linda Univ., Univ. of California, Irvine, Chapman Univ.*

4:00 MM2 **600.04** Differential epigenetic patterns in children with documented trauma. B. S. MULLIGAN*; E. L. BEARER. *Univ. of New Mexico Hlth. Sci. Ctr., UNM Sch. of Med.*

1:00 MM3 **600.05** Region-specific sensitivity to long-term effects of preterm birth with very low birth weight: Longitudinal structural MRI including the MoBa study. K. SRIPADA*; K. J. BJULAND; A. E. SØLSNES; A. K. HABERG; K. GRUNEWALDT; G. C. C. LØHAUGEN; L. M. RIMOL; J. SKRANES. *Norwegian Univ. of Sci. and Technol., Sørlandet Hosp., St Olavs Univ. Hosp.*

2:00 MM4 **600.06** Mechanisms underlying psilocybin-induced change in anxiety, depression, and spirituality in cancer patients. S. E. MENNENGA*; L. T. OWENS; T. MALONE; M. P. BOGENSCHUTZ; S. ROSS. *New York Univ. Sch. of Med.*

3:00 MM5 **600.07** Convergent epigenetic, transcriptional and morphological evidence associate a history of child abuse with impaired myelination in the anterior cingulate cortex. A. TANTI*; P. LUTZ; A. GASECKA; S. BARNETT-BURNS; J. J. KIM; Y. ZHOU; G. G. CHEN; D. ALMEIDA; V. YERKO; J. THÉROUX; A. BRAMOULLÉ; T. ZHANG; M. J. MEANEY; C. ERNST; D. COTE; G. TURECKI; N. MECHAWAR. *McGill Group For Suicide Studies, Ctr. de recherche de l'Institut universitaire en santé mentale de Québec (CRIUSMQ), Douglas Mental Hlth. Univ. Inst., Sackler Program for Epigenetics and Psychobiology at McGill Univ. and The Ludmer Ctr. for Neuroinformatics and Mental Hlth.*

4:00 MM6 **600.08** Investigating the effects of violence exposure, physical abuse, and sexual abuse on brain activity following exposure to psychosocial stress. J. PURCELL*; A. M. GOODMAN; N. G. HARNETT; S. MRUG; M. N. ELLIOTT; S. TORTOLERO EMERY; M. A. SCHUSTER; D. C. KNIGHT. *Univ. of Alabama at Birmingham, RAND Corp., Univ. of Texas Hlth. Sci. Ctr., Boston Children's Hosp.*

1:00 MM7 **600.09** The influence of environment during adolescence on white matter structure. K. BELL*; N. G. HARNETT; A. M. GOODMAN; S. MRUG; M. A. SCHUSTER; M. N. ELLIOTT; S. R. TORTOLERO; D. C. KNIGHT. *Univ. of Alabama At Birmingham, Boston Children's Hosp., RAND Corp., Univ. of Texas Hlth. Sci. Ctr.*

2:00 MM8 **600.10** ▲ Self-reported stress, violence exposure, and neural activity. E. DAVIS*; A. GOODMAN; T. OREM; M. WHEELOCK; N. HARNETT; S. MRUG; D. KNIGHT. *Univ. of Alabama At Birmingham.*

3:00 MM9 **600.11** Effects of childhood trauma experiences on cognitive ability and emotion processing in schizophrenia. S. WON*; S. LEE; H. YUN; S. WOO; B. JIN. *Kyungpook Natl. Univ. Hosp.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**601. Early-Life Stress: Anxiety, Motivation, and Depression**

***Theme F: Integrative Physiology and Behavior***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 MM10 **601.01** Adolescent development of social behavior and oxytocin receptor system following prenatal alcohol exposure and early life adversity. P. J. HOLMAN*; L. ELLIS; C. RAINEKI; J. WEINBERG. *Univ. of British Columbia.*

2:00 MM11 **601.02** Neonatal colonization with Bifidobacterium species elicits sex-specific effects on memory, sociability, and anxiety-like behaviors of adult gnotobiotic mice. B. K. LUK*; S. VEERARAGAVAN; M. ENGEVIK; A. MAJOR; J. VERSALOVIC. *Baylor Col. of Medicine/Texas Children's Hospit, Baylor Col. of Med., Texas Children's Hosp.*

3:00 MM12 **601.03** ▲ Resilience or vulnerability? A sum of life experiences. V. PIÑA-DIAZ; E. HERNANDEZ-REYES; M. VALLE-NAVA; J. YAÑEZ-VARGAS; C. J. MONTES RODRIGUEZ*. *Facultad de Psicologia,UNAM.*

4:00 MM13 **601.04** Acute and inflammatory neonatal pain disrupts later-life fear conditioning and sensory function: The role of CRF. M. A. BURMAN*; S. DAVIS; E. HOLMQVIST; E. HARRIS; V. EATON; A. STEINIS; M. RICE. *Univ. of New England, Univ. of New Engalnd.*

1:00 MM14 **601.05** Early life adversity: Neuroplasticity and anxiety-related neuronal oscillations in the brain. S. MURTHY*; D. E. HERMAN; P. LARA-MEJIA; G. OBIOFUMA; E. GOULD. *Princeton Univ.*

2:00 MM15 **601.06** Transcriptomic alterations across reward circuitry by early life stress in male and female mice. C. J. PENA*; I. PURUSHOTHAMAN; H. M. CATES; R. C. BAGOT; D. M. WALKER; C. PATEL; L. SHEN; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Weill Cornell Med. Col., McGill Univ.*

3:00 MM16 **601.07** An epigenetic biomarker for depression and trait of childhood trauma with sex-specific effects. N. L. RASGON*; B. BIGIO; S. YOUNG; M. KAUTZ; A. COCHRAN; J. BEASLEY; D. MILLINGTON; J. KOCSIS; J. MURROUGH; F. LEE; B. S. MCEWEN; C. NASCA. *Stanford Univ. Sch. of Med., Rockefeller Univ., Duke Univ., Mount Sinai Sch. of Med., Weill Cornell Med. Col., Rockefeller Univ., The Rockefeller Univ.*

4:00 MM17 **601.08** Maternal care influences adulthood acetylcarnitine levels and trajectory of the 3D's in individuals at genetic risk. B. BIGIO*; C. NASCA; F. LEE; D. ZELLI; T. LAU; A. FERRIS; P. DEANGELIS; S. HARVEY; J. LAI; A. KALIDINDI; N. L. RASGON; B. MCEWEN. *Rockefeller Univ., Weill Cornell Med. Col., Barnard Col., Columbia Univ., Emory, Stanford Univ. Sch. of Med.*

1:00 MM18 **601.09** A novel mechanistic role for mGlu2 in a vDG-MeA circuit underling sex-dimorphic social behavior: Importance of early life experiences. C. NASCA*; F. LEE; D. A. ZELLI; B. BIGIO; T. LAU; P. DEANGELIS; O. ISSLER; H. M. CATES; E. J. NESTLER; B. S. MCEWEN. *The Rockefeller Univ., Weill Cornell Med. Col., Rockefeller Univ., Rockefeller Univ., Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. Med. At Mount Sinai.*

2:00 MM19 **601.10** Adolescent social isolation increases excitatory synaptic activity in the rat nucleus accumbens core. S. EWIN*; A. G. ALMONTE; E. S. CARTER; J. L. WEINER. *Wake Forest Sch. of Med.*

3:00 MM20 **601.11** Behavioral effects of prenatal exposure to sertraline, an SSRI antidepressant, and its discontinuation on the offspring in an animal model of maternal depression. J. M. KOTT; S. M. MOONEY-LEBER; K. BADRIA; J. M. YOUNG; S. BRUMMELTE*. *Wayne State Univ., Wayne State Univ.*

4:00 MM21 **601.12** Influence of early-life adversity on immune system function in animals prenatally exposed to alcohol: Implications for mental health. C. RAINEKI*; T. S. BODNAR; P. J. HOLMAN; S. L. BAGLOT; N. LAN; J. WEINBERG. *Univ. of British Columbia.*

1:00 MM22 **601.13** ▲ Medium social stress promotes resilient behavior in rats. E. D. HERNANDEZ-REYES; V. PIÑA-DIAZ; M. D. VALLE-NAVA; P. E. RUEDA-OROZCO*; C. J. MONTES-RODRIGUEZ. *Facultad de Psicologia, UNAM, Inst. De Neurobiología, UNAM.*

2:00 NN1 **601.14** Drd3 signaling in the lateral septum mediates early life stress-induced social dysfunction. S. SHIN*; H. PRIBIAG; V. LILASCHAROEN; D. KNOWLAND; X. WANG; B. LIM. *UCSD, UCSD, UCSD, UCSD.*

3:00 NN2 **601.15** Prefrontal cortex BDNF levels and anxiety reversal in females after early life stress. H. S. KNOBLOCH*; E. J. KIM; L. GABARD-DURNAM; N. HODGSON; J. L. FUDGE; N. TOTTENHAM; F. S. LEE; J. L. CAMERON; T. K. HENSCH. *Harvard Univ., Columbia Univ., Univ. of Rochester, Weill Cornell Med. Col., Univ. of Pittsburgh.*

4:00 NN3 **601.16** Maternal social regulation of infant's fear in the selectively-bred anxious rat phenotype. A. M. WHITE*; J. HIDER; J. BOULANGER BERTOLUS; D. CHANG; R. M. SULLIVAN; H. AKIL; J. DEBIEC. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, NKI & NYU Sch. of Med.*

1:00 NN4 **601.17** ▲ Epigenetic effects of prenatal and juvenile stressors on adult behaviors in rats. L. B. STEELE; B. ZIMMERBERG*. *Williams Col., Williams Col.*

2:00 NN5 **601.18** Assessing long-term behavioral changes following seizures and stress in larval zebrafish. D. EXLER*; J. ANDREWS; D. FINORE; S. MCROBERT; J. J. LIPPMAN-BELL. *Philadelphia Col. of Osteo. Med., St. Joseph's Univ.*

3:00 NN6 **601.19** Colostrum oxytocin in the newborn gut modulates cellular stress and inflammation in the brain. B. Y. KLEIN, 10032; H. TAMIR; R. J. LUDWIG; S. B. GLICKSTEIN; M. G. WELCH*. *Columbia Univ. Med. Ctr., Columbia Univ. Col. of Physicians and Surgeons, Columbia Univ., EB Sci., Columbia Univ. Col. of Physicians & Surgeons.*

4:00 NN7 **601.20** The effects of antidepressant treatment on prenatal stress induced behavioral and biochemical abnormalities in mouse offspring. R. DORON*; N. SIMON; O. SIMHON; Y. SIMCHON TENENBAUM; M. REHAVI. *The Academic Col. Tel Aviv Jaffa/The Open Unive, The Academic Col. Tel Aviv Jaffa, Tel Aviv University, Tel Aviv, Israel, Tel Aviv Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 NN8 **601.21** ▲ Measuring stress response in the Collaborative Cross. P. KUMAR; S. SCHOENROCK; J. FARRINGTON; F. PARDO-MANUEL DE VILLENA; L. M. TARANTINO*. *Univ. of North Carolina, Univ. of North Carolina At Chapel Hill, Univ. of North Carolina, Univ. North Carolina.*

2:00 NN9 **601.22** Anhedonia following early-life stress involves aberrant interaction of pleasure/reward circuits and anxiety/fear circuits and is reversed by partial silencing of amygdala corticotropin-releasing hormone. J. L. BOLTON*; J. MOLET; L. REGEV; Y. CHEN; N. RISMANCHI; E. HADDAD; D. Z. YANG; A. OBENAUS; T. Z. BARAM. *Univ. of California-Irvine, Univ. of California-Irvine.*

**POSTER**

**602. Adolescent Stress: Neurological and Neurobehavioral Outcomes**

***Theme F: Integrative Physiology and Behavior***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 NN10 **602.01** Isolation stress during adolescence increases conditioned place preference to cocaine in female rats. C. J. RIVERO*; J. A. FREIRE; C. DELGADO; I. G. SANTIAGO; A. C. SEGARRA. *UPR-Medical Sci. Campus, Univ. of Puerto Rico, Rio Piedras Campus, Univ. of Puerto Rico, Humacao Campus.*

2:00 NN11 **602.02** ▲ Effects of chronic corticosterone exposure on neuroendocrine function of adolescent and adult male mice. Z. SHAHANOOR; M. R. BAKER; R. SULTANA; R. D. ROMEO*. *Barnard Col. of Columbia Univ.*

3:00 NN12 **602.03** Adolescent Sprague-Dawley rats display a blunted neuroimmune response evoked by an acute stress challenge. D. LOVELOCK*; M. ORLOFSKY; T. DEAK. *Binghamton Univ.*

4:00 NN13 **602.04** endocannabinoid modulators and PUFAs regulate decision-making and attention in adolescent stressed rats. A. DAGNINO-SUBIABRE*; M. OVANDO; P. CASTRO. *Univ. De Valparaíso.*

1:00 NN14 **602.05** Chronic adolescent stress impairs memory but not learning in adult female rats. M. M. HYER*; M. BEKHBAT; G. N. NEIGH. *Virginia Commonwealth Univ., Emory Univ.*

2:00 NN15 **602.06** Adult effects of chronic adolescent stress on glucocorticoid receptor regulation. S. A. ROWSON*; M. BEKHBAT; S. D. KELLY; G. N. NEIGH. *Emory Univ., Emory Univ., Emory Univ., Virginia Commonwealth Univ.*

3:00 NN16 **602.07** Adolescent stress leads to enduring enrichment of inflammatory pathways in the hippocampus without peripheral immune consequences. M. BEKHBAT*; S. A. ROWSON; S. D. KELLY; G. K. THARP; M. G. TANSEY; G. N. NEIGH. *Emory Univ., Yerkes Natl. Primate Res. Ctr., Virginia Commonwealth Univ.*

4:00 NN17 **602.08** Adolescent social stress differentially impacts affect-related behaviors and nicotine responses in C57BL/6J and BALB/cJ mice. M. J. CARUSO*; D. E. REISS; J. L. THOMAS; J. I. CAULFIELD; N. A. CROWLEY; S. A. CAVIGELLI; H. M. KAMENS. *Pennsylvania State Univ., Pennsylvania State Univ.*

1:00 NN18 **602.09** Peri-pubertal period is a sensitive time for stress exposure in wild-type and mice with a genetic redox dysregulation. M. R. SCHNIDER; P. STEULLET; J. CABUNGCAL*; K. Q. DO. *Dept. of Psychiatry, Univ. Hosp. of Lausanne.*

2:00 NN19 **602.10** Perinatal fluoxetine and maternal stress differentially affect serotonin and synaptic densities in juvenile and adult male and female offspring. M. GEMMEL*; E. BÖGI; S. DE LACALLE; S. TANDA; N. KOKRAS; C. DALLA; J. L. PAWLUSKI. *Ohio Univ., Inst. of Exptl. Pharmacol. and Toxicology, Slovak Acad. of Sci., Heritage Col. of Osteo. Med., Univ. of Athens, Univ. of Rennes 1.*

3:00 NN20 **602.11** Hyperactivation of HPA axis during adolescent critical period induces aberrant spine pruning in medial PFC and depressive behavior mediated by Rho-PAK signaling. K. AN*; S. K. BARODIA; J. R. MOORE; T. CASH-PADGETT; H. JAARO-PELED; M. NIWA; A. SAWA. *Johns Hopkins Univ. Sch. of Med.*

4:00 NN21 **602.12** ▲ Isolation during adolescence increases CPP to cocaine in male rats. R. J. TORRES*; I. G. SANTIAGO; J. A. FREIRE; C. J. RIVERO; A. C. SEGARRA. *Univ. of Puerto Rico, Med. Sci. Campus, Univ. of Puerto Rico, Med. Sci. Campus.*

1:00 NN22 **602.13** Social isolation during adolescence induces sex-dependent differences on the activity of the hypothalamic-pituitary-thyroid axis, and its response to cold exposure. D. RODRÍGUEZ-SARMIENTO; E. L. JAIMES*; P. JOSEPH-BRAVO. *Inst. De Biotecnología, UNAM.*

2:00 NN23 **602.14** Different physical exercise programs during pregnancy attenuates the negative effects of PTZ-induced seizures in offspring from mothers submitted to prenatal stress. G. M. LOPIM*; E. A. DA SILVA; D. V. CAMPOS; A. A. DE ALMEIDA; J. FERNANDES; R. C. GUTIERRE; R. M. ARIDA. *Univ. Federal De Sao Paulo, Univ. Federal de São Paulo, Univ. Federal De Sao Paulo.*

3:00 NN24 **602.15** Mouse strain differences in SSRI sensitivity correlates with serotonin transporter binding and function. Z. JIN*; Y. LI. *capital medical Univ., beijing instiurte of pharmacology and toxiology.*

4:00 NN25 **602.16** Sham injection stress of pregnant mice affects behavior of adult male offspring. G. MAJDIC*; M. OGRIZEK; K. KOZINC KLENOVSEK; N. GRGUREVIC. *Univ. of Ljubljana Vet. Fac., Univ. of Ljubljana.*

1:00 NN26 **602.17** Adolescent stress exposure impairs short-term synaptic plasticity in the Nucleus Accumbens. A. U. DEUTSCHMANN*; A. Q. FOSNOCHT; L. A. BRIAND. *Temple Univ.*

2:00 NN27 **602.18** ● ▲ The role of glutamate receptor trafficking in vulnerability to a social defeat stress. K. E. LUCERNE*; A. Q. FOSNOCHT; L. A. BRIAND; J. LENZ; A. S. ELLIS. *Temple Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

## 603. Technical Developments and Assessing Pharmacological Influences on Neuroimaging Responses

***Theme F: Integrative Physiology and Behavior***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 NN28 **603.01** Spinal cord neurovascular coupling is not affected by isoflurane anesthesia: Evidence from decerebrated rats. T. PAQUETTE*; H. LEBLOND; M. PICHÉ. *Univ. du Quebec a Trois-Rivieres, CogNAC research Group (Cognition, Neurosciences, Affect et Comportement), Univ. du Quebec a Trois-Rivieres.*

1:00 DP12/NN29 **603.02** (Dynamic Poster) Brainwide mapping of spontaneous network dynamics in the mouse brain. D. GUTIERREZ BARRAGAN; S. PANZERI; A. GOZZI*. *Inst. Italiano di Tecnologia, Inst. Italiano di Tecnologia.*

3:00 NN30 **603.03** Novel restraint device in awake rat imaging. S. R. CRAMER*; Y. MA; N. ZHANG. *The Pennsylvania State Univ., The Pennsylvania State Univ., The Pennsylvania State Univ.*

4:00 NN31 **603.04** Myelination covariance of human cerebral cortex. Z. MA*; N. ZHANG. *Penn State Univ.*

1:00 NN32 **603.05** ● Brain-derived neurotrophic factor (BDNF) as a potential biomarker for resting-state network remodeling after ketamine infusion. M. WOELFER*; M. LI; L. COLIC; V. LESSMANN; T. BRIGADSKI; M. WALTER. *CANLAB, Leibniz Insitute for Neurobio., New Jersey Inst. of Technol., Otto-von-Guericke Univ., Univ. of Applied Sci. Kaiserslautern, Univ. Tuebingen.*

2:00 NN33 **603.06** Brainwide mapping of endogenous serotonergic transmission via chemogenetic-fMRI. M. PASQUALETTI*; A. GIORGI; S. MIGLIARINI; M. GRITTI; A. GALBUSERA; G. MADDALONI; M. A. DE LUCA; R. TONINI; A. GOZZI. *Univ. of Pisa, Inst. Italiano di Tecnologia, Fondazione Inst. Italiano di Tecnologia, Univ. of Cagliari.*

3:00 OO1 **603.07** Cerebral oxygenation and blood flow distributions along the capillary path in awake mice. B. LI*; I. SENCAN; T. ESIPOVA; K. KILIÇ; M. MOEINI; M. YASEEN; B. FU; S. KURA; F. LESAGE; S. VINOGRADOV; A. DEVOR; D. BOAS; S. SAKADZIC. *Massachusetts Gen. Hosp., Univ. of Pennsylvania, UCSD, Ecole Polytechnique Montreal, UCSD.*

4:00 OO2 **603.08** Effects of chronic olanzapine exposure on functional network connectivity in the anesthetized rat. C. I. RODRIGUEZ*; J. P. RICE; F. T. CANDELARIA-COOK; Y. YANG; R. PURVIS; C. ABBOTT; J. BUSTILLO; N. PERRONE-BIZZOZERO; V. CALHOUN; D. A. HAMILTON. *The Univ. of New Mexico, Univ. at Buffalo - Downtown Campus, The Univ. of New Mexico Hlth. Sci. Ctr., The Univ. of New Mexico Hlth. Sci. Ctr., The Univ. of New Mexico Hlth. Sci. Ctr., The Mind Res. Network.*

1:00 OO3 **603.09** Quantitative measurement of cortical microvascular oxygenation responses during functional hyperemia in awake mice. I. SENCAN*; T. ESIPOVA; K. KILIÇ; B. LI; M. DESJARDINS; M. A. YASEEN; H. WANG; R. JASWAL; S. KURA; B. FU; D. A. BOAS; A. DEVOR; S. VINOGRADOV; S. SAKADZIC. *Mass Gen. Hospital, Harvard Med. Sch., Univ. of Pennsylvania, UCSD.*

2:00 OO4 **603.10** A high-resolution population MRI template and automated processing tools for standardized analysis and visualization of the macaque brain. C. SPONHEIM*; J. SEIDLITZ; B. JUNG; A. MESSINGER; L. G. UNGERLEIDER. *Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*

3:00 OO5 **603.11** An MRI anatomical atlas and resting state activity-based functional parcellation of the brain of the mouse lemur primate (Microcebus murinus). N. A. NADKARNI*; S. BOUGACHA; C. GARIN; M. DHENAIN; J. PICQ. *MIRCen, CEA, INSERM, Univ. Paris 8.*

4:00 OO6 **603.12** Dynamic functional-PET imaging of time-dependent brain activity change by optogenetic stimulation of the motor cortex. D. KWON*; J. CHO; J. PARK; H. KIM. *Gwangju Inst. of Sci. & Technol. (GIST).*

1:00 OO7 **603.13** Imaging sensory responses in the same animal using two'photon microscopy, BOLD-fMRI and ultrafast ultrasound imaging. D. F. BOIDO*; R. L. RUNGTA; B. OSMANSKI; M. ROCHE; T. TSURUGIZAWA; D. LE BIHAN; L. CIOBANU; S. CHARPAK. *INSERM U1128, NeuroSpin/CEA-Saclay.*

2:00 OO8 **603.14** Can three echoes do what one echo cannot in BOLD fMRI of the ageing brain? S. ATWI*; A. W. S. METCALFE; A. D. ROBERTSON; B. J. MACINTOSH. *Sunnybrook Res. Inst., Heart and Stroke Fndn. Canadian Partnership for Stroke Recovery, Univ. of Toronto, Sunnybrook Res. Inst.*

3:00 OO9 **603.15** Noninvasive quantification of baseline oxygen extraction fraction (OEF) in the human brain using velocity-selective excitation and arterial nulling (VSEAN). E. Y. LIU*; J. GUO; E. C. WONG; R. B. BUXTON. *UCSD, UCSD, Stanford Univ., UCSD, UCSD.*

4:00 OO10 **603.16** Dynamics of neurovascular coupling between excitatory neurons and adjacent vessels at ictal onset and termination revealed by *in vivo* two-photon imaging. H. LIM*; S. KIM; M. SUH. *Ctr. for Neurosci. Imaging Research, IBS, Sungkyunkwan Univ., Sungkyunkwan Univ.*

1:00 OO11 **603.17** Breaking bad resolution: Multiphoton techniques for *in vivo* measurement of capillary diameter and blood flow. K. KISLER*; M. D. SWEENEY; A. J. BRUMM; A. R. NELSON; B. V. ZLOKOVIC. *Keck Sch. of Med. of the Univ. of Southern California, Nikon Instruments Inc.*

2:00 OO12 **603.18** Caffeine caused a widespread increase of resting brain entropy. D. CHANG*; Q. GE; J. ZHANG; Z. WANG. *Hangzhou Normal Univ.*

3:00 OO13 **603.19** Activation of cortical NPY-expressing interneurons produces vascular effects without measurable LFP. M. THUNEMANN*; T. V. NESS; K. KILIÇ; M. DESJARDINS; S. BOMPIERRE; M. VANDENBERGHE; Q. CHENG; K. WELDY; S. DJUROVIC; O. A. ANDREASSEN; D. A. BOAS; H. HERZOG; G. T. EINEVOLL; A. M. DALE; A. DEVOR. *Univ. of California San Diego, Norwegian Univ. of Life Sci., Univ. of California San Diego, Univ. of Oslo, Oslo Univ. Hosp., Univ. of Bergen, Oslo Univ. Hosp. - Ulleval, Harvard Med. Sch., Garvan Inst. of Med. Res., Univ. of Oslo, Univ. of California San Diego, Harvard Med. Sch.*

4:00 OO14 **603.20** Charactering the rat brain's functional network during the awake and anesthetized states using the multi-echo fMRI. Y. MA*; Z. LIANG; T. NEUBERGER; N. ZHANG. *Penn State Univ., Chinese Acad. of Sci., Penn State Univ.*

1:00 OO15 **603.21** Characterization of gray matter hemodynamic response function in mild traumatic brain injury. A. TAYLOR*; D. RESS; J. KIM. *Baylor Col. of Med.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 OO16 **603.22** IoT for neuroscience: A communication infrastructure for experiments and clinical exams. S. T. FOLDES*; A. JACOBSON. *Barrow Neurolog. Inst. Phoenix Children's Hosp, Arizona State Univ.*

**POSTER**

**604. Mapping Central Hypothalamic Pathways**

***Theme F: Integrative Physiology and Behavior***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 OO17 **604.01** Further elaboration of the distribution of agouti-related peptide-immunoreactive axons using a canonical rat brain atlas in the adult male rat: High spatial resolution analysis of rostral forebrain regions. B. E. PINALES*; J. D. HAHN; A. M. KHAN. *Univ. of Texas At El Paso, USC, Univ. of Texas at El Paso.*

2:00 OO18 **604.02** Diencephalic and mesencephalic neurons projecting to the ventral tegmental area, with special reference to the lateral hypothalamic area: A quantitative mapping study in the adult rat. E. M. WALKER*; B. DE HARO; J. A. SCHUELER; S. D. GONZALEZ; J. ARNAL; S. JEON; R. H. THOMPSON; A. M. KHAN. *Univ. of Texas El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso, USC, Univ. of Texas at El Paso.*

3:00 OO19 **604.03** ▲ Hypothalamic chemoarchitecture of the adult male rat: Further elaboration of results from a high spatial resolution longitudinal mapping study. G. FLORES-ROBLES; K. NEGISHI; R. A. PACHECO; A. ENRIQUEZ; E. ACEVEDO; B. AVILA; E. DOMINGUEZ; E. E. HERNANDEZ; A. MEDINA; E. MEJIA; M. A. NOVOA; A. T. PROVENCIO; F. D. RENTERIA; E. SIFUENTES; Y. TELLEZ; A. M. KHAN*. *Univ. of Texas at El Paso, UNIVERSITY OF TEXAS AT EL PASO, Univ. of Texas at El Paso, Univ. of Texas at El Paso.*

4:00 OO20 **604.04** Immunohistochemical study and atlas mapping of neuronal populations that co-express tyrosine hydroxylase and the vesicular GABA transporter in the hypothalamus. M. J. CHEE*; K. NEGISHI; K. S. SCHUMACKER; R. M. BUTLER; A. M. KHAN. *Carleton Univ., UNIVERSITY OF TEXAS AT EL PASO.*

1:00 OO21 **604.05** ▲ Towards automatic registration of histological data to canonical brain atlases. J. G. PEREZ*; O. FUENTES; A. M. KHAN. *The Univ. of Texas At El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso.*

2:00 OO22 **604.06** ▲ Mapping the chemoarchitecture of the arcuate hypothalamic nucleus in the adult male rat to a canonical brain atlas. S. RODARTE*; A. MARTINEZ; T. N. M. TRAN; B. E. PINALES; A. M. KHAN. *Univ. of Texas At El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso.*

3:00 OO23 **604.07** Mapping the connections between the medial prefrontal cortex and the diencephalon: A combined anterograde and retrograde tract-tracing study in the adult male rat. K. NEGISHI*; J. ALMERAZ*; A. M. KHAN. *UNIVERSITY OF TEXAS AT EL PASO, UNIVERSITY OF TEXAS AT EL PASO, Univ. of Texas at El Paso.*

4:00 OO24 **604.08** Efferent projections of thyrotropin-releasing hormone-synthesizing neurons from the tuberal region of the lateral hypothalamus impinge on histaminergic neurons of the tuberomammilary nuclei. E. SANCHEZ JARAMILLO*; G. WITTMANN; E. SÁNCHEZ-ISLAS; M. LEÓN-OLEA; R. M. LECHAN. *Inst. Nacional De Psiquiatria, Tufts Med. Ctr.*

1:00 OO25 **604.09** High-fat diet and aging interact to produce neuroinflammation and impair hippocampal- and amygdalar-dependent memory. R. M. BARRIENTOS*; H. M. D'ANGELO; A. SOCH; L. R. WATKINS; S. F. MAIER; S. J. SPENCER. *Univ. of Colorado Boulder, RMIT Univ.*

2:00 OO26 **604.10** Convergence of 1st- and 2nd-order projection pathways from the ventral hippocampus to the medial prefrontal cortex and the lateral hypothalamic area. C. LIU*; A. N. SUAREZ; J. D. HAHN; S. E. KANOSKI. *USC, USC.*

3:00 OO27 **604.11** Natural and artificial hunger gate social behavioral choice. J. BURNETT*; S. C. FUNDERBURK; C. LI; J. NAVARRETE; M. J. KRASHES. *Natl. Inst. of Hlth. (NIH).*

**POSTER**

**605. Fear and Aversive Learning and Memory: Extinction**

***Theme G: Motivation and Emotion***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 OO28 **605.01** TAAR1 partial agonist RO5263397 prevented the extinction of lithium chloride-induced conditioned taste aversion. J. LIU*; R. SEAMAN, Jr.; B. JOHNSON; J. LI. *Univ. at Buffalo, SUNY.*

2:00 OO29 **605.02** Reducing retention of learned fear: Prediction error versus lability. A. M. SCHNEIDER*; J. SUN; C. G. YAO; J. KANG; R. ABISHEK; D. J. KALAMARIDES; P. E. SIMSON; L. G. KIRBY. *Swarthmore Col., Univ. of Pennsylvania, Miami Univ., Lewis Katz Sch. of Med. At Temple Univ.*

3:00 OO30 **605.03** Hippocampal-prelimbic cortex pathway activation curbs fear after recent but not remote extinction. W. A. SZADZINSKA*; J. BUKOWCZAN; K. ROKOSZ; K. KONDRAKIEWICZ; M. MIKOSZ; E. A. KNAPSKA. *Nencki Inst. of Exptl. Biol. PAS.*

4:00 OO31 **605.04** In the pursuit of the fear engram: Identification of neuronal circuits underlying the treatment of anxiety disorder. O. KHALAF*; L. DIXSAUT; V. GORDEN; L. GLAUSER; J. GRÄFF. *The Swiss Federal Inst. of Technol. (EPFL).*

1:00 OO32 **605.05** Elucidating the mechanisms of fear extinction in developing animals: A special case of NMDAR-independent extinction in adolescent rats. M. A. BISBY*; K. D. BAKER; R. RICHARDSON. *UNSW Sydney.*

2:00 OO33 **605.06** Distinct neuronal activation in medial prefrontal cortex between wild-type inbred mouse strains during fear extinction learning. V. A. CAZARES*; R. PARENT; L. OUILETTE; S. J. MOORE; G. G. MURPHY. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

3:00 OO34 **605.07** Sex differences in extinction of conditioned fear in adolescent rats: Estrus cycle effects. J. H. KIM*; D. L. D. NGUYEN; S. WHITTLE; D. E. GANELLA. *The Florey Inst. of Neurosci. and Mental He, Melbourne Neuropsychiatry Ctr.*

4:00 OO35 **605.08** Reproductive experience alters the involvement of N-methyl-D-aspartate receptors in fear extinction, but not fear conditioning, in female Sprague Dawley rats. S. TANG*; B. M. GRAHAM. *UNSW Sydney.*

Tues. PM

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 OO36 **605.09** Improving extinction retention and reducing relapse in adolescent rats with a TrkB agonist. A. A. STYLIANAKIS*; R. RICHARDSON; K. D. BAKER. *Univ. of New South Wales - Kensington Campus, Univ. of New South Wales, UNSW Australia.*

2:00 PP1 **605.10** A cortico-thalamic-hippocampal circuit for remote fear memory attenuation. B. A. SILVA*; M. KINTSCHER; R. SCHNEGGENBURGER; J. GRÄFF. *École Polytechnique Fédérale De Lausanne (EPFL).*

3:00 PP2 **605.11** Chronic alcohol after fear extinction augments cued freezing. H. C. BERGSTROM*; J. DISHART; A. HILLER; G. MINTZ; Z. WANG. *Vassar Col.*

4:00 PP3 **605.12** MAP Training the brain with meditation and aerobic exercise. T. J. SHORS*; E. M. MILLON; H. M. CHANG. *Rutgers Univ.*

**POSTER**

**606. Reward: Neuropharmacology**

***Theme G: Motivation and Emotion***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 PP4 **606.01** Activational differences in neurons from the paraventricular nucleus of the thalamus in binge eating prone and binge eating resistant rats. K. A. RICHARDSON*; A. D. KIMBLE. *Howard Univ. Col. of Med., Howard Univ. Col. of Med.*

2:00 PP5 **606.02** D2 receptor independent modulation of iMSN synaptic transmission by dopamine in the nucleus accumbens. D. A. BURKE*; V. A. ALVAREZ. *Natl. Inst. On Alcohol Abuse and Alcoholism, Brown Univ.*

3:00 PP6 **606.03** $\Delta^9$-tetrahydrocannabinol (THC) produces bi-phasic rewarding and aversive effects in the anterior vs. posterior nucleus accumbens shell through dissociable μ vs κ opiate receptor mechanisms and differential modulation of medium spiny neuron activity. C. NORRIS*; H. J. SZKUDLAREK; S. R. LAVIOLETTE. *Univ. of Western Ontario.*

4:00 PP7 **606.04** Delta-9-tetrahydrocannabinol and cannabidiol exert differential effects on aversive and rewarding emotional memory formation and salience attribution through actions in the ventral hippocampus. R. M. HUDSON*; W. J. RUSHLOW; S. R. LAVIOLETTE. *Univ. of Western Ontario, Univ. of Western Ontario.*

1:00 PP8 **606.05** ▲ Order effects alter work effort in rat model of free choice. Z. T. KNAUSS*; M. M. QUEENER; J. A. LUBERA; M. FILIPOVIC; N. M. BOLDEN-HALL; J. P. SMITH; R. S. GOLDSMITH; K. A. SMITH; J. E. BISCHOFF; A. PRICE; M. C. MILLER; H. C. CROMWELL. *Bowling Green State Univ., Bowling Green State Univ.*

2:00 PP9 **606.06** Effects of anandamide administration on components of reward processing during free choice. B. R. FRY*; L. C. ZONA; J. A. LALONDE; H. C. CROMWELL. *Bowling Green State Univ.*

3:00 PP10 **606.07** ● Electrophysiological characterization of novel selective and reversible kappa opioid receptor antagonists in VTA neurons. E. B. MARGOLIS*; T. L. WALLACE; L. J. VAN ORDEN; W. J. MARTIN. *UCSF, BlackThorn Therapeutics, Inc.*

4:00 PP11 **606.08** ● Pharmacological characterization of BTRX-335140, a potent, selective and reversible kappa opioid receptor antagonist. T. L. WALLACE*; L. J. VAN ORDEN; M. GUERRERO; S. RILEY; S. BROWN; F. PORRECA; H. ROSEN; E. ROBERTS; W. J. MARTIN. *Blackthorn Therapeut., The Scripps Res. Inst., Univ. of Arizona Col. of Pharm.*

1:00 PP12 **606.09** ▲ Impulsivity an hyperdopaminergic disorders in Parkinson's disease: From behavioral to cellular approaches in a rodent model. R. MAGNARD*; C. CARCENAC; Y. VACHEZ; S. BOULET; D. J. BELIN; S. CARNICELLA. *INSERM U1216, Univ. of Cambridge.*

2:00 PP13 **606.10** Cholinergic antagonists do not alter reinforcer devaluation in macaques. H. F. WAGUESPACK*; C. CASTANON; E. WICKER; L. MALKOVA; P. A. FORCELLI; J. N. TURCHI. *Georgetown Univ., Georgetown Univ., Georgetown Univ., Georgetown Univ. Med. Ctr., Georgetown Univ., Natl. Inst. of Mental Hlth.*

3:00 PP14 **606.11** Ketamine increases sexual motivation in female rats. F. A. GUARRACI*; H. ABDEL-RAHIM, 78626; J. DEVORE; C. M. F. GONZALEZ; M. N. KUNKEL; D. LUCERO; J. SMAT; M. STINNETT; P. D. WOMBLE; E. QUADLANDER; J. A. BOYETTE-DAVIS. *Southwestern Univ., St. Edward's Univ.*

4:00 PP15 **606.12** ▲ Deep Brain Stimulation, apathy symptom and dopaminergic system in Parkinson's disease: Preclinical study in the rat. Y. VACHEZ*; C. CARCENAC; R. MAGNARD; M. SAVASTA; S. CARNICELLA; S. BOULET. *Inserm U1216, Inserm région Provence Alpes Cote d'Azur et Corse.*

1:00 PP16 **606.13** Distinct roles of serotonergic receptor subtypes in value-based decision processes in monkeys: A behavioral pharmacological study with PET imaging. Y. HORI*; Y. NAGAI; A. OH-NISHI; E. KIKUCHI; T. SUHARA; T. MINAMIMOTO. *Natl. Inst. of Radiological Sciences, QST.*

2:00 PP17 **606.14** The pharmacological antagonism of orexin/hypocretin receptors in the paraventricular nucleus of the thalamus decreases the conditioned reinforcing properties of a reward-associated cue in sign-tracking rats. P. CAMPUS*; J. L. HAIGHT; A. M. JOHNSON; M. S. KLUMPNER; I. R. COVELO; S. B. FLAGEL. *Univ. of Michigan Dept. of Psychiatry, Yale Univ., Undergraduate Program in Neuroscience, Univ. of Michigan, Mol. & Behavioral Neurosci. Inst.*

**POSTER**

**607. Motivation: Cortical Neurocircuitry**

***Theme G: Motivation and Emotion***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 PP18 **607.01** A history of cocaine alters prelimbic neuronal activity during learning and impairs subsequent reinforcer devaluation. E. A. WEST*; M. NIEDRINGHAUS; H. K. ORTEGA; R. M. HAAKE; R. M. CARELLI. *Univ. of North Carolina at Chapel Hill.*

2:00 PP19 **607.02** Effects of abstinence from cocaine self-administration on basal cell firing dynamics in prelimbic cortex and nucleus accumbens core. R. M. HAAKE*; M. NIEDRINGHAUS; E. A. WEST; R. M. CARELLI. *Univ. of North Carolina.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 PP20 **607.03** A distinct subpopulation of neurons in the anterior insula tracks cocaine-induced devaluation of natural rewards. T. M. MOSCHAK*; X. WANG; R. M. CARELLI. *Univ. of North Carolina.*

4:00 PP21 **607.04** Dynamics of prelimbic cortical neuron activity during delay discounting behavior. D. A. SACKETT*; R. M. CARELLI. *Univ. of North Carolina At Chapel Hill.*

1:00 PP22 **607.05** Processing of hedonic valence by the infralimbic cortex. S. W. HURLEY*; R. M. CARELLI. *Univ. of North Carolina At Chapel Hill.*

2:00 PP23 **607.06** White matter integrity is associated with individual difference in locus of control. S. IWAKI*; Z. DUO; T. KUMADA. *Natl. Inst. Adv Indust Sci. & Tech., Univ. of Tsukuba, Kyoto Univ.*

3:00 PP24 **607.07** Lateral prefrontal neuronal activity during a 2 interval forced choice task. R. FALCONE*; D. WEINTRAUB; T. SETOGAWA; B. RICHMOND. *NIMH, Functional Neurosurgery, North Shore Univ. Hosp., NIMH.*

4:00 PP25 **607.08** Varying levels of reward, punishment, and motivation in the primary sensory and motor cortices of non-human primates. J. P. HESSBURG*; A. TARIGOPPULA; D. B. MCNIEL; J. T. FRANCIS. *SUNY Downstate Med. Ctr., Univ. of Houston.*

1:00 PP26 **607.09** ● The effects of the NOP-receptor antagonist BTRX-246040 on the sensitivity to losses during decision-making and on spatial working memory performance in non-human primates. H. SEO*; K. S. ABEDRABBO; M. N. BOUCHER; T. L. WALLACE; W. J. MARTIN; A. F. T. ARNSTEN; D. LEE. *Yale Univ. Sch. of Med., Yale Sch. of Med., BlackThorn Therapeut.*

2:00 PP27 **607.10** rTMS modulation of prefrontal cortex affects salience coding of food cues. T. KAMMER*; M. ULRICH; S. LORENZ; L. STEIGLEDER; M. W. SPITZER; G. GRÖN. *Univ. of Ulm, Univ. of Ulm.*

**POSTER**

**608. Emotional Processes**

***Theme G: Motivation and Emotion***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 PP28 **608.01** Hemisferic asymetry link between attachment styles. E. VARLIK ÖZSOY*; E. GÜLBETEKIN. *Akdeniz Univ., Akdeniz Univ.*

2:00 PP29 **608.02** Moral cognition and reasoning in relation with prosocial and aggressive behaviors for elementary students. L. UCHIYAMA*. *Houai Res. Inst.*

3:00 QQ1 **608.03** Jealousy is positively associated with fronto-striatal responses to angry faces. X. ZHENG*; B. BECKER; L. LUO; J. LI; K. KENDRICK. *Univ. of Electronic Sci. and Technol.*

4:00 QQ2 **608.04** Electroencephalographic evidence that mindfulness training dampens emotion sharing but increases approach orientation toward racial outgroup members' distress. D. R. BERRY*; D. BUSTAMANTE; K. W. BROWN. *Virginia Commonwealth Univ.*

1:00 QQ3 **608.05** Neuroanatomical correlates of personal space preferences: A voxel-based morphometry study. J. VIEIRA*; T. P. TAVARES; D. G. V. MITCHELL. *Univ. of Western Ontario.*

2:00 QQ4 **608.06** BOLD correlates of endogenous oxytocin release during affective touch. I. MORRISON*; H. LINDHOLM; G. NOVEMBRE; L. HANDLIN. *Linköping Univ., Linkoeping Univ., Univ. of Skoevde.*

3:00 QQ5 **608.07** ● Flow: The application of psychophysiology to understand user experience in video games. M. M. NIEDZIELA*; M. ROSAZZA. *HCD Res., HCD Res.*

4:00 QQ6 **608.08** Affective auditory stimuli using simultaneous MEG and EEG — Source localization study. M. KWON*; H. CHO; S. AHN; K. KIM; S. JUN. *Gwangju Inst. of Sci. and Technol., New York State Dept. of Hlth., UNC at Chapel Hill, Korea Res. Inst. of Standards and Sci., Univ. of Sci. and Technol.*

1:00 QQ7 **608.09** ▲ Unique electrocortical responses associated with attentional bias to fearful facial expressions and auditory distress signals. J. STERR*; S. CONGER; B. DIMARIA; J. ANDRZEJEWSKI; J. M. CARLSON. *Northern Michigan Univ., Northern Michigan Univ.*

2:00 QQ8 **608.10** Resting state functional connectivity associated with alexithymic personality type. S. TUKAIEV*; M. CHERNYKH; I. ZYMA; Y. HAVRYLETS; V. RIZUN; M. MAKARCHUK. *Natl. Taras Shevchenko Univ. of Kyiv, Inst. of Biol., Natl. Taras Shevchenko Univ. of Kyiv, Inst. of Journalism, Natl. Taras Shevchenko Univ. of Kyiv, Inst. of Biol.*

3:00 QQ9 **608.11** Emotion processing in Moebius syndrome. S. JAPEE*; S. LOKEY; J. JORDAN; C. I. BAKER; L. G. UNGERLEIDER. *NIH, Natl. Inst. of Mental Hlth., NIMH/NIH, NIH, Natl. Inst. of Mental Hlth.*

4:00 QQ10 **608.12** ● ▲ Autonomic and central correlates of empathic response and sub-clinical psychopathy as reflected in heart rate variability and cerebral activity. M. J. SCHUMACHER; R. HJELLE; R. L. LLOYD*. *Univ. of Minnesota, Univ. of Minnesota.*

1:00 QQ11 **608.13** Electrical stimulation of human orbitofrontal cortex engages limbic circuits and acutely improves negative mood. K. K. SELLERS*; V. R. RAO; D. L. WALLACE; M. B. LEE; K. M. JORDAN; L. B. BEDERSON; N. GOLDBERG-BOLTZ; R. G. HENRY; H. E. DAWES; E. F. CHANG. *Univ. of California, San Francisco, Univ. of California, San Francisco, Univ. of California, San Francisco.*

2:00 QQ12 **608.14** Evaluation of unpleasant emotions during cursor control from fMRI brain activity signals. Y. OGATA*; Y. KATSUI; N. YOSHIMURA; Y. KOIKE. *Tokyo Inst. of Technol.*

3:00 QQ13 **608.15** Familiarity effects on musical appraisal. N. H. SPILKA*; S. J. PHILIBOTTE; S. SPIVACK; I. PASSMAN; P. WALLISCH. *New York Univ., New York Univ., New York Univ.*

4:00 QQ14 **608.16** Sex differences in alterations in the mood states of university athletes with a history of concussion. W. SAUVE*; D. ELLEMBERG; R. D. MOORE. *Neurodevlab, Univ. De Montréal, Univ. of Montreal.*

1:00 QQ15 **608.17** ▲ The neural basis of emotion induced by real playing in sports games. M. OTOMO*; J. SHINOZAKI; H. NAGAHAMA; Y. SAKURAI; T. NAGAMINE. *Sapporo Med. Univ., Sapporo Med. Univ. Hosp.*

2:00 QQ16 **608.18** Young adult neural responses to viewing gun violence videos. A. ADEBIMPE*; D. S. BASSETT; D. ROMER. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 QQ17 **608.19** Anger increases dominance seeking in young male. R. M. DE ALMEIDA*; J. C. CENTURION CABRAL. *UFRGS.*

4:00 QQ18 **608.20** Amygdala-medial prefrontal functional connectivity relates to stress exposure and mental health in early childhood. A. T. PARK*; P. SAXLER; A. B. CYR; J. A. LEONARD; J. D. E. GABRIELI; A. P. MACKEY. *Univ. of Pennsylvania, MIT.*

1:00 QQ19 **608.21** Understanding the relationship between neural activity and stress response in a subsequent immersive target detection task. H. ROY*; N. WASYLYSHYN; J. O. GARCIA; K. GAMBLE; C. DAVIS; D. PATTON; M. EDDY; J. BROOKS; J. M. VETTEL. *U.S. Army Res. Lab., Univ. of Pennsylvania, U.S. Army Res. Lab., U.S. Army Natick Res., Ctr. for Applied Brain & Cognitive Sci., Univ. of California, Santa Barbara.*

2:00 QQ20 **608.22** Acute mental fatigue modulates cognitive processing of negative emotion. K. WATANABE*; A. T. SASAKI; K. TAJIMA; K. MIZUNO; Y. WATANABE. *RIKEN Ctr. for Life Sci. Technologies, Osaka City Univ. Grad. Sch. of Med., RIKEN Compass to Healthy Life Res. Complex Program, Osaka City Univ. Grad. Sch. of Med.*

3:00 QQ21 **608.23** Measuring fatigue in a mouse model of radiation therapy. B. S. WOLFF; S. RAHEEM; K. FUKUHARA*; L. SALIGAN. *NIH, Natl. Inst. of Nursing Res., NIH.*

4:00 QQ22 **608.24** Metabotropic glutamate receptor 5 mediates post-radiotherapy fatigue development in cancer patients. L. FENG; S. D. DETERA-WADLEIGH*; L. SALIGAN. *NIH, NIH, NIH.*

**POSTER**

**609. Ketamine as an Antidepressant**

***Theme G: Motivation and Emotion***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 RR1 **609.01** Ketamine effects on temporal discrimination in a rodent model of depression. M. A. FRIAR*; P. JANER; A. ROMERO; M. NASH; M. GOMEZ. *American Univ.*

2:00 RR2 **609.02** A novel ketamine analogue methoxetamine produced rapid and sustained antidepressant effects probably via glutamatergic and serotonergic mechanisms. C. D. BOTANAS*; J. I. DE LA PENA; R. CUSTODIO; I. I. DELA PENA; M. KIM; H. KIM; Y. LEE; J. CHEONG. *Uimyung Res. Inst. For Neurosci., Uimyung Res. Inst. For Neurosci., Uimyung Res. Inst. For Neuroscience, Sahmyook Univ., Sahmyook Univ., Dept. of Life and Nanopharmaceutical Sciences, Kyung Hee Univ.*

3:00 RR3 **609.03** Endogenous kynurenic acid mediates ketamine- and (2R,6R)-hydroxynorketamine-induced increases in extracellular glutamate and antidepressant actions. H. WU*; P. ZANOS; T. D. GOULD; R. SCHWARCZ. *Maryland Psychiatric Res. Ctr., Univ. of Maryland Sch. Med., Univ. of Maryland Sch. Med., Univ. of Maryland Sch. Med.*

4:00 RR4 **609.04** ● Antidepressant and prophylactic ketamine administration differentially impact adult hippocampal neurogenesis. C. T. LAGAMMA*; W. TANG; A. MORGAN; J. C. MCGOWAN; R. A. BRACHMAN; C. A. DENNY. *Res. Fndn. For Mental Hyg., Columbia Univ., Doctoral Program in Neurobio. and Behavior, Columbia Univ., Dept. of Psychiatry, Columbia Univ.*

1:00 RR5 **609.05** Ventral CA3 deltaFosB mediates prophylactic ketamine efficacy against stress-induced depressive-like behavior. A. MASTRODONATO*; C. T. LAGAMMA; J. C. MCGOWAN; A. J. ROBISON; C. A. DENNY. *Columbia Univ., Res. Fndn. for Mental Hygiene, Inc., Michigan State Univ.*

1:00 DP13/RR6 **609.06** ▲ (Dynamic Poster) Effects of ketamine and its metabolite hydroxynorketamine on synaptic transmission, neurogenesis and behaviour in a depression model of juvenile and adult Wistar rats. H. MICHAËLSSON; M. FORSBERG; E. L. HANSE*; H. SETH. *Univ. of Gothenburg, Goteborg Univ.*

3:00 RR7 **609.07** Transcriptomic profiling of the antidepressant ketamine in the mouse hippocampus. O. H. COX; P. ZANOS; L. FLOREA; T. D. GOULD; R. LEE*. *Johns Hopkins Univ., Univ. of Maryland Sch. of Med., Johns Hopkins Univ.*

4:00 RR8 **609.08** Investigating the role of serotonin transporter and organic cation transporter 3 in the antidepressant-like effects of ketamine. M. A. BOWMAN*; M. VITELA; W. A. OWENS; W. KOEK; L. C. DAWS. *Univ. of Texas Hlth. Sci. Ctr. San Anto, Univ. of Texas Hlth. Sci. Ctr. San Anto, Univ. of Texas Hlth. Sci. Ctr. San Anto, Univ. of Texas Hlth. Sci. Ctr. San Anto.*

1:00 RR9 **609.09** Ketamine restores changes in glutamate release, BDNF trafficking and dendrite morphology in the hippocampus of rats vulnerable to chronic mild stress. P. TORNESE*; L. MUSAZZI; N. SALA; M. SEGUINI; D. BONINI; M. MILANESE; T. BONIFACINO; G. TRECCANI; G. RACAGNI; J. R. NYENGAARD; G. WEGENER; G. BONANNO; A. BARBON; M. POPOLI. *Univ. of Milan, Univ. of Brescia, Univ. of Genoa, Aarhus Univ., Aarhus Univ. Hosp.*

2:00 RR10 **609.10** Glutamatergic-GABAergic synaptic plasticity within the prefrontal cortex associated with chronic stress and ketamine treatment. C. H. DUMAN*; S. GHOSAL; R. LIU; M. WU; M. J. GIRGENTI; E. S. WOHLEB; R. TERWILLIGER; M. ALREJA; R. S. DUMAN. *Yale Univ., Univ. of Cincinnati.*

3:00 RR11 **609.11** ● Acetylated alpha-tubulin as a plasma biomarker of ketamine efficacy: A time course study in the Wistar Kyoto rat to assess antidepressant and cognitive effects. J. A. PRENDERVILLE*; C. W. MCDONNELL; A. FISHER; G. DI CAUPA; J. ROUINE; C. MOMBEREAU; M. BIANCHI. *Transpharmation Ireland Ltd, Trinity Col. Dublin, H. Lundbeck A/S.*

4:00 RR12 **609.12** ● Comparison of selective NR2B antagonism with non-selective NMDA receptor antagonism by quantitative electroencephalography (EEG) recordings in freely moving rats. B. FERGER*; P. VOEHRINGER; H. RAITH; C. DORNER-CIOSSEK. *Boehringer Ingelheim Pharma GmbH & Co. KG.*

1:00 RR13 **609.13** Comparative effects of ketamine isomers, R-ketamine and S-ketamine, in mouse models of depression. Y. AGO*; M. HIGUCHI; W. TANABE; K. SEIRIKI; H. IGARASHI; A. KASAI; K. HASHIMOTO; H. HASHIMOTO. *Osaka Univ., Chiba Univ. Ctr. Forensic Men Hlth.*

2:00 RR14 **609.14** The ketamine metabolite hydroxynorketamine impacts downstream signaling via NMDA receptor inhibition. K. SUZUKI*; E. NOSYREVA; K. W. HUNT; E. T. KAVALALI; L. M. MONTEGGIA. *UT Southwestern Med. Ctr., UT Southwestern Med. Ctr.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 RR15 **609.15** ● Connectivity-phenotype associations with depressive symptom improvement after ketamine administration. J. W. EVANS*; E. D. BALLARD; C. FARMER; A. NUGENT; C. ZARATE, Jr. *NIH.*

4:00 RR16 **609.16** Oleoylethanolamide modulates depressive like and stress related responses by recruiting histaminergic neurotransmission. A. COSTA*; S. D. SCHMIDT; B. RANI; P. BLANDINA; M. PASSANI; G. PROVENSI. *Univ. of Florence.*

1:00 RR17 **609.17** ● Rapid antidepressant action of ketamine: Increase in cAMP independent of NMDA receptor antagonism in glial cells. N. WRAY*; J. SCHAPPI; M. M. RASENICK. *Univ. of Illinois at Chicago Dept. of Physiol. and Biophysics, Univ. of Illinois At Chicago, Univ. of Illinois at Chicago Col. of Med.*

2:00 RR18 **609.18** ● Metformin enhances antidepressant response rate to ketamine in a rodent model of antidepressant treatment resistance. J. B. PRICE*; C. HE; S. K. ERHARDT; L. SCHWIELER; W. BOBO; M. A. FRYE; S. J. TYE. *Mayo Clin., Karolinska Institutet, Karolinska Inst., Mayo Clin.*

**POSTER**

**610. Novel Drugs and Treatments for Affective Disorders**

***Theme G: Motivation and Emotion***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 RR19 **610.01** Central infusion of beta-hydroxybutyrate produces antidepressant like effects in a rodent model of depression. N. KAJITANI*; M. IWATA; T. YAMANASHI; A. MIURA; K. TSUNETOMI; S. FUKUDA; R. MASTUO; T. NISHIGUCHI; T. YAMAUCHI; R. S. DUMAN; K. KANEKO. *Tottori Univ., Nara Med. Univ., Yale Univ. Sch. of Med.*

2:00 RR20 **610.02** Oral administration of medium chain triglyceride produces antidepressant effects in rats via the elevation of beta-hydroxybutyrate. A. MIURA*; M. IWATA; T. YAMANASHI; N. KAJITANI; K. TSUNETOMI; S. FUKUDA; R. MATSUO; T. NISHIGUCHI; T. YAMAUCHI; R. S. DUMAN; K. KANEKO. *Tottori Univ., Nara Med. Univ., Yale Univ. Sch. Med.*

3:00 RR21 **610.03** ▲ Beta-hydroxybutyrate, an endogenous NLRP3 inhibitor, ameliorates the activation of astrocyte in the rat hippocampus caused by immobilization stress. K. TSUNETOMI*; M. IWATA; T. YAMANASHI; N. KAJITANI; A. MIURA; N. KAMIYA; T. NISHIGUCHI; R. MATSUO; N. FUKUMOTO; A. SUZUKI; S. FUKUDA; K. KANEKO. *Tottori Univ., Tottori Univ.*

4:00 RR22 **610.04** The Rho-kinase inhibitor, fasudil, has antidepressant-like efficacy in adolescent mice. L. P. SHAPIRO*; S. L. GOURLEY. *Emory Univ., Emory Univ.*

1:00 RR23 **610.05** The effects of TNF-alpha inhibition on $GABA_A$ and GluA1-ir cells across the rodent hippocampus and cingulate cortex in an animal model of depression. K. BRYMER*; H. J. KIM; H. J. CARUNCHO; L. E. KALYNCHUK. *Univ. of Saskatchewan, Univ. of Saskatchewan, Univ. of Saskatchewan, Univ. of Saskatchewan.*

2:00 RR24 **610.06** Cannabidiol treatment induces antidepressant-like effect in streptozotocin-induced diabetic rats. A. P. F. WALTRICK; H. MORAIS; K. GENARO; J. A. CRIPPA; J. M. CUNHA; J. M. ZANOVELI*. *Federal Univ. of Parana, Univ. Sao Paulo.*

3:00 RR25 **610.07** ▲ Analgesic and antidepressant-like effects of rutin in the reserpine-induced fibromyalgia in ovariectomized rats. A. HERNÁNDEZ LEÓN*; A. FERNANDEZ-GUASTI; M. GONZÁLEZ-TRUJANO. *Ctr. De Investigacion Y De Estudios Avanzados De, Inst. Nacional de Psiquiatría "Ramón de la Fuente".*

4:00 RR26 **610.08** ● SUVN-911(nAChR $\alpha_4\beta_2$ ) antagonist addresses most of the limitations of current antidepressant therapies. R. ABRAHAM*; R. KALLEPALLI; V. GOURA; J. THENTU; V. KAMUJU; S. M. IRUPANNANAVAR; R. C. PALACHARLA; V. GOYAL; S. PANDEY; B. NARASIMHA; S. RAVELLA; A. SHINDE; A. MOHAMMED; R. NIROGI. *Suven Life Sci.*

1:00 RR27 **610.09** ● The differential effects of monophasic and biphasic repetitive transcranial magnetic stimulation on attentional processing in major depressive disorder. M. HYDE*; P. BLIER; L. MCMURRAY; A. ROSTOM; A. KHAN; V. KNOTT. *CMM Program, Univ. of Ottawa, Univ. of Ottawa Inst. of Mental Hlth. Res., Royal Ottawa Mental Hlth. Ctr., Queensway-Carleton Hosp.*

2:00 RR28 **610.10** Selective positive allosteric modulators of α7 nicotinic receptors have antidepressant-like activity. M. CRADDOCK*; H. ARIAS; K. TARGOWSKA-DUDA; B. BUDZYńSKA; A. MICHALAK; C. J. LØLAND; K. JOZWIAK; G. BIALA. *California Northstate Univ. COM, California Northstate Univ., Med. Univ. of Lublin, Med. Univ. of Lublin, Univ. of Copenhagen.*

3:00 RR29 **610.11** CXCR4 and CXCR7 agonists are present in plant species used for treatment of mental disorders in Peruvian traditional medicine. C. GALLO*; G. POLETTI; R. ROJAS; A. VAISBERG. *Univ. Peruana Cayetano Heredia.*

4:00 RR30 **610.12** ● BU10119, a buprenorphine analog, produces robust antidepressant-like effects in mice. C. A. BROWNE*; S. A. ROBINSON; E. FALCON; S. M. HUSBANDS; I. LUCKI. *Uniformed Services Univ. of the Hlth. Scienc, Univ. of Pennsylvania, Univ. of Bath.*

1:00 RR31 **610.13** ● SXC-2023: Preclinical characterization of a novel activator of the cystine glutamate antiporter (System $x_c^-$) and potential therapeutic for CNS disorders. C. E. BEYER*; M. P. NEARY; D. G. LAWTON; M. PREIGH; N. J. RADDATZ; D. C. LOBNER; J. R. MANTSCH; D. A. BAKER. *Promentis Pharmaceuticals, Marquette Univ.*

2:00 RR32 **610.14** Noradrenergic signaling enhances MMP release from cultured hippocampal neurons; relevance to antidepressant efficacy. S. ALAIYED; M. S. MCCANN; E. KIM; K. J. KELLAR; K. CONANT*. *Georgetown Univ., Georgetown Univ., Georgetown Univ., Georgetown Univ.*

3:00 RR33 **610.15** Antidepressant effects of C-terminal fragment of tetanus toxin in a rat model of depression. Y. TIZABI*; B. GETACHEW; I. LIMON PEREZ DE LEON; J. AGUILERA; J. CASTRILLON; L. MENDIETA. *Howard Univ. Col. of Med., Benemerita Univ. Autonoma De Puebla FCQ Lab. Neurofarma, Inst. de Neurociències, Univ. Autònoma de Barcelona.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 RR34 **610.16** ● Comparative analysis of decynium-22 analogs as novel antidepressants via inhibition at the low-affinity, high capacity biogenic amine transporters. R. FRASER-SPEARS*; M. BASIOUNY; A. M. KRAUSE-HEUER; N. A. WYATT; I. GREGURIC; P. D. CALLAGHAN; B. H. FRASER; L. C. DAWS. *Univ. of Texas Hlth. San Antonio, Australian Nuclear Sci. and Technol. Organisation (ANSTO), Univ. of Texas Hlth. San Antonio.*

1:00 RR35 **610.17** Chronic unpredictable stress modifies the quantity and morphology of microglia and neuronal health in cortico-limbic circuitry. C. QUAILEY; C. FLYNN; C. WHITELOCK; B. DALENA; K. JONES; K. RONALTER; M. M. MIRRIONE; A. J. BETZ*. *Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ.*

2:00 RR36 **610.18** Oral riluzole alters inflammatory markers and glutamate transporters in rodent hippocampus following chronic unpredictable stress. I. SCHIANO*; L. TELISKA; L. FRUEHAUF; A. ROSELUND; M. SZAHAJ; A. NAJJAR; T. MEDWID; J. DEMURO; A. J. BETZ. *Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ.*

3:00 SS1 **610.19** The non-selective opioid diprenorphine produces delta-opioid receptor-mediated rapid antidepressant-like effects in the mouse. T. M. HILLHOUSE*; J. E. HALLAHAN; N. GRIGGS; E. SCHRAMM; J. R. TRAYNOR. *Weber State Univ., Univ. of Michigan.*

4:00 SS2 **610.20** CX614, a cognitive enhancing AMPAkine, as fast onset antidepressant. H. JOURDI*; M. KABBAJ. *Univ. of Balamand, Florida State Univ., Florida State Univ.*

1:00 SS3 **610.21** ▲ Antidepressant effect of transcranial direct current stimulation of the rat medial prefrontal cortex. J. CONWAY*; L. WALTERS; R. J. RAYMOND; J. NOBREGA; F. R. BAMBICO. *Mem. Univ. of Newfoundland, Ctr. for Addiction and Mental Hlth.*

2:00 SS4 **610.22** N-3 poly-unsaturated fatty acids facilitate the differentiation of patient-derived induced neural progenitor cells into glia. J. YU*; J. WANG; R. PERLIS; M. RASENICK. *Univ. of Illinois At Chicago, Massachusetts Gen. Hosp., Massachusetts Gen. Hospital,Harvard Med. Sch., Univ. of Illinois at Chicago,Jesse Brown VA Med. Center.*

3:00 SS5 **610.23** Methanandamide stimulates release of TRH and TRH-like peptides throughout male rat brain. A. E. PEKARY*; A. SATTIN. *VA Greater Los Angeles Hlthcare Syst.*

4:00 SS6 **610.24** A single administration of agmatine, similar to ketamine, reverses depressive-like behavior induced by chronic administration of corticosterone in mice. V. B. NEIS*; L. E. B. BETTIO; M. MORETTI; P. B. ROSA; G. OLESCOWICZ; D. B. FRAGA; F. M. GONÇALVES; A. E. FREITAS; I. A. HEINRICH; M. W. LOPES; R. B. LEAL; A. L. S. RODRIGUES. *Federal Univ. of Santa Catarina, Univ. of Victoria.*

1:00 SS7 **610.25** Impact of low-frequency repetitive transcranial magnetic stimulation (rTMS) to the lower part of the medial frontal cortex on behavioral activity, sociability and motivation in monkeys. S. NAKAMURA*; T. IIJIMA; K. TSUTSUI. *Div. Sys Neurosci, Grad Schl Life Sci, Tohoku Univ.*

2:00 SS8 **610.26** Reelin as a novel antidepressant: Behavior and neurobiological correlates. L. E. KALYNCHUK*; K. J. BRYMER; J. J. BOTTERILL; M. A. MITCHELL; H. J. KIM; H. J. CARUNCHO. *Univ. of Saskatchewan, Univ. of Saskatchewan, The Nathan Kline Inst. for Psychiatric Res., Univ. of Saskatchewan, Univ. of Saskatchewan.*

3:00 SS9 **610.27** Novel mechanisms contributing to the antidepressant-like effect of pharmacological hippocampal activation. F. R. CARRENO*; L. D. ARROYO; D. J. LODGE; A. FRAZER. *UT Hlth. San Antonio, Ctr. for Biomed. Neurosci., South Texas Veterans Hlth. Care Syst.*

4:00 SS10 **610.28** Agmatine exhibits antidepressant and pro-neurogenic effects in mice submitted to chronic exposure to corticosterone. A. S. RODRIGUES*; G. OLESCOWICZ; V. B. NEIS; D. B. FRAGA; P. B. ROSA; F. F. MELLEU; P. S. BROCARDO; J. GIL-MOHAPEL. *Univ. Federal de Santa Catarina, Univ. Federal de Santa Catarina, Univ. of Victoria.*

1:00 SS11 **610.29** Chronic treatment with a selective serotonin reuptake inhibitor increases spontaneous activity of dorsal raphe nucleus serotonergic neurons through activating L-type voltage dependent $Ca^{2+}$ channels. N. ASAOKA*; N. NISHITANI; H. KINOSHITA; H. KAWAI; N. SHIBUI; K. NAGAYASU; H. SHIRAKAWA; T. NAKAGAWA; S. KANEKO. *Kyoto Univ., Kyoto Univ. Hosp.*

**POSTER**

**611. Depression and Antidepressants: Mechanism**

***Theme G: Motivation and Emotion***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 SS12 **611.01** ● Altered plasma protein glycosylation in depression. H. YAMAGATA*; S. UCHIDA; K. MATSUO; K. HARADA; Y. WATANABE. *Yamaguchi Univ. Sch. of Med., Yamaguchi Univ. Graduste Sch. of Med., Yamaguchi Univ. Grad. Sch. of Med., Yamaguchi Univ. Grad. Sch. of Med., Yamaguchi Univ. Sch. of Med.*

2:00 SS13 **611.02** ● dmPFC-rTMS as a treatment for major depression: Preliminary results of a comparison of 1 Hz, 20 Hz and sham rTMS. K. DUNLOP*; J. SHEEN; B. WOODSIDE; P. COLTON; M. OLMSTED; F. FEFFER; D. BLUMBERGER; Z. J. DASKALAKIS; J. DOWNAR. *Univ. of Toronto, Krembil Res. Inst., Psychiatry, Univ. of Toronto, CAMH.*

3:00 SS14 **611.03** Reduced serum and cerebrospinal fluid levels of autotaxin in major depressive disorder. K. ITAGAKI; H. ABE; C. SHIBASAKI; W. OMORI; N. KAJITANI; M. OKADA-TSUCHIOKA; K. HATTORI; S. YOSHIDA; H. KUNUGI; M. TAKEBAYASHI*. *Natl. Hosp Org Kure Med. Centr, Hiroshima Univ., Natl. Ctr. of Neurol. and Psychiatry.*

4:00 SS15 **611.04** ● Dynamic relationship between α-tubulin acetylation and $G\alpha_s$ localization in lipid-rafts: Potential basis of depression and antidepressant mechanism of HDAC6 inhibitors. H. SINGH*; J. SCHAPPI; G. PANDEY*; M. M. RASENICK. *Univ. of Illinois At Chicago, Univ. of Illinois At Chicago, Univ. of Illinois at Chicago Col. of Med.*

1:00 SS16 **611.05** ● Several antidepressants increase expression and activity of fatty acid desaturases. N. WRAY; M. M. RASENICK*. *U. Illinois Chicago Col. of Med., Univ. of Illinois at Chicago Col. of Med.*

2:00 SS17 **611.06** ● Adenylyl cyclase VI is required for SERT-independent antidepressant effects in glial cells: A potential screen for novel antidepressants. J. SCHAPPI*; A. H. CZYSZ; S. J. ERB; M. M. RASENICK. *Univ. of Illinois At Chicago, Univ. of Texas, Dallas, Univ. of Minnesota Twin Cities, Univ. of Illinois at Chicago Col. of Med.*

3:00 SS18 **611.07** Antidepressant drug signalling through $LPA_1$ in human fibroblasts. P. ONALI*; S. DEDONI; M. C. OLIANAS. *Univ. of Cagliari, Dept.Biomedical Sci.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 SS19 **611.08** Real-time decoding of mood from human large-scale ECoG activity. O. G. SANI*; Y. YANG; E. F. CHANG; M. M. SHANECHI. *USC, USC, UCSF, USC.*

1:00 SS20 **611.09** Modeling dynamic brain-network responses to electrical stimulation. Y. YANG*; K. K. SELLERS; E. F. CHANG; M. M. SHANECHI. *USC, Univ. of California, San Francisco.*

2:00 SS21 **611.10** ▲ CA1 and dentate gyrus synaptic transmission and plasticity after physical exercise in an animal model for depression. E. DAHLIN; E. HANSE; H. SETH*. *Univ. of Gothenburg.*

3:00 SS22 **611.11** Altered expression of long, noncoding RNAs in patients with major depression. T. SEKI*; H. YAMAGATA; S. UCHIDA; K. HARADA; K. MATSUO; Y. WATANABE. *Yamaguchi Univ. Sch. of Med.*

4:00 SS23 **611.12** The relationship between circulating mitochondrial DNA and inflammatory cytokines in patients with major depression. Y. KAGEYAMA*; T. KASAHARA; M. KATO; S. SAKAI; Y. DEGUCHI; M. TANI; K. KURODA; K. HATTORI; S. YOSHIDA; Y. GOTO; T. KINOSHITA; K. INOUE; T. KATO. *Osaka City University, Grad. Sch. of Med., RIKEN Brain Sci. Inst., Kansai Med. Univ., Tani mental clinic, Hannan Hosp., Natl. Ctr. of Neurol. and Psychiatry, Natl. Ctr. of Neurol. and Psychiatry.*

1:00 SS24 **611.13** ● Alterations in the amino acids in the mouse brain regions after adjunctive treatment of brexpiprazole with fluoxetine: Comparison with (R)-ketamine. Q. REN*; M. MA; Y. FUJITA; C. YANG; C. DONG; Y. OHGI; T. FUTAMURA; K. HASHIMOTO. *Chiba Univ. Ctr. Forensic Mental Hlth., Otsuka Pharmaceut. Co., Ltd.*

2:00 SS25 **611.14** ● Adjunctive treatment of brexpiprazole with fluoxetine shows a rapid antidepressant effect in social defeat stress model: Role of BDNF-TrkB signaling. M. MA; Q. REN; C. YANG; J. ZHANG; W. YAO; C. DONG; Y. OHGI; T. FUTAMURA; K. HASHIMOTO*. *Chiba Univ. Ctr. for Forensic Mental Hlth., Chiba Univ. Ctr. Forensic Mental Hlth., Chiba Univ. Ctr. for Forensic Mental Hlth., Otsuka Pharmaceut. Ltd, Chiba Univ. Ctr. Forensic Men Hlth.*

3:00 SS26 **611.15** Identification of lysophosphatidic acid receptor 1 in astrocytes as a target for glial cell line-derived neurotrophic factor expression induced by antidepressants. N. KAJITANI*; K. MIYANO; M. OKADA-TSUCHIOKA; H. ABE; W. OMORI; K. ITAGAKI; Y. UEZONO; M. TAKEBAYASHI. *NHO Kure Med. Ctr. and Chugoku Cancer Ctr., Natl. Cancer Ctr. Res. Inst., NHO Kure Med. Ctr. and Chugoku Cancer Ctr., Natl. Cancer Ctr.*

4:00 SS27 **611.16** Inhibition of cytokine-induced intracellular signalling and neuronal cell death by antidepressants acting through $LPA_1$. M. C. OLIANAS*; S. DEDONI; P. ONALI. *Univ. of Cagliari.*

1:00 SS28 **611.17** The effect of Deep Brain Stimulation (DBS) on stress-induced changes in electrical activity of Locus Coeruleus (LC) in awake, freely moving rats. S. TORRES-SANCHEZ*; E. BERROCOSO; R. J. VALENTINO; J. A. MICO; A. L. CURTIS. *Univ. of Cadiz, CIBER of Mental Hlth. (CIBERSAM), Inst. de Investigación e Innovación en Ciencias Biomédicas de Cádiz (INiBICA), Children's Hosp. Philadelphia.*

2:00 SS29 **611.18** Synaptic potentiation, cytoskeletal remodeling, and rapid-acting antidepressant actions. Z. REHMAN; S. SAICHELLAPPA; L. HERRING; L. SEMKE; N. A. O'CONNELL*; E. WAUSON; L. GRAVES; V. DURIC; L. YUAN. *Des Moines Univ., Univ. of North Carolina, Des Moines Univ.*

3:00 SS30 **611.19** Methylome profiling of young adults with depression supports link with immune response. C. R. LAPSLEY*; R. IRWIN; M. MCLAFFERTY; S. THURSBY; S. O'NEILL; A. BJOURSON; C. WALSH; E. MURRAY. *Ulster Univ., Ulster Univ., Ulster Univ.*

4:00 SS31 **611.20** ▲ Nucleus accumbens deep brain stimulation increases mammalian target of rapamycin and glycogen synthase kinase 3 phosphorylation in ventral hippocampus. T. L. NGUYEN*; R. P. KALE; S. J. TYE. *Mayo Clin., Mayo Clin., Mayo Clin.*

1:00 SS32 **611.21** Which Lateral Habenula output pathway mediates the antidepressant effect of inhibitory DREADDs? K. COFFEY*; J. NEUMAIER; P. BARTLETT. *Univ. of Washington.*

2:00 SS33 **611.22** Identification of genes under the transcriptional regulation of CREB or CREM in the hippocampus. M. T. MANNERS*; J. K. BRYNILDSEN; J. A. BLENDY. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

3:00 SS34 **611.23** Excess significance bias in basic antidepressant research: The case of the forced swimming test. C. LINO DE OLIVEIRA*; M. R. MACLEOD. *CFS-CCB-UFSC, Univ. Edinburgh.*

4:00 SS35 **611.24** Imaging fluoxetine modulation of dentate gyrus function. E. CARAZO*; C. ANACKER; R. HEN. *Columbia Univ., Columbia Univ.*

**POSTER**

**612. Drug Delivery**

***Theme G: Motivation and Emotion***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 SS36 **612.01** Use of a novel degradable biocomposite material as a delivery system for brain cell treatment and cell growth modification in 2D and 3D spheroid cultures. N. H. NGUYEN*; Z. NORCROSS; U. KANSAKAR; M. A. DECOSTER. *Louisiana Tech. Univ.*

2:00 SS37 **612.02** ● Clathrin nanoparticles efficiently deliver brain-derived neurotrophic factor to the hippocampus, reverse BDNF deficits and enhance neurogenesis and memory in a HIV-tat mouse model. J. K. KIM*; C. W. ADAM; D. ANCHALIYA; J. P. MCLAUGHLIN; M. J. KAUFMAN; F. VITALIANO; G. D. VITALIANO. *McLean Hosp., Harvard Med. Sch., Univ. of Florida, ExQor Technologies Inc.*

3:00 SS38 **612.03** The effect of blood-brain barrier (BBB)-specific laminin isoforms for barrier function with the new *in vitro* BBB model incorporating multi-culturing system of BBB components. Y. TAKESHITA*; S. FUJIKAWA; H. NISHIHARA; F. SHIMIZU; T. MAEDA; Y. SANO; T. KANDA. *Yamaguchi Univ. Grad. Sch. of Med.*

4:00 SS39 **612.04** Therapeutic chips: Prolonged release of NGF for neurodegenerative treatment. N. ZILONY*; M. ROSENBERG; M. ANTMAN-PASIG; H. SCHORI; E. SEGAL; O. SHEFI. *Bar-Ilan Univ., Technion.*

1:00 SS40 **612.05** ● Monoamine oxidase (MAO-A and MAO-B) enzyme occupancy assay - a non-radiolabelled method in rat. J. B. THENTU*; G. BHYRAPUNENI; R. DYAVARASHETTY; K. BANDARU; R. BOGGAVARAPU; H. PANTANGI; N. PADALA; R. NIROGI. *Suven Life Sci. Ltd.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 SS41 **612.06** ● Lu AA41178: A novel, brain penetrant, pan-selective KCNQ/Kv7 potassium channel opener with efficacy in preclinical models of neurological and psychiatric disorders. M. GRUPE*; M. GRUNNET; T. BENNED-JENSEN; K. FRISCH HERRIK; B. HJORTH BENTZEN; K. FREDERIKSEN; A. GRAVEN SAMS; J. FRANK BASTLUND. *H. Lundbeck A/S, H. Lundbeck A/S, Univ. of Copenhagen, H. Lundbeck A/S, H. Lundbeck A/S.*

3:00 SS42 **612.07** Acupuncture reverses behavioral disturbances and testosterone levels in social isolated rats. A. DAVILA HERNANDEZ*; S. ZAMUDIO HERNANDEZ; L. MARTINEZ MOTA; R. GONZALEZ GONZALEZ; S. GUZMAN VELAZQUEZ. *Inst. Politecnico Nacional, Inst. Nacional de Psiquiatría Ramón de la Fuente Muñiz, Inst. Nacional de Cancerologia.*

4:00 SS43 **612.08** ● Modifying the kynurenine pathway as a potential therapy to treat patients with depression. K. D. BORNEMANN; M. WEILAND; K. DOOLIN; V. O'KEANE; A. HARKIN; B. HENGERER; K. A. ALLERS*. *Boehringer Ingelheim Pharma Gmbh & Co. KG, Trinity Col. Dublin, Trinity Col. Dublin.*

1:00 SS44 **612.09** An adaptive and interactive software for automated delivery of cognitive behavioral therapy for depression. N. GUPTA*; A. GHOSH; S. WAGLE; K. RAMIAAH; P. SHARMA; B. BHUSHAN; A. BAJPAI. *Indian Inst. of Technol. Kanpur, Indian Inst. of Technol. Kanpur, Indian Inst. of Technol. Kanpur, Indian Inst. of Technol. Kanpur.*

2:00 SS45 **612.10** Astrocityc & microglial response after gold nanoparticles administration. E. LIRA*; M. G. GONZALEZ-PEDROZA; T. V. CAMPOS-ORDONEZ; V. N. MADRIGAL-SAUCEDO; N. MOY-LOPEZ; J. GUZMAN-MUNIZ; R. A. MORALES-LUCKIE; O. GONZALEZ-PEREZ. *Sch. of Psychology/University of Colima, Sch. of Medicine/ University of Colima, UAEMex-UNAM.*

3:00 SS46 **612.11** ● Method for screening neuronal tumor cell surface markers for high specificity and rapid internalization as potential oncologic treatments. L. ANCHETA*; P. A. SHRAMM; D. A. LAPPI. *Cytologistics, LLC, Advanced Targeting Systems, Veiove Animal Hlth.*

4:00 SS47 **612.12** Optimization of MRI-guided AAV delivery into de CSF for CNS gene therapy in NHP. L. SAMARANCH; P. HADACZEK; J. BRINGAS*; P. C. ALLEN; D. STOCKINGER; Y. YU; V. SUDHAKAR; M. CAMPAGNA; W. SAN SEBASTIAN; E. A. SALEGIO; G. C. HWA; K. S. BANKIEWICZ. *Univ. California San Francisco, Valley Biosystems Inc.*

1:00 SS48 **612.13** ● Targeting the nicotinic acetylcholine receptor in delivery of drugs across the blood brain barrier. N. I. NISSEN*; K. R. ANDERSON; S. A. EICHELBERGER; J. M. MIWA. *Lehigh Univ., Lehigh Univ., Ohio State Univ.*

**POSTER**

**613. Animal Models for Affective Disorders: Therapeutics**

***Theme G: Motivation and Emotion***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 SS49 **613.01** ▲ Chronic exposure to and withdrawal from ethanol induces depressive-like symptoms that are reduced by prenatal choline supplementation. N. MORRISS; M. J. GLENN*. *Colby Col.*

2:00 SS50 **613.02** Intracerebral transplantation of mesenchymal stem cells in Wistar Kyoto rat as an animal model of depression. K. KIN*; T. YASUHARA; Y. TOMITA; M. UMAKOSHI; K. KUWAHARA; I. KIN; J. MORIMOTO; M. OKAZAKI; T. SASAKI; M. KAMEDA; N. TAJIRI; I. DATE. *Okayama Univ. Grad. Sch. of Med., Kibi Intl. Univ. Grad. Sch. of Psychology.*

3:00 SS51 **613.03** ● Antidepressant-like actions of inhibitors of poly(ADP-ribose) polymerase in rodent models. G. A. ORDWAY*; A. SZEBENI; L. J. HERNANDEZ; H. WANG-KEATON; J. D. CRAWFORD; K. SZEBENI; M. J. CHANDLEY; K. C. BURGESS; C. C. DE PRETER; W. ONGTENGCO; R. W. BROWN. *East Tennessee State Univ. James H Quillen Col. of Med., East Tennessee State Univ. Col. of Publ. Hlth.*

4:00 SS52 **613.04** D-lysergic acid diethylamide (LSD) reverses depressive-like behavior and serotonergic (5-HT) neurotransmission impairments in a murine model of chronic stress. D. DE GREGORIO*; Y. EL-RAHIMY; L. POSA; A. AGUILAR-VALLES; M. LOPEZ-CANUL; J. ENNS; S. COMAI; N. SONENBERG; G. GOBBI. *McGill Univ., McGill Univ., San Raffele Scientific Istitute.*

1:00 SS53 **613.05** Sex differences in ketamine addiction-like behavior and nucleus accumbens spine morphology in chronic mild-stressed rats pre-treated with ketamine. K. N. WRIGHT*; C. E. STRONG; M. KABBAJ. *Florida State Univ.*

2:00 SS54 **613.06** Group II metabotropic glutamate receptor blockade promotes stress resilience. J. N. HIGHLAND*; P. ZANOS; P. GEORGIOU; 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.*

3:00 SS55 **613.07** Antidepressant-like action of Punica granatum extract in a menopause model in Wistar rats. B. G. VALDÉS SUSTAITA*; E. M. ESTRADA; C. LOPEZ-RUBALCAVA. *CINVESTAV-IPN, Inst. Natl. Psiquiatria, CINVESTAV-IPN.*

4:00 SS56 **613.08** Altered peptide ligands of myelin basic protein produce antidepressant-like effects via inflammatory factors and p11. Y. HAN*; C. SUN; S. MENG; K. YUAN; J. SHI; L. LU. *Peking Univ., Natl. Inst. of Drug Dependence, Natl. Inst. On Drug Dependence of Peking Un, Inst. Mental Health,Peking Univ. Sixth Hospita.*

1:00 SS57 **613.09** ▲ Intraventricular and intrahippocampal infusions of alpha5 subunit-selective negative allosteric modulators of GABA-A receptors produce rapid antidepressant behavioral changes. C. KOSTELNIK*; M. MADDEN; K. ROBEY; S. M. THOMPSON; A. BAILEY. *St. Mary's Col. of Maryland, Univ. of Maryland Baltimore.*

2:00 SS58 **613.10** Acute glucocorticoid administration rapidly modulates hippocampal local field potentials. A. B. COLE*; N. HESSELGRAVE; S. M. THOMPSON. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

3:00 SS59 **613.11** ● Synaptic potentiation at the hippocampus-nucleus accumbens synapse modulates reward behavior. T. A. LEGATES*; M. D. KVARTA; S. M. THOMPSON. *Univ. of Maryland Sch. of Med.*

4:00 SS60 **613.12** ▲ The influence of alpha5 subunit-selective negative allosteric modulators of GABA-A receptors on sexual conditioned place preference in a rodent model of depression. A. BARRETT*; K. LA; H. STARNES; S. M. THOMPSON; A. BAILEY. *St. Mary's Col. of Maryland, Univ. of Maryland Baltimore.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 SS61 **613.13** Differential effects of fluoxetine and citalopram treatments on seizure susceptibility and depressive-like behavior in an animal model of epilepsy and depression comorbidity. A. VALDÉS-CRUZ*; A. DÍAZ-JIMÉNEZ; B. A. GARAY-CORTES; D. U. GONZÁLEZ-MÉNDEZ; M. G. MARTÍNEZ-MONTALVO; P. DOMÍNGUEZ-ZÚÑIGA. *Inst. Nacional De Psiquiatría RFM.*

2:00 SS62 **613.14** Cgrp ameliorate depression-like behavior in social defeat stress model mice. N. HASHIKAWA-HOBARA*; S. MISHIMA; S. MATSUUCHI; N. HASHIKAWA. *Okayama Univ. of Sci.*

3:00 SS63 **613.15** Dysfunction of microglial STAT3 alleviates depressive behavior via neuron-microglia interactions. S. KWON*; J. HAN; M. CHOI; Y. KWON; S. KIM; E. YI; J. SHIN; I. CHO; S. KIM; S. YE. *Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ. Col. of Med., Pohang Ctr. for Evaluation of Biomaterials, Kyung Hee Univ. Col. of Oriental Med.*

4:00 SS64 **613.16** Electroconvulsive seizures induce neuroinflammatory response: A potential mechanism for BDNF induction. Z. SEN; T. DALKARA*; E. EREN-KOCAK; B. DONMEZ-DEMIR; S. YILMAZ OZCAN; M. YILMAZ. *Inst. of Neurolog. Sci. and Psychiatry, Hacettepe Univ., Hacettepe Univ. Fac. of Med.*

1:00 SS65 **613.17** Response to antidepressant treatment is mediated by an indirect relationship between dentate gyrus activity and adult hippocampal neurogenesis. C. YOHN; E. DIETHORN; A. GARINO; S. SHIFMAN; B. A. SAMUELS*. *Rutgers Univ.*

2:00 SS66 **613.18** ● ▲ The role of dentate gyrus activin signaling in antidepressant treatment response. M. GERGUES*; C. YOHN; M. LEVINSTEIN; R. HEN; B. A. SAMUELS. *Rutgers Univ., Rutgers Univ., Univ. of Washington, Columbia Univ., Rutgers Univ.*

3:00 TT1 **613.19** ● Connective tissue growth factor (CTGF) is a novel pro-depressant molecule. C. A. TURNER*; V. SHARMA; M. H. HAGENAUER; C. AYDIN; A. M. O'CONNOR; R. C. THOMPSON; S. J. WATSON, Jr.; H. AKIL. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Universty of Michigan, MBNI Univ. of Michigan.*

4:00 TT2 **613.20** ● BDNF release and signaling are required for the antidepressant actions of GLYX-13. T. KATO*; M. FOGAÇA; S. DUMAN; X. LI; K. FUKUMOTO; R. DUMAN. *Yale Univ. Sch. of Med., Sumitomo Dainippon Pharma Co., Ltd.*

1:00 TT3 **613.21** GluN2B subunits on GABAergic interneurons in the medial prefrontal cortex and the antidepressant effects of ketamine. D. M. GERHARD*; E. S. WOHLEB; R. S. DUMAN. *Yale Univ., Univ. of Cincinnati Col. of Med., Yale Univ. Sch. Med.*

2:00 TT4 **613.22** Optogenetic stimulation of a specific principle neuron subtype in the prefrontal cortex produces rapid and long-lasting antidepressant effects similar to ketamine. B. D. HARE*; R. J. LIU; S. GHOSAL; K. E. FURMAN; R. J. DILEONE; R. S. DUMAN. *Yale Sch. of Med.*

3:00 TT5 **613.23** Characterization of the signaling mechanisms underlying the rapid antidepressant actions of the ketamine metabolite (2R,6R)-Hydroxynorketamine and GLYX-13. M. FOGACA*; F. KENICHI; R. S. DUMAN. *Yale Sch. of Med., Yale Sch. of Med., Yale Univ. Sch. Med.*

4:00 TT6 **613.24** Sex-dependent persistent alterations in microglial morphology following chronic unpredictable stress. C. Y. XU*; T. C. FRANKLIN; R. S. DUMAN. *Yale Univ.*

1:00 TT7 **613.25** Characterization of medial prefrontal cortex glutamatergic projections in the antidepressant actions of ketamine. A. M. THOMAS*; B. D. HARE; T. KATO; K. FUKUMOTO; R. LIU; G. K. AGHAJANIAN; R. S. DUMAN. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med.*

2:00 TT8 **613.26** Transcriptome profiling of post traumatic stress disorder in human subgenual prefrontal cortex. M. J. GIRGENTI*; D. A. CRUZ; B. CARLYLE; D. WILLIAMSON; M. FRIEDMAN; J. H. KRYSTAL; R. S. DUMAN. *Yale Univ. Sch. of Med., Duke Univ., Geisel Sch. of Med. at Dartmouth, Yale Univ. Sch. Med.*

3:00 TT9 **613.27** Cell-specific ablation of microglial RAGE alters susceptibility to depressive-like behaviors after chronic unpredictable stress. T. C. FRANKLIN*; C. XU, 06511; Y. ZHANG*; R. S. DUMAN. *Yale Univ. Sch. of Med., Yale Univ.*

4:00 TT10 **613.28** Rapid antidepressant actions of ketamine require acute inhibition of GABA interneuron firing. S. GHOSAL*; M. FOGACA; B. D. HARE; D. M. GERHARD; M. WU; M. ALREJA; C. H. DUMAN; R. S. DUMAN. *Yale Univ., Yale Sch. of Med., Yale Univ., Yale Univ., Yale Univ. Sch. Med.*

1:00 TT11 **613.29** ● Sestrin2 modulator NV-5138, shows ketamine-like rapid antidepressant effects via direct activation of mTORC1 signaling. T. KATO; R. LIU; C. H. DUMAN; R. TERWILLIGER; G. P. VLASUK; E. SAIAH; S. HAHM; R. S. DUMAN*. *Yale Univ. Sch. Med., Sumitomo Dainippon Pharma, Navitor Pharmaceuticals, Inc.*

2:00 TT12 **613.30** ● The bodybuilding supplement ZMA, & Ketamine (1 mg/kg) produce an additive increase in the anti-depressive index, "swimming time", but not in the depressive index "immobility time", in the forced swimming test in BALB/c mouse. V. J. MEDINA ARANDA*; A. L. ROSADO-PEREZ; M. VILLALOBOS; S. VILLALOBOS; J. C. PINEDA. *Univ. Autonoma De Yucatan, Univ. Autonoma De Yucatan.*

**POSTER**

**614. Learning and Memory: Molecules and Mechanisms II**

***Theme H: Cognition***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 TT13 **614.01** ▲ Sex differences in the role of ventral hippocampus following retrieval of context fear memory. L. PAN*; A. A. KEISER; N. C. TRONSON. *Univ. of Michigan.*

2:00 TT14 **614.02** Retrieval of context fear memory involves sex-specific molecular mechanisms and changes in hippocampal gene expression. A. A. KEISER*; L. PAN; N. C. TRONSON. *Univ. of Michigan, Univ. of Michigan.*

3:00 TT15 **614.03** Isolation induced-forgetting of social memory is regulated by Rac1 activity. Y. LIU*; L. LI; Y. ZHONG. *Sch. of Life Sciences, Tsinghua Univ., Tsinghua Univ.*

4:00 TT16 **614.04** Paternal methyl donor-rich diet reduces kcnmb2 expression and causes synaptic function and memory deficits in offspring F1 mice. L. GUO*. *Qingdao Univ.*

1:00 TT17 **614.05** Role of Rac-specific GAP proteins in the forgetting of fear memory. L. LV*; Y. LIU; Y. ZHONG. *Tsinghua Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 TT18 **614.06** Adolescent corticosteroid exposure disrupts decision-making, trkB, and cortico-limbic anatomy in adulthood. E. T. BARFIELD*; K. J. GERBER; S. L. GOURLEY. *Emory Univ., Emory Univ., Emory Univ., Emory Univ., Emory Univ., Emory Univ.*

3:00 TT19 **614.07** Cognitive bias in zebrafish. F. ESPIGARES*; R. OLIVEIRA. *Inst. Gulbenkian De Ciência.*

4:00 TT20 **614.08** TMEM35 modulates pain and drug seeking behavior. T. MATVEEVA*; J. C. GEWIRTZ; P. V. TRAN. *Univ. of Minnesota, Univ. of Minnesota Dept. of Psychology, Univ. of Minnesota.*

1:00 TT21 **614.09** Mild exercise causes dynamic change of hippocampal gene expression in response to acute stress. M. OKAMOTO*; A. C. PEREIRA; J. D. GRAY; R. L. DAVIDSON; J. F. KOGAN; C. S. LARSON; B. S. MCEWEN; H. SOYA. *The Rockefeller Univ., Univ. of Tsukuba.*

2:00 TT22 **614.10** "Chemobrain": Cytosine arabinoside (Ara-C) used in acute myeloid leukemia treatment is associated with disruptions to the birth and differentiation of adult-born neurons. Q. WU*; K. CHIANG; M. Q. GOH; E. H. KOO. *Natl. Univ. of Singapore, UCSD.*

3:00 TT23 **614.11** Chronic mild stress elevates GRK2 expression in BNST of female rats. A. KULP*; M. RUSS; B. LOWDEN; J. D. JOHNSON. *Kent State Univ.*

4:00 TT24 **614.12** ● The effect of HDAC2 inhibition on cognitive measures in C57/BL6 mice: Assessing pharmacological, antisense oligonucleotide, and genetic manipulations. H. M. ARNOLD*; S. GLASS; R. DRISCOLL; P. LEACH. *Biogen.*

1:00 TT25 **614.13** The role of Gadd45b in DNA demethylation and cocaine action. F. SULTAN*; G. GRAHAM; K. SAVELL; J. J. DAY. *Univ. of Alabama at Birmingham Dept. of Neurobio.*

2:00 TT26 **614.14** Experience induces rapid nucleus-scale movements of chromatin in cortical neurons. S. RUMPEL*; D. F. ASCHAUER; T. R. BURKARD; F. GRÖSSL; W. HAUBENSAK; M. PETER. *Johannes Gutenberg Univ. Mainz, IMBA Inst. of Mol. Biotech. of the Austrian Acad. of Sci., Res. Inst. of Mol. Pathology (IMP).*

3:00 TT27 **614.15** Conserved modules of insulin-like signaling modulate neural function in *Aplysia.* N. KUKUSHKIN*; S. P. WILLIAMS; T. J. CAREW. *New York Univ., New York Univ., New York Univ.*

4:00 TT28 **614.16** Mechanistic Target of Rapamycin complexes in mGluR-LTD and related cognitive behaviors. P. ZHU*; C. CHEN; M. COSTA-MATTIOLI. *Baylor Col. of Med.*

1:00 TT29 **614.17** GSK-3β-Nrf2 signaling pathway as a neuroprotective mechanism in Alzheimer's disease. C. LEE*; G. PARK; J. JANG. *Keimyung Univ., Kyungpook Natl. Univ.*

2:00 TT30 **614.18** Proteomic and epigenetic determinants of state-dependent memory. V. JOVASEVIC*; F. SANANBENESI; J. WIKTOROWICZ; A. FISHER; J. RADULOVIC. *Northwestern Univ., German Ctr. for Neurodegenerative Dis., The Univ. of Texas Med. Br., Northwestern Univ.*

3:00 TT31 **614.19** GCY-28 mediates naïve approach to benzaldehyde and associative learning of benzaldehyde and starvation in different neurons in *C. elegans.* N. LI*; D. VAN DER KOOY. *Univ. of Toronto.*

4:00 TT32 **614.20** Prdx6 knockout mice exhibit increased fear memory to trace fear conditioning. S. PHASUK*; T. PAIROJANA; P. SURESH; S. P. HUANG; N. PAKAPROT; S. CHOMPOOPONG; I. Y. C. LIU. *Tzu Chi Univ., Mahidol Univ., Tzu Chi Univ., Mahidol Univ.*

1:00 TT33 **614.21** Molecular organization of octopus brains reveals first insight into unique memory center signaling. G. C. WINTERS*; C. BOSTWICK; L. HATFIELD; A. B. KOHN; L. L. MOROZ. *Univ. of Florida Whitney Lab. for Marine Biosci., Bridgewater Col.*

2:00 TT34 **614.22** Neocortical SHANK1 shRNA knockdown impairs associative learning of whisker-trace-eyeblink conditioning. S. M. COLLINS*; R. GALVEZ. *Univ. of Illinois at Urbana-Champaign Dept. of Psychology.*

3:00 TT35 **614.23** Multi-colored single-molecule fluorescence *in situ* hybridization reveals complexity of neural ensemble representation of experience. B. J. GONZALES*; D. MUKHERJEE; B. IGNATOWSKA-JANKOWSKA; N. BLEISTEIN; A. CITRI. *The Hebrew Univ. of Jerusalem.*

4:00 TT36 **614.24** Members of a novel family of cysteine-rich neurotrophic factor-like proteins show differential gene expression during synaptogenesis in *Aplysia* cultured neurons. A. ALEXANDRESCU*; N. V. KUKUSHKIN; T. J. CAREW. *New York Univ.*

1:00 TT37 **614.25** Growth factor mediated post-transcriptional regulation of the immediate early gene c/ebp by the RNA-binding protein ELAV is critical for long-term memory formation in *Aplysia.* A. A. MIRISIS*; T. J. CAREW. *New York University, Carew Lab., New York Univ.*

2:00 TT38 **614.26** Memory allocation is disrupted in conditional Wilm's Tumor 1 $KO^{DG}$ mice. L. MUNARI*; C. MARIOTTINI; E. GUNZEL; R. D. BLITZER; R. IYENGAR. *Mount Sinai Med. Ctr., Icahn Sch. of Med. at Mt Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

**POSTER**

**615. Cortical and Hippocampal Circuits: Timing and Temporal Processing**

***Theme H: Cognition***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 TT39 **615.01** Synchronized neocortical and hippocampal dynamics during NREM sleep. D. LEVENSTEIN*; J. M. GORNET; B. O. WATSON; G. BUZSAKI; J. M. RINZEL. *NYU, New York Univ., Weill Cornell Med. Col., New York University, Sch. of Med., New York Univ. Ctr. for Neural Sci.*

2:00 TT40 **615.02** Medial and lateral entorhinal cortex gamma inputs entrain different hippocampal populations during learning and navigation. A. FERNÁNDEZ RUIZ*; A. OLIVA; G. BUZSAKI. *Neurosci. Institute, New York Univ.*

3:00 TT41 **615.03** Inter-cortical communication over the course of development. J. GELINAS*; D. KHODAGHOLY; G. POUCHELON; C. MAYER; G. J. FISHELL; G. BUZSAKI. *New York Univ., New York Univ. Langone Med. Ctr., NYU Neurosci., New York Univ., New York Univ. Langone Med. Ctr., New York University, Sch. of Med.*



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* Indicates abstract's submitting author

4:00 TT42 **615.04** Neuronal circuit mechanisms of pattern separation in the hippocampal dentate gyrus and CA3. Y. SENZAI*; G. BUZSAKI. *New York Univ., New York University, Sch. of Med.*

1:00 TT43 **615.05** Gamma oscillations, real spurious and their relationship to spikes. M. DING; B. O. WATSON*; G. BUZSAKI. *New York Univ., Weill Cornell Med. Col., New York University, Sch. of Med.*

2:00 TT44 **615.06** Pyramidal cell-interneuron circuit architecture and dynamics in hippocampal networks. D. F. ENGLISH*; S. MCKENZIE; T. EVANS; K. KIM; E. YOON; G. BUZSAKI. *NYU Neurosci. Inst., Univ. of Michigan.*

3:00 TT45 **615.07** Coordinated hippocampus-amygdala reactivations of a place-threat association during sleep. G. GIRARDEAU*; I. INEMA; G. BUZSAKI. *New York Univ. Langone Med. Ctr., McGill Univ., New York University, Sch. of Med.*

4:00 TT46 **615.08** Slow gamma frequency dynamics during sharp-wave ripples. A. OLIVA GONZÁLEZ*; A. FERNANDEZ-RUIZ; D. ENGLISH; G. BUZSAKI. *New York Univ.*

1:00 TT47 **615.09** Place-action transformation in the hippocampus-lateral septum axis during a run-jump-run sequence. D. TINGLEY*; G. BUZSAKI. *NYU Neurosci. Inst., New York University, Sch. of Med.*

2:00 TT48 **615.10** Theta-gamma rhythm perturbation by focal cooling of the medial septum in freely moving rats. P. C. PETERSEN*; G. BUZSAKI. *New York Univ., New York Univ.*

3:00 TT49 **615.11** Inhibition-based theta spiking resonance in a hippocampal network. H. G. ROTSTEIN*; T. ITO; E. STARK. *NJIT, Rutgers Univ., Tel Aviv Univ.*

4:00 TT50 **615.12** The role of inhibition in hippocampal ictal and interictal activity. S. ROGERS*; J. GELINAS; D. KHODAGHOLY; J. DIMIDSCHSTEIN; G. FISHELL; G. BÜZSÁKI. *NYU Neurosci. Inst.*

1:00 TT51 **615.13** Learning-enhanced coupling between ripple oscillations in associational cortices and hippocampus. D. KHODAGHOLY*; J. GELINAS; G. BUZSAKI. *New York Univ. Langone Med. Ctr., New York Univ., New York University, Sch. of Med.*

2:00 TT52 **615.14** Medial septum and the formation of hippocampal place fields. V. VARGA*; G. BUZSAKI. *Neurosci. Institute, NYU Langone Med. Ctr.*

3:00 TT53 **615.15** ● Optogenetic probing for pattern completion across hippocampal subfields. T. EVANS*; S. A. MCKENZIE; D. F. ENGLISH; K. KIM; E. YOON; G. BUZSAKI. *UCL, New York University, Sch. of Med., New York University, Sch. of Med., Univ. of Michigan.*

4:00 TT54 **615.16** Ground truth dataset for validating extracellular spike sorting algorithms. M. VOROSLAKOS*; D. F. ENGLISH; S. A. MCKENZIE; E. YOON; G. BUZSAKI. *Univ. of Michigan, NYU Neurosci. Inst., NYUMC, Univ. of Michigan, New York University, Sch. of Med.*

1:00 TT55 **615.17** Investigating hippocampal-neocortical dialogue using electrophysiology and wide field calcium imaging *in vivo.* R. A. SWANSON*; D. F. ENGLISH; J. D. LONG II; G. BUZSAKI; J. BASU. *New York Univ., NYU Neurosci. Inst., New York Univ., New York University, Sch. of Med., Neurosci. Institute, New York Univ. Sch.*

2:00 TT56 **615.18** An emergent model of hippocampal sharp wave ripple complexes reveals sublayer-specific stratified disparities. M. SINHA*; R. NARAYANAN. *Indian Inst. of Sci.*

3:00 TT57 **615.19** Mechanisms of theta cycle skipping in a detailed microcircuit model of the medial entorhinal cortex. M. J. BEZAIRE*; M. E. HASSELMO. *Boston Univ.*

4:00 TT58 **615.20** Decoding septohippocampal theta cells during exploration reveals unbiased environmental cues in firing phase. J. MONACO*; H. T. BLAIR, IV; K. ZHANG. *Johns Hopkins Univ., UCLA, Johns Hopkins Univ.*

1:00 TT59 **615.21** Relative representation of elapsed time in hippocampal CA1 neurons during a temporal discrimination task. A. SHIMBO*; E. IZAWA; S. FUJISAWA. *Keio Univ., RIKEN Brain Sci. Inst.*

2:00 TT60 **615.22** Attractor transitions for time cell-like elapsed time dependent activity in a hippocampal CA1-CA3 network model. K. TAKADA*; K. TATENO. *Kyushu Inst. of Technol., Kyushu Inst. of Technol.*

3:00 TT61 **615.23** Temporal pattern separation through different multiplexed neural codes in the dentate gyrus, in health and epilepsy. A. MADAR*; L. A. EWELL; J. A. PFAMMATTER; E. WALLACE; S. RAVI; M. T. COWIE; M. V. JONES. *Univ. of Wisconsin-Madison, Univ. Bonn, Univ. of Wisconsin Madison, Univ. of Wisconsin - Madison, Univ. of Wisconsin, Univ. of Wisconsin Madison.*

4:00 TT62 **615.24** Role of identified claustral neurons during classical eyeblink conditioning in behaving rabbits. J. DELGADO-GARCIA*; M. REUS-GARCIA; J. LEDDEROSE; M. T. HASAN; A. GRUART. *Pablo De Olavide Univ., Charité Universitätsmedizin Berlin, Achucarro Basque Ctr. for Neurosci., Pablo de Olavide Univ.*

1:00 TT63 **615.25** Prelimbic cortex infusion of antidepressant nomifensine increases distractibility. A. R. MATTHEWS*; M. WILLIAMS; M. BUHUSI; C. V. BUHUSI. *Utah State Univ., Utah State Univ., Utah State Univ.*

2:00 TT64 **615.26** ▲ The role of prefrontal cortex-striatum pathway in time tasks. E. F. OLIVEIRA*; G. CHIUFFA-TUNES; C. LOPES-AGUIAR; M. S. CAETANO; M. B. REYES. *CMCC/UFABC, ICB/UFMG.*

3:00 TT65 **615.27** D1 v D2 MSN control of timing in the dorsal striatum. B. J. DECORTE*; M. S. MATELL; N. S. NARAYANAN. *Univ. of Iowa, Villanova Univ., Univ. of Iowa Roy J and Lucille A Carver Col. of Med.*

4:00 TT66 **615.28** ● Blind detection of behavior related population activity by using edit similarity measurement and statistical modeling. K. WATANABE*; T. HAGA; M. TATSUNO; D. R. EUSTON; T. FUKAI. *Riken Brain Sci. Inst., Grad. Sch. of Frontier Sciences, The Univ. of Tokyo, Univ. Lethbridge.*

1:00 UU1 **615.29** Time categorization in the primate pre-SMA: single neuron correlates for boundaries, categorical decisions and reward outcomes. G. MENDOZA*; J. C. MÉNDEZ; O. PÉREZ; L. PRADO; H. MERCHANT. *Inst. de Neurobiologia UNAM, Campus Juriquilla, Univ. of Oxford.*

2:00 UU2 **615.30** Frequency domain structure of spontaneous infraslow dynamics in local cortical microcircuits. M. OKUN*; K. D. HARRIS. *Univ. of Leicester, Univ. Col. London.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
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* Indicates abstract's submitting author

**POSTER**

**616. Navigating Through Space: Grid and Place Cells**

***Theme H: Cognition***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 UU3 **616.01** Cognitive mapping of a virtual olfactory landscape. B. A. RADVANSKY*; D. A. DOMBECK. *Northwestern Univ.*

2:00 UU4 **616.02** The Black Box Effect: Reducing sensory stimulation after spatial learning promotes memory consolidation. D. E. ARKELL*; E. ALLISON; A. ASIMINAS; E. R. WOOD; O. M. HARDT. *The Univ. of Edinburgh, McGill Univ.*

3:00 UU5 **616.03** Unsupervised learning of neuronal ensemble dynamics reveals representation of space without behavioral measurement. A. RUBIN*; L. SHEINTUCH; O. PINCHASOV; N. BRANDE-EILAT; Y. RECHAVI; N. GEVA; Y. ZIV. *Weizmann Inst. of Sci.*

4:00 UU6 **616.04** Brain-computer interface relates hippocampal spatial reconfiguration to the encoding of aversion experience. M. TSANOV*; O. MAMAD. *Trinity Col. Inst. of Neuroscience, TCD, Trinity Col. Dublin.*

1:00 UU7 **616.05** Optimal orientation of grid cell system. D. CHEN*; W. WANG; L. WANG. *Beijing Normal Univ., Inst. of Psychology, Chinese Acad. of Sci.*

2:00 UU8 **616.06** Theta oscillations are required to generate spatially periodic receptive fields in the medial entorhinal cortex. A. BALACHANDAR*; C. G. ASSISI. *Indian Inst. of Sci. Educ. and Res., Indian Inst. of Sci. Educ. and Res. Pune.*

3:00 UU9 **616.07** ▲ Network mechanisms that represent novelty and familiarity in the Medial Entorhinal Cortex. B. KRISHNAN*; A. BALACHANDAR; C. G. ASSISI. *Indian Inst. of Sci. Educ. and Res.*

4:00 UU10 **616.08** Effect of home location on parasubicular grid cells. J. I. SANGUINETTI SCHECK*; M. BRECHT. *Humboldt-Universität Zu Berlin.*

1:00 DP14/UU11 **616.09** (Dynamic Poster) Differential dynamics of memory representations in the hippocampal dentate gyrus and CA1. T. HAINMUELLER*; M. BARTOS. *Univ. of Freiburg, Univ. of Freiburg.*

2:00 UU12 **616.10** Functional breakdown processes of neural circuits in hippocampal CA1 region of Alzheimer's disease model mice. R. TAKAMURA; K. MIZUTA*; Y. SEKINE; T. ISLAM; T. SAITO; T. TAKEKAWA; M. OHKURA; T. FUKAI; J. NAKAI; T. C. SAIDO; Y. HAYASHI. *Kyoto Univ., RIKEN BSI, Waseda Univ., Kogakuin Univ., Saitama Univ., South China Normal Univ.*

3:00 UU13 **616.11** Storage capacity of threshold-linear networks for grid-like continuous attractors. D. SPALLA; S. ROSAY; A. TREVES*. *SISSA Intl. Sch. Adv Studies, SISSA Intl. Sch. Adv Studies.*

4:00 UU14 **616.12** Improved method for measuring the topological dimensions of neuronal firing rate space. S. E. FOX*; J. B. RANCK, Jr. *State Univ. of New York Downstate Med. Ctr.*

1:00 UU15 **616.13** ▲ Influence of proximal 3D objects on hippocampal spatial representation in mice navigating virtual linear mazes. R. BOURBOULOU*; G. MARTI; M. NOUGUIER; F. MICHON; L. PETIT; M. PASQUET; D. ROBBE; J. KOENIG; J. EPSZTEIN. *INMED UMR901, Aix-Marseille Univ., INMED INSERM U901.*

2:00 UU16 **616.14** Dopamine dependence of hippocampal coding and spatial learning. A. RETAILLEAU*; G. MORRIS. *Univ. of Haifa, CNRS- Univ. de Bordeaux.*

3:00 UU17 **616.15** ● Cellular mechanisms for the formation and plasticity of hippocampal cognitive maps. M. SATO*; K. MIZUTA; T. ISLAM; M. KAWANO; T. TAKEKAWA; D. GOMEZ-DOMINGUEZ; H. YAMAKAWA; M. OHKURA; T. FUKAI; J. NAKAI; Y. HAYASHI. *RIKEN Brain Sci. Inst., Japan Agency for Sci. and Technol., Saitama Univerisity, Saitama Univerisity, Kyoto Univ. Grad. Sch. of Med., Kogakuin Univ., Cajal Inst., Whole Brain Architecture Initiative, South China Normal Univ.*

4:00 UU18 **616.16** Context-dependent encoding of sensory cues in the hippocampus during virtual navigation. X. ZHAO*; J. C. MAGEE. *Janelia Res. Campus, HHMI, Howard Hughes Med. Inst.*

1:00 UU19 **616.17** Aversive learning reorganizes ensemble representations of current and prospective locations by hippocampal neurons. S. OKADA*; H. IGATA; T. SASAKI; Y. IKEGAYA. *The Univ. of Tokyo.*

2:00 UU20 **616.18** A single-cell spiking model for the origin of grid-cell patterns. T. D'ALBIS; R. KEMPTER*. *Humboldt-Universität zu Berlin, Humboldt-Universität Zu Berlin.*

3:00 UU21 **616.19** Environmental deformations dynamically shift the cognitive map. A. T. KEINATH*; R. A. EPSTEIN; V. BALASUBRAMANIAN. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

4:00 UU22 **616.20** Type of environmental enrichment elicits differential responses in male and female rats. E. L. ZELINSKI*; M. FIDA; B. YOUNG, T1J2J2; S. LACOURSIERE; R. J. SUTHERLAND. *Canadian Ctr. For Behavioural Neurosci., CCBN, CCBN, Univ. Lethbridge.*

**POSTER**

**617. Human Perceptual and Spatial Learning**

***Theme H: Cognition***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 UU23 **617.01** Neural mechanisms of vibrotactile category learning. P. S. MALONE*; S. P. EBERHARDT; C. SPROUSE; K. WIMMER; R. KLEIN; K. GLOMB; C. SCHOLL; E. T. AUER; L. BOKERIA; J. RONKIN; G. DECO; X. JIANG; L. E. BERNSTEIN; M. RIESENHUBER. *Georgetown Univ. Med. Ctr., George Washington Univ., Ctr. for Brain and Cognition, Dept. of Information and Communication Technologies, Univ. Pompeu Fabra.*

2:00 UU24 **617.02** Spatially-based high school course improves spatial abilities and alters brain network functional connectivity. A. WEINBERGER*; E. G. PETERSON; C. LYNCH; R. KOLVOORD; D. UTTAL; A. GREEN. *Georgetown Univ., James Madison Univ., Northwestern Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 UU25 **617.03** Shifts in effective connectivity across the head direction network reflect changes in imagined facing direction. M. B. PEREZ-LOPEZ*; S. AVRAAM; M. AVRAAMIDES; T. WOLBERS. *German Ctr. For Neurodegenerative Dis. DZNE, Univ. of Cyprus, Univ. of Cyprus.*

4:00 UU26 **617.04** Knowledge of ordinal position across lists following transitive inference training. T. KAO*; B. JURNEY; C. E. MICHAELCHECK; V. P. FERRERA; H. TERRACE; G. JENSEN. *New York City Col. of Technology/ CUNY, Columbia Univ., Columbia Univ., Columbia Univ.*

1:00 UU27 **617.05** Effects of estradiol levels on hippocampal-dependent spatial memory. S. ASSUDANI PATEL*; A. ARNISTA; O. OKIFO; C. MITZKOVITZ; F. KUHNEY; K. M. FRICK; P. A. NEWHOUSE; R. S. ASTUR. *Univ. of Connecticut, Univ. of Wisconsin-Milwaukee, Vanderbilt Univ. Sch. of Med.*

2:00 UU28 **617.06** Frontal midline theta oscillations increase with ambulation in virtual environments, while posterior alpha oscillations increase with rest. M. LIANG*; M. STARRETT; A. D. EKSTROM. *UC Davis.*

3:00 UU29 **617.07** The effect of body-based cues on human neural representations for space during active navigation. D. J. HUFFMAN*; A. D. EKSTROM. *Univ. of California, Davis.*

4:00 UU30 **617.08** Modulatory influences of bottom-up vs. top-down cues on human spatial representations during navigation. C. E. PEACOCK*; A. D. EKSTROM. *Univ. of California, Davis.*

1:00 UU31 **617.09** Neural dynamics underlying updating of heading changes as revealed by mobile brain-body imaging (MoBI). F. U. HOHLEFELD; M. KLUG; L. GEHRKE; K. GRAMANN*. *Berlin Inst. of Technol., TU Berlin, Berlin Inst. of Technol.*

2:00 UU32 **617.10** Cortical and subcortical participation in neural processing of passive perception of visuospatial changes. D. MANAHAN-VAUGHAN*; M. F. HAUSER. *Ruhr Univ. Bochum, Ruhr Univ. Bochum,Medical Faculty.*

3:00 UU33 **617.11** Reactivation of a motor memory modulates perceptual learning. S. KLORFELD*; N. CENSOR. *Tel Aviv Univ.*

1:00 DP15/UU34 **617.12** (Dynamic Poster) Consequences of visual production training on object representations. J. E. FAN*; D. YAMINS; K. NORMAN; N. B. TURK-BROWNE. *Stanford Univ., Princeton Univ., Princeton Univ., Yale Univ.*

1:00 UU35 **617.13** Navigating through the air - extending spatial memory and neural representation from two to three dimentions. S. MAIDENBAUM*; M. RABINOVITS; A. AMEDI. *ELSC & IMRIC, Hebrew Univ. of Jerusalem.*

2:00 UU36 **617.14** Female superiority for egocentric spatial navigation; male superiority for allocentric navigation. M. FIDA*; S. H. DEIBEL; E. L. ZELINSKI; R. J. SUTHERLAND, t1k1l8. *CCBN, Cumming school of Medicine, Univ. of Calgary.*

3:00 UU37 **617.15** Structural plasticity in parietal cortex associated with real-world classroom education. E. G. PETERSON*; P. MENDEZ; B. SWEETSER; N. DINH; R. KOLVOORD; D. UTTAL; A. GREEN. *Georgetown Univ., James Madison Univ., Northwestern Univ.*

4:00 UU38 **617.16** Persistent changes in resting state connectivity following skill learning. K. CASIMO*; J. WU; J. G. OJEMANN; K. E. WEAVER. *Univ. of Washington.*

**POSTER**

**618. Functional Mechanisms of Attention**

***Theme H: Cognition***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 UU39 **618.01** A dynamic normalization model of temporal attention. R. N. DENISON*; M. CARRASCO; D. J. HEEGER. *New York Univ.*

2:00 UU40 **618.02** Is attention enhanced following performance errors? A test of adaptive control. R. COMPTON*; E. C. HEATON; A. GAINES. *Haverford Col.*

3:00 UU41 **618.03** Event-related brain potentials to focused and divided attention task. S. MENESES-ORTEGA*; J. PÉREZ-BOUQUET. *Univ. de Guadalajara, Univ. de Guadalajara.*

4:00 UU42 **618.04** ● Attentional capture by contextual violation is modulated by reliability. N. GEORGE*; M. M. SUNNY. *IIT Gandhinagar, Indian Inst. of Technol. Gandhinagar.*

1:00 UU43 **618.05** ▲ Cold blooded attention: Finger temperature predicts performance in attentional tasks. R. C. VERGARA*; C. MOENNE; P. MALDONADO. *Univ. De Chile, Pontificia Univ. Católica de Chile.*

2:00 UU44 **618.06** Discussions of brain activity and eye movement during driving. S. NAKAMURA*; S. HIWA; T. HIROYASU. *Doshisha Univ. Kyotanabe Campus, Doshisha Univ., Doshisha Univ.*

3:00 UU45 **618.07** Correlating state-based functional connectivity with behavioral performance. S. LAGANIERE*; W. CHEONG; M. ESTERMAN; M. A. HALKO. *Beth Israel Deaconess Med. Ctr., Beth Israel Deaconess Med. Sch., Boston Univ., Harvard Med. Sch. / Beth Israel Deaconess Med.*

4:00 UU46 **618.08** Reward motivation reduces implicit temporal bias in attentional readiness through compensatory control: Behavioral and pupillometric findings. K. SASMITA*; S. A. A. MASSAR; J. LIM; M. W. L. CHEE. *Duke-Nus Med. Sch.*

1:00 UU47 **618.09** ● Attention to a smell and its neural signatures. A. K. SINGH; M. OKAMOTO; K. TOUHARA*. *Univ. of Tokyo, Univ. Tokyo, Applied Biol. Chem., Univ. Tokyo, Applied Biol. Chem.*

2:00 UU48 **618.10** Increased costs of attentional effort after sleep loss: Evidence from performance, preference and pupillometry. S. A. MASSAR*; J. LIM; K. SASMITA; M. W. L. CHEE. *Duke-Nus Grad. Med. Sch.*

3:00 UU49 **618.11** Mindful driving:Brain functional state of mind wandering in driving and PVT task. Y. FUJIWARA*; S. HIWA; T. HIROYASU. *Doshisha Univ. Kyotanabe Campus, Doshisha Univ., Doshisha Univ.*

4:00 UU50 **618.12** Reactive shifts of cognitive control under load during continuous performance: An fMRI study. V. EXPOSITO*; T. HAGEN; T. ESPESETH. *Univ. of Oslo.*

1:00 UU51 **618.13** Neural correlates of spatial attention deployment. A. DREW*; E. HEINY; A. T. KARST. *Miami Univ., Univ. of Wisconsin Oshkosh, Univ. of Wisconsin, Oshkosh.*

2:00 UU52 **618.14** Depth of language processing for unattended speech. P. HAR SHAI; E. M. ZION GOLUMBIC*. *Bar Ilan Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 UU53 **618.15** Anxiety toward fear-relevant stimuli modulates perceptual switch in continuous flash suppression. T. CHIBA*; K. IDE; H. MORIYA; H. TODA; T. YAMAMOTO; T. YAMAMOTO; M. KAWATO. *Military Med. Res. Unit, ATR, Hikarinohana clinic, ATR BICR, Natl. Def. Med. Col.*

4:00 UU54 **618.16** Two-different resting states - mind blanking and mind wandering. T. KAWAGOE*; K. ONODA; S. YAMAGUCHI. *Shimane Univ., Shimane Univ. Sch. Med.*

1:00 UU55 **618.17** ▲ Let's talk about secs: Effects of distraction on speeding and stopping distances in young drivers. A. C. PLOWS*; H. N. RIZEQ; I. N. NGUYEN; K. D. F. RUELOS; D. J. GOBLE; H. S. BAWEJA. *San Diego State Univ., San Diego State Univ., San Diego State Univ.*

2:00 UU56 **618.18** Independent and overlapping neural representations of saccades, attention shifts and reference frames. X. ZHANG*; J. D. GOLOMB. *Ohio State Univ.*

3:00 UU57 **618.19** The impact of transcutaneous vagal nerve stimulation on the amplitude of the P3 event-related potential implicates the involvement of noradrenergic activity. C. M. WARREN*; L. OUWERKERK; S. NIEUWENHUIS. *Utah State Univ., Vrije Univ., Leiden Univ.*

4:00 UU58 **618.20** Anticipatory lateralization of HbO and alpha oscillations cooperatively predicts N2pc: A concurrent fNIRS-ERP study. Y. SONG*; C. ZHAO; Y. TAO; J. GUO; H. LIU; L. SUN. *Beijing Normal Univ., Dept. of Bioengineering, The Univ. of Texas at Arlington, Beijing Med. Univ.*

1:00 UU59 **618.21** ● Decoding the focus of attention during breath meditation. H. WENG*; J. LEWIS-PEACOCK; F. HECHT; D. ZIEGLER; M. UNCAPHER; L. DUNCAN; N. FARB; V. GOLDMAN; M. CHAO; S. SKINNER; M. ESTEFANOS; S. LEE; R. LOPILATO; A. GAZZALEY. *Univ. of California, San Francisco, Neuroscape, Univ. of California, San Francisco, Univ. of Texas at Austin, Univ. of WIsconsin-Madison, Univ. of Toronto Mississauga.*

**POSTER**

**619. Cognitive Control and Performance**

***Theme H: Cognition***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 UU60 **619.01** What do you think before you fall? Brain activation during a rock climbing specific hang until failure. K. C. PHILLIPS*; B. NOH; H. MAAT; T. YOON. *Michigan Technological Univ.*

2:00 UU61 **619.02** High-intensity intermittent exercise improves executive performance by enhancing Stroop-effect-related prefrontal activation: A fNIRS neuroimaging study. K. BYUN*; S. KUJACH; K. HYODO; K. SUWABE; T. FUKUIE; R. LASKOWSKI; H. SOYA. *Univ. of Tsukuba, Gdansk Univ. of Physical Educ. and Sport.*

3:00 UU62 **619.03** The effects of a semester of aerobic exercise on fitness, cognition, mood, and GPA in college students. J. C. BASSO*; C. CROSTA; M. RASKIN; A. WANG; D. KADAKIA; J. CHOI; E. MILBURN; R. TRIVEDI; W. A. SUZUKI. *New York Univ.*

4:00 UU63 **619.04** Brain mechanisms of reactive and proactive control in children. W. CAI*; K. DUBERG; R. REHERT; J. CHEN; K. ZHANG; J. NICHOLAS; T. CHEN; B. PENNINGTON; S. HINSHAW; J. NIGG; V. MENON. *Stanford Univ. Sch. of Med., Stanford Univ. Sch. of Med., Denver Univ., U.C. Berkeley, OHSU, Stanford Univ. Sch. Med.*

1:00 UU64 **619.05** Neural mechanisms of response inhibition in children. K. T. DUBERG*; R. REHERT; S. BOSTAN; S. QIN; A. PADMANABHAN; T. BRADLEY; O. ALTAMIRANO; Y. A. MARTIN; V. G. CARRION; V. MENON; W. CAI. *Stanford Sch. of Med.*

2:00 UU65 **619.06** Association between alcohol use, impulsivity and inhibitory control in adolescents from a Brazilian sample. A. R. WILLHELM*; A. S. PEREIRA; S. H. KOLLER; R. M. DE ALMEIDA. *Univ. Federal Do Rio Grande Do Sul, Univ. Federal do Rio Grande do Sul, UFRGS.*

3:00 UU66 **619.07** Neuroimaging correlates of smoking cessation in healthy adult cigarette smokers. K. HUDSON; A. IVANCIU; B. CHAARANI; P. SPECHLER; S. KUMAR; S. SAMIEI; D. WETTER; P. THOMPSON; S. HIGGINS; H. GARAVAN*. *Univ. of Vermont, Univ. of Memphis, Univ. of Memphis, Univ. of Utah, Univ. of Southern California, Los Angeles.*

4:00 UU67 **619.08** The influence of craving on cognitive control processes in cigarette smokers. S. E. DONOHUE*; K. LOEWE; J. A. HARRIS; J. HOPF; H. HEINZE; M. G. WOLDORFF; M. A. SCHOENFELD. *Otto-von-Guericke Univ. Magdeburg, Leibniz Inst. for Neurobio., Ctr. for Cognitive Neuroscience, Duke Univ., Kliniken Schmieder.*

1:00 UU68 **619.09** Single-neuron and filed-potential correlates of error monitoring in the human medial frontal cortex. Z. FU*; D. J. WU; S. SULLIVAN; I. ROSS; J. M. CHUNG; A. N. MAMELAK; R. ADOLPHS; U. RUTISHAUSER. *Caltech, Caltech, Cedars-Sinai Med. Ctr., Huntington Mem. Hosp.*

2:00 UU69 **619.10** Sequential adjustments in cognitive control: Insights from simultaneous EEG-fMRI. T. HINAULT; A. DAGHER*; K. LARCHER; N. ZAZUBOVITS; M. FERREIRA; J. GOTMAN. *McGill Univ.*

3:00 UU70 **619.11** Complexity and effort in the fronto-parietal and cingulo-opercular control networks. S. SHASHIDHARA*; Y. EREZ; D. J. MITCHELL; J. DUNCAN. *MRC Cognition and Brain Sci. Unit, Univ. of Oxford.*

4:00 UU71 **619.12** Cognitive and emotional stresses synergetically modulate cognitive control through the cingulo-striatal system: fMRI and EDA Studies. T. MINAMOTO*; M. HARUNO. *Nat'l Inst. of Info and Comm Technol., Natl. Inst. of Information and Communication Technol.*

1:00 UU72 **619.13** High trait self-control is associated with reduced engagement of executive and salience networks during voluntary suppression of food craving. J. HAN*; U. VAINIK; K. LARCHER; J. GUAN; A. DAGHER. *Montreal Neurolog. Institute/McGill Univ.*

2:00 UU73 **619.14** Cognitive control networks contain a mixture of diverse connectivity patterns characteristic of predicted flexible hub mechanisms. T. ITO*; M. W. COLE. *Rutgers Univ.*

3:00 UU74 **619.15** ▲ An effective EEG neurofeedback training protocol to improve executive functions and to reduce depressive rumination. P. CHEN*; W. LIN; S. YU; C. TSENG. *Fo Guang University, Yun Hui 512 Rooms.*

4:00 UU75 **619.16** Causal evidence for lateral prefrontal cortex dynamics supporting cognitive control. D. E. NEE*; M. D'ESPOSITO. *Florida State Univ., Univ. of California Berkeley.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 UU76 **619.17** Towards a multidimensional model of everyday cognitive failures: Integrating brain hemodynamics, cognitive functioning, mental health and personality in a sample of young adults. M. A. ROMANO-SILVA*; D. S. COSTA; D. M. MIRANDA; J. J. DE PAULA. *Univ. Federal De Minas Gerais, Univ. Federal de Minas Gerais.*

2:00 UU77 **619.18** Brain dynamics involved in controlling physiological arousal improve task performance. N. WATANABE*; J. P. BHANJI; H. C. TANABE; M. R. DELGADO. *Rutgers Univ., Japan Society for the Promotion of Sci., Nagoya Univ., Natl. Inst. of Information and Communications.*

3:00 UU78 **619.19** Evaluating the relationship between activity in frontostriatal regions and successful and unsuccessful performance of a context-dependent rule learning task. A. E. CHANG*; Y. REN; A. S. WHITEMAN; C. STERN. *Boston Univ., Univ. of Michigan.*

4:00 UU79 **619.20** Prefrontal cortical activation associated with pro-social prospective memory behaviour in a naturalistic setting. A. F. HAMILTON*; C. AICHELBURG; P. PINTI; A. MERLA; S. GILBERT; I. TACHTSIDIS; P. BURGESS. *UCL, UCL, UNIVERSITÀ DEGLI STUDI G.D'ANNUNZIO.*

1:00 UU80 **619.21** Stimulating the performance monitoring network: The long and short of it. N. A. PAQUETTE*; G. A. BUZZELL; P. J. BEATTY; F. BADER; P. SINCLAIR; K. CRAVEN; P. M. GREENWOOD; M. S. PETERSON; C. G. MCDONALD. *George Mason Univ., Univ. of Maryland, Col. Park.*

2:00 UU81 **619.22** Influence of after-effects on preparatory attention depending on difficulty of tasks. M. TAKAYOSE*; R. KOSHIZAWA; K. OKI. *Nihon Univ. Col. of Industrial Technol., Nihon Univ. Col. of Commerce, Nihon Univ. Col. of Sci. Technol.*

3:00 UU82 **619.23** Corticostriatal networks reveal the role of the dorsal anterior cingulate cortex as a routing hub for cortical output integration. W. TANG*; S. N. HABER. *McLean Hosp., Univ. of Rochester.*

4:00 UU83 **619.24** Contributions of cortico-striatal pathways to the modulation of cognitive flexibility. A. E. REIMER*; M. LO; M. F. MURILLO; M. R. MILAD; A. S. WIDGE. *Massachusetts Gen. Hosp.*

1:00 VV1 **619.25** Tonic cortical inhibitory control while withholding a specific action to relieve a strong urge. K. K. SUNDBY*; A. R. ARON. *Univ. of California San Diego.*

2:00 VV2 **619.26** Characterizing human prefrontal cortex representations with fMRI. A. BHANDARI*; M. RIGOTTI; C. GAGNE; S. FUSI; D. BADRE. *Brown Univ., IBM T. J. Watson Res. Ctr., Univ. of California Berkeley, Columbia Univ., Brown Univ., Brown Inst. for Brain Sci.*

3:00 VV3 **619.27** The role of different prefrontal subareas in the inhibition of proactive interference during verbal working memory. A. LLORENS*; I. FUNDERUD; A. O. BLENKMANN; J. LUBELL; M. D. FOLDAL; T. R. MELING; A. SOLBAKK; T. ENDESTAD; R. T. KNIGHT. *Oslo Univ. Hosp. - Rikshospitalet, Univ. of Oslo, Oslo Univ. Hosp. - Rikshospitalet, Univ. of California.*

4:00 VV4 **619.28** Externally focused task switch activity in the "internally-directed" default mode network. V. SMITH*; D. J. MITCHELL; J. DUNCAN. *MRC Cognition and Brain Sci. Unit.*

1:00 VV5 **619.29** Structural correlates of executive function measures in older adults. H. L. LINDROTH*; R. MOHANTY; P. ROWLEY; V. A. NAIR; V. PRABHAKARAN; R. D. SANDERS. *Univ. of Wisconsin-Madison, Sch. of Medicin, Univ. of Wisconsin-Madison, UW Madison, Univ. of Wisconsin Madison, Univ. of Wisconsin Madison, Univ. of Wisconsin, Madison.*

2:00 VV6 **619.30** Functional connectivity and morphometric correlates of cognitive outcomes in elderly subjects using machine learning-based predictive model. R. MOHANTY*; P. ROWLEY; H. LINDROTH; V. A. NAIR; V. PRABHAKARAN; R. D. SANDERS. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

**POSTER**

**620. Decision Making and Reasoning**

***Theme H: Cognition***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 VV7 **620.01** Effects of paced breathing on convergent and divergent thinking. A. K. HALT*; B. M. KILLE; B. J. FERGUSON; D. R. DRYSDALE; B. E. SUTTON*; B. HERRIOTT; D. Q. BEVERSDORF. *Univ. of Missouri, Thompson Ctr. For Autism, Univ. of Missouri, Univ. of Missouri Columbia.*

2:00 VV8 **620.02** Neural mechanisms for deciding with predicting others in human brain. N. MA*; N. HARASAWA; K. UENO; N. ICHINOHE; M. HARUNO; K. CHENG; H. NAKAHARA. *RIKEN, Brain Sci. Inst., RIKEN, Brain Sci. Inst., Natl. Ctr. of Neurol. and Psychiatry, Natl. Inst. of Information and Communication Technol., RIKEN Brain Sci. Inst.*

3:00 VV9 **620.03** Neural mechanisms for converting social value into one's own decision value. H. FUKUDA*; N. MA; S. SUZUKI; N. HARASAWA; K. UENO; J. L. GARDNER; N. ICHINOHE; M. HARUNO; K. CHENG; H. NAKAHARA. *RIKEN, BSI, Tohoku Univ., Stanford Univ., RIKEN BSI, Natl. Inst. of Information and Communication Technol.*

4:00 VV10 **620.04** Ambiguity seeking versus avoidance during probabilistic decision making: Effects of outcome type (financial loss or reward). C. GAGNE*; E. L. A. LAWRANCE; A. G. E. COLLINS; S. J. BISHOP. *UC Berkeley, Univ. of Oxford.*

1:00 VV11 **620.05** Probabilistic decision-making under ambiguity when outcomes are aversive: Behavioral and brain correlates of trait anxiety. E. L. A. LAWRANCE; S. J. BISHOP*; J. O' REILLY; J. BIJSTERBOSCH; C. GAGNE; T. E. J. BEHRENS. *Oxford Univ., UC Berkeley.*

2:00 VV12 **620.06** Information seeking under stress and anxiety. C. J. CHARPENTIER*; M. GÄDEKE; T. SHAROT. *Caltech, Univ. Col. London.*

3:00 VV13 **620.07** ▲ Mood and personality traits have minimal influence on temporal discounting behavior. S. SPIVACK; S. J. PHILIBOTTE; N. H. SPILKA; I. J. PASSMAN; P. WALLISCH*. *New York Univ., New York Univ., New York Univ.*

4:00 VV14 **620.08** Vicarious subjective value representation in the human brain: An fMRI investigation. M. R. PIVA*; K. VELNOSKEY; R. JIA; I. LEVY; S. W. CHANG. *Yale Univ., Yale Univ., Yale Sch. of Med.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 VV15 **620.09** Activity in the temporoparietal junction (TPJ) tracks dynamic changes in uncertainty when observing goal directed action. K. R. VELNOSKEY*; S. W. C. CHANG; G. MCCARTHY. *Yale Univ.*

2:00 VV16 **620.10** Latent cause inference in social biases. Y. SHIN*; Y. NIV. *Princeton Univ., Princeton Univ.*

3:00 VV17 **620.11** How to build a bias: A role for confidence in belief formation. A. ZYLBERBERG*; D. M. WOLPERT; M. N. SHADLEN. *Columbia Univ., Univ. of Cambridge, Howard Hughes Med. Inst. - Columbia Univ.*

4:00 VV18 **620.12** Information processing dynamics predict extreme political beliefs. M. ROLLWAGE*; R. J. DOLAN; S. M. FLEMING. *Wellcome Trust Ctr. For Neuroimaging, Max Planck Univ. Col. London Ctr. for Computat. Psychiatry and Ageing Res.*

1:00 VV19 **620.13** Decoding representation learning in the orbitofrontal cortex during dynamic attention to relevant dimensions. N. DRUMMOND*; A. GEANA; N. SCHUCK; Y. NIV. *Princeton Univ., Princeton Univ., Princeton Univ.*

2:00 VV20 **620.14** ▲ Hyperscanning during natural dialogue between two individuals with high socioeconomic disparities. O. DESCORBETH*; X. ZHANG; J. A. NOAH; S. DRAVIDA; J. HIRSCH. *Yale Univ., Yale Sch. of Med., Yale Sch. of Med., Yale Sch. of Med., Yale Sch. of Med., Univ. Col. London.*

3:00 VV21 **620.15** Frontal EEG theta oscillation differences during two-person, live, eye-to-eye contact compared to picture gaze. J. A. NOAH*; Y. ONO; X. ZHANG; S. DRAVIDA; J. HIRSCH. *Yale Sch. of Med., Meiji Univ., Yale Sch. of Med., Yale Sch. of Med., Yale Sch. of Med., Univ. Col. London.*

4:00 VV22 **620.16** ▲ Neural correlates of a smile: An fNIRS investigation. J. PARK*; J. A. NOAH; X. ZHANG; S. DRAVIDA; J. HIRSCH. *Yale Univ., Yale Sch. of Med., Yale Sch. of Med., Yale Sch. of Med., Yale Sch. of Med., Univ. Col. London.*

1:00 VV23 **620.17** Do cannabis users show differences in decision-making with risk- and reward-related processing? L. E. CURLEY*; C. B. C. MCNABB; M. AL-ATTAR; P. BINT; T. BOWERS; J. HINTON; A. SIRAJ; R. HESTER; B. RUSSELL; I. KIRK; R. KING; J. COCHRAN. *The Univ. of Auckland, The Univ. of Auckland, Univ. of Melbourne, The Univ. of Otago, The Univ. of Auckland, Univ. of Auckland.*

2:00 VV24 **620.18** Influence of attentional modulation on the construction of reward value. M. MORADI SPITMAAN*; E. CHU; A. SOLTANI. *Dartmouth Col., Dartmouth Col.*

3:00 VV25 **620.19** Tonic activity at striatal dopamine 2/3 receptors encodes subjects' confidence in their policies. R. A. ADAMS*; M. MOUTOUSSIS; D. LEWIS; M. NOUR; T. DAHOUN; K. FRISTON; J. ROISER; O. HOWES. *UCL, King's Col. London, Imperial Col. London.*

4:00 VV26 **620.20** Shifts in belief encoded in the dopaminergic midbrain and ventral striatum depend on dopamine-2/3 receptor availability: A PET-fMRI study. M. M. NOUR*; T. DAHOUN; R. A. ADAMS; P. SCHWARTENBECK; C. COELLO; O. D. HOWES. *King's Col. London, MRC London Inst. of Med. Sci., Imperial Col. London, Univ. Col. London, Univ. Col. London, Univ. Col. London, Univ. Col. London, ParacelsusMed. Univ. Salzburg, Univ. of Oslo.*

1:00 VV27 **620.21** Emergent oscillations in the subthalamic nucleus of a simulated basal ganglia. T. M. SHEA*; J. J. RODNY; A. S. WARLAUMONT; D. C. NOELLE. *Univ. of California, Merced.*

2:00 VV28 **620.22** ● Impulsive or indecisive: Effects of altered excitation-inhibition balance on decision making in a cortical circuit model. N. H. LAM*; T. BORDUQUI; J. HALLAK; A. C. ROQUE; A. ANTICEVIC; J. H. KRYSTAL; X. WANG; J. D. MURRAY. *Yale Univ., Univ. of São Paulo, Univ. of São Paulo, Yale Univ., New York Univ.*

3:00 VV29 **620.23** Action selection under uncertainty: fMRI evidence in a novel task. V. G. FIORE*; J. YU; C. C. TATINENI; A. V. GUERTLER; X. GU. *The Ctr. For Brainhealth, The Ctr. For Brainhealth.*

4:00 VV30 **620.24** Toward a proof of concept for neuroimaging-based financial-system regulation: Near-infrared spectroscopy (NIRS)-recorded lateral neocortical activity in lab markets with monotonically decreasing or peaked fundamental values. J. L. HARACZ*. *Indiana Univ.*

**POSTER**

## 621. RNA and Gene Expression Techniques

***Theme I: Techniques***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 VV31 **621.01** Single molecule fluorescence *in situ* hybridization in the mouse retina. M. THOMSEN*; M. VISWANATHAN; H. ZHAO; S. HATTAR. *Natl. Inst. of Mental Hlth., Johns Hopkins Univ.*

2:00 VV32 **621.02** Visualization of circular RNA expression at single-cell resolution in C57Bl/6J developmental mouse brain using BaseScope™ technology. A. LAEREMANS*; N. LI; E. PARK; X. MA; N. SU. *Advanced Cell Diagnostics.*

3:00 VV33 **621.03** Sequencing and proteomic approach illuminates mRNA and protein isoform diversity and their contributions to neural development and disease. T. RAY*; K. J. COCHRAN; W. J. SPENCER; G. ALEXANDER; N. SKIBA; J. N. KAY. *Duke Univ., Duke Univ., Duke Univ., Duke Univ., Duke Univ., Duke Univ.*

4:00 VV34 **621.04** Mapping behaviourally induced Homer1a expression along the septotemporal axis of CA1. S. T. DUBE*; M. J. ECKERT; V. LAPOINTE; A. M. DEMCHUK; L. MESINA; B. L. MCNAUGHTON. *Canadian Ctr. for Behavioural Neurosci.*

1:00 VV35 **621.05** ▲ Optimized cortical inhibitory neuron targeting using microRNA-guided neuron tags (mAGNETs) in the rodent brain. T. TA*; M. K. KEAVENEY (SAYEG); X. HAN. *Boston Univ.*

2:00 VV36 **621.06** Adult neurogenesis enhances hippocampal dependent performance via influences on bilateral networks and age dependent synaptic integration. S. BENSUSSEN*; K. CHING; H. GRITTON; J. ZHUO; X. HAN. *Boston Univ., Boston Univ.*

3:00 VV37 **621.07** Transcription architecture of synaptic connectivity and signaling underlies cortical GABAergic neuron identity. A. PAUL*; M. CROW; J. GILLIS; Z. HUANG. *Cold Spring Harbor Lab., Cold Spring Harbor Lab., Cold Spring Harbor Lab.*

4:00 VV38 **621.08** Using pattern detection in large datasets to identify "switched" transcripts in brain regions of adult mouse brain. R. S. NOWAKOWSKI*; L. M. DICARLO; K. XU; N. BROWNSTEIN; J. FAN; C. VIED. *FSU Col. of Med., Florida State Univ. Col. of Med., Fudan Univ., FSU Col. of Med., Princeton Univ., Florida State University, Col. of Med.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 VV39 **621.09** Quantitative mrna imaging throughout the entire *Drosophila* brain. X. S. LONG*; J. COLONELL; A. WONG; R. H. SINGER; T. LIONNET. *HHMI Janelia Res. Campus, Albert Einstein Col. of Med., Albert Einstein Col. of Med., New York Univ. Langone Med. Ctr.*

2:00 VV40 **621.10** Overexpression of miR-200a in the regulation of Keap1 < Nrf2 mRNA expression > spinal cord motor neuron cell lines. D. WIWATRATANA*; W. D. ATCHISON. *Michigan State Univ., Michigan State Univ. Dept. of Pharmacol. and Toxicology.*

3:00 VV41 **621.11** Targeting dopamine progenitors with *in utero* electroporation in mice. J. P. KESBY*; R. SUÁREZ; D. W. EYLES. *Queensland Brain Inst., Univ. of Queensland, Queensland Ctr. for Mental Hlth. Res.*

4:00 VV42 **621.12** Biotin tagging MeCP2 reveals contexual insights into the Rett syndrome transcriptome. B. JOHNSON; Y. ZHAO; M. FASOLINO; J. LAMONICA; Y. J. KIM; G. GEORGAKILAS; K. WOOD; D. BU; Y. CUI; D. GOFFIN; G. VAHEDI; T. H. KIM; Z. ZHOU*. *Univ. of Pennsylvania, Univ. of Texas at Dallas.*

**POSTER**

**622. Connectomics: Molecular Techniques**

***Theme I: Techniques***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 VV43 **622.01** Neuronal diversity of the zebrafish habenulo-interpeduncular pathway revealed by CRISPR/Cas9 genome editing. J. CHOI; E. DUBOUÉ; J. CHANCHU; M. E. HALPERN*. *Carnegie Instn for Sci.*

2:00 VV44 **622.02** The issue of cross-contamination with Affymetrix's ViewRNA© *in situ* hybridization histochemistry procedure: Work around and other tips. S. YOUNG*; J. SONG. *Natl. Inst. of Mental Hlth.*

3:00 VV45 **622.03** Methodology for building Nissl stain and cell type-based brain atlases for vertebrate species. R. MUÑOZ CASTAÑEDA*; K. UMADEVI VENKATARAJU; M. BOTA; P. OSTEN. *Cold Spring Harbor Lab.*

4:00 VV46 **622.04** Interrogating the logic of neuronal projections using *in situ* barcode sequencing. X. CHEN*; J. M. KEBSCHULL; H. ZHAN; G. M. CHURCH; J. H. LEE; A. M. ZADOR. *Cold Spring Harbor Lab., Watson Sch. of Biol. Sci., Wyss Institute, Harvard Med. Sch., Harvard Med. Sch.*

1:00 VV47 **622.05** Dissection of neural pathways using anterograde transsynaptic transfer of AAV1. B. ZINGG*; X. CHOU; Z. ZHANG; L. MESIK; F. LIANG; N. K. ZHANG; H. W. TAO; L. I. ZHANG. *USC, USC, USC.*

2:00 VV48 **622.06** The whole mouse brain-on-tape for volume electron microscopy and cellular connectomics. S. MIKULA*. *Max-Planck Inst. For Neurobio.*

3:00 VV49 **622.07** Network cloning using DNA barcodes. S. SHUVAEV*; B. BASERDEM; A. ZADOR; A. KOULAKOV. *Cold Spring Harbor Lab.*

4:00 VV50 **622.08** ● Automated antibody screening via probabilistic synapse detection. A. K. SIMHAL*; K. D. MICHEVA; J. S. TRIMMER; F. C. COLLMAN; R. J. WEINBERG; S. J. SMITH; G. SAPIRO. *Duke Univ., Stanford Univ. Sch. Med., Univ. of California, Davis, Allen Inst. for Brain Sci., Univ. North Carolina, Allen Inst. For Brain Sci.*

1:00 VV51 **622.09** ● Comparing mouse and human synapses with automated probabilistic synapse analysis. K. D. MICHEVA*; A. K. SIMHAL; J. T. TING; A. L. KO; W. W. SEELEY; E. F. CHANG; A. NANA LI; E. LEIN; F. C. COLLMAN; D. V. MADISON; R. J. WEINBERG; S. J. SMITH; G. SAPIRO. *Stanford Univ. Sch. Med., Duke Univ., Allen Inst. For Brain Sci., Univ. of Washington Med. Ctr., Univ. of California San Francisco Dept. of Neurol., UCSF, Univ. of California San Francisco, Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Stanford Sch. Med., Univ. North Carolina, Allen Inst. For Brain Sci., Duke Univ.*

2:00 VV52 **622.10** SMLocalizer, a CUDA based ImageJ plugin for PALM/STORM data analysis. H. BRISMAR*; K. BERNHEM; L. WESTIN. *KTH, Royal Inst. of Technol.*

3:00 VV53 **622.11** Brain amine neurotransmitters are comprehensively visualized by matrix-free laser desorption/ionization imaging mass spectrometry using a unique photocleavable derivatizing agent. T. MATSUDA*; H. FUKANO; M. WAKI; S. TAKEI; F. ETO; M. SETOU; T. MAKI; I. YAO. *Hamamatsu Univ. Sch. of Med., Hamamatsu Univ. Sch. of Med., Hamamatsu Univ. Sch. of Med., The Univ. of Hong Kong, Natl. Inst. for Physiological Sci., Riken Ctr. for Mol. Imaging Sci., Nagasaki Univ.*

4:00 VV54 **622.12** Detection of 2-hydroxyglutarate in IDH-mutant gliomas by 3-tesla magnetic resonance spectroscopy. M. NATSUMEDA*; H. IGARASHI; M. OKADA; K. MOTOHASHI; T. NAKADA; Y. FUJII. *Brain Res. Institute, Niigata Univ., Brain Res. Institute, Niigata Univ.*

1:00 VV55 **622.13** Synthesis and preclinical evaluation of [11C]BA-1, a PET tracer for brain CSF-1R. G. M. BORMANS*; B. ATTILI; M. AHAMED; S. CELEN. *KU Leuven, KU Leuven.*

2:00 VV56 **622.14** Systematic screening of the molecular markers of leptin signaling in the hippocampus: role of pi3k pathway. B. DE CARVALHO BORGES DEL GRANDE*; M. B. CELANI; A. G. SILVA; J. ANTUNES-RODRIGUES; J. DONATO JR; L. L. K. ELIAS. *Sch. of Med. of Ribeirao Preto - Univ., Inst. of Biomed. Sci. - Univ. of Sao Paulo.*

**POSTER**

**623. Neurophysiology: Humans**

***Theme I: Techniques***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 VV57 **623.01** Stimulus sensitivity of narrowband gamma oscillations in human visual cortex. B. L. FOSTER*; W. BOSKING; M. BEAUCHAMP; D. YOSHOR. *Baylor Col. of Med.*

2:00 VV58 **623.02** Modulation of postmenopause and premenopause on resting state electroencephalographic power in women. E. G. GONZÁLEZ-PÉREZ*; S. SOLÍS-ORTIZ. *Univ. De Guanajuato.*

3:00 VV59 **623.03** Sensory gating alterations in major depressive disorder, and their relationship to clinical symptoms. S. DE LA SALLE*; M. BIRMINGHAM; P. BLIER; V. KNOTT. *Univ. of Ottawa Inst. of Mental Hlth. Re, Univ. of Ottawa Inst. of Mental Hlth. Res.*

Tues. PM

• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 VV60 **623.04** Head angle during image acquisition impacts interpretation of DBS electrode position. S. A. NORRIS*; M. MILCHENKO; A. Z. SNYDER; M. C. CAMPBELL; M. USHE; J. L. DOWLING; K. M. RICH; J. S. PERLMUTTER. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*

1:00 VV61 **623.05** 7T mri probabilistic stn atlas for use with 3T mri. M. MILCHENKO; S. A. NORRIS; A. Z. SNYDER; K. L. POSTON; M. C. CAMPBELL; M. USHE*; J. S. PERLMUTTER. *Washington Univ., Washington Univ., Stanford Univ., Washington Univ., Washington Univ.*

2:00 VV62 **623.06** Pharmacological functional MRI analysis of dopamine D1 receptor interventions with 11.7 T high field MRI scanner. Y. KIMURA; S. NAKAZAWA; Y. MORI; K. NISHIGORI; M. YAMANAKA*; J. ICHIHARA; Y. YOSHIOKA. *Sumitomo Dainippon Pharma Co., Ltd., Ctr. for Information and Neural Networks (CiNet), Natl. Inst. of Information and Communications Technol. (NICT) and Osaka Univ.*

3:00 VV63 **623.07** Non-invasive methods for estimating brain network latencies. S. PAJEVIC*; A. V. AVRAM; A. BERNSTEIN; R. COPPOLA; M. J. CURRY; R. D. FIELDS; M. HALLETT; T. HOLROYD; G. LEODORI; A. C. SIMMONS; N. THIRUGNANASAMBANDAM; Z. NI; P. J. BASSER. *NIH, NIH, NIH, Univ. of Arizona, NIH, Henry Jackson Fndn., NIH, NIH.*

4:00 VV64 **623.08** Inferring network latencies in the CNS from diffusion MRI data. A. V. AVRAM*; A. S. BERNSTEIN; R. COPPOLA; M. J. CURRY; R. D. FIELDS; M. HALLETT; T. O. HOLROYD; G. LEODORI; S. PAJEVIC; A. C. SIMMONS; N. THIRUGNANASAMBANDAM; N. ZHEN; P. J. BASSER. *NIH, NIH, NIMH, NIH, Natl. Inst. of Neurolog. Disorders and Stroke, NIH, NIH, NIH, NIH.*

1:00 VV65 **623.09** The brainstem response to respiratory-gated auricular vagal afferent nerve stimulation (RAVANS) at ultrahigh-field (7T) fMRI and its effect on vagal autonomic outflow. R. SCLOCCO; N. W. KETTNER*; R. G. GARCIA; J. R. POLIMENI; K. ISENBURG; N. TOSCHI; R. BARBIERI; V. NAPADOW. *Massachusetts Gen. Hospital, Harvard Med. Sc, Logan Univ., Univ. of Rome Tor Vergata, Massachusetts Gen Hosp.*

2:00 VV66 **623.10** Resting state connectivity of the BNST and CeA in patients with anxiety disorders. S. TORRISI*; G. ALVAREZ; A. X. GORKA; C. GRILLON; M. ERNST. *Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*

3:00 VV67 **623.11** A probabilistic stereotaxic structural atlas of five mesopontine tegmental nuclei from *in vivo* 7 Tesla MRI. M. BIANCIARDI*; C. STRONG; N. TOSCHI; B. L. EDLOW; B. FISCHL; E. N. BROWN; B. R. ROSEN; L. L. WALD. *Dept. of Radiology, MGH & Harvard Med. Sch., Dept. of Neurosurgery, Brigham and Women's Hosp. and Harvard Med. Sch., Med. Physics Section, Dept. of Biomedicine and Prevention, Fac. of Medicine, Univ. of Rome "Tor Vergata", Dept. of Neurology, A. A. Martinos Ctr. for Biomed. Imaging, MGH and Harvard Med. Sch., Dept. of Anesthesia, Critical Care and Pain Medicine, MGH.*

4:00 VV68 **623.12** Towards creating a probabilistic atlas for contrast-enhanced T1-weighted MR images of the brain: A pilot study. M. S. SHIROISHI*; V. GUPTA; J. FASKOWITZ; B. BIGJAHAN; S. CEN; D. HWANG; A. LERNER; C. J. LIU; O. BOYKO; P. M. THOMPSON; N. JAHANSHAD. *Keck Sch. of Medicine, Univ. of Southern Ca, Univ. of Southern California (USC), Indiana Univ.*

1:00 VV69 **623.13** Data integration through digital brain atlasing: Human Brain Project infrastructure. K. A. ANDERSSON*; M. ØVSTHUS; I. E. BJERKE; M. A. PUCHADES; M. TELEFONT; J. MULLER; T. DICKSCHEID; T. B. LEERGAARD; J. G. BJAALIE. *Univ. of Oslo, Human Brain Project, École Polytechnique Fédérale de Lausanne (EPFL), Inst. of Neurosci. and Med. (INM-1).*

2:00 VV70 **623.14** How gyral geometry affects cortical fibre trajectories; from tract tracing to diffusion MRI tractography. M. COTTAAR*; T. E. BEHRENS; S. JBABDI; S. N. HABER. *Univ. of Oxford, Univ. of Rochester.*

3:00 VV71 **623.15** Three-dimensional investigation of neuronal layer distribution in human brain cortex. I. COSTANTINI*; L. SILVESTRI; V. CONTI; C. DEL TORTO; G. MAZZAMUTO; L. SACCONI; R. GUERRINI; F. S. PAVONE. *Univ. of Florence, European Lab. For Non-Linear Spectroscopy, Pediatric Neurol. and Neurogenetics Unit and Labs.*

4:00 VV72 **623.16** Automated hippocampal subfield segmentation using 7T MRI in patients with major depressive disorder: First results. J. ALPER*; R. FENG; H. DYVORNE; H. LIN; B. DELMAN; P. R. HOF; J. W. MURROUGH; P. BALCHANDANI. *Icahn Sch. of Med. At Mount Sinai, City Col. of New York, 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. at Mount Sinai, Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

1:00 VV73 **623.17** Similarities between schizophrenia and autism spectrum disorder in functional connectivity of the default mode network. L. RABANY; S. BROCKE; V. CALHOUN; C. J. HYATT; S. CORBERA; B. E. WEXLER; B. D. MORRIS; S. RACHAKONDA; K. A. PELPHREY; G. D. PEARLSON; M. ASSAF*. *Olin Neuropsychiatry Res. Center, Inst. of Living, The Mind Res. Network, Yale University, Sch. of Medicine, Dept. of Psychiatry, VA Connecticut Healthcare Syst., George Washington Univ., Olin Neuropsychiatry Res. Center, IOL.*

2:00 VV74 **623.18** Rich club organization of the neonatal functional connectome in newborns with complex congenital heart disease. J. D. CRUZ; M. T. DONOFRIO; G. VEZINA; C. LIMEROPOULOS*. *Children Natl. Hlth. Syst., Children's Natl. Hlth. Syst., Children's Natl. Hlth. Syst.*

3:00 VV75 **623.19** ● A study of the brain functional MRI in the patients with alcohol dependence. S. FUKUSHIMA*; S. H. T. T. TAKEFUMI UENO. *Natl. Hosp. Organization Hizen Psychiatric C, Nagasaki Univ. Hosp.*

4:00 VV76 **623.20** ● Test-retest reliability of short-interval intracortical inhibition in patients with schizophrenia. X. DU*; A. SUMMERFELT; J. CHIAPPELLI; K. WISNER; P. KOCHUNOV; F. CHOA; L. E. HONG. *Maryland Psychiatric Res. Ctr., UMBC.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**624. Histological Approaches: Brain Clearing, Expansion, and Reconstruction**

***Theme I: Techniques***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 VV77 **624.01** Embryonic tissue clearing across species by CLARITY with and without perfusion of the fetal vasculature. N. GOEDEN*; N. C. FLYTZANIS; A. GREENBAUM; M. J. JANG; A. M. EZIN; M. L. PIACENTINO; E. J. HUTCHINS; M. E. BRONNER; M. A. YUI; E. V. ROTHENBERG; V. GRADINARU. *Caltech.*

2:00 VV78 **624.02** Combined soft and osseous tissue clearing for visualization and precise localization of *in situ* implants. A. GREENBAUM*; N. FLYTZANIS; K. Y. CHAN; C. CHALLIS; V. GRADINARU. *Caltech.*

3:00 VV79 **624.03** Integrated brain-wide single cellular mapping. Y. PARK*; J. H. CHO; G. DRUMMOND; D. YUN; H. CHOI; H. JUNG; T. KU; L. RUELAS; M. MCCUE; K. CHUNG. *MIT, MIT.*

4:00 VV80 **624.04** Long-range dense axonal fiber tracing using convolutional neural network. A. BREWSTER; M. HERNANDEZ; M. BULUGIOIU; B. TELFER; A. MAJUMDAR; S. SAMSI; T. KU; H. CHOI; K. CHUNG; L. BRATTAIN*. *MIT Lincoln Lab., MIT, MIT, MIT.*

1:00 VV81 **624.05** Multi-scale imaging and reconstruction of brain-wide neural circuits using novel chemical approaches. M. G. MCCUE*; R. CHEN; Y. PARK; H. CHOI; W. TRIEU; K. CHUNG. *MIT, MIT, MIT, MIT, MIT.*

2:00 VV82 **624.06** Simultaneous profiling of nucleotides, proteins, and endogenous fluorescence in transparent tissue enabled by flexible and multifunctional fixatives. R. CHEN*; M. MCCUE; Y. PARK; H. CHOI; K. CHUNG. *MIT, MIT.*

3:00 VV83 **624.07** ● Advanced Magnified Analysis of Proteome (MAP) for superresolution mapping of biological tissues. T. KU*; A. ALBANESE; K. CHUNG. *MIT, MIT, MIT, MIT, Broad Inst. of Harvard Univ. and MIT.*

4:00 VV84 **624.08** Developing an *in vivo* optical clearing technique for mouse brain imaging. M. KUME*; N. KANG; A. AKROUH; J. DEARBORN; D. F. WOZNIAK; D. KERSCHENSTEINER; T. E. HOLY. *Washington Univ. In St Louis, Washington Univ. in St Louis, Johns Hopkins Univ., Columbia Univ., Washington Univ. Sch. of Med., Washington Univ. Sch. Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*

1:00 VV85 **624.09** Large-scale reconstruction of the endoplasmic reticulum and intracellular organelles of neurons using SBEM. M. HABERL*; E. P. CAMPBELL; T. DEERINCK; S. PHAN; E. BUSHONG; B. L. BLOODGOOD; M. H. ELLISMAN. *UCSD, UCSD, UCSD.*

2:00 VV86 **624.10** Large area, high-resolution brain imaging workflow using block-face sem. C. A. BRANTNER*; L. MATSIYEVSKIY; C. CLARKSON-PAREDES; C. BRYAN; D. MEECHAN; T. M. MAYNARD; D. S. MENDELOWITZ; S. A. MOODY; A. S. LAMANTIA; A. S. POPRATILOFF. *George Washington Univ., George Washington Univ., George Washington Univ.*

3:00 VV87 **624.11** Localization of endogenous compounds in connectomics-grade volumetric electron microscopy imagery of brain tissue. T. TEMPLIER*; O. URWYLER; R. H. HAHNLOSER. *Univ. of Zurich and ETH Zurich, Neurosci. Ctr. Zurich, Inst. of Mol. Life Sci., Inst. of Neuroinformatics, Univ. of Zurich/ETH Zurich.*

4:00 VV88 **624.12** ▲ Correlative light electron microscopy (CLEM) and quantification of synapses using immunofluorescence. I. E. O. REPO; A. STILLAR; A. C. WEEKS*. *Nipissing Univ.*

1:00 VV89 **624.13** X-ray scattering: A new tool to probe myelin content and fiber direction. Application in mouse brain and comparison with MRI, histology and CLARITY. M. GEORGIADIS*; Z. GAO; M. LIEBI; C. LEUZE; V. ZERBI; D. ZINGARIELLO; S. SOMMER; M. AUGATH; J. MCNAB; O. BUNK; M. GUIZAR-SICAIROS; A. SCHROETER; M. RUDIN. *Inst. for Biomed. Engineering, ETH Zurich, Inst. for Pharmacol. and Toxicology, Univ. of Zurich, currrently: NYU Langone Sch. of Med., Paul Scherrer Inst., currently: MAX IV Laboratory, Lund Univ., Radiology Department, Stanford Univ., Neurosciences Institute, Stanford Univ., Neural Control of Movement Lab, ETH Zürich.*

2:00 VV90 **624.14** Higher resolution and precision correlative and integrated volume electron microscopy: Solving sample surface charging and electron beam damage. E. ROSA-MOLINAR*; I. I. TORRES-VASQUEZ; N. MARTINEZ-RIVERA; C. M. SANTIAGO-ROBLES; H. SHINOGLE-DECKER; P. S. THAPA-CHETRI; J. P. KILCREASE; V. JOSHI; R. D. POWELL. *Univ. of Kansas, Hitachi High Technologies America, Inc, Nanoprobes Inc.*

3:00 VV91 **624.15** Light sheet and light field microscopy platform for structural and functional neuroimaging. T. V. TRUONG*; A. ANDREEV; S. MADAAN; D. B. HOLLAND; M. JONES; S. E. FRASER. *USC, USC.*

4:00 VV92 **624.16** Correlative workflow from fluorescence to 3D ultrastructural reconstruction of intracellular organelles via FIB-SEM imaging. P. PARLANTI; A. W. OAKS; C. BRANTNER; A. S. POPRATILOFF; M. MANZINI*. *Scuola Normale Superiore, The George Washington Univ., The George Washington Univ.*

1:00 WW1 **624.17** Batch processing of ultrathin sections for large-scale, serial section electron microscopy. T. LEE*; D. J. BUMBARGER; R. REID; C. FOREST. *Georgia Inst. of Technol., Allen Inst. For Brain Sci., Allen Inst. for Brain Sci., Georgia Tech.*

2:00 WW2 **624.18** Novel probes for background-free cellular tracing. L. M. PARKER*; M. DAS; N. M. CORDINA; P. REINECK; X. XU; Y. LU; B. GIBSON; N. H. PACKER. *Macquarie Univ., RMIT, Macquarie Univ.*

3:00 WW3 **624.19** A conductive novel tape material and a new staining protocol for volume electron microscopy applications. Y. KUBOTA*; J. SOHN; S. HATADA; M. SCHURR; J. STRAEHLE; A. G. GOUR; R. NEUJAHR; S. MIKULA; Y. KAWAGUCHI. *Natl. Inst. Physiol Sci. (NIPS), MPI For Brain Res., Max Planck Inst. For Brain Res., Max Planck Inst. For Brain Res., Carl Zeiss Microscopy GmbH, Max-Planck Inst. For Neurobio.*

4:00 WW4 **624.20** An optical clearing and labelling platform for 3D cytoarchitectural characterization of large adult human brain samples. S. HILDEBRAND*; A. SCHÜTH; A. ROEBROECK. *Maastricht Univ.*

1:00 WW5 **624.21** *In vitro* biocompatibility evaluation of nanostructured polymers. J. MAYAUDON*; A. QUESNEL-HELLMANN; L. ROUSSEAU; B. YVERT; G. PIRET. *INSERM, INSERM, Esiee-Paris, INSERM.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 WW6 **624.22** The enteric nervous system ‘connectome’ with and without the microbiome. V. SAMPATHKUMAR*; V. DE ANDRADE; R. VESCOVI; H. LI; K. FEZZAA; M. DU; V. LEONE; E. CHANG; N. B. KASTHURI. *Univ. of Chicago, Argonne Natl. Lab., Northwestern Univ., Univ. of Chicago.*

3:00 WW7 **624.23** Effect of incubation with streptolisynie o, in the pore formation in boar spermatozoa. M. BARRIENTOS*; E. JACOME-SOSA; B. DOMINGUEZ-MANCERA; P. CERVANTES; A. HERNANDEZ BELTRAN; M. JUAREZ-MOSQUEDA. *Univ. Veracruzana, Univ. Nacional Autonoma de México.*

**POSTER**

**625. Novel Approaches in Neurodegeneration and Stroke**

***Theme I: Techniques***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 WW8 **625.01** Development of an immortalized huamn DRG neuronal cell line to model diabetic and chemotherapy idncued peripheral neuropathies. W. CHEN*; A. HOKE. *Johns Hopkins Med. Sch., Johns Hopkins Univ. Dept. of Neurol. and Neurosurg.*

2:00 WW9 **625.02** ● Development of an *in vitro* myelination assay using mouse oligodendrocytes and engineered nanofibers. Y. YANG*; B. BAI; S. LUNN; J. JOHNSON; N. KLEINHENZ; V. SHENOY; B. D. TRAPP. *Renovoneural Inc, GCIC, Renovoneural Inc., Nanofiber Solutions, Inc., Cleveland Clin.*

3:00 WW10 **625.03** Glutamate transporter activator Parawixin-10: Neuroprotective effects in brain and retinal ischemia models in Wistar rats. J. L. LIBERATO*; M. V. A. AGUIAR; M. V. B. CELANI; T. BRONHARA; J. MARIN-PRIDA; N. P. LOPES; W. F. SANTOS. *UNIVERSITY OF SÃO PAULO, INSTITUTO DE NEUROCIÊNCIAS E COMPORTAMENTO - INeC, Inst. de Farmacia y Alimentos – IFAL, Univ. of São Paulo.*

4:00 WW11 **625.04** ● Development of a quantitative targeted mass spectrometry platform for Parkinson’s disease biomarkers. M. ROTUNNO*; P. WOLF; M. LANE; P. OLIVOVA; L. SHIHABUDDIN; K. ZHANG; P. SARDI. *Sanofi, Inc., Sanofi, Inc.*

1:00 WW12 **625.05** Alleviation of memory impairment in mouse model for Alzheimer’s disease by a novel inhibitor of aberrant gaba synthesis. J. PARK*; J. CHOI; B. JANG; Y. JU; M. PARK; A. PAE; J. CHO; C. J. LEE; K. PARK. *Korea Inst. of Sci. and Technol.*

2:00 WW13 **625.06** Molecular mechanisms underlying the oligomerization and activity of sigma 1 receptor. M. XU; H. YANO; L. SHI*. *NIH.*

3:00 WW14 **625.07** Pharmacological profiling of the sigma 1 receptor ligands by novel *in vitro* and *in silico* approaches. H. YANO*; M. XU; A. BONIFAZI; A. FANT; W. C. HONG; A. H. NEWMAN; L. SHI. *Natl. Inst. on Drug Abuse IRP, Butler Univ.*

4:00 WW15 **625.08** Pharmacological inhibition of the neuron restrictive silencer factor under hypoxia situations. Y. A. RODRIGUEZ*; J. C. MARTINEZ; M. L. SERRANO; C. CASTILLO; J. CARBALLO. *Fundacion IDEA, Univ. Simon Bolivar, Univ. Central de Venezuela.*

1:00 WW16 **625.09** Enhanced CNS uptake of prodrugs of the GCPII inhibitor 2-PMPA following intranasal administration. A. J. GADIANO; S. C. ZIMMERMANN; R. P. DASH; C. GARRETT; J. ALT; C. ROJAS; A. G. THOMAS; Y. WU; P. MAJER; R. RAIS; B. S. SLUSHER*. *Johns Hopkins Drug Discovery, Johns Hopkins Drug Discovery, Johns Hopkins Drug Discovery, Inst. of Organic Chem. and Biochemsitry, Acad. of Sci. of the Czech Republic.*

2:00 WW17 **625.10** ▲ microRNA 34b/c and alpha synuclein gene expression in SH-SY5Y cells for Parkinson’s disease study. E. HAHS*; S. KHOO. *Grand Valley State Univ.*

3:00 WW18 **625.11** ● Reduced lifespan, but absence of Alzheimer’s-like pathology and cognitive impairment in commercially-sourced SAMP8 mice. J. W. BROWN*; V. A. RODERWALD; H. M. ROBB; C. Z. ZHU; E. G. MOHLER. *AbbVie.*

4:00 WW19 **625.12** ● Biomarker for KMO inhibitor, CHDI-00340246: Pharmacokinetic and pharmcodynamic effect in CSF of conscious non-human primate. M. VAN GAALEN*; R. CACHOPE; J. SUTCLIFFE; A. RASSOULPOUR; M. S. HEINS; C. SCHLUMBOHM; K. HOFFMANN; J. H. A. FOLGERING; T. I. F. H. CREMERS; V. KHETARPAL; C. DOMINGUEZ; I. MUNOZ SANJUAN; L. MRZLJAK. *Encepharm, CHDI Mgmt. / CHDI Fndn., Brains On-Line, LLC, Brains On-Line, CHDI Mgmt. / CHDI Fndn.*

1:00 WW20 **625.13** Analysis of neuron- and oligodendroglia-derived blood exosomes for diagnostics of synucleinopathies. S. DUTTA*; I. D. ROSARIO; K. PAUL; J. BRONSTEIN; B. RITZ; G. BITAN. *David Geffen Sch. of Med. At UCLA, Univ. of California Los Angeles.*

2:00 WW21 **625.14** Current and future directions of the ninds Parkinson’s disease biomarkers program. C. R. SWANSON*; K. ARCE; D. J. BABCOCK; K. K. DAVID; L. FRAME; J. LIU; C. LUNGU; B. SIEBER; M. SUTHERLAND. *NIH-NINDS, NIH-CIT.*

3:00 WW22 **625.15** An easily integratable behavioral system for high-throughput drug screening in zebrafish. S. L. WALKER*; D. C. CHAN; H. LIU; W. YUNG; Y. KE. *The Chinese Univ. of Hong Kong.*

4:00 WW23 **625.16** Characterizing the role of ceramide in the dual cytotoxic and metabolic stimulative effects of sigma-2 receptors in SK-N-SH neuroblastoma cells. C. Z. LIU*; W. D. BOWEN. *Brown Univ.*

1:00 WW24 **625.17** Serum endocan levels are associated with large-artery atherosclerotic stroke. X. JIN*; X. HE; S. KE; W. HONG; Y. BAO; Y. SHEN; F. ZHU; E. WANG. *Taizhou Hospital, Wenzhou Med. Univ.*

2:00 WW25 **625.18** Characterization of fast-spiking interneurons differentiated from human induced pluripotent stem cells. S. SUYAMA*; K. TAKASU; Y. ISHIDA; K. TAKAHASHI; N. SUZUKI; M. HASEGAWA; K. OGAWA. *Shionogi&Co.,Ltd., Pain & Neuroscience, Shionogi&Co.,Ltd.*

3:00 WW26 **625.19** Multimodal MRI-based classification of the primary progressive aphasias using eigenanatomy. C. A. OLM*; L. H. ZHAO; P. A. COOK; C. T. MCMILLAN; J. C. GEE; M. GROSSMAN. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

4:00 WW27 **625.20** Screening of amyloid-β aggregation inhibitors from aromatic low molecular compounds by a microliter-scale high-throughput screening system with quantam-dot nanoprobes. Y. ANDO*; K. OTA; I. ITO; H. KIKUCHI; Y. OSHIMA; Y. ENDO; K. UWAI; K. TOKURAKU. *Muroran Inst. of Technol., Tohoku medical and pharmaceutical Univ., Tohoku Univ.*



• Indicated a real or perceived conflict of interest, see page 149 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract’s submitting author

1:00 WW28 **625.21** Identification of novel circulatory microRNA signatures linked to patients with stroke. M. VIJAYAN*; S. KUMAR; P. REDDY. *Texas Tech. Univ. Hlth. Sci. Ctr.*

2:00 WW29 **625.22** ● MRI detects the effects of Cuprizone/Rapamycin-mediated chronic demyelination and remyelination in rodent brain. H. BATTAPADY*; S. JOHNSON; L. LOOSE; S. LUNN; V. SHENOY; J. CHEN; B. TRAPP. *Renovo Neural Inc., Cleveland Clin.*

3:00 WW30 **625.23** Utilizing skin derived astrocytes to screen for effective therapeutic treatments for ALS patients with C9ORF72 mutations. C. N. DENNYS*; L. FERRAIUOLO; D. MOTTI; S. LIKHITE; C. MIRANDA; K. MEYER; B. KASPAR. *Nationwide Children's Hosp., Sheffield Inst. for Translational Neuroscience, Univ. of Sheffield, UCF, Nationwide Children's Hosp.*

4:00 WW31 **625.24** Validation of hnRNP A1 as a novel biomarker in an early stage of Experimental Autoimmune Encephalomyelitis. S. LEE*; Y. SHIN; M. C. LEVIN. *Univ. of Tennessee, VA hospital, Univ. of Tennessee Med. Group Inc.*

1:00 WW32 **625.25** Alpha synuclein-related microRNAs as biomarkers for Parkinson's disease. S. KHOO*; R. WRIGHT; B. HISKES; R. MITCHELL; B. ARMISTEAD; E. HAHS; L. FORSGREN; S. OTIENO; D. PETILLO. *Grand Valley State Univ., Ferris State Univ., Carleton Col., Grand Valley State Univ., Umea Univ., Grand Valley State Univ.*

2:00 WW33 **625.26** Three dimensional device-capture histological assessment of hd-time nerve-machine interface. S. W. CURRLIN*; A. KUNDU; F. DELGADO; E. PATRICK; N. MAGHARI; R. BASHIRULLAH; K. J. OTTO. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

**POSTER**

**626. Data Analysis and Statistics: Human Data II**

***Theme I: Techniques***

Tue. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 WW34 **626.01** Automatic surface electromyogram decomposition based on progressive fastica peel-off. M. CHEN; X. ZHANG; P. ZHOU*. *Univ. of Sci. and Technol. of China, Guangdong Work Injury Rehabil. Ctr., Univ. of Texas Hlth. Sci. Ctr. At Houst.*

2:00 WW35 **626.02** Towards a framework for comparing functional magnetic resonance imaging data across scanners, vendors, and models. P. J. MOLFESE*; J. A. LEE; S. T. MARRETT; A. G. THOMAS; V. ROOPCHANSINGH; D. M. NIELSON; J. VARADA; A. DERBYSHIRE; P. A. BANDETTINI. *NIMH/NIH, NIMH/NIH, NIMH/NIH.*

3:00 WW36 **626.03** Reevaluation of the form of nonlinear age-related changes in brain volume. D. NICHOLS*. *Roanoke Col.*

4:00 WW37 **626.04** Effects of dopamine depletion on signal variability and functional connectivity of resting state brain networks. G. SHAFIEI*; Y. ZEIGHAMI; A. DAGHER; B. MISIC. *McGill University, Montreal Neurolog. Inst.*

1:00 WW38 **626.05** Prediction of functional outcome in tbi patients by machine learning strategy. H. GHASEMI DAMAVANDI*; M. KACHUEE; M. SUN; J. CHAMBERS; S. ROSENBERG; J. C. LEITER; M. SARRAFZADEH; E. R. ROSARIO; D. C. LU. *Univ. of California-Los Angeles, Univ. of California-Los Angeles, Casa Colina Hosp. and Centers for Healthcare.*

2:00 WW39 **626.06** Unresponsive states with and without report of conscious experience show distinct patterns of EEG-based effective brain connectivity in humans. T. BREMNES*; B. JUEL; S. SARASSO; M. BOLY; O. GOSSERIES; S. CASAROTTO; M. ROSANOVA; A. CASALI; A. SEVENIUS; G. TONONI; P. LARSSON; S. LAUREYS; M. MASSIMINI; J. F. STORM. *Univ. of Oslo, Univ. of Oslo, Dept. di Scienze Biomediche e Cliniche "L. Sacco", Universita` degli Studi di Milano, Dept. of Psychiatry, Univ. of Wisconsin-Madison, Madison, Univ. of Wisconsin, Dept. di Scienze Biomediche e Cliniche "L. Sacco", Universita` degli Studi di Milano, Inst. of Sci. and Technology, Federal Univ. of Sa˜ o Paulo, Univ. of Wisconsin Madison, Oslo Univ. Hosp., Coma Sci. Group, Univ. and Univ. Hosp. of Lie` ge.*

3:00 WW40 **626.07** ● Diagnosis of autism spectrum disorder by causal connectivity strength from resting state functional magnetic resonance imaging data. B. HUANG*; K. ZHANG; R. S. ROMERO; J. RAMSEY; M. GLYMOUR; C. GLYMOUR. *Carnegie Mellon Univ.*

4:00 WW41 **626.08** Multi-band coherence motifs for assessing network dynamical abnormalities associated with focal injury. S. KHANMOHAMMADI*; O. LAURIDO-SOTO; L. N. EISENMAN; T. T. KUMMER; S. CHING. *Washington Univ. In St. Louis, Washington Univ. Sch. of Med., Washington Univ. In St. Louis.*

1:00 WW42 **626.09** Assessing approaches for estimating the electrophysiological 1/f background spectrum. T. DONOGHUE*; B. VOYTEK. *Univ. of California San Diego, Univ. of California San Diego.*

2:00 WW43 **626.10** Eeg based computation of group-level dynamic causal cortical connectivity in humans performing motor and decision making tasks. H. COURELLIS*; J. R. IVERSEN; D. A. PETERSON; G. CAUWENBERGHS. *UCSD, UC San Diego, Salk Inst. CNL-S.*

3:00 WW44 **626.11** BIDS-iEEG: A data structure for intracranial electrophysiology that facilitates open data and integration with other human imaging methods. C. HOLDGRAF*; K. E. BOUCHARD; O. DEVINSKY; A. FLINKER; D. M. GROPPE; A. GUNDUZ; L. S. HAMILTON; C. J. HONEY; K. J. GORGOLEWSKI; R. T. KNIGHT; B. L. FOSTER; K. J. MILLER; M. PERRY; N. PETRIDOU; N. F. RAMSEY; G. SCHAEFER; N. C. SWANN; B. VOYTEK; B. A. WANDELL; J. WINAWER; D. HERMES. *UC Berkeley, UCSF, New York Univ. Langone Med. Ctr., New York Univ., Univ. of Toronto, Univ. of Florida, Univ. of California, San Francisco, Johns Hopkins Univ., Stanford Univ., Univ. of California Berkeley, Baylor Col. of Med., Stanford, Stanford Univ., UMC Utrecht, Brain Ctr. Rudolf Magnus, Univ. of Utrecht, Univ. of California, San Francisco, Univ. of California San Diego Dept. of Cognitive Sci., Stanford Univ., Stanford Univ.*

4:00 WW45 **626.12** "Off-course" and emotional: The role of cognitive and limbic circuits during movements in humans. M. S. BREAULT*; P. SACRÉ; M. S. KERR; M. D. JOHNSON; J. BULACIO; J. GONZALEZ-MARTINEZ; J. T. GALE; S. V. SARMA. *Johns Hopkins Univ., Johns Hopkins Univ., Univ. of Cambridge, Univ. of Minnesota, Cleveland Clin., Emory Univ.*

1:00 WW46 **626.13** Spatial filtering of high density human electrocorticography (ECoG). J. HERMIZ*; N. ROGERS; E. KAESTNER; M. GANJI; D. R. CLEARY; B. CARTER; S. S. CASH; D. BARBA; S. DAYEH; E. HALGREN; V. GILJA. *UCSD, Mass Genl Hosp.*

2:00 WW47 **626.14** Calibrating task evoked hemodynamic response of functional near infrared spectroscopy using resting state fluctuations. K. KARUNAKARAN*; S. GOHEL; A. AZEEZ; T. L. ALVAREZ; B. B. BISWAL. *New Jersey Inst. of Technol., Rutgers Sch. of Publ. Hlth.*

Tues. PM

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

3:00 WW48 **626.15** Temporal-autoencoding neural network extracts task-relevant spatiotemporal features utilizing dynamic information of functional MRI time-series. J. LEE*; E. WONG; P. BANDETTINI. *Korea Univ., NIMH-NIH, UC San Diego.*

4:00 WW49 **626.16** Strengthening human adaptive reasoning and problem-solving (SHARP) data repository. R. SINGH; A. SHARP JOINT ANALYSIS COMMITTEE; M. A. HALKO*. *Harvard Med. Sch. / Beth Israel Deaconess Med.*

1:00 WW50 **626.17** Vertex-wise and region of interest heritability analysis of human brain cortical thickness and surface area using a twin and non-twin siblings design. S. PATEL*; M. M. PARK; R. PATEL; J. KNIGHT; M. M. CHAKRAVARTY. *Ctr. For Addiction and Mental Hlth., Univ. of Toronto, Douglas Mental Hlth. Univ. Inst., Western Univ., McGill Univ., Lancaster Univ., McGill Univ.*

2:00 WW51 **626.18** ● Retrospective Functional MRI: Expanding translational imaging to the clinical domain. F. A. PROVENZANO*; X. FENG; S. A. SMALL. *Columbia Univ., Columbia Univ.*

3:00 WW52 **626.19** Structure-function relationships during segregated and integrated network states of human brain functional connectivity. M. FUKUSHIMA*; R. F. BETZEL; Y. HE; M. A. DE REUS; M. P. VAN DEN HEUVEL; X. ZUO; O. SPORNS. *Indiana Univ., Univ. of Pennsylvania, Inst. of Psychology, Univ. Med. Ctr. Utrecht, Indiana Univ. Network Sci. Inst.*

4:00 WW53 **626.20** Changes in spike sorting technique affect the apparent fraction of neuronal responses. P. N. STEINMETZ*. *Nakamoto Brain Res. Inst.*

1:00 WW54 **626.21** Towards the estimation of phase-amplitude coupling temporal dynamics in neurophysiological signals: A modeling study. R. MARTINEZ-CANCINO*; J. A. HENG; A. DELORME; K. KREUTZ-DELGADO; R. C. SOTERO; S. MAKEIG. *Swartz Ctr. for Computat. Neurosciences, Ecole Polytechnique Fédérale de Lausanne, Jacobs Sch. of Engineering, Univ. of California San Diego, Hotchkiss Brain Institute, Univ. of Calgary.*

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*The following presenters, signified by a dot (•) in the program, indicated a real or perceived conflict of interest. Presenters listed without a dot in the program had no financial relationships to disclose.*

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|---|---|
| | Warsaw. **J. Kuznicki:** A. Employment/Salary (full or part-time); International Institute of Molecular and Cell Biology in Warsaw. |
| 478.01 | **J.G. Moe:** A. Employment/Salary (full or part-time); Oligomerix, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oligomerix, Inc. **P.K. Krishnamurthy:** A. Employment/Salary (full or part-time); Oligomerix, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oligomerix, Inc. **C. Gluchowski:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oligomerix, Inc. F. Consulting Fees (e.g., advisory boards); Oligomerix, Inc. **M.E. McDonnell:** 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.; Oligomerix, Inc. **A.B. Reitz:** 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.; Oligomerix, Inc. **P. Davies:** 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.; Oligomerix, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oligomerix, Inc. F. Consulting Fees (e.g., advisory boards); Oligomerix, Inc. **E.J. Davidowitz:** A. Employment/Salary (full or part-time); Oligomerix, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Oligomerix.inc. |
| 478.03 | **M. Morin:** A. Employment/Salary (full or part-time); Eli Lilly and Company. **E. Sher:** A. Employment/Salary (full or part-time); Eli Lilly and Company. **M.P. Johnson:** A. Employment/Salary (full or part-time); Eli Lilly and Company. |
| 478.19 | **E.M. Sigurdsson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); EMS is an inventor on patents on tau immunotherapy and related diagnostics that are assigned to New York University and licensed to H. Lundbeck A/S. F. Consulting Fees (e.g., advisory boards); H. Lundbeck A/S (within the last year), GlaxoSmithKline (within the last year). |
| 478.20 | **E.M. Sigurdsson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); EMS is an inventor on patents on tau immunotherapy and related diagnostics that are assigned to New York University and licensed to H. Lundbeck A/S. F. Consulting Fees (e.g., advisory boards); H. Lundbeck A/S (within the last year), GlaxoSmithKline (within the last year). |
| 478.21 | **E.M. Sigurdsson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); EMS is an inventor on patents on tau immunotherapy and related diagnostics that are assigned to New York University and licensed to H. Lundbeck A/S. F. Consulting Fees (e.g., advisory boards); H. Lundbeck A/S (within the last year), GlaxoSmithKline (within the last year). |
| 478.25 | **S. Trushin:** A. Employment/Salary (full or part-time); full. |
| 479.01 | **E.K. Asp:** A. Employment/Salary (full or part-time); Proclara Biosciences, Cambridge, MA. **M. Proschitsky:** A. Employment/Salary (full or part-time); Proclara Biosciences, Cambridge, MA. **M. Lulu:** A. Employment/Salary (full or part-time); Proclara Biosciences, Cambridge, MA. **C. Chung:** A. Employment/Salary (full or part-time); Proclara Biosciences, Cambridge, MA. **C. Rockwell-Postel:** A. Employment/Salary (full or part-time); Proclara Biosciences, Cambridge, MA. **H. Tsubery:** A. Employment/Salary (full or part-time); Proclara Biosciences, Cambridge, MA. **J.M. Levenson:** A. Employment/Salary (full or part-time); Proclara Biosciences, Cambridge, MA. **K. McDowell:** A. Employment/Salary (full or part-time); Proclara Biosciences, Cambridge, MA. **J. Wright:** A. Employment/Salary (full or part-time); Proclara Biosciences, Cambridge, MA. **R. Fisher:** A. Employment/Salary (full or part-time); Proclara Biosciences, Cambridge, MA. **R. Krishnan:** A. Employment/Salary (full or part-time); Proclara Biosciences, Cambridge, MA. |
| 479.02 | **H. Borghys:** A. Employment/Salary (full or part-time); Janssen. **D. Dhuyvetter:** A. Employment/Salary (full or part-time); Janssen. **P. Buijnsters:** A. Employment/Salary (full or part-time); Janssen. **L. Ver Donck:** A. Employment/Salary (full or part-time); janssen. **R. Vreeken:** A. Employment/Salary (full or part-time); Janssen. |
| 479.18 | **G.L. Suidan:** A. Employment/Salary (full or part-time); Pfizer, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock. **K. Wright:** A. Employment/Salary (full or part-time); Pfizer, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock. **N.M. Kablaoui:** A. Employment/Salary (full or part-time); Pfizer, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock. **K. Fonseca:** A. Employment/Salary (full or part-time); Pfizer, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock. **R.D. Bell:** A. Employment/Salary (full or part-time); Pfizer, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock. |
| 479.22 | **M. Reed:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Treventis Corp. **M. Taylor:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Treventis Corp. |
| 480.14 | **C.C. McIntyre:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Surgical Information Sciences, Inc. F. Consulting Fees (e.g., advisory boards); Boston Scientific. |
| 480.16 | **M. Plotnik:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Horizon 2020. **Z. Katsaroul:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Horizon 2020. **A. Gotlieb:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Horizon 2020. **A. Grinberg:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Horizon 2020. **G. Zeilig:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Horizon 2020. **R. Kizony:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Horizon 2020. **S. Bostantjopoulou-Kambouroglou:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Horizon 2020. |
| 481.01 | **R.T. Bartus:** 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.; Above and Beyond NB, LLC. F. Consulting Fees (e.g., advisory boards); Above and Beyond NB, LLC. **N.M. Boulis:** A. Employment/Salary (full or part-time); Above and Beyond NB, LLC. 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.; |

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| | Above and Beyond NB, LLC. **N.J. Maragakis:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Above and Beyond NB, LLC. F. Consulting Fees (e.g., advisory boards); Above and Beyond NB, LLC. |
| 481.05 | **P.T. Leach:** A. Employment/Salary (full or part-time); Biogen. **M. Shpokayte:** A. Employment/Salary (full or part-time); Biogen. **A. Sheehy:** A. Employment/Salary (full or part-time); Biogen. **B.J. Farley:** A. Employment/Salary (full or part-time); Biogen. **J. Amacker:** A. Employment/Salary (full or part-time); Biogen. **A. McCampbell:** A. Employment/Salary (full or part-time); Biogen. **H.M. Arnold:** A. Employment/Salary (full or part-time); Biogen. |
| 481.07 | **J.M. Lewis:** A. Employment/Salary (full or part-time); University of Florida. |
| 481.14 | **R. Sher:** A. Employment/Salary (full or part-time); Stony Brook University. |
| 482.02 | **E.E. O'Connor:** A. Employment/Salary (full or part-time); University of Maryland Medical Center. **T.A. Zeffiro:** A. Employment/Salary (full or part-time); Neurometrika. **T.A. Zeffiro:** A. Employment/Salary (full or part-time); Neurometrika. |
| 483.13 | **A. Pikhovych:** A. Employment/Salary (full or part-time); A.P. is now an employee of BAyer AG, Leverkusen, Germany. |
| 484.29 | **C.L. Sommer:** 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.; Sanofi Genzyme. **N. Üçeyler:** 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.; Sanofi Genzyme, Shire. |
| 485.08 | **R. Tsujita:** A. Employment/Salary (full or part-time); Asahi Kasei Pharma. **A. Kawabata:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Asahi Kasei Pharma, Okayama University. |
| 485.23 | **E.L. Rohrs:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Velocity Laboratories. **J.K. Neubert:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Velocity Laboratories. **R.M. Caudle:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Velocity Laboratories. |
| 485.27 | **J. Lin:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); MOST of Taiwan (MOST104-2314-B-038-34). |
| 486.05 | **A. Nakae:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PRIN Co Ltd. **T. Soshi:** A. Employment/Salary (full or part-time); PRIN Co Ltd. **Y. Tsugita:** A. Employment/Salary (full or part-time); PRIN Co Ltd. |
| 486.11 | **S.E. Harte:** 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.; Cerephex, Forest Laboratories, Merck and Pfizer, Analgesic Solutions, and deCode Genetics. **R.E. Harris:** 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.; Pfizer. **D.J. Clauw:** 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.; Cerephex, Forest Laboratories, Merck and Pfizer. |
| 486.14 | **P. Karila:** A. Employment/Salary (full or part-time); Cellectricon AB. **A. Karlsson:** A. Employment/Salary (full or part-time); Cellectricon AB. **D. Tams:** A. Employment/Salary (full or part-time); Censo Biotechnologies. **A. Barnes:** A. Employment/Salary (full or part-time); Censo Biotechnologies. **M. Karlsson:** A. Employment/Salary (full or part-time); Cellectricon AB. |
| 486.18 | **C.Y. Saab:** 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.; Asahi Kasei Pharma. **S. Koyama:** A. Employment/Salary (full or part-time); Asahi Kasei Pharma. **J. Gu:** A. Employment/Salary (full or part-time); Boston Scientific. |
| 486.19 | **S. Koyama:** A. Employment/Salary (full or part-time); Asahi Kasei Pharma. **B.W. LeBlanc:** A. Employment/Salary (full or part-time); Rhode Island Hospital & Brown University. **C.Y. Saab:** A. Employment/Salary (full or part-time); Rhode Island Hospital & Brown University. |
| 487.03 | **J.C. Brumberg:** A. Employment/Salary (full or part-time); The Graduate Center, CUNY. |
| 489.20 | **D. Ryan:** A. Employment/Salary (full or part-time); Research Enhancement Award Program. **S. Smith:** 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.; Phonak. |
| 490.05 | **P. Bazin:** F. Consulting Fees (e.g., advisory boards); Qynapse. |
| 490.08 | **A.J. Parker:** A. Employment/Salary (full or part-time); University of Oxford, UK. 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.; Medical Research Council, UK. **H. Bridge:** A. Employment/Salary (full or part-time); Oxford University, UK. 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.; Royal Society and Medical Research Council. |
| 490.23 | **W.G. Besio:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CREmedical Corp. |
| 493.06 | **A. Roorda:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); C.Light Technologies, patent, University of Houston, patent, University of Rochester, patent license, Canon Inc. |
| 493.13 | **C. Zhang:** A. Employment/Salary (full or part-time); full. |
| 497.13 | **S. Bilaloglu:** A. Employment/Salary (full or part-time); New York University School of Medicine. |
| 497.14 | **P. Raghavan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder, Share holder. |
| 497.17 | **P. Raghavan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder. |
| 498.06 | **R. Franklin:** A. Employment/Salary (full or part-time); Blackrock Microsystems. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Blackrock Microsystems. |
| 498.21 | **B.C. Johnson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cortera Neurotechnologies, Inc. **I. Izyumin:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); |

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| | Cortera Neurotechnologies, Inc. **J.M. Carmena:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cortera Neurotechnologies, Inc. **R. Muller:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Cortera Neurotechnologies, Inc. |
| 499.02 | **J. Bloch:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); G-Therapeutics. **E. Bezard:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Motac Neuroscience Ltd. **G. Courtine:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); G-Therapeutics. |
| 499.08 | **Y. Terasawa:** A. Employment/Salary (full or part-time); Nidek Co.,Ltd. |
| 501.03 | **L. Page:** 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.; Employee, Medtronic Restorative Therapies Group. |
| 501.17 | **W. Voit:** F. Consulting Fees (e.g., advisory boards); Interim President of Qualia Medical, CTO of Syzygy Memory Plastics. |
| 501.20 | **H. Kim:** A. Employment/Salary (full or part-time); Yes. 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 NS052741, NMSS RG4958, U24DK100469. Other; Mayo Clinic Center for Biomedical Discovery. |
| 501.28 | **M.E. Schwab:** 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.; NovaGo Therapeutics Inc. |
| 502.01 | **E.G. Pels:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Funded by the Dutch Technology foundation STW with co-funding from Medtronic Europe. **E.J. Aarnoutse:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Funded by the Dutch Technology foundation STW with co-funding from Medtronic Europe. **N.F. Ramsey:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Funded by the Dutch Technology foundation STW with co-funding from Medtronic Europe. |
| 504.05 | **M.E. Gallo:** A. Employment/Salary (full or part-time); Brown University. **C.E. Lopez:** A. Employment/Salary (full or part-time); Brown University. **K.G. Bath:** A. Employment/Salary (full or part-time); Brown University. |
| 506.08 | **A.K. Beery:** A. Employment/Salary (full or part-time); Smith College. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); National Science Foundation. |
| 507.07 | **L.G.H. Bonagamba:** A. Employment/Salary (full or part-time); University of São Paulo. **B.H. Machado:** A. Employment/Salary (full or part-time); University of Sao Paulo. |
| 509.05 | **R.W. Gereau:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurolux. |
| 509.08 | **J.A. Hokanson:** 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.; Galvani Bioelectronics. **C.L. Langdale:** 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.; Galvani Bioelectronics. **A. Sridhar:** A. Employment/Salary (full or part-time); Galvani Bioelectronics. **P.H. Milliken:** A. Employment/ Salary (full or part-time); Galvani Bioelectronics. **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.; Galvani Bioelectronics. |
| 509.09 | **C.L. Langdale:** 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.; Galvani Bioelectronics. **J. Hokanson:** 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.; Galvani Bioelectronics. **P. Milliken:** A. Employment/Salary (full or part-time); Galvani Bioelectronics. **W. 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.; Galvani Bioelectronics. |
| 509.17 | **L. Zirpel:** A. Employment/Salary (full or part-time); Medtronic, Inc. **T.S. Brink:** A. Employment/Salary (full or part-time); Medtronic, Inc. |
| 509.19 | **D.J. Levinthal:** F. Consulting Fees (e.g., advisory boards); Associate Editor, Clinical Translational Gastroenterology. |
| 509.28 | **X. Su:** A. Employment/Salary (full or part-time); Medtronic Inc. **H.A. Simenson:** A. Employment/Salary (full or part-time); Medtronic Inc. **K.J. Paralikar:** A. Employment/ Salary (full or part-time); Medtronic Inc. **H.D. Orser:** A. Employment/Salary (full or part-time); Medtronic Inc. |
| 510.16 | **M.C. Garnica-Siqueira:** 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.; CAPES. |
| 511.10 | **P. Schoenenberger:** A. Employment/Salary (full or part-time); F. Hoffmann - La Roche Ltd. **M. Bainier:** A. Employment/Salary (full or part-time); F. Hoffmann - La Roche Ltd. **R. Lütolf:** A. Employment/Salary (full or part-time); F. Hoffmann - La Roche Ltd. **P. Garces:** A. Employment/Salary (full or part-time); F. Hoffmann - La Roche Ltd. **O. Fajardo:** A. Employment/Salary (full or part-time); F. Hoffmann - La Roche Ltd. **J.F. Hipp:** A. Employment/Salary (full or part-time); F. Hoffmann - La Roche Ltd. **R.L. Redondo:** A. Employment/Salary (full or part-time); F. Hoffmann - La Roche Ltd. |
| 511.18 | **J.P. Hendrick:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Intra-Cellular Therapies, Inc. **L. Zhang:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies, Inc. |
| 519.27 | **A.L. Bereta:** Other; FAPEMIG. **R.S. Faria:** Other; FAPEMIG. |
| 519.29 | **L.J. Bertoglio:** 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.; Brazilian grant from Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq). |
| 520.03 | **D. Morilak:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); H. Lundbeck. |

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|---|---|
| 520.08 | **J.A. McGaughy:** A. Employment/Salary (full or part-time); University of New Hampshire. **M.E. Stanton:** A. Employment/Salary (full or part-time); University of Delaware. |
| 520.12 | **G.S. Izidio:** A. Employment/Salary (full or part-time); UFSC. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Edital MCT/CNPq 14/2010 and Edital MCTI/CNPq 14/2013. **N. Granzotto:** A. Employment/Salary (full or part-time); Capes. **F.J. Correa:** A. Employment/Salary (full or part-time); CNPq. **A.P. Franca:** A. Employment/Salary (full or part-time); CNPq. **P. Ramborger:** A. Employment/Salary (full or part-time); Capes. **G. Fadanni:** A. Employment/Salary (full or part-time); Capes. **R.B. Oliveira:** A. Employment/Salary (full or part-time); Fapesc. **R.C.N. Marchette:** A. Employment/Salary (full or part-time); CNPq. |
| 522.12 | **A.I. Geller:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkermes Inc. |
| 522.18 | **M.J. Schnitzer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inscopix Inc. F. Consulting Fees (e.g., advisory boards); Inscopix Inc. |
| 523.07 | **T. Indersmitten:** Other; Janssen Pharmaceutical Companies of Johnson & Johnson, Inscopix, Inc. **M. Schachter:** Other; Inscopix, Inc. **R. Wyatt:** Other; Janssen Research & Development. **N. Welty:** Other; Janssen Research & Development. **S. Young:** Other; Janssen Research & Development. **S. Campbell:** Other; Janssen Research & Development. **S. Otte:** Other; Inscopix, Inc. **J. Nassi:** Other; Inscopix, Inc. **P. Bonaventure:** Other; Janssen Research & Development. |
| 524.05 | **C. Lord:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Lord receives royalties from Western Psychological Services (WPS) for the ADOS and ADI-R. |
| 527.21 | **E. Cordell:** A. Employment/Salary (full or part-time); Lumos Labs. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs. **N. Ng:** A. Employment/Salary (full or part-time); Lumos Labs. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs. **B. Schafer:** A. Employment/Salary (full or part-time); Lumos Labs. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs. |
| 527.27 | **V. Grandhi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **J. Tadiparthi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **N. Ganuga:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Medapati:** 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. |
| 528.03 | **I.P. Clements:** A. Employment/Salary (full or part-time); Axion BioSystems. **D.C. Millard:** A. Employment/Salary (full or part-time); Axion BioSystems. **M. Clements:** A. Employment/Salary (full or part-time); Axion BioSystems. **A.M. Nicolini:** A. Employment/Salary (full or part-time); Axion BioSystems. **S.A. Chvatal:** A. Employment/Salary (full or part-time); Axion BioSystems. **H.B. Hayes:** A. Employment/Salary (full or part-time); Axion BioSystems. **J.D. Ross:** A. Employment/Salary (full or part-time); Axion BioSystems. |
| 528.11 | **L. Kiedrowski:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ownership interest in Spot Cells LLC. |
| 529.05 | **L.Y. Maeng:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Draper Laboratory. **M.F. Murillo:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Draper Laboratory. **M.R. Milad:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Draper Laboratory. **A.S. Widge:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Draper Laboratory. |
| 529.06 | **S. Daripelli:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **C. Tirumalasetty:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **V. Benade:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **G. Bhyrapuneni:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **R. Medapati:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **P. Jayarajan:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **R. Nirogi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. |
| 529.10 | **S.R. Schultz:** 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.; Scientifica LTD. |
| 531.11 | **E.S. Boyden:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-inventor on patents (assigned to MIT) on ExM and related technologies, Co-founder of a company, Expansion Technologies, aimed at helping disseminate ExM to the scientific community. |
| 532.10 | **H. Ung:** A. Employment/Salary (full or part-time); Blackfynn Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Blackfynn Inc. **M.C. Hollenbeck:** A. Employment/Salary (full or part-time); Blackfynn Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Blackfynn Inc. **A. Christini:** A. Employment/Salary (full or part-time); Blackfynn Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Blackfynn Inc. **J.B. Wagenaar:** A. Employment/Salary (full or part-time); Blackfynn Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Blackfynn Inc. |
| 532.21 | **B. Kimmel:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vidrio Technologies, LLC. |
| 532.23 | **A.M. Sloan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vulintus, Inc. |
| 534.03 | **J.L. Cameron:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CEO, Working For Kids: Building Skills. |
| 542.02 | **X. Jin:** 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.; 973 Program: 2015CB559200 to Z.H., 81371432 to Z.H. |
| 543.02 | **C.J. Wheeler:** Other; inventor on U.S. Patent WO/2017/040594. |
| 544.03 | **J.A. Dobrowolska Zakaria:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Merck Research Laboratories (antibody support). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Pending Pub. No.: WO/2010/056815. **R.J. Bateman:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Pending Pub. No.: WO/2010/056815. |

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| 545.08 | **U. Neumann:** A. Employment/Salary (full or part-time); Novartis. **D. Shimshek:** A. Employment/Salary (full or part-time); Novartis. **M. Staufenbiel:** A. Employment/Salary (full or part-time); Novartis. |
| 546.06 | **Y. Barhomi:** A. Employment/Salary (full or part-time); Vium, Inc. |
| 547.02 | **J.D. Baker:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); U.S. Provisional Application Serial No. 62/329,317, filed April 29, 2016. |
| 548.07 | **B.C. Cox:** F. Consulting Fees (e.g., advisory boards); Turner Scientific LLC. |
| 549.01 | **K. Binaee:** A. Employment/Salary (full or part-time); Rochester Institute of technology. **E. Krueger:** A. Employment/Salary (full or part-time); Rochester Institute of technology. **G.J. Diaz:** A. Employment/Salary (full or part-time); Rochester Institute of technology. |
| 549.11 | **G. Edlinger:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); g.tec medical engineering GmbH. **W. Cho:** A. Employment/Salary (full or part-time); g.tec medical engineering GmbH. **R. Ortner:** A. Employment/Salary (full or part-time); g.tec medical engineering GmbH. **J. Swift:** A. Employment/Salary (full or part-time); g.tec neurotechnology USA Inc. **S. Dimov:** A. Employment/Salary (full or part-time); g.tec medical engineering GmbH. **C. Guger:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); g.tec medical engineering GmbH. |
| 550.05 | **K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); Neuralink Inc., consultant, Cognescent, Scientific Advisory Board, Heal, Scientific Advisory Board. |
| 554.14 | **R. Batista-Brito:** A. Employment/Salary (full or part-time); 53000.00, Yale University. |
| 555.05 | **C. Papadelis:** A. Employment/Salary (full or part-time); Boston Children's Hospital. **M. Rubenstein:** A. Employment/Salary (full or part-time); Boston Children's Hospital. **H.L. Kaye:** A. Employment/Salary (full or part-time); Boston Children's Hospital. **K. Kapur:** A. Employment/Salary (full or part-time); Boston Children's Hospital. **B. Snyder:** A. Employment/Salary (full or part-time); Boston Children's Hospital. **E. Grant:** A. Employment/Salary (full or part-time); Boston Children's Hospital. **A. Rotenberg:** A. Employment/Salary (full or part-time); Boston Children's Hospital. |
| 556.03 | **M. Roth:** A. Employment/Salary (full or part-time); Fulcrum Therapeutics. **S. Webb:** A. Employment/Salary (full or part-time); Fuclrum Therapeutics. **H. Wu:** A. Employment/Salary (full or part-time); Fulcrum Therapeutics. **A.M. Cacace:** A. Employment/Salary (full or part-time); Fulcrum Therapeutics. **L.V. Ronco:** A. Employment/Salary (full or part-time); FULCRUM Therapeutics. |
| 556.04 | **J.D. Graef:** A. Employment/Salary (full or part-time); Fulcrum Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Fulcrum Therapeutics. **C. Sun:** A. Employment/Salary (full or part-time); Fulcrum Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Fulcrum Therapeutics. **L. Lin:** A. Employment/Salary (full or part-time); Fulcrum Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Fulcrum Therapeutics. **S. Webb:** A. Employment/Salary (full or part-time); Fulcrum Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Fulcrum Therapeutics. **V. Villegas:** A. Employment/Salary (full or part-time); Fulcrum Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Fulcrum Therapeutics. **S.T. Warren:** F. Consulting Fees (e.g., advisory boards); Fulcrum Therapeutics. **A.M. Cacace:** A. Employment/Salary (full or part-time); Fulcrum Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Fulcrum Therapeutics. |
| 556.05 | **H. Wu:** A. Employment/Salary (full or part-time); full time, Fulcrum Therapeutics. **J.D. Graef:** A. Employment/Salary (full or part-time); full time, Fulcrum Therapeutics. **C. Sun:** A. Employment/Salary (full or part-time); full time, Fulcrum Therapeutics. **M. Roth:** A. Employment/Salary (full or part-time); full time, Fulcrum Therapeutics. **S. Webb:** A. Employment/Salary (full or part-time); full time, Fulcrum Therapeutics. **V. Villegas:** A. Employment/Salary (full or part-time); full time, Fulcrum Therapeutics. **L.V. Ronco:** A. Employment/Salary (full or part-time); full time, Fulcrum Therapeutics. **S.T. Warren:** F. Consulting Fees (e.g., advisory boards); advisory board member, Fulcrum Therapeutics. **A.M. Cacace:** A. Employment/Salary (full or part-time); full time, Fulcrum Therapeutics. |
| 557.06 | **P.A. Caviedes:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pablo Caviedes. |
| 557.13 | **H.A. Born:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Neuren Pharmaceuticals, Anavex Life Sciences Corp., Mitochon Pharmaceuticals Inc. **A.T. Dao:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Neuren Pharmaceuticals, Anavex Life Sciences Corp., Mitochon Pharmaceuticals Inc. **L.A. Martinez:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Neuren Pharmaceuticals, Anavex Life Sciences Corp., Mitochon Pharmaceuticals Inc. **A.E. Anderson:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Neuren Pharmaceuticals, Anavex Life Sciences Corp., Mitochon Pharmaceuticals Inc. |
| 557.21 | **D.J. Heal:** A. Employment/Salary (full or part-time); RenaSci Ltd. **R.S. Kulkarni:** A. Employment/Salary (full or part-time); RenaSci Ltd. **L. Pinder:** A. Employment/Salary (full or part-time); RenaSci Ltd. **H.L. Rowley:** A. Employment/Salary (full or part-time); RenaSci Ltd. **T. Deats:** A. Employment/Salary (full or part-time); Sunovion Pharmaceuticals Inc. **S.C. Hopkins:** A. Employment/Salary (full or part-time); Sunovion Pharmaceuticals Inc. **K.S. Koblan:** A. Employment/Salary (full or part-time); Sunovion Pharmaceuticals Inc. |
| 557.23 | **H.L. Rowley:** A. Employment/Salary (full or part-time); RenaSci Ltd. **R.S. Kulkarni:** A. Employment/Salary (full or part-time); RenaSci Ltd. **L. Pinder:** A. Employment/Salary (full or part-time); RenaSci Ltd. **D.J. Heal:** A. Employment/Salary (full or part-time); RenaSci Ltd. 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.; Sunovion Pharmaceuticals Inc. **T. Deats:** A. Employment/Salary (full or part-time); Sunovion Pharmaceuticals Inc. **S.C. Hopkins:** A. Employment/Salary (full or part-time); Sunovion Pharmaceuticals Inc. **K.S. Koblan:** A. Employment/Salary (full or part-time); Sunovion Pharmaceuticals Inc. |
| 558.04 | **K.L. Strong:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); co-inventor on Emory-owned Intellectual Property that includes positive allosteric modulators of NMDA receptor function. **M.P. Epplin:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); co-inventor on Emory-owned Intellectual Property that includes positive allosteric modulators of NMDA receptor function. **D.C. Liotta:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); co-inventor on Emory-owned Intellectual Property that includes positive allosteric modulators of NMDA receptor function. F. Consulting Fees (e.g., advisory boards); NeurOp Inc. **S.F.** |

| PRESENTATION NUMBER | STATEMENT |
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| | **Traynelis:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Janssen Pharmaceuticals Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); co-inventor on Emory-owned Intellectual Property that includes positive allosteric modulators of NMDA receptor function, NeurOp Inc. F. Consulting Fees (e.g., advisory boards); Janssen Pharmaceuticals Inc, Boehringer-Ingleheim, Sage Therapeutics. |
| 558.14 | **M.S. Bowers:** A. Employment/Salary (full or part-time); Aptinyx, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx, Inc. **P.K. Stanton:** 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.; Aptinyx, Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Aptinyx, Inc. **A.L. Gross:** A. Employment/Salary (full or part-time); Aptinyx, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx, Inc. **R.M. Mitchell:** A. Employment/Salary (full or part-time); Aptinyx, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx, Inc. **M.A. Khan:** A. Employment/Salary (full or part-time); Aptinyx, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx, Inc. **R.A. Kroes:** A. Employment/Salary (full or part-time); Aptinyx, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx, Inc. **J.R. Moskal:** A. Employment/Salary (full or part-time); Aptinyx, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx, Inc. |
| 558.15 | **L. Wollmuth:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; National Institutes of Health R01 grant. |
| 558.16 | **S.F. Traynelis:** A. Employment/Salary (full or part-time); Emory 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.; This work was supported by the National Institute of Neurological Disorders and Stroke (NINDS) of the NIH under award number R01NS036654 to S.F.T. F. Consulting Fees (e.g., advisory boards); S.F.T. is a consultant of Janssen Pharmaceuticals, Inc., Pfizer Inc, Boehringer Ingelheim Pharma GmbH & Co. KG, and a member of the Scientific Advisory Board for Sage Therapeutics, and a co-founder of. **A. Khatri:** 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 F32-NS078873 to A.K. **S.A. Swanger:** 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 F32NS086361 to S.A.S. |
| 558.17 | **S.F. Traynelis:** A. Employment/Salary (full or part-time); Emory 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.; This work was supported by the National Institute of Neurological Disorders and Stroke (NINDS) of the NIH under award number R01NS036654 to S.F.T and a grant to Emory from Janssen Pharmaceuticals, Inc. F. Consulting Fees (e.g., advisory boards); S.F.T. is a consultant of Janssen Pharmaceuticals, Inc., Pfizer Inc, Boehringer Ingelheim Pharma GmbH & Co. KG, a member of the Scientific Advisory Board for Sage Therapeutics, and a co-founder of Neu. |
| 559.08 | **A. Tora:** A. Employment/Salary (full or part-time); Janssen R&D Johnson&Johnson. **M. Rives:** A. Employment/Salary (full or part-time); Janssen R&D Johnson&Johnson. **A.D. Wickenden:** A. Employment/Salary (full or part-time); Janssen R&D Johnson&Johnson. |
| 560.10 | **F. Hildebrandt:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Goldfinch, Claritas. |
| 560.12 | **S.F. Traynelis:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); NeurOp Inc. F. Consulting Fees (e.g., advisory boards); Janssen Pharmaceuticals, Inc., Boehringer Ingelheim, Pharma GmbH & Co. KG, Sage Therapeutics. **D. Goldstein:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pairnomix, Praxis. F. Consulting Fees (e.g., advisory boards); AstraZeneca. |
| 560.13 | **D.B. Goldstein:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pairnomix, Praxis. F. Consulting Fees (e.g., advisory boards); AstraZeneca. |
| 560.14 | **D.B. Goldstein:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pairnomix, Praxis. F. Consulting Fees (e.g., advisory boards); AstraZeneca. |
| 562.12 | **H. Polder:** A. Employment/Salary (full or part-time); H.R.Polder, npi electronic GmbH. **J. Planck:** A. Employment/Salary (full or part-time); Jürgen Planck, npi electronic GmbH. **M. Weskamp:** A. Employment/Salary (full or part-time); Martin Weskamp, npi electronic GmbH. |
| 564.23 | **J.J. O'Brien:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies, Inc. **L.P. Wennogle:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies, Inc. **J.P. O'Callaghan:** 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.; Intramural funds from the Centers for Disease Control and Prevention-National Institute for Occupational Safety and Health. **D.B. Miller:** 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.; Intramural funds from the Centers for Disease Control and Prevention-National Institute for Occupational Safety and Health. **S. Dutheil:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies, Inc. **G.L. Snyder:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies, Inc. **R.E. Davis:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies, Inc. **J.P. Hendrick:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies, Inc. |
| 566.23 | **T. Dadali:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **P. Awate:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **S. Mogre:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt |

| PRESENTATION NUMBER | STATEMENT |
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| | of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **A. Diers:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **S. Gesta:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **V.K. Vishnudas:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **K. Thapa:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **N. Narain:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **R. Sarangarajan:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. |
| 566.24 | **P.A. Shramm:** A. Employment/Salary (full or part-time); Advanced Targeting Systems. **L. Ancheta:** A. Employment/Salary (full or part-time); Advanced Targeting Systems. **D. Higgins:** A. Employment/Salary (full or part-time); Advanced Targeting Systems. **D.A. Lappi:** F. Consulting Fees (e.g., advisory boards); Advanced Targeting Systems. |
| 566.26 | **P. Maiti:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Verdure Science donated solid lipid curucmin particles for this study. **G. Dunbar:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Verdure Science, Indianapolis. |
| 567.08 | **T. Cole:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Provided drug (alpha-synuclein ASO). |
| 567.22 | **D.L. Alkon:** A. Employment/Salary (full or part-time); NeuroDiagnostics LLC. |
| 569.04 | **B. Casali:** A. Employment/Salary (full or part-time); CWRU. **E.G. Reed-Geaghan:** A. Employment/Salary (full or part-time); CWRU. **G.E. Landreth:** A. Employment/Salary (full or part-time); CWRU. Other; GEL is a cofounder of ReXceptor, Inc, a biotechnology company developing RXR agonists for the treatment of neurodegenerative diseases. |
| 570.01 | **O. Brawman-Mintzer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuroquest. **J. Mintzer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuroquest. |
| 570.03 | **X. Jiang:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); XJ is an inventor on a Georgetown University patent related to the technology described. |
| 570.12 | **S.A. Esquivel Niño:** 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.; 241009. **S. Zarazua:** 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.; 241009. |
| 573.02 | **A. Mueller-Schiffmann:** A. Employment/Salary (full or part-time); Prosetta Biosciences, Inc. **K. Paulvannan:** A. Employment/Salary (full or part-time); Prosetta Biosciences, Inc. **V. Asundi:** A. Employment/Salary (full or part-time); Prosetta Bioscienes, Inc. **S. Selvarajah:** A. Employment/Salary (full or part-time); Prosetta Biosciences, Inc. **V. Lingappa:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Prosetta Biosciences, Inc. **C. Korth:** 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.; Prosetta Biosciences, Inc. |
| 573.05 | **B. Brigham:** A. Employment/Salary (full or part-time); Adamas Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Adamas Pharmaceuticals. **T.H. Johnston:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Atuka Inc. F. Consulting Fees (e.g., advisory boards); Atuka Inc. **C. Brown:** F. Consulting Fees (e.g., advisory boards); Adamas Pharmaceuticals. **J.D.S. Holt:** A. Employment/Salary (full or part-time); Adamas Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Adamas Pharmaceuticals. **M.P. Hill:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Atuka Inc. F. Consulting Fees (e.g., advisory boards); Atuka Inc. **P.A. Howson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Atuka Inc. F. Consulting Fees (e.g., advisory boards); Atuka Inc. **J. Brotchie:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Atuka Inc. F. Consulting Fees (e.g., advisory boards); Atuka Inc. **J.T. Nguyen:** A. Employment/Salary (full or part-time); Adamas Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Adamas Pharmaceuticals. |
| 573.08 | **J.A. Gruner:** A. Employment/Salary (full or part-time); Melior Discovery, Inc. **J.R. Ciallella:** A. Employment/Salary (full or part-time); Melior Discovery, Inc. **A.G. Reaume:** A. Employment/Salary (full or part-time); Melior Discovery, Inc. **J. Wang:** A. Employment/Salary (full or part-time); Melior Discovery, Inc. **E. Zuvich:** A. Employment/Salary (full or part-time); Melior Discovery, Inc. **K. Jones:** A. Employment/Salary (full or part-time); Melior Discovery, Inc. |
| 573.10 | **J.C. Chaufty:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **R. Roessler:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **K. Ha:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **J. Ranjan:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **S. Phat:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **S. Kim:** 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.; BERG, LLC. **S. Akella:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); |

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| | BERG, LLC. **L. Shanahan:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **C. Barlow:** 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.; BERG, LLC. **K. Thapa:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **M. Kiebish:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **S. Gesta:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **B. Schuele:** 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.; BERG, LLC. **V. Vishnudas:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **N. Narain:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **R. Sarangarajan:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **P. Narain:** A. Employment/Salary (full or part-time); BERG, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG, LLC. **J. Langston:** 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.; BERG, LLC. |
| 573.16 | **P. Boonruamkaew:** A. Employment/Salary (full or part-time); School of Pharmacy, Walailak University. **M. Sroyraya:** A. Employment/Salary (full or part-time); Mahidol University. **W. Klaypradit:** A. Employment/Salary (full or part-time); Kasetsart University. **P. Chonpathompikunlert:** A. Employment/Salary (full or part-time); Chandrakasem Rajabhat University. |
| 573.21 | **C.W. McMahon:** A. Employment/Salary (full or part-time); Cellular Dynamics International Inc., a FUJIFILM company. **D.R. Wakeman:** F. Consulting Fees (e.g., advisory boards); Cellular Dynamics International Inc., a FujiFilm company. **J.H. Kordower:** 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.; Cellular Dynamics International Inc., a FUJIFILM company. F. Consulting Fees (e.g., advisory boards); Cellular Dynamics International Inc., a FUJIFILM company. |
| 574.13 | **M. Hayden:** A. Employment/Salary (full or part-time); Teva Pharmaceuticals. |
| 576.08 | **A. Sahasrabudhe:** A. Employment/Salary (full or part-time); Columbia University. **F. Bartolini:** A. Employment/Salary (full or part-time); Columbia University. **F. Polleux:** A. Employment/Salary (full or part-time); Columbia University. |
| 576.27 | **A.C. Overland:** A. Employment/Salary (full or part-time); Essen BioScience. **J.N. Rauch:** A. Employment/Salary (full or part-time); Essen BioScience. **L. Oupicka:** A. Employment/Salary (full or part-time); Essen BioScience. **D.M. Rock:** A. Employment/Salary (full or part-time); Essen BioScience. **C. Schramm:** A. Employment/Salary (full or part-time); Essen BioScience. **D.M. Appledorn:** A. Employment/Salary (full or part-time); Essen BioScience. |
| 578.12 | **S. Gobron:** A. Employment/Salary (full or part-time); Neuronax. **N. Delétage:** A. Employment/Salary (full or part-time); Neuronax. **L. Sakka:** 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.; Neuronax. |
| 578.22 | **J. Ruschel:** A. Employment/Salary (full or part-time); Bioaxone Biosciences. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Bioaxone Biosciences. **T. Shmushkovich:** A. Employment/Salary (full or part-time); Advirna LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Advirna LLC. **M.D. Abbinanti:** A. Employment/Salary (full or part-time); Bioaxone Biosciences Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Bioaxone Biosciences Inc. **L. Guo:** A. Employment/Salary (full or part-time); Bioaxone Biosciences Inc. **F. Yang:** A. Employment/Salary (full or part-time); Bioaxone Biosciences Inc. **E. Niederst:** A. Employment/Salary (full or part-time); Bioaxone Biosciences Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Bioaxone Biosciences Inc. **M. Betancur-Boissel:** A. Employment/Salary (full or part-time); Advirna LLC. **A. Wolfson:** A. Employment/Salary (full or part-time); Advirna LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Advirna LLC. **K.M. Rosen:** A. Employment/Salary (full or part-time); Bioaxone Biosciences Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Bioaxone Biosciences Inc. **L.J. McKerracher:** A. Employment/Salary (full or part-time); Bioaxone Biosciences Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Bioaxone Biosciences Inc. |
| 580.24 | **M.I. Nemenov:** A. Employment/Salary (full or part-time); LazMed, Inc. |
| 580.26 | **M.I. Nemenov:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); LasMed LLC. |
| 581.11 | **D.L. Hammond:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); ChromaDex. **M.V. Hamity:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); ChromaDex. |
| 582.02 | **D. Luo:** A. Employment/Salary (full or part-time); Department of Anatomy, Histology and Embryology, Basic Medical College, Fujian Medical University/Full time. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Natural Science Foundation of China, NO. 81671100, 81200867. **Y. Yu:** A. Employment/Salary (full or part-time); Department of Anatomy, Histology and Embryology, Basic Medical College, Fujian Medical University/part-time. |
| 585.03 | **M. Gonzalez-Franco:** A. Employment/Salary (full or part-time); Microsoft. **D. Florencio:** A. Employment/Salary (full or part-time); Microsoft. **Z. Zhang:** A. Employment/Salary (full or part-time); Microsoft. |
| 591.01 | **M. Soleimani:** A. Employment/Salary (full or part-time); VA Research Services, Cincinnati. |

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|---|---|
| 592.20 | **Y. Salimpour:** A. Employment/Salary (full or part-time); Johns Hopkins University. **K.A. Mills:** A. Employment/Salary (full or part-time); Johns Hopkins University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH KL2 Award through NCATS. **W.S. Anderson:** A. Employment/Salary (full or part-time); Johns Hopkins University. |
| 594.02 | **H.J. Chizeck:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Medtronic. |
| 594.05 | **A. Petrossians:** A. Employment/Salary (full or part-time); Platinum Group Coatings LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Platinum Group Coatings LLC. **J.J. Whalen:** A. Employment/Salary (full or part-time); Platinum Group Coatings LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Platinum Group Coatings LLC. **C.D. Lee:** A. Employment/Salary (full or part-time); Platinum Group Coatings LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Platinum Group Coatings LLC. **J. Sharkey:** A. Employment/Salary (full or part-time); Platinum Group Coatings LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Platinum Group Coatings LLC. |
| 594.09 | **M. Sammikkannu:** A. Employment/Salary (full or part-time); University of Miami. **D.W. Dietrich:** A. Employment/Salary (full or part-time); University of Miami. **S. Rajguru:** A. Employment/Salary (full or part-time); University of Miami. **A. Prasad:** A. Employment/Salary (full or part-time); University of Miami. |
| 594.10 | **K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); Neuralink Inc., consultant Cognescent, Scientific Advisory Board Heal, Scientific Advisory Board. |
| 594.12 | **K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); Neuralink Inc., Cognescent, Scientific Advisory Board, Heal, Scientific Advisory Board. |
| 594.14 | **G. Gerboni:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Synchron Inc. **S.E. John:** A. Employment/Salary (full or part-time); Synchron Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Synchron Inc. **N.L. Opie:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Synchron Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Synchron Inc. **G.S. Rind:** A. Employment/Salary (full or part-time); Synchron Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Synchron Inc. **S.M. Ronayne:** A. Employment/Salary (full or part-time); Synchron Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Synchron Inc. **C.N. May:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Synchron Inc. **T.J. Oxley:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Synchron Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Synchron Inc. **Y.T. Wong:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Synchron Inc. **D.B. Grayden:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Synchron Inc. |
| 594.15 | **L. Rieth:** A. Employment/Salary (full or part-time); Partial employee of Blackrock Microsystems during a portion of this study. |
| 594.17 | **T.M. Otchy:** 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.; Galvani Bioelectronics. **C. Michas:** 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.; Galvani Bioelectronics. **T.J. Gardner:** 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.; Galvani Bioelectronics. |
| 594.19 | **K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); Neuralink Inc., consultant, Cognescent, Scientific Advisory Board, Heal, Scientific Advisory Board. |
| 595.01 | **L. Rieth:** A. Employment/Salary (full or part-time); Blackrock Microsystems. |
| 597.01 | **E.J. Vazquez-Cintron:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cytodel, LLC. |
| 598.09 | **A. Tharaneetharan:** A. Employment/Salary (full or part-time); Delaware State University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH R15HD075207, NDF IIS1608147. **M.A. Harrington:** A. Employment/Salary (full or part-time); Delaware State University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH R15HD075207, NDF IIS1608147. |
| 602.18 | **K.E. Lucerne:** A. Employment/Salary (full or part-time); Temple University. **A.Q. Fosnocht:** A. Employment/Salary (full or part-time); Temple University. **L.A. Briand:** A. Employment/Salary (full or part-time); Temple 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.; R00 DA033372. **J. Lenz:** A. Employment/Salary (full or part-time); Temple University. **A.S. Ellis:** A. Employment/Salary (full or part-time); Temple University. |
| 603.05 | **M. Woelfer:** A. Employment/Salary (full or part-time); Ms. Woelfer is supported by scholarship from the Otto-von-Guericke-University Magdeburg. 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 study was supported by German Research Foundation (SFB 779/A06 and DFG Wa2673/4-1), Centre for Behavioural and Brain Sciences (CBBS NN05) and Leibniz Association to Prof. Walter. **L. Colic:** A. Employment/Salary (full or part-time); received a scholarship from German Research Foundation (SFB 779, 2013-2016). **M. Walter:** A. Employment/Salary (full or part-time); Supported by German Research Foundation (SFB 779/A06 and DFG Wa2673/4-1), Centre for Behavioural and Brain Sciences (CBBS NN05), Supported by Leibniz Association (Pakt für Forschung und Innovation). |
| 606.07 | **E.B. Margolis:** 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.; Blackthorn Therapeutics. **T.L. Wallace:** A. Employment/Salary (full or part-time); BlackThorn Therapeutics, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics, Inc. **L.J. Van Orden:** A. Employment/Salary (full or part-time); BlackThorn |

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| | Therapeutics, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics, Inc. **W.J. Martin:** A. Employment/Salary (full or part-time); BlackThorn Therapeutics, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics, Inc. |
| 606.08 | **T.L. Wallace:** 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. **L.J. Van Orden:** 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. Guerrero:** A. Employment/Salary (full or part-time); The Scripps Research Institute. **S. Riley:** A. Employment/Salary (full or part-time); The Scripps Research Institute. **S. Brown:** A. Employment/Salary (full or part-time); The Scripps Research Institute. **F. Porreca:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; co-PI UH2 NS 093030. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. **H. Rosen:** A. Employment/Salary (full or part-time); The Scripps Research Institute. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics, Celgene, Kyorin Pharma. **E. Roberts:** 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 on NIH grant UH2 NS 093030. 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. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. |
| 607.09 | **H. Seo:** A. Employment/Salary (full or part-time); BlackThorn Therapeutics. **T.L. Wallace:** 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. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. **D. Lee:** A. Employment/Salary (full or part-time); BlackThorn 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.; BlackThorn Therapeutics. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); BlackThorn Therapeutics. |
| 608.07 | **M.M. Niedziela:** A. Employment/Salary (full or part-time); HCD Research. |
| 608.12 | **M.J. Schumacher:** 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.; Undergraduate Research Opportunity Project Grant, University of Minnesota Duluth. |
| 609.04 | **R.A. Brachman:** Other; R.A.B. and C.A.D. are named on a non-provisional patent application for the prophylactic use of ketamine against stress-related psychiatric disorders. **C.A. Denny:** Other; R.A.B. and C.A.D. are named on a non-provisional patent application for the prophylactic use of ketamine against stress-related psychiatric disorders. |
| 609.11 | **J.A. Prenderville:** A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd. **C.W. McDonnell:** A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd. **G. Di Caupa:** A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd. **J. Rouine:** A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd. **C. Mombereau:** A. Employment/Salary (full or part-time); H. Lundbeck A/S. **M. Bianchi:** A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd. |
| 609.12 | **B. Ferger:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma GmbH & Co. KG (full-time). **P. Voehringer:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma GmbH & Co. KG (full-time). **C. Dorner-Ciossek:** A. Employment/Salary (full or part-time); Boehringer-Ingelheim Pharma GmbH & Co. KG (full-time). |
| 609.15 | **C. Zarate:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Zarate is listed as a co-inventor on a patent for the use of (2R,6R)-hydroxynorketamine, (S)-dehydronorketamine, and other stereoisomeric dehydro and hydroxylated metabolites of (R,S)-ketamine met. |
| 609.17 | **M.M. Rasenick:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PAX neuroscience. F. Consulting Fees (e.g., advisory boards); Otsuka. |
| 609.18 | **J.B. Price:** A. Employment/Salary (full or part-time); Deakin University. |
| 610.08 | **R. Abraham:** A. Employment/Salary (full or part-time); Suven Life Sciences. **R. Kallepalli:** A. Employment/Salary (full or part-time); Suven Life Sciences. **V. Goura:** A. Employment/Salary (full or part-time); Suven Life Sciences. **J. Thentu:** A. Employment/Salary (full or part-time); Suven Life Sciences. **V. Kamuju:** A. Employment/Salary (full or part-time); Suven Life Sciences. **S.M. Irupannanavar:** A. Employment/Salary (full or part-time); Suven Life Sciences. **R.C. Palacharla:** A. Employment/Salary (full or part-time); Suven Life Sciences. **V. Goyal:** A. Employment/Salary (full or part-time); Suven Life Sciences. **S. Pandey:** A. Employment/Salary (full or part-time); Suven Life Sciences. **B. Narasimha:** A. Employment/Salary (full or part-time); Suven Life Sciences. **S. Ravella:** A. Employment/Salary (full or part-time); Suven Life Sciences. **A. Shinde:** A. Employment/Salary (full or part-time); Suven Life Sciences. **A. Mohammed:** A. Employment/Salary (full or part-time); Suven Life Sciences. **R. Nirogi:** A. Employment/Salary (full or part-time); Suven Life Sciences. |
| 610.09 | **M. Hyde:** 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.; NeuroQore Inc. **V. Knott:** 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.; NeuroQore. |
| 610.12 | **S.M. Husbands:** Other; BU10119 is part of a compound series licensed to Orexigen Therapeutics by SMH. |
| 610.13 | **C.E. Beyer:** A. Employment/Salary (full or part-time); Promentis Pharmaceuticals. **M.P. Neary:** A. Employment/Salary (full or part-time); Promentis Pharmaceuticals. **D.G. Lawton:** A. Employment/Salary (full or part-time); Promentis Pharmaceuticals. **M. Preigh:** A. Employment/Salary (full or part-time); Promentis Pharmaceuticals. **N.J. Raddatz:** C. Other Research Support (receipt of |

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|---|---|
| | drugs, supplies, equipment or other in-kind support); Promentis Pharmaceuticals. **D.C. Lobner:** F. Consulting Fees (e.g., advisory boards); Promentis Pharmaceuticals. **J.R. Mantsch:** F. Consulting Fees (e.g., advisory boards); Promentis Pharmaceuticals. **D.A. Baker:** F. Consulting Fees (e.g., advisory boards); Promentis Pharmaceuticals. |
| 610.16 | **R. Fraser-Spears:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Receipt of drugs from the Australian Nuclear Science and Technology Organization. **L.C. Daws:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Receipt of drugs from the Australian Nuclear Science and Technology Organization. |
| 611.01 | **H. Yamagata:** 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.; gsk grant 2014. |
| 611.02 | **K. Dunlop:** A. Employment/Salary (full or part-time); University of Toronto. 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.; Vanier Scholar, CIHR. |
| 611.04 | **H. Singh:** A. Employment/Salary (full or part-time); Full time. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; American Heart Association. **M.M. Rasenick:** A. Employment/Salary (full or part-time); Full-time, University of Illinois at Chicago. 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 AT009169, VA BX001149. F. Consulting Fees (e.g., advisory boards); OTSUKA. Other; PAX Neuroscience. |
| 611.05 | **M.M. Rasenick:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Pax Neuroscience. F. Consulting Fees (e.g., advisory boards); Otsuka. |
| 611.06 | **M.M. Rasenick:** A. Employment/Salary (full or part-time); University of Illinois at Chicago Departments of Physiology & Biophysics and Psychiatry, Jesse Brown VAMC. 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 AT009169, T32 MH067631, VA BX001149. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pax Neuroscience. F. Consulting Fees (e.g., advisory boards); Otsuka Pharmaceutical. |
| 611.13 | **Y. Ohgi:** A. Employment/Salary (full or part-time); Ostuka Pharmaceutical Ltd. **T. Futamura:** A. Employment/ Salary (full or part-time); Ostuka Pharmaceutical Ltd. **K. Hashimoto:** 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.; Otsuka Pharmaceutical Ltd. |
| 611.14 | **Y. Ohgi:** A. Employment/Salary (full or part-time); Otsuka. **T. Futamura:** A. Employment/Salary (full or part-time); Otsuka. |
| 612.02 | **F. Vitaliano:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ExQor Technologies Inc. **G.D. Vitaliano:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); ExQor Technologies Inc. |

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| 612.05 | **J.B. Thentu:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **G. Bhyrapuneni:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **R. Dyavarashetty:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **K. Bandaru:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **R. Boggavarapu:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **H. Pantangi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **N. Padala:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **R. Nirogi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. |
| 612.06 | **M. Grupe:** A. Employment/Salary (full or part-time); H. Lundbeck A/S. **M. Grunnet:** A. Employment/Salary (full or part-time); H. Lundbeck A/S. **T. Benned-Jensen:** A. Employment/Salary (full or part-time); H. Lundbeck A/S. **K. Frisch Herrik:** A. Employment/Salary (full or part-time); H. Lundbeck A/S. **B. Hjorth Bentzen:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; H. Lundbeck A/S. **K. Frederiksen:** A. Employment/Salary (full or part-time); H. Lundbeck A/S. **A. Graven Sams:** A. Employment/Salary (full or part-time); H. Lundbeck A/S. **J. Frank Bastlund:** A. Employment/Salary (full or part-time); H. Lundbeck A/S. |
| 612.08 | **K.D. Bornemann:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. **M. Weiland:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. **B. Hengerer:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. **K.A. Allers:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. |
| 612.11 | **L. Ancheta:** A. Employment/Salary (full or part-time); Advanced Targeting Systems. **P.A. Shramm:** A. Employment/Salary (full or part-time); Advanced Targeting Systems. **D.A. Lappi:** F. Consulting Fees (e.g., advisory boards); Advanced Targeting Systems. |
| 612.13 | **J.M. Miwa:** Other; CEO of Ophidion, Inc. |
| 613.03 | **G.A. Ordway:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-author of provisional patent for PARP inhibitors to treat depressive disorders. **A. Szebeni:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-author of provisional patent for use of PARP inhibitors for depressive disorders. **R.W. Brown:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-author of provisional patent for PARP inhibitors to treat depressive disorders. |
| 613.11 | **M.D. Kvarta:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Asulon Therapeutics. **S.M. Thompson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Asulon Therapeutics. |
| 613.18 | **R. Hen:** F. Consulting Fees (e.g., advisory boards); Lundbeck, Roche. |
| 613.19 | **C.A. Turner:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); The authors are members of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **V. Sharma:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); The authors are members of the Pritzker Neuropsychiatric |

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| | Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **M.H. Hagenauer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); The authors are members of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **A.M. O'Connor:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); The authors are members of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **R.C. Thompson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); The authors are members of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **S.J. Watson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The authors are members of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **H. Akil:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The authors are members of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. |
| 613.20 | **T. Kato:** A. Employment/Salary (full or part-time); Sumitomo Dainippon Pharma Co., Ltd. |
| 613.29 | **T. Kato:** A. Employment/Salary (full or part-time); Sumitomo Dainippon Pharma. **G.P. Vlasuk:** A. Employment/Salary (full or part-time); Navitor Pharmaceuticals, Inc. **E. Saiah:** A. Employment/Salary (full or part-time); Navitor Pharmaceuticals, Inc. **S. Hahm:** A. Employment/Salary (full or part-time); Navitor Pharmaceuticals, Inc. |
| 613.30 | **J.C. Pineda:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); CB 2011-CB167436-Q. |
| 614.12 | **H.M. Arnold:** A. Employment/Salary (full or part-time); Biogen. **S. Glass:** A. Employment/Salary (full or part-time); Biogen. **R. Driscoll:** A. Employment/Salary (full or part-time); Biogen. **P. Leach:** A. Employment/Salary (full or part-time); Biogen. |
| 615.15 | **T. Evans:** A. Employment/Salary (full or part-time); EPSRC. 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.; NIHMH54671, NS 090583, NS090526, NSF PIRE, NIMH F32 MH107159. **S.A. McKenzie:** 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.; NIHMH54671, NS 090583, NS090526, NSF PIRE, NIMH F32 MH107159. **D.F. English:** 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.; NIHMH54671, NS 090583, NS090526, NSF PIRE, NIMH F32 MH107159. **K. Kim:** 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.; NIHMH54671, NS 090583, NS090526, NSF PIRE, NIMH F32 MH107159. **E. Yoon:** 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.; NIHMH54671, NS 090583, NS090526, NSF PIRE, NIMH F32 MH107159. **G. Buzsaki:** 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.; NIHMH54671, NS 090583, NS090526, NSF PIRE, NIMH F32 MH107159. |
| 615.28 | **K. Watanabe:** A. Employment/Salary (full or part-time); Riken BSI. |
| 616.15 | **Y. Hayashi:** 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.; Fujitsu Laboratories, Takeda Pharmaceutical Co. Ltd. |
| 618.04 | **N. George:** A. Employment/Salary (full or part-time); Indian Institute of Technology Gandhinagar. **M.M. Sunny:** A. Employment/Salary (full or part-time); Indian Institute of Technology Gandhinagar. |
| 618.09 | **A.K. Singh:** 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.; ERATO Touhara Chemosensory Signal Project from JST, Japan. **M. Okamoto:** A. Employment/Salary (full or part-time); Touhara ERATO Chemosensory Signal Project from JST, Japan. |
| 618.21 | **H. Weng:** F. Consulting Fees (e.g., advisory boards); Mind and Life Institute. |
| 620.22 | **A. Anticevic:** F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. **J.D. Murray:** F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. |
| 622.08 | **K.D. Micheva:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aratome, LLC; Stanford Univ. **S.J. Smith:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aratome, LLC; Stanford Univ. |
| 622.09 | **K.D. Micheva:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aratome, LLC. **S.J. Smith:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aratome, LLC. |
| 623.19 | **S. Fukushima:** 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.; Grants-in-Aid for Scientific Reserch. **S.H.T.T. Takefumi Ueno:** 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.; Grants-in-Aid for Scientific Reserch. |
| 623.20 | **L.E. Hong:** 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.; LEH has received or plans to receive research funding or consulting fee on research projects from Mitsubishi, Your Energy Systems LLC, Neuralstem, Taisho, Heptares, Pfizer, Sound Pharma, and Regeneron. F. Consulting Fees (e.g., advisory boards); LEH has received or plans to receive research funding or consulting fee on research projects from Mitsubishi, Your Energy Systems LLC, Neuralstem, Taisho, Heptares, Pfizer, Sound Pharma, and Regeneron. |

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| 624.07 | **K. Chung:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); LifeCanvas Technologies. |
| 625.02 | **Y. Yang:** A. Employment/Salary (full or part-time); employee, Renovoneural Inc. **B. Bai:** A. Employment/Salary (full or part-time); employee, Renovoneural Inc. **S. Lunn:** A. Employment/Salary (full or part-time); employee, Renovoneural Inc. **J. Johnson:** A. Employment/Salary (full or part-time); employee, Nanofiber Solution, Inc. **N. Kleinhenz:** A. Employment/Salary (full or part-time); employee, Nanofiber Solution, Inc. **V. Shenoy:** A. Employment/Salary (full or part-time); employee, Renovoneural Inc. **B.D. Trapp:** F. Consulting Fees (e.g., advisory boards); Renovoneural, Novatis, Biogen. |
| 625.04 | **M. Rotunno:** A. Employment/Salary (full or part-time); Sanofi, Inc. **P. Wolf:** A. Employment/Salary (full or part-time); Sanofi, Inc. **M. Lane:** A. Employment/Salary (full or part-time); Sanofi, Inc. **P. Olivova:** A. Employment/Salary (full or part-time); Sanofi, Inc. **L. Shihabuddin:** A. Employment/Salary (full or part-time); Sanofi, Inc. **K. Zhang:** A. Employment/Salary (full or part-time); Sanofi, Inc. **P. Sardi:** A. Employment/Salary (full or part-time); Sanofi, Inc. |
| 625.11 | **J.W. Brown:** A. Employment/Salary (full or part-time); AbbVie. **V.A. Roderwald:** A. Employment/Salary (full or part-time); AbbVie. **H.M. Robb:** A. Employment/Salary (full or part-time); Abbvie. **C.Z. Zhu:** A. Employment/Salary (full or part-time); AbbVie. **E.G. Mohler:** A. Employment/Salary (full or part-time); AbbVie. |
| 625.12 | **M. Van Gaalen:** A. Employment/Salary (full or part-time); Encepharm. 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.; Encepharm, Brains On-Line. **R. Cachope:** A. Employment/Salary (full or part-time); CHDI. **J. Sutcliffe:** A. Employment/Salary (full or part-time); Encepharm. **A. Rassoulpour:** A. Employment/Salary (full or part-time); Brains On-Line. **M.S. Heins:** A. Employment/Salary (full or part-time); Brains On-Line. **C. Schlumbohm:** A. Employment/Salary (full or part-time); Encepharm. **K. Hoffmann:** A. Employment/Salary (full or part-time); Encepharm. **J.H.A. Folgering:** A. Employment/Salary (full or part-time); Brains On-Line. **T.I.F.H. Cremers:** A. Employment/Salary (full or part-time); Brains On-Line. **V. Khetarpal:** A. Employment/Salary (full or part-time); CHDI. **C. Dominguez:** A. Employment/Salary (full or part-time); CHDI. **I. Munoz SanJuan:** A. Employment/Salary (full or part-time); CHDI. **L. Mrzljak:** A. Employment/Salary (full or part-time); CHDI. |
| 625.22 | **H. Battapady:** A. Employment/Salary (full or part-time); Employee of Renovo Neural Inc., Renovo Neural Inc. **S. Johnson:** A. Employment/Salary (full or part-time); Employee of Renovo Neural Inc., Renovo Neural Inc. **L. Loose:** A. Employment/Salary (full or part-time); Employee of Renovo Neural Inc., Renovo Neural Inc. **S. Lunn:** A. Employment/Salary (full or part-time); Employee of Renovo Neural Inc., Renovo Neural Inc. **V. Shenoy:** A. Employment/Salary (full or part-time); Employee of Renovo Neural Inc., Renovo Neural Inc. **B. Trapp:** A. Employment/Salary (full or part-time); Cleveland Clinic. F. Consulting Fees (e.g., advisory boards); Renovo, Biogen, Novartis. |
| 626.07 | **B. Huang:** A. Employment/Salary (full or part-time); Carnegie Mellon University. **K. Zhang:** A. Employment/Salary (full or part-time); Carnegie Mellon University. **R.S. Romero:** A. Employment/Salary (full or part-time); Carnegie Mellon University. **J. Ramsey:** A. Employment/Salary (full or part-time); Carnegie Mellon University. **M. Glymour:** A. Employment/Salary (full or part-time); Carnegie Mellon University. **C. Glymour:** A. Employment/Salary (full or part-time); Carnegie Mellon University. |
| 626.18 | **S.A. Small:** F. Consulting Fees (e.g., advisory boards); Denali Therapeutics, Janssen Pharmaceuticals. |

# NEUROSCIENCE 2017 — EXHIBITS AND POSTER SESSIONS

## Walter E. Washington Convention Center: Halls A–C

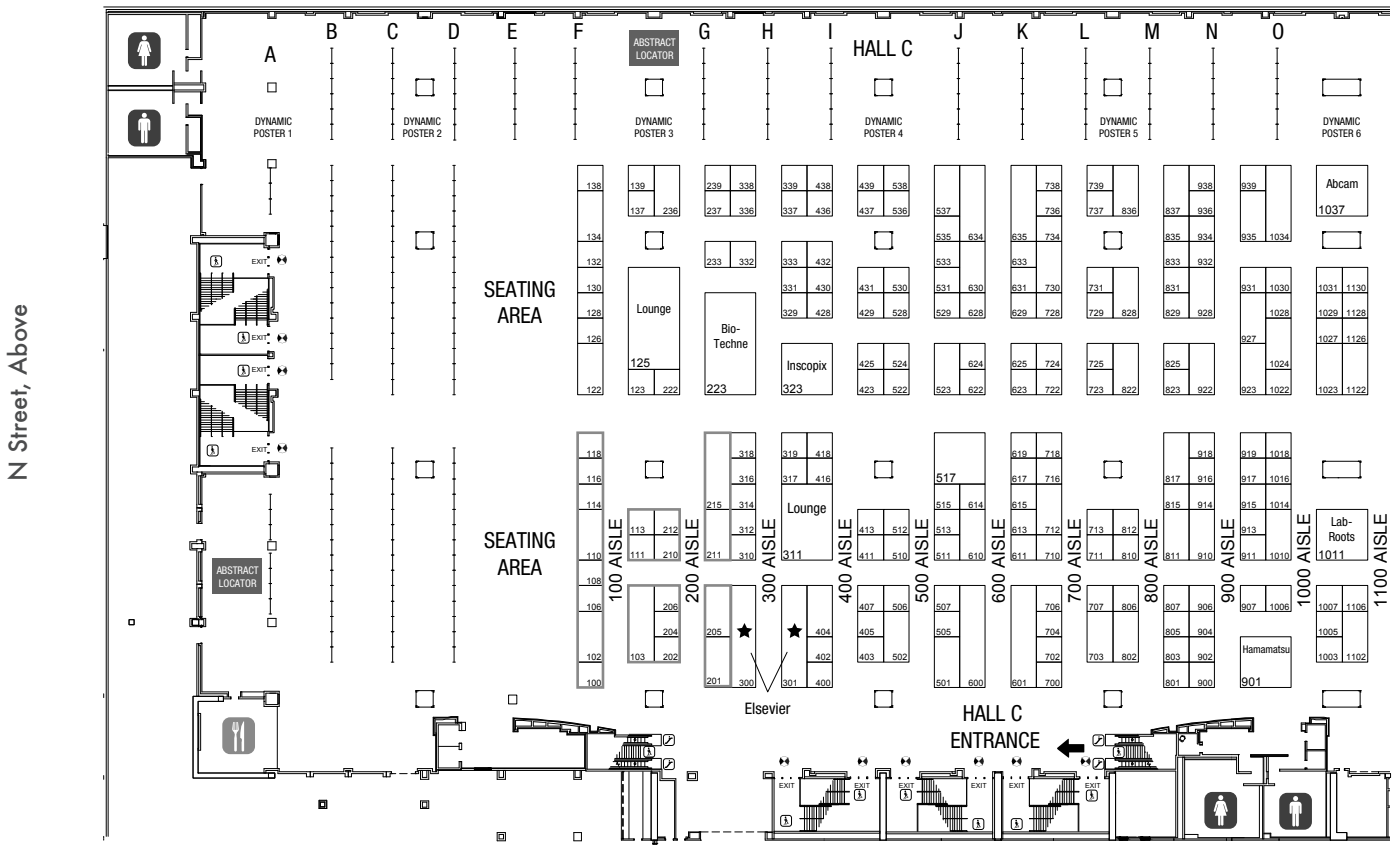
Meeting Dates: Nov. 11–15
Exhibit Dates: Nov. 12–15

Entrances will open at noon on Saturday and at 7 a.m. Sunday through Wednesday for poster presenter setup only. Poster sessions are open for all attendees at 1 p.m. on Saturday and 8 a.m. Sunday through Wednesday.

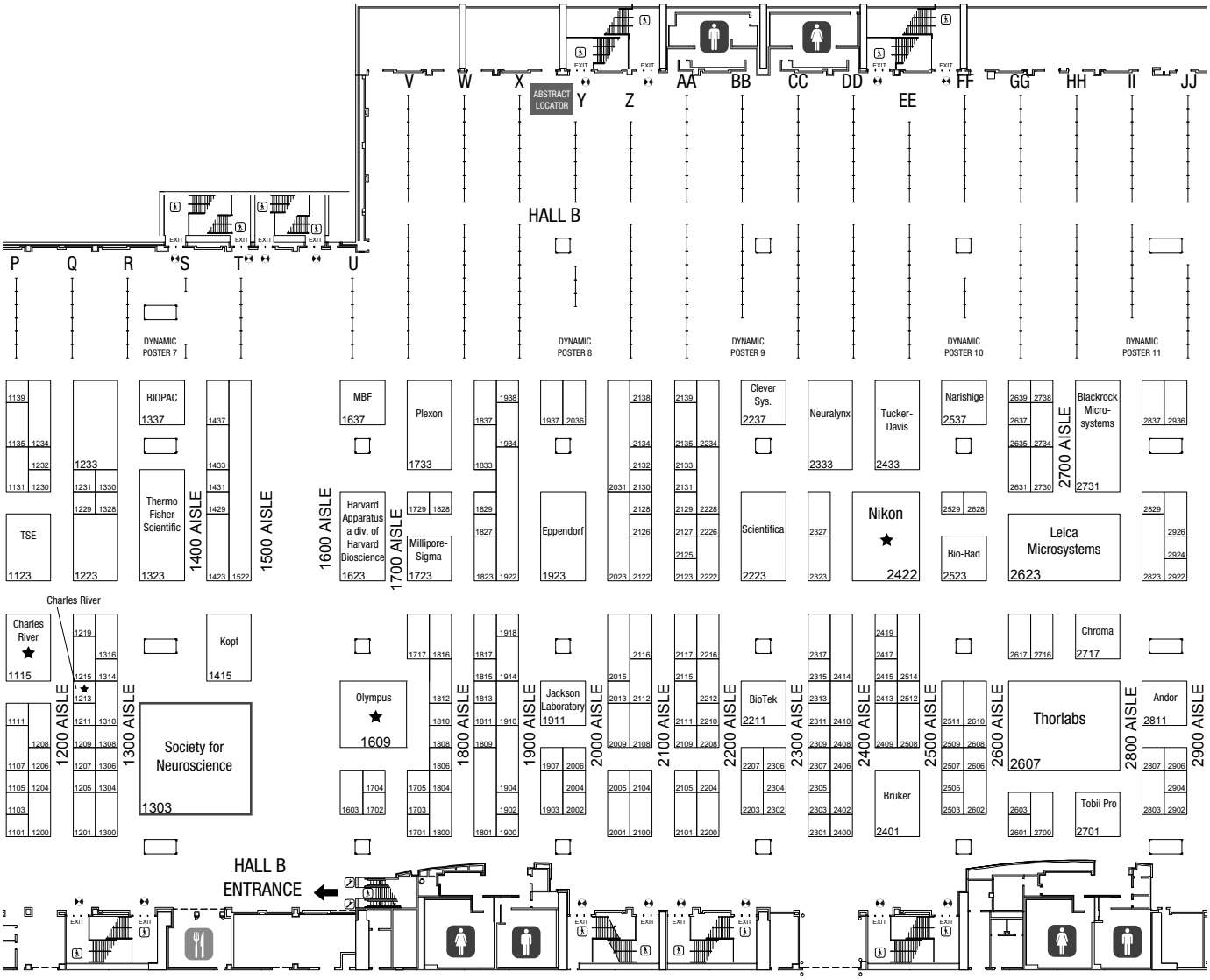
Floor plans subject to change. For current floor plan, visit **SfN.org/exhibits.**

**KEY**

- ☐ Institutions / Nonprofits
- ■ Abstract Locators
- ■ Concession Areas
- ☐ Publishers Row
- ☐ SfN Booth
- ■ Restrooms
- ★ Sustaining Associate Members
- \+ First Aid Station
- Emergency Exit



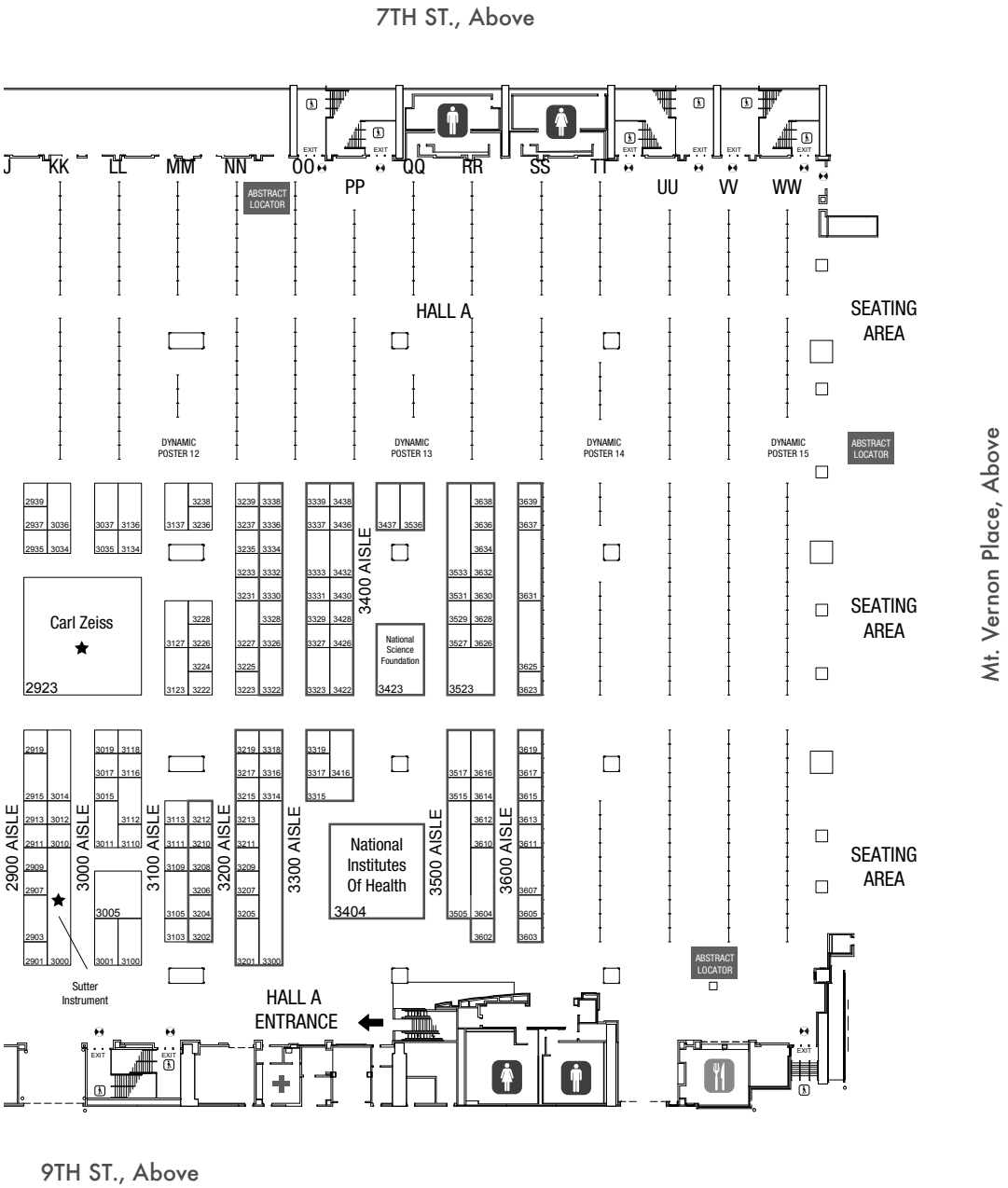
7TH ST., Above




9TH ST., Above

**KEY**

- ☐ Institutions / Nonprofits
- ☐ Publishers Row
- ★ Sustaining Associate Members
- ■ Abstract Locators
- ☐ SfN Booth
- \+ First Aid Station
- ■ Concession Areas
- ■ Restrooms
- Emergency Exit



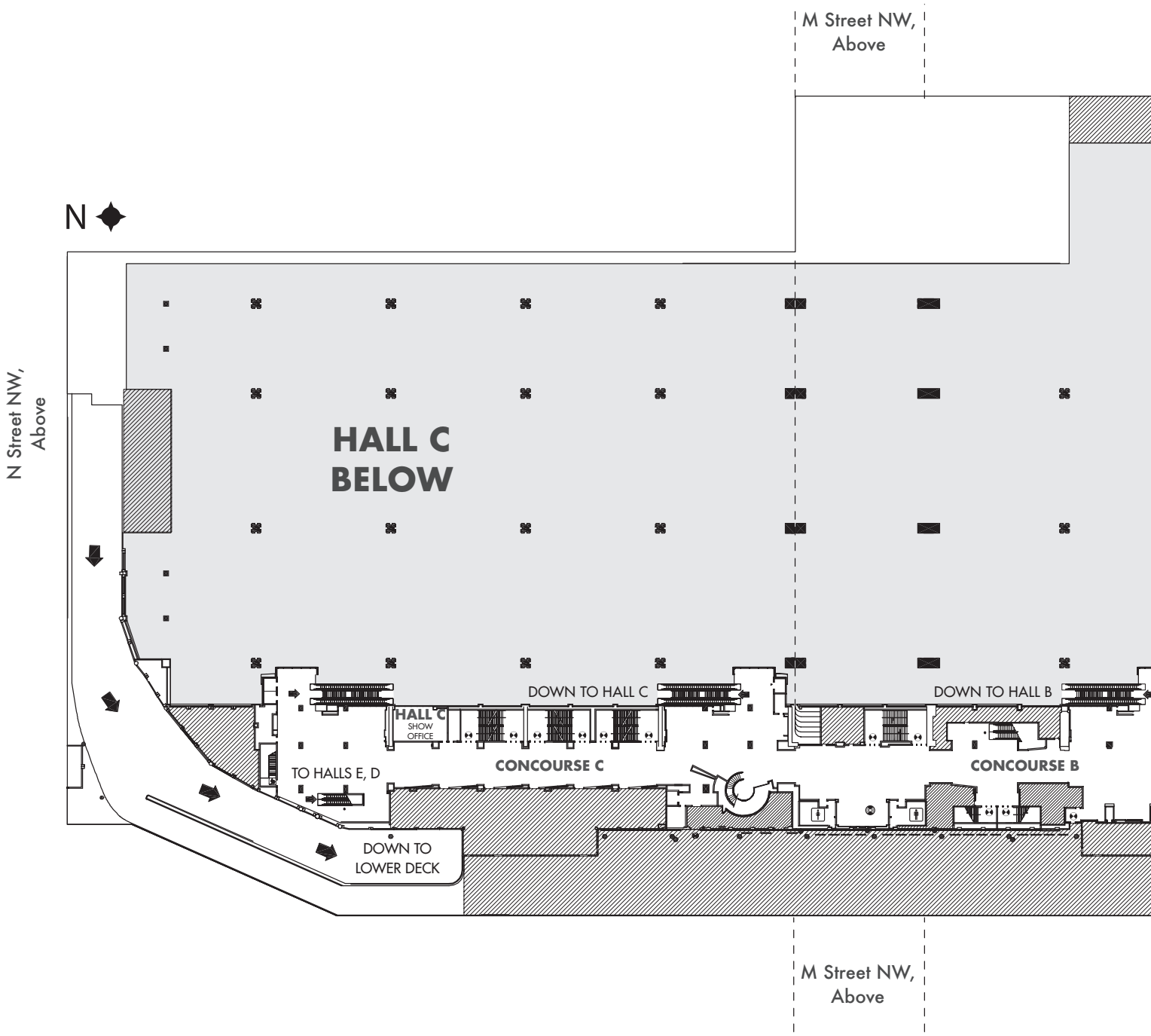

NOTE: Floor plans subject to change. For current floor plan, visit SfN.org/exhibits

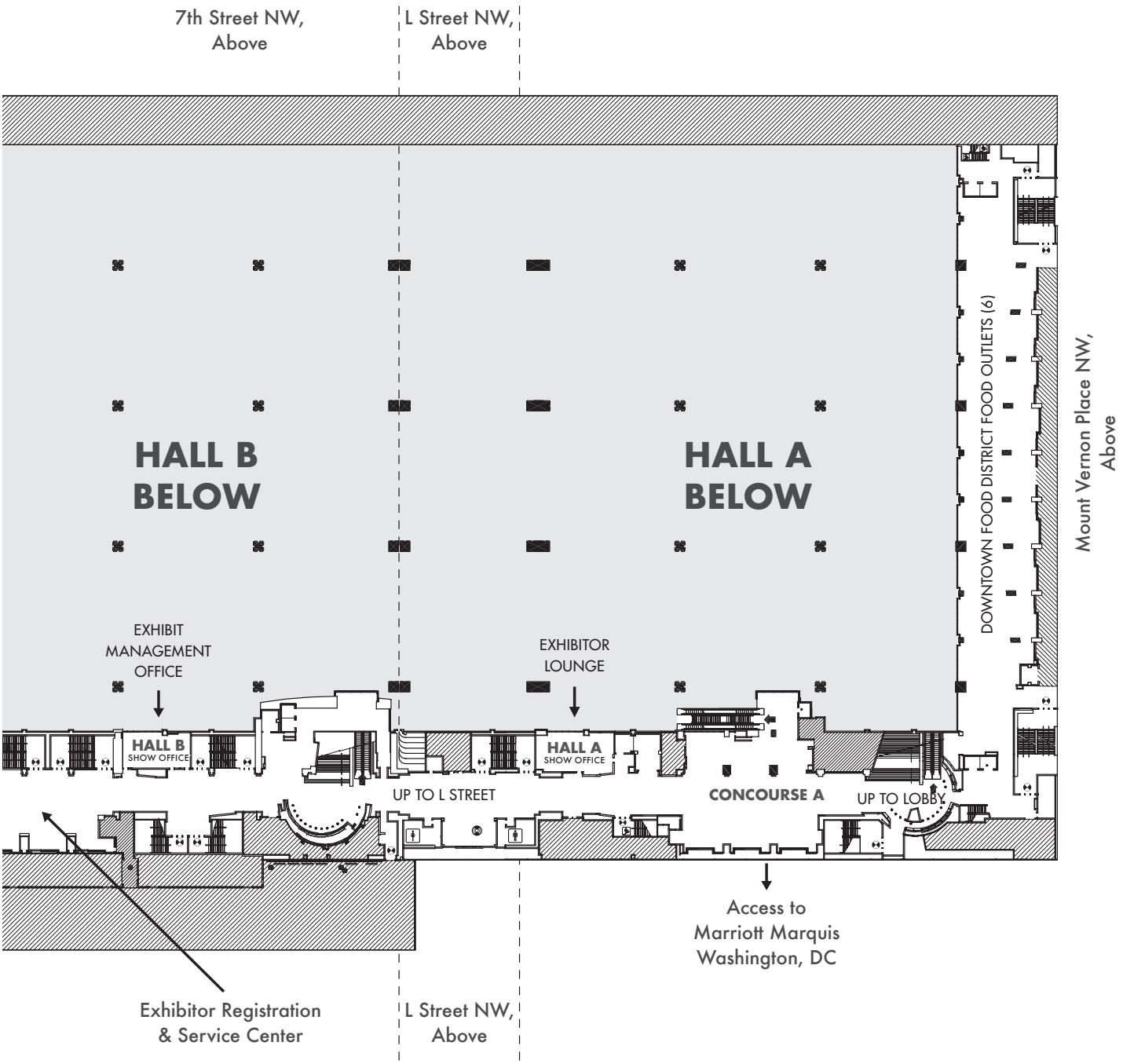
# CONVENTION CENTER FLOOR PLANS

**Concourse Level**

Access to Exhibit Halls A–C

Show Offices A–C

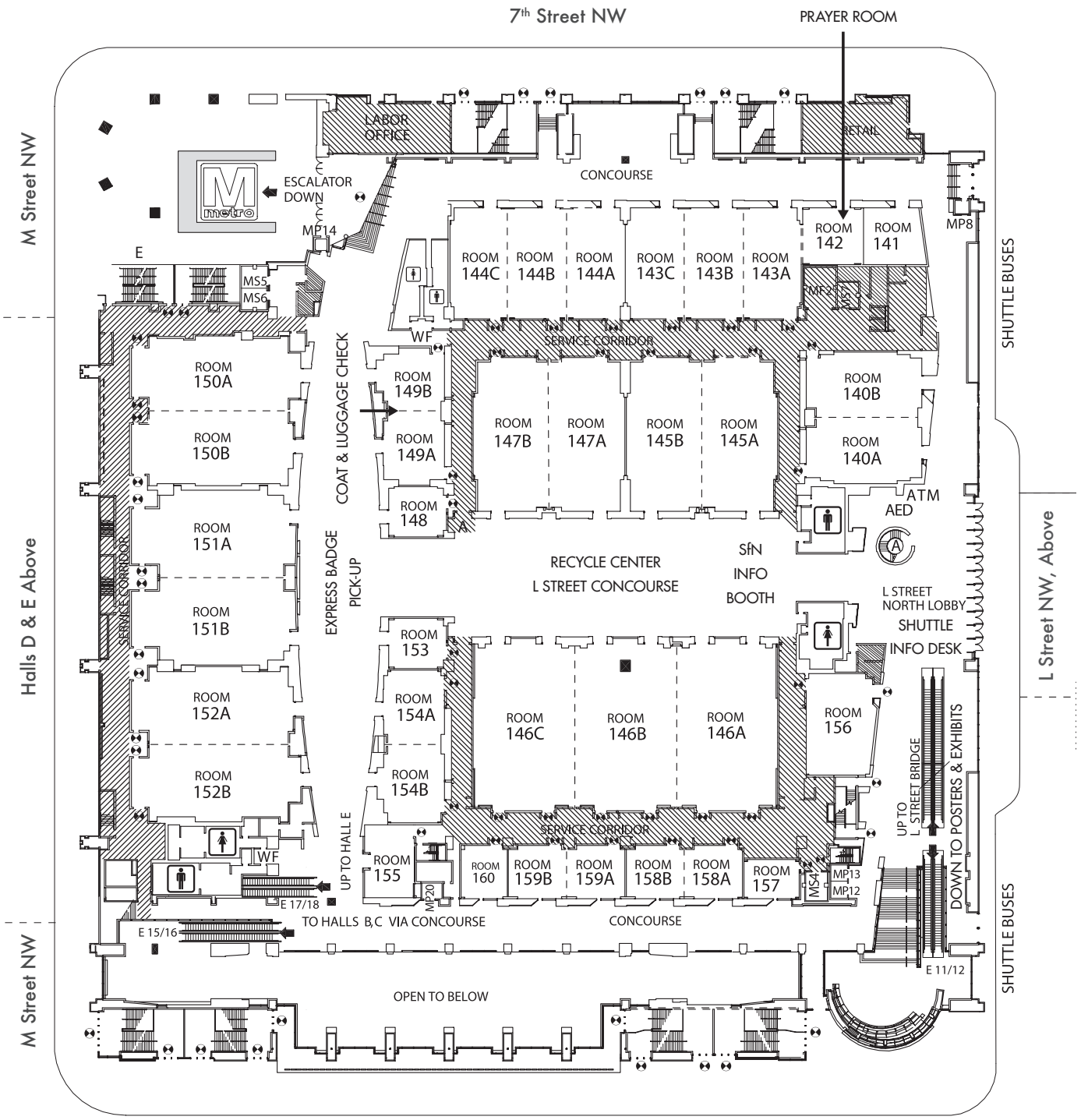


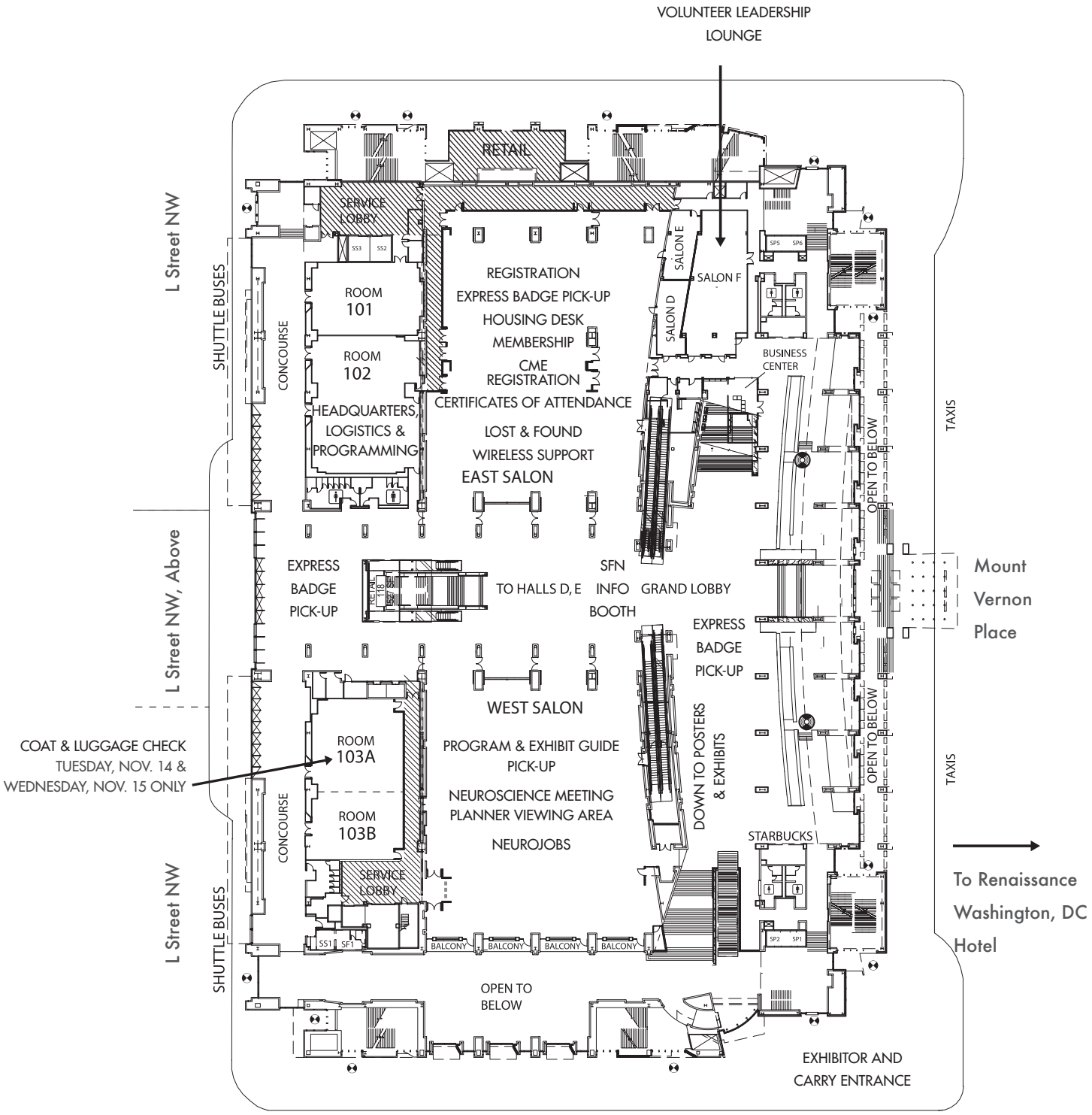

7th Street NW,
Above
L Street NW,
Above
HALL B
BELOW
HALL A
BELOW
DOWNTOWN FOOD DISTRICT FOOD OUTLETS (6)
Mount Vernon Place NW,
Above
EXHIBIT
MANAGEMENT
OFFICE
EXHIBITOR
LOUNGE
HALL B
SHOW OFFICE
HALL A
SHOW OFFICE
UP TO L STREET
CONCOURSE A
UP TO LOBBY
Access to
Marriott Marquis
Washington, DC
Exhibitor Registration
& Service Center
L Street NW,
Above

# CONVENTION CENTER FLOOR PLANS

## Lobby Level/Level 1

Meeting Rooms 101–103 & 140–160



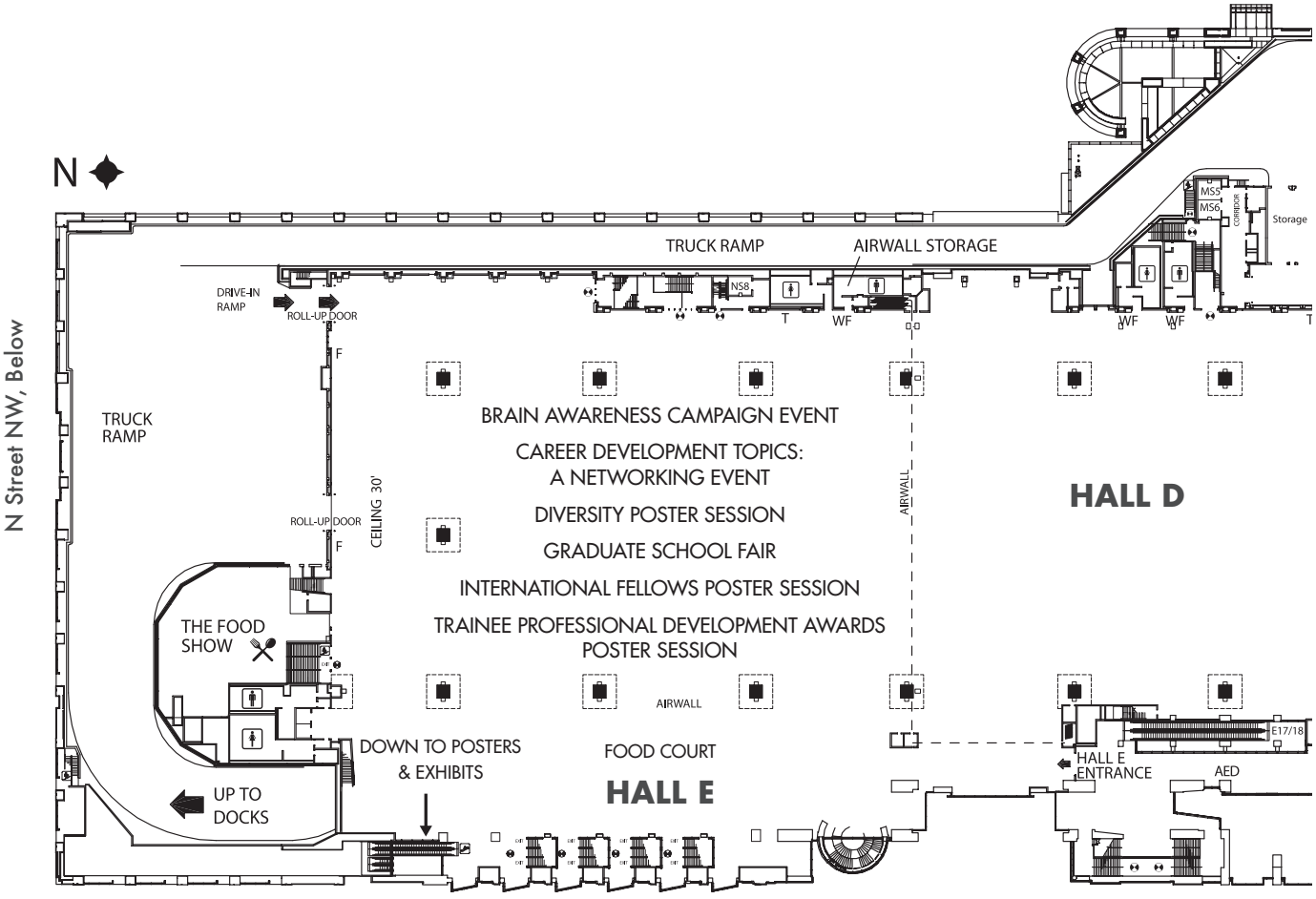

VOLUNTEER LEADERSHIP LOUNGE
RETAIL
SERVICE LOBBY
SS3
SS2
ROOM 101
ROOM 102
HEADQUARTERS, LOGISTICS & PROGRAMMING
REGISTRATION
EXPRESS BADGE PICK-UP
HOUSING DESK
MEMBERSHIP
CME REGISTRATION
CERTIFICATES OF ATTENDANCE
LOST & FOUND
WIRELESS SUPPORT
EAST SALON
SALON E
SALON F
SALON D
SP5
SP6
BUSINESS CENTER
L Street NW
SHUTTLE BUSES
CONCOURSE
L Street NW, Above
EXPRESS BADGE PICK-UP
RETAIL
T18
SS4
TO HALLS D, E
SFN INFO BOOTH
GRAND LOBBY
WEST SALON
ROOM 103A
ROOM 103B
PROGRAM & EXHIBIT GUIDE PICK-UP
NEUROSCIENCE MEETING PLANNER VIEWING AREA
NEUROJOBS
DOWN TO POSTERS & EXHIBITS
EXPRESS BADGE PICK-UP
STARBUCKS
SERVICE LOBBY
SS1
SF1
BALCONY
BALCONY
BALCONY
BALCONY
SP2
SP1
OPEN TO BELOW
OPEN TO BELOW
TAXIS
TAXIS
Mount Vernon Place
COAT & LUGGAGE CHECK
TUESDAY, NOV. 14 &
WEDNESDAY, NOV. 15 ONLY
To Renaissance Washington, DC Hotel
OPEN TO BELOW
EXHIBITOR AND CARRY ENTRANCE

# CONVENTION CENTER FLOOR PLANS

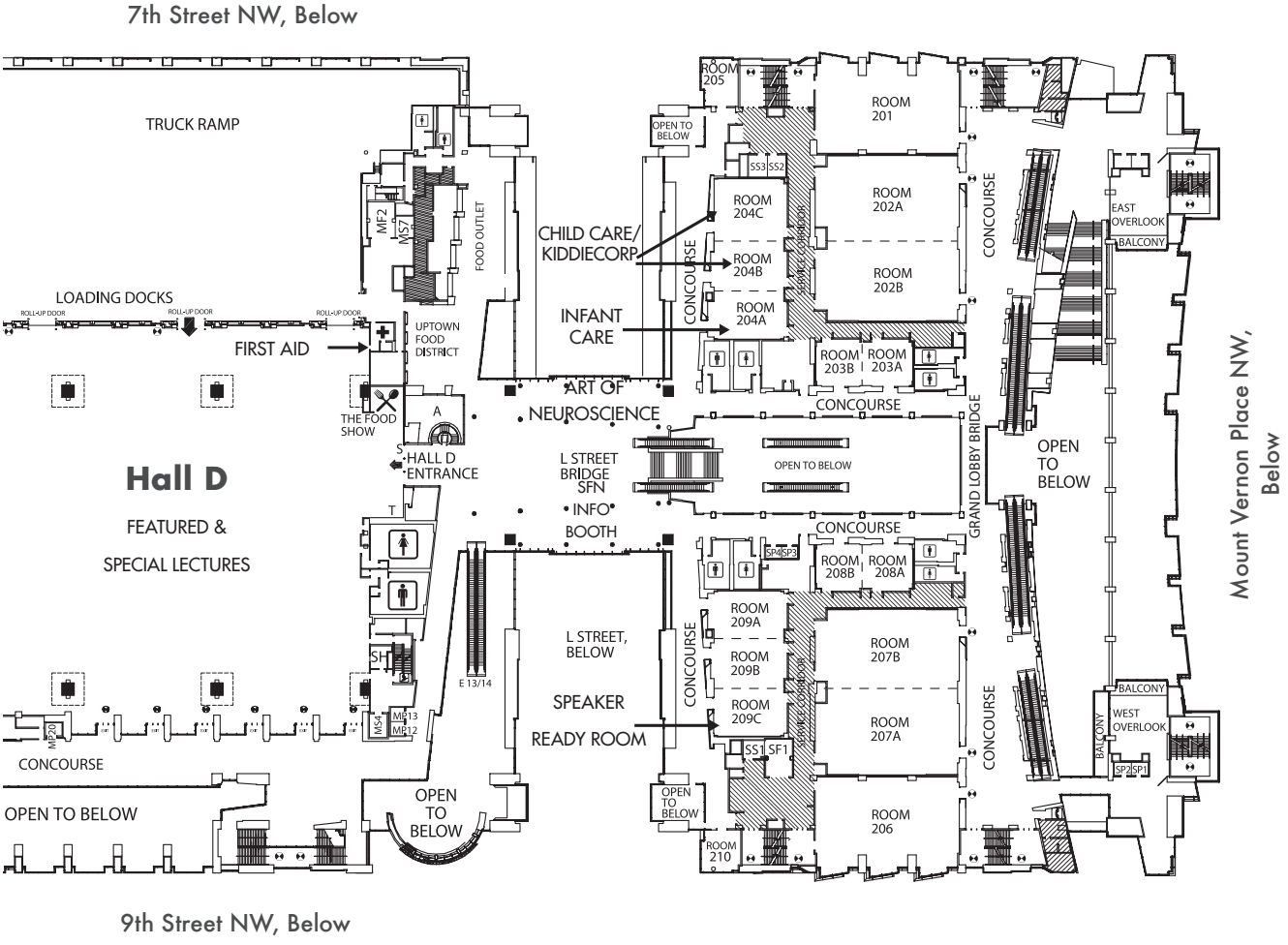
**Level 2**

Halls D & E

Meeting Rooms 201–210




NORTH BUILDING

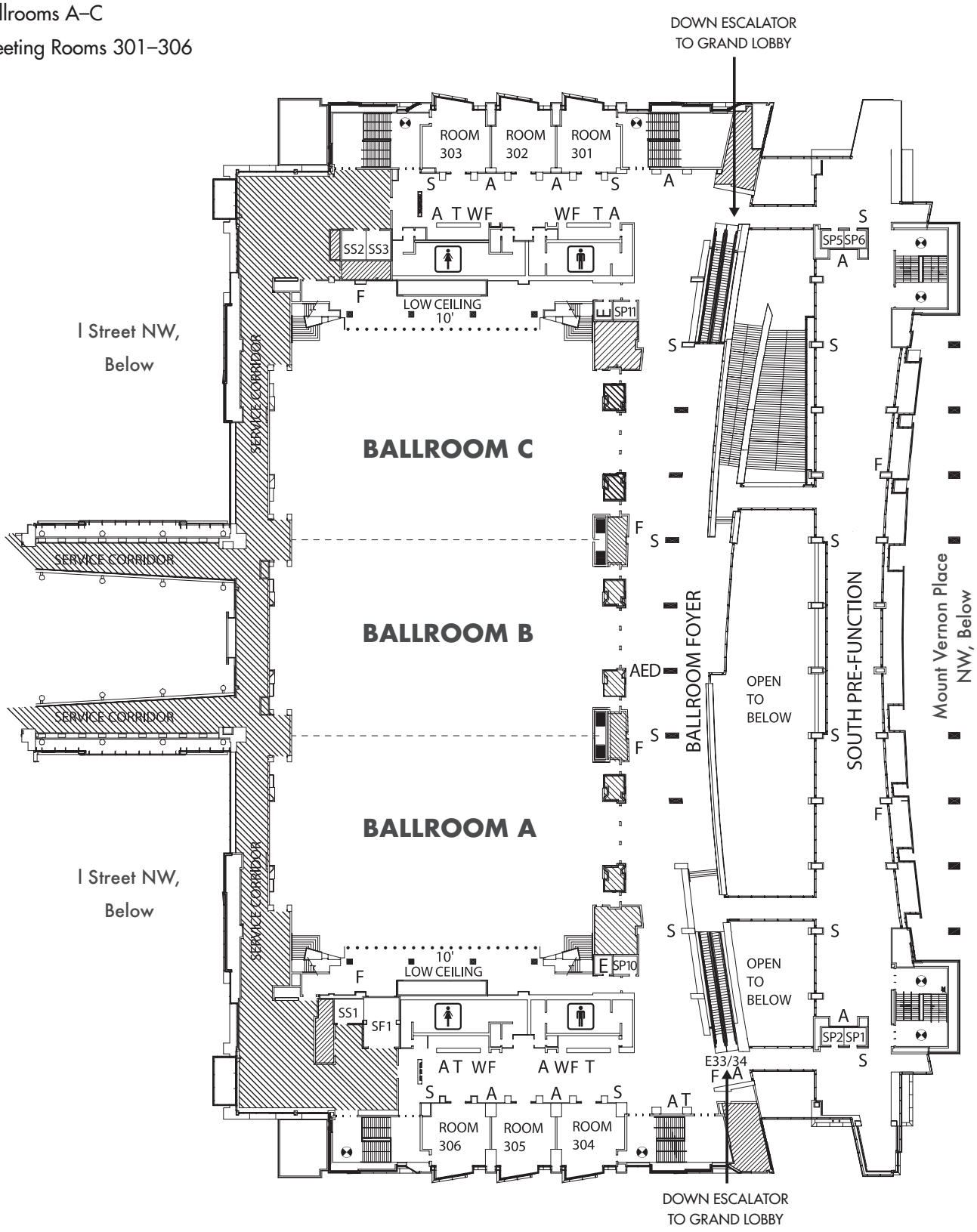

7th Street NW, Below
TRUCK RAMP
LOADING DOCKS
ROLL-UP DOOR
ROLL-UP DOOR
ROLL-UP DOOR
FIRST AID
THE FOOD SHOW
UPTOWN FOOD DISTRICT
FOOD OUTLET
MF2
MS7
A
S
HALL D ENTRANCE
Hall D
FEATURED &
SPECIAL LECTURES
T
SH
E 13/14
MS4
MS13
MS12
MP20
CONCOURSE
OPEN TO BELOW
OPEN TO BELOW
CHILD CARE/ KIDDIECORP
INFANT CARE
ART OF NEUROSCIENCE
L STREET BRIDGE SFN
INFO BOOTH
L STREET, BELOW
SPEAKER READY ROOM
ROOM 205
OPEN TO BELOW
ROOM 201
SS3
SS2
ROOM 204C
ROOM 204B
ROOM 204A
ROOM 202A
ROOM 202B
CONCOURSE
SOUTH CORRIDOR
CONCOURSE
EAST OVERLOOK
BALCONY
ROOM 203B
ROOM 203A
CONCOURSE
OPEN TO BELOW
GRAND LOBBY BRIDGE
OPEN TO BELOW
SP4
SP3
ROOM 208B
ROOM 208A
CONCOURSE
ROOM 209A
ROOM 209B
ROOM 209C
ROOM 207B
ROOM 207A
SOUTH CORRIDOR
CONCOURSE
BALCONY
WEST OVERLOOK
BALCONY
SS1
SF1
SP2
SP1
OPEN TO BELOW
ROOM 210
ROOM 206
Mount Vernon Place NW, Below
9th Street NW, Below
MIDDLE BUILDING
SOUTH BUILDING

# CONVENTION CENTER FLOOR PLANS

**Level 3**

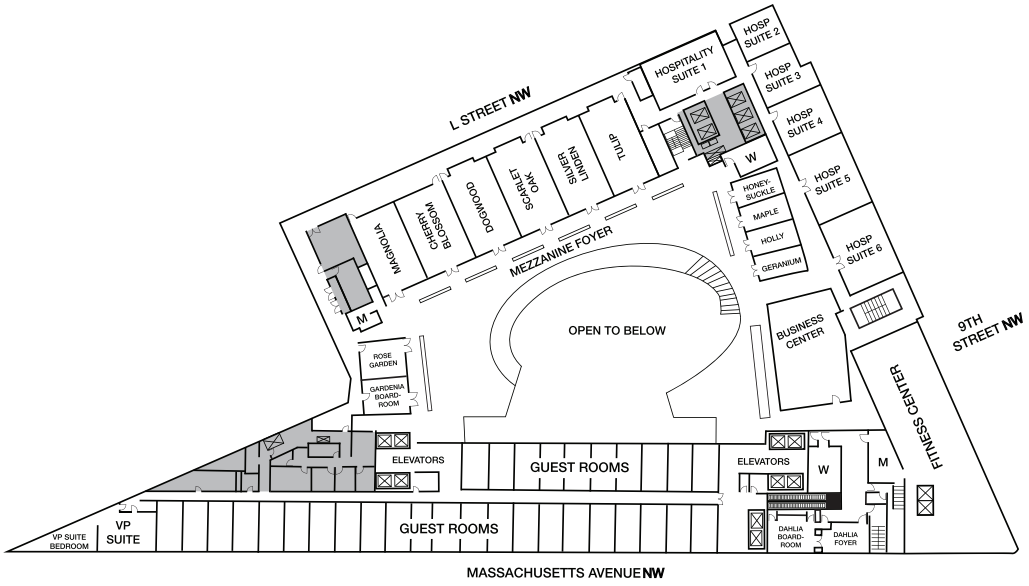
Ballrooms A–C

Meeting Rooms 301–306

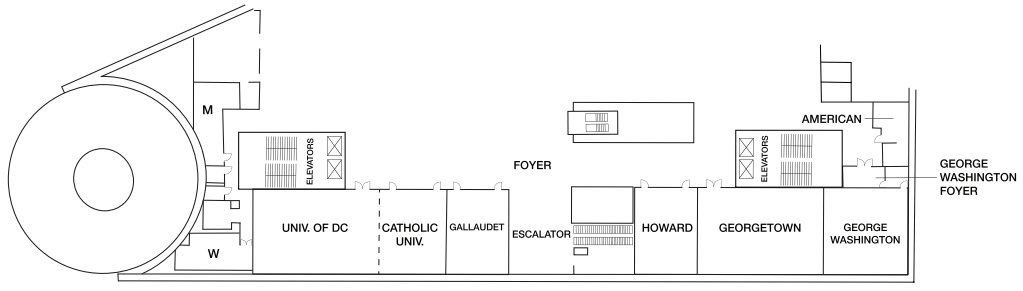


# HOTEL FLOOR PLANS

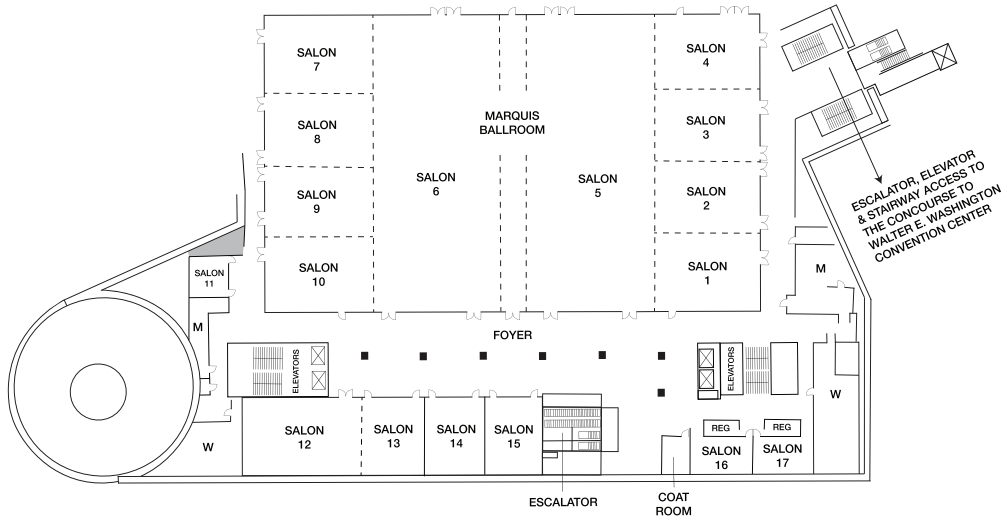
## Marriott Marquis Washington, DC



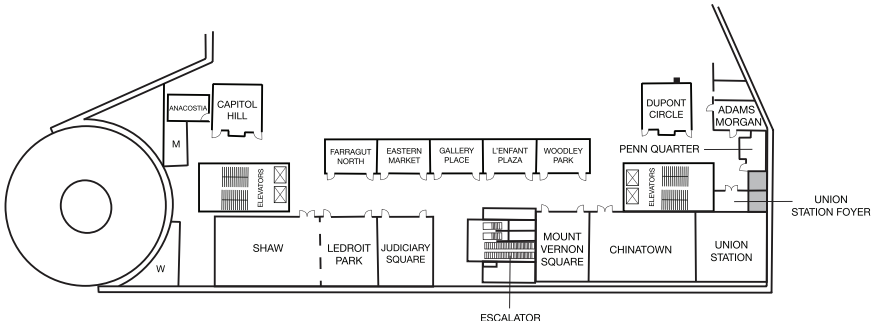

MEZZANINE LEVEL



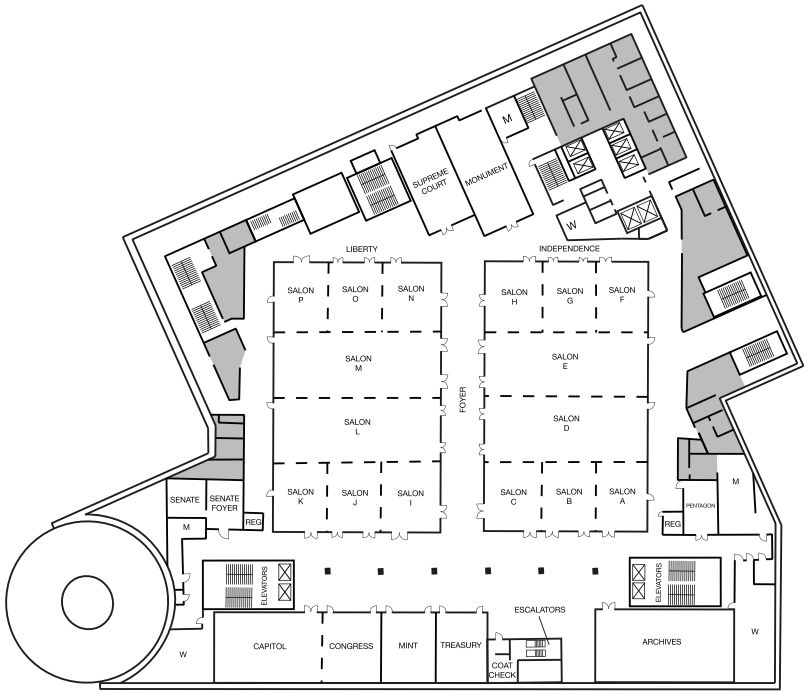

MEETING LEVEL 1




MEETING LEVEL 2




MEETING LEVEL 3




MEETING LEVEL 4

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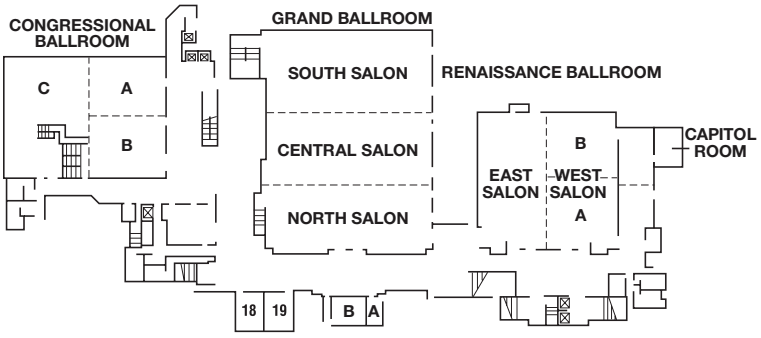
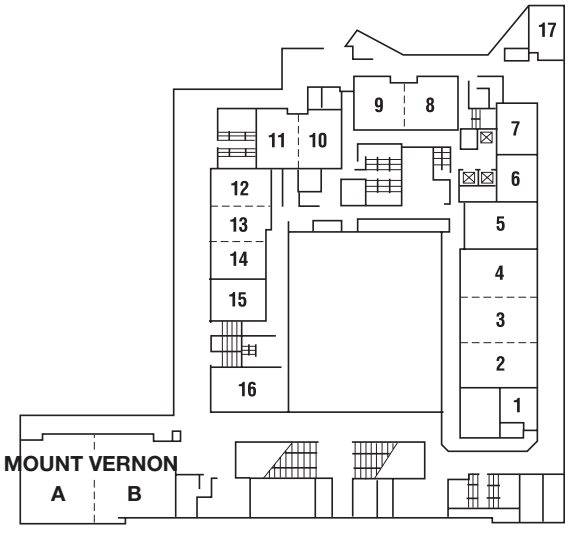
## Renaissance Washington, DC Downtown




BALLROOM LEVEL




MEETING ROOM LEVEL

NEUROSCIENCE 2018

# SEE YOU IN SAN DIEGO

## NOVEMBER 3–7

SfN Society for Neuroscience

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