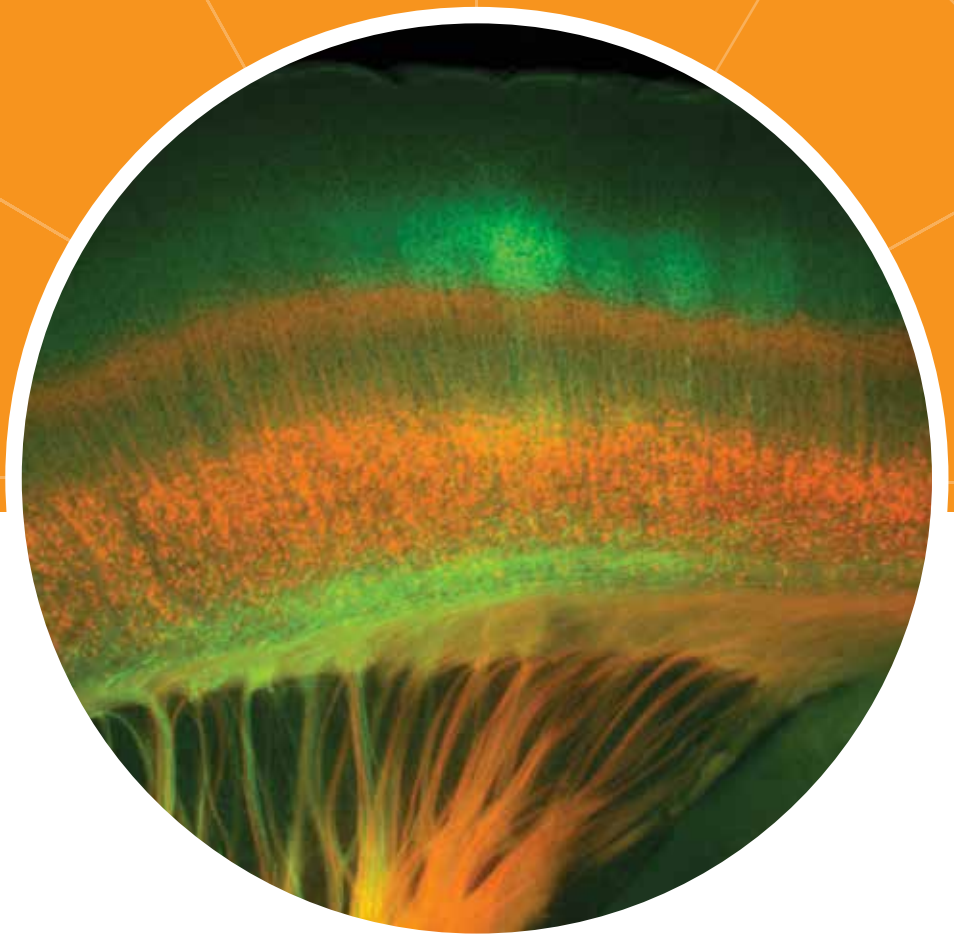
NEUROSCIENCE 2017

# WEDNESDAY

## SCIENTIFIC SESSION LISTING:627–814



Washington, DC

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

## Annual Meeting Information Booths

Walter E. Washington Convention Center

Grand Lobby, (202) 249-4224
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## Press Office

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## Exhibit Management

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## First Aid and Hospital Numbers

First Aid Room

Walter E. Washington Convention Center:
Hall A, (202) 249-3108
Hall D, (202) 249-3109

George Washington University Hospital
900 23rd Street, NW
Washington, DC 20037
(202) 715-4000

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1700 17th Street, NW, Suite A
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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

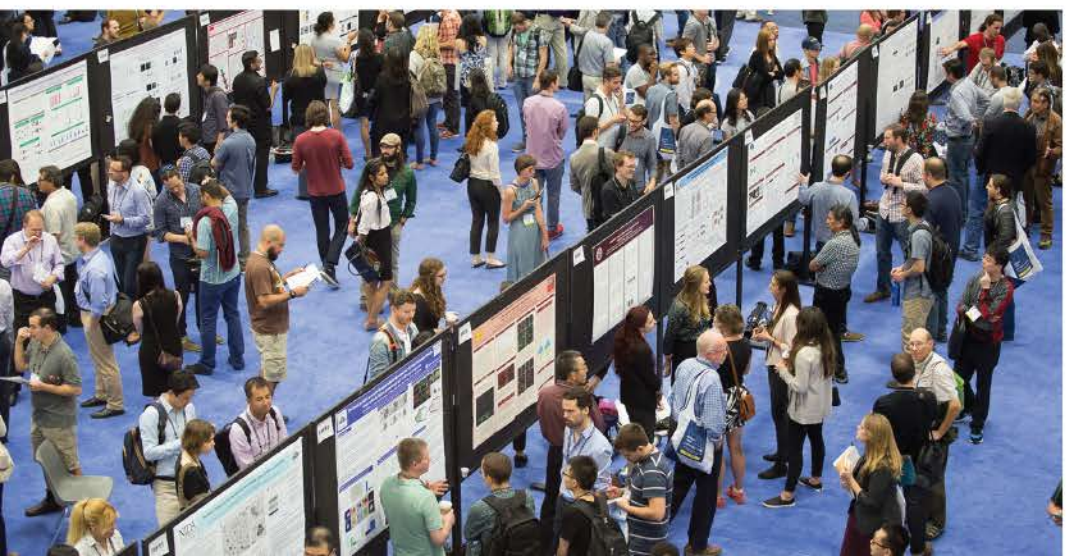
NOTE: Theme J Posters will be on display in Hall A beginning at 1 p.m. on Saturday, Nov. 11, and will remain posted until 5 p.m., Sunday, Nov. 12. One-hour presentations will occur either Saturday afternoon or Sunday morning.

## 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:** A fluorescent image of a parasagittal section of the mouse brain. Layer 6 corticothalamic neurons and their processes in an Ntsr1-Cre;tdTomato mouse are shown in red. Thalamocortical axons from the ventral posteromedial nucleus of the thalamus are shown in green. **Courtesy, with permission:** Juhyun Kim, Chanel J. Matney, Aaron Blankenship, Shaul Hestrin and Solange P. Brown, 2014, *The Journal of Neuroscience*, 34(29): 9656-9664.

# Complete Session Listing

# Wednesday AM

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

**627. Tools for Optically Monitoring Neural Activity and Signaling Pathways** — CME

Wed. 8:30 AM - 9:40 AM — Hall D

*Speaker:* L. LOOGER, *Howard Hughes Med. Institute, Janelia Res. Campus.*

This lecture will discuss recent progress in reagents for the study of neural circuit structure and function. Topics will include genetically encoded calcium indicators (GECIs) like GCaMP; red GECIs like RCaMP and RGECO; and neurotransmitter sensors for glutamate (iGluSnFR), GABA, acetylcholine, serotonin, norepinephrine, dopamine, etc. The lecture will also show reagents and techniques for connectomic mapping and sequencing, and construction of whole-brain atlases.

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

**628. Experimental Models Versus Reality of Neurological Disease** — CME

Wed. 8:30 AM - 11:00 AM — Ballroom A

*Chair:* W. PAULUS

Experimental models of neurological disease are essential to better understand pathomechanisms and to find more effective treatments. Since models cannot reflect all aspects of human disease, they must be carefully selected, and results must be validated with human tissues. This symposium will outline the most recent neuropathological developments; discuss new models for Alzheimer´s disease, ALS/FTLD, prion disease, and stroke; and compare experimental models with real (human) disease.

8:30 **628.01** Introduction.

8:35 **628.02** Alzheimer´s disease: Experimental models and reality. T. M. WISNIEWSKI. *New York Univ, Sch. Med.*

9:10 **628.03** Amyotrophic lateral sclerosis/frontotemporal lobar degeneration: Experimental models and reality. G. M. HALLIDAY. *Neurosci. Res. Australia and Univ. of New South Wales.*

9:45 **628.04** Prion disease: Experimental models and reality. S. BRANDNER. *Inst. of Neurology, Univ. Col. London, and Univ. Col. London Hosp.*

10:20 **628.05** Stroke: Experimental models and reality. L. D. MCCULLOUGH. *Univ. of Texas Hlth. Sci. Ctr. at Houston.*

10:55 **628.06** Closing Remarks.

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

**629. The Role of Extra-Suprachiasmatic Nucleus Brain Clocks in Circadian Regulation of Brain Function: Time Matters!** — CME

Wed. 8:30 AM - 11:00 AM — Ballroom B

*Chair:* R. L. SPENCER

Although much has been learned about the operation of the “master clock” within the hypothalamic suprachiasmatic nucleus (SCN), only recently has there been significant progress in understanding how the SCN orchestrates circadian regulation of various brain processes. This sympoisum will present recent advances concerning the presence of operational molecular clocks throughout the brain, mechanisms by which they are aligned with the SCN, and their functional relevance for learning, memory, and affective behavior.

8:30 **629.01** Introduction.

8:35 **629.02** Prefrontal cortex clock gene expression: Entrainment by corticosterone and role in conditioned fear extinction memory. R. L. SPENCER. *Univ. of Colorado at Boulder.*

9:10 **629.03** Circadian timing and the gating of transcriptional and cell signaling circuits that underlie learning and memory. K. H. OBRIETAN. *Ohio State Univ. Dept. of Neurosci.*

9:45 **629.04** Circadian oscillations throughout the brain in aging and psychiatric disorders. C. MCCLUNG. *Univ. of Pittsburgh Sch. of Med.*

10:20 **629.05** Cellular circadian clocks in the brains of helpless mice. D. K. WELSH. *Univ. of California San Diego Dept. of Psychiatry.*

10:55 **629.06** Closing Remarks.

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

**630. Updated Perspectives on the Direct- and Indirect-Pathways in Neuropsychiatric Disorders** — CME

Wed. 8:30 AM - 11:00 AM — Ballroom C

*Chair:* M. CREED
*Co-Chair:* Y. M. KUPCHIK

The striatum is implicated in emotional processing; its dysfunction is linked to addiction, depression, and schizophrenia. Striatal projection neurons (SPNs) are segregated into either the Dopamine D1R-expressing direct pathway or the D2-expressing indirect pathway. Molecular, electrophysiology, and imaging tools have yielded surprising discoveries about how these two pathways drive emotional behavior and how this function is perturbed in disease states that give rise to maladaptive behavior.

8:30 **630.01** Introduction.

8:35 **630.02** Striatal and accumbal D2R cellular diversity unveiled by high-throughput translatome analysis: A molecular knowledge database. E. VALJENT. *Inst. de Génomique Fonctionnelle INSERM.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:55 **630.03** Molecular control of D1-MSN dendritic remodeling underlies stress susceptibility. M. LOBO. *Univ. of Maryland Sch. of Med.*

9:15 **630.04** Endophenotypes of stress susceptibility in nucleus accumbens D1 and D2 MSN activity. R. C. BAGOT. *McGill Univ.*

9:35 **630.05** *Speaker.* M. CREED. *Univ. of Maryland Sch. of Med.*

9:55 **630.06** Simultaneous monitoring of striatal direct- and indirect-pathway neural activity using spectrally resolved fiber photometry. G. CUI. *NIH.*

10:15 **630.07** Differential roles of D1-MSN and D2-MSN terminals in the VP in promoting cocaine seeking. Y. M. KUPCHIK. *The Hebrew Univ.*

10:35 **630.08** Closing Remarks.

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

**631. The Dentate Gyrus: From Microcircuit Function to Information Processing During Behavior** — CME

Wed. 8:30 AM - 11:00 AM — 145B

*Chair:* M. BARTOS
*Co-Chair:* P. JONAS

The dentate gyrus (DG) is the input gate of the hippocampus and translates the rich input stream from the entorhinal cortex into sparse nonoverlapping memories. However, the network mechanisms underlying sparse coding are unknown. This minisymposium bridges the gap between recent *in vivo* and *in vitro* studies to highlight new insights on the role of granule, mossy, and GABAergic cells, and their output synapses in sparse coding and the spatio-temporal emergence of DG population activity during learning.

8:30 **631.01** Introduction.

8:35 **631.02** Functional imaging of parvalbumin-interneurons during formation of contextual memory engrams in the dentate gyrus and CA1. M. BARTOS. *Univ. of Freiburg.*

8:55 **631.03** Sparse coding in identified dentate gyrus granule cells *in vivo.* P. JONAS. *Inst. of Sci. and Technol. (IST) Austria.*

9:15 **631.04** *In vivo* imaging dentate gyrus principal neuron subpopulations during navigation and learning. A. LOSONCZY. *Columbia Univ.*

9:35 **631.05** Regulatory mechanisms of dentate gyrus output. I. SOLTESZ. *Stanford Univ.*

9:55 **631.06** Adult-born neurons modify excitatory synaptic transmission to existing neurons. L. S. OVERSTREET-WADICHE. *Univ. Alabama Birmingham.*

10:15 **631.07** Activity and plasticity of dentate granule cells in freely-moving rats. A. BURGALOSSI. *Werner Reichardt Ctr. for Integrative Neurosci. (CIN).*

10:35 **631.08** Closing Remarks.

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

**632. ● Stratification of Visceral Pain: New Insight Into the Mechanisms of Peripheral Sensitisation From Animal Models and Human Tissue** — CME

Wed. 8:30 AM - 11:00 AM — 146A

*Chair:* D. BULMER
*Co-Chair:* G. BOECKXSTAENS

Visceral pain is a common complaint inadequately treated by current analgesics. This minisymposium will describe the stratification of patients with visceral pain by the identification of novel, lipid, and protease mediators of peripheral sensitization using patient tissue samples. The session will also describe their novel endosomal and biased GPCR signaling pathways, and report how visceral pain may be further stratified by the presence of discrete populations of visceral nociceptors.

8:30 **632.01** Introduction.

8:35 **632.02** ● Novel mechanisms of nociception in inflammatory bowel disease. D. BULMER. *Queen Mary Univ. of London.*

8:55 **632.03** ● Peripheral sensitization in patients with irritable bowel syndrome. G. BOECKXSTAENS. *KU Leuven.*

9:15 **632.04** Key role for proteases in visceral pain. N. VERGNOLLE. *Inserm UMR1220.*

9:35 **632.05** ● Endosomal signaling pathways in visceral pain. N. W. BUNNETT. *Columbia Univ. in the City of New York.*

9:55 **632.06** Stratification of visceral pain using lipidomics. N. CENAC. *Inserm UMR1220.*

10:15 **632.07** Stratification of visceral sensory neurones by single-cell RNA-Seq. J. HOCKLEY. *Univ. of Cambridge.*

10:35 **632.08** Closing Remarks.

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

**633. Epigenetic Etiology of Intellectual Disability** — CME

Wed. 8:30 AM - 11:00 AM — 151B

*Chair:* S. IWASE
*Co-Chair:* A. BARCO

Intellectual disability (ID) is a prevailing condition associated with impaired cognitive and adaptive behavior. Many epigenetic regulators have been genetically associated with ID. Investigations have begun to reveal the molecular and cellular basis of IDs that are linked to epigenetic dysregulation. In this minisymposium, experts will discuss how the altered functions of histone modifiers, chromatin remodelers, and methyl-DNA binding proteins contribute to impaired neurodevelopment.

8:30 **633.01** Introduction.

8:35 **633.02** LSD1: An epigenetic link between neuronal plasticity and intellectual disability. E. BATTAGLIOLI. *Univ. of Milan.*

8:55 **633.03** The role of histone methylation in synaptic plasticity and intellectual disability. N. NADIF KASRI. *Radboud UMC.*

9:15 **633.04** Seq-ing epigenetic insights into Rett syndrome. Z. ZHOU. *Univ. of Pennsylvania.*

9:35 **633.05** Regulation of learning and memory by the ATRX chromatin remodeling protein. N. BÉRUBÉ. *Children's Hlth. Res. Inst.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:55 **633.06** Histone H3K4 methylation dynamics in X-linked intellectual disability, Claes-Jensen type. S. IWASE. *Univ. of Michigan Med. Sch.*

10:15 **633.07** Epigenetic etiology and molecular dissection of Rubinstein-Taybi syndrome. A. BARCO. *Inst. De Neurociencias (UMH-CSIC).*

10:35 **633.08** Closing Remarks.

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

**634. ● Emerging Neuroimaging Biomarkers for Schizophrenia** — CME

Wed. 8:30 AM - 11:10 AM — 206

*Organizer:* J. KRYSTAL

*Speakers:* A. ABI-DARGHAM, A. ANTICEVIC, C. E. BEARDEN

This session will introduce the development of neuroimaging biomarkers for schizophrenia. It will cover diagnostic and subtyping biomarkers, biomarkers of genetic risk for schizophrenia, neurochemical and molecular markers of pathophysiology, and pathophysiological biomarkers related to illness progression and treatment.

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

**635. Spontaneous Activity in Developing Sensory Systems** — CME

Wed. 10:00 AM - 11:10 AM — Hall D

*Speaker:* D. E. BERGLES, *Johns Hopkins Univ. Sch. of Med.*

Spontaneous electrical activity within developing sensory systems promotes the maturation and survival of neurons, as well as the refinement of nascent circuits. This sensory-independent activity is initiated within immature sensory organs, providing a highly-structured version of sensory experience with features that ensure propagation of activity from the periphery to the cortex. This lecture will describe the diverse mechanisms used to initiate this stereotyped activity, highlighting the unexpected role of glial cells in stimulating sensory neurons.

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

**636. Building Models of the World for Behavioral Control** — CME

Wed. 11:30 AM - 12:40 PM — Hall D

*Speaker:* T. BEHRENS, *Univ. of Oxford.*

This lecture will discuss how basic models of the world might be stored in the brain to allow flexible control of behavior. Relevant studies try to investigate neural codes and mechanisms that are used to organize this knowledge in a form that can be used efficiently and flexibly. The lecture will mostly focus on interactions between frontal cortex and the medial temporal lobe. The neuronal codes and mechanisms discussed are often measured in both humans and model species, so there may be methodological interest in how to measure these mechanistic types of signals in humans.

**NANOSYMPOSIUM**

**637. Brain Evolution**

***Theme A: Development***

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

8:00 **637.01** The course and diameter of cranial nerves in the head of a foetal Risso's dolphin. S. HUGGENBERGER*; G. BARTHELMESS; H. SCHRODER; H. H. A. OELSCHLÄGER. *Dept. II of Anat., Univ. of Cologne, Johann Wolfgang Goethe-University.*

8:15 **637.02** Universality in human cortical folding: Heterogeneity, aging, health and disease. B. MOTA*; Y. WANG. *Univ. Federal Do Rio De Janeiro, Newcastle Univ.*

8:30 **637.03** Neuroanatomical correlates of domestication in the russian fox farm experiment. E. E. HECHT*; D. GUTMAN; L. COOPER; D. OBATUSIN; A. KUKEKOVA; L. TRUT; T. M. PREUSS. *Georgia State Univ., Emory Univ., Emory Univ., Univ. of Illinois at Urbana-Champaign, Russian Acad. of Sci., Emory Univ.*

8:45 **637.04** Interhemispheric homotopy, and bilateral hubs in medial and lateral isocortical borders predate the evolution of the corpus callosum. R. SUAREZ*; A. PAOLINO; L. MORCOM; P. KOZULIN; L. R. FENLON; L. J. RICHARDS. *The Univ. of Queensland, Sch. of Biomed. Sci.*

9:00 **637.05** The relative size and organization of thalamic nuclei in primates, carnivores, and rodents. A. C. HALLEY*; M. K. BALDWIN; S. M. SHERMAN; L. A. KRUBITZER. *Univ. of California, Davis, Univ. of Chicago, Univ. of California Davis.*

9:15 **637.06** Highly connected regions in macaque cortex show increased cortical expansion towards human. L. H. SCHOLTENS*; M. P. VAN DEN HEUVEL. *Brain Ctr. Rudolf Magnus, UMC Utrecht.*

9:30 **637.07** The anterior cingulate cortex-midbrain periaqueductal gray pathway constitutes the context-specific aversive emotional connectome in mammals. H. H. SUBRAMANIAN*; M. ARUN; P. A. SILBURN; G. HOLSTEGE. *The Univ. of Queensland, The Univ. of Queensland.*

**NANOSYMPOSIUM**

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

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

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

8:00 **638.01** ● External radiation and Amyvid treatment is associated with reduction of aβ plaque burden. D. B. MICHAEL*; A. HANNA; T. G. WILSON; G. FONTANESI; K. BUELOW; A. MARTINEZ; M. MADDENS; P. CHINAIYAN; J. FONTANESI; B. MARPLES; G. D. WILSON. *Michigan Head & Spine Inst., Oakland Univ. William Beaumont Sch. of Med., William Beaumont Hosp., 20st Century Oncology, William Beaumont Hosp., William Beaumont Hosp., William Beaumont Hosp., Univ. of Miami Miller Sch. of Med.*

8:15 **638.02** Functionalized intrabodies as novel therapeutics for Alzheimer's disease and tauopathies. M. GOODWIN*; Z. WANG; P. TRUONG; J. PEVNER; P. CRUZ; Y. LEVITES; T. E. GOLDE. *Univ. of Florida, Univ. of Florida, Col. of Medicine, Univ. of Florida.*

• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:30 **638.03** Tissue-specific ABCA1 agonists to target lipidation of apoE4 in the CNS as an effective and tolerated therapy for Alzheimer's disease. M. BEN AISSA*; S. H. LEE; B. KARUMUDI; M. LADU; G. R. J. THATCHER. *Col. of Pharmacy, UIC, Univ. of Illinois, Chicago.*

8:45 **638.04** MH84 - a γ-secretase modulator with PPARγ activity improves mitochondrial dysfunction in a mouse model of early Alzheimer's disease. G. P. ECKERT*; M. POHLAND; H. ASSEBURG; S. HAGL; M. REUTZEL; M. WURGLICS; M. SCHUBERT-ZSILAVECZ. *Justus-Liebig-University, Goethe-University, Justus-Liebig-University, Goethe-University.*

9:00 **638.05** Metformin reduces protein load and improves disease phenotype in early Huntington's disease. M. WILLAM; N. GRIESCHE; J. KRUMMEICH; N. OFFERMANN; S. WEBER; I. ARNOUX; A. METHNER; C. CHEN; O. MONTEIRO; S. BUETTNER; K. MEYER; D. BANO; K. RADYUSHKIN; R. LANGSTON; J. LAMBERT; E. WANKER; S. KRAUSS*; S. SCHWEIGER. *Inst. for Human Genet., DZNE / German Ctr. of Neurodegenerative Dis., Inst. for Microscopic Anat. and Neurobio., Dept. for Neurol., Div. of Neurosciences, Mouse Behaviour Unit, Dept. of Neuroproteomics.*

9:15 **638.06** ● Live time-lapse imaging in a human neuron like model to clarify the mechanisms of intracellular antibody-mediated neutralization/clearance of human brain derived tau protein. D. B. SHAMIR*; Y. DENG; E. M. SIGURDSSON. *New York Univ. Sch. of Med., New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

9:30 **638.07** Cognitive enhancement by diosgenin treatment. C. TOHDA*; X. YANG. *Inst. of Natural Medicine, Univ. of Toyama, Inst. of Natural Med., Univ. of Toyama.*

9:45 **638.08** ● Treadmill running exercise protects hippocampal neurons in middle-aged App/PS1 transgenic AD mice. Y. TANG*; F. L. CHAO; C. N. ZHOU; Y. ZHANG; L. JIANG; L. ZHANG; J. MA. *Chongqing Med. Univ.*

10:00 **638.09** Diosgenin restores axonal degeneration via the reduction of HSC70, resulting in improvement of memory function in Alzheimer's disease. X. YANG*; C. TOHDA. *Inst. of Natural Medicine, Univ. of Toyama.*

10:15 **638.10** Moderate exercise and lithium prevent amyloid-B-induced hippocampal disruption. A. GONZALEZ ISLA*; F. PENA-ORTEGA. *Univ. Nacional Autónoma De México.*

10:30 **638.11** ● USP30 inhibitors as mitophagy modulators for treatment of neurodegenerative diseases. F. WANG; I. SOKIRNIY; P. ARSENAULT; D. STERNER; J. WU; B. CUNNION; J. WEINSTOCK; M. MATTERN; T. R. BUTT*; S. KUMAR. *Progenra, Progenra Inc, Progenra Inc.*

**NANOSYMPOSIUM**

**639. Parkinson's Disease: Cell Biology, Mechanisms, and Targets**

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

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

8:00 **639.01** Pacemaking and mitochondrial stress drive methamphetamine toxicity. S. M. GRAVES*; S. E. SCHWARZSCHILD; R. A. TAI; P. T. SCHUMACKER; D. J. SURMEIER. *Northwestern Univ., Northwestern Univ.*

8:15 **639.02** A novel functional interaction of Parkinson's disease-linked proteins VPS35 and parkin. E. T. WILLIAMS*; L. GLAUSER; H. JIANG; T. M. DAWSON; V. L. DAWSON; E. TSIKA; S. ISLAM; D. J. MOORE. *Van Andel Res. Inst., Van Andel Res. Inst., Swiss Federal Inst. of Technol. (EPFL), Johns Hopkins Univ. Sch. of Med.*

8:30 **639.03** A PD-associated single nucleotide polymorphism in ATP6V0A1 modifies its transcriptional regulation by mutant alpha-synuclein. C. CORTI*; J. OBERGASTEIGER; C. ÜBERBACHER; V. D´AGOSTINO; P. PRAMSTALLER; A. HICKS; M. VOLTA. *Inst. For Biomedicine, EURAC Res., Inst. for Biomedicine, EURAC Res., Ctr. for Integrative Biology, Univ. of Trento.*

8:45 **639.04** The small GTPase Rin modulates alpha-synuclein inclusions: Implications for familial and idiopathic Parkinson´s disease. M. VOLTA*; J. OBERGASTEIGER; G. FRAPPORTI; C. ÜBERBACHER; C. ASCIONE; P. P. PRAMSTALLER; M. ROSATO-SIRI; A. A. HICKS; C. CORTI. *EURAC Res.*

9:00 **639.05** Development of potential new drugs targeting brain cyclin dependent kinase 5 (CdK5) for the treatment of Parkinson's disease. A. BERNARDO; H. JOSHI; H. C. PANT*; K. YUEN; P. GUNNING; N. AMIN; R. MISHRA. *McMaster Univ., NIH, NIH.*

9:15 **639.06** ● AAV-driven expression of functional PLA2g6(L) protects against progressive loss of DA neurons and motor dysfunction in a new mouse model of PD. A. YEN*; J. W. SHIM; F. NIPA; M. M. BACHSCHMID; S. PIROT; C. MANNOURY LA COUR; M. J. MILLAN; V. M. BOLOTINA. *Boston Univ. Sch. of Med., Inst. Recherche Servier.*

9:30 **639.07** Progranulin and cathepsin D - Implications for frontotemporal dementia pathogenesis. C. B. VALDEZ*; D. KRAINC. *Northwestern Univ.*

9:45 **639.08** Dopamine induces oscillatory activities in human midbrain neurons with parkin mutations. J. FENG*; P. ZHONG; Z. HU; H. JIANG; Z. YAN. *State Univ. of New York At Buffalo, State Univ. of New York at Buffalo.*

10:00 **639.09** Altered glutamatergic properties of dopaminergic cells in Lesch-Nyhan syndrome. S. C. BELL*; H. PENG; L. CRAPPER; J. THEROUX; L. MOQUIN; D. AVIZONIS; G. BRIDON; D. SUTCLIFFE; A. GRATON; G. TURECKI; J. E. VISSER; T. ROSENBURGER; N. MECHAWAR; H. A. JINNAH; C. ERNST. *McGill Univ., McGill Univ., Douglas Inst., Emory Univ., Radboud Univ. Med. Ctr., Univ. of North Dakota.*

10:15 **639.10** Mechanism of TFEB dysfunction by GBA1 mutations in an iPSC model of neuropathic gaucher disease. R. A. BROWN; A. VOIT; M. SRIKANTH; R. A. FELDMAN; O. AWAD*. *Univ. of Maryland.*

**NANOSYMPOSIUM**

**640. Risk Factors for Diseases of the CNS**

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

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

8:00 **640.01** Low-level embryonic exposure to organophosphate flame retardants and related compounds causes neurobehavioral impairment in larval and adult zebrafish. L. GLAZER; A. HAWKEY; C. WELLS; M. DRASTAL; K. ODAMAH; M. BEHL; E. D. LEVIN*. *Duke Univ. Med. Ctr., Natl. Toxicology Program.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:15 **640.02** ● Western diet increases protein aggregation and alters membrane tethering of signal transduction proteins in a manner consistent with Alzheimer's disease. S. W. BARGER*; S. AYYADEVARA; M. BALASUBRAMANIAM; S. Y. AGHDAM; R. D. HENDRIX; S. T. GRIFFIN; R. J. SHMOOKLER REIS. *Univ. of Arkansas for Med. Sci., Central Arkansas Veterans Healthcare Syst., Univ. of Arkansas for Med. Sci.*

8:30 **640.03** Methamphetamine and HIV-1 gp120 and Tat proteins affect neural networks *in vivo* through lasting changes in CNS gene expression. A. B. SANCHEZ*; N. Y. YUAN; R. MAUNG; M. KAUL; . TMARC GROUP. *Sanford Burnham Prebys Med. Discovery Inst., Translational Methamphetamine AIDS Res. Ctr. (TMARC), Univ. of California San Diego.*

8:45 **640.04** Recovery effects with bumetanide or oxytocin administration in developing cerebellar cortex of drug-induced autistic model rat. S. YOSHIDA*; K. IKAI; N. HOZUMI; Y. FUETA; S. UENO; Y. SEKINO; Y. KANDA. *Toyohashi Univ. Technol., Univ. of Occup. and Envrn. Hlth., Univ. of Tokyo, Natl. Inst. of Hlth. Sci.*

9:00 **640.05** PS1 FAD mutants affect NMDA-EphB receptor interactions and compromise neuroprotection. M. A. RAHIM*; Z. SHAO; L. MARTINEZ-MEDINA; Y. YOON; C. DIMOVASILI; J. SHIOI; A. GEORGAKOPOULOS; N. ROBAKIS. *Icahn Sch. of Med. At Mount Sinai.*

9:15 **640.06** Molecular interplay between gender and ApoE genotype in Alzheimer's disease. D. CAI*; B. ZHANG; F. EL GAAMOUCH; L. ZHU; M. WANG; E. PARISE; A. GOATE; V. HAROUTUNIAN; E. NESTLER. *Icahn Sch. of Med. at Mount Sinai, James J Peters VA Med. Ctr.*

9:30 **640.07** The influence of cognitive, social, and environmental enrichment on physiology, behavior, and pathology in mouse models of healthy aging and cerebral amyloid angiopathy. L. S. ROBISON*; D. L. POPESCU; S. I. BEIGELMAN; S. M. FITZGERALD; S. SUBZWARI; J. HATFIELD; A. E. KUZMINA; D. A. LITUMA; S. A. AMREIN; W. LIU; F. XU; J. DAVIS; R. KIM; B. J. ANDERSON; W. E. VANNOSTRAND; J. K. ROBINSON. *Stony Brook Univ.*

9:45 **640.08** Polyvinylpyrrolidone-based dexamethasone delivery to reduce inflammatory response in neuronal tissue injury. R. SAIGAL*; T. URAKOV; S. R. CERQUEIRA; M. B. BUNGE. *UW Neurolog. Surgery, Univ. of Miami, Miami Project To Cure Paralysis, Univ. of Miami Sch. of Med.*

10:00 **640.09** Role of astrocytes in the effect of vasoinhibins reducing viability of hippocampal neurons. R. M. AROÑA*; E. ARNOLD; C. CLAPP; G. MARTÍNEZ DE LA ESCALERA. *Univ. Nacional Autónoma de México (UNAM), Univ. Nacional Autónoma de México (UNAM).*

**NANOSYMPOSIUM**

**641. Advances in Pain Neuroimaging**

***Theme D: Sensory Systems***

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

8:00 **641.01** Social observational learning and pain modulation: An fMRI approach. L. A. SCHENK*; N. RAGHURAMAN; L. COLLOCA. *Univ. of Maryland, Baltimore.*

8:15 **641.02** Diffusivity alterations predict outcome of radiosurgical treatment in trigeminal neuralgia. S. TOHYAMA*; P. HUNG; J. ZHONG; M. HODAIE. *Toronto Western Hosp., Univ. of Toronto.*

8:30 **641.03** EEG frequency tagging to isolate cortical activity associated with sustained burning pain. A. MOURAUX*; E. COLON; G. LIBERATI. *Inst. of Neurosci. (IONS), Univ. Catholique De Louvain, Univ. catholique de Louvain.*

8:45 **641.04** Reorganization of shared graph properties in chronic pain. D. RECKZIEGEL*; A. T. BARIA; L. HUANG; A. APKARIAN. *Dept. of Physiol., Northwestern Univ., Northwestern Univ. Feinberg Sch. of Med.*

9:00 **641.05** Placebo and nocebo effects: Neural and behavioral impact of an expectancy and valence mismatch. L. COLLOCA*; L. A. SCHENK; D. NATHAN; O. J. ROBINSON; C. GRILLON. *Univ. of Maryland Sch. of Nursing, Grad. Sch. of Nursing, Uniformed Services Univ. of the Hlth. Sciences, Bethesda, MD, USA, Univ. Col. London, Natl. Inst. of Mental Hlth.*

9:15 **641.06** Brain networks reflecting personality in chronic pain; linking pain to the mind. E. VACHON-PRESSEAU*; S. E. BERGER; T. B. ABDULLAH; T. J. SCHNITZER; A. V. APKARIAN. *Northwestern Univ., IBM Watson Res. Ctr., Northwestern Univ. Feinberg Sch. of Medicin, Northwestern Univ. Feinberg Sch. of Med.*

9:30 **641.07** Abnormal hippocampal connectivity in neuropathic chronic back pain. L. J. AYOUB*; A. LEBOUCHER; M. GOLOSKY; D. A. SEMINOWICZ; M. MCANDREWS; M. MOAYEDI. *Univ. of Toronto, Univ. of Toronto, Univ. of Maryland, Baltimore, Univ. Hlth. Network, Univ. of Toronto.*

9:45 **641.08** Abnormal cross-network functional connectivity and regional BOLD fMRI signal oscillations and its association with chronic pain in patients with multiple sclerosis. R. BOSMA*; J. A. KIM; A. ROGOCHOV; K. S. HEMINGTON; J. CHENG; N. R. OSBORNE; J. OH; K. D. DAVIS. *Toronto Western Hosp., Krembil Res. Inst., Univ. of Toronto, St. Michael's Hosp.*

10:00 **641.09** The neurobiological mechanisms supporting mindfulness-based analgesia: A longitudinal perspective. F. ZEIDAN*; R. C. COGHILL; Y. JUNG; A. ADLER-NEAL; S. FARRIS. *Wake Forest Sch. of Med., Cincinnati Children's Hosp., Wake Forest Sch. of Med.*

10:15 **641.10** Support vector regression of diffusion tensor imaging metrics predicts pain intensity following surgical treatment for trigeminal neuralgia. S. HUNG*; S. TOHYAMA; E. WHARTON-SHUKSTER; M. HODAIE. *Krembil Res. Inst., Inst. of Med. Science, Univ. of Toronto, Collaborative Program in Neuroscience, Univ. of Toronto, Toronto Western Hospital, Univ. Hlth. Network.*

10:30 **641.11** Involvement of anterior cingulate cortex in coding the anticipation of pain. L. URIEN*; S. HU; Z. CHEN; J. WANG. *New York Univ. Sch. of Medecine, New York Univ. Sch. of Medecine.*

10:45 **641.12** Deciphering neuronal population codes for acute thermal pain in rats. Q. ZHANG*; A. TONG; T. MANDERS; A. GARG; Z. CHEN; J. WANG. *New York Univ., New York Univ.*

11:00 **641.13** Chronic pain impairs prefrontal pain regulation of acute pain. J. A. DALE*; H. ZHOU; Q. ZHANG; J. WANG. *New York Univ. Sch. of Med.*

11:15 **641.14** Reduced pyramidal neuron activity in frontal association cortex of a mouse model of neuropathic pain. S. TENG*; G. YANG. *New York Univ. Med. Ctr.*

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

**NANOSYMPOSIUM**

**642. Prosthetics: Peripheral Neural Interfaces for Reach and Grasp**

***Theme E: Motor Systems***

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

8:00 **642.01** Decoding motor commands for postural control of a biomimetic myoelectric prosthesis. A. SOBINOV*; M. BOOTS; V. GRITSENKO; M. MANSOURI; C. BERINGER; M. L. BONINGER; L. E. FISHER; J. L. COLLINGER; R. A. GAUNT; S. YAKOVENKO. *West Virginia Univ., West Virginia Univ., West Virginia Univ., Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

8:15 **642.02** Extracting regenerative peripheral nerve interface signals from human subjects for neuroprosthetic control. P. P. VU*; Z. T. IRWIN; P. T. HENNING; C. S. NU; D. GATES; R. B. GILLESPIE; S. W. KEMP; T. A. KUNG; P. S. CEDERNA; C. A. CHESTEK. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

8:30 **642.03** Scaling of musculoskeletal morphometry for human upper-limb models. M. BOOTS*; A. SOBINOV; V. GRITSENKO; M. MANSOURI; L. E. FISHER; J. L. COLLINGER; R. A. GAUNT; S. YAKOVENKO. *West Virginia Univ., West Virginia Univ., Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

8:45 **642.04** High-resolution somatosensory feedback in a human amputee allows sensorimotor discrimination, increases prosthesis embodiment, and reduces phantom pain. J. A. GEORGE*; D. T. KLUGER; D. M. PAGE; S. M. WENDELKEN; T. S. DAVIS; C. C. DUNCAN; D. T. HUTCHINSON; G. A. CLARK. *Univ. of Utah, Univ. of Utah, Univ. of Utah, Univ. of Utah.*

9:00 **642.05** Performance of tasks with closed-loop control of sensorized prosthetic hands by a transradial amputee with peripheral nerve and intramuscular implants. D. T. KLUGER*; S. M. WENDELKEN; J. A. GEORGE; T. S. DAVIS; C. C. DUNCAN; D. T. HUTCHINSON; D. J. WARREN; G. A. CLARK. *Univ. of Utah, Univ. of Utah, Univ. of Utah, Univ. of Utah.*

9:15 **642.06** Osseointegrated Neural Interface (ONI): A novel approach to peripheral nerve interfaces. A. M. DINGLE*; J. NOVELLO; J. P. NESS; J. S. ISRAEL; J. PISANIELLO; L. KRUGNER-HIGBY; B. NEMKE; Y. LU; S. BRODNICK; M. D. MARKEL; A. J. SUMINSKI; J. C. WILLIAMS; S. O. POORE. *Univ. of Madison, WI, Univ. of Madison, WI, Univ. of Madison, WI, Univ. of Madison, WI.*

9:30 **642.07** ● Accurate and simultaneous 5.1 degree-of-freedom control of a virtual cursor by a person with paralysis using an intracortical BCI. S. D. STAVISKY*; P. NUYUJUKIAN; C. PANDARINATH; N. EVEN-CHEN; B. JAROSIEWICZ; P. REZAII; L. R. HOCHBERG; J. M. HENDERSON; K. V. SHENOY. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Massachusetts Gen. Hosp., Dept. of VA Med. Ctr., Brown Univ., Brown Univ., Harvard Med. Sch., Stanford Univ.*

9:45 **642.08** ● Bi-directional neural control of an advanced limb prosthesis through an osseointegrated conduit in the context of the Agonist-antagonist Myoneural Interface (AMI). T. R. CLITES*; M. J. CARTY; M. CARNEY; S. SRINIVASAN; R. O'DONNELL; R. BRAANEMARK; H. HERR. *MIT Ctr. For Extreme Bionics, MIT Ctr. for Extreme Bionics, Univ. of California, San Francisco.*

10:00 **642.09** Timing of restored tactile sensation in people with lower limb amputations. B. P. CHRISTIE; H. CHARKHKAR*; E. L. GRACZYK; D. J. TYLER; R. J. TRIOLO. *Case Western Reserve Univ., Louis Stokes Cleveland Veteran Affairs Med. Cen, Case Western Reserve Univ.*

10:15 **642.10** ● Implantable and wearable neural technologies for take home clinical trials. D. MCDONNALL*; S. HIATT; B. CROFTS; C. SMITH; A. WILDER; D. MERRILL. *Ripple.*

10:30 **642.11** Improving myoelectric controller of a soft-synergy based prosthetic hand for feedback-driven grasp force control. Q. FU*; M. SANTELLO. *Arizona State Univ., Arizona State Univ.*

10:45 **642.12** Effect of vibrotactile feedback and hand interface compliance on grasp force and hand opening control of a sensorized myoelectric prosthetic hand. A. E. PENA*; L. RINCON GONZALEZ; J. J. ABBAS; R. JUNG. *Florida Intl. Univ., Arizona State Univ.*

11:00 **642.13** ● Advances in mobile wireless signal processing toward intracortical BCI deployment. J. D. SIMERAL*; C. D. HEELAN; J. KOMAR; A. V. NURMIKKO. *Brown Univ. Sch. of Engin., Brown Univ., Brown Univ.*

11:15 **642.14** ● Dexterous finger control and sensory restoration in partial hand amputees. E. W. KEEFER*, III; C. OVERSTREET; J. CHENG. *Nerves Inc., UTSW Med. Ctr.*

**NANOSYMPOSIUM**

**643. Hormonal and Neuropeptide Control of Physiology and Behavior**

***Theme F: Integrative Physiology and Behavior***

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

8:00 **643.01** Single cell analysis reveals electric and genetic heterogeneity of secretory pituitary cells. M. ROKIC*; R. M. PREVIDE; P. A. FLETCHER; A. SHERMAN; S. S. STOJILKOVIC. *NIH.*

8:15 **643.02** The Oxytocin Receptor and the Vasopressin/Vasotocin Receptor 1A appear to be paralogous sister genes explaining their common functions. C. THEOFANOPOULOU*; G. GEDMAN; C. BOECKX; E. D. JARVIS. *Univ. De Barcelona, Rockefeller Univ., ICREA, Howard Hughes Med. Inst.*

8:30 **643.03** Involvement of the vasopressin system in preventing, as well as inducing, sex differences in social behavior: A tale of two brain regions. A. H. VEENEMA*; B. T. BENEDICTIS; R. BREDEWOLD. *Michigan State Univ., Boston Col.*

8:45 **643.04** Neuromodulation of parental behavior. I. CARCEA*; N. LOPEZ; R. OYAMA; R. C. FROEMKE. *NYU Med. Ctr., NYU SoM, Azabu Univ., NYU Med.*

9:00 **643.05** Social modulation of appetite and avoidance by zebrafish oxytocin circuits. C. L. WEE*; E. SONG; M. NIKITCHENKO; S. WONG; S. LUKS-MORGAN; A. D. DOUGLASS; S. M. KUNES; F. ENGERT. *Harvard Univ., Univ. of Utah.*

9:15 **643.06** Non-invasive eye tracking for the study of social cognition in monogamous titi monkeys. S. M. FREEMAN*; L. LOYANT; M. C. PALUMBO; T. MURAI; M. D. BAUMAN; K. L. BALES. *UC-Davis, Natl. Vet. Sch. of Toulouse, UC-Davis, Sumitomo Dainippon Pharma Co., Ltd.*





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* Indicates abstract's submitting author

9:30 **643.07** Oxytocin differentially couples the anterior cingulate cortex and amygdala for prosocial and antisocial decisions. O. DAL MONTE*; N. FAGAN; S. W. CHANG. *Yale Univ., Yale Univ., Sch. of Med.*

9:45 **643.08** Face recognition ability in male infant monkeys predicts cerebrospinal fluid oxytocin concentrations later in life. J. E. MADRID*; O. OZTAN; V. SCLAFANI; L. A. DEL ROSSO; L. A. CALONDER; K. CHUN; J. P. CAPITANIO; J. P. GARNER; K. J. PARKER. *Stanford Univ., Stanford Univ., Univ. of California Davis, Univ. of Reading, Univ. of California Davis, Stanford Univ.*

10:00 **643.09** Oxytocin and vasopressin promote social interaction in male but not female macaque monkeys. Y. JIANG*; M. PLATT. *Univ. of Pennsylvania.*

10:15 **643.10** Sex- and context-dependent effects of oxytocin on social reward processing. X. MA*; B. BECKER; W. ZHAO; R. LUO; F. ZHOU; Y. GENG; L. XU; Z. GAO; X. ZHENG; K. KENDRICK. *Univ. of Electronic Sci. and Technol.*

**NANOSYMPOSIUM**

**644. Translational Studies With Opioids**

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

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

8:00 **644.01** Impact of prolonged inhibition and genetic deletion of fatty acid amide hydrolase (FAAH) on opioid dependence. J. E. SCHLOSBURG*; L. F. VENDRUSCOLO; B. F. CRAVATT; M. HEILIG; G. F. KOOB. *Virginia Commonwealth Univ., NIH - NIDA - IRP, The Scripps Res. Inst., Linköping Univ., Natl. Inst. On Alcohol Abuse And Alcoholism.*

8:15 **644.02** Optogenetic activation of specific gabaergic circuits in the ventral tegmental area. K. BARCOMB*; A. M. POLTER; A. C. TSUDA; J. A. KAUER. *Brown Univ., Brown Univ.*

8:30 **644.03** Pharmacological characterization of furanyl fentanyl: Radioligand binding and analgesia. T. HIRANITA*; A. J. JANOWSKY; A. J. ESHLEMAN; S. FUKUDA; K. URQUHART; C. PRIOLEAU; A. S. BALE; S. R. TELLA; M. G. PAULE; W. E. FANTEGROSSI. *NCTR/FDA, Univ. of Arkansas for Med. Sci., VA Med. Ctr., Oregon Hlth. & Sci. Univ., Drug Enforcement Admin.*

8:45 **644.04** Intravenous heroin induces rapid brain hypoxia and hyperglycemia that precede brain metabolic activation. E. SOLIS*, JR; K. T. CAMERON-BURR; Y. SHAHAM; E. A. KIYATKIN. *NIH/NIDA-IRP.*

9:00 **644.05** Expression of connexin-36 gap junctions in the ventral tegmental area is necessary for the development of opiate dependent motivation. G. MAAL-BARED*; M. BERGAMINI; M. YEE; M. PATEL; D. VAN DER KOOY. *Univ. of Toronto, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto.*

9:15 **644.06** GABRA2 variations affect deficient structural connections of reward driving-control circuit in heroin abusers. Y. SUN*; Y. ZHANG; D. ZHANG; L. LU; Y. FAN; J. SHI. *Natl. Inst. On Drug Dependence, Peking Univ., Natl. Lab. of Pattern Recognition, Inst. of Automation, Chinese Acad. of Sci., Univ. of Pennsylvania.*

9:30 **644.07** Phosphorylation of alpha-CaMKII at Thr286 is not required for the acquisition of morphine-induced condition place preference in mice. F. BOIX*; S. H. OPDAL; C. P. MUELLER; J. M. ANDERSEN. *Oslo Univ. Hosp., Dept. of Psychiatry and Psychotherapy.*

**NANOSYMPOSIUM**

**645. Cognitive Development and Numerical Cognition**

***Theme H: Cognition***

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

8:00 **645.01** Failure to neurally differentiate between addition and subtraction problems as a key neurocognitive feature of developmental dyscalculia. T. IUCULANO*; J. NICHOLAS; T. CHANG; A. METCALFE; V. MENON. *Stanford Univ. Sch. of Med., Res. Ctr. for Mind, Brain and Learning, Natl. Chengchi Univ., Sunnybrook Res. Institute, Univ. of Toronto, Stanford Univ. Sch. Med.*

8:15 **645.02** Symbolic number comparison in 5- to 9-year-old children: Age-related changes in event-related potentials and their relation to formal math abilities. R. LIU*; E. BRAHAM; M. LIBERTUS. *Univ. of Pittsburgh.*

8:30 **645.03** Arithmetic, visuo-spatial working memory, and basic number processing skills undergo common age-related changes within the left IPS. A. MATEJKO*; D. ANSARI. *Georgetown Univ., Univ. of Western Ontario.*

8:45 **645.04** Anterior hippocampal activity increases support math fact learning in children. M. J. ROSENBERG-LEE*; J. B. KANG; H. WAKEMAN; V. MENON. *Rutgers Univ., Stanford Univ. Sch. Med., Univ. of Colorado.*

9:00 **645.05** The effect of visual parameters on neural activation during nonsymbolic number comparison and its relation to math competency. E. D. WILKEY*; J. C. BARONE; M. M. M. MAZZOCCO; S. E. VOGEL; G. PRICE. *Vanderbilt Univ., Univ. of Minnesota, Univ. of Graz, Vanderbilt Univ.*

9:15 **645.06** The ratio processing system (RPS) as a foundation for symbolic fractions understanding. J. V. BINZAK; E. Y. TOOMARIAN*; E. M. HUBBARD. *Univ. of Wisconsin-Madison.*

9:30 **645.07** The distinct and shared neural substrates associated with approximate and exact addition. S. D. BUGDEN*; M. G. WOLDORFF; E. M. BRANNON. *Univ. of Pennsylvania, Duke Univ., Univ. of Pennsylvania.*

9:45 **645.08** Children's neural representations of count words emerge from numerosity representations in parietal cortex. A. J. KERSEY*; J. F. CANTLON. *Univ. of Rochester.*



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* Indicates abstract's submitting author

**NANOSYMPOSIUM**

**646. Human Studies of Circuits and Systems in Schizophrenia and in First Episode Psychosis**

***Theme H: Cognition***

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

8:00 **646.01** Two network model of aberrant salience in schizophrenia. J. MIYATA*; T. WINTON-BROWN; T. W. SEDLAK; T. ASO; N. CASCELLA; J. COUGHLIN; N. CROSSLEY; E. DUZEL; C. HOWELL; M. ISOBE; T. KOCHIYAMA; S. MORI; Y. MORI; T. MURAI; F. NUCIFORA; Y. SAKAI; N. SAWAMOTO; S. URAYAMA; C. WATKINS; H. TAKAHASHI; A. SAWA; P. MCGUIRE. *Kyoto Univ., Inst. of Psychiatry, Psychology and Neurosci., Johns Hopkins Sch. of Med., Kyoto Univ., Inst. Cognitive Neurol. and Dementia Res., Advanced Telecommunications Res. Inst. Intl., Johns Hopkins Univ., Kyoto Univ. Grad Sch. Med.*

8:15 **646.02** ● Schizophrenia biomarker using whole brain resting-state functional connectivity MRI: Generalization to independent cohorts from different countries and disorder stages. Y. YOSHIHARA*; G. LISI; N. YAHATA; J. FUJINO; Y. MATSUMOTO; J. MIYATA; G. SUGIHARA; S. URAYAMA; M. KUBOTA; M. YAMASHITA; R. HASHIMOTO; N. ICHIKAWA; N. M. VAN HAREN; S. MORI; Y. OKAMOTO; K. KASAI; N. KATO; H. IMAMIZU; R. KAHN; A. SAWA; M. KAWATO; T. MURAI; J. MORIMOTO; H. TAKAHASHI. *Kyoto Univ. Grad. Sch. of Med., ATR Brain Information Communication Res. Lab. Group, Natl. Inst. of Radiological Sci., Showa Univ. Karasuyama Hosp., Grad. Sch. of Medicine, Kyoto Univ., Natl. Inst. of Radiological Sciences, Natl. Inst. for Quantum and Radiological Sci. and Technol., ATR, Tokyo Metropolitan Univ., Grad. Sch. of Biomed. Sciences, Hiroshima Univ., Univ. Med. Ctr. Utrecht, Johns Hopkins Univ., Grad. Sch. of Medicine, The Univ. of Tokyo, The Univ. of Tokyo, Johns Hopkins Univ., ATR BICR.*

8:30 **646.03** ● Characterization of first episode psychosis by integrative analysis of multiple MRI contrasts. A. V. FARIA*; N. CASCELLA; M. I. MILLER; S. MORI; A. SAWA. *Johns Hopkins Univ., Sheppard Pratt, Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*

8:45 **646.04** 7T MRS on multiple brain metabolites in the first episode psychosis: Neuronal impairment and neurotransmitter abnormalities. M. WANG*; A. SAWA; P. BARKER. *Johns Hopkins Univ., Kennedy Krieger Inst., Johns Hopkins Univ., Johns Hopkins Univ.*

9:00 **646.05** Abnormality of resting-state functional connectivity in right insular cortex in patients with first episode psychosis. H. KUGA*; A. V. FARIA; L. SHAFFER; J. CRAWFORD; T. OGARU; D. J. SCHRETLEN; S. MORI; A. SAWA. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ.*

9:15 **646.06** Functional brain networks underlying the bias against disconfirmatory evidence and delusions in schizophrenia. K. M. LAVIGNE*; T. S. WOODWARD. *Univ. of British Columbia.*

9:30 **646.07** VTA network differences between schizophrenia and major depressive disorder. Y. NAKAMURA*; S. KOIKE. *Univ. of Tokyo.*

9:45 **646.08** ● Homeostatic plasticity of parvalbumin-expressing inhibitory interneurons for the impaired behavioral flexibility. J. SHIN*; S. KIM; S. KIM; J. PARK. *Inst. For Basic Science, IBS, Col. of Natural Science, Seoul Natl. Univ., Col. of Medicine, Seoul Natl. Univ., Col. of Medicine, Seoul Natl. Univ.*

10:00 **646.09** Discovering linked dimensions of psychopathology and dysconnectivity in high-dimensional brain networks. C. XIA*; Z. MA; R. CIRIC; S. GU; R. BETZEL; M. CALKINS; P. COOK; A. GARCIA DE LA GARZA; T. MOORE; D. ROALF; K. RUPAREL; D. WOLF; R. GUR; R. GUR; C. DAVATZIKOS; R. SHINOHARA; D. BASSETT; T. SATTERTHWAITE. *Dept. of Psychiatry, Univ. of Pennsylvania, The Wharton School, Univ. of Pennsylvania, Sch. of Engin. and Applied Science, Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

10:15 **646.10** Prefrontal working memory function, stress and the childhood environment on neuropsychiatric genetic risk. H. TAN*; H. YAN; J. ZHU; X. ZHANG; G. YANG; S. SHAH; D. SAHA; Q. CHEN; M. LA; W. YUE; D. R. WEINBERGER; D. ZHANG. *Lieber Inst. for Brain Develop., Peking Univ. Inst. of Mental Hlth., Lieber Inst. For Brain Develop.*

10:30 **646.11** Reduced subcortical activation during paragraph reading in schizophrenia. E. C. DIAS*; A. MARTINEZ; S. ROHRIG; M. J. HOPTMAN; N. REVHEIM; D. C. JAVITT. *Nathan Kline Inst. for Psychiatric Res.*

**NANOSYMPOSIUM**

**647. Methods: Non-Invasive Stimulation**

***Theme I: Techniques***

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

8:00 **647.01** Fundamentals and toolkits for precise ultrasonic neuron stimulation. Z. QIU*; J. GUO; S. KALA; J. WANG; J. ZHU; H. C. CHAN; L. SUN. *The Hong Kong Polytechnic Univ., The Chinese Univ. of Hong Kong.*

8:15 **647.02** Investigate the behavior and functional response of *Caenorhabditis elegans* by ultrasound stimulation. S. LEI*; Z. QIU; Q. XIAN. *The Hong Kong Polytechnic Univ.*

8:30 **647.03** Effects of anodal tDCS on a cortical auditory learning task. G. ARIAS GIL*; A. OELSCHLEGEL; J. GOLDSCHMIDT; K. H. SMALLA; M. T. LIPPERT; F. W. OHL; K. TAKAGAKI. *Leibniz Inst. For Neurosci., Otto-von-Guericke Univ., Ctr. for Behavioral Brain Sci.*

8:45 **647.04** Transcranial ultrasound impacts monkey choice behavior. J. KUBANEK*; J. BROWN; P. P. YE; K. BUTTS PAULY; W. T. NEWSOME III. *Stanford Univ. Sch. of Med., Stanford Univ. Sch. of Med., Stanford Univ., Stanford Univ. Sch. Med.*

9:00 **647.05** functional ultrasound imaging (fUSi) for ultra-early assessment of tissue infarction in preclinical stroke research. A. URBAN*; C. BRUNNER; N. LAGUMERSINDEZ; G. MONTALDO; M. ENDRES. *NERF, Charité-medical Univ. of Berlin.*

9:15 **647.06** Wearable transcranial focused ultrasound system for region-specific functional neuromodulation. S. YOO*; W. LEE; P. CROCE; K. YOON; R. W. MARGOLIN. *Harvard Med. Sch.*

9:30 **647.07** Characterizing neural responses to single pulse direct cortical stimulation in the human cortex. C. R. STEINHARDT*; T. SHEEHAN; S. K. INATI; K. A. ZAGHLOUL. *Johns Hopkins Univ., NIH, Natl. Inst. of Neurolog. Disorders and Stroke, NIH.*

9:45 **647.08** Probing GABAergic function in the visual cortex with transcranial magnetic stimulation. D. KHAMMASH*; M. SIMMONITE; T. A. POLK; S. F. TAYLOR; S. K. MEEHAN. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*





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

10:00 **647.09** Estimating perturbational complexity at the level of EEG sensors in different states of consciousness. R. COMOLATTI*; M. FECCHIO; A. PIGORINI; S. SARASSO; M. ROSANOVA; S. CASAROTTO; O. GOSSERIES; S. LAUREYS; M. MASSIMINI; A. CASALI. *Federal Univ. of São Paulo, Univ. of Milan, Univ. of Wisconsin, Univ. of Liège.*

10:15 **647.10** Brain-state dependent brain-stimulation with real-time EEG-triggered TMS: Phase of alpha oscillations reflects excitability and determines the direction of plasticity induced in human motor cortex. C. ZRENNER*; P. BELARDINELLI; D. DESIDERI; U. ZIEMANN. *Univ. Hosp. Tübingen.*

**POSTER**

**648. Cell Cycle Mechanisms in Neurogenesis II**

***Theme A: Development***

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

8:00 DP01/A1 **648.01** (Dynamic Poster) Dissecting cytokinesis defects in the Kif20b model of microcephaly. K. C. MCNEELY*; J. N. LITTLE; N. D. DWYER. *Univ. of Virginia, Univ. of Virginia.*

9:00 A2 **648.02** Mitotically delayed Radial Glial stem cells and altered fate decisions in the developing cortex. A. M. MITCHELL-DICK*; L. PILAZ; D. L. SILVER. *Duke Univ.*

10:00 A3 **648.03** p53 deletion rescues cerebral cortex growth in a genetic model of microcephaly. J. N. LITTLE; N. DWYER*. *Univ. of Virginia Sch. of Med., Univ. of Virginia Sch. of Med.*

11:00 A4 **648.04** ● Symmetric cell divisions drive adult V-SVZ neurogenesis and stem cell maintenance. K. OBERNIER*; A. CEBRIAN-SILLA; M. THOMSON; J. PARRAGUEZ; J. M. GARCIA-VERDUGO; A. ALVAREZ-BUYLLA. *UCSF, Univ. de Valencia, UCSF, Univ. of California San Francisco.*

8:00 A5 **648.05** Mir-203 interplays with polycomb repressive complexes to regulate the proliferation of neural stem/progenitor cells. Z. TENG*; P. LIU; G. TANG; Y. XU; S. ZHANG; Y. ZENG; H. DU; C. LIU. *Inst. of Zoology Chinese Acad. of Sci., Inst. of Zoology, Chinese Acad. of Sci., Intitute of Zoology, Chinese Acad. of Sci.*

9:00 A6 **648.06** Pallial neurogenesis in Xenopus laevis. N. MORENO; S. JIMENEZ; N. VIDAL; D. LOZANO; R. MORONA; J. M. LOPEZ; A. GONZALEZ*. *Univ. Complutense, Univ. Complutense of Madrid, Univ. Complutense Madrid.*

10:00 A7 **648.07** Nox4 participates in damage-induced proliferation of neural stem cells and subsequent restoration of recognition memory in the hippocampus. Y. YOSHIKAWA*; T. AGO; J. KURODA; Y. WAKISAKA; H. NAKASHIMA; K. NAKASHIMA; T. KITAZONO. *Grad. Sch. of Med. Sciences, Kyushu Univer, Dept. of Stem Cell Biol. and Medicine, Kyushu Univ.*

11:00 A8 **648.08** HIV-1 Tg26 transgenic mice exhibit early and late neurogenic deficits, which correlate with neurocognitive dysfunction. R. PUTATUNDA*; M. CURTIS; Y. ZHANG; T. ZHANG; X. XIAO; M. XIN; F. LI; D. PRATICO; M. F. BARBE; W. HU. *Lewis Katz Sch. of Med. At Temple Univ.*

8:00 A9 **648.09** Clonal evolution from neural stem cells to glioblastoma in murine models. Y. ZHU*; Y. LI; B. LI; Y. WANG; S. AKGUL; B. ROSS; J. LI. *Children's Natl. Med. Ctr., Children's Natl. Med. Ctr., Harvard Univ., Univ. of Michigan.*

9:00 A10 **648.10** ▲ Expansion of the radial glia-like stem pool in the hippocampal dentate gyrus is modulated by the chloride importer NKCC1. K. REICHE; S. SRIDHARAN; M. CEANGA; M. RUDOLPH; M. SENFTLEBEN; M. GÜNTHER; C. W. SCHMEER*; K. HOLTHOFF; C. A. HÜBNER; D. LIE; O. W. WITTE; S. KEINER. *Jena Univ. Hosp., Jena Univ. Hosp., Inst. of Biochem.*

**POSTER**

**649. Adult and Developmental Neurogenesis**

***Theme A: Development***

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

8:00 B1 **649.01** Serotonin receptor mechanism regulating adult neural stem cells in the mouse hippocampus. A. J. CROWTHER*; J. SONG. *Univ. of North Carolina at Chapel Hill, Univ. of North Carolina, Chapel Hill.*

9:00 B2 **649.02** Quantification of efficiency for understanding larval zebrafish fine motor control development and modulation. S. WAHLSTROM-HELGREN*; A. BOWMAN; K. VANPELT; M. A. MASINO. *Univ. of Minnesota.*

10:00 B3 **649.03** Motor control of swimming is developmentally refined in larval zebrafish. M. A. MASINO*; K. VANPELT; A. BOWMAN; S. WAHLSTROM-HELGREN. *Univ. of Minnesota.*

11:00 B4 **649.04** IGFR-Akt signaling through primary cilia protects developing neurons from the dendritic degeneration elicited by environmental stress. S. ISHII*; S. MOHAMMAD; T. SASAKI; M. TORII; K. HASHIMOTO-TORII. *Children's Natl. Med. Ctr., George Washington Univ., Yale Univ.*

8:00 B5 **649.05** Multiple functions of Ldb1 in dorsal telencephalic development. V. J. KINARE*; H. PADMANABHAN; G. GODBOLE; Z. KHATRI; U. MAHESHWARI; B. MURALIDHARAN; S. P. TOLE. *Sophia Col. For Women, Tata Inst. of Fundamental Res., Harvard Univ., Harvard Univ.*

9:00 B6 **649.06** Hypothalamic Ptf1a is required for sexual differentiation of the brain and behavior. T. FUJIYAMA*; S. MIYASHITA; Y. TSUNEOKA; M. NAGAOKA; M. KAKIZAKI; S. KANNO; Y. ISHIKAWA; Y. KAWAGUCHI; Y. YANAGAWA; M. A. MAGNUSON; Y. NABESHIMA; M. YANAGISAWA; H. FUNATO; M. HOSHINO. *WPI-IIIS, The Univ. of Tsukuba, NCNP, Toho Univ., CiRA, Kyoto Univ., Gunma Univ., Vanderbilt Univ. Med. Ctr., BRI.*

10:00 B7 **649.07** Cell-type-specific alternative splicing controls cerebral cortex development. X. ZHANG*; X. WU; M. CHEN; J. FAN; D. BLACK; D. V. KHARCHENKO; P. A. SHARP; C. A. WALSH. *Harvard Med. Sch. and Boston Children's Hospi, MIT, Harvard Med. Sch., UCLA, Harvard Med. School, Boston Children's Hosp. and HHMI.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

11:00 B8 **649.08** ▲ Thalamic and behavioral repercussions following cortex-specific deletion of Emx2. S. I. AKHIDENOR; N. A. CASTRO BORJAS; A. K. SWEDZINSKI; K. M. HIXSON; A. MACGREGOR; A. B. ZEMBRZYCKI; A. M. STOCKER*. *Minnesota State Univ. Moorhead, Sanford Burnham Prebys Med. Discovery Inst.*

8:00 B9 **649.09** Postmitotic subdivision of the contralateral medial vestibulospinal tract by specific expression of transcription factors. A. LUNDE*; B. W. OKATY; S. M. DYMECKI; J. C. GLOVER. *Univ. of Oslo, Harvard Med. Sch., Harvard Med. Sch.*

9:00 B10 **649.10** Regression of the intrinsic activation properties of Renshaw cells during the early phase of the spinal cord network development. P. LEGENDRE*; J. BOERI; H. LE CORRONC; B. LE BRAS; C. MOUFFLE; J. MANGIN; P. BRANCHEREAU; A. CZARNECKI. *INSERM U1130/CNRS UMR 8246, UPMC UM CR18, Univ. Bordeaux & CNRS - INCIA UMR 5287.*

10:00 B11 **649.11** MacBrainResource: Collection of slides and tissues enables study of non-human primate development and architecture. L. D. SELEMON*; A. DUQUE. *Yale Univ. Sch. Med.*

11:00 B12 **649.12** Small molecules instruct rod photoreceptor progenitor fate or permit cone photoreceptor progenitor fate from mammalian retinal stem cells. J. J. BELAIR-HICKEY*; S. KHALILI; B. G. BALLIOS; K. N. GRISÉ; B. L. K. COLES; V. WALLACE; G. BERNIER; D. VAN DER KOOY. *Univ. of Toronto, Univ. of Toronto, Toronto Western Res. Inst., Hôpital Maisonneuve-Rosemont.*

8:00 B13 **649.13** ▲ Characterization of transcription factor expression during retinal development in gallus gallus. B. KABLE; S. A. GEORGI*. *York Col. of Pennsylvania, York Col. of Pennsylvania.*

9:00 B14 **649.14** Comparative analysis of cone and horizontal cell restricted progenitors and multipotent progenitors in the vertebrate retina. D. F. BUENAVENTURA*; M. GHINIA; M. EMERSON. *City Col. of New York, CUNY Grad. Ctr.*

10:00 B15 **649.15** D-serine modulation of glutamatergic transmission disrupts retinotectal input convergence in the developing visual system. M. VAN HORN*; E. S. RUTHAZER. *McGill Univ.*

11:00 B16 **649.16** ▲ The role of purinergic receptors in early neural calcium activity. S. BRACERO*; L. G. YI; S. PAUDEL; M. S. SAHA. *The Col. of William and Mary.*

8:00 B17 **649.17** Effects of neonatal hyperoxia on the critical period of postnatal development of neurochemical expressions in brain stem respiratory-related nuclei in the rat. L. MU; T. MICHALKIEWICZ; G. G. KONDURI; M. HODGES; M. T. WONG-RILEY*. *Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin.*

9:00 B18 **649.18** Meningeal lymphatics control brain immune surveillance and play key role during neuroinflammation. A. LOUVEAU*; J. HERZ; M. ALME; G. HEROD; J. SETLIFF; K. VIAR; S. DA MESQUITA; I. SMIRNOV; R. CAO; S. HU; G. OLIVER; J. KIPNIS. *Ctr. For Brain Immunol. and Glia, Univ. of Virginia, Univ. of Charlottesville, Northwestern Univ., Univ. of Virginia.*

10:00 B19 **649.19** Suppression of BIM upregulation and apoptotic death by chronic depolarization of NGF-deprived sympathetic neurons. A. A. ALSHAMRANI; J. L. FRANKLIN*. *Univ. of Georgia.*

**POSTER**

**650. Postnatal Neurogenesis in an Array of Models**

***Theme A: Development***

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

8:00 B20 **650.01** Adult neurogenesis in the nucleus accumbens of the rat. J. S. SNYDER*; J. YANG; D. R. SEIB. *Univ. of British Columbia, Univ. of British Columbia.*

9:00 B21 **650.02** Developmental formation of perineuronal nets in the mouse hippocampal CA2 area. A. NOGUCHI*; N. MATSUMOTO; H. TAMURA; Y. IKEGAYA. *The Univ. of Tokyo, L-StaR, Hoshi Univ.*

10:00 B22 **650.03** Newly generated cells in adult turtles are not GABAergic. J. E. ALOUIDOR*; A. S. POWERS. *Stony Brook Univ., Stony Brook Univ.*

11:00 B23 **650.04** ▲ Cell proliferation in the hindbrain of semi-intact *in vitro* preparations of *Xenopus laevis* tadpoles. V. SCHWARZ; R. SANCHEZ-GONZALEZ; J. NINKOVIC; H. STRAKA*. *LMU Munich - Biocenter Martinsried, Helmholtz Ctr. Munich, LMU Munich.*

8:00 B24 **650.05** ▲ The effect of exercise on neurogenesis in the green anole lizard brain. C. A. FOLEY; J. J. RODDICK; E. C. MAGNUSON; A. Z. WANG; J. F. HUSAK; R. E. COHEN*. *Minnesota State University, Mankato, Univ. of St Thomas, Minnesota State Univ. Mankato Dept. of Biol. Sci.*

9:00 B25 **650.06** Neural progenitor cells in cerebral cortex of epilepsy patients do not originate from astrocytes expressing GLAST. M. PEKNA*; M. CHEN; T. PUSCHMANN; U. WILHELMSSON; C. ÖRNDAL; K. MALMGREN; B. RYDENHAG; M. PEKNY. *Univ. of Gothenburg.*

10:00 B26 **650.07** Investigating homeostatic regulation of developmentally-born neurons following manipulations of adult neurogenesis in the dentate gyrus. S. P. CAHILL*; A. MARTINOVIC; J. COLE; J. S. SNYDER. *Univ. of British of Columbia, Univ. Of British Columbia, Univ. of British Columbia.*

11:00 B27 **650.08** Quantitative analysis of kynurenine II aminotransferase (KAT II/AADAT) gene in the rat brain reveals high expression in the Subventricular Zone, the rostral migratory stream and the corpus callosum. L. H. TONELLI*; C. SONG; C. VAUGHN; K. MURPHY; G. HOFFMAN; R. SCHWARCZ; S. CLARK. *Univ. of Maryland Baltimore, Univ. of Maryland, Morgan State Univ., Maryland Psychiatric Res. Center, Univ. of Maryland.*

8:00 B28 **650.09** Oligodendrocyte progenitor cells of the adult mouse suprachiasmatic nucleus may be a source of new neurons. D. H. BELIGALA; A. DE; H. J. MCQUILLEN; M. E. GEUSZ*. *Bowling Green State Univ.*

9:00 B29 **650.10** $CreER^{T2}$ mediated genetic recombination in adult murine neural stem and progenitor cells is induced by tamoxifen delivered via voluntary chow consumption. B. SMITH*; E. D. KIRBY. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*

10:00 B30 **650.11** Family Nurture Intervention in preterm infants increases early development of cortical activity and independence of regional eeg power trajectories. M. MYERS*; M. G. WELCH; P. G. GRIEVE; J. ISLER; R. STARK; J. BARONE. *Columbia Univ. Med. Ctr.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

11:00 B31 **650.12** Experience-dependent regulation of Cajal-Retzius cell networks in the developing and adult mouse hippocampus. G. MACCAFERRI*; S. K. LEE; T. I. NEBLETT; G. M. RUNE; M. ANSTÖTZ. *Northwestern Univ., University/University Hosp. Hamburg.*

**POSTER**

**651. Modeling Neurodevelopmental Disease**

***Theme A: Development***

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

8:00 B32 **651.01** Enhancing plasticity rescues social behavioral deficits in Pten haploinsufficient mice. A. E. CLIPPERTON-ALLEN*; A. ZHANG; O. S. COHEN; D. T. PAGE. *The Scripps Res. Inst.*

9:00 B33 **651.02** Study of the oxytocin system in two rat models for autism. H. HARONY-NICOLAS*; M. ELIAVA; L. KORO; M. RIAD; C. GOLDEN; S. WAGNER; V. GRINEVICH; J. D. BUXBAUM. *Dept. of Psychiatry, Icahn Sch. of Med., Schaller Res. Group on Neuropeptides, German Cancer Res. Ctr. DKFZ, Heidelberg, Germany, Seaver Autism Ctr. for Res. and Treatment, Icahn Sch. of Med. at Mount Sinai, New York, New York, USA, Icahn Sch. of Med. at Mount Sinai, Sagol Dept. of Neurobio., German Cancer Res. Ctr., Mt Sinai Sch. Med.*

10:00 B34 **651.03** Uncovering the role of long non-coding RNAs (lncRNAs) in autism spectrum disorders using integrated transcriptomic approaches. N. J. FRANCOEUR; M. J. GANDAL; K. A. SARPONG; J. S. JOHNSON; P. SKLAR; H. VAN BAKEL; D. H. GESCHWIND; D. PINTO*. *Icahn Sch. of Med. At Mount Sinai, UCLA, Icahn Sch. of Med. At Mount Sinai.*

11:00 B35 **651.04** mTORC2 dysfunction underlies the neuronal physiological and behavioral abnormalities in Pten-deficient mouse model of autism. C. CHEN*; M. SGRITTA; R. D. LUCERO; J. L. NOEBELS; M. COSTA-MATTIOLI. *BAYLOR COLLEGE OF MEDICINE, BAYLOR COLLEGE OF MEDICINE.*

8:00 B36 **651.05** Loss of the sulfate transporter Slc13a4 impairs social interactions and adult neurogenesis in mice. Z. ZHANG*; M. PIPER; P. DAWSON; D. SIMMONS. *The Univ. of Queensland, SBMS, Mater Res. Inst.*

9:00 B37 **651.06** The role of Ras pathway in social and communication behaviors in Nf1 mice. J. L. LUKKES*; J. PATEL; M. M. HAULCOMB; D. NEWKIRK; A. R. ABREU; S. PARK; D. CLAPP; A. I. MOLOSH; A. SHEKHAR. *Indiana Univ. Sch. of Med., Paul and Carole Stark Neurosciences Res. Institute, Indiana Univ. Sch. of Med., Indiana Ctr. for Biomed. Innovation, Herman B Wells Ctr. for Pediatric Research, Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Paul and Carole Stark Neurosciences Res. Institute, Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*

10:00 B38 **651.07** Deletion of semaphorin 3F in interneurons is associated with decreased GABAergic neurons, autism-like behavior, and increased inflammation and oxidative stress. R. JAGADAPILLAI; Z. LI; E. GOZAL*; G. N. BARNES. *Univ. of Louisville, Vanderbilt Univ., Dept of Pediatrics PRI / Univ. of Louisville, Univ. of Louisville Sch. of Med.*

11:00 B39 **651.08** Novel *de novo* genetic variants in autism spectrum disorder in Korean population. H. YOO*; S. KIM; M. PARK; J. KIM; W. LIM; G. BONG; D. NOH; M. OH; D. HAN; C. SHIN; N. KIM. *Seoul Natl. Univ. Hosp., Seoul Natl. Univ. Col. of Med., Euilji Univ., Korea Res. Inst. of Biosci. and Biotech., Korea Univ. of Sci. and Technol., Konkuk Univ.*

8:00 B40 **651.09** ASD-associated behavioral traits and dopaminergic abnormalities in the SERT G56A mouse. G. E. DICARLO*; K. E. BUNDSCHUH; M. T. WALLACE. *Vanderbilt Univ., Vanderbilt Univ.*

9:00 B41 **651.10** Resting-state functional connectivity in homozygous Cntnap2 knockout mice. K. Y. CHOE*; M. SAFRIN; N. G. HARRIS; D. H. GESCHWIND. *UCLA, UCLA, Dept. Neurosurgery, UCLA.*

10:00 B42 **651.11** Dip2a mutant mice and gene expression pattern. J. MA*; L. ZHANG; Y. WANG; C. SU; Y. ZHENG; X. ZHU. *Inst. of Genet. and Cytology, Transgenic Res. Ctr.*

11:00 B43 **651.12** A mouse model of the human 15q13.3 microdeletion syndrome (Df(h15q13)/+) with reduced alpha7 nAChR expression exhibits no deficits in hippocampal excitatory transmission and activity-regulated gene expression. K. A. REES*; A. A. HALAWA; D. CONSUEGRA GARCIA; W. H. GRIFFITH; U. H. WINZER-SERHAN. *Texas A&M Univ. Hlth. Sci. Ctr., Mansoura Univ., Univ. del Este.*

8:00 B44 **651.13** MTOR signaling modulates migration of cortical interneurons in the LgDel model of 22q11.2 DS. E. M. PARONETT*; D. W. MEECHAN; C. A. BRYAN; E. A. RADIN; A. LAMANTIA; T. M. MAYNARD. *George Washington Univ., George Washington Univ.*

9:00 B45 **651.14** Deficient of autism susceptibility gene Protocadherin 9 leads to abnormalities in vestibular response and emotional behavior in mice. S. HIRANO*; T. FURUSE; S. WAKANA; S. NAGAO; M. KUDOH; Y. SATO; K. OKANO-IMAI; K. YOSHIZAWA. *Kansai Med. Univ., RIKEN, RIKEN BSI, Mukogawa Women's Univ.*

10:00 B46 **651.15** Altered prefrontal anatomy and functional connectivity in mice lacking autism-associated gene Shank3. M. PAGANI*; C. ROBOL; R. GOMOLKA; A. LISKA; A. GALBUSERA; A. AKSIUTO; A. GOZZI. *Inst. Italiano di Tecnologia, Univ. of Trento.*

11:00 B47 **651.16** A zebrafish model of epilepsy and autism spectrum disorders: Investigating the function of scn1lab. C. SAKAI*; F. ABBAS; S. IJAZ; M. GHOSH; J. RIHEL; E. J. HOFFMAN. *Yale Univ., Univ. Col. London.*

8:00 B48 **651.17** Multi-group cross-sectional study of a mouse model of TS reveals select neurobehavioral alterations for future preclinical studies. S. SORIANO*; S. HAO; S. VEERARAGAVAN; Z. WU; B. P. VICARI; C. S. WARD; J. TANG; R. C. SAMACO. *Baylor Col. of Medicine/ Jan and Dan Duncan NRI.*

9:00 B49 **651.18** Development of a CRISPR-mediated molecular rescue of Pitt Hopkins Syndrome, a monogenetic autism spectrum disorder. B. MAYFIELD; J. F. BOHLEN; G. R. HAMERSKY; R. A. GALLO; B. J. MAHER*. *Lieber Inst. For Brain Develop., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med.*

10:00 B50 **651.19** Potential role of sema6A in autism spectrum disorder. K. V. MENZEL; C. PLACHEZ*. *Hussman Inst. for Autism, Hussman Inst. For Autism.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

11:00 B51 **651.20** Deletion of the autism-related gene neurexin II (Nrxn2) causes alterations to the structure of the social brain as measured by DT-MRI and CLARITY. J. DACHTLER*; E. PERVOLARAKI; A. TYSON; F. PIBIRI; R. J. RODGERS; C. LEVER; S. J. CLAPCOTE; L. ANDREAE. *Durham Univ., Univ. of Leeds, King's Col. London.*

8:00 B52 **651.21** The architecture and development of the axon initial segment (AIS) in an autistic mouse model. M. A. ALSHAMMARI*; M. R. KHAN; K. A. ALHOSAINI; R. ALI; M. BOUDJELAL; T. K. ALSHAMMARI. *Col. of Pharmacy, King Saud Univ., King Abdullah Intl. Med. Res. Ctr.*

9:00 B53 **651.22** Mouse Models show that Cerebellar Networks are altered in Autism. J. ELLEGOOD*; Y. YEE; R. HENKELMAN; P. TSAI; J. P. LERCH. *Hosp. For Sick Children, UT Southwestern.*

10:00 B54 **651.23** Characterization of ankyrin mutations associated with autism spectrum disorder. J. GARZA*; T. L. PETRYSHEN. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp.*

11:00 B55 **651.24** An autism-susceptibility candidate gene controls variability of escape responses in larval zebrafish. U. JHA*; I. KONDRYCHYN; V. KORZH; V. THIRUMALAI. *Natl. Ctr. For Biol. Sci., Intl. Inst. of Mol. and Cell Biology.*

8:00 B56 **651.25** FOXG1 overexpression and epigenetic landscape in a human iPSC-derived forebrain organoid model of severe, macrocephalic autism spectrum disorder. N. NOLAN*; J. MARIANI; F. WU; A. ABYZOV; F. M. VACCARINO. *Yale Univ., Mayo Clin., Yale Univ., Yale Univ.*

9:00 B57 **651.26** Fc receptors: Critical regulators of central nervous system (CNS) delivery and distribution of antibodies. G. NEHRA*; N. N. KUMAR; M. E. PIZZO; B. WILKEN-RESMAN; G. GREENE; S. BOROUMAND; K. VANG; R. G. THORNE. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

10:00 B58 **651.27** Increasing selective hip-knee control of infants at high risk for cerebral palsy: A feasibility study. B. A. SARGENT*; K. HAVENS; N. MARCIONE; C. J. WINSTEIN; L. FETTERS. *USC.*

11:00 B59 **651.28** ▲ ERK-mediated phosphorylation of Egr1-3 coregulator NAB2 at multiple sites. K. M. ABT; N. A. BERRY; S. KLETSOV; T. T. EDWARDS-GRANT; J. W. TULLAI; K. W. ADAMS*. *Bridgewater State Univ., Boston Univ.*

**POSTER**

**652. Autism: Synapses and Circuits**

***Theme A: Development***

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

8:00 B60 **652.01** Atypical postnatal development of feedback excitatory and local inhibitory circuits in layer I of prefrontal cortices in autism. I. TRUTZER*; B. ZIKOPOULOS. *Boston Univ., Boston Univ.*

9:00 B61 **652.02** Common laminar distribution and density of synapses and axons in prefrontal cortices in humans and non-human primates. M. GARCIA-CABEZAS*; I. TRUTZER; H. BARBAS; B. ZIKOPOULOS. *Sargent College, Boston Univ., Boston Univ., Boston Univ.*

10:00 B62 **652.03** ITGB3 gene promoter variants influence 5-HT blood levels by modulating the externalization of the platelet 5-HT transporter in Autism Spectrum Disorder. A. M. PERSICO*; S. GABRIELE; M. CANALI; C. LINTAS; R. SACCO; C. GREGORJ. *Univ. of Messina, Mafalda Luce Ctr. for Pervasive Developmental Disorders, Univ. Campus Bio-Medico.*

11:00 B63 **652.04** ● Key role of BET-controlled gene networks in autism. J. SULLIVAN*; A. BADIMON; P. AYATA; U. SCHAEFER; M. DUFF; R. K. PRINJHA; A. SCHAEFER. *Icahn Sch. of Med. At Mount Sinai, Rockefeller Univ., GlaxoSmithKline.*

8:00 B64 **652.05** Serotonergic axons appose angiogenic blood vessels in autism temporal cortex: An immunocytochemical study in postmortem human brains. K. N. MANGAR*; E. C. AZMITIA; X. F. JIA. *New York Univ.*

9:00 B65 **652.06** Segregated expressions of autism risk genes Cdh 9 and Cdh 11 in autism-relevant regions of developing cerebellum. C. WANG*; Y. WANG; X. YUAN. *Hussman Inst. For Autism, Hussman Inst. for Autism.*

10:00 C1 **652.07** Altered HDAC4 localization in a mouse model of maternal immune activation. P. COIRO; L. BERGDOLT; Y. JUNG; A. DUNAEVSKY*. *Univ. of Nebraska Med. Ctr.*

11:00 C2 **652.08** Cortico-cortical underconnectivity in the lgdel mouse model of digeorge/22q11.2 deletion syndrome. D. W. MEECHAN*; A. FERNANDEZ; B. KARPINSKI; E. PARONETT; H. RUTZ; C. BRYAN; E. RADIN; N. BARON; D. CONTRERAS; L. ROTHBLAT; T. MAYNARD; A. LAMANTIA. *George Washington Univ., GW Inst. for Neuroscience, The George Washington Univ., George Washington Univ., Univ. of Pennsylvania Sch. of Med., George Washington University.*

8:00 C3 **652.09** Distinct changes in striatal glutamate efflux during grooming behavior in the BTBR mouse model of autism. J. T. DUNN*; R. OCAMPO; M. E. RAGOZZINO. *Univ. of Illinois At Chicago.*

9:00 C4 **652.10** Altered nucleus accumbens activity as a shared neural circuit defect for autism-related behaviors. M. F. DAVATOLHAGH*; K. CHOI; J. LYNCH; T. O'BRIEN; T. ABEL; M. V. FUCCILLO. *Univ. of Pennsylvania, Univ. of Iowa.*

10:00 C5 **652.11** Autism Spectrum Disorders may be caused by developmental dysregulation of polyamine metabolism. A. J. SOKOLOFF*. *Emory Univ.*

11:00 C6 **652.12** Density of cannabinoid receptors of autistic rat after musical stimulation. D. MONJE*; J. MANZO. *UNIVERSIDAD VERACRUZANA, Univ. Veracruzana.*

8:00 C7 **652.13** The Intelectual disability gene CC2D1A regulates subcellular localization of AKT signaling in neurons. P. A. MUÑOZ LLANCAO*; A. W. OAKS; E. J. FARROW; M. C. MANZINI. *The George Washington Univ.*

9:00 C8 **652.14** Negr1 together with FGFR2 and PCDH19 regulate cortical development and core behaviors related to autism spectrum disorders in rodents. L. CANCEDDA*; B. PINTO; J. SZCZURKOWSKA; A. CWETSCH; F. PISCHEDDA; L. PERLINI; S. BASSANI; F. MANAGO; C. HAAS; R. BERTORELLI; M. SUMMA; F. PAPALEO; M. SCHAFER; M. PASSAFARO; G. PICCOLI. *Inst. Italiano di Tecnologia, Dulbecco Telethon Inst., Scuola Normale Superiore, Univ. of Trento, Univ. degli Studi di Milano, Univ. Med. Ctr. of Mainz.*



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* Indicates abstract's submitting author

10:00 C9 **652.15** A sex difference in oxytocin-expressing cells and serotonin receptors in the paraventricular nucleus after developmental serotonin exposure. K. WAGNER*; S. L. ZUP. *Univ. of Massachusetts Boston.*

11:00 C10 **652.16** Differential alternative splicing in superior temporal gyrus of autism spectrum disorder brains. B. STAMOVA; B. P. ANDER; A. OMANSKA; M. DUROCHER; F. SHARP; C. M. SCHUMANN*. *Univ. of California, Davis Sch. of Med., UC Davis MIND Inst., UC Davis MIND Inst.*

8:00 C11 **652.17** Altered excitatory-inhibitory ratio preserves circuit excitability in FMR1, CNTNAP2, 16p11.2 deletion, and Tsc2 mouse models of autism. T. LANGBERG*; M. W. ANTOINE; P. SCHNEPEL; D. E. FELDMAN. *Univ. of California, Berkeley, Univ. of California Berkeley, Univ. of California Berkeley Dept. of Mol. and Cell Biol., UC Berkeley.*

9:00 C12 **652.18** Decreased spontaneous network activity in a mouse model of Pitt-Hopkins Syndrome, a rare form of autism spectrum disorder (ASD). H. CHEN*; G. R. HAMERSKY; S. C. PAGE; B. J. MAHER. *Lieber Inst. For Brain Develop.*

**POSTER**

**653. Neurodevelopmental Disorders: Molecular and Cellular Mechanisms II**

***Theme A: Development***

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

8:00 C13 **653.01** Understanding interneurogenesis in a novel model of neonatal brain injury. H. LACAILLE*; C. M. VACHER; A. PENN. *Children's Natl. Hlth. Syst., Fetal Med. Inst.*

9:00 C14 **653.02** Differences in lumbar motor neuron pruning in an animal model of early onset spasticity. J. E. BRANDENBURG*; H. M. GRANSEE; W. Z. ZHAN; M. J. FOGARTY; G. C. SIECK. *Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin.*

10:00 C15 **653.03** Investigating the neural mechanisms that underlie neurodevelopmental disorders associated with EHMT1. M. ADAM*; N. HAAN; T. HUMBY; A. R. ISLES. *Cardiff Univ., Cardiff Univ., Cardiff Univ.*

11:00 C16 **653.04** Genetic mapping of developing brainstem motor neuron subtypes: Implications for their differential susceptibility to disease. M. F. ROSE*; M. A. TISCHFIELD; A. GELBER; A. A. NUGENT; P. ANG; S. IZEN; W. HUANG; R. SATIJA; O. ROZENBLATT-ROSEN; A. REGEV; E. ENGLE. *Boston Children's Hosp., Brigham and Women's Hosp., Boston Children's Hosp., Harvard Med. Sch., Broad Inst. of MIT and Harvard, Harvard Univ., Zhejiang Univ., New York Genome Ctr., New York Univ., Howard Hughes Med. Inst.*

8:00 C17 **653.05** Alteration of functional cortical connectivity in a rat model of subcortical band heterotopia. V. PLANTIER*; F. MARTINEAU; F. WATRIN; E. BUHLER; J. MANENT; I. BUREAU; A. REPRESA. *INSERM.*

9:00 C18 **653.06** Analysis of cortical development in a newly established mouse model of extremely premature infants with brain injuries. K. KUBO*; K. DEGUCHI; T. NAGAI; A. KITAZAWA; K. YOSHIDA; W. SHAN; M. ARAMAKI; K. ISHII; M. SHIN; Y. MATSUNAGA; K. HAYASHI; K. F. TANAKA; S. TAKASHIMA; M. NAKAYAMA; M. ITOH; Y. HIRATA; B. ANTALFFY; D. D. ARMSTRONG; K. YAMADA; K. INOUE; K. NAKAJIMA. *Keio Univ. Schl Med., Nagoya Univ. Grad Sch. Med., Keio Univ. Sch. of Med., Nagoya Univ. Grad. Sch. of Med., Yanagawa Inst. of Developmental Disabilities, Osaka Med. Ctr. and Res. Inst. for Maternal and Child Hlth., Natl. Ctr. of Neurol. & Psychiatry, Baylor Col. of Med.*

10:00 C19 **653.07** Effect of bilateral asymmetry on neuronal connectivity and behavior. P. HAN*; M. D. MERSHA. *Delaware State Univ., Delaware State Univ.*

11:00 C20 **653.08** ▲ An optogenetics based approach for elucidating how high frequency stimulation at the subthalamic nucleus suppresses excessive self-grooming in autism-like mouse models. A. STEPANIAN*; S. ADHIKARI; A. D. CHANG; J. S. CHUNG; V. A. BERGES; G. Y. FRIDMAN; J. M. BARABAN; I. M. RETI. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

8:00 C21 **653.09** Mapping the neural circuitry of restricted repetitive behavior: Multimodal neuroimaging in an animal model. M. H. LEWIS*; B. J. WILKES; C. BASS; H. KORAH; M. FEBO. *UF Col. of Med., Univ. of Florida.*

9:00 C22 **653.10** Hippocampal-specific ampa receptor dysregulation in cdkl5 ki mice. M. YENNAWAR*; R. WHITE; F. E. JENSEN. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

10:00 C23 **653.11** Oxidative stress and mitochondrial dysfunction in TALLYHO/JngJ mice - a common link between type 2 diabetes, obesity and Alzheimer's disease. J. S. BHATTI*; K. THAMARAI KANNAN; P. REDDY. *Texas Tech. Univ. Hlth. Sci. Ctr., Sri Guru Gobind Singh College, Sector 26, Texas Tech. Univ.*

11:00 C24 **653.12** Decreased rates of cerebral protein synthesis measured *in vivo* in a mouse model of tuberous sclerosis complex: Influence of recycling of amino acids derived from protein breakdown. R. M. SARE; D. PICCHIONI*; T. BURLIN; T. HUANG; C. B. SMITH. *Natl. Inst. of Mental Hlth., NIH.*

8:00 C25 **653.13** Evaluating the role of cohesin complex proteins in memory and learning. K. A. EDWARDS*; B. Z. KACSOH; M. B. HOPPA; G. BOSCO. *Dartmouth Col., Dartmouth Col.*

9:00 C26 **653.14** Hyperactivation of ERK/MAPK leads to altered cortical projection neuron outgrowth, reduced activity dependent gene expression, and motor learning deficits. G. R. BJORKLUND*; L. T. HEWITT; K. NISHIMURA; J. M. NEWBERN. *Arizona State Univ., Univ. of Texas Austin.*

10:00 C27 **653.15** ● Ranbp1 haploinsufficiency contributes to cranial neural crest anomalies in 22q11.2 DS. T. M. MAYNARD*; E. M. PARONETT; C. A. BRYAN; J. A. SABATINO; B. A. KARPINSKI; A. FERNANDEZ; A. S. LAMANTIA. *George Washington Univ.*

11:00 C28 **653.16** Latrophilin 3: A mouse model of attention deficit hyperactivity disorder. N. MORTIMER*; N. MORTIMER*; M. RIBASES; J. RAMOS-QUIROGA; K. LESCH; O. RIVERO. *Vall D'Hebron Res. Inst. (VHIR), Univ. of Würzburg.*



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* Indicates abstract's submitting author

8:00 C29 **653.17** Ablation of Arx in mature GABAergic interneurons impaired network function via dysfunction of calcium extrusion and sequestration mechanisms in the mouse hippocampus. D. J. JOSEPH*; A. J. MCCOY; R. RISBUD; E. D. MARSH. *Children's Hosp. of Philadelphia, Perelman Sch. of Med. at the Univ. of Pennsylvania.*

9:00 C30 **653.18** CASK haploinsufficiency produces developmental retinal ganglion cell pathology and optic nerve hypoplasia. A. KERR*; C. LIANG; K. MUKHERJEE; M. A. FOX. *Virginia Tech. Carilion Res. Inst.*

10:00 C31 **653.19** Defective heterochromatin remodeling due to Nde1 loss leads to nuclear architecture aberration of cortical neurons. Y. FENG*; A. LANCTOT; Y. GUO. *Northwestern Univ. Sch. of Med.*

11:00 C32 **653.20** Functions of ERK/MAPK signaling in GABAergic neuron development and identity. M. HOLTER*; G. R. BJORKLUND; S. A. SHAH; J. D. NICHOLS; J. S. MARTINEZ; T. R. ANDERSON; J. M. NEWBERN. *Arizona State Univ., Salk Inst. for Biol. Studies, Univ. of Arizona-College of Med. Phoenix.*

8:00 C33 **653.21** Caspar-positive area decrease and dendritic morphological change in the sensorimotor cortex are related to motor coordination dysfunction in neonatal white matter injury model rat. Y. UEDA*; Y. BANDO; S. MISUMI; A. ISHIDA; H. HIDA. *Nagoya City Univ. Grad Sch. Med. Sci., Asahikawa Med. Univ.*

9:00 C34 **653.22** Trio protein haploinsufficiency causes neurodevelopmental disease-associated deficits. S. M. KATRANCHA*; Y. WU; M. ZHU; B. A. EIPPER; R. E. MAINS; A. J. KOLESKE. *Yale Univ., Yale Univ., Yale Univ., Univ. of Connecticut Hlth. Ctr., Nanjing Univ., Univ. of Connecticut Hlth. Ctr., Univ. of Connecticut Hlth. Ctr.*

10:00 C35 **653.23** Neurodevelopmental deficits and seizure susceptibility in conditional double heterozygous Crk and CrkL telencephalic-specific knockouts. A. KATSAROU*; C. A. BLACKWOOD; O. SHANDRA; W. B. MOWREY; S. NANDI; J. M. HÉBERT; A. S. GALANOPOULOU. *Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. Med.*

11:00 C36 **653.24** Social isolation during the critical period reduces synaptic and intrinsic excitability of a subtype of pyramidal cell in mouse prefrontal cortex. H. YOSHINO*; K. YAMAMURO; Y. OGAWA; M. MAKINODAN; M. TORITSUKA; K. OKAMURA; Y. NISHIHATA; Y. YAMAGUCHI; S. KIMOTO; M. YAMASHITA; G. CORFAS; T. KISHIMOTO. *Nara Med. Univ., Nara Med. Univ., Intl. Univ. of Hlth. and Welfare, Univ. of Michigan.*

8:00 C37 **653.25** High frequency stimulation of thalamic reticular nucleus modifies aberrant oscillatory activity in a model of schizophrenia. V. M. MAGDALENO-MADRIGAL*; G. CONTRERAS-MURILLO; I. CAMACHO-ABREGO; J. V. NEGRETE-DÍAZ; A. VALDÉS-CRUZ; G. FLORES. *Inst. Nacional De Psiquiatría Ramón De La Fuente Muñiz, Inst. Nacional De Psiquiatría Ramón De La Fuen, Benemérita Univ. Autónoma de Puebla, Univ. de Guanajuato, Inst. Nacional De Psiquiatría RFM, Univ. Autonoma de Puebla / Inst. de Fisiologia.*

9:00 C38 **653.26** Abnormal craniofacial and neural development in glycosyltransferase mutant zebrafish recapitulates CDG-lj patient phenotypes. L. N. LUDERMAN*; E. W. KNAPIK. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ.*

10:00 C39 **653.27** Neurosteroids abnormalities in a murine two-hit model of suicide-related behaviors in a schizophrenia-like context. C. MAURICE-GÉLINAS*; J. DESLAURIERS; O. HUBERT; P. SARRET; S. GRIGNON. *Univ. De Sherbrooke, Univ. of California San Diego.*

11:00 C40 **653.28** The thalamus reticularis nucleus is susceptible to redox dysregulation. P. STEULLET*; J. CABUNGCAL; M. R. CUENOD; K. Q. DO. *Ctr. For Psychiatric Neuroscience, CHUV, Dept. of Psychiatry, Univ. Hosp. of Lausanne, Ctr. for Psychiatric Neurosci. - Lausanne Univ. Hosp., Ctr. for Psychiatric Neurosci.*

**POSTER**

**654. Development of Olfactory and Taste Circuits**

***Theme A: Development***

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

8:00 C41 **654.01** Unique connectivity within the necklace subsystem suggests a novel function in olfactory processing. T. TAN*; K. DRUMMEY; N. BHAGAT; W. GILLIS; J. KATON; K. MESSEMER; C. DIXON; J. NGUYEN; S. R. DATTA. *Harvard Med. Sch.*

9:00 C42 **654.02** A deep learning pipeline for studying olfactory bulb molecular anatomy at genomic scale. J. B. CASTRO*; A. ANDONIAN; D. PASELTINER. *Bates Col., Bates Col.*

10:00 C43 **654.03** Loss of cilia on granule cells alters olfactory bulb morphology. J. MCINTYRE*; A. K. PARKER. *Univ. of Florida.*

11:00 C44 **654.04** Spatial and functional connectivity of perinatal and adult-born granule cells in the mouse olfactory bulb. M. PALLOTTO*; K. L. BRIGGMAN. *Natl. Inst. of Hlth.*

8:00 C45 **654.05** Plastic changes in the pre-synaptic landscape of mitral\tufted cells following parturition. A. VINOGRAD*; G. TASAKA; L. KREINES; A. MIZRAHI. *The Hebrew Univ. of Jerusalem, The Edmond and Lily Safra for Brain Sci.*

9:00 C46 **654.06** Biphasic functions for the GDNF-Ret signaling pathway in chemosensory neuron development and diversification. C. R. DONNELLY*; A. SHAH; C. MISTRETTA; R. M. BRADLEY; B. A. PIERCHALA. *Univ. of Michigan, Univ. of Michigan.*

10:00 C47 **654.07** Regulation of deep short axon cells (dSACs) in the olfactory bulb as part of a microcircuit involving the gut hormone, glucagon-like peptide-1 (GLP-1). Z. HUANG*; N. THIEBAUD; D. A. FADOOL. *FSU, Florida State Univ., Florida State Univ.*

11:00 C48 **654.08** Spine fluctuations and adult neurogenesis jointly rewire the olfactory network and reshape sensory processing. H. RIECKE*; J. H. MENG; J. PARK. *Northwestern Univ.*

8:00 DP05/C49 **654.09** (Dynamic Poster) Investigating the subtype-specific connectivity of periglomerular cells in the mouse olfactory bulb using correlative serial block-face electron microscopy. K. FULTON*; K. L. BRIGGMAN. *NIH, Brown Univ.*

9:00 C50 **654.10** Communication between two brain hemispheres: The wiring of bilateral local interneurons in *Drosophila* olfactory system. S. LIN*; H. LIN; H. CHANG; K. TSAI; Y. CHOU. *Inst. of Cell. and Organismic Biology, Academia Sinica.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

10:00 C51 **654.11** Serotonergic modulation differentially targets distinct network elements within the antennal lobe of *Drosophila melanogaster.* T. R. SIZEMORE*; A. M. DACKS. *West Virginia Univ.*

11:00 C52 **654.12** Keystone relationships of transmitter co-expression predict patterns of local interneuron heterogeneity. K. M. LIZBINSKI*; G. F. MARSAT; A. M. DACKS. *West Virginia Univ., West Virginia Univ.*

8:00 C53 **654.13** Ephrin-A/EphA signaling guides embryonic gustatory and somatosensory lingual afferents. K. DOSHI; N. HOSHINO; J. HWANG; R. W. TREFFY; M. W. ROCHLIN*. *Loyola Univ. Chicago Dept. of Biol., Univ. of Illinois Chicago.*

9:00 C54 **654.14** Cell loss in the rat geniculate ganglion following neonatal chorda tympani transection. L. J. MARTIN*; K. K. SAMSON; S. I. SOLLARS. *Univ. of Nebraska At Omaha, Univ. of Nebraska Med. Ctr.*

**POSTER**

**655. Limbic System Development**

***Theme A: Development***

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

8:00 C55 **655.01** Altered migration of inhibitory interneurons in a mouse model of intellectual disability. A. MASET; L. GALLA; C. LODOVICHI*. *Venetian Inst. of Mol. Med., Neurosci. Inst. CNR - Fondazione, Armenise Harvard CDA.*

9:00 C56 **655.02** Interneuron migration and synaptic integration in Lis1 mutant mice. T. G. EKINS*; J. A. D'AMOUR; C. J. MCBAIN. *NIH/NICHD, Brown Univ.*

10:00 C57 **655.03** ▲ A role for Med12 and Wnt signaling in regulation of oxytocin expression. E. D. SPIKOL*; E. GLASGOW. *Georgetown Univ.*

11:00 C58 **655.04** Effects of prenatal alcohol exposure in rats on corticotropin-releasing factor type 1 receptor expression throughout the limbic system and hypothalamus. S. BOUQUIN*; C. R. OLGUIN; J. WAGNER; D. D. SAVAGE II; N. PENTKOWSKI. *Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico Sch. of Med.*

8:00 C59 **655.05** Hippocampal dentate gyrus impairments in Gnb5 heterozygous mice. A. AWE*; J. ZHANG; M. PANDEY; P. ADIKARAM; W. F. SIMONDS. *NIH.*

9:00 C60 **655.06** ▲ Experimental demyelination and synaptic development in the olfactory peduncle. L. COLLINS; E. VOGT; P. C. BRUNJES*. *Univ. of Virginia Dept. of Psychology.*

10:00 C61 **655.07** Coordinated electrical activity in the olfactory bulb gates the oscillatory entrainment of entorhinal networks in neonatal mice. S. GRETENKORD*; J. K. KOSTKA; H. HARTUNG; A. MINIER-TORIBIO; I. L. HANGANU-OPATZ. *Univ. Med. Ctr. Hamburg-Eppendorf.*

11:00 C62 **655.08** Differential transcription factor expression in two medial amygdala neuronal subpopulations is implicated in components of innate behavioral responses. J. E. LISCHINSKY*; M. GOODRICH; M. J. HERRERO; J. G. CORBIN. *Children's Natl. Med. Ctr.*

8:00 C63 **655.09** Foxp2-dependent formation of the social brain. M. J. HERRERO*; M. GOODRICH; J. E. LISCHINSKY; T. SASAKI; C. LAZARSKI; Y. IMAMURA; K. HASHIMOTO-TORII; J. G. CORBIN. *Children's Natl. Med. Ctr., Penn State Col. of Med.*

9:00 D1 **655.10** Developmental outcomes of early adverse care on Amygdala functional connectivity and structure in nonhuman primates. E. L. MORIN*; K. I. KUITCHOUA; B. R. HOWELL; E. J. FECZKO; E. EARL; M. PINCUS; K. M. REDING; A. RATLIFF; M. STYNER; M. SANCHEZ. *Emory Univ., Emory Univ. Sch. of Med., Emory Univ., Inst. of Child Develop., Oregon Hlth. & Sci. Univ., Emory Univ., NIH, Univ. of North Carolina.*

10:00 D2 **655.11** Impact of pre-weaning high fructose diet on basolateral amygdala development and socioemotional behavior. C. E. BARRETT*; A. MENIGOZ; C. BATTERMAN; J. GUO; D. G. RAINNIE. *Dept. of Psych. and Beh. Disorders, Emory Univ.*

11:00 D3 **655.12** ▲ Immunohistochemical characterization of the rat habenulo-interpeduncular tract during postnatal development. S. E. MCCALLUM*; A. KUMAR; B. VREELAND. *Albany Med. Col.*

**POSTER**

**656. Comparative Neuroanatomy, Physiology, and Behavior**

***Theme A: Development***

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

8:00 D4 **656.01** ● ▲ Neural crest derived chromatophores in red-eyed tree frogs. P. SANGUANVICHAIKUL*; A. NKETIAH; M. DE BELLARD. *California State Unversity Northridge, California State University, Northridge, California State University, Northridge.*

9:00 D5 **656.02** PAX6-dependent changes in the adult mammalian brain. M. K. GRANT*; A. M. BOBILEV; A. E. BRANCH; J. B. BYERS; K. HEKMATYAR; J. D. LAUDERDALE. *Univ. of Georgia, Univ. of Texas Southwestern Med. Ctr., Johns Hopkins Univ., Univ. of Georgia.*

10:00 D6 **656.03** Gender Differences of axonal density in the Rat Corpus Callosum. D. J. AL QATTAN*; L. ALZGHOUL; M. ELBELTAGY; A. AL-SHATARAT. *The Univ. of Jordan, The Univ. of Jordan, The university of Jordan.*

8:00 DP09/D7 **656.04** ▲ (Dynamic Poster) Structural and functional brain changes due to activity-dependent myelination. R. T. REUSCH*; A. RIGODANZO; C. SHERWOOD; K. A. PHILLIPS. *Trinity Univ., George Washington Univ., Trinity Univ.*

8:00 D8 **656.05** Lack of vagal parasympathetic innervation of the spleen in different strains of rats. G. CANO*; S. HERNAN; A. F. SVED. *Univ. of Pittsburgh Dept. of Neurosci.*

9:00 D9 **656.06** Climatic / environmental stress responses of apis mellifera in the tropics. S. FELICIANO*; T. GIRAY; J. AGOSTO; M. ALI DÖKE2; F. NOEL; D. LOUBRIER; M. SERPA. *UPR RIO PIEDRAS, UPR RIO PIEDRAS, 1. Department of Entomology, Penn State Col. of Agr. Sciences, Pennsylvania, United States.*

10:00 D10 **656.07** The cooperation between Tip60 HAT activity and transcription factories in activity-dependent genome reorganization. A. KARNAY*; F. ELEFANT. *Drexel Univ. Col. of Med., Drexel Univ.*



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11:00 D11 **656.08** Generation of neocortical oscillations in isolated brain slices. B. A. DAGNE; N. S. CAYLA; S. W. EVANS; B. MACIVER*. *Stanford, Stanford Univ., Stanford Univ.*

8:00 D12 **656.09** Estradiol and dihydrotestosterone regulation of “muscle” genes during sexual differentiation of neural structures. K. CLEMENTS; S. L. PETERSEN*. *Univ. of Massachusetts Amherst.*

**POSTER**

**657. Peptide Receptors**

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

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

8:00 D13 **657.01** ● Mexneurin-1 peptide bioactivity in the rat CNS. P. LEFF*; M. E. MATUS-ORTEGA; A. SALAZAR-JUÁREZ; J. C. CALVA-NIEVES; B. PENG; J. E. PINTAR; H. S. GOMPF; C. N. ALLEN; B. ANTON. *Inst. Nacional De Perinatologia, Natl. Inst. of Psychiatry, Rutgers Biomed. and Hlth. Sci., Oregon Inst. of Occup. Hlth. Sciences. Oregon Hlth. & Sci. University.*

9:00 D14 **657.02** Type-2 corticotropin releasing factor receptor modulates the synapse between basolateral amygdala and prefrontal cortex. H. E. YARUR*; I. M. VEGA-QUIROGA; K. GYSLING. *Pontificia Univ. Catolica De Chile.*

10:00 D15 **657.03** The role of GPR139 in dopamine D2 receptor signaling. L. WANG*; G. LEE; P. BONAVENTURE; T. LOVENBERG; C. LIU. *Janssen Res. & Development, LLC.*

11:00 D16 **657.04** ▲ Structural characterization of the heteromer between D1 dopamine and type 2-alpha corticotropin releasing hormone receptors. C. A. LOPEZ*; H. YARUR; B. COLOMA; K. GYSLING. *Pontificia Univ. Catolica De Chile.*

8:00 D17 **657.05** ▲ Identification of two nocistatin-binding proteins by using a novel photoaffinity probe. M. HARADA*; T. MINAMI; S. ITO; E. OKUDA-ASHITAKA. *Osaka Inst. of Technol., Osaka Med. Univ., Kansai Med. Univ.*

9:00 D18 **657.06** A receptor-specific crosstalk between the prostanoid 3 and the Bombesin sub-type 3 receptors. Y. ZHANG*; Y. LIU; Z. WANG; X. ZHANG; A. ALACHKAR; X. LIANG; O. CIVELLI. *Shanghai Jiao Tong Univ., Dalian Inst. of Physics & Chem., Univ. of California, Irvine, Univ. of California Irvine, Univ. of California Irvine.*

10:00 D19 **657.07** Hypothalamic miR-132-3p changes in response to intracerebroventricular oxytocin: Relevance for anxiety- and fear-related behaviour. A. BLUDAU*; R. MENON; G. MEISTER; I. D. NEUMANN. *Univ. of Regensburg, Univ. of Regensburg.*

11:00 D20 **657.08** Involvement of neuropeptide S, orexin and endocannabinoid in stress-induced cocaine relapse in mice. L. CHIOU*; Y. CHOU. *Natl. Taiwan University, Med. Col., Col. of Medicine, Natl. Taiwan Univ., Col. of Medicine, Natl. Taiwan Univ.*

8:00 D21 **657.09** Functionally significant oligomers of ghrelin and dopamine D1-like receptors control dopaminergic cell activity in the VTA. W. P. REA*; C. QUIROZ; M. HEARING; G. NAVARRO; E. MORENO; A. CORTES; E. I. CANELA; V. CASADO; S. FERRE. *NIDA/IRP/NIH, Marquette Univ., Univ. of Barcelona.*

9:00 D22 **657.10** Regulation of type 1 glucose transporter (glut-1) levels by histamine h1 and h3 receptors in rats astrocytes in primary cultures. J. PARRA*. *Cinvestav.*

10:00 D23 **657.11** Mu opioid agonists differentially affect VTA neurons that project to either prelimbic or infralimbic cortices. J. M. BRETON*; H. L. FIELDS; E. B. MARGOLIS. *Univ. of California Berkeley, UCSF.*

11:00 D24 **657.12** G protein-coupled receptors for gastrin releasing peptide regulate EGFR and HER2 transactivation. T. W. MOODY*. *NCI.*

8:00 D25 **657.13** Multiple receptors for allatostatin-C peptides in the lobster: Nervous system: A possible substrate for differential responses to a neuropeptide? P. S. DICKINSON*; P. WALSH; J. J. HULL; S. PONG; A. W. PUPO; A. E. CHRISTIE. *Bowdoin Coll, USDA-ARS ALARC, Univ. of Hawaii at Manoa.*

**POSTER**

**658. Postsynaptic Receptors and Scaffolds**

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

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

8:00 D26 **658.01** Investigation of the role of SynDIG1 in synaptic transmission in the cerebellum. Y. IDEGUCHI; C. QUARSHIE; S. VADDADI; S. JUNG; E. PEREZ; E. DIAZ; E. G. ANTZOULATOS; D. FIORAVANTE*. *Ctr. For Neuroscience, Univ. of California Davis, Univ. of California Davis.*

9:00 D27 **658.02** Neuronal pentraxin 2 binds to the perineuronal nets via hyaluronan. H. M. VAN ‘T SPIJKER*; J. C. KWOK; J. W. FAWCETT. *Univ. of Cambridge, Univ. of Leeds.*

10:00 D28 **658.03** The synaptome map of the whole mouse brain: A molecular template for the architecture of circuits and behavior. Z. QIU; F. ZHU; M. CIZERON; R. BENAVIDES-PICCIONE; M. KOPANITSA; N. SKENE; J. DEFELIPE; E. A. FRANSEN; N. KOMIYAMA; S. G. GRANT*. *Edinburgh Univ., Instituo Cajal (CSIC), Charles River Discovery, KTH Royal Inst. of Technol.*

11:00 D29 **658.04** Synaptic nanostructure is a novel regulator of NMDA receptor activation. S. RANSOM METZBOWER*; S. RAGHAVACHARI; T. A. BLANPIED. *Univ. of Maryland Baltimore, Univ. of Maryland, Univ. of Maryland Sch. of Med.*

8:00 D30 **658.05** Spatial action range of glutamate. D. DIETRICH*; W. SUN; S. MCMAHON; E. A. MATTHEWS; A. J. MÜLLER; S. SCHOCH. *Univ. Clin. Bonn.*

9:00 D31 **658.06** Differences between synaptically activated sodium concentration changes through AMPA and NMDA receptors in rat hippocampal pyramidal neuron dendritic spines. K. MIYAZAKI; W. N. ROSS*. *New York Med. Col.*

10:00 D32 **658.07** ▲ Postsynaptic RIM1 modulates synaptic function by facilitating membrane delivery of recycling NMDARs in hippocampal neurons. X. LV*; J. WANG; J. LUO; S. QIU. *Zhejiang Univ. Sch. of Med., Zhejiang Univ. Sch. of Med., Zhejiang Univ. Sch. of Med.*

11:00 D33 **658.08** Essential role for Parkin in AMPA and NMDA receptor trafficking and signaling. M. ZHU; G. P. CORTESE; C. WAITES*. *Columbia Univ., Univ. of Wisconsin-Madison, Columbia Univ. Med. Ctr.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract’s submitting author

8:00 D34 **658.09** Synaptotagmin 1 and SNARE proteins in postsynaptic spines: Regulation of AMPA receptor exocytosis. S. DAVANGER*; S. HUSSAIN; D. L. EGBENYA; H. RINGSEVJEN. *Univ. Oslo, Univ. of Oslo.*

9:00 D35 **658.10** Alpha-actinin anchors PSD-95 and AMPA receptors at postsynaptic sites. K. KIM*; L. MATT; A. HERGARDEN; D. PARK; Z. MALIK; T. PATRIARCHI; P. HENDERSON; Y. ZHANG; D. MOHAPATRA; D. CHOWDHURY; O. BUONARATI; Ç. GÖKÇEK-SARAÇ; J. AMES; J. HELL. *Univ. of California at Davis, Univ. of Tübingen, Univ. of Iowa, Univ. of California at Davis, Univ. of Texas Rio Grande Valley, Washington Univ., Akdeniz Univ., Univ. of California.*

10:00 D36 **658.11** PSD lattice structure and scaffold-adaptor protein model for PSD structure. T. SUZUKI*; K. KAMETANI; W. GUO; W. LI. *Shinshu Univ. Inst. of Med., Shinshu University, Grad. Sch. Med., Shinshu Univ., Inst. Biomed. Sci., Shinshu Univ., Shanghai Jiao Tong Univ.*

11:00 D37 **658.12** Direct interaction between postsynaptic proteins Shank3 and CaMKII. T. L. PERFITT*; X. WANG; T. NAKAGAWA; R. J. COLBRAN. *Vanderbilt Univ., Vanderbilt Univ.*

8:00 D38 **658.13** Severe impaired synaptic transmission in the Shank1/Shank3 double knock out mouse. C. SALA*; A. MOSSA; L. PONZONI; A. TOZZI; M. SALA; P. CALABRESI; T. M. BOECKERS; C. VERPELLI. *CNR Neurosci. Inst., Fondazione Umberto Veronesi, Dept. of Exptl. Medicine, Univ. of Perugia, Inst. for Anat. and Cell Biology, Ulm Univ.*

9:00 D39 **658.14** Kalirin interacts with neuroligin family members as revealed by unbiased screens from brain and *in situ* analyses. J. PASKUS*; M. BEMBEN; Y. LI; K. W. ROCHE. *Natl. Inst. of Hlth., Univ. of California, San Franscico.*

10:00 D40 **658.15** ● Identification of a novel PKA regulatory site in neuroligin-1. J. JEONG*; M. A. BEMBEN; Y. LI; K. W. ROCHE. *NINDS, BUILDING 35, Univ. of California, San Francisco.*

11:00 D41 **658.16** AMPA receptor stabilization mediated by non-canonical Wnt signaling protects synapses against $A\beta_{42}$ oligomers synaptotoxicity. C. MONTECINOS OLIVA*; D. CHOQUET; N. INESTROSA. *Pontificia Univ. Católica De Chile, Univ. de Bordeaux, Interdisciplinary Inst. for Neuroscience, UMR 5297, F-33000, CNRS, IINS UMR 5297, Ctr. for Aging and Regeneration (CARE UC), Pontificia Univ. Católica De Chile.*

8:00 D42 **658.17** ● Removal of a genomic mutation in an actin motor protein by DN-CRISPRs reverts hyper-excitability and anxiety behavior in Flailer mice. F. J. BUSTOS*; S. PANDIAN; J. ZHAO; M. HEIDENREICH; H. STROUF; F. ZHANG; M. CONSTANTINE-PATON. *MIT, Broad Inst. of MIT and Harvard.*

9:00 D43 **658.18** Spectroscopy approaches for the study of inhibitory post-synaptic proteins during plasticity. F. COLACI*; L. SCIPIONI; A. DIASPRO; P. BIANCHINI; L. LANZANÒ; A. BARBERIS. *Italian Inst. of Technol. (iit), Italian Inst. of Technol. (iit).*

10:00 D44 **658.19** Free radical scavenger edaravone attenuates oxidative stress-induced gephyrin cleavage in developing neurons and neonatal hypoxia. C. HUNG*; C. LEE; W. CHIEN; C. LIN; Y. GAN; C. JENG; C. WANG; Y. LEE. *Natl. Yang-Ming Univ., Kang-Ning Univ., Natl. Yang-Ming Univ., Natl. Yang-Ming Univ.*

11:00 D45 **658.20** A rare variant in ANK3 in a patient with bipolar disorder leads to altered GABAergic inhibitory circuits. A. D. NELSON*; R. N. CABALLERO-FLORÁN; K. K. WALDER; V. BENNETT; P. M. JENKINS. *Univ. of Michigan, Univ. of Michigan, Duke Univ., Duke Univ., Univ. of Michigan.*

**POSTER**

**659. Central Modulation**

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

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

8:00 D46 **659.01** A novel role for corticotropin releasing factor signaling in the lateral habenula and its modulation by early life stress. M. E. AUTHEMENT*; R. D. SHEPARD; L. D. LANGLOIS; F. S. NUGENT. *Uniformed Services Univ., Uniformed Services Univ., Uniformed Services Univ. of the Hlth. Scienc.*

9:00 D47 **659.02** Withdrawn

10:00 D48 **659.03** IGF-1 receptor differentially regulates spontaneous and evoked transmission via mitochondria at hippocampal synapses. N. GAZIT*; I. VERTKIN; I. SHAPIRA; M. HELM; E. SLOMOWITZ; M. SHEIBA; Y. MOR; S. RIZZOLI; I. SLUTSKY. *Tel Aviv Univ., Univ. of Goettingen Sch. of Med.*

11:00 D49 **659.04** Modulation of hippocampal synaptic transmission by the tryptophan metabolites 3-hydroxy-kynurenine (3HK) and xanthurenic acid (XA). S. A. NEALE; T. E. SALT*. *Neurexpert, UCL Inst. Ophthalmology.*

8:00 D50 **659.05** CB1 receptor mediated neurotransmission in female adolesence. C. G. REICH*; A. FERRARO; P. WIG; N. AMADA; S. 0'SULLIVAN; J. BOSCARINO. *Ramapo Col. of New Jersey.*

9:00 D51 **659.06** Conditional deletion of gbeta5 in sensory ganglia leads to changes in nociceptive but not pruriceptive responses in mice. M. PANDEY*; P. ADIKARAM; J. ZHANG; A. AWE; A. GENIS; C. KITTOCK; C. CHEN; W. F. SIMONDS. *NIH, NIDDK, Baylor Col. of Med.*

10:00 D52 **659.07** ● GluN2-specific NMDA receptor regulation of synaptic transmission and excitability in the thalamus. S. A. SWANGER*; S. F. TRAYNELIS. *Emory Univ.*

11:00 D53 **659.08** Syringaresinol selectively depresses excitatory synaptic transmission in hippocampal slices through the presynaptic inhibition. Y. CHO*; W. SONG; S. YOON; K. PARK; M. KIM. *Seoul Natl. Univ. Col. of Med.*

8:00 D54 **659.09** Unique role of J domain of synapsin III in regulation of neurotransmitter release: Control by MAP kinase phosphorylation. S. SONG*; G. J. AUGUSTINE. *Lee Kong Chian Sch. of Medicine, NTU, Marine Biol. Lab., Lee Kong Chian Sch. of Med.*

9:00 D55 **659.10** Glutamate release potentiation by NMDAR-inhibiting neurosteroid pregnanolone sulfate: Implications for neuroprotection. T. SMEJKALOVA*; Z. NAIMOVA; L. VYKLICKY. *Inst. of Physiology, CAS.*

10:00 D56 **659.11** Gβγ specificity of inhibitory adrenergic $\alpha_{2a}$ receptor and its modulation of synaptic transmission. Y. YIM*; K. BETKE; W. MCDONALD; R. GILSBACH; Y. CHEN; K. HYDE; Q. WANG; L. HEIN; H. HAMM. *Vanderbilt Univ., Vanderbilt Univ., Univ. of Freiburg, Univ. of Alabama at Birmingham Sch. of Med.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 D57 **659.12** Cannabinoid receptor expressing interneurons of layer 2/3 exhibit specific morphological and functional properties in primary and secondary visual cortical areas. M. MONTMERLE*; A. AGUIRRE; O. SCHLUETER; J. LOURENÇO; A. BACCI. *Inst. du Cerveau et de la Moelle Epiniere (ICM), Univ. of Pittsburgh.*

8:00 D58 **659.13** ▲ Nociceptive input imbalance mediated by ablation of C-fibers causes plastic change of GABAergic neuronal circuits in the insular cortex. K. YAMAMOTO*; S. MURAYAMA, 1018310; M. KOBAYASHI. *Dept. of Pharmacology, Nihon Univ. Sch. of Dent., Nihon university, Nihon Univ. Sch. Dent.*

9:00 D59 **659.14** Examining the effect of systemic oxytocin on mesolimbic dopamine transmission. M. K. ESTES*; T. G. FREELS; W. T. PRATER; M. SWAMY; D. B. LESTER. *Univ. of Memphis.*

10:00 D60 **659.15** ● Gene-based synaptic inhibition using adenovirus mediated botulinum toxin A fragments. Y. CHEN*; O. P. KEIFER, JR; L. DI; N. M. BOULIS. *Emory Univ. Sch. of Med.*

11:00 D61 **659.16** Functional analysis of TRIM55 gene in human induced pluripotent stem cells from individuals with idiopathic autism. J. NESTOR*; P. D. STEIN; M. W. NESTOR. *Hussman Inst. For Autism, Hussman Inst. for Autism.*

8:00 D62 **659.17** Effect of histamine $H_3$ receptor activation on rat prefrontal cortex dopaminergic transmission and in a model of schizophrenia. G. AQUINO-MIRANDA*; J. ESCAMILLA-SÁNCHEZ; R. GONZÁLEZ-PANTOJA; L. E. RAMOS-LANGUREN; A. BUENO-NAVA; C. RIOS; J. ARIAS-MONTANO. *UAM - Xochimilco, Cinvestav-IPN, Dept. de Neuroquímica, Inst. Nacional de Neurología y Neurocirugía Manuel Velasco Suarez, Secretaria de Salud, División de Neurociencias, Inst. Nacional de Rehabilitación Luis Guillermo Ibarra Ibarra, Secretaría de Salud.*

9:00 D63 **659.18** A study on the behavioral and neuronal phenotype of syntaxin 1B gene-ablated mice: Involvment of syntaxin 1B in the fever-associated epilepsy syndromes. T. MISHIMA*; T. FUJIWARA; T. KOFUJI; Y. TERAO; K. AKAGAWA. *Kyorin Univ. Sch. of Med., Kyorin Univ. Sch. of Med.*

10:00 E1 **659.19** Spinal potentiation after hindpaw ischemia mediated by group II mGluRs and nitric oxide in mice. T. ONISHI*; T. WATANABE; M. SASAKI; Y. KAMIYA; T. KOHNO; M. HORIE; H. TAKEBAYASHI; H. TSUKANO; R. HISHIDA; H. BABA; K. SHIBUKI. *Niigata Univ. Med. and Dent. Hosp., Tohoku Med. and Pharmaceut. Univ., Kagoshima Univ. Grad. Sch. of Med. and Dent. Sci., Niigata Univ. Grad. Sch. of Med. and Dent. Sci., Brain Res. Institute, Niigata Univ.*

11:00 E2 **659.20** Dysbindin deficiency modifies the expression of GABA neuron and ion permeation transcripts in the developing hippocampus. H. C. RUDOLPH; J. L. LARIMORE*; S. ZLATIC; M. ARNOLD; K. S. SINGLETON; R. CROSS; M. VORDER BRUEEGE; A. SWEATMAN; C. GARZA; A. WHISNANT; V. FAUNDEZ. *Agnes Scott Col., Agnes Scott Col., Emory Univ., Agnes Scott Col., Georgetown Univ., Emory Univ.*

8:00 E3 **659.21** GV-58, a novel calcium channel gating modifier, reverses aging-induced weakness in transmitter release from mouse neuromuscular synapses. M. WU; J. KING; S. D. MERINEY*. *Univ. of Pittsburgh, Univ. Pittsburgh.*

9:00 E4 **659.22** Memory-enhancing and neuroprotective drug noopept modulates synaptic activity and $[Ca^{2+}]_i$ dynamics in CA1 hippocampal neurons. V. G. SKREBITSKY*; S. N. KOLBAEV; R. V. KONDRATENKO; I. S. POVAROV. *Res. Ctr. of Neurology.*

10:00 E5 **659.23** CASY-1, an ortholog of mammalian Calsyntenins regulates GABA release at *C. elegans* neuromuscular junction in an isoform-specific manner. S. THAPLIYAL*; Y. DONG; A. VASUDEVAN; J. BAI; S. P. KOUSHIKA; K. BABU. *Indian Inst. of Sci. Educ. and Res., Basic Sci. Division, Fred Hutchinson Cancer Res. Ctr., Univ. of Washington, Tata Inst. of Fundamental Res.*

11:00 E6 **659.24** Augmentation of purinergic modulation of GABA-ergic transmission in the supraoptic nucleus during intense hormone secretion. M. IVETIC*; A. BHATTACHARYYA; H. ZEMKOVA. *Inst. of Physiol. of Acad. of Sci. CR, Inst. of Physiology, Acad. of Sci. of the Czech republic, Inst. of Physiol. ASCR.*

8:00 E7 **659.25** Divergent effects of loss of diazepam binding inhibitor signaling on synaptic inhibition in hippocampal CA1 and dentate gyrus. C. D. COURTNEY*; C. A. CHRISTIAN. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*

9:00 E8 **659.26** Combining pharmacogenetic neuromodulation by DREADDs with imaging brain-wide functional connectivity in wildtype mice. M. MARKICEVIC*; M. PRIVITERA; J. BOHACEK; M. RUDIN; N. WENDEROTH; V. ZERBI. *ETH Zurich, Univ. of Zurich, UZH and ETH Zurich.*

10:00 E9 **659.27** xCT-mediated AMPA receptorloss in hippocampal CA3-CA1 requires mGluR5. A. MCRAY*; D. E. FEATHERSTONE. *Univ. of Illinois At Chicago, Univ. of Illinois at Chicago.*

11:00 E10 **659.28** TrkB receptors facilitate striatonigral transmission. P. E. REYNA*; A. ÁVALOS-FUENTES; T. GARCÍA-MORENO; S. ALBARRÁN-BRAVO; F. PAZ-BERMÚDEZ; J. ACEVES-RUIZ; B. FLORÁN-GARDUÑO. *CINVESTAV.*

8:00 E11 **659.29** Interfering insulin/IGF-1 signaling in habenula reduces alcohol intake in rats. W. ZUO*; H. ZHANG; R. FU; J. YE. *Rutgers New Jersey Med. Sch., Rutgers, New Jersey Med. SCh, Rutgers, The State Univ. of New Jersey, Rutgers, New Jersey Med. Sch.*

9:00 E12 **659.30** Central histamine reactivates weak memory engrams and restores apparently forgotten object memories in mice and humans. H. NOMURA*; H. MIZUTA; H. NORIMOTO; F. MASUDA; Y. MIURA; H. KOJIMA; A. ASHIZUKA; N. MATSUKAWA; Z. BARAKI; N. HITORA-IMAMURA; D. NAKAYAMA; T. ISHIKAWA; R. SAITO; Y. SANO; H. KUSUHARA; M. MINAMI; H. TAKAHASHI; Y. IKEGAYA. *Hokkaido Univ., The Univ. of Tokyo, Kyoto Univ. Grad. Sch. of Med., The Univ. of Tokyo.*

**POSTER**

**660. Spike Timing Dependent Plasticity**

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

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

8:00 F1 **660.01** Emergence of oscillatory activity via spike timing dependent plasticity. M. SHAMIR*; S. NAGAR. *Ben-Gurion Univ., Ben-Gurion Univ. of the Negev.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 F2 **660.02** Maternal deprivation modulates glutamatergic spike-timing dependent plasticity in the lateral habenula. L. D. LANGLOIS*; M. E. AUTHEMENT; F. S. NUGENT. *Uniformed Services Univ. of the Hlth. Scienc, Uniformed Services Univ.*

10:00 F3 **660.03** Disruption and repair of cortical excitatory-inhibitory balance. R. E. FIELD*; J. A. D'AMOUR; R. C. FROEMKE. *New York Univ. Sch. of Med., Natl. Inst. of Hlth., NYU Med.*

11:00 F4 **660.04** Altered neuronal response modulation in developing cerebellar white matter following chronic perinatal hypoxia. S. KUNDU*; V. GALLO. *Childrens Natl. Med. Ctr.*

8:00 F5 **660.05** Movement-dependent electrochemical stimulation for promoting cortico-cortical plasticity. S. MOORJANI*; S. I. PERLMUTTER; E. E. FETZ. *Univ. of Washington.*

9:00 F6 **660.06** Spike-Timing dependent plasticity rules with physiological extracellular calcium concentration: Experiments and theory. Y. INGLEBERT*; J. ALJADEFF; N. BRUNEL; D. DEBANNE. *INSERM - UMR1072, Univ. of Chicago, Univ. of Chicago.*

10:00 F7 **660.07** GSK3 modulates spike timing-dependent plasticity in layer 2/3 of somatosensory cortex through direct phosphorylation of Kv4.2 channels. G. ACETO; A. RE; A. MATTERA; A. S. BARBATI; M. RINAUDO; C. RIPOLI; F. SCALA; S. FUSCO; F. LAEZZA; C. GRASSI; M. D'ASCENZO*. *Catholic Univ., Natl. Res. Council, Baylor Col. of Med., Univ. of Texas Med. Br. at Galveston.*

11:00 F8 **660.08** The balance, the morphology, and the dendritic mosaic. N. IANNELLA*; T. LAUNEY. *The Univ. of Nottingham, RIKEN, Brain Sci. Inst.*

8:00 F9 **660.09** GABAergic input modulates Hebbian plasticity and the free energy minimization *in vitro.* T. ISOMURA*; T. TOYOIZUMI; K. KOTANI; Y. JIMBO. *RIKEN Brain Sci. Inst., The Univ. of Tokyo.*

9:00 F10 **660.10** Extracellular calcium influences on long-term plasticity. R. PERIN*; G. CHINDEMI; E. MÜLLER; H. MARKRAM. *Brain Mind Institute, EPFL, Blue Brain Project.*

10:00 F11 **660.11** Optogenetic induction of spike-timing-dependent plasticity at Schaffer collateral synapses in rat organotypic hippocampal slices. M. ANISIMOVA*; B. VAN BOMMEL; T. G. OERTNER; C. E. GEE. *Ctr. For Mol. Neurobio. Hamburg (ZMNH).*

11:00 F12 **660.12** Dopamine-endocannabinoid interactions mediate spike-timing dependent potentiation in the striatum. L. VENANCE*; H. XU; S. PEREZ; B. DETRAUX; A. CORNIL; I. S. PROKIN; Y. CUI; B. DEGOS; A. DE KERCHOVE D'EXAERDE; H. BERRY. *CIRB INSERM, Univ. Libre de Bruxelles, INRIA Rhône-Alpes, INRIA.*

**POSTER**

**661. Homeostatic Synaptic Plasticity: *In Vivo* Activity Manipulation**

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

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

8:00 G1 **661.01** Remembering how to breathe: Enhanced excitatory synaptic strength preserves motor output from the respiratory network after months of motor inactivity in bullfrogs. J. SANTIN*; M. M. VALLEJO; L. K. HARTZLER. *Wright State Univ.*

9:00 G2 **661.02** Visualizing homeostatic normalization in the output of long-range auditory subcortical projection neurons following a sudden drop in peripheral afferent drive. M. ASOKAN*; R. S. WILLIAMSON; K. E. HANCOCK; D. B. POLLEY. *Harvard University, Div. of Med. Sci., Massachusetts Eye and Ear Infirmary, Harvard Med. Sch.*

10:00 G3 **661.03** Synergistic shifts in AMPA and $GABA_A$ receptor transcripts underlying recovered auditory processing in the adult auditory cortex following peripheral denervation. P. BALARAM*; D. B. POLLEY. *Harvard Med. Sch., Massachusetts Eye and Ear Infirmary.*

11:00 G4 **661.04** Neurotransmitter switching in the adult mouse hippocampus and changes in episodic memory. S. ZAMBETTI*; J. O. CONNORS; N. C. SPITZER. *UC San Diego.*

8:00 G5 **661.05** Regulation of motor coordination by neurotransmitter switching in the brainstem. H. LI*; N. C. SPITZER. *UC San Diego.*

9:00 G6 **661.06** Environmental models of Autism engage neurotransmitter switching in prefrontal cortex. S. K. GODAVARTHI*; N. C. SPITZER. *Univ. of California San Diego.*

10:00 G7 **661.07** Plasticity of identified, functionally heterogeneous synapses shapes cell-wide plasticity of V1 neurons *in vivo.* S. EL BOUSTANI*; J. IP; V. BRETON-PROVENCHER; H. OKUNO; H. BITO; M. SUR. *EPFL, MIT, Kyoto Univ. Grad Schl of Med., Univ. Tokyo Grad Sch. Med.*

11:00 G8 **661.08** Redistribution of synaptic proteins between identified synapses of V1 neurons during experience-dependent plasticity *in vivo.* P. IP*; S. EL-BOUSTANI; V. BRETON-PROVENCHER; H. OKUNO; H. BITO; M. SUR. *MIT, Kyoto Univ. Grad Schl of Med., Univ. Tokyo Grad Sch. Med.*

8:00 G9 **661.09** The role of external tufted cells in activity-dependent plasticity of the olfactory bulb. C. HAHN*; M. S. GRUBB. *King's Col. London.*

9:00 G10 **661.10** Characterising dopaminergic plasticity in the mouse olfactory bulb. D. J. BYRNE*; M. S. GRUBB. *King's Col. London.*

10:00 H1 **661.11** Input specific plasticity with visual experience by Homer1a mediated Metabotropic glutamate receptor 5 signaling in mouse primary visual cortex. V. B. CHOKSHI*; M. GAO; P. F. WORLEY; H. LEE. *Johns Hopkins Univ., Barrow Neurolog. Institute, St. Joseph's Hosp. and Med. Ctr., Johns Hopkins Sch. Med., Johns Hopkins Sch. Med.*

11:00 H2 **661.12** Homeostatic plasticity of excitatory synapses in *ex vivo* cortical circuits. B. D. GRIER*; V. CHOKSHI; A. DYKMAN; E. NIEBUR; H. LEE. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ.*



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* Indicates abstract's submitting author

8:00 H3 **661.13** Extinction of aversive taste memory homeostatically prevents the maintenance of *in vivo* insular cortex LTP: Calcineurin requirement. A. RIVERA-OLVERA*; J. NELSON-MORA; M. GONSEBATT; M. ESCOBAR. *Facultad De Psicologia, UNAM, Facultad de Psicologia, UNAM, Inst. de Investigaciones Biomédicas, UNAM.*

9:00 H4 **661.14** Linking homeostasis of neurons and networks in freely behaving rats. Z. MA; R. WESSEL; G. TURRIGIANO; K. B. HENGEN*. *Washington Univ. in St. Louis, Brandeis Univ., Washington Univ. In St. Louis.*

10:00 H5 **661.15** Cascades of homeostatic dysregulation progressively intensify cocaine seeking. J. WANG*; M. ISHIKAWA; M. OTAKA; J. Y. KIM; G. R. GARDNER; Y. H. HUANG; J. W. HELL; R. C. MALENKA; M. E. WOLF; O. SCHLÜTER1; Y. DONG. *Univ. of Pittsburgh, Icahn Sch. of Med. at Mount Sinai, Univ. of Pittsburgh, UC Davis, Stanford Univ. Sch. of Med., Rosalind Franklin Univ. of Med. and Sci.*

**POSTER**

**662. Structural Plasticity: Cellular**

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

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

8:00 H6 **662.01** Integrative morphological analyzes to enhance NMJs diagnostic power. S. BARBAT*; R. ROBITAILLE. *Univ. De Montréal.*

9:00 H7 **662.02** Vital imaging of myonuclei. R. HASTINGS*; W. J. THOMPSON. *Texas A&M Univ.*

10:00 H8 **662.03** Myofiber development and regeneration in a mouse model of muscular dystrophy. R. MASSOPUST*; W. THOMPSON. *Texas A&M Univ.*

11:00 H9 **662.04** Neuromuscular acetylcholine receptor dynamics in dystrophic mice mimic those caused by endogenous muscle injury. S. HADDIX*; W. J. THOMPSON. *Texas A&M Univ., Texas A&M Univ.*

8:00 H10 **662.05** Difference in the timing of neuromuscular synapse elimination correlates with properties of target muscle fibers. Y. LEE*; W. J. THOMPSON. *Texas A&M Univ., Texas A&M Univ.*

9:00 H11 **662.06** Cortactin expression is driven by wingless and neuronal activity to allow synaptic plasticity at the *Drosophila* neuromuscular junction. C. M. DOMINICCI-COTTO*; M. PEREZ CARAMBOT; C. MALDONADO; B. MARIE. *Inst. of Neurobio., Inst. of Neurobio., Inst. of Neurobio., Univ. of Puerto Rico - Med. Sch.*

10:00 H12 **662.07** Cortactin controls electrophysiological properties during activity-dependent synaptic plasticity at the *Drosophila larva* neuromuscular junction. C. MALDONADO*; M. PEREZ; C. DOMINICCI; B. MARIE. *Inst. of Neurobio., Univ. of Puerto Rico - Med. Sch.*

11:00 I1 **662.08** Genetic interaction of DISC1 and Neurexin in the development of fruit fly glutamatergic synapses. K. FURUKUBO-TOKUNAGA*; H. PANDEY; K. BOURAHMOUNE; K. KURITA; A. SAWA. *Biol. Sci., Univ. of Tsukuba, Johns Hopkins Univ.*

8:00 I2 **662.09** The alterations of neurite outgrowth and synapse development in tdp-43$^{A315T}$ primary cortical neurons. T. JIANG*; M. BRIZUELA; E. HANDLEY; E. DAWKINS; T. DICKSON; C. BLIZZARD. *Menzies Inst. for Med. Res.*

9:00 I3 **662.10** Excessive lysosomal degradation induced by the Christianson Syndrome mutation NHE6 ΔES impairs AMPA receptor trafficking and structural plasticity in hippocampal neurons. A. Y. GAO*; A. ILIE; J. ORLOWSKI; R. A. MCKINNEY. *McGill Univ., McGill Univ., McGill Univ.*

10:00 I4 **662.11** Autism-associated mutation of syntaxin binding protein 5 disrupts dendritic morphology. W. SHEN*; Y. LIN. *Hussman Inst. For Autism.*

11:00 I5 **662.12** ● Schizophrenia risk from a negative-regulator of synaptic pruning. M. L. BAUM*; S. DE BOER; H. DE RIVERA; G. GENOVESE; N. KAMITAKI; D. A. SABATINI; W. WANG; D. HAZELBAKER; D. VARGAS; J. PRESUMEY; B. HAVIK; M. C. CARROLL; B. L. SABATINI; L. E. BARRETT; K. EGGAN; S. MCCARROLL; B. A. STEVENS. *Boston Children's Hosp., Stanley Ctr. for Psychiatric Research, Broad Inst. of MIT and Harvard, Harvard Med. Sch. Dept. of Genet., Harvard-MIT MD-PhD Program, Harvard-MIT Div. of Hlth. Sci. & Technol., Harvard Dept. of Stem Cell and Regenerative Biol., Harvard Univ. Dept. of Mol. and Cell. Biol., Univ. of Chicago, Harvard Med. Sch. Dept. of Neurobio., Boston Children's Hosp. Program in Cell. and Mol. Med., Univ. of Bergen Dept. of Clin. Sci.*

8:00 I6 **662.13** CCL5 regulating synaptogenesis promotes memory formation. S. CHOU*; R. AJOY; B. J. HOFFER; Y. CHEN. *Taipei Med. Univ., NIDA/NIH, Tri-Service Gen. Hospital/National Def. Medi.*

9:00 I7 **662.14** Activity-dependent structural changes in subsurface cisterns of hippocampal neurons. J. TAO-CHENG*. *NIH.*

8:00 DP02/I8 **662.15** (Dynamic Poster) TMEM24, a lipid transporter at ER-plasma membrane contacts enriched in neurons and regulated by calcium. M. MESSA*; E. W. SUN; P. V. DE CAMILLI. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., HHMI/Yale Univ., Kavli Inst. for Neuroscience, Yale Univ. Sch. of Med.*

11:00 I9 **662.16** *In vivo* imaging of mitochondrial localisation during structural synaptic plasticity. R. M. LEES*; J. D. JOHNSON; L. M. COLLINSON; P. VERKADE; M. C. ASHBY. *Univ. of Bristol, The Francis Crick Inst., Univ. of Bristol.*

8:00 I10 **662.17** Neurolastin, a brain-specific dynamin-family gtpase, modulates mitochondrial dynamics. R. M. LOMASH*; R. S. PETRALIA; M. C. TSUDA; Y. WANG; R. YOULE; H. A. CAMERON; K. ROCHE. *Natl. Inst. of Hlth., NIDCD/NIH, NIMH/NIH, NIDCD, NIH.*

9:00 J1 **662.18** Activity-dependent excitatory synapse stabilization in mouse visual cortex. K. MICHEL*; J. SUBRAMANIAN; M. R. BENOIT; E. NEDIVI. *MIT.*

10:00 J2 **662.19** Withdrawn

11:00 J3 **662.20** Neural cell adhesion molecule NCAM regulates perisomatic synapse remodeling and inhibition of pyramidal cells in the developing mouse frontal cortex. C. S. SULLIVAN*; X. ZHANG; M. KRATZ; P. MANIS; P. MANESS. *Univ. of North Carolina Chapel Hill, Univ. of North Carolina Chapel Hill.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**663. Synaptic and Neuronal Plasticity Mechanisms**

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

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

8:00 J4 **663.01** Cell-cell communication may underlie radiation-induced synaptic dysfunction of mature neurons. A. PUSPITASARI*; N. KOGANEZAWA; T. SHIRAO; K. D. HELD; T. NAKANO. *Gunma Univ. Grad. Sch. of Med., Gunma Univ. Grad Sch. Med., Massachusetts Gen. Hospital/ Harvard Med. Sch., Gunma Univ. Grad. Sch. of Med.*

9:00 J5 **663.02** Exploring the molecular mechanisms underlying rapid estrogenic modulation of neuronal connectivity. P. RAVAL*; J. MUKHERJEE; K. J. SELLERS; S. J. MOSS; N. J. BRANDON; D. P. SRIVASTAVA. *King's Col. London, AstraZeneca-Tuft's Lab. for Translational Neurosci., AstraZeneca Neurosci. IMED.*

10:00 J6 **663.03** Cholinergic interneurons enhance thalamostriatal excitation of indirect pathway spiny projection neurons in a Parkinson's disease model. A. TANIMURA*; Y. DU; J. KONDAPALLI; D. SURMEIER. *Northwestern Univ., Northwestern Univ., Northwestern Univ. Dept. of Physiol.*

11:00 J7 **663.04** Calcium-dependent mechanisms underlying long-term depression of electrical synapses in the thalamic reticular nucleus. J. S. HAAS*; S. FITTRO; E. L. HECKMAN; J. SEVETSON. *Lehigh Univ., Lehigh Univ., Brown Univ.*

8:00 J8 **663.05** Regulation of synaptic plasticity by the dark/light cycle. K. HE*; A. KIRKWOOD. *Chinese Acad. of Sci., Johns Hopkins Univ.*

9:00 J9 **663.06** Sonic hedgehog (Shh) control the balance between long-term potentiation and long-term depression in hippocampal neurons. S. C. SUNDBERG*; G. M. SANCHEZ; F. ANDERSSON; M. ALENIUS; B. GRANSETH. *Linköping Univ.*

10:00 J10 **663.07** Synaptic plasticity through activation of GluA3-containing AMPA-receptors. E. ALBERS*; M. C. RENNER; N. GUTIERREZ-CASTELLANOS; N. R. REINDERS; A. N. VAN HUIJSTEE; H. W. KESSELS. *Netherlands Inst. For Neurosci.*

11:00 J11 **663.08** Epigenetic reprogramming during late memory reconsolidation is critical for the incubation of cocaine craving. K. YUAN*; Y. HAN; C. CHEN; L. LU. *Natl. Inst. of Drug Dependence, Natl. Inst. on Drug Dependence and Beijing Key laboratory of Drug Dependence, Peking Univ., Peking Univ. Sixth Hosp., Inst. Mental Health,Peking Univ. Sixth Hosp.*

8:00 J12 **663.09** Cocaine conditioned place preference alters the firing properties of perineuronal net surrounded neurons in the prelimbic prefrontal cortex. E. T. JORGENSEN*; C. M. CASSIDY; B. A. SORG; T. E. BROWN. *Univ. of Wyoming, Washington State Univ.*

9:00 K1 **663.10** Age-dependent alteration of oxidative stress and expression level of glutamate receptors in senescence-accelerated mouse prone 8. S. TANIGUCHI*; M. HANAFUSA; H. TSUBONE; D. YAMANAKA; K. ITO. *Univ. of Tokyo, Univ. of Tokyo.*

10:00 K2 **663.11** Analysis of synaptic-related microRNAs expression in Alzheimer's disease. D. J. SIEDLECKI-WULLICH*; J. CATALÀ-SOLSONA; C. FÁBREGAS-ORDÓÑEZ; A. J. MIÑANO-MOLINA; C. A. SAURA; J. RODRÍGUEZ-ÁLVAREZ. *Inst. de Neurociències UAB, Ctr. de Investigación Biomédica en Red sobre Enfermedades Neurodegenerativas (CIBERNED).*

11:00 K3 **663.12** Astrocytic activation generates de-novo neuronal potentiation and memory enhancement. A. KOL*; A. ADAMSKY; T. KREISEL; T. MELCER; R. REFAELI; L. REGEV; M. LONDON; I. GOSHEN. *The Hebrew Univ.*

8:00 K4 **663.13** Activation of neuroplasticity pathways in the rat spinal cord through treadmill exercise. Y. OKA*; Y. SHIROSE; N. KUWABARA; K. NAKAMOTO; T. KOKUBUN; K. MURATA; N. KANEMURA. *Grad. Sch. of Saitama Prefectural Univ., Yokohama Rosai Hosp., Shiraoka Orthopedics, Saitama Prefectural Univ.*

9:00 K5 **663.14** FoxO3a/Zdhhc3/AMPA receptor GluR1 cascade at the crossroad between insulin resistance and impairment of synaptic plasticity and memory. S. FUSCO*; M. SPINELLI; M. MAINARDI; F. SCALA; F. NATALE; R. LAPENTA; A. MATTERA; M. RINAUDO; D. D. LI PUMA; C. RIPOLI; A. GRASSI; M. D'ASCENZO; C. GRASSI. *Universita' Cattolica Med. Sch., Univ. of Salerno.*

10:00 K6 **663.15** Effects of short-term of caloric restriction and rapamycin treatments on cellular and synaptic components in young and old zebrafish (Danio rerio). D. CELEBI-BIRAND; G. F. SENGUL; N. I. ARDIC; H. KAFALIGONUL; M. M. ADAMS*. *Bilkent Univ., Bilkent Univ., Bilkent Univ., Natl. Magnetic Resonance Res. Ctr. (UMRAM), Bilkent Univ., Bilkent Üniversitesi.*

11:00 K7 **663.16** Experience dependent spatio-temporal changes in the early and late evoked patterns of cortical activity in anesthetized mice using wide-field voltage-sensitive dye imaging. E. J. BERMUDEZ CONTRERAS*; A. LUCZAK; M. MOHAJERANI; B. MCNAUGHTON. *CCBN / Univ. of Lethbridge, Univ. of California.*

8:00 K8 **663.17** Deep brain stimulation induced synaptic depletion is a robust phenomenon independent of synapse type. A. FAROKHNIAEE; R. W. ANDERSON; C. C. MCINTYRE*. *Case Western Reserve Univ., Case Western Reserve Univ., Case Western Reserve Univ.*

9:00 K9 **663.18** Transcranial direct current stimulation enhances SSVEP response over multiple days: A role for consolidation. J. AU*; S. JAEGGI; S. MOON; B. GIBSON; R. SRINIVASAN. *UC Irvine, Univ. California Irvine.*

10:00 K10 **663.19** Electrophysiological effects of theta burst stimulation in humans: An electrocorticography (ECoG) study. J. L. HERRERO; M. ARGYELAN*; A. D. MEHTA; C. KELLER; E. H. CHANG. *The Feinstein Inst. For Med. Res., The Zucker Hillside Hosp., Hofstra North Shore LIJ Sch. of Med., Stanford Univ., Zucker Hillside Hospital, Feinstein Inst.*

11:00 K11 **663.20** ● Test-retest reliability of the effects of continuous theta-burst stimulation (cTBS) in healthy adults. A. JANNATI*; P. J. FRIED; G. BLOCK; L. M. OBERMAN; A. ROTENBERG; A. PASCUAL-LEONE. *BIDMC, Harvard Med. Sch., Bradley Hosp., Boston Children's Hosp.*

8:00 K12 **663.21** ● Continuous theta-burst stimulation as a neurophysiologic biomarker for children with autism spectrum disorders. G. BLOCK*; A. JANNATI; H. L. KAYE; L. M. OBERMAN; A. PASCUAL-LEONE; A. ROTENBERG. *Beth Israel Deaconess Med. Ctr., Boston Children's Hosp., Bradley Hosp.*



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* Indicates abstract's submitting author

**POSTER**

## 664. Networks: Thalamus, Cortex, and Brainstem

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

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

8:00 L1 **664.01** $\alpha_{1A}$-adrenergic receptor activation decreases epileptiform activity in the murine hippocampal CA3 region. J. P. BIGGANE*; Z. O. DENT; D. M. PEREZ; V. A. DOZE. *Univ. of North Dakota, Lerner Res. Inst.*

9:00 L2 **664.02** Interictal and ictal events are different cortical response to same global thalamic input. H. MA*; E. BAIRD-DANIEL; J. LIOU; M. ZHAO; D. LI; C. A. SCHEVON; T. H. SCHWARTZ. *Weill Cornell Med. Col., Columbia Univ., First Hosp. of Jilin Univ.*

10:00 L3 **664.03** A heterogeneous thalamic network model that recapitulates oscillations modulated by GABA transporter blockade. A. LU*; C. K. LEE; B. TRUONG; J. R. HUGUENARD; M. P. BEENHAKKER. *Univ. of Virginia, Stanford Univ. Sch. of Med., Univ. of Virginia, Stanford Univ. Sch. Med., Univ. of Virginia.*

11:00 L4 **664.04** Chemogenetic silencing of projections from the basolateral amygdala to the mediodorsal thalamus attenuates limbic seizures. E. WICKER*; P. A. FORCELLI. *Georgetown Univ., Georgetown Univ.*

8:00 L5 **664.05** Hypoxic activation of midline thalamus. K. A. SALVATI*; M. P. BEENHAKKER. *Univ. of Virginia, Univ. of Virginia.*

9:00 L6 **664.06** ● Large scale 4 Hz oscillations control the expression of neocortical fast-ripples in hippocampal sclerosis. L. SHEYBANI*; P. VANMIERLO; M. BAUD; S. VULLIEMOZ; M. SEECK; C. MICHEL; C. QUAIRIAUX. *Functional Brain Mapping Laboratory, Fac. of Me, Dept. des neurosciences cliniques, Ctr. for Biomed. Imaging (CIBM).*

10:00 L7 **664.07** Laminar distribution of ultra high frequency oscillations in the epileptic brain induced by focal cortical dysplasia in mice. Q. SUN*; A. WILLIAMS. *Univ. Wyoming, Univ. of Wyoming.*

11:00 L8 **664.08** The superior colliculus is a site for anticonvulsant action for cannabinoid agonists. R. HAMMACK*; V. R. SANTOS; E. WICKER; P. N'GOUEMO; P. A. FORCELLI. *Georgetown Univ., Georgetown Univ., GEORGETOWN UNIVERSITY MEDICAL CENTER, Georgetown Univ.*

8:00 L9 **664.09** Cortical macrostructure influences the spread of epileptiform activity. R. R. PARRISH*; A. OFFER; C. RACCA; A. J. TREVELYAN. *Newcastle Univ.*

9:00 L10 **664.10** Graph theoretic analysis of limbic subnetwork in left vs right temporal lobe epilepsy. S. SUBRAMANIAN*; N. PELED; R. L. GOLLUB; M. HIBERT; L. DOUW; S. M. STUFFLEBEAM. *MGH Martinos Ctr., MGH, MGH Martinos Ctr.*

10:00 M1 **664.11** Network origins of epileptic activity. S. GHIASVAND*; Y. BERDICHEVSKY. *Lehigh university, Lehigh Univ.*

11:00 M2 **664.12** ● Quantification of seizurogenic activity with multiwell microelectrode array technology for proconvulsant risk assessment. D. C. MILLARD*; H. B. HAYES; C. A. ARROWOOD; A. M. NICOLINI. *Axion Biosystems.*

**POSTER**

## 665. Epilepsy: Anticonvulsant Therapies - Novel Screens, Drugs, and Mechanisms

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

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

8:00 M3 **665.01** Gluconate inhibition of CLC-3 chloride channels as a novel treatment for neonatal seizure. Z. WU*. *Huck Life Sci.*

9:00 M4 **665.02** ▲ Effect of levetiracetam treatment on neurotransmission in the dentate gyrus of rats with temporal lobe epilepsy. L. PICHARDO-MACIAS*; B. A. RAMÍREZ; K. B. SÁNCHEZ- HUERTA; I. J. CONTRERAS; M. S. NAVARRETE; E. M. GARCÍA; S. R. ZAMUDIO; J. L. CHAVEZ; J. G. MENDOZA-TORREBLANCA. *Inst. Politecnico Nacional, Inst. Nacional de Pediatría, Inst. Nacional de Pediatría, Inst. Politécnico Nacional.*

10:00 M5 **665.03** ▲ Epileptic circuits revealed using EpiPro, a novel synthetic activity-modulated promoter. C. T. BURKE*; I. VITKO; A. GAWDA; J. KIM; K. BRODIE; K. SULLIVAN; B. WALKER; M. OTTOLINI; D. PEREZ-REYES; J. KAPUR; M. PATEL; E. PEREZ-REYES. *Univ. of Virginia, Univ. of Virginia, Univ. of Virginia.*

11:00 M6 **665.04** Closed-loop gene therapy for intractable focal epilepsy. A. LIEB*; Y. QIU; C. DIXON; D. M. KULLMAN. *UCL / Inst. of Neurol.*

8:00 M7 **665.05** Transcranial near-infrared laser treatment suppresses pentylenetetrazol-induced severe seizure behaviors and status epilepticus in developing rats. C. TSAI*; S. CHANG; H. CHANG. *Taipei Med. Univ., Taipei Med. Univ. Hosp., Taipei Med. Univ.*

9:00 M8 **665.06** ● Selective inhibition of $Na_V1.6$ drives anticonvulsant efficacy in mouse models of epileptic encephalopathy ($SCN8A^{N1768D+/-}$) and adult partial onset seizures (maximal electroshock). C. M. DUBE; P. KARIMI TARI; M. WALDBROOK; K. NELKENBRECHER; J. MARK; T. FOCKEN; N. SHUART; K. KHAKH; R. WINQUIST; J. EMPFIELD; C. J. COHEN; J. JOHNSON*, JR. *Xenon Pharmaceuticals Inc., Xenon Pharmaceuticals Inc., Xenon Pharmaceuticals Inc., Xenon Pharmaceuticals Inc., Xenon Pharmaceuticals.*

10:00 M9 **665.07** ● Targeted discovery and development of serotonin modulators for Dravet syndrome. A. GRIFFIN*; K. R. HAMLING; K. KNUPP; P. JAISHANKAR; A. R. RENSLO; S. C. BARABAN. *Univ. California San Francisco, Univ. of Colorado Denver, Univ. California San Francisco.*

11:00 M10 **665.08** Assessment of midazolam and diazepam to treat nerve agent-induced seizures in pediatric and adult rats. K. HAINES; E. N. DUNN; L. M. MATSON; C. ARDINGER; H. S. MCCARREN; S. M. MILLER-SMITH; J. H. MCDONOUGH*, Jr. *US Army Med. Res. Inst. Chem Def, US Army Med. Res. Inst. of Chem. Def.*

8:00 N1 **665.09** Investigating the antiepileptic potential of mycophenolate mofetil in a rat model of temporal lobe epilepsy. A. G. MAZUMDER*; V. PATIAL; D. SINGH. *CSIR-Institute of Himalayan Bioresource Technol.*

9:00 N2 **665.10** ● Traumatic brain injury alters Huperzine-A cerebral pharmacodynamics. U. DAMAR*; R. GERSNER; J. JOHNSTONE; K. KAPUR; S. COLLINS; S. C. SCHACHTER; A. ROTENBERG. *Boston Children's Hosp., Biscayne Neurotherapeutics, Beth Israel Deaconess Med. Ctr.*



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* Indicates abstract's submitting author

10:00 N3 **665.11** Investigation of the effect of licofelon on absence epilepsy. T. SAHIN*; F. DEDE; N. ATES. *Kocaeli Univ. Med. Fac.*

11:00 N4 **665.12** Resampling technique effects for lasso in seizure prediction. P. YU*; C. N. HECK; C. LIU; D. SONG; T. W. BERGER. *USC, USC.*

8:00 N5 **665.13** Benzenamides as anticonvulsants. S. E. MEZA TOLEDO*; C. MARTÍNEZ APARICIO; E. FUENTES CAPISTRÁN; E. ROMERO MARTÍNEZ. *Escuela Nacional De Ciencias Biológicas, IPN.*

9:00 N6 **665.14** ● Suppression of epileptic activity by lactate in subicular pyramidal neurons. P. JORWAL*; S. K. SIKDAR. *Indian Institue of Sci.*

10:00 N7 **665.15** ▲ Evaluating the anti-inflammatory effects of curcumin in Scn1a mouse models of epilepsy. A. B. VAN DERVEER*; S. B. DUTTON. *Agnes Scott Col., Agnes Scott Col.*

11:00 N8 **665.16** ● Ferulic acid supplementation for management of depression in epilepsy. T. SINGH*; R. K. GOEL. *Punjabi University, Patiala.*

8:00 N9 **665.17** Analysis of the anticonvulsant properties of thalidomide in mice. A. M. ISLAS*; C. CAMPOS-RODRÍGUEZ; A. ALVAREZ-GUERRA; E. RAMÍREZ-SAN JUAN. *Escuela Nacional De Ciencias Biológicas, Inst.*

9:00 N10 **665.18** Gene therapy for epilepsy using non-integrating lentiviral delivery of an engineered potassium channel gene. A. SNOWBALL*; E. CHABROL; B. CHANG; A. LIEB; M. C. WALKER; D. M. KULLMANN; S. SCHORGE. *UCL Inst. of Neurol.*

10:00 N11 **665.19** ● Intramuscular midazolam, allopregnanolone and perampanel combination therapy terminates seizures in a rat model of DFP-induced status epilepticus. A. DHIR*; M. A. ROGAWSKI. *Univ. of California, Davis.*

11:00 N12 **665.20** ● GIRK activator ML297 depresses epileptiform afterdischarges and seizure propagation in mouse brain slices using conventional and MEA extracellular recordings. B. ZOU*; W. CAO; C. PASCUAL; K. XIAO; C. LINDSLEY; D. WEAVER; X. XIE. *AfaSci Res. Labs., Vanderbilt Univ.*

8:00 O1 **665.21** Alterations of the cholinergic system during epileptogenesis in animal models of temporal lobe epilepsy. S. MELLER; C. BRANDT; J. KLEIN; W. LOSCHER*. *Univ. of Vet. Med. Hannover, Goethe Univ. Frankfurt.*

9:00 O2 **665.22** Protracted post-traumatic neuronal death in the developing hippocampus. T. BALENA*; Y. SAPONJIAN; K. J. STALEY. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp.*

10:00 O3 **665.23** Effects of inhibition of the mammalian target of rapamycin (mTOR) pathway in an organotypic slice culture model for temporal lobe epilepsy: Anti-epileptogenic properties of curcumin. C. M. DRION*; L. KOOIJMAN; E. ARONICA; E. A. VAN VLIET; W. J. WADMAN; P. CHAMEAU; J. A. GORTER. *Univ. of Amsterdam, Academic Med. Ctr., Stichting Epilepsie Instellingen Nederland (SEIN).*

**POSTER**

**666. Alzheimer's Disease: Biomarkers, Metabolism, and Proteomics**

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

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

8:00 O4 **666.01** Abeta oligomers: Biophysical properties predict cellular pathogenesis. M. A. MOSS*; K. M. PATE; D. N. DEAN; V. RANGACHARI. *Univ. of South Carolina, Univ. of South Carolina, Univ. of Southern Missisippi.*

9:00 O5 **666.02** Generation and characterization of neurotoxic tau oligomers. G. GHAG*; D. V. CANTU; M. J. GUERRERO-MUNOZ; U. SENGUPTA; R. KAYED. *Univ. of Texas Med. Br.*

10:00 O6 **666.03** Molecular insights into Aβ oligomer strains and phenotypic variations in AD. V. RANGACHARI*; D. N. DEAN. *Univ. of Southern Missisippi, Univ. of Southern Mississippi.*

11:00 O7 **666.04** HDAC6 inhibitor tubastatin A reduces pathological tau burden in the brain of transgenic AD mice model. H. KIM*; J. YANG; H. CHOI; W. LEE; I. MOOK-JUNG. *Seoul Natl. Univ. (college of Medicine), Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ., Lab. For Alzheimer's Dis. Res., Seoul Natnl Univ. Col. Med.*

8:00 O8 **666.05** ▲ Chemically treated plasma Aβ is a potential blood-based biomarker for screening cerebral amyloid deposition. J. PARK*; S. HAN; H. CHO; M. BYUN; D. YI; Y. CHOE; S. KANG; E. JUNG; S. WON; E. KIM; Y. KIM; D. LEE; I. MOOK-JUNG. *Seoul Natl. Univ., Seoul Natl. University, Col. of medicine, Ulsan Univ. Hosp., Seoul Natl. Univ. Boramae Med. Ctr.*

9:00 O9 **666.06** Molecular and functional signatures in a novel Alzheimer's disease mouse model assessed by 10-PLEX TMT-based quantitative proteomics. D. KIM*; J. PARK; D. HAN; J. YANG; A. KIM; J. WOO; Y. KIM; I. MOOK-JUNG. *Seoul Natl. University, Grad. Sch., Seoul Natl. Univ., Seoul Natl. Univ. Hosp.*

10:00 O10 **666.07** The Effects of Gut Microbial Community for the pathogenesis of Alzheimer's disease animal model. H. CHOI*; Y. KIM; M. KIM; H. KIM; J. BAE; I. MOOK-JUNG. *Seoul Natl. Univ. Col. of Med., Kyung Hee Univ.*

11:00 P1 **666.08** Withdrawn

8:00 P2 **666.09** Using Nilotinib to improve mitochondrial function in Alzheimer's disease. B. C. ALBENSI*; R. S. TURNER; A. ADLIMOGHADDAM. *Univ. of Manitoba, Georgetown Univ.*

9:00 P3 **666.10** The action of nobiletin on brain mitochondria and yeast cells. N. SHARIKADZE*; N. JOJUA; E. ZHURAVLIOVA; N. HAMMAD; N. AVERET; M. RIGOULET; A. DEVIN; D. G. MIKELADZE. *Ilia State Univ., Univ. Bordeaux, IBGC, UMR 5095, Inst. de Biochimie et Génétique Cellulaires, CNRS UMR 5095, I. Beritashvili Ctr. of Exptl. Biomedicine.*

10:00 P4 **666.11** Perturbed sphingolipid metabolism in mouse models of type-2 diabetes and AD. N. R. BHAT*; V. PALADUGU; S. MOHANTY. *Med. Univ. South Carolina.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 P5 **666.12** Ascorbate deficiency and altered glutamate clearance increase seizure susceptibility and cognitive decline in a mouse model of Alzheimer's disease. F. E. HARRISON*; S. DIXIT; D. J. MI; T. A. WARNER; J. KANG. *Vanderbilt Univ. Med. Ctr., Vanderbilt Univ., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr.*

8:00 P6 **666.13** Late-onset Alzheimer's disease is associated with inherent changes in bioenergetics profiles. K. C. SONNTAG*; W. RYU; K. M. AMIRAULT; R. A. HEALY; A. J. SIEGEL; D. L. MCPHIE; B. FORESTER; B. M. COHEN. *McLean Hospital, Harvard Med. Sch.*

9:00 P7 **666.14** Toxic tau oligomeric strains targeted and modulated by novel curcumin derivatives. F. LO CASCIO*; U. SENGUPTA; A. PALUMBO PICCIONELLO; C. CAMPANELLA; C. CARUSO BAVISOTTO; A. PACE; R. KAYED. *Univ. of Texas Med. Br., Univ. of Texas Med. Br., Univ. of Palermo, Univ. of Palermo.*

10:00 P8 **666.15** Differential spreading and toxicity of brain-derived tau oligomeric stains. R. KAYED*; U. SENGUPTA; M. CARRETERO MURILLO; D. CASTILLO-CARRANZA; J. GERSON. *Univ. of Texas Med. Br.*

11:00 P9 **666.16** The role of alpha-synuclein oligomeric conformations on tau aggregation and the formation of oligomeric strains. U. SENGUPTA*; J. GERSON; D. CASTILLO-CARRANZA; R. KAYED. *Univ. of Texas Med. Br., UTMB, Univ. of Texas Med. Br.*

8:00 P10 **666.17** ● Development of sensitive, robust and quantitative assays for tau aggregation, phosphorylation and fragmentation, and their use for the characterization of tau pathology in transgenic mouse models. C. THEUNIS*; K. VAN KOLEN; B. VAN BROECK; G. DANEELS; M. VANDERMEEREN; M. MERCKEN. *Janssen R&D.*

9:00 Q1 **666.18** Effect of oral and intrahippocampal administration of tideglusib on the regulation of tau phosphorylation, amyloid beta peptide and memory in diabetic rats. T. PONCE-LOPEZ*; M. ABASCAL-DIAZ; S. GARCÍA-ANDRADE; A. FLORES-VIZCAYA; D. MURILLO-REYES; A. VARGAS. *CINVESTAV, Anahuac Mexico Univ.*

10:00 Q2 **666.19** ● SUVN-D4010, a potent and selective 5-$HT_4$ receptor partial agonist - effect of food, gender and age on human pharmacokinetics. G. BHYRAPUNENI*; K. MUDIGONDA; R. PALACHARLA; P. JAYARAJAN; R. ABRAHAM; R. SUBRAMANIAN; V. GOYAL; S. PANDEY; D. AJJALA; A. MOHAMMED; S. JETTA; R. NIROGI. *Suven Life Sci. Ltd.*

11:00 Q3 **666.20** Effects of glucocorticoid and adenosine agonist addition on glucocorticoid receptor translocation in SH-SY5Y cells. D. E. OSEID*; S. LEAR; A. S. ROBINSON. *Tulane Univ., Tulane Univ.*

8:00 Q4 **666.21** The relationship between insulin resistance and amyloid pathology in diabetic AD model mice. K. MATSUI*; K. YAMAGUCHI; A. MANO; T. SANO; T. HASHIMOTO; T. KUBOTA; N. KUBOTA; T. KADOWAKI; T. WAKABAYASHI; T. IWATSUBO. *The Univ. of Tokyo, The Univ. of Tokyo.*

9:00 Q5 **666.22** Insulin resistance mediates neuronal cell cycle re-entry, dysfunction and degeneration. H. CHOW*; A. CHENG; K. HERRUP. *Div. of Life Sci., The Hong Kong Univ. of Sci. and Technol., Inst. for Advanced Study., The Hong Kong Univ. of Sci. and Technol.*

10:00 Q6 **666.23** Folate metabolism disturbances in aging mice: A mouse model for sporadic Alzheimer's disease? R. BAHOUS*; M. COSÍN-TOMÁS; L. DENG; M. PALLÀS; P. KALIMAN; R. ROZEN. *McGill Univ., Pharmacol. Unit, Fac. of Pharmacy, Inst. de Neurociència Univ. de Barcelona (IBUB), Nucli Universitari de Pedralbes, Inst. of Biomed. Investigation of Barcelona, Spanish Natl. Res. Council, Ctr. for Mind and Brain, Univ. of California Davis, McGill Univ.*

**POSTER**

**667. Therapeutic Development for Neurodegenerative Diseases**

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

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

8:00 Q7 **667.01** ● SUVN-502 + donepezil + memantine (triple combination) for the symptomatic treatment of Alzheimer's disease. R. V. NIROGI*; K. MUDIGONDA; J. RAVULA; G. BHYRAPUNENI; V. BENADE; N. MUDDANA; V. PALACHARLA; D. AJJALA; V. GOYAL; S. PANDEY; J. FERNANDES; R. ABRAHAM; P. JAYARAJAN; R. KAMBHAMPATI; K. KANDUKURI; A. SHINDE. *Suven Life Sci.*

9:00 Q8 **667.02** ● SUVN-G3031: A potent and selective histamine $H_3$ receptor inverse agonist -effect of food, gender and age on human pharmacokinetics. N. MUDDANA*; G. BHYRAPUNENI; K. MUDIGONDA; P. JAYARAJAN; R. ABRAHAM; R. SUBRAMANIAN; V. GOYAL; S. PANDEY; D. AJJALA; A. SHINDE; J. RAVULA; R. NIROGI. *Suven Life Sci. Ltd.*

10:00 Q9 **667.03** Increasing progranulin expression with novel small molecules. R. J. TESLA*; K. S. YOO; B. CENIK; J. PRANGE-KIEL; J. M. READY; N. S. WILLIAMS; G. G. YU; J. HERZ. *Univ. of Texas, Southwestern, Univ. of Texas, Southwestern, Univ. of Texas, Southwestern, Univ. of Texas, Southwestern, Univ. of Texas, Southwestern.*

11:00 Q10 **667.04** P. cattleianum extract prevents neurochemical alterations observed in metabolic syndrome. A. G. BARSCHAK*; P. S. OLIVEIRA; M. S. P. SOARES; N. P. BONA; P. G. DA SILVA; J. S. CARDOSO; C. L. LENCINA; R. M. SPANEVELLO; F. M. STEFANELLO. *UFCSPA, Univ. Federal de Pelotas.*

8:00 Q11 **667.05** Anticonvulsant and neuroprotective effects of cannabidiol in immature rats. L. K. FRIEDMAN*; J. P. WONGVGRAVIT. *New York Med. Col., New York Med. Col.*

9:00 Q12 **667.06** Preclinical development of gene therapy for Niemann Pick disease type A. L. SAMARANCH; A. PEREZ-CAÑAMAS; J. BRINGAS; B. SOTO-HUELIN; W. SAN SEBASTIAN; J. JURADO-ARJONA; J. AVILA; E. H. SCHUCHMAN; H. CHEN; J. R. FORSAYETH; M. LEDESMA; K. S. BANKIEWICZ*. *Univ. California San Francisco, Ctr. de Biologia Mol. Severo Ochoa, CIBERNED, Icahn Med. Sch., Virovek Incorporation.*

10:00 R1 **667.07** Effects of a specific Histone Deacetylase (HDAC) inhibitor, on neuronal health and rescue of transcription in a primary neuronal culture model of Huntington's disease. A. N. ABDO*; M. LOPES; F. PARASKEVOPOULOU; C. ROSENMUND; F. YILDIRIM. *Charité – Universitätsmedizin Berlin, Charité – Universitätsmedizin Berlin.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 R2 **667.08** The Impact of running wheel exercise on ceramide-induced cognitive decline. C. WANG*; J. HOFMEISTER; C. J. BILLINGTON; C. M. KOTZ. *Minneapolis VA Hlth. Care Syst., Univ. of Minnesota, Minnesota Obesity Ctr., Univ. of Minnesota, Minneapolis VA Hlth. Care Syst., Univ. of Minnesota, Mpls VAHCS and Univ. of Minnesota, Univ. of Minnesota.*

8:00 R3 **667.09** Development and validation of immunoassays measuring TrkB phosphorylation and downstream signaling. S. DIJKSTRA*; P. HALONEN; J. VEENMAN; F. ALBERTUS; G. FLYNN; R. VAN DE BOSPOORT; D. F. FISCHER; G. MCALLISTER; J. A. BARD; I. MUNOZ-SANJUAN; V. BEAUMONT. *Charles River, Charles River, CHDI Management/CHDI Fndn., CHDI Management/CHDI Fndn.*

9:00 R4 **667.10** Age related changes in cognition in a rodent model of hydrocephalus. D. L. POETA*; H. A. BOUNDS; P. M. KLINGE; R. D. BURWELL. *Brown Univ., Rhode Island Hosp., Brown Univ.*

10:00 R5 **667.11** Diurnal variations of glutamateric system in brain motor cortex in rat. F. E. ROJO*; V. ARRIAGA; R. GUEVARA-GUZMÁN; M. MARTÍNEZ-VARGAS; L. NAVARRO; E. COBALLASE-URRUTIA; L. CARMONA-APARICIO. *Univ. Nacional Autonoma De México, Univ. Nacional Autonoma De México, Intituto Nacional de Pediatria.*

11:00 R6 **667.12** The anticholinesterase paraoxon elicits presynaptic decline in the dendritic field of hippocampal slices in correspondence with enhanced levels of astrocytic processes and β1 integrin response. K. G. FARIZATTO*; M. F. ALMEIDA; H. W. ROMINE; K. RENTSCHLER; B. A. BAHR. *Biotech Ctr. / William C. Friday Lab.*

8:00 R7 **667.13** ▲ Vascular risks in older adults are correlated with brainwave patterns of learning and memory. E. BEDINGAR; L. S. BROSTER; E. L. ABNER; X. ZHAO; J. LI; G. A. JICHA; R. KRYSCIO; F. A. SCHMITT; C. D. SMITH; D. M. WILCOCK; Y. JIANG*. *Univ. of Kentucky Chandler Med. Ctr., Univ. of Kentucky Chandler Med. Ctr., Univ. of Tennessee, Chinese Acad. of Sci., Univ. of Kentucky Chandler Med. Ctr.*

9:00 R8 **667.14** ● *In vitro* effects of Epidiferphane on adult human neural progenitor cells. T. ZHENG*; D. F. BIELINSKI; D. R. FISHER; B. SHUKITT-HALE; B. A. REYNOLDS; D. A. STEINDLER. *HNRCA, Tufts Univ., Univ. of Florida.*

10:00 R9 **667.15** Blueberry and Epidiferphane (EDP) enhance calcium buffering in rat hippocampal cells and reduce stress signalling in microglial cells. D. R. FISHER; T. ZHENG; D. F. BIELINSKI; D. A. STEINDLER; B. SHUKITT-HALE*. *USDA-ARS Human Nutr. Res. Ctr. on Aging.*

11:00 R10 **667.16** Berry phenolics are associated with cognitive enhancement in blueberry- and strawberry-supplemented healthy older adults. M. G. MILLER*; A. K. SANDHU; N. THANGTHAENG; T. M. SCOTT; B. B. BURTON-FREEMAN; B. SHUKITT-HALE. *USDA-HNRCA, Inst. for Food Safety and Health, Illinois Inst. of Technol., USDA-HNRCA.*

8:00 S1 **667.17** ▲ Modulation of cerebral blood perfusion by cocoa flavanols in aged mice. A. SNYDER*; C. KONOPKA; H. PINARDO; T. K. BHATTACHARYA; C. MOULTON; W. DOBRUCKI; J. S. RHODES; C. RENDEIRO. *Univ. of Illinois At Urbana-Champaign, Beckman Inst. for Advanced Sci. and Technology, Univ. of Illinois at Urbana-Champaign, Ctr. for Nutrition, Learning, and Memory, Beckman Inst. for Advanced Sci. and Technol., Abbott Nutrition, Res. Park.*

9:00 S2 **667.18** ● Comprehensive longitudinal evaluation of aging-related phenotypes of frailty, neurosensory, motor, and cognitive measures in C57BL/6J mice. T. L. GREEN; T. MCGARR; S. S. WINTER; L. ANDERSON*; S. J. SUKOFF RIZZO. *The Jackson Lab.*

10:00 S3 **667.19** ● Thrombospondin repeat-derived peptide (NX210): Antioxidative and neuroprotective properties. N. DELÉTAGE*; M. CHALUS; A. BOILEAU; S. GOBRON; L. SAKKA. *NEURONAX, Neurodol - Faculté de Médecine.*

11:00 S4 **667.20** The individual and multiple effects of Caulis Spatholobi, Salvia officinalis and Mentha citrate in hydrogen peroxide-induced neurotoxicity. K. SUEN*; T. H. LEE; Y. Y. CHEUNG; C. K. CHEUNG; K. C. WONG; S. T. CHAN; C. Y. LAW; C. L. CHAU; S. W. WONG; C. C. MOK; W. Y. TSUI; K. Y. WAN; J. S. WONG; T. H. HSU; W. S. TANG; M. Y. LIN; R. C. CHANG. *Po Leung Kuk Laws Fndn. Col., Lab. of Neurodegenerative Diseases, LKS Fac. of Medicine, Univ. of Hong Kong.*

8:00 T1 **667.21** G-protein coupled receptor 110 in synaptamide-induced optic nerve regeneration and improvement of visual function after optic nerve damage. H. KWON*; T. PARK; H. KIM. *NIAAA/National Instiutes of Hlth.*

9:00 T2 **667.22** Therapeutic targets in vascular cognitive impairment and dementia: Neuroinflammation and endothelial dysfunction. D. J. BRAUN*; A. BACHSTETTER; D. GOULDING; D. WILCOCK; L. VAN ELDIK. *Univ. of Kentucky.*

10:00 T3 **667.23** Daidzein induces cytoprotection against binge-like ethanol exposure *in vitro*: Role of high mobility group box 1 protein? M. A. SAUNDERS*; J. E. JAGIELO-MILLER; M. A. PRENDERGAST. *Univ. of Kentucky.*

11:00 T4 **667.24** Pgrmc1 mediates progesterone-induced protection against oxidative stress glial and neuronal cells. S. KIM*; T. NGUYEN; J. TOOFAN; N. RYBALCHENKO; M. SINGH. *Univ. of North Texas Hlth. Sci. Ctr.*

8:00 T5 **667.25** Effects of long-term forelimb resistance training on neuroprotective proteins in the brains of aged rats. J. A. STANFORD*; K. G. STANFORD; R. S. ROGERS; B. O'MEARA; Y. HONG; H. NISHIMUNE. *Univ. Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas Sch. of Med.*

9:00 T6 **667.26** Discovery of protective small molecules for the treatment of vincristine-induced peripheral neuropathy. I. V. UTKINA-SOSUNOVA*; H. LI; C. KARAN; S. PRZEDBORSKI; F. LOTTI. *Columbia Univ.*

10:00 T7 **667.27** Intranasal orexin-A (hypocretin-1) activates cholinergic and GABAergic neurons in select brain regions of aged animals. C. B. CALVA*; J. R. FADEL. *Univ. of South Carolina, Univ. of South Carolina Sch. of Med.*

11:00 T8 **667.28** Upstream genomic analysis for the identification of novel therapeutic candidates for the treatment of chemical warfare nerve agent exposure. H. M. HOARD-FRUCHEY*; T. M. FERRARA-BOWENS; J. K. CHANDLER; J. IRWIN; K. LAITIPAYA; D. D. PALMER; E. A. JOHNSON. *USAMRICD, USAMRICD, US Army Med. Res. Inst. of Chem. Def, USAMRICD, US Army Med. Res. Inst. of Chem. Def., US Army Med. Res. Inst. of Chem. Def.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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8:00 T9 **667.29** Proton irradiation and pomegranate supplementation can both increase proliferation of new cells in the mouse brain. N. KALYNOVSKA*; M. DULCICH; N. BAJWA; D. XU; D. BAYLINK; R. HARTMAN. *Loma Linda Univ., Loma Linda Univ., Loma Linda Univ.*

9:00 T10 **667.30** Troxerutin has neuroprotective effect in rodent model of Parkinson's disease. G. M. ANDRADE*; P. C. SOUSA; M. R. CARMO; J. R. BEZERRA; A. A. ALVES; I. VIEIRA. *Federal Univ. Ceara, Federal Univ. of Ceará.*

**POSTER**

**668. Parkinson's Disease: Circuit Mechanisms**

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

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

8:00 T11 **668.01** Planning and execution deficits of anterior lateral motor cortex and licking in hemi-parkinsonian mice. K. CHEN*; R. VINCIS; A. FONTANINI. *Stony Brook Univ.*

9:00 T12 **668.02** Synaptic transmission onto primary motor cortex neurons in a mouse model of Parkinson's disease. O. K. SWANSON*; A. MAFFEI. *SUNY Stony Brook, SUNY-Stony Brook.*

10:00 U1 **668.03** Movement-related activity in the basal ganglia-recipient motor thalamus (VLa) of the parkinsonian macaque. D. KASE*; A. J. ZIMNIK; T. M. PEARCE; R. S. TURNER. *Systems Neurosci. Inst., Univ. of Pittsburgh, Columbia Univ., Univ. of Pittsburgh.*

11:00 U2 **668.04** Unified neural field theory of brain dynamics underlying oscillations in Parkinson's disease and generalized epilepsies. E. J. MULLER*; S. J. VAN ALBADA; J. KIM; P. ROBINSON. *Univ. of Sydney, Res. Ctr. Juelich.*

8:00 U3 **668.05** Deletion of the striatal matrix and striosome signaling molecules, CalDAG-GEFI and CalDAG-GEFII, mitigates the onset of abnormal motor responses to L-DOPA in a Parkinson's disease model mouse. J. R. CRITTENDEN*; T. KITSUKAWA; H. BOWDEN; D. E. HOUSMAN; A. M. GRAYBIEL. *MIT, Osaka Univ., MIT.*

9:00 U4 **668.06** Aberrant corticostriatal plasticity in Parkinsonian motor inhibition. M. J. PATEL*; D. S. MCGEHEE; X. ZHUANG. *Univ. of Chicago, Univ. of Chicago.*

10:00 U5 **668.07** Origin of rest tremor in Parkinson's disease: Oscillations in neuronal signals or feedback-induced instability in the sensorimotor loop? T. HOMAYOUNI*; V. V. SHAH; S. GOYAL; H. PALANTHANDALAM-MADAPUSI. *Univ. of California Merced, Indian Inst. of Technol. Gandhinagar, Univ. of California, IIT Gandhinagar.*

11:00 U6 **668.08** Striatal cholinergic interneurons integrate the attentional control of complex movements. A. J. KUCINSKI*; D. BALLOUZ; Y. KIM; M. SARTER. *Univ. of Michigan.*

8:00 U7 **668.09** Effects of neurofeedback control of beta band oscillations in motor cortex on finger tapping in parkinsonian patients. P. KHANNA*; N. C. SWANN; P. A. STARR; J. M. CARMENA. *UC Berkeley, Univ. of California, San Francisco, Univ. of California San Francisco Dept. of Neurolog. Surgery.*

9:00 U8 **668.10** Causality of beta frequency oscillations in bradykinetic/akinetic parkinsonian symptom generation in rats. C. BEHREND*; D. SCHULTE; D. BROCKER; W. M. GRILL. *Duke Univ., Duke Univ.*

10:00 U9 **668.11** Transient beta oscillation dynamics in experimental Parkinsonism. H. CAGNAN*; N. MALLETT; P. J. MAGILL; P. BROWN; A. SHAROTT. *Univ. Col. of London, Univ. of Oxford, CNRS.*

11:00 U10 **668.12** Increased impulsivity following progressive nigral degeneration and chronic pramipexole treatment in a rat model of Parkinson's disease. A. QUIROGA-VARELA*; H. JIMENEZ-URBIETA; L. MERINO-GALAN; T. RODRIGUEZ-CHINCHILLA; I. NAVALPOTRO-GOMEZ; M. DELGADO-ALVARADO; B. GAGO; M. RODRÍGUEZ-OROZ. *IIS Biodonostia, Ctr. de Investigación Biomédica en Red sobre Enfermedades Neurodegenerativas (CIBERNED), Univ. del País Vasco-Euskal Herriko Unibertsitatea, Hosp. Universitario Marqués de Valdecilla, Univ. de Málaga, UMA, Hosp. Universitario Donostia, Basque Fndn. for Science, IKERBASQUE, Basque Ctr. on Cognition, Brain and Language (BCBL).*

8:00 U11 **668.13** Does the Lempel-Ziv algorithm provide an unbiased measure of neuronal complexity in the subthalamic nucleus of 6-OHDA lesioned rats? A. MANOHAR*; M. J. MARINO. *Merck & Co.*

9:00 U12 **668.14** Parkinson's disease does not alter knee and ankle joint threshold for detection of passive movement. G. G. GENOVES*; C. F. CRUZ; J. A. BARELA. *Cruzeiro Do Sul Univ., Univ. of São Paulo, São Paulo State Univ.*

10:00 V1 **668.15** Grey matter changes of vervet monkeys after MPTP administration: Voxel-based morphometry analysis. G. RAMÍREZ GARCÍA*; C. CASTILLO-HERNANDEZ; J. FERNANDEZ-RUIZ; A. CAMPOS-ROMO. *Univ. Nacional Autónoma de México, Inst. Nacional de Neurologia y Neurocirugia "Manuel Velasco Saurez"., Catedras CONACyT - Univ. Veracruzana, Univ. Nacional Autonoma Mexico, UNAM.*

11:00 V2 **668.16** Reduction of SPN firing by NMDAR blockade or DREADDs activation normalizes motor responses to dopamine in animal models of Parkinson's disease. G. BECK*; A. SINGH; P. CHANG; D. KANG; S. M. PAPA. *Yerkes Natl. Primate Res. Ctr., Yerkes Natl. Primate Res. Center, Emory Univ., Emory Univ.*

8:00 V3 **668.17** 3D mapping of circuitry integration of transplanted human embryonic stem cell derived neurons in the adult rat brain. B. MATTSSON*; T. CARDOSO; D. HOBAN; A. HEUER; S. NOLBRANT; A. KIRKEBY; S. GREALISH; M. PARMAR. *Lund Univ.*

9:00 V4 **668.18** Synaptic integration of intrastriatal versus intranigral grafts of human embryonic stem cell derived neurons in the adult rat brain. T. CARDOSO*; D. HOBAN; B. MATTSSON; A. HEUER; S. NOLBRANT; A. KIRKEBY; S. GREALISH; M. PARMAR. *Lund Univ.*

10:00 V5 **668.19** ● Network correalates of the effects of repetitive transcranial magnetic stimulation on freezing of gait in patients with Parkinson's disease. S. SEOL*; W. CHANG; J. LEE; J. CHO; J. YOUN; Y. KIM. *Samsung Med. Ctr., Sungkyunkwan Univ., Samsung Med. Ctr.*



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* Indicates abstract's submitting author

**POSTER**

## 669. Parkinson's Disease: Human Brain Imaging and Recording

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

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

8:00 V6 **669.01** Functional network differences in aging with HIV infection and Parkinson's disease. E. M. MULLER-OEHRING*; J. Y. HONG; T. MARTIN; H. M. BRONTË-STEWART; K. L. POSTON; R. R. GOODCASE; J. A. KARPF; W. CHU; E. V. SULLIVAN; A. PFEFFERBAUM; T. SCHULTE. *Stanford Univ. Sch. of Med., SRI Intl., Stanford Univ., Palo Alto Univ.*

9:00 V7 **669.02** ● Changes in free-water along motor tracts in Parkinson's disease and atypical Parkinsonian syndromes. W. T. CHU*; D. B. ARCHER; N. R. MCFARLAND; M. S. OKUN; S. LAI; D. E. VAILLANCOURT. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

10:00 V8 **669.03** Functional connectivity in the somatosensory network in the akinetic-rigid and tremor Parkinson's disease patients. Y. JIANG*; Y. YUE; R. YE; T. SHEN; B. ZHANG; H. LAI. *Interdisciplinary Inst. of Neurosci. and Technol., Dept. of neurology, Second Affiliated Hospital, Sch. of Medicine, Zhejiang Univ.*

11:00 V9 **669.04** Substantia nigra T1 maps for the diagnosis of Parkinson´s disease. C. JURI*; L. TAPIA; J. CRUZ; M. ANDIA. *Neurology.Pontificia Univ. Catolica De Chile, Radiology Department, Pontificia Univ. Catolica de Chile, Biomed. Imaging Center, Pontificia Univ. Catolica de Chile.*

8:00 V10 **669.05** Changes in motor subtype designation of Parkinson's disease patients from two cohorts. R. S. EISINGER*; D. MARTINEZ-RAMIREZ, 32605; C. W. HESS; M. S. OKUN; A. GUNDUZ. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

9:00 V11 **669.06** Altered cortico-striatal functional connectivity in REM sleep behavior disorder with subtle motor dysfunction. G. YAMADA; Y. UEKI*; N. OISHI; T. OGURI; A. FUKUI; M. NAKAYAMA; N. MATSUKAWA. *Nagoya Citiy Univ., Nagoya Citiy Univ., Kyoto Univ., Tosei hospital, Nagoya Citiy Univ.*

10:00 V12 **669.07** ● Individualized tractography-based parcellation of the globus pallidus pars interna using 7-Tesla magnetic resonance imaging in movement disorder patients prior to deep brain stimulation surgery. R. PATRIAT*; Y. DUCHIN; J. NIEDERER; C. LENGLET; J. AMAN; S. COOPER; J. VITEK; N. HAREL. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

11:00 V13 **669.08** Abnormal BOLD fMRI resting state lag structure in idiopathic Parkinson disease. A. Z. SNYDER*; A. MITRA; A. TANENBAUM; M. C. CAMPBELL; J. S. PERLMUTTER. *Washington Univ. Sch. Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. Med.*

8:00 V14 **669.09** Frequency dependent brain signal oscillations in HIV infection and Parkinson's disease modulated by age. J. Y. HONG; E. M. MÜLLER-OEHRING; H. M. BRONTË-STEWART; T. MARTIN; K. L. POSTON; E. V. SULLIVAN; A. PFEFFERBAUM*; T. SCHULTE. *SRI Intl., Stanford Univ. Sch. of Med., Stanford Univ., Palo Alto University, Pacific Grad. Sch. of Clin. Psychology.*

9:00 V15 **669.10** Functional neuroimaging of prefrontal cortex in Parkinson's disease using fNIRS: Effects of cognitive task during seated and standing postures. G. KERR*; M. MUTHALIB; R. PEGORARO; L. ROEDER; I. STEWART; S. SMITH; N. WHITE. *Queensland Univ. Technol., Queensland Univ. Technol.*

10:00 V16 **669.11** ▲ Connectivity correlates of cognitive deficits in deep brain stimulation therapy for Parkinson disease. S. C. NANIVADEKAR*; Q. YANG; P. TAYLOR; C. LUNGU; S. HOROVITZ. *NIH, NIH.*

11:00 V17 **669.12** White matter integrity changes in stroop color words interference tasks in Parkinson's disease. Q. YANG*; S. NANIVADEKAR; P. TAYLOR; C. LUNGU; S. HOROVITZ. *NIH, The Third affiliated Hosp. of Sun Yet-sen Univ., NIH.*

8:00 V18 **669.13** ● Use of functional MRI to assess effects of deep brain stimulation frequency on brain activation in Parkinson disease. M. DIMARZIO*; I. HANCU; E. FIVELAND; J. PRUSIK; S. JOEL; R. MADHAVAN; J. DURPHY; E. HANSPAL; D. SHIN; J. G. PILITSIS. *Albany Med. Col., Albany Med. Col., GE Global Res., Albany Med. Col., Albany Med. Ctr., Albany Med. Col.*

9:00 V19 **669.14** Frontostriatal functional connectivity is associated with both cognitive and motor symptoms in Parkinson's disease. S. KANN*; P. MANZA; H. LEUNG. *Stony Brook Univ., NIH, SUNY Stony Brook.*

10:00 V20 **669.15** Alternations in striato-pallidal intrinsic functional connectivity as a prodrome of Parkinson's disease. E. DAYAN*; N. BROWNER. *Univ. of North Carolina at Chapel Hill.*

11:00 V21 **669.16** Functional connectivity deficits in Parkinson disease. C. GRATTON*; J. KOLLER; B. SHANNON; D. J. GREENE; S. E. PETERSEN; J. S. PERLMUTTER; M. C. CAMPBELL. *Washington Univ. in St. Louis, Washington Univ. in St. Louis, BioRankings, Washington Univ. in St. Louis.*

8:00 V22 **669.17** Abnormal dynamic functional networks in Parkinson's disease: A resting-state fMRI study. J. KIM*; M. CRIAUD; S. S. CHO; M. D. CIRARDA; A. MIHAESCU; S. COAKELEY; C. GHADERY; M. VALLI; M. F. JACOBS; S. HOULE; A. P. STRAFELLA. *Campbell Family Mental Hlth. Res. Institute, CAMH, Krembil Res. Institute, UHN, Safra Parkinson Dis. Program, UHN.*

9:00 V23 **669.18** Functional connectivity abnormalities in Parkinson and Alzheimer disease are more similar than different. J. S. PERLMUTTER*; A. TANENBAUM; M. CAMPBELL; A. MITRA; J. KOLLER; A. Z. SNYDER; B. M. ANCES. *Washington Univ. Sch. Med., Washington Univ. in St. Louis, Washington Univ. in St. Louis, Washington Univ. Sch. of Med., Washington Univ. in St. Louis, Washington Univ. Sch. Med., Washington University, St. Louis.*

10:00 V24 **669.19** Beta oscillatory activity of single neurons in the subthalamic nucleus in patients with Parkinson's disease. K. KOBAYASHI*; M. WATANABE; T. OBUCHI; T. KANO; H. OSHIMA; C. FUKAYA; A. YOSHINO. *Nihon Univ. Sch. of Med., Saitamaken Sogo Rehabil. Ctr. Dept. of Rehabil. Medicine.*



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

11:00 V25 **669.20** Neural correlates underlying reward processing and decision-making in Impulse Control Disorder in Parkinson´s Disease. M. C. RODRIGUEZ-OROZ*; P. PAZ-ALONSO; P. BODDY; M. DELGADO-ALVARADO; H. JIMENEZ-URBIETA; A. QUIROGA-VARELA; B. GAGO; M. CARREIRAS; I. NAVALPOTRO-GOMEZ. *Biodonostia Inst., Ctr. de Investigación Biomédica en Red sobre Enfermedades Neurodegenerativas (CIBERNED), Basque Ctr. on Cognition, Brain and Language (BCBL), Basque Fndn. for Science, IKERBASQUE, Hosp. Universitario Donostia, Univ. de Málaga, UMA, Univ. del País Vasco-Euskal Herriko Unibertsitatea.*

8:00 V26 **669.21** Firing rate and proportion of subthalamic oscillatory neurons increase associatd with Parkinson's disease progression. P. ZHUANG*; Y. WEN; M. HALLETT; Y. ZHANG; Y. LI. *Xuanwu Hosp, Capital Med. Uni, Xuanwu Hosp, Capital Med. Uni, Natl. Inst. of Neurolog. Disorders and Stroke.*

9:00 W1 **669.22** Visual tracking abnormalities in hemisphere-asymmetric Parkinson's disease. J. CHEN*; L. ZHOU; D. B. LISTON; J. LIU; L. LI. *The Univ. of Hong Kong, NYU-ECNU Inst. of Brain and Cognitive Science, New York Univ. Shanghai, Sch. of Medicine, Shanghai Jiao Tong Univ., neuroFit Inc., Ruijin Hospital, Shanghai Jiao Tong Univ.*

10:00 W2 **669.23** Neural correlates of impaired motor timing processing during speech production and hand movement in Parkinson's disease. R. BEHROOZMAND*; K. JOHARI; P. HERATH; J. D. GREENLEE, M.D. *Univ. of South Carolina, Univ. of South Carolina, Univ. Iowa.*

11:00 W3 **669.24** ● Low-frequency oscillations in postural sway vary with sensory weighting and scale with fall-risk in Parkinson's disease. M. HEARN*; P. E. GILBERT; J. V. FILOTEO; I. LITVAN; M. SARKAR; D. J. GOBLE; H. S. BAWEJA. *San Diego State Univ., San Diego State Univ., San Diego State Univ., UC San Diego, San Diego State Univ.*

8:00 W4 **669.25** ▲ Correlation between electroencephalogram and electromyogram in Parkinson's disease: A review. A. SAIKIA*; V. K. PANDEY; S. PAUL. *North Eastern Hill Univ.*

9:00 W5 **669.26** The effect of Parkinson's disease on multisensory temporal integration. Y. OH; C. S. SHAYMAN; T. HULLAR*. *Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ.*

10:00 W6 **669.27** Abnormal characteristics of physiological network in patients with idiopathic REM sleep disorder during REM sleep. S. HEO*; D. YEO; P. SEO; H. KIM; K. CHA; J. CHOI; K. JUNG; K. KIM. *Yonsei Univ., Seoul Natl. Univ. Col. of Med.*

11:00 W7 **669.28** Global and local oscillatory changes associated with pallidal deep brain stimulation in Parkinson disease. Y. SHAHRIARI*; M. MALEKMOHAMMADI; A. O'KEEFFE; X. HU; N. POURATIAN. *Univ. of Rhode Island, Univ. of California, San Francisco, UCLA.*

8:00 W8 **669.29** Multimodal fMRI investigation of reward-driven behaviors in Parkinson's disease. K. PETERSEN*; A. STARK; R. KESSLER; N. VAN WOUWE; M. DONAHUE; D. O. CLAASSEN. *Vanderbilt Univ., Vanderbilt Univ., Univ. of Alabama Sch. of Med.*

**POSTER**

**670. Motor Neuron Disease: Therapeutics**

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

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

8:00 W9 **670.01** ● Use of iPSC-derived human motor neurons in high-throughput phenotypic screening. M. L. HENDRICKSON*; J. KOUZNETSOVA; W. ZHENG; Z. DU. *BrainXell, Inc., NCATS/NIH.*

9:00 W10 **670.02** Genetic and functional comparison of hESCs- and iPSC-derived Schwann cells. R. MI*; J. EHMSEN; Q. SHI; B. MUKHERJEE-CLAVIN; G. LEE; A. HOKE. *Johns Hopkins Univ. Sch. Med.*

10:00 W11 **670.03** ● V-Smart™ Nanomedicine for the Treatment of ALS (LAUR-301): Non-Invasive Targeted Delivery of GDNF to Degenerating Motoneurons in ALS. I. HOLLANDER*; M. POPOV; E. SHAUBI; A. ARMOZA; J. MILAM; E. HARLEV; V. KAS'YANOV; C. LINDER; E. HELDMAN. *Lauren Sci. LLC, Ben-Gurion Univ. of the Negev.*

11:00 W12 **670.04** ▲ Occipital nerve stimulation for the treatment of refractory occipital neuralgia: A case series. A. DIAZ*; O. P. KEIFER, Jr; M. C. CAMPBELL; Y. B. BEZCHLIBNYK; N. M. BOULIS. *Emory Univ. Sch. of Med.*

8:00 W13 **670.05** Chronic intermittent mild whole-body hypothermia is therapeutic in a mouse model of ALS. L. J. MARTIN*; M. WONG. *Johns Hopkins Univ. Sch. of Med.*

8:00 DP03/W14 **670.06** (Dynamic Poster) Drp1 hyperactivation in ALS. A. U. JOSHI; A. D. CUNNINGHAM; N. L. SAW; M. SHAMLOO; D. MOCHLY-ROSEN*. *Stanford Univ., Stanford Univ. Sch. of Med.*

10:00 W15 **670.07** Splicing repression is a major function of TDP-43 in motor neurons: Identification of a novel therapeutic strategy for ALS/FTD. A. N. DONDE*; J. P. LING; K. E. BRAUNSTEIN; M. SUN; L. CHEN; P. C. WONG. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Sch. of Med.*

11:00 W16 **670.08** ● Small molecules targeting catalytic multiprotein complexes that misassemble TDP43 in ALS. S. TROSSBACH; S. SELVARAJAH; S. SAHU; I. SOLVIEV; N. DEYARMAN; V. BADER; S. JACOBSEN; N. BRANDON; K. PAULVANNAN; V. ASUNDI; D. DEY; C. KORTH*; V. R. LINGAPPA. *Heinrich Heine Univ. Dusseldorf, Prosetta, AstraZeneca.*

8:00 W17 **670.09** ● Systemic Angiogenin delivery reverses defects in spinal cord capillary density and delays motor dysfunction in $SOD1^{G93A}$ mice. J. H. PREHN*; M. CRIVELLO; S. O'RIORDAN; I. WOODS. *Royal Col. of Surgeons in Ireland, RCSI.*

9:00 W18 **670.10** PK11195, a ligand of the translocator protein 18KDa, improves grip strength, motor performance, and muscle innervation at early but not late disease stages in the amyotrophic lateral sclerosis mutant superoxide dismutase 1 mouse model. T. OBIS*; M. LOTH; A. RAMIREZ; S. MERWIN; B. BLANCO; S. GUARIGLIA; V. ILIEVSKI; S. TAMANINI; N. COMFORT; Y. NUNEZ; M. MUNOZ; M. GAMBLE; V. JACKSON-LEWIS; S. KARIYA; S. CORTI; T. R. GUILARTE; D. B. RE. *Columbia Univ., I.R.C.C.S. "Ca'Granda" Maggiore Hosp., Columbia Univ., Columbia Univ., Florida Intl. Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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10:00 W19 **670.11** Silencing of the mutant huntingtin gene via CRISPR-Cas9 in an *in vitro* model of Huntington's disease. N. KOLLI*; M. LU; P. MAITI; J. ROSSIGNOL; G. L. DUNBAR. *Central Michigan Univ., Field Neurosciences Inst. Lab., Central Michigan Univ., Central Michigan Univ., Saginaw Valley State Univ., Central Michigan Univ., Central Michigan Univ.*

11:00 W20 **670.12** Riluzole but not Melatonin ameliorates acute motor neuron degeneration and inhibits disrupted mitochondrial $Ca^{2+}$ signaling in amyotrophic lateral sclerosis. M. K. JAISWAL*. *Germany.*

8:00 W21 **670.13** Increased frequency of pudendal nerve stimulation improved recovery from a dual nerve and muscle injury. B. M. BALOG*; D. LIN; B. HANZLICEK; M. S. DAMASER. *Cleveland Clin. Lerner Res. Inst., Univ. of Akron, Louis Stokes Cleveland VA hospital, Cleveland Clin. Lerner Res. Inst., Louis Stokes Cleveland VA Hosp.*

9:00 W22 **670.14** Brain-derived neurotrophic factor treatment leads to partial recovery after a dual nerve and muscle injury. B. M. BALOG; X. YUAN; M. KUANG; D. LIN; B. HANZLICEK; H. YAN; M. S. DAMASER*. *Cleveland Clin. Lerner Res. Inst., Tongji Hospital, Huazhong Univ. of Sci. and Technol., Cleveland Clin. Lerner Res. Inst., Louis Stokes Cleveland VA Hosp., Xuanwu hospital, Capital Med. Univ., Cleveland Clin.*

10:00 W23 **670.15** Genome wide genetic screen in *Drosophila* identifies 75 potential modifiers of ALS-FUS toxicity. J. STEYAERT; W. SCHEVENEELS; P. VAN DAMME; W. L. ROBBERECHT; P. CALLAERTS; E. BOGAERT; L. M. VAN DEN BOSCH*. *VIB, Ctr. for Brain & Dis. Research, Lab. of Neurobio., KU Leuven – Univ. of Leuven, Dept. of Neurosciences, Exptl. Neurol. and Leuven Inst. for Neurosci. and Dis. (LIND), Univ. Hosp. Leuven, Dept. of Neurol., KU Leuven - Dept. of Neurosciences, Lab. of Behavioral and Developmental Genet., Ctr. For Brain & Dis.*

11:00 W24 **670.16** Effects of interleukin-37 in amyotrophic lateral sclerosis. A. MARTINEZ-MURIANA*; C. A. DINARELLO; R. LÓPEZ-VALES. *Univ. Autonoma De Barcelona, Div. of Infectious Diseases, Univ. of Colorado Denver, Radboud Univ. Med. Ctr.*

8:00 W25 **670.17** ● *In vivo* safety and efficacy evaluation of a novel 3rd generation antisense oligonucleotide against TGFßRII to treat amyotrophic lateralsclerosis. S. PETERS*; E. ZITZELSPERGER; S. KUESPERT; R. HEYDN; L. J. AIGNER; S. KORTE; T. BRUUN; U. BOGDAHN. *Univ. Hosp., Paracelsus Med. Univ., Covance Preclinical Service GmbH.*

9:00 W26 **670.18** ● Widespread spinal cord transduction with a modified AAV vector: Implications for spinal cord diseases. J. NAIDOO; L. M. STANEK*; P. HADACZEK; L. SAMARANCH; C. O'RIORDAN; J. BRINGAS; C. SNIECKUS; J. SULLIVAN; S. NASS; M. MATTINGY; D. WOODCOCK; K. S. BANKIEWICZ; L. SHIHABUDDIN. *Univ. of California San Francisco, Sanofi.*

10:00 W27 **670.19** ● GM604 as a novel therapeutic strategy for treatment of ALS and other neurodegenerative diseases: Pre-clinical and bioinformatic data and findings from a phase 2A randomized placebo-controlled clinical trial. D. KO*; M. S. KINDY; K. BOJANOWSKI; P. LUPINACCI; T. K. SHUM. *Genervon Biopharmaceuticals LLC, Univ. of South Florida, Sunny BioDiscovery, Inc., Villanova Univ.*

11:00 W28 **670.20** ● Identification of novel CNS-active inducers of SMN2 expression. M. E. BUTCHBACH*; R. W. KIRK; A. W. HARRIS; K. M. HINKLE; A. J. CONNELL; A. PESYAN. *Nemours Biomed. Research/A. I. duPont Hosp. For Children, Univ. of Delaware, Thomas Jefferson Univ., AurimMed Pharma, Inc.*

8:00 W29 **670.21** Promotion of the M2 microglial state and enhanced neuronal trophic support extend survival in the murine model of ALS. A. M. SNYDER*; E. B. NEELY; O. MROWCZYNSKI; R. PAYNE; A. GERONIMO; Z. SIMMONS; J. R. CONNOR. *Penn State Univ. Coll Med., Pennsylvania State Univ. Dept. of Neurosurg., Penn State Univ. Coll Med.*

9:00 W30 **670.22** Involvement of the LPA-$LPA_2$ axis in the physiopathology of ALS. M. PUIGDOMENECH POCH*; A. MARTINEZ-MURIANA; R. LÓPEZ-VALES. *Univ. Autonoma De Barcelona.*

10:00 W31 **670.23** Moving towards the clinic: Intrathecal aav9-sod1-shrna administration for amyotrophic lateral sclerosis. S. B. LIKHITE*; S. CORCORAN; C. BEST; L. BRAUN; K. MEYER; B. K. KASPAR. *Res. Inst. at Nationwide Childrens Hosp.*

11:00 W32 **670.24** ▲ Excising the ALS/FTD-associated C9ORF72 repeat expansion with CRISPR-Cas9 *in vivo*. C. P. SEAH; K. A. STAATS*; N. KOUTSODENDRIS; M. CHATEAU; D. KIM; M. J. COWAN; Y. SHI; P. CANNON; J. K. ICHIDA. *Stem Cell Biol. and Regenerative Medicine, Keck Sch. of Medicine, Univ. of Southern California, Stem Cell Biol. and Regenerative Medicine, Keck, Mol. Microbiology and Immunology, Keck Sch. of Medicine, Univ. of Southern California.*

8:00 W33 **670.25** Searching for new targets to sustain neuromuscular function. J. T. EHMSEN*; R. KAWAGUCHI; R. MI; D. NACHUN; G. COPPOLA; A. HÖKE. *Johns Hopkins Med., UCLA.*

9:00 W34 **670.26** A personalized gene therapy approach for charcot-marie-tooth disease type 2d. K. H. MORELLI*; K. L. SEBURN; N. PYNE; A. FOWLER; S. Q. HARPER; R. W. BURGESS. *The Jackson Lab., The Res. Inst. at Nationwide Children's Hosp.*

10:00 W35 **670.27** ▲ The role of $D_2$ Dopamine receptor in modulating the protective effect of $A_{2A}$ Adenosine receptor in Amyotrophic lateral sclerosis. J. LAI*; Y. CHERN; Y. LIU; H. LAI. *Natl. Def. Med. Ctr., Academia Sinica/ Inst. of Biomed. Sci.*

**POSTER**

**671. Mitochondrial Dynamics and Function in Neurodegenerative Diseases**

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

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

8:00 W36 **671.01** Parkin regulates mitophagic cell death in adult hippocampal neural stem cells following insulin withdrawal. H. PARK*; K. CHUNG; H. AN; S. JUNG; S. YU. *DGIST.*

9:00 X1 **671.02** Changes in antioxidant protein expressions in isolated mitochondria of AD transgenic mice brains. N. YOSHIDA*; Y. KATOU; A. HIRANO; K. NAKAMURA; T. MAEHARA; H. TAKATSU; K. FUKUI. *Shibaura Inst. of Technol., W Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 X2 **671.03** Optic nerve metabolic vulnerability in DBA/2J model of glaucoma and potential intervention by ketogenic diet. M. HARUN-OR-RASHID*; D. M. INMAN. *Northeast Ohio Med. Univ., Northeast Ohio Med. Univ.*

11:00 X3 **671.04** Mitochondria-mediated structural and functional adaptations of neuronal circuits to intermittent bioenergetic challenges. M. P. MATTSON*; A. CHENG; Y. LIU; K. MAROSI; N. GHENA; R. WAN. *Lab. of Neurosciences, NIA Biomedial Res. Ctr.*

8:00 X4 **671.05** Calcium ionophore induces neurite degeneration in neuroblastoma cells via mitochondrial membrane oxidations. K. FUKUI*; S. NAKAMURA. *Shibaura Inst. Technol.*

9:00 X5 **671.06** Mitochondrial functions of 4-nitrophenylphophatase domain and non-neuronal SNAP25-like protein homolog 1 in mouse dorsal root ganglion neurons. E. OKUDA-ASHITAKA*; E. MATSUOKA; I. OHTSU; Y. YANO. *Osaka Inst. of Technol.*

10:00 X6 **671.07** Increased mitochondrion fusion and mobility in ApoE4-harboring astrocytes. R. LARRAMONA; C. COBOS; A. GOLBANO; C. MENACHO; A. ERASO-PICHOT; J. X. COMELLA; A. GUTIERREZ; J. VITORICA; R. MASGRAU; E. GALEA*. *Inst. de Neurociències/ Departament de Bioquímica, Univ. Autònoma de Barcelona, Inst. de Recerca Vall d'Hebron/CIBERNED, Univ. of Malaga /CIBERNED, Inst. de Biomedicina de Sevilla/CIBERNED, Univ. Autònoma de Barcelona, ICREA.*

11:00 X7 **671.08** Deletion of the mitochondrial protein prohibitin in neurons leads to mitochondrial dysfunction and impaired autophagy. L. QIAN; C. J. ANDERSON; G. MANFREDI; C. IADECOLA; P. ZHOU*. *Weill Cornell Med., Weill Med. Coll Cornell Univ.*

8:00 X8 **671.09** Alzheimer's disease clinical trial recruitment and retention model in the Greater Los Angeles area. R. W. IRWIN*; G. HERNANDEZ; C. M. SOLINSKY; C. M. LOPEZ; N. KONO; W. J. MACK; L. S. SCHNEIDER; R. D. BRINTON. *USC, USC, USC, Sch. of Pharmacy, Univ. of Southern California, Los Angeles, CA, USA, Keck Sch. of Medicine, Univ. of Southern California, Los Angeles, CA, USA, Univ. of Arizona.*

9:00 X9 **671.10** Evaluating sex- and apoe genotype dependent response to allopregnanolone treatment. M. K. DESAI*; R. W. IRWIN; M. PRAJAPATI; R. D. BRINTON. *USC, USC, USC, Univ. of Arizona, USC.*

10:00 X10 **671.11** Development of an iPSC based biomarker strategy to identify neuro-regenerative and mitochondrial responders to Allopregnanolone. C. M. SOLINSKY*; J. A. PARK; H. C. CHUI; M. BLURTON-JONES; J. ICHIDA; R. D. BRINTON. *USC, Univ. of California Irvine, USC, Univ. of California, Irvine, Univ. of Arizona, USC.*

11:00 X11 **671.12** Pharmacokinetics and safety profile of a single-dose administration of an estrogen receptor β-selective phytoestrogenic formulation (PhytoSERM) in peri and postmenopausal women. G. D. HERNANDEZ*; L. ZHAO; Y. CHEN; A. FRANKE; W. J. MACK; L. S. SCHNEIDER; R. D. BRINTON. *USC, Univ. of Kansas, USC, Univ. of Hawaii, USC, USC.*

8:00 X12 **671.13** Impact of allopregnanolone on the differentiation of neural stem cell. S. CHEN*; J. YAO; K. WONG; R. D. BRINTON. *Univ. of Arizona, USC.*

9:00 X13 **671.14** $Zn^{2+}$-induced mitochondrial dysfunction: Dependence upon disruption of buffering, synergism with $Ca^{2+}$ and contributions to neuronal injury *in vitro* and *in vivo.* S. G. JI*; Y. V. MEDVEDEVA; H. Z. YIN; J. H. WEISS. *Univ. of California, Irvine, Univ. of California, Irvine.*

10:00 X14 **671.15** Targeting mitochondrial fission for neuroprotection in peripheral diabetic neuropathy. Y. LIU*; K. FLIPPO; R. A. MERRILL; M. YOREK; G. PERKINS; Y. USACHEV; S. STRACK. *Univ. of Iowa Carver Col. of Med., Univ. of Iowa Carver Col. of Med., UCSD.*

11:00 X15 **671.16** Mediterranean diet and physical activity improve the age dependent decrease in mRNA expression of genes of mitochondrial function in NMRI mice. C. V. SILAIDOS*; H. ASSEBURG; S. HAGL; G. ECKERT. *Justus-Liebig-University.*

8:00 X16 **671.17** Purified olive polyphenols improve mitochondrial dysfunction in a cell model of early Alzheimer´s disease. R. GREWAL*; J. VOLK; A. SARAFEDDINOV; J. ZOTZEL; S. MARX; J. TRETZEL; H. WARZECHA; G. ECKERT. *Inst. Fuer Ernaehrung In Praevention Und Therap, Technische Univ. Darmstadt, N-Zyme BioTec GmbH.*

9:00 X17 **671.18** Effects of long-term treatment with purified olive secoiridoids improve cognition and mitochondrial dysfunction in aged NMRI mice. M. REUTZEL*; R. GREWAL; C. SCHAEFER; J. VOLK; A. SARAFEDDINOV; J. ZOTZEL; S. MARX; J. TRETZEL; H. WARZECHA; G. ECKERT. *Inst. Für Ernährung In Prävention Und Therapie, Technische Univ. Darmstadt, N-Zyme BioTech GmbH.*

10:00 X18 **671.19** Molecular composition and regulation of mitochondrial permeability transition pore. N. MNATSAKANYAN*; H. PARK; J. WU; L. R. CLIFFORD; P. MIRANDA; E. A. JONAS. *Yale Univ.*

11:00 X19 **671.20** ● Exploration of mitochondrial bioenergetics using human iPSC-derived neurons. K. KIM; N. AOYAMA; K. MANGAN; M. HANCOCK; C. B. CARLSON*. *Cell. Dynamics Intl.*

8:00 X20 **671.21** Quantifying brain susceptibility to metabolic stress using autofluoresence in mouse brain slices. K. STEBBINGS*; K. MURPHY; K. ZWONITZER; D. LLANO. *Univ. of Illinois At Urbana Champaign.*

9:00 X21 **671.22** The impact of cofilin1 on mitochondrial dynamics and function in neuronal HT22 cells. L. HOFFMANN*; K. REHKLAU; J. GROHM; M. RUST; C. CULMSEE. *Inst. Für Pharmakologie Und Klinische Pharmazie, Philipps Univ. of Marburg.*

10:00 X22 **671.23** Induced pluripotent stem cell derived excitatory neurons as a neuropsychologic model of MELAS disease. T. KLEIN GUNNEWIEK; D. CASSIMAN; E. MORAVA KOZICZ; N. NADIF KASRI; T. L. KOZICZ*. *Radboud Univ. Nijmegen Med. Ctr., Uz Leuven, Tulane Univ., Uz Leuven, Radboud Univ. Nijmegen Med. Ctr.*

11:00 X23 **671.24** Minor ginsenosides-induced apoptosis of neuroblastoma through loss of MMP and activation of caspase proteins. J. OH; J. LEE; S. CHUN*. *Chonbuk Natl. Univ. Med. Sch., Chonbuk Natl. Univ. Hosp., Inst. of Med. Sci.*

8:00 X24 **671.25** Activation of AMPK affects metabolism of amino acids. C. M. VOSS; J. V. ANDERSEN; H. S. WAAGEPETERSEN*. *Univ. of Copenhagen.*



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* Indicates abstract's submitting author

**POSTER**

**672. Mechanisms of Neurotoxicity**

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

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

8:00 X25 **672.01** calcium dyshomeostasis mediates neural developmental abnormalities in SOD2 deficient cortical neurons. A. CHENG*; Q. ZHAO; D. LU; M. P. MATTSON. *NIA Biomedial Res. Ctr., Lab. of Neurosciences, NIA Biomedial Res. Ctr.*

9:00 X26 **672.02** The molecular mechanism of methylmercury-induced neural degeneration in rat dorsal root ganglion. Y. SHINODA*; S. TATSUMI; S. EHARA; T. AMEMIYA; T. TAKAHASHI; Y. SASAKI; E. YOSHIDA; Y. FUJIWARA; T. KAJI. *Tokyo Univ. of Pharm. and Life Sci., Tokyo Univ. of Sci.*

10:00 X27 **672.03** Novel mouse model of GWI optimized for the study of the cholinergic system. I. CARRERAS*; N. AYTAN; T. MELLOTT; L. CRABTREE; B. JENKINS; J. K. BLUSZTAJN; A. DEDEOGLU. *VA Boston Healthcare Syst., Boston Univ. Sch. of Med., Exeter Univ., MGH-East.*

11:00 X28 **672.04** Investigation the role of TDP-43 oligomers in neurodegenerative diseases. T. WENG*; Y. FANG; Y. CHEN. *Academia Sicica.*

8:00 X29 **672.05** Adult hippocampal neurogenesis impairment in familial hypercholesterolemia: evidence for a role of the LDL receptor and cholesterol metabolism in adult neural stem cells. D. F. ENGEL*; J. DE OLIVEIRA; A. GRZYB; P. S. BROCARDO; G. KEMPERMANN; A. F. DE BEM. *Univ. Federal de Santa Catarina, Univ. do Extremo Sul Catarinense, Deutsches Zentrum für Neurodegenerative Erkrankungen, Technische Univ. Dresden, Univ. Federal de Santa Catarina.*

9:00 X30 **672.06** A novel ALS and FTD model mouse expressing cytoplasmic mutant FUS leads neurodegeneration via synaptic disruption. G. SHIIHASHI*; D. ITO; I. ARAI; Y. KOBAYASHI; K. HAYASHI; S. OTSUKA; K. NAKAJIMA; M. YUZAKI; S. ITOHARA; N. SUZUKI. *Keio Univ. Sch. of Med., Keio Univ. Sch. of Med., RIKEN Brain Sci. Inst., Keio Univ. Sch. of Med.*

10:00 X31 **672.07** The effect of CDNF in the Quinolinic acid toxin model of Huntington`s disease. P. STEPANOVA*; R. K. TUOMINEN; D. LINDHOLM; M. H. VOUTILAINEN. *Univ. of Helsinki, Univ. of Helsinki, Univ. of Helsinki.*

11:00 X32 **672.08** Transcriptomic changes in parvalbumin positive interneurons expressing Cre recombinase. X. D'ANGLEMONT DE TASSIGNY*; D. ENTERRIA-MORALES; I. LOPEZ-LOPEZ; J. LOPEZ-BARNEO. *Inst. de Biomedicina de Sevilla.*

8:00 X33 **672.09** The role of infiltrating myeloid cells in alpha-synuclein neurotoxicity. T. N. MALTBIE*; A. B. WEST; A. HARMS. *Univ. of Alabama At Birmingham, UAB.*

9:00 Y1 **672.10** Effects of neonatal sevoflurane exposure on the plastic changes in the hippocampus. Y. SATO; M. MAEKAWA*; S. YAMAGUCHI; Y. HORI. *Dokkyo Med. Univ. Sch. Med.*

10:00 Y2 **672.11** FAIM2 stability controls the balance of cell death and survival in adult neural stem cells by regulating autophagy. C. J. HONG*; H. WOO; H. RYU; B. YEO; K. CHUNG; S. HA; S. JUNG; H. AN; S. YU. *DGIST.*

11:00 Y3 **672.12** Neuroprotective effects of sodium orthovanadate against oxidative injury in organotypic hippocampal slice culture. K. LEE*; U. KIM; B. LEE. *Dept. of Dent. Hygiene, Div. of Hlth. S, Yonsei Univ. Col. of Med.*

8:00 Y4 **672.13** Intriguing mixed neuropathology in a case of Lewy body disease. C. J. HAMMOND*; B. J. BALIN. *Philadelphia Col. of Osteo. Med., Philadelphia Col. of Osteo. Med., Philadelphia Col. of Osteo. Med.*

9:00 Y5 **672.14** ▲ Operant learning in adult rats is impaired following postnatal GABAa receptor blockade. O. J. SURGENT*; S. ROBINSON. *Hamilton Col.*

10:00 Y6 **672.15** LPS-mediated kynurenic acid and neurogranin-NFAT signaling decrease attentive and cognitive function in mice. K. WININGER; A. OLIVEROS; J. SENS; S. CHOI; S. K. ERHARDT; D. CHOI*. *Mayo Clin. Col. of Med., Mayo Clin. Col. of Med., Mayo Clin. Col. of Med., Karolinska Inst.*

11:00 Y7 **672.16** Tau-associated extracellular vesicles from various tauopathies differentially impact tau seeding. D. CHUNG*; Y. CARLOMAGNO; K. R. JANSEN-WEST; L. J. LEWIS-TUFFIN; S. L. DEVOS; M. YUE; Y. CHEN; L. M. DAUGHRITY; I. K. YAN; M. DETURE; W. LIN; T. C. PATEL; B. Y. S. KIM; D. W. DICKSON; B. T. HYMAN; P. J. MCLEAN; L. PETRUCELLI. *Mayo Clin., Mayo Clin. Grad. Sch. of Biomed. Sci., Mayo Clin., Massachusetts Gen. Hosp.*

8:00 Y8 **672.17** The effect of short-duration of the gamma-wave tACS on concentrations of glutamine and glutamate in the dorsolateral prefrontal cortex: An MRS study. K. OMATA*; Y. TAKATA; S. ITO; Y. OUCHI. *Natl. Ctr. of Neurol. and Psychiatry, Hamamatsu Univ. Sch. of Med., Central research laboratory, Hamamatsu photonics K.K., Hamamatsu PET Imaging Center, Hamamatsu Med. Photonics Fndn.*

9:00 Y9 **672.18** Quantitative proteomic analysis of human trabecular meshwork (hTM) in response to Rho-associated protein kinase ROCK inhibitor. S. SHAN*; T. C. LAM; W. D. STAMER; C. DO; C. TO. *The Hong Kong Polytechnic Univ., Duke Univ.*

10:00 Y10 **672.19** MDMA and nicotine interactions impact neurotransmission, motor coordination and working memory in adolescent male mice. P. A. ADENIYI*; O. M. OGUNDELE; P. D. SHALLIE; C. C. LEE; A. K. ADEFULE; P. A. ADENIYI. *Nigeria, Louisiana State Univ., Olabisi Onabanjo Univ., Louisiana State Univ. Sch. of Vet. Med.*

11:00 Y11 **672.20** JZ101 deficiency promotes tau pathology. F. GAO*; J. YANG; J. ZHANG. *Peking Union Med. Col.*

8:00 Y12 **672.21** Brain-derived exosomes from dementia with lewy bodies propagate alpha-synuclein pathology. J. NGOLAB*; I. TRINH; E. ROCKENSTEIN; J. FLORIO; M. TREJO; A. ADAME; E. MASLIAH; R. A. RISSMAN. *Univ. of California San Diego.*

9:00 Y13 **672.22** The neuroretina in multiple system atrophy: Morphological implications of Plp-α-Syn mice. K. KAEHLER*; H. SEITTER; A. SANDBICHLER; N. STEFANOVA; A. KOSCHAK. *Univ. of Innsbruck, Univ. of Innsbruck, Innsbruck Med. Univ.*

10:00 Y14 **672.23** Effects of retigabine on endoplasmic reticulum stress induced by thapsigargin and tunicamycin in PC12 cells; a comparative study. S. KARADENIZLI*; D. SAHIN; H. KENAR; C. YILMAZ OZDOGAN; N. ATES. *Kocaeli Univ., Kocaeli Univ., Kocaeli Univ., Kocaeli Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 Y15 **672.24** Loss of Nlrp3 protects neurons against environmental toxicant exposure *in vitro.* F. ANDERSON*; A. L. YOUNG; H. H. YEH; M. C. HAVRDA. *Dartmouth Col. Geisel Sch. of Med., Dartmouth Col., Dartmouth Col. Geisel Sch. of Med., Geisel Sch. of Med. at Dartmouth.*

8:00 Y16 **672.25** ▲ Analysis of Tau, A-beta, and Iron stains in the Subiculum of the Hippocampus. C. M. COTTAM*; A. P. COX; K. BURNINGHAM; S. TUNG; M. STONE; J. BRIDGEWATER; T. KAVAFYAN; K. STEED; E. M. STARK; H. DONG; A. W. TOGA; H. V. VINTERS; J. J. WISCO. *Brigham Young Univ.*

9:00 Y17 **672.26** Effects of oxidative insult with rescue diets and T2 signal dropouts in the hippocampus. R. D. ADHIKARI*; R. STAUDTE; M. ATMOJO; M. MENDOZA; H. WANG; R. WATT; N. BANGERTER; S. BURT; J. WISCO. *Brigham Young Univ., Brigham Young Univ., Brigham Young Univ.*

10:00 Y18 **672.27** ▲ Amyloidosis, tauopathy, and microglial activation in the entorhinal cortex of Alzheimer's disease versus frontotemporal dimentia with cerebrovascular disease. A. P. COX*; C. M. COTTAM; K. M. BURNINGHAM; S. TUNG; M. STONE; J. BRIDGEWATER; T. KAVAFYAN; K. STEED; M. E. STARK; H. DONG; A. W. TOGA; H. V. VINTERS; J. J. WISCO. *Brigham Young Univ., David Geffen Sch. of Med. at UCLA, Keck Sch. of Med. of USC, Lab. of Neuro Imaging, Univ. of Utah Sch. of Med.*

11:00 Z1 **672.28** ▲ Comparison of colocalization of non-heme iron with Ab and Tau throughout Braak progression of AD in CA1, subiculum, and entorhinal cortex. K. BURNINGHAM*; A. P. COX; C. M. COTTAM; S. TUNG; M. STONE; J. BRIDGEWATER; T. KAVAFYAN; K. STEED; M. E. STARK; H. DONG; A. W. TOGA; H. V. VINTERS; J. J. WISCO. *Brigham Young Univ., David Geffen Sch. of Med. at UCLA, Keck Sch. of Med. of USC, Univ. of Utah Sch. of Med.*

8:00 Z2 **672.29** The change of cell death signaling in the hippocampus of alcoholic human and rat brain following adolescent intermittent ethanol exposure. W. LIU*; F. T. CREWS. *Univ. of North Carolina at Chapel Hill, Bowles Ctr. Alcohol.*

9:00 Z3 **672.30** Monitoring endoplasmic reticulum calcium and proteostasis in neurons under hypoxic conditions. B. K. HARVEY*; X. YAN; J. ANTTILA; M. AIRAVAARA; M. J. HENDERSON; K. A. TRYCHTA. *NIDA - NIH, Univ. of Helsinki, Natl. Ctr. for Advancing Translational Sci.*

10:00 Z4 **672.31** ● Striatal brain stimulation improves cognitive flexibility by modulating the human dorsal anterior cingulate. I. BASU; A. C. PAULK; K. FARNES; B. CROCKER; M. M. ROBERTSON; D. D. DOUGHERTY; S. S. CASH; E. N. ESKANDAR; A. S. WIDGE*. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., MIT, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Mass Genl Hosp.*

**POSTER**

**673. Stroke: Functional Connectivity Changes in Animals and Humans**

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

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

8:00 Z5 **673.01** Recovery of cortical delta band functional connectivity after focal ischemia. Z. P. ROSENTHAL*; J. LEE. *Write A Reply..., Washington Univ. in St Louis Sch. of Med.*

9:00 Z6 **673.02** Whole-brain indirect structural connectivity detects loss of cerebellar connectivity after stroke. M. R. SOTELO*; B. D. SCHMIT. *Marquette Univ., Marquette Univ. Dept. of Biomed. Engin.*

10:00 Z7 **673.03** ● Brain regions associated with motor and proprioceptive recovery after stroke. S. E. FINDLATER*; J. E. TAPPER; J. A. SEMRAU; J. M. KENZIE; A. X. YU; T. M. HERTER; S. H. SCOTT; S. P. DUKELOW. *Univ. of Calgary, Univ. of Calgary, The Univ. of Calgary, Univ. of South Carolina, Queen's Univ.*

11:00 Z8 **673.04** Efficacy of resting-state biomarkers versus behavioral measures in discriminating hemispatial neglect in stroke patients. E. PIRONDINI*; N. ZINGER; L. Y. DEOUELL; D. VAN DE VILLE. *Univ. of Geneva, Edmond and Lily Safra Ctr. for brain sciences (ELSC), The Hebrew Univ. of Jerusalem.*

8:00 Z9 **673.05** Corpus callosum anatomy in chronic stroke, revealed through structural segmentation. J. K. FERRIS*; K. S. HAYWARD; J. L. NEVA; L. A. BOYD. *Univ. of British Columbia.*

9:00 Z10 **673.06** ● Investigating the role of contralesional cortex activation in post-stroke recovery. M. ITO*; M. Y. CHENG; D. L. SMERIN; S. L. LEVY; T. C. CHIANG; G. K. STEINBERG. *Dept. of Neurosurgery, Stanford Univ.*

10:00 Z11 **673.07** Resting-state functional connectivity changes in photothrombotic ischemic stroke rat model. H. LEE*; J. YOON; O. CHEONG; S. PARK; Y. JEONG. *KAIST.*

11:00 Z12 **673.08** Elevated functional connectivity within injured cortical regions after focal stroke. F. TIAN*; T. SHICK; A. SAJJAD; M. WANG; J. BORJIGIN. *Univ. of Michigan, Veterans Admin. Ann Arbor Healthcare Syst.*

8:00 Z13 **673.09** Optogenetic stimulation of the intact corticospinal tract after stroke restores motor control through regionalized functional circuit formation. A. WAHL*; U. BÜCHLER; A. BRÄNDLI; B. BRATTOLI; S. MUSALL; H. KASPER; B. V. INEICHEN; F. HELMCHEN; B. OMMER; M. E. SCHWAB. *Brain Res. Institute, Univ. and ETH Zurich, Computer Vision Group, Interdisciplinary Ctr. for Scientific Computing (IWR), Univ. of Heidelberg, Brain Res. Institute, Univ. of Zurich, and Dept. of Hlth. Sci. and Technology, ETH Zurich, Switzerland, Brain Res. Institute, Univ. of Zurich, Switzerland.*

9:00 Z14 **673.10** Automated assessment of dynamic changes in the cortical vascular network architecture after ischemic stroke. R. RUST*; M. E. SCHWAB. *Brain Res. Inst., Dept. of Hlth. Sci. and Technol.*

10:00 Z15 **673.11** Compensation of the cortico-reticular tract against cortico-rubral tract block after capsular hemorrhage in intensive rehabilitation-induced recovery. A. ISHIDA*; Y. UEDA; K. KOBAYASHI; T. ISA; H. HIDA. *Nagoya City Univ. Grad. Sch. of Med. Sci., Natl. Inst. For Physiological Sci., Kyoto Univ.*

11:00 Z16 **673.12** Changes in functional connectivity due to repeated transcranial magnetic stimulation and botulinum toxin treatment-Discussion on two cases with different functional connectivity changes-. R. SAKAI*; T. ISHIKURA; Y. KOBAYASHI. *Fukui Col. of Hlth. Sci., Osaka Hlth. Sci. Univ., Fukui Gen. Hosp.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 Z17 **673.13** Correlation between brain microstructure revealed by NeuriteOrientation Dsipersion and Density Imaging and cerebral hemodynamics and metabolism measured with positron emission tomography in patients with moyamoya disease. S. HARA*; M. HORI; M. INAJI; T. MAEHARA; K. ISHII; S. AOKI; T. NARIAI. *Tokyo Med. and Dent. Univ., Juntendo Univ., Tokyo Metro Inst. Gerontology.*

9:00 Z18 **673.14** Trans-synaptic retrograde retinal ganglion cell degeneration after stroke coincides with the stable blind field and with areas of decreased representation in V1. C. L. SCHNEIDER*; E. K. PRENTISS; Z. R. WILLIAMS; B. SAHIN; B. Z. MAHON. *Univ. of Rochester, Univ. of Rochester Sch. of Med. and Dent., Univ. of Rochester Sch. of Med. and Dent., Univ. of Rochester Sch. of Med. and Dent., Univ. of Rochester, Univ. of Rochester, Univ. of Rochester Sch. of Med. and Dent.*

10:00 Z19 **673.15** The ATLAS (anatomical tracings of lesions after stroke) Dataset. J. M. ANGLIN*; N. BANKS; M. SONDAG; K. ITO; H. KIM; J. CHAN; J. ITO; C. JUNG; S. LEFEBVRE; W. NAKAMURA; D. SALDANA; A. SCHMIESING; C. TRAN; D. VO; P. HEYDARI; B. KIM; N. KHOSHAB; L. AZIZ-ZADEH; S. C. CRAMER; J. LIU; S. SOEKADAR; L. T. WESTLYE; J. WANG; C. J. WINSTEIN; C. YU; M. LAKICH; A. PIENTA; A. STROUD; S. LIEW. *USC, Univ. of California, Irvine, Tianjin Med. Univ. Gen. Hosp., Univ. of Tübingen, Univ. of Oslo, Univ. of Texas Med. Br., Univ. of Michigan.*

11:00 Z20 **673.16** Retrograde Neurodegeneration of Substantia Nigra Projections to the striatum following long term survival after Ischemic Stroke. A. PANTA*; F. SOHRABJI. *Texas A & M Hlth. Sci. Ctr.*

8:00 Z21 **673.17** Unmasking the complex systems biology of tissue remodeling after ischemic brain injury in rats using multiplex fluorescence biomarker immunohistology and multispectral imaging. D. MARIC*; J. D. BERNSTOCK; A. B. SEDLOCK; Y. MOU; D. YE; J. M. HALLENBECK. *NINDS/NIH.*

**POSTER**

**674. Stroke: Non-Pharmacological Treatment and Activity-Dependent Plasticity and Recovery**

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

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

8:00 Z22 **674.01** Neuroplasticity mechanisms that lead to stroke recovery. M. T. JOY*; A. J. SILVA; S. T. CARMICHAEL. *UCLA, UCLA, UCLA.*

9:00 Z23 **674.02** Optogenetic rehabilitation promotes functional remodelling after stroke: An *in vivo* imaging study. E. CONTI*; A. L. ALLEGRA MASCARO; F. RESTA; E. QUARTA; L. SACCONI; S. LAI; S. MICERA; F. S. PAVONE. *European Lab. for Non-linear Spectroscopy, Natl. Res. Council, Natl. Res. Council, Scuola Superiore Sant'Anna, Ecole Polytechnique Federale de Lausanne, Univ. of Florence.*

10:00 Z24 **674.03** Does tonic inhibition in the sub-acute period after stroke alter the trajectory of upper limb recovery? J. CIRILLO*; R. A. MOONEY; V. M. BORGES; P. A. BARBER; A. N. CLARKSON; S. J. ACKERLEY; M. SMITH; C. MANGOLD; C. M. STINEAR; W. D. BYBLOW. *Univ. of Auckland, Univ. of Auckland, Univ. of Auckland, Univ. of Otago.*

11:00 Z25 **674.04** Position and movement sense in stroke patients; pilot study. Y. ACOSTA-SOJO*; B. J. MARTIN. *Univ. of Michigan.*

8:00 Z26 **674.05** Tailoring non-invasive brain stimulation to enhance bimanual arm coordination in individuals with chronic stroke. W. LIAO*; J. WHITALL; J. E. BARTON; S. MCCOMBE WALLER. *Univ. of Maryland,Baltimore, Univ. of Maryland Baltimore.*

9:00 Z27 **674.06** Exercise ameliorates the effects of compensatory limb training in a mouse model of stroke. A. L. KERR*; E. M. HAAN; R. MAVROS; V. NEMCHEK. *Illinois Wesleyan Univ.*

10:00 Z28 **674.07** Trade-off between efficacy and efficiency of motor training post-stroke. N. SCHWEIGHOFER*; C. WANG; C. J. WINSTEIN. *USC, USC.*

11:00 Z29 **674.08** Effects of a lower-limb exoskeleton on muscle synergies in healthy and chronic stroke patients. L. RINALDI*; L. YEUNG; P. LAM; M. PANG; R. TONG; V. CHEUNG. *The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong, The Hong Kong Polytechnic Univ.*

8:00 Z30 **674.09** Characteristics of sequential force development in stroke. J. ROH*; S. LEE; P. RAGHAVAN; W. Z. RYMER. *Temple Univ., Northwestern Univ., Catholic Univ. of America, Biomed. Eng., MedStar Natl. Rehabil. Hosp., New York Univ. Langone Med. Ctr., Rehabil. Inst. of Chicago.*

9:00 Z31 **674.10** Motor cortex excitability in a simple reaction time task in post-stroke fatigue: Preliminary data. W. DE DONCKER; A. KUPPUSWAMY*; S. ONDOBAKA. *UCL, Inst. of Neurology, UCL.*

10:00 Z32 **674.11** Backward ArteriogeneSIS (BASIS) by mechanical barrier disruption and systemic erythropoietin pretreatment in mild and severe ischemic rat model. G. PARK*; E. CHOI; Y. KWON; K. LEE; J. LEE; J. HONG. *Dept. of Neurology, Ajou Univ. Sch. of Med.*

11:00 AA1 **674.12** 90 or over-year-old subarachnoid hemorrhage patients. N. KUTSUNA*; K. MAKITA; G. KIDO; Y. KAGAWA. *Sonoda daiichi hospital, Nihon university school of medicine.*

8:00 AA2 **674.13** Myoelectric computer interface training improves arm movement after stroke. M. W. SLUTZKY*; A. SINGH; S. HAMEED; E. M. MUGLER. *Northwestern Univ., Northwestern Univ.*

9:00 AA3 **674.14** ▲ Acute vagal nerve stimulation reduces infarct size but not motor impairment after stroke. K. OKADA; E. MARSCHALL; T. LITTLE; C. ROWAN; J. A. KLEIM*. *Arizona State Univ., Arizona State Univ.*

10:00 AA4 **674.15** A novel rat model of lacunar stroke targeting the forelimb area of the internal capsule. A. SINDHURAKAR*; V. C. RAMIREZ; T. WEN; H. PARK; J. B. CARMEL. *Burke Med. Res. Inst., Weill Cornell Med.*

11:00 AA5 **674.16** A cerebral artery stress test to assess regulation of cerebrovascular pulsatility during acute aerobic exercise in overt and covert stroke. A. D. ROBERTSON*; S. ATWI; K. KOSTOGLOU; R. XU; G. D. MITSIS; B. J. MACINTOSH. *Sunnybrook Res. Inst., Sunnybrook Res. Inst., McGill Univ., McGill Univ.*



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* Indicates abstract's submitting author

**POSTER**

**675. Traumatic Brain Injury: Therapeutic Interventions III**

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

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

8:00 AA6 **675.01** Localized optogenetic stimulation and label-free imaging of neuronal cell activation. C. HU*; R. SAM; M. WANG; M. GILLETTE; P. SENGUPTA; G. POPESCU. *Univ. of Illinois at Urbana-Champaign.*

9:00 AA7 **675.02** Murine cell and layer-specific distribution abnormalities in the hippocampus following trauma. Y. LEE*; M. E. KANDEL; S. JOUNG; I. UZCANGA; J. DE JESUS ASTACIO; C. BEST. *Univ. of Illinois Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois Urbana Champaign, Inst. Tecnologico de Santo Domingo(INTEC), Univ. of Puerto Rico, Univ. of Illinois Urbana Champaign.*

10:00 AA8 **675.03** ● Neural structure and dynamics using halo-free phase-sensitive microscopy. G. POPESCU*; M. KANDEL; S. JOUNG; C. A. POPESCU. *Univ. of Illinois At Urbana-Champaign, UIUC.*

11:00 AA9 **675.04** Using spatial light interference microscopy (SLIM) to quantify the neuroprotective effects of temperature and docosahexaenoic acid (DHA) on primary neurons following trauma. I. MICHES*; P. CINTORA; Y. J. LEE; M. E. KANDEL; D. KLINE; C. A. BEST-POPESCU. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign.*

8:00 AA10 **675.05** ● Gradient light interference microscopy (GLIM) for label-free imaging of acute brain slices. M. E. KANDEL*; G. N. KOUZEHGARANI; M. U. GILLETTE; G. POPESCU. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois.*

9:00 AA11 **675.06** ▲ Introduction of pamam dendrimers to glioma and glioblastoma cell cultures induces severe effects and significantly reduced cell viability. M. FINI*; B. SRINAGESHWAR; A. N. STEWART; D. SWANSON; G. L. DUNBAR; A. SHARMA; J. ROSSIGNOL. *Central Michigan Univ., CENTRAL MICHIGAN UNIVERSITY, Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Field Neurosciences Inst. Lab.*

10:00 AA12 **675.07** Restoring large scale brain activity and consciousness with vagus nerve stimulation. A. SIRIGU*; M. CORAZZOL; G. LIO; A. LEFEVRE; N. ANDRÉ-OBADIA; P. BOURDILLON; J. LUAUTE; M. GUENOT. *Inst. of Cognitive Sci. Marc Jeannerod, Hospices Civils de Lyon.*

11:00 AA13 **675.08** Repeat concussive TBI and prevention by paclitaxel is characterized by imaging biomarkers with pathologic confirmation in mice. C. G. CROSS*; J. S. MEABON; M. M. CLINE; M. A. OSTLIE; D. G. COOK; D. J. CROSS; S. MINOSHIMA. *Univ. of Utah, VA Puget Sound.*

8:00 AA14 **675.09** IGF-1 and behavioral training as potential therapeutic strategies to improve behavioral deficits in a rat model of Rett syndrome. K. ADCOCK*; A. BERRY; J. RILEY; A. ALVAREZ-DIEPPA; J. BUCKSOT; R. HERD; R. L. RENNAKER; C. ENGINEER; S. A. HAYS; M. P. KILGARD. *Univ. of Texas at Dallas, Texas Biomed. Device Ctr., Univ. of Texas at Dallas.*

9:00 AA15 **675.10** Mechanisms of VNS-induced extinction enhancement and PTSD symptom reduction in rats. L. J. NOBLE*; J. E. CHILDS; A. V. CHUAH; V. B. MERUVA; S. KROENER; C. K. MCINTYRE. *Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas.*

10:00 AA16 **675.11** Pairing vagus nerve stimulation with motor training to enhance motor recovery after stroke: Effects of parametric variations of stimulation intensity. D. PRUITT*; T. DANAPHONGSE; M. LUTCHMAN; R. L. RENNAKER; M. P. KILGARD; S. A. HAYS. *Univ. of Texas at Dallas, The Univ. of Texas at Dallas.*

11:00 AA17 **675.12** Optimizing vagus nerve stimulation paired with rehabilitation to enhance recovery following spinal cord injury. M. DARROW*; A. D. RUIZ; P. D. GANZER; L. BARRON; A. BERRY; M. BILAL; R. L. RENNAKER; M. P. KILGARD; S. A. HAYS. *Univ. of Texas At Dallas, Texas Biomed. Device Ctr., Univ. of Texas At Dallas, Univ. of Texas At Dallas, The Univ. of Texas at Dallas, UT Dallas, Univ. of Texas At Dallas.*

8:00 AA18 **675.13** Vagus nerve stimulation enhances plasticity and improves recovery following peripheral nerve injury. E. MEYERS*; B. R. SOLORZANO; R. GRANJA-VAZQUEZ; P. D. GANZER; M. DARROW; M. I. ROMERO-ORTEGA; R. L. RENNAKER; M. P. KILGARD; S. A. HAYS. *Univ. of Texas At Dallas, Texas Biomed. Device Ctr., Cleveland Clin., Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas At Dallas.*

9:00 AA19 **675.14** Identification of axon growth promoting small molecules using a high throughput phenotypic assay exploiting hiPSC derived human sensory, motor and cortical neurons. B. SINGH*; T. HO; Y. CHENG; J. MERCIER; C. J. WOOLF. *Boston Children's Hosp. Harvard Med. Sch.*

10:00 AA20 **675.15** Multimodal treatment using transcranial magnetic stimulation and environmental enrichment improves motor and sensory function after TBI. S. SHIN*; V. S. KRISHNAN; W. STOKES; H. LU; P. LU; G. PELLED. *Kennedy Krieger Institute, Johns Hopkins Universit, Johs Hopkins Sch. of Med., Johns Hopkins Univ., Johns Hopkins Sch. of Med.*

**POSTER**

**676. Peripheral Nerve Injury and Repair**

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

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

8:00 AA21 **676.01** Novel non-viral knockdown strategies targeting retinoblastoma protein for rescue and regeneration of peripheral axons. K. ZUBKOW*; T. M. POITRAS; A. CHANDRASEKHAR; D. W. ZOCHODNE. *Univ. of Alberta, Univ. of Alberta.*

9:00 AA22 **676.02** Cellular dynamics in adult dorsal root ganglia. A. KRISHNAN*; D. W. ZOCHODNE. *Neurosci and Mental Hlth. Inst., and Div. of Neur, Neurosci. and Mental Hlth. Institute, and Div. of Neurol.*

10:00 AA23 **676.03** Conditioning with botulinum toxin enhances motor axon regrowth in mouse and human models of injury. C. K. FRANZ*; L. JORDAN; J. A. ORTEGA; E. KISKINIS; C. HECKMAN. *Shirley Ryan Abilitylab, Northwestern Univ., Northwestern Univ., Northwestern Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

11:00 AA24 **676.04** Activation of TRPV1 receptors improves the regenerative capacity of adult sensory neurons. T. M. POITRAS*; A. CHANDRASEKHAR; L. MCCOY; C. A. WEBBER; D. W. ZOCHODNE. *Univ. of Alberta, Univ. of Alberta, Univ. of Alberta.*

8:00 AA25 **676.05** Electrical stimulation as a conditioning lesion for promoting peripheral nerve regeneration. K. CHAN*; J. L. SENGER; J. L. OLSON; C. A. WEBBER. *Univ. Alberta, Univ. of Alberta, Univ. of Alberta.*

9:00 AA26 **676.06** A novel local FK506 delivery system enhances axon regeneration. K. TAJDARAN*; K. CHAN; M. S. SHOICHET; T. GORDON; G. H. BORSCHEL. *Univ. of Toronto/Sickkids Hosp., Univ. of Toronto, Univ. of Toronto, Hosp. for Sick Children, The Hosp. For Sick Children.*

10:00 AA27 **676.07** MRI tracking of Gadoteridol-labeled mesenchymal stem cells in a spinal cord injury murine model. M. M. BOIDO*; M. FILIPPI; C. PASQUINO; F. GARELLO; C. BOFFA; E. TERRENO. *Univ. of Turin, Mol. and Preclinical Imaging Ctr., Mol. Biotech. Ctr.*

11:00 AA28 **676.08** Modeling epidural spinal cord stimulation to predict paraplegic patients' responses and identify critical features of the electrical activity. E. R. FELDMAN*; Y. SUI; J. W. BURDICK. *Caltech.*

8:00 AA29 **676.09** Cortex-dependent recovery of unassisted hindlimb locomotion after complete spinal cord injury in adult rats. K. A. MOXON*; G. FOFFANI; P. D. GANZER; V. BRACCHI-RICARD; J. R. BETHEA; A. MANOHAR. *Univ. of California Davis, Drexel Univ., Hosp. Nacional De Parapléjicos, Univ. of Texas At Dallas.*

9:00 AA30 **676.10** Stretch-induced activation of muscles paralyzed by spinal cord injury. C. K. THOMAS*; L. MONTOYA; K. GANT. *Univ. of Miami Sch. of Med.*

10:00 AA31 **676.11** Robotic upper-limb assessment of bilateral asymmetries after spinal cord injury. A. WILSON*; Y. LEI; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

11:00 AA32 **676.12** Contribution of the corticospinal pathway to spasticity following spinal cord injury. R. A. MACKLIN*; R. A. OZDEMIR; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

8:00 AA33 **676.13** GLP-1 receptor agonist enhances the ER stress response and improves functional recovery after spinal cord injury in a rat model. S. NOMURA*; H. KATOH; S. YANAGISAWA; T. IMAI; M. KUROIWA; M. WATANABE. *Tokai Univ. Sch. of Med., Tokai Univ., Dept. of Orthopaedic Surgery Tokai Universit, Tokai Univ. Sch. of Med.*

9:00 AA34 **676.14** ● Gene therapy to alleviate hyperreflexia after spinal cord injury. C. A. BENSON; M. HILL; S. LIU; F. DIB-HAJJ; S. G. WAXMAN; S. DIB-HAJJ; A. M. TAN*. *Yale University/VA Connecticut Healthcare Syst.*

10:00 AA35 **676.15** ▲ Recovery of sensory-motor integration after dorsal rhizotomy and repair with platelet-rich plasma (PRP). M. V. DE CASTRO*; B. B. VOLPE; Â. C. M. LUZO; A. L. R. OLIVEIRA. *Univ. of Campinas (UNICAMP).*

11:00 AA36 **676.16** Therapeutic targeting of Pak1 signaling alleviates neuropathic pain after traumatic 2nd degree burn injury. Y. GUO; P. EFFRAIM*; C. BENSON; S. HENRY; S. G. WAXMAN; S. D. DIB-HAJJ; A. M. TAN. *Yale Univ., Yale Univ. Sch. of Med., VA Connecticut Healthcare Syst., Yale University, Neurosci. and Regeneration Res. Ctr., Yale Sch. of Med., Yale University/VA Connecticut Healthcare Syst.*

8:00 BB1 **676.17** ▲ Effects of injury-induced histamine release on fibroblasts and the extracellular matrix in peripheral nerves. J. RAUCH*; M. ANEX-SCHNAUSS; C. GILL; J. CASTORINO. *Hampshire Col.*

9:00 BB2 **676.18** ● Bidirectional paired-associative synaptic plasticity at spinal motoneurons. A. YAMASHITA*. *Neurorehabilitation Res. Institute, Morinomiya.*

10:00 BB3 **676.19** ▲ Semaphorin3A inhibits axon regeneration after trigeminal nerve transection. H. KANEMARU*; K. SEO; Y. YAMADA; A. OHAZAMA; T. MAEDA. *Niigata Univ., Niigata Univ. Grad Sch., Grad. Sch. of Niigata Univ., Niigata Univ. Grad. Sch. of Med. and Dent. Sci., Niigata Univ. Grad Sch. Med. Dent.*

11:00 BB4 **676.20** Axon regeneration promoted by signaling of the unfolded protein response in peripheral nerve injury. Y. OHTAKE*; A. SAITO; K. IMAIZUMI. *Hiroshima Univ., Hiroshima Univ.*

8:00 BB5 **676.21** GMFb may regulate the Schwann cell repair phenotype after acute and chronic denervation. J. SCHEIB*; A. HOKE. *Johns Hopkins Univ., Johns Hopkins Univ.*

9:00 BB6 **676.22** 3D printing aligned scaffold immobilizing bioactive cue for neural regeneration. W. ZHU*; F. MASOOD; B. T. HARRIS; L. ZHANG. *The George Washington Univ., Univ. of Maryland, Georgetown Univ. Med. Ctr., The George Washington Univ.*

10:00 BB7 **676.23** Temporal relationships of behavioral, electrophysiological and pathological outcomes with *in vivo* muscle physiology during motor unit reconnectivity. C. G. WIER*; A. R. KNAPP; P. L. HEILMAN; W. ARNOLD; S. J. KOLB. *Chris Wier, Ohio State Univ., The Ohio State Univ., The Ohio State Univ. Wexner Med. Ctr.*

11:00 BB8 **676.24** Peripheral nerve repair with magnesium metal filaments providing contact guidance support. X. AN; T. M. HOPKINS; J. J. VENNEMEYER; A. M. HEILMAN; K. J. LITTLE; D. B. HOM; S. K. R. PIXLEY*. *Univ. of Cincinnati Col. of Pharm., Univ. Cincinnati Col. Med., Cincinnati Children's Hosp. Med. Ctr., Univ. Cincinnati Col. Med.*

8:00 DP04/BB9 **676.25** (Dynamic Poster) Two-photon imaging of human neuromuscular junction degradation after traumatic peripheral nerve injury. J. P. CHAN*; W. A. PALISPIS; O. STEWARD; R. GUPTA. *Univ. of California, Irvine.*

9:00 BB10 **676.26** Tissue engineered nerve grafts maintain distal pro-regenerative Schwann cells in a rodent model of chronic axotomy. D. BROWN*; Z. ALI; J. BURRELL; K. KATIYAR; K. BROWNE; D. CULLEN. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

10:00 BB11 **676.27** N6-Methyladenosine (m6A) translationally regulates the regenerative capacity. Y. WENG*; R. AN; T. XU; J. CASSIN; X. WANG; C. VISSER; F. ZHANG; P. JIN; H. WU; X. ZHUANG; C. HE; H. SONG; G. MING. *Johns Hopkins Univ., Emory Univ., Emory Univ., Univ. of Chicago, Howard Hughes Med. Inst., Johns Hopkins Univ. SOM, Johns Hopkins University, Inst. for Cell Engin.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**677. Tauopathies, Tau-Dementias, and Prion Diseases II**

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

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

8:00 BB12 **677.01** Tau induces formation and dysfunction of small diameter capillaries in aged tau P301L mice. R. E. BENNETT*; A. B. ROBBINS; B. T. HYMAN. *Massachusetts Gen. Hosp. Dept. of Neurol.*

9:00 BB13 **677.02** TREM2 deficiency results in early exacerbation of tau pathology and leads to enhanced neurodegeneration with cognitive deficits in hTau mice. S. M. BEMILLER*; T. J. MCCRAY; K. ALLAN; A. L. OBLAK; G. XU; O. N. KOKIKO-COCHRAN; S. D. CRISH; R. M. RANSOHOFF; G. E. LANDRETH; B. T. LAMB. *IU Sch. of Med. Stark Neurosciences Res., Cleveland Clin. Lerner Res. Inst., The Ohio State Univ., NEOMED, Biogen Idec.*

10:00 BB14 **677.03** Investigating combinatory phosphorylation of tau in propagation models of tauopathy. N. SAHARA*; T. KIMURA; G. MATSUMOTO. *Natl. Inst. of Radiological Sci., Nagasaki Univ. Sch. of Med.*

11:00 BB15 **677.04** GPRC6A linked mTORC1 activation impacts tauopathies. C. MA*; W. FRASER; J. HUNT; L. SANDUSKY; R. ALVAREZ; H. B. OSBORNE; D. S. PEDERSEN; K. NASH; D. MORGAN; D. C. LEE. *Univ. of South Florida, Col. of Pharm., Byrd Alzheimer's Inst., Morsani Col. of Med., Sch. of Pharmaceut. Sci.*

8:00 BB16 **677.05** Hexosamine pathway metabolites ameliorate tauopathy in *C. elegans* neurons. E. PARK*; I. TARIQ; C. RONGO. *The Waksman Institute, Rutgers Univ.*

9:00 BB17 **677.06** Knockdown of RNA binding protein TIA1 rescues RNA dysregulation and protects against tau mediated neurodegeneration in the PS19 P301S tau mouse model of Alzheimer's disease. B. MAZIUK*; D. APICCO; A. CRUZ-LOURDES; E. VAN VLIET; N. YAZDANI; L. GOLDBERG; M. MEDALLA; C. LEBLANG; C. ZHANG; C. UNG; N. M. KANAAN; H. LI; C. BRYANT; J. LUEBKE; T. IKEZU; B. WOLOZIN. *Boston Univ., Mayo Clin., Michigan State Univ.*

10:00 BB18 **677.07** Aberrant interaction between FUS and SFPQ in 4R-tau dominant tauopathy brains. S. ISHIGAKI*; Y. RIKU; Y. FUJIOKA; D. HONDA; S. YOKOI; K. ENDO; K. KAWAI; H. WATANABE; M. KATSUNO; M. YOSHIDA; G. SOBUE. *Nagoya Univ. Grad. Sch. of Med., Aichi Med. Univ. Inst. for Med. Sci. of Aging, Nagoya Univ. Brain and Mind Res. Ctr.*

11:00 BB19 **677.08** ▲ Utilizing fly primary neurons to study htau propagation: An *in vitro* model of Alzheimer's disease. E. MURPHY; R. A. COLVIN*; C. QIAN; C. QI; M. SMARELLI; R. YAVORSKY; A. LEE; D. LEE. *Ohio Univ., Ohio Univ.*

8:00 BB20 **677.09** miR-125b contributes to Tauopathy in Presenilin1/2 conditional knockout dementia model mice via NCAM. B. MENG*; L. ZHANG; H. DONG; B. MEI. *East China Normal Univ.*

9:00 BB21 **677.10** Microtubule affinity regulating kinase 2 inhibition: Synthetic peptide mimetic of human tau repeat domain reduces tau phosphorylation in rat primary cortical neurons. C. QIAN*; N. AL QAEISOOM; J. M. HOLUB; R. A. COLVIN. *Ohio Univ., Ohio Univ.*

10:00 BB22 **677.11** Copper binding regulates cellular prion protein function. X. T. NGUYEN*; H. T. TRAN; D. COJOC; G. LEGNAME. *Scuola Internazionale Superiore Di Studi Avanzati, Inst. of Materials, CNR.*

11:00 BB23 **677.12** *In vivo* imaging of mitochondrial transport deficits in the rTg4510 mouse model of tauopathy. J. D. JOHNSON*; R. M. LEES; J. S. JACKSON; M. J. ONEILL; M. C. ASHBY. *Univ. of Bristol, Lilly UK, Eli Lilly.*

8:00 BB24 **677.13** ● Optimization of structure-based tau aggregation inhibitors. J. J. TREANOR*; M. APOSTOL; A. WRIGHT; S. TANAKA; J. SCHERRER; D. S. EISENBERG. *ADRx Inc., UCLA.*

9:00 BB25 **677.14** ● Impaired autophagy exacerbates neurotoxicity induced by general anesthetics in a culture model of familial Alzheimer's disease. C. WARD; M. YANG; Y. WANG; G. LIANG; Z. XU; C. T. CHU*; H. WEI. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania, Shanghai Jiaotong Univ., Shandong Univ., Tongji Univ. Sch. of Med., Univ. of Pittsburgh, Univ. of Pennsylvania.*

10:00 BB26 **677.15** ● Atg-5 plays important role on propofol regulation of autophagy and cell survival. H. WEI*; Z. XU; Y. WANG; G. LIANG; Z. LIU; W. MA; C. WARD. *Univ. of Pennsylvania, Univ. of Pennsylva, The First Affiliated Hosp. of Guangzhou Univ. of Chinese Med., Univ. of Pennsylvania, Shanghai First Maternity and Infant Hosp., The First Affiliated Hosp. of Guangzhou Univ. of Chinese Med., Children's Hosp. of Philadelphia.*

11:00 BB27 **677.16** Isoflurane inhibition of exocytosis coupled to P/Q- and N-type voltage-gated $Ca^{2+}$ channels. Y. KOYANAGI*; Z. ZHOU; H. C. HEMMINGS, Jr. *Weill Cornell Med., Nihon Univ. Sch. of Dent.*

**POSTER**

**678. Tauopathies, Tau-Dementias, and Prion Diseases I**

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

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

8:00 CC1 **678.01** Benfotiamine treatment activates the Nrf2/ARE pathway and is potently neuroprotective in a transgenic mouse model of tauopathy. V. TAPIAS*; S. JAINUDDIN; M. AHUJA; C. STACK; C. ELIPENAHLI; J. VIGNISSE; M. GERGES; N. STARKOVA; H. XU; A. A. STARKOV; L. BETTENDORFF; D. M. HUSHPULIAN; N. A. SMIRNOVA*; I. G. GAZARYAN*; N. A. KAIDERY; S. WAKADE; N. Y. CALINGASAN; B. THOMAS; G. E. GIBSON; M. DUMONT; M. F. BEAL. *Weill Cornell Med., Augusta Univ., Univ. of Liège, D. Rogachev Federal Scientific and Clin. Ctr. for Pediatric Hematology, Oncology, and Immunol., Veropharm, Pace Univ., Sch. of Chem., Joan and Sanford I Weill Med. Col. of Cornell Univ.*

9:00 CC2 **678.02** Sex differences in the microRNA-mediated regulation of microglia function in a mouse model of Alzheimer's disease. L. KODAMA*; J. I. ETCHEGARAY; Y. ZHOU; E. GUZMAN; K. S. KOSIK; L. GAN. *UCSF, UCSF Gladstone, UCSB, Univ. of California Santa Barbara, Gladstone Inst. of Neurolog. Dis.*

10:00 CC3 **678.03** Protein phosphatase 2A is dysregulated in tauopathies of progressive supranuclear palsy and Alzheimer's disease. H. PARK*; K. LEE; S. OH; R. YAN; J. ZHANG; T. BEACH; C. ADLER; M. VORONKOV; S. BRAITHWAITE; J. STOCK; M. MOURADIAN. *Rutgers-Robert Wood Johnson Med. Sch., Banner Sun Hlth. Res. Inst., Mayo Clin., Signum Biosci., Princeton Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

11:00 CC4 **678.04** Dysregulation of Fgf14 by the tau transgene array is required for neurodegeneration in the rTg4510 mouse model of tauopathy. J. GAMACHE*; K. BENZOW; E. FURROW; K. H. ASHE; M. KOOB. *Univ. of Minnesota Twin Cities Campus, Univ. of Minnesota.*

8:00 CC5 **678.05** ● Deciphering HDAC6 interaction with human Tau using zebrafish. N. RIBEIRO PALHA; C. QUEVEDO; A. DEKEYNE*; B. PUVION; A. MURIANA; A. AZUALDE; C. LOUIS; J. P. KISS. *Inst. De Recherches Servier, Biobide.*

9:00 CC6 **678.06** Study of the astrocyte-neuron relationship in a novel gene transfer-based rodent model of tauopathy. K. CAMBON*; A. MATÉ DE GÉRANDO; M. D'ORANGE; G. LIOT; L. STIMMER; G. AURÉGAN; C. JOSÉPHINE; M. GAILLARD; E. BROUILLET; P. HANTRAYE; A. BEMELMANS. *CEA- MIRCEN.*

10:00 CC7 **678.07** Silencing of FUS in the non-human primate brain via stereotaxic injection of an adeno-associated virus encoding shRNA. K. ENDO*; S. ISHIGAKI; Y. FUJIOKA; H. WATANABE; M. KATSUNO; G. SOBUE. *Nagoya Univ. Grad. Sch. of Med.*

11:00 CC8 **678.08** Creating a *Drosophila melanogaster* model of prion-like tau protein spread. S. A. LEVY*; B. FROST. *UT Hlth. San Antonio, UT Hlth. San Antonio.*

8:00 CC9 **678.09** Proteinase K-resistant proteins linked with the different types of advanced glycation end products in the 263K prion-infected brain. Y. CHOI*; J. KIM; E. CHOI; J. CASTILLA; Y. KIM. *Ilsong Inst. of Life Science,Hallym Univ., Bukyong Natl. Univ., CIC bioGUNE, IKERBASQUE, Basque Fndn. for Sci., Col. of Medicine, Hallym Univ.*

9:00 CC10 **678.10** The expression of the neurotoxic tau45-230 fragment leads to changes in the cytoskeleton associated with defects in neurite elongation and synapse formation in hippocampal neurons. A. B. FERREIRA*; S. AFREEN. *Northwestern Univ., Northwestern Univ.*

10:00 CC11 **678.11** The Role of 5-lipoxygenase on tau pathology, synaptic integrity, and cognition in a mouse model of tauopathy. A. VAGNOZZI*; P. F. GIANNOPOULOS; D. PRATICO. *Lewis Katz Sch. of Med. At Temple Univ., New York Univ.*

11:00 CC12 **678.12** Investigating the effects of nuclear calcium signaling in the pathogenesis of tauopathies. R. E. MAHONEY*; M. GAMEZ; B. FROST. *UTHSCSA.*

8:00 CC13 **678.13** Genetic ablation of tau reduces oxidative damage and improves mitochondrial bioenergetics during the aging. R. A. QUINTANILLA*; C. JARA; C. TAPIA-ROJAS; E. VERGARA-HERNANDEZ. *Ctr. de Investigación Biomédica, Univ. Aut.*

9:00 CC14 **678.14** Tau aggregation causes nucleocytoplasmic transport disruption in FTD and other tauopathies. J. G. DAIGLE*; B. EFTEKHARZADEH; B. T. HYMAN, MD,PhD; J. D. ROTHSTEIN. *Johns Hopkins Sch. of Med., MGH, Massachusetts Gen. Hosp., Johns Hopkins Univ.*

10:00 CC15 **678.15** Influence of hyperphosphorylated tau in the hippocampal CA1 region in tau transgenic mice. L. MUELLER-THOMSEN*; H. SCHRODER; T. SCHNEIDER; J. GOETZ; S. HUGGENBERGER. *Dept. II of Anat., Univ. of Cologne, Univ. Cologne, The Univ. of Queensland, Inst. II of Anat.*

11:00 CC16 **678.16** Age-dependent changes in protein degradation are reversed by NADPH oxidase inhibition in mouse brain. J. B. RUDEN*; Q. TANG; J. L. SASKOWSKI; R. J. SASKOWSKI; P. J. SPITZLER; E. A. SCHNEIDER; L. L. DUGAN. *Vanderbilt Univ. Med. Ctr.*

8:00 CC17 **678.17** Ovariectomy and hormone treatment modulates female brain bioenergetic function in an endocrine status dependent manner. Z. MAO*; F. YIN; J. YAO; R. BRINTON. *Univ. of Arizona, USC.*

9:00 CC18 **678.18** Estradiol improves metabolic and cognitive outcomes of obesity in female APOE3 and APOE4 mice at early middle age. A. CHRISTENSEN*; C. J. PIKE. *USC, USC.*

10:00 CC19 **678.19** Impact of APOE genotype on the sex-differentiated bioenergetic trajectories and AD risks in aging mouse brains. F. YIN*; Y. WANG; A. MISHRA; Z. MAO; R. D. BRINTON. *USC, Univ. of Arizona.*

11:00 CC20 **678.20** Epigenetic control of the perimenopausal brain in hypothalamus. E. BACON*; A. MISHRA; Y. WANG; F. YIN; R. D. BRINTON. *USC, USC, Univ. of Arizona.*

8:00 CC21 **678.21** PhytoSERM for management of menopause-associated vasomotor symptoms -- effect of APOE genotype and mitochondrial haplogroup. Y. WANG*; G. HERNANDEZ; W. MACK; L. S. SCHNEIDER; F. YIN; R. D. BRINTON. *USC, USC, Univ. of Arizona.*

9:00 CC22 **678.22** Mechanistic role of brain hypometabolism and mitochondrial uncoupling in perimenopausal hot flash. R. D. BRINTON*; F. YIN; J. YAO; Q. DENG; A. MISHRA; Z. MAO. *USC, Univ. of Arizona.*

10:00 CC23 **678.23** Sex differences in metabolic and neurological outcomes in humanized APOE-E4 knock-in rats. A. MISHRA*; F. YIN; Z. MAO; R. D. BRINTON. *USC, USC, Univ. of Arizona.*

11:00 CC24 **678.24** Expression analysis of mouse models and patients of neurodegenerative diseases. N. M. THATRA*; C. EHRHARDT; E. HAAS; M. BELMADANI; J. MATTHES; J. HUEBENER; N. CASADEI; O. RIESS; P. PAVLIDIS; J. GSPONER. *Univ. of British Columbia, Univ. of Tubingen, Univ. of British Columbia, Univ. of Tubingen, Univ. of British Columbia, Univ. of British Columbia.*

8:00 CC25 **678.25** Small ubiquitin-like modifier (SUMO) impacts on neuronal function and neurodegeneration. H. TAKAMURA*; S. MATSUZAKI; K. YAMADA; T. KATAYAMA; P. E. FRASER. *Osaka Univ., Tanz Ctr. for Res. in Neurodegenerative Diseases, Univ. of Toronto, Wakayama Med. Univ., Univ. of Toronto.*

**POSTER**

**679. Somatosensation: Spinal Circuits**

***Theme D: Sensory Systems***

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

8:00 CC26 **679.01** Role of calcium release activated calcium (CRAC) channels in P2X7R-mediated cytokine production. F. M. MUNOZ*; X. GAO; J. XIA; J. JIANG; H. HU. *Drexel Univ. Col. of Med., China Pharmaceut. Univ., Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 CC27 **679.02** STIM1 plays a role in spinal cord synaptic transmission. J. XIA*; F. M. MUNOZ; R. JEAN-TOUSSAINT; H. HU. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*

10:00 CC28 **679.03** Heteromeric glycine receptors regulate the excitability of inhibitory interneurons via phasic and tonic inhibition. M. A. GRADWELL; D. I. HUGHES; R. J. CALLISTER*; B. A. GRAHAM. *Univ. of Newcastle, The Univ. of Glasgow, The Univ. of Newcastle.*

11:00 CC29 **679.04** Regulation of spinal nociceptive processing by the $Na^+$ leak channel NALCN. N. C. FORD*; D. REN; M. L. BACCEI. *Univ. of Cincinnati Dept. of Anesthesiol., Univ. of Pennsylvania.*

8:00 CC30 **679.05** The role of neuropetide-Y expressing dorsal horn inhibitory interneurons in nociceptive and pruriceptive circuits. K. A. BOYLE*; E. POLGAR; A. C. DICKIE; A. J. TODD. *Univ. of Glasgow.*

9:00 CC31 **679.06** Gastrin releasing peptide boosts the functional output from spinal itch-processing circuits. M. PAGANI*; H. JOHANNSSEN; H. U. ZEILHOFER. *Univ. of Zurich, Inst. of Pharmaceut. Sci. ETH.*

10:00 CC32 **679.07** Gastrin releasing peptide neurons in itch processing circuits of the spinal cord. G. W. ALBISETTI*; L. HÖSLI; H. WILDNER; H. U. ZEILHOFER. *Univ. of Zurich, ETH Zurich.*

11:00 CC33 **679.08** A comparison of morphology and function of gastrin-releasing peptide and substance-P expressing interneurons in the spinal dorsal horn. A. BELL*; A. DICKIE; N. IWAGAKI; R. KELLY; S. WEST; M. GUTIERREX-MECINAS; E. POLGAR; A. J. TODD. *Univ. of Glasgow, Univ. of Oxford.*

8:00 DD1 **679.09** Expression of metabotropic glutamate receptors in the rat spinal cord. M. OKUBO*; H. YAMANAKA; K. KOBAYASHI; K. NOGUCHI. *Hyogo Col. of Med.*

9:00 DD2 **679.10** Altered synaptic properties of the spinal, metabotropic GABAb receptor in female mice after neonatal injury. C. L. BREWER*; M. L. BACCEI. *Univ. of Cincinnati, Univ. of Cincinnati Dept. of Anesthesiol.*

10:00 DD3 **679.11** Differences between two well neurochemically defined excitatory interneuron populations in the mouse superficial dorsal horn. M. GUTIÉRREZ MECINAS*; A. DICKIE; N. IWAGAKI; M. HERAU; A. BELL; E. POLGAR; A. TODD. *Univ. of Glasgow, Univ. of Glasgow.*

11:00 DD4 **679.12** Presynaptic facilitation of the monosynaptic reflex in humans and rats. Y. LI; A. M. LUCAS-OSMA; S. BLACK; K. K. FENRICH; M. J. STEPHENS; L. SANELLI; S. LIN; K. FOUAD; M. A. GORASSINI; D. J. BENNETT*. *Univ. of Alberta.*

8:00 DD5 **679.13** Identification of spinal cord neurons that presynaptically inhibit c-nociceptors. M. MUSTAPA*; A. C DICKIE; N. IWAGAKI; A. J TODD; D. I HUGHES. *Univ. of Glasgow.*

9:00 DD6 **679.14** Primary afferent inputs to spinal lamina III antenna cells. E. C. FERNANDES; I. SANTOS; L. L. LUZ; E. KOKAI; D. HADHAZI; P. SZUCS; B. V. SAFRONOV*. *IBMC, MTA-DE-NAP B-Pain Control Res. Group.*

10:00 DD7 **679.15** PV-expressing cells in the mouse spinal dorsal horn gate the transmission of innocuous tactile input to lamina I. A. DICKIE*; K. A. BOYLE; T. YASAKA; V. E. ABRAIRA; A. L. ZIMMERMAN; D. D. GINTY; M. A. GRADWELL; R. J. CALLISTER; B. A. GRAHAM; D. I. HUGHES. *Univ. of Glasgow, Kagoshima Univ., Harvard Med. Sch., Univ. of Newcastle.*

11:00 DD8 **679.16** Analysis of spinothalamic tract neuron connectivity in the lumbar enlargement of the mouse spinal cord. A. G. SKORPUT*; M. S. RIEDL; C. N. HONDA; L. VULCHANOVA. *Univ. of Minnesota.*

8:00 DD9 **679.17** Electrophysiological responses of lamina X spinal cord neurons to primary afferent stimulation. V. KROTOV*; A. TOKHTAMYSH; P. BELAN; N. VOITENKO. *Bogomoletz Inst. of Physiol., Taras Shevchenko Natl. Univ. of Kiev.*

9:00 DD10 **679.18** Plant-derived compound-induced outward current in adult rat spinal substantia gelatinosa neurons and the chemical structure of the compound. T. YU; T. FUJITA*; C. WANG; R. SUZUKI; N. MAGORI; F. YANG; E. KUMAMOTO. *Saga Med. Sch.*

10:00 DD11 **679.19** Effects of orexin A and orexin B on spontaneous synaptic transmission in adult rat spinal substantia gelatinosa neurons. C. WANG*; T. FUJITA; N. MAGORI; R. SUZUKI; F. YANG; E. KUMAMOTO. *Saga Med. Sch.*

11:00 DD12 **679.20** Characterization of DMT-DALDA peptide (2): Study with continuous intrathecal infusion. S. KOKUBU*; K. EDDINGER; S. YAMAGUCHI; P. W. SCHILLER; T. L. YAKSH. *Univ. California San Diego, Dokkyo Med. Univ., Montreal Clin. Res. Inst., Univ. of Montreal.*

8:00 DD13 **679.21** Multi-laminar electrophysiological recordings in the spinal dorsal horn. C. M. GREENSPON*; I. M. DEVONSHIRE; L. DONALDSON; V. CHAPMAN; G. J. HATHWAY. *Univ. of Nottingham, Univ. of Nottingham, Univ. of Nottingham.*

9:00 DD14 **679.22** Neural effects in lactating rats produced by suckling in a somatic reflex. M. A. LARA GARCIA*; Y. CRUZ; O. LARA GARCIA; P. PACHECO. *Univ. Veracruzana, Univ. Autonoma Tlaxcala, Ctr. de Investigaciones Cerebrales, UV, Univ. Nacional Autonoma de México.*

**POSTER**

**680. Somatosensory Cortex**

***Theme D: Sensory Systems***

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

8:00 DD15 **680.01** Cortical dynamics in the mouse during a tactile-detection task. P. LE MERRE; V. ESMAEILI; C. C. H. PETERSEN; P. SALIN; S. CROCHET*. *EPFL, INSERM, EPFL.*

9:00 DD16 **680.02** Layer, cell-type and pathway-specific thalamocortical input to mouse primary somatosensory barrel cortex. B. S. SERMET*; T. B. ORAM; O. YIZHAR; C. C. PETERSEN. *EPFL, Weizmann Inst. of Sci., Weizmann Inst., École Polytechnique Fédérale de Lausanne (EPFL).*

10:00 DD17 **680.03** Reward-based learning drives recruitment of the medial prefrontal cortex and the dorsal hippocampus during a goal-directed sensorimotor task in the mouse. P. F. LE MERRE*; V. ESMAEILI; P. A. SALIN; C. C. PETERSEN; S. CROCHET. *Ecole Polytechnique Federale De Lausanne (EPFL), Lyon Neurosci. Res. Ctr. (CRNL).*

11:00 DD18 **680.04** Optical mapping of large-scale cortical sensorimotor activity in awake head-restrained mice. M. AUFFRET; C. C. PETERSEN*. *École Polytechnique Fédérale de Lausanne (EPFL).*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 DD19 **680.05** Diverse types of interhemispheric membrane potential correlation between somatosensory cortices of awake mice. Y. A. KATZ*; K. COHEN-KASHI MALINA; I. LAMPL. *Weizmann Inst. of Sci.*

9:00 DD20 **680.06** Time-dependent population responses underlying spatial representation in the primary somatosensory cortex: The cortical body map revisited. J. CORBO*; Y. ZENNOU AZOGUI; C. A. XERRI; N. CATZ. *Aix-Marseille Univ.*

10:00 DD21 **680.07** Detailed somatotopy of the rat trunk sensory cortex. G. H. BLUMENTHAL*; B. NANDAKUMAR; K. A. MOXON. *Drexel Univ. Sch. of Biomed. Engin. Sci. and Hlth. Systems, Drexel Univ. Sch. of Biomed. Engin. Sci. and Hlth. Systems, Univ. of California Davis.*

11:00 DD22 **680.08** Layers and columns are also present in the somatosensory avian pallium. M. FERNANDEZ; R. REYES-PINTO; C. NORAMBUENA; J. LETELIER*; J. MPODOZIS. *Univ. of Chile.*

8:00 DD23 **680.09** Neuronal processing of cross-finger motion integration in the primary somatosensory cortex. Y. CHEN*; J. HUANG; C. YEH; Y. PEI. *Chang Gung Univ., Chang Gung Mem. Hosp., Natl. Taiwan Univ.*

9:00 DD24 **680.10** Functional tract tracing with intracortical microstimulation and intrinsic optical imaging can reveal distinct intracortical neural circuits within somatosensory cortex. R. M. FRIEDMAN*; M. M. CHERNOV; D. G. ZARAZA; A. W. ROE. *Oregon Hlth. & Sci. Univ. - ONPRC, Zhejiang Univ.*

**POSTER**

**681. Somatosensory System: Human and Non-Human Primates**

***Theme D: Sensory Systems***

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

8:00 DD25 **681.01** Weight perception behavior of Japanese macaque monkeys. M. TAOKA*; S. HIHARA; T. KOIKE; A. IRIKI. *RIKEN Brain Sci. Inst.*

9:00 DD26 **681.02** Thalamic afferents of the macaque superior parietal areas PE and PEc. D. IMPIERI; L. PASSARELLI; S. BAKOLA; M. GAMBERINI; M. G. P. ROSA; C. GALLETTI*. *Univ. Bologna, Monash Univ., Monash Univ. Node.*

10:00 DD27 **681.03** Neurons in the secondary somatosensory cortex and its surrounding opercular regions discriminating bodily awareness of the self from others. M. TAOKA; S. HIHARA; A. IRIKI*. *RIKEN Brain Sci. Inst., RIKEN Brain Sci. Inst.*

11:00 DD28 **681.04** Human tactile perception of the smoothness of parametric 3D-printed textures. C. TYMMS*; D. ZORIN; E. P. GARDNER. *New York Univ., New York Univ., New York Univ. Sch. of Med.*

8:00 DD29 **681.05** Comparing effective responses to deep pressure and C-LTMR-optimized gentle touch. A. NECAISE; L. K. CASE; J. LILJENCRANTZ; H. OLAUSSON*; M. C. BUSHNELL. *NCCIH, NIH, Linkoping Univ.*

9:00 DD30 **681.06** Brain responses to natural touch recorded with intracranial stereo-EEG. E. J. ERIKSSON*; D. KRÝSL; J. NILSSON; K. MALMGREN; B. RYDENHAG; J. WESSBERG. *Sahlgrenska Academy, Univ. of Gothenburg, Dept. of Clin. Neurophysiology, Sahlgrenska Univ. Hosp., Inst. of Neurosci. and Physiol., Dept. of Clin. Neuroscience, Sahlgrenska Academy, Univ. of Gothenburg.*

10:00 DD31 **681.07** Neural correlates of orgasm intensity: An fMRI study in men. K. ALLEN*; B. KOMISARUK. *Princeton Univ., Rutgers, The State Univ. of New Jersey.*

11:00 DD32 **681.08** Spatiotemporal dynamics of action observation during and after touch events: A stereo EEG study. B. A. URGEN*; P. AVANZINI; V. PELLICIA; R. MAI; G. LO RUSSO; G. A. ORBAN. *Univ. of Parma, Ospedale Niguarda-Ca Granda.*

8:00 DD33 **681.09** Modulation of tactile detection with concurrent EEG-tACS. D. D. SLIVA*; C. BLACK; U. AGRAWAL; M. A. LADOW; J. F. SANTOYO; P. BOWARY; B. D. GREENBERG; C. I. MOORE; S. R. JONES. *Brown Univ., Brown Univ., Harvard Med. Sch., Columbia Univ., Brown Med. Sch., Providence VA Med. Ctr.*

9:00 DD34 **681.10** The relationship between joint position sense and range of joint motion. M. RADZIKOWSKI*; H. TANABE; K. HAGIO; K. NAKAZAWA. *The Univ. of Tokyo.*

10:00 DD35 **681.11** The effect of hand position in external space on the integration of bilateral tactile stimulation in the primary somatosensory cortex. N. OTSURU*; S. KOJIMA; S. MIYAGUCHI; R. SASAKI; S. TSUIKI; Y. INUKAI; K. SAITO; M. MASAKI; K. YAMASHIRO; H. SHIROZU; S. KAMEYAMA; H. ONISHI. *Niigata Univ. of Hlth. and Welfare, Dept. of Neurosurgery, Nishi-Niigata Chuo Hosp.*

11:00 DD36 **681.12** Memory-based M100 component in the somatosensory cortex: An MEG study. K. YAMASHIRO*; D. SATO; H. ONISHI; K. SUGAWARA; N. OTSURU; S. NAKAZAWA; Y. YAMAZAKI; H. SHIROZU; A. MARUYAMA. *Niigata Univ. of Hlth. and Welfare, Nishi-Nigata Chuo Natl. hospital.*

8:00 EE1 **681.13** A tactile motion perception task sensitive to slowed nerve conduction in peripheral neuropathy. S. MCINTYRE*; G. BERGSTRÖM; J. CAPPER; C. COUGHLIN; I. WOODS; F. HENSHAW; R. VICKERY; I. BIRZNIEKS; P. BREEN. *Linköping Univ., Linköping Univ., St George Hosp., Uniting War Mem. Hosp., Western Sydney Univ., UNSW Australia, Neurosci. Res. Australia.*

9:00 EE2 **681.14** Cortical processing of irrelevant somatosensory information from the leg is altered by motor attention during motor planning after stroke. S. PETERS*; K. E. BROWN; T. C. HANDY; S. GARLAND; R. STAINES; L. A. BOYD. *Univ. of British Columbia, Univ. of British Columbia, Univ. of Western Ontario, Univ. Waterloo, Univ. British Columbia.*

10:00 EE3 **681.15** Visual deficits do not affect haptic space perception. J. NELSON*; I. A. KULING; M. GORI; A. POSTMA; E. BRENNER; J. B. J. SMEETS. *Vrije Univ. Amsterdam, Inst. Italiano di Tecnologia, Univ. Utrecht.*

11:00 EE4 **681.16** Frequency and duration effects in vibrotactile detection by the Pacinian psychophysical channel. D. KILINÇ*; B. GÜÇLÜ. *Bogaziçi Univ.*

8:00 EE5 **681.17** Using MVPA-analysis to investigate the influence of prior information on the perception of vibrotactile stimuli. P. KASSRAIAN FARD*; N. WENDEROTH. *ETH Zurich.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**682. Taste Coding**

***Theme D: Sensory Systems***

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

8:00 EE6 **682.01** Encoding of sucrose palatability and its enhancement by auditory cues in the nucleus accumbens shell. M. A. VILLAVICENCIO CAMARILLO*; M. G. MORENO; S. S. SIMON; R. GUTIERREZ. *Ctr. De Investigación Y Estudios Avanzados, Duke Univ. Med. Ctr.*

9:00 EE7 **682.02** ● The representation of sweet taste intensity in the anterior/posterior insular cortex and orbitofrontal cortex in rats. E. G. FONSECA DE LA CRUZ*; F. ZEPEDA; S. A. SIMON; R. GUTIERREZ. *Inst. De Fisiología Celular, UNAM, UPIBI, IPN, Duke Univ. Hosp., CINVESTAV, IPN.*

10:00 EE8 **682.03** Role of sensory and limbic thalamic nuclei in processing taste-related information. R. VINCIS*; K. CHEN; A. FONTANINI. *Stony Brook Univ.*

11:00 EE9 **682.04** Single-unit representation of flavor in gustatory cortex. C. L. SAMUELSEN*. *Univ. of Louisville.*

8:00 EE10 **682.05** The neural basis of abnormal taste processing in autism spectrum disorders. C. RIDDELL*; J. AVERY; J. E. INGEHOLM; S. E. WOHLTJEN; M. A. COLLINS; S. MILLEVILLE; L. KENWORTHY; S. J. GOTTS; G. L. WALLACE; W. K. SIMMONS; A. MARTIN. *Natl. Inst. of Mental Hlth., Dartmouth Univ., Children's Natl. Hlth. Syst., George Washington Univ., Laureate Inst. For Brain Res.*

9:00 EE11 **682.06** Taste associated with vision color in Japanese students. S. NAGAHAMA*. *Teikyo Heisei Univ.*

10:00 EE12 **682.07** The effects of amygdala input on taste-related activity in gustatory cortex. J. LIN*; N. MUKHERJEE; J. WACHUTKA; D. KATZ. *Brandeis Univ.*

11:00 EE13 **682.08** Taste-related cortical population dynamics are stochastic and behaviorally-relevant. N. MUKHERJEE*; J. WACHUTKA; J. LIN; D. B. KATZ. *Brandeis Univ.*

8:00 EE14 **682.09** Cellular and synaptic properties of BLA and GC neurons relevant to CTA. C. LIU*; D. LEVITAN; V. VALAKH; D. B. KATZ; S. B. NELSON. *Brandeis Univ., Brandeis Univ.*

9:00 EE15 **682.10** The profile of a range of neurochemicals in the nucleus accumbens shell differs for rewarding and aversive gustatory stimuli in rats. J. E. DOUTON; N. HORVATH; S. BALLARD; D. SUN; A. HAJNAL; P. S. GRIGSON*. *Pennsylvania State Univ. Col. of Med., Pennsylvania State Univ. Col. of Med., Pennsylvania State Univ. Col. of Med., Penn State Univ., Pennsylvania State Univ. Col. of Med.*

10:00 EE16 **682.11** Temporal coding of gustatory information in the NTS of lean and obese freely licking rats. M. S. WEISS*; A. HAJNAL; K. CZAJA; J. D. VICTOR; P. M. DI LORENZO. *Binghamton Univ., Penn State Univ., Univ. of Georgia, Weill Cornell Med. Col.*

11:00 EE17 **682.12** Optogenetic excitation of central amygdala terminals in the nucleus of the solitary tract targets responses to aversive tastes. J. D. SAMMONS*; C. E. BASS; P. M. DI LORENZO. *Binghamton Univ., Univ. At Buffalo SUNY.*

8:00 EE18 **682.13** Modality specific oral sensory disruption in chorda tympani and glossopharyngeal nerve responses after Hedgehog pathway inhibition in rat. A. KUMARI; Y. YOKOTA; R. M. BRADLEY; C. MISTRETTA*. *Univ. of Michigan.*

9:00 EE19 **682.14** Genetic deletion of sodium salt taste during development alters the dendritic architecture of gustatory relay neurons within the adult mouse nucleus of the solitary tract. R. J. SKYBERG*; D. L. HILL. *Uva, Univ. Virginia.*

**POSTER**

**683. Retina: Photoreceptors and Outer Circuits**

***Theme D: Sensory Systems***

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

8:00 EE20 **683.01** Connectomic and optogenetic analyses of a circuit modulating the rod bipolar pathway. S. J. PARK; E. LIEBERMAN; J. KE; N. RHO; P. GHORBANI; N. JUN; K. L. BRIGGMAN; J. B. DEMB; J. H. SINGER*. *Yale Univ., Univ. of Maryland, NIH.*

9:00 EE21 **683.02** A fully organic retinal prosthesis restores vision in a rat model of degenerative blindness. J. F. MAYA-VETENCOURT*; D. GHEZZI; M. ANTOGNAZZA; E. COLOMBO; M. METE; P. L. C. FEYEN; A. DESII; A. BUSCHIAZZO; M. DI PAOLO; S. DI MARCO; F. TICCONI; L. EMIONITE; D. SHMAL; C. MARINI; I. DONELLI; G. FREDDI; R. MACCARONE; S. BISTI; G. SAMBUCETI; G. PERTILE; G. LANZANI; F. BENFENATI. *Inst. Italiano Di Tecnologia, École Polytechnique Fédérale De Lausanne, Inst. Italiano di tecnologia, Inst. Italiano di tecnologia, Inst. Italiano di Tecnologia, Sacro Cuore Hospital—Don Calabria, Inst. Italiano di Tecnologia, Univ. of Genoa, Univ. of L'Aquila, Univ. of L'Aquila, Natl. Inst. Cancer Research, IRCCS AOU San Martino-IST, CNR, Innovhub-SSI, Inst. Italiano di Tecnologia.*

10:00 EE22 **683.03** UV cone photoreceptors and putative molecular mechanisms of light-dependent magnetoreception. S. D. BALAY*; W. T. ALLISON. *Univ. of Alberta, Univ. of Alberta.*

11:00 EE23 **683.04** Retinal light damage in Ogg1 and Mouthy knockout mice. A. OHIRA*; Y. NAKABEPPU. *Shimane Univ. Sch. of Med., Med. Inst. Bioreg Kyushu Univ.*

8:00 EE24 **683.05** The effect of spectral input on eye growth in young chicks. K. CHUN*; D. WANG; T. LAM; Q. LIU; C. TO. *The Hong Kong Polytechnic Univ., Sun Yat-sen Univ., Sun Yat-sen Univ.*

9:00 EE25 **683.06** Synergistic signaling by light and acetylcholine in mouse iris sphincter muscle. Q. WANG*; W. W. S. YUE; Z. JIANG; T. XUE; S. H. KANG; D. E. BERGLES; K. MIKOSHIBA; S. OFFERMANNS; K. YAU. *Johns Hopkins Univ. Sch. of Med., Stanford Univ., Univ. of Sci. and Technol. of China, RIKEN Brain Sci. Inst. - Wako, Max-Planck-Institute for Heart and Lung Res.*

10:00 EE26 **683.07** Protective effects of zinc and cAMP against A2E-induced toxicity in ARPE19 cells: Possible involvement of lysosomal acidification. J. CHOI*; B. SEO; J. KOH; Y. YOON. *Asan Inst. For Life Sci., Col. of Medicine, Univ. of Ulsan, ASAN medical center, Col. of Medicine, Univ. of Ulsan, ASAN medical center.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 EE27 **683.08** A psychophysical test of photophobia for blue and red light stimuli under binocular and monocular viewing conditions. M. ZIVCEVSKA; S. LEI; A. BLAKEMAN; H. C. GOLTZ*; A. M. WONG. *Univ. of Toronto, The Hosp. for Sick Children, Hosp. for Sick Children, Univ. of Toronto, The Hosp. for Sick Children.*

8:00 EE28 **683.09** Identification and characterization of novel, conserved cone photoreceptor enriched factors. A. SMITH*; B. N. KENNEDY; A. SWAROOP. *Natl. Eye Inst., Univ. Col. Dublin.*

9:00 EE29 **683.10** Rod photoreceptor morphogenesis: Role of Snta1 for form and function. D. T. WHITAKER*; H. FANN; P. HARGROVE; A. ALSUFYANI; M. J. BROOKS; S. KIM; A. SWAROOP. *Natl. Eye Inst., Texas A&M Inst. for Neurosci.*

10:00 FF1 **683.11** Features of cone bipolar cell synaptic transmission onto retinal ganglion cells. M. J. VAN HOOK*. *Univ. of Nebraska Med. Ctr.*

11:00 FF2 **683.12** Crossing borders: A newly discovered, and unique subtype of bipolar cells provides excitatory input to both ON and OFF synaptic pathways in the retina. B. K. YOUNG*; C. RAMAKRISHNAN; P. WANG; K. DEISSEROTH; N. TIAN. *Univ. of Utah, Stanford Univ. Dept. of Psychology, Univ. of Utah.*

8:00 FF3 **683.13** Connectivity and computations of horizontal cells in the mouse retina. C. BEHRENS*; Y. ZHANG; T. EULER; P. BERENS; T. SCHUBERT. *Univ. of Tübingen, Univ. of Tübingen, Univ. of Tübingen, Univ. of Tübingen.*

**POSTER**

**684. Retina: Inner Circuits and Ganglion Cells**

***Theme D: Sensory Systems***

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

8:00 FF4 **684.01** GABA regulates presynaptic inhibition of mammalian cone photoreceptor Ca channels by modulating synaptic cleft pH. J. C. R. GROVE; A. A. HIRANO; N. C. BRECHA; S. A. BARNES*. *UCLA, VAGLAHS, Dalhousie Univ.*

9:00 FF5 **684.02** Machine-learning-inspired approach to elucidate circuit dynamics and principles of parallel processing in the retina. G. J. GUTIERREZ*; F. M. RIEKE; E. T. SHEA-BROWN. *Univ. of Washington, Univ. of Washington.*

10:00 FF6 **684.03** Epoxyeicosatrienoic acid (EET)-mediated retinal functional hyperemia enhanced by inactivation of TRPV4 channels. D. Y. TS'O*; M. BEGUM; T. T. T. PHUONG; D. KRIZAJ. *SUNY - Upstate Med. Univ., Univ. of Utah Sch. of Med.*

11:00 FF7 **684.04** ● Long term visual restoration using optogenetic engineering of retinal ganglion cells with AAV2.7m8-ChrimsonR-td-Tomato. G. GAUVAIN*; H. AKOLKAR; A. CHAFFIOL; R. CAPLETTE; C. JAILLARD; E. BRAZHNIKOVA; M. DESROSIERS; D. PRUNEAU; J. DUEBEL; R. BENOSMAN; D. DALKARA; J. SAHEL; S. PICAUD. *Fondation Voir & Entendre - Inst. De La Vision, Fondation Voir & Entendre - Inst. De La Vision, Gensight Biologics.*

8:00 FF8 **684.05** A high threshold, NMDA-dependent input drives retinal dopamine release in response to light. J. W. MORLEY*; V. PEREZ-FERNANDEZ; M. A. CAMERON. *Western Sydney Univ.*

9:00 FF9 **684.06** High spatial resolution recordings reveal the contribution of long-range horizontal inhibition in modulating light-evoked responses of ON and OFF retinal ganglion cells. F. BOI*; D. LONARDONI; S. DI MARCO; A. MACCIONE; L. BERDONDINI. *Inst. Italiano Di Tecnologia, Inst. Italiano Di Tecnologia, Univ. of L'Aquila, Inst. Italiano Di Tecnologia, Fondazione Inst. Italiano Di Tecnologia.*

10:00 FF10 **684.07** Optogenetic stimulation reveals type- and target-specific computations at genetically-identified amacrine cell synapses. J. POTTACKAL*; J. H. SINGER; J. B. DEMB. *Yale Univ., Yale Univ., Univ. of Maryland.*

11:00 FF11 **684.08** Satb1 regulates Contactin5 to construct a bistratified dendritic arbor in retina. Y. PENG*; N. M. TRAN; A. KRISHNASWAMY; D. KOSTADINOV; E. M. MARTERSTECK; J. R. SANES. *Harvard Univ., Harvard Univ., Harvard Univ.*

8:00 FF12 **684.09** Retinal electrophysiology in a mouse model of multiple system atrophy. H. SEITTER*; N. STEFANOVA; A. KOSCHAK. *Leopold Franzens Univ. Für Innsbruck, Innsbruck Med. Univ., Univ. of Innsbruck.*

9:00 FF13 **684.10** Quantifying protein synthesis and axonal transport in the visual system and its response after optic nerve injury. L. M. SCHIAPPARELLI*; S. H. SHAH; Y. MA; J. YATES, III; H. T. CLINE; J. L. GOLDBERG. *The Scripps Res. Inst., The Scripps Res. Inst., Stanford Univ., The Scripps Res. Inst.*

10:00 FF14 **684.11** Extracellular pH changes mediated by retinal Muller glia are shaped by two distinct molecular pathways. M. A. KREITZER*; B. K. TCHERNOOKOVA; D. SWYGART; C. HEER; M. GONGWER; L. SHEPHERD; H. CARINGAL; R. P. MALCHOW. *Indiana Wesleyan Univ., Univ. of Illinois at Chicago Dept. of Biol. Sci.*

11:00 FF15 **684.12** Determining the role of pre-synaptic NMDA Receptors in retinofugal topographic map formation. K. O. JOHNSON*; J. TRIPLETT. *The George Washington Univ., Children's Natl. Med. Ctr.*

8:00 FF16 **684.13** ▲ Focal electroretinogram and visual evoked potential in rats. A. GROSS*; N. FARAH; Y. MANDEL. *Bar Ilan Univ.*

9:00 FF17 **684.14** Exploring synaptic and computational properties of starburst cells through altered neuronal morphology. R. D. MORRIE*; M. B. FELLER. *Univ. of California, Berkeley, Univ. of California, Berkeley.*

10:00 FF18 **684.15** Disentangling multiple sources of variability in the responses of retinal ganglion cells. A. I. WEBER*; E. SHEA-BROWN; F. RIEKE. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*

11:00 FF19 **684.16** Dynamic modeling and functional analysis of *Drosophila* chromatic circuit. T. BISWAS*; C. LEE; Y. LI. *Loyola Univ., NIH.*

8:00 FF20 **684.17** Microstructural white matter abnormalities and the correlations with RNFL thickness in different severity of normal tension glaucoma: An atlas-based diffusion tensor analysis study. Z. TANG*; X. SUN; R. WANG; Z. XIAO; L. WU; Y. ZHONG. *Eye & ENT Hosp. of Fudan Univ., Eye & ENT Hosp. of Fudan Univ., Eye & ENT Hosp. of Fudan Univ., Jinshan Hosp. of Fudan Univ.*

9:00 FF21 **684.18** Functional characterisation of parvalbumin-expressing cells in the mouse retina. E. SERNAGOR*; G. HILGEN. *Newcastle Univ.*

10:00 FF22 **684.19** Melanopsin sets the contrast detection threshold for M4 ipRGCs. T. M. SCHMIDT*; T. SONODA; S. LEE. *Northwestern Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

11:00 GG1 **684.20** The role of Celsr3 in the development of retinal starburst amacrine cells. X. XIAO*; N. SHEN; Y. XU; L. ZHOU. *Jinan Univ.*

8:00 GG2 **684.21** Multiple synaptic mechanisms underlie global and object motion detection in the mammalian retina. X. HUANG; W. WEI*. *The Univ. of Chicago, Univ. of Chicago.*

9:00 GG3 **684.22** Lateral inhibition mediates excitation-inhibition covariation in retina direction selective circuit. Q. CHEN*; W. WEI. *Univ. of Chicago.*

10:00 GG4 **684.23** ● Melanopsin-containing intrinsically photosensitive retinal ganglion cells are highly expressed in the noctural animal bat. M. JEONG; H. KIM; E. PARK; C. JEON*. *Kyungpook Nat'l Univ.*

11:00 GG5 **684.24** ● Cholinergic neurons in the bat retina: Different dendritic stratification pattern as compared to other animals. E. PARK*; J. JEON; G. KIM; M. KWON; E. LEE; C. JEON. *Kyungpook Natl. Univ., Kyungpook Natl. Univ., Kyungpook Natl. Univ., Kyungpook Natl. Univ.*

8:00 GG6 **684.25** Inhibition of Non-NMDA ionotropic glutamate receptors delays retinal degeneration in rd10 mice. Z. XIANG; J. ZHANG; Y. XU*. *Jinan Univ.*

9:00 GG7 **684.26** Differential expression and sub cellular localization of copines in mouse retina. M. GOEL*; T. LI; T. C. BADEA. *NIH.*

10:00 GG8 **684.27** ▲ Inner retinal contributions shape the b-wave of the electroretinogram (ERG) in adult zebrafish. A. HERRERA; S. SASZIK*. *Northeastern Illinois Univ.*

**POSTER**

**685. Motion: Psychophysics**

***Theme D: Sensory Systems***

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

8:00 GG9 **685.01** Motion direction discrimination during neural aging. A. KARADUMAN; U. KAYA; E. T. KAROGLU; A. ERGUL-ARSLAN; M. M. ADAMS; H. KAFALIGONUL*. *Bilkent Univ., Bilkent Univ., METU, Bilkent Univ., Bilkent Univ.*

9:00 GG10 **685.02** Neural mechanisms for integrating motion and form cues for the perception of heading during self-motion. S. KUAI*; Z. XU; J. CHEN; J. LI; D. T. FIELD; L. LI. *The Sch. of Psychology and Cognitive Sci., Key Lab. of Brain Functional Genomics, Ministry of Education, Shanghai Key Lab. of Brain Functional Genomics, Inst. of Cognitive Neurosci., NYU-ECNU Inst. of Brain and Cognitive Science, New York Univ., Ctr. for Integrative Neuroscience. & Neurodynamics, Dept. of Psychology.*

10:00 GG11 **685.03** Reverse-phi motion: Optomotor reflexes and visual cortex responses for a visual illusion of motion in mice. L. KIRKELS; R. VAN WEZEL*; J. DUIJNHOUWER; W. ZHANG; M. N. HAVENITH; J. GLENNON; P. H. TIESINGA. *Donders Inst. for Brain, Cognition and Behaviour, Radboud University, Donders Inst. For Brain, Cognition and Behaviour, Rutgers University-Newark, Radboud Univ. Nijmegen.*

11:00 GG12 **685.04** Comparing objective measures of occulomotor insuficiencies. D. L. LARRANAGA*; J. F. AWAD; M. F. AWAD; D. A. DEL CID; T. GORJI; S. A. DREW. *VISN Lab. At California State University, Northridg, California State University, Northridge, California State University, Northridge, Vision Sci. Information Lab. @ CSUN, California State University, Northridge, California State University, Northridge.*

8:00 GG13 **685.05** Light/dark asymmetries in motion perception. A. W. FREEMAN*; G. LUO-LI. *Univ. of Sydney.*

9:00 GG14 **685.06** Assessment of visual dysfunction of the optomotor response in APOE transgenic mice after TBI. S. FERGUSON*; T. SMITH; B. C. MOUZON; D. APONTE; M. J. MULLAN; F. C. CRAWFORD. *Roskamp Inst., The Roskamp Inst.*

10:00 GG15 **685.07** Optic flow and visual self-motion information during real-world locomotion. J. S. MATTHIS*; K. S. MULLER; N. K. SCHNEIDER; K. BONNEN; M. M. HAYHOE. *Univ. of Texas at Austin, Univ. of Texas at Austin, Univ. of Texas at Austin.*

11:00 GG16 **685.08** Optomotor reflexes of mice to moving random dot patterns at different speed, contrast and dot-size. W. ZHANG*; L. KIRKELS; J. DUIJNHOUWER; M. N. HAVENITH; P. H. TIESINGA; J. GLENNON; R. VAN WEZEL. *Donders Inst. For Brain,Cognition and Behavior, Donders Inst. for Brain, Cognition and Behaviour, Rutgers University-Newark, Radboud Univ. Nijmegen, Radboud Univ. Nijmegen Med. Ctr., Radboud University, Donders Inst. For Brain, Cognition and Behaviour.*

8:00 GG17 **685.09** TMS-induced disturbance of self-motion perception in humans. C. SCHMITT*; B. BALTARETU; J. D. CRAWFORD; F. BREMMER. *Philipps-Universität Marburg, York Univ.*

9:00 GG18 **685.10** Short-latency ocular responses are strongly affected by the visual content during the initial fixation period. B. M. SHELIGA*; C. QUAIA; E. J. FITZGIBBON; B. G. CUMMING. *Natl. Eye Inst.*

10:00 GG19 **685.11** Suppression and facilitation of neural responses in the human visual system. M. SCHALLMO*; A. M. KALE; R. MILLIN; A. V. FLEVARIS; R. A. BERNIER; S. O. MURRAY. *Univ. of Washington.*

11:00 GG20 **685.12** Unable to Attend A study of direction discrimination task using a touchscreen method in rats. S. SAKATA*; Y. IIO; Y. NAKAMURA. *Hiroshima Univ., Hiroshima Univ.*

**POSTER**

**686. Cross-Modal Processing: Spatial Factors**

***Theme D: Sensory Systems***

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

8:00 GG21 **686.01** Encoding multisensory information through distinct population activity in a premotor region. C. J. GOLDSMITH*; R. FOLLMANN; W. STEIN. *Illinois State Univ.*

9:00 GG22 **686.02** Efficient coding of multisensory or multi-modality inputs by congruent and opposite neurons. L. ZHAOPING*. *Univ. Col. London.*



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

10:00 GG23 **686.03** Visual-proprioceptive integration and hand ownership in monkeys and humans. W. FANG; J. LI; L. WANG*. *Inst. of Neuroscience, Key Lab. of Primate Neurobiology, CAS Ctr. for Excellence in Brain Sci. and Intelligence Technology, Chinese Acad. of Sci., Key laboratory of Brain Functional Genomics, Inst. of Cognitive Neuroscience, Sch. of Psychology and Cognitive Science, East China Normal Univ., Inst. of Neuroscience, Chinese Acad. of Scie.*

11:00 GG24 **686.04** ▲ Does sound pitch and location influence visual motion direction judgments? . PRACHI*; S. L. PRIME. *Univ. of Saskatchewan, Univ. of Saskatchewan.*

8:00 GG25 **686.05** A dynamic neural code may underlie multisensory integration and segregation in the primate superior colliculus. J. T. MOHL*; S. TOKDAR; J. M. GROH. *Duke Univ.*

9:00 GG26 **686.06** Multisensory enhancement during audiovisual looming responses in mice. A. L. JUAVINETT*; G. BEKHEET; A. K. CHURCHLAND. *Cold Spring Harbor Lab., Northeastern Univ.*

10:00 GG27 **686.07** Encoding of trial initiation in retrosplenial cortex during navigation in virtual reality. L. FISCHER*; M. T. HARNETT. *MIT.*

11:00 GG28 **686.08** Multisensory spatial integration in a two-alternative forced choice task for head-fixed mice. P. COEN*; M. J. WELLS; M. CARANDINI; K. D. HARRIS. *Univ. Col. London.*

8:00 GG29 **686.09** The action potential diversity of pit-viper's infrared neurons to different wavelength stimuli. Q. CHEN*; Y. LIU; L. DING; Y. TANG. *Chengdu Inst. of Biology, Chinese Acad. of Sci.*

9:00 GG30 **686.10** Multimodal sensory responses in neurons of the subesophageal ganglion. K. SUN; M. A. STOPFER*. *NIH.*

10:00 GG31 **686.11** Spatiotemporal coding of taste stimuli. A. BORONAT-GARCÍA*; S. REITER; K. SUN; M. A. STOPFER. *NICHD/NIH, Max Planck Inst. for Brain Res.*

11:00 GG32 **686.12** *In vivo* calcium imaging of CA3: Spatial pattern completion. M. A. DUFOUR*; R. TUIP; S. SUNDAR; R. ZEMLA; J. BASU. *NYU.*

8:00 GG33 **686.13** A new model of the superior colliculus and oculomotor cerebellum's interactions and functions provides one unified localization mechanism for visual, tactile, and auditory stimuli: Fitting together the forgotten pieces. M. RIGGLE*. *Causal Aspects.*

8:00 DP06/HH1 **686.14** (Dynamic Poster) A fundamental circuit mechanism underlying sequences of behavioral actions in *Drosophila* courtship. C. E. MCKELLAR*; J. L. LILLVIS; D. E. BATH; J. G. CANNON; J. H. SIMPSON; B. J. DICKSON. *Janelia Res. Campus, Max Planck Inst. for Ornithology, Stanford, Univ. of California Santa Barbara.*

10:00 HH2 **686.15** Early integration of temperature and humidity stimuli in the *Drosophila* brain. D. D. FRANK*, III; A. ENJIN; G. C. JOUANDET; E. E. ZAHARIEVA; A. PARA; M. C. STENSMYR; M. GALLIO. *Northwestern Univ., Lund Univ.*

11:00 HH3 **686.16** Projections of the diencephalospinal dopaminergic system to peripheral sense organs in larval zebrafish (Danio rerio). M. HAEHNEL*; W. DRIEVER. *Albert-Ludwigs-University Freiburg, BIOSS - Ctr. for Biol. Signaling Studies.*

**POSTER**

**687. Cross-Modal Processing: Temporal Factors**

***Theme D: Sensory Systems***

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

8:00 HH4 **687.01** ▲ Frequency characteristics of thalamocortical pathways involved in affective pain: The mediodorsal/anterior cingulate cortex axis. A. F. PAQUETTE; R. W. SIKES*. *Northeastern Univ., Northeastern Univ., Northeastern Univ.*

9:00 HH5 **687.02** Simultaneous intrinsic imaging of auditory and visual cortex releals cross-modal interactions. M. TEICHERT*; J. BOLZ. *Inst. Für Allgemeine Zoologie Und Tierphysiologie, Inst. für Allgemeine Zoologie und Tierphysiologie.*

10:00 HH6 **687.03** Effect of vision of arm posture on a crossed hands illusion task in an amputee. Y. SATO*; T. KAWASE; K. TAKANO; K. KANSAKU. *Res. Inst. of Natl. Rehabil. Ctr., Tokyo Inst. of Tech., Univ. of Electro-Communications.*

11:00 HH7 **687.04** Associations between sensory integration and sensory responsiveness in children with autism spectrum disorder. J. I. FELDMAN*; W. KUANG; D. M. SIMON; J. G. CONRAD; P. SANTAPURAM; A. TU; M. T. WALLACE; T. G. WOYNAROSKI. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ. Med. Ctr.*

8:00 HH8 **687.05** Audiovisual stimulus correlation drives multisensory perceptual decisions. A. R. NIDIFFER*; R. RAMACHANDRAN; M. T. WALLACE. *Vanderbilt Univ.*

9:00 HH9 **687.06** Rapid recalibration to asynchronous audiovisual speech modulates the rate of evidence accumulation. D. M. SIMON*; A. R. NIDIFFER; M. T. WALLACE. *Vanderbilt Univ., Vanderbilt Univ.*

10:00 HH10 **687.07** ● Head impulse saccades are affected differently without vision. J. M. POGSON*; L. MCGARVIE; R. L. TAYLOR; A. P. BRADSHAW; G. M. HALMAGYI; M. S. WELGAMPOLA. *Univ. of Sydney, Royal Prince Alfred Hosp., Inst. of Clin. Neurosciences, Univ. of Sydney.*

11:00 HH11 **687.08** ▲ Distinct reference frames of visual and vestibular heading signals in macaque FEFsem and MSTd. L. YANG*; Y. GU. *Syst. neuroscience, Inst. of Neurosci., Syst. Neuroscience, Inst. of Neurosci.*

8:00 HH12 **687.09** Time precision of cortico-cortical interactions. I. TAL*; M. ABELES; M. LESZCZYNSKI; J. L. HERRERO; S. R. JONES; C. E. SCHROEDER. *Nathan Kline Inst. For Psychiatric Res., Columbia Univ., Bar Ilan Univ., Cushing Neurosci. Inst., Brown Univ.*

9:00 HH13 **687.10** Aging impairs lag adaptation but not Bayesian temporal recalibration of sensory and motor stimuli. A. N. SCURRY*; A. NICHOLSON; M. A. WEBSTER; F. JIANG; T. VERCILLO. *Univ. of Nevada, Reno.*

10:00 HH14 **687.11** Role of causal information in visual-haptic and visual-kinesthetic cue combination. J. HEGDE*. *Augusta Univ.*

11:00 HH15 **687.12** Temporal probabilistic inference in three sensory modalities. M. GRABENHORST*; G. MICHALAREAS; L. T. MALONEY; D. POEPPEL. *Max Planck Inst. (MPIEA), New York Univ.*



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* Indicates abstract's submitting author

8:00 HH16 **687.13** ▲ Midbrain neurons show temporal retuning of intrinsic properties in response to patterned uni- and multisensory stimulation. S. E. BUSCH*; A. S. KHAKHALIN. *Bard Col.*

**POSTER**

**688. Cross-Modal Processing: Humans**

***Theme D: Sensory Systems***

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

8:00 HH17 **688.01** Cross-modal effects in speed judgments during virtual motorcycle riding. T. UEDA; T. MIYAGI; T. KURODA; J. WATANABE; T. SUEGAMI; H. DAIMOTO; M. MIYAZAKI*. *Shizuoka Univ., Shizuoka Univ., NTT Communication Sci. Labs., Yamaha Motor Co., Ltd., Tezukayama Gakuin Univ.*

9:00 HH18 **688.02** Complementary roles of spatial- and timing-based control during rhythmic arm movements. R. W. NICKL*; M. M. ANKARALI; N. J. COWAN. *Johns Hopkins Univ., Johns Hopkins Univ., Middle East Tech. Univ., Johns Hopkins Univ.*

10:00 HH19 **688.03** Representational similarity analysis of sound symbolic auditory-visual crossmodal correspondences. S. M. LIST*; S. A. LACEY; R. STILLA; L. C. NYGAARD; K. SATHIAN. *Emory Univ., Emory Univ., Emory Univ., Emory Univ., Emory Univ., Atlanta VAMC.*

11:00 HH20 **688.04** Task selectivity as a comprehensive principle for brain organization. A. AMEDI*; S. HOFSTETTER; S. MAIDENBAUM; B. HEIMLER. *Fac. of Med. Hebrew Univ. of Jerusalem, The Edmond and Lily Safra Ctr. for Brain Sci. (ELSC), The Hebrew Univ. of Jerusalem, The Inst. for Med. Res. Israel-Canada (IMRIC), The Hebrew Univ. of Jerusalem, Sorbonne Université, Univ. Pierre et Marie Curie (UPMC), Univ. Paris 06, Inst. de la Vision, Unité Mixte de Recherche en Santé (UMRS) 968.*

8:00 HH21 **688.05** Handedness-related hemispheric dominance and spatial orientation constancy. A. KHERADMAND*; J. OTERO-MILLAN; A. WINNICK. *JOHNS HOPKINS UNIVERSITY, JOHNS HOPKINS UNVIVERSITY.*

9:00 HH22 **688.06** Rare variants in axonogenesis genes connect three families with sound-colour synaesthesia. A. K. TILOT*; K. KUCERA; A. VINO; J. E. ASHER; S. BARON-COHEN; S. E. FISHER. *Max Planck Inst. For Psycholinguistics, Univ. of Cambridge, Radboud Univ.*

10:00 HH23 **688.07** The simple material discrimination task examined haptic evaluations of material objects in human and possibly nonhuman primate subjects. M. ITO*; A. TSUZURA; M. SASAKI; F. HAMANO; K. MITSUHASHI. *Tokyo Med. and Dent. Univ.*

11:00 HH24 **688.08** ▲ Synesthetes produce different language in creative writing tasks. R. MORALES*; S. LUNDQVIST; T. DOTY; D. LARRANAGA; R. B. ESQUENAZI; S. A. DREW. *California State Univ. Northridge, California State Univ. Northridge, California State University, Northridge, California State University, Northridge.*

8:00 HH25 **688.09** Biophysically realistic neuronal model explains the inter-individual differences in the processing of multisensory speech. V. G. KUMAR*; S. DUTTA; D. ROY; A. BANERJEE. *Natl. Brain Res. Ctr., Ctr. of Behavioural and Cognitive Sci.*

9:00 HH26 **688.10** Effects of audio and text messages on avoidance strategies while walking in healthy young adults. W. H. DE SOUZA SILVA*; J. FUNG; B. J. MCFADYEN; A. LAMONTAGNE. *McGill Univ., McGill Univ., McGill Univ., Laval Univ.*

10:00 HH27 **688.11** Cross-modal interactions in motion perception in blind adults. M. M. BARRETT*; J. P. RAUSCHECKER. *Georgetown Univ., Georgetown Univ. Med. Ctr.*

11:00 HH28 **688.12** Impaired development of audiovisual integration in autism and the effects of modality switching. M. J. CROSSE*; J. J. FOXE; S. MOLHOLM. *Albert Einstein Col. of Med., Univ. of Rochester Sch. of Med., Albert Einstein Col. of Med.*

8:00 HH29 **688.13** Movement back projection during observation of an illusory embodied hand: Evidence by EEG mu-rhythm. S. UNENAKA*; S. SHIBUYA; T. ZAMA; S. SHIMADA; Y. OHKI. *Kyorin Univ. Sch. Med., Meiji Univ.*

9:00 HH30 **688.14** Hearing loss modulates auditory cortex response to audio-visual speech. S. ROSEMANN*; C. M. THIEL. *Univ. of Oldenburg, Cluster of Excellence "Hearing4all", Univ. of Oldenburg.*

10:00 HH31 **688.15** Systematic influence of the auditory system on human visual perception. J. SONG*; S. PAIK. *Information & Electronics Res. Inst., Korea Advanced Inst. of Sci. and Technol.*

11:00 HH32 **688.16** Mirroring the feeling of touch in the activity of single neurons in human posterior parietal cortex. C. Y. ZHANG*; T. AFLALO; D. OUELLETTE; E. R. ROSARIO; N. POURATIAN; R. A. ANDERSEN. *Caltech, Casa Colina Hosp. and Centers for Healthcare, UCLA.*

8:00 HH33 **688.17** Divisively normalized integration of visual and proprioceptive information for motor adaptation. Y. KATO*; T. HAYASHI; D. NOZAKI. *The Univ. of Tokyo, The Univ. of Tokyo, Grad Sch. Educ, Grad School, Univ. of Tokyo.*

9:00 HH34 **688.18** Oscillatory activity underlying attentional modulation of crossmodal matching in a trimodal sensory paradigm. J. MISSELHORN*; U. FRIESE; A. K. ENGEL. *Universitätsklinikum Hamburg-Eppendorf, Inst. of Cognitive Sci.*

10:00 HH35 **688.19** Alpha and beta oscillations in the language network, motor and visual cortex index semantic congruency between speech and gestures in clear and degraded speech. L. DRIJVERS*; A. OZYUREK; O. JENSEN. *Radboud Univ., Donders Inst., Max Planck Inst. for Psycholinguistics, Univ. of Birmingham.*

11:00 HH36 **688.20** Neural practice effect during cross-modal selective attention: General and modality-specific effects. Q. CHEN*; X. JING; N. LIU. *South China Normal Univ.*

8:00 II1 **688.21** ● Temporal facilitation of audiovisual speech processing in young children with and without autism spectrum disorder. T. G. WOYNAROSKI*; D. M. SIMON; J. I. FELDMAN; S. EDMUNDS; A. TU; W. KUANG; J. G. CONRAD; P. SANTAPURAM; M. T. WALLACE. *Vanderbilt Univ. Med. Ctr., Vanderbilt Univ., Univ. of Washington, Vanderbilt Univ.*

9:00 II2 **688.22** ▲ Audio-visual cross-modal processing in individuals with cortical/cerebral visual impairment. E. BAILIN*; C. R. BENNETT; M. REZK; O. COLLIGNON; L. MERABET; C. M. BAUER. *Mass. Eye and Ear -- Harvard Med. Sch., Mass. Eye and Ear -- Harvard Med. Sch., Univ. of Louvain, MEEI-Harvard Med. Sch.*



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10:00 II3 **688.23** The Ganzfeld experience: Characterizing multimodal integration failure using resting-state fMRI. N. JAGANNATHAN; T. SCHMIDT*; M. LJUBLJANAC; T. NIERHAUS. *Univ. Osnabrück, Freie Univ. Berlin.*

11:00 II4 **688.24** Visual and auditory cues can enhance subliminal tactile sensitivity but interfere with suprathreshold performance. M. F. WESNER*; E. LO; K. D. MACLAM; V. B. K. JOHNSON. *Lakehead Univ.*

8:00 II5 **688.25** ▲ Synesthesia and creativity: Looking at association with writing and word tasks. T. DOTY*; R. B. ESQUENAZI; D. L. LARRANAGA; S. A. DREW. *Cal State Northridge, California State Univ. Northridge, VISN Lab. At California State University, Northridg, California State University, Northridge.*

9:00 II6 **688.26** Relief from intractable phantom pain by combining psilocybin and mirror visual feedback (MVF). V. S. RAMACHANDRAN*; C. CHUNHARAS; Z. J. MARCUS. *UCSD, King Chulalongkorn Mem. Hospital, Chulalongkorn Univ.*

10:00 II7 **688.27** Two different phase coding mechanisms for integrating audio-visual information via slow neural oscillation. H. MIZUHARA*; T. KUMAGAI; A. OOZONO. *Kyoto Univ.*

**POSTER**

**689. Subcortical Physiology and Regulation of Behavior**

***Theme E: Motor Systems***

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

8:00 II8 **689.01** Differential contribution of striatal pathways activity to action selection after reward and aversive learning. M. LANGE*; H. KAKINUMA; B. CHERNG; T. SHIRAKI; T. ISLAM; H. HAMA; A. MIYAWAKI; H. OKAMOTO. *RIKEN.*

9:00 II9 **689.02** Direct functional innervation of dorsolateral striatum spiny projection neurons by the amygdala. C. CUNHA; R. SUDDLE; C. GAZZOLA; A. VIJENDRAN; J. L. PLOTKIN*. *Stony Brook Univ. Dept. of Neurol.*

10:00 II10 **689.03** Pharmacological targeting of the striatal indirect basal ganglia pathway neurons improves subthalamic nucleus dysfunction and treats repetitive and compulsive behaviors in mice. A. M. MUEHLMANN*; K. BOSWELL; M. A. KING; M. H. LEWIS. *Univ. of Florida, Univ. of Florida, Univ. Florida, UF Col. of Med.*

11:00 II11 **689.04** Distinct roles of substantia nigra projection neurons in controlling orienting movements. E. A. STUBBLEFIELD*; G. FELSEN; J. T. DUDMAN. *Janelia Res. Campus, U. of Colorado Sch. of Med.*

8:00 II12 **689.05** Effects of globus pallidus or substantia nigra pars reticulata inactivation in startle reflex and locomotor behavior. S. RODRIGUES; T. L. FERREIRA*. *Unversidade Federal ABC.*

9:00 II13 **689.06** The descending diencephalic dopamine system is tuned to sensory stimuli. W. DRIEVER*; S. REINIG; A. ARRENBERG. *Albert-Ludwigs-University Freiburg, Eberhard-Karls-University Tübingen.*

10:00 II14 **689.07** The hyperdirect pathway in cynomolgus monkeys: A single-axon tracing study. D. COUDÉ*; A. PARENT; M. PARENT. *CERVO Res. Ctr., Univ. Laval.*

11:00 II15 **689.08** One critic, two actors. T. BORAUD*; D. KASE; M. TOPALIDOU; N. ROUGIER. *CNRS - Univ. Bx2, Univ. of Pittsburgh, IMN, INRIA.*

8:00 II16 **689.09** Integrated basal ganglia pathway activity controls execution during reaching and freely moving behavior. E. A. YTTRI*; B. PANIGRAHI; J. T. DUDMAN. *Carnegie Mellon, Janelia Res. Campus, HHMI.*

9:00 II17 **689.10** Chemogenetic inhibition of direct-pathway neurons in dorsomedial striatum reduces locomotor activity in mice supporting the role of the direct pathway in promoting movement. M. RICKHAG*; C. CIRIACHI; A. BAY-KØNIG; U. GETHER. *Mol. Neuropharm Lab, Ctr. For Neuroscience.*

10:00 II18 **689.11** Effect of correlations and sensory responses in the basal ganglia on the transmission of motor signals to the thalamus. M. MOHAGHEGHI NEJAD*; S. ROTTER; R. SCHMIDT. *Univ. of Freiburg, Royal Inst. of Technol., Univ. of Freiburg, Univ. of Sheffield.*

8:00 DP07/II19 **689.12** (Dynamic Poster) Electrophysiology of rat motor thalamus reveals unique patterns of firing during movement. M. GAIDICA*; C. CYR; A. HURST; A. KAMATH*; D. K. LEVENTHAL. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

8:00 II20 **689.13** Movement-related encoding in the ventral pallidum. J. D. LEDERMAN*; S. LARDEUX; S. M. NICOLA. *Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Coll Med.*

9:00 II21 **689.14** Different population coding schemes in basal ganglia subregions during movement. A. JIMENEZ RODRIGUEZ*; N. M. MALLET; D. K. LEVENTHAL; J. D. BERKE; R. SCHMIDT. *Univ. of Sheffield, Univ. de Bordeaux, VA Ann Arbor Hlth. Syst. and Univ. of Michigan, Univ. of California San Francisco, Univ. of Sheffield.*

10:00 II22 **689.15** Homeostatic motor adaptation: Cerebellum's failure emboldens basal ganglia. R. A. CAPPS*; D. TODOROV; W. BARNETT; Y. MOLKOV. *Georgia State Univ.*

11:00 II23 **689.16** Patch compartment lesions reduce habitual sucrose consumption. K. A. HORNER*; J. B. LOGUE; T. A. JENRETTE. *Mercer Univ. Sch. of Med.*

8:00 II24 **689.17** Anatomical and functional characterization of parvalbumin-expressing neurons in the mouse external globus pallidus. V. LILASCHAROEN*; E. H. WANG; A. N. TRAN; X. WANG; B. LIM. *UCSD, UCSD.*

9:00 II25 **689.18** Tardive dyskinesia induced by prolonged antipsychotic treatment in monkeys is associated with Akt pathway activity in dopamine D3 receptor expressing cells of the putamen. G. HERNANDEZ; S. MAHMOUDI; M. CYR; J. DIAZ; P. J. BLANCHET; D. LEVESQUE*. *Univ. of Montreal, Fac. of Pharm., U. Quebec a Trois-Rivieres, Univ. Paris Descartes, Univ. of Montreal, Fac. of dentistry.*

10:00 II26 **689.19** Event-related stimulation of subthalamic nucleus alters conflict-related control in a time period overlapping with low-frequency activities. A. GHAHREMANI*; K. UDUPA; U. SAHA; D. REDDY; S. K. KALIA; M. HODAIE; A. M. LOZANO; A. R. ARON; R. CHEN. *Toronto Western Hosp., Inst. of Med. Sci., Krembil Res. Inst., Univ. of Toronto, UC San Diego, Univ. of Toronto.*



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* Indicates abstract's submitting author

11:00 II27 **689.20** Glutathione depletion in the SNpc modifies the nigrostriatal plasticity in rats. M. DÍAZ HUNG*; E. ALBERTI; L. BLANCO LEZCANO; N. PAVÓN FUENTES; L. LORIGADOS PEDRE; J. RUIZ FUENTES; A. DÍAZ GARCÍA; A. YGLESIAS RIVERA. *Intl. Ctr. For Neurolog. Restoration, Intl. Ctr. For Neurolog. Restoration, Intl. Ctr. For Neurolog. Restoration, Intl. Ctr. For Neurolog. Restoration, Inst. of Tropical Med. Pedro Kourí, Pharmaceutics Biol. Labs.*

8:00 JJ1 **689.21** Calcium-dependent potassium currents can promote or inhibit burst firing depending upon their temporal dynamics. C. J. KNOWLTON*; C. C. CANAVIER. *Louisiana State Univ. Hlth. Sci. Ctr.*

9:00 JJ2 **689.22** Axon initial segment morphology can account for variability in the intra and extracellularly recorded action potentials in nigral dopamine neurons. L. F. LOPEZ JURY*; R. MEZA; C. C. CANAVIER; P. HENNY. *Univ. Católica, Louisiana State Univ. Hlth. Sci. Ctr.*

**POSTER**

**690. Corticostriatal and Pallidal Physiology**

***Theme E: Motor Systems***

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

8:00 JJ3 **690.01** Conditional knockdown of Slitrk-1 gene in striatal cholinergic interneurons impairs sensorimotor function in mice mimicking Tourette syndrome. J. DU*; L. TUNG; H. LEE; L. CHIOU. *Taipei City Hosp., Grad. Inst. of Pharmacology, Col. of Medicine, Natl. Taiwan Univ., Natl. Taiwan Univ., Dept Pharmacol, Col. Med. Natl. Taiwan Univ., Grad. Inst. of Brain and Mind Sciences, Col. of Medicine, Natl. Taiwan Univ.*

9:00 JJ4 **690.02** Investigation of subpallial neural circuits in larval zebrafish. T. THIELE*; H. CHASIOTIS; M. MARTIN; V. AGUDA; N. GUILBEAULT. *Univ. of Toronto Scarborough, Univ. of Toronto Scarborough.*

10:00 JJ5 **690.03** Globus pallidus activity during short-term adjustments of the speed-accuracy trade-off in a reach selection task. D. THURA*; P. CISEK. *Univ. Montreal.*

11:00 JJ6 **690.04** Specific gene deletion in the efferent striatal pathways confer electrophysiological, neuronal morphological and behavioural characteristics of ASD in mice. D. RIAL*; E. PUIGHERMANAL; E. VALJENT; S. N. SCHIFFMANN; A. D. D'EXAERDE. *Univ. Libre De Bruxelles, Ctr. Natl. de la Recherche Scientifique (CNRS), UMR-5203, Inst. de Génomique Fonctionnelle, Montpellier, France.*

8:00 JJ7 **690.05** Correlated activity in globus pallidus neurons of a macaque monkey during hand reaching movements. W. WONGMASSANG*; S. CHIKEN; T. HASEGAWA; A. NAMBU. *Natl. Inst. For Physiological Sci.*

9:00 JJ8 **690.06** Behavioral and neuronal correlates of hyperactivity in the nucleus accumbens disinhibition rat model. D. YAEL*; I. BAR-GAD. *Bar-Ilan Univ.*

10:00 JJ9 **690.07** Rostral thalamic intralaminar nuclei modulation of striatal microcircuitry and action. K. K. COVER*; U. GYAWALI; A. E. MARQUARDT; C. MU; M. H. PATTON; M. G. WHITE; B. M. ROBERTS; B. N. MATHUR. *Univ. of Maryland Sch. of Med., Univ. of Oxford.*

11:00 JJ10 **690.08** Regulation of locomotion by nucleus accumbens core activity. Q. YAN*; H. YIN. *Duke Univ.*

8:00 JJ11 **690.09** Stationary corticostriatal networks promote compression of automatic action in aging. J. BERTRAN-GONZALEZ*; Z. SKRBIS; M. R. BAILEY; P. D. BALSAM; B. W. BALLEINE; J. GOETZ; M. MATAMALES. *The Univ. of New South Wales, The Univ. of Queensland, Columbia Univ., Barnard Coll Columbia Univ.*

9:00 JJ12 **690.10** Distinct roles for cortico- and thalamostriatal projections in motor skill learning and execution. S. B. WOLFF*; A. K. DHAWALE; R. KO; B. P. OLVECZKY. *Harvard Univ.*

10:00 JJ13 **690.11** Recruitment of prefrontal-striatal circuit during skilled motor challenge. S. PRATHAP*; Z. WANG; Y. GUO; D. P. HOLSCHNEIDER. *USC, USC.*

11:00 JJ14 **690.12** High fat diet blocks the effect of the antipsychotic haloperidol and enriched environments reverses the effect in rats. I. C. SUMAYA*; S. VILLARREAL; N. RAMIREZ; A. HUSSAIN; M. CHAUNDHRY. *California State Univ. Bakersfield.*

8:00 JJ15 **690.13** Short term plasticity shapes information transmission in the indirect pathway of the rat basal ganglia. H. LAVIAN*; A. KORNGREEN. *Bar-Ilan University, Gonda Brain Res. Ctr., Bar-Ilan Univ.*

9:00 JJ16 **690.14** ● Differences in globus palllidus asymmetry in patients with cervical and generalized dystonia. A. SEDOV*; S. USOVA; U. SEMENOVA; V. POPOV; R. MEDVEDNIK; A. TOMSKIY; A. G. SHAIKH. *Semenov Inst. of Chem. Physics, Russian Aca, Burdenko Res. Ctr. of Neurosurg., Case Western Reserve.*

10:00 JJ17 **690.15** Parkinson's disease risk genetic polymorphisms are associated with imaging markers of the putamen and substantia nigra in healthy adults. D. E. VAILLANCOURT*; R. G. BURCIU; P. SHUKLA; M. NALLS; A. SINGLETON; M. OKUN; R. D. SEIDLER. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Natl. Inst. of Aging, Univ. of Florida, Univ. of Michigan.*

11:00 JJ18 **690.16** Electrophysiological and behavioral characterization of a mutant mouse lacking Rem2 protein in striatal medium spiny neurons. D. J. LIPUT*; H. L. PUHL, III; S. R. IKEDA. *NIH/NIAAA, NIH, NIH/NIAAA.*

8:00 JJ19 **690.17** The thalamic posteromedial nucleus activates the direct pathway. K. D. ALLOWAY*; G. D. WATSON. *Penn State Univ., Duke Univ.*

9:00 JJ20 **690.18** Corticostriatal inputs from somatosensory and motor cortex have distinct effects on behavior through differential actions on striatal neurons. C. R. LEE*; J. M. TEPPER; D. J. MARGOLIS. *Rutgers The State Univ. of New Jersey, Rutgers The State Univ. of New Jersey.*

10:00 JJ21 **690.19** Corticostriatal projections map the organization of inter-area corticocortical connectivity. A. E. PAPALE*; R. PALETZKI; M. FEROZE; C. R. GERFEN; B. M. HOOKS. *Univ. of Pittsburgh, Lab. of Systems Neuroscience, NIMH.*

11:00 JJ22 **690.20** Significance of striatal feedforward inhibition in propagation of cortical oscillations. J. BELIC*; A. KUMAR; J. HELLGREN KOTALESKI. *KTH Royal Inst. of Technol.*

8:00 JJ23 **690.21** Correlation between song acoustics and neural activity in the song-related basal-ganglia-thalamo-cortical circuit in songbirds. A. LEBLOIS*; W. E. WOOD; R. DARSHAN; D. HANSEL. *CNRS / Univ. Paris Descartes, ELSC, the Hebrew Univ.*



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* Indicates abstract's submitting author

9:00 JJ24 **690.22** Distribution of interneurons associated with perineuronal nets in the mouse neocortex. R. SULTANA; C. C. LEE*. *Louisiana State Univ. Sch. of Vet. Med.*

10:00 JJ25 **690.23** Xylazine acts at excitatory presynaptic terminals of rat prefrontal cortex pyramidal neurons. J. QUIÑONES; J. ORTIZ; K. COLON; R. VAZQUEZ-TORRES; C. A. JIMENEZ-RIVERA; P. SANABRIA-RAMIREZ*. *Univ. Central Del Caribe, Univ. of Puerto Rico, Univ. of Puerto Rico, Physiol. Dept.*

**POSTER**

**691. The Control of Grasp and Grip I**

***Theme E: Motor Systems***

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

8:00 JJ26 **691.01** Differences in the structure of variability in movements of individual fingers and group of fingers. V. SHANKAR*; V. SKM. *Indian Inst. of Technol.*

9:00 JJ27 **691.02** ● Dissociating improvements in speed and task performance in a novel motor sequence learning task. D. R*; R. RANGANATHAN; V. SKM. *Indian Inst. of Technology, Madras, Michigan State Univ.*

10:00 JJ28 **691.03** Interdependence of finger movements during flexion extension and neutral position of wrist. N. C S*; V. SKM. *Indian Inst. of Technol. Madras.*

11:00 JJ29 **691.04** A behavioural model for a visuomotor adaptation task using index and little finger forces. S. SALAM*; S. VARADHAN. *Indian Inst. of Technol., Indian Inst. of Technol. Madras.*

8:00 JJ30 **691.05** Hand dominance and grip force variability in a dynamic bimanual manipulation task. R. BANUVATHY*; S. ANNAMALAI; V. SKM. *Indian Inst. of Technology, Madras.*

9:00 KK1 **691.06** Force planning depends on experiencing object weight during lift but not holding. V. VAN POLANEN*; M. DAVARE. *KU Leuven, Univ. Col. London.*

10:00 KK2 **691.07** Differences in alpha and beta ERD patterns during various grasping movements. Y. INAMURA*; S. SHIMADA. *Meiji Univ., Meiji Univ.*

11:00 KK3 **691.08** Effects of observing correct or incorrect motor plans on predictive force control during object lifting. G. RENS*; M. DAVARE. *KU Leuven, Inst. of Neurol.*

8:00 KK4 **691.09** Force illusions caused by muscle vibration. C. CUADRA; S. RESCHECHTKO; M. L. LATASH*. *Pennsylvania State Univ., Univ. Andres Bello.*

9:00 KK5 **691.10** Cognitive agency in hand grasp performance - implications for rehabilitation. R. NATARAJ*. *Stevens Inst. of Technol.*

10:00 KK6 **691.11** Hierarchical organization of force and moment stabilizing synergies in the space of theoretical control variables. S. RESCHECHTKO*; M. L. LATASH. *Pennsylvania State Univ.*

11:00 KK7 **691.12** Complexity of movements in humans with 6 fingered hands. H. CHOI*; M. BLÜHER; L. BASHFORD; A. BUSCHHOFF; A. SERINO; M. AKSELROD; O. BLANKE; M. MACE; E. BURDET; C. MEHRING. *Albert Ludwigs Univ. of Freiburg, Ctr. for Neuroprosthetics, EPFL, Lausanne and Univ. of Geneva, Imperial Col. of Science, Technol. and Med.*

8:00 KK8 **691.13** Partial-gravity as an extended insight on the adaptive and learning mechanisms of the CNS during rhythmic arm movements. L. OPSOMER*; V. THÉATE; P. LEFEVRE; J. THONNARD. *Univ. Catholique De Louvain, WOW Technol., ICTEAM and Inst. of Neuroscience, Univ. catholique de Louvain, Univ. Catholique De Louvain.*

9:00 KK9 **691.14** Effects of a cognitive task on the grip force control in two manipulative tasks. G. V. GOMES*; P. B. FREITAS, Jr; B. CUNHA; S. M. FREITAS. *Univ. Cidade De São Paulo, Univ. Cruzeiro do Sul, Cruzeiro Do Sul Univ., Univ. Cidade De Sao Paulo.*

10:00 KK10 **691.15** Differential preparatory activity for reaching and grasping movements in area V6A of the macaque monkey. P. FATTORI*; E. SANTANDREA; R. BREVEGLIERI; A. BOSCO; C. GALLETTI. *Univ. of Bologna.*

11:00 KK11 **691.16** Enhancement of force steadiness induced by synusoidal vibrotactile stimulation depends on contraction intensity. C. M. GERMER*; L. S. MOREIRA; L. A. ELIAS. *UNICAMP.*

8:00 KK12 **691.17** Spatiotemporal profiles of neuromagnetic oscillatory changes related to the movement imitation. H. SUGATA*; M. HIRATA; Y. TAMURA; T. ARAKI; H. ONISHI; S. YORIFUJI. *Oita Univ., Osaka Univ., Osaka Univ., Osaka Univ., Osaka Prefecture Univ.*

9:00 KK13 **691.18** Perceptual and visuomotor tasks respectively adhere to and violate Weber's law in response to functionally graspable target objects. J. MANZONE*; M. PECORA; M. KHAN; S. DAVARPANAH JAZI; M. HEATH. *Western Univ., Western Univ., Lawson Hlth. Res. Inst., Western Univ.*

10:00 KK14 **691.19** ▲ Self-reported sensory perception is related to precision grip force in healthy young adults. J. TUCKER*; A. MERIDA; C. R. DAHM; A. J. GROFF; P. WANG; N. M. ETTER; K. A. NEELY. *Pennsylvania State Univ. Univ. Park, Pennsylvania State Univ. Univ. Park, Pennsylvania State Univ. Univ. Park.*

11:00 KK15 **691.20** Is learning encoded in the resting brain? A. HOOYMAN*; J. KUTCH; S. BABIKIAN; C. WINSTEIN. *USC.*

8:00 KK16 **691.21** A direct effect of perception on action when grasping a cup. E. ROUNIS; V. VAN POLANEN; M. DAVARE*. *Oxford Univ., KU Leuven, Inst. of Neurol., KU Leuven.*

9:00 KK17 **691.22** Prior information triggers differential mirror activity in primary motor cortex of observers even in the absence of kinematic cues. A. CRETU*; K. RUDDY; M. GERMANN; N. WENDEROTH. *Neural Control of Movement Lab.*

10:00 KK18 **691.23** Changes in brain activation patterns as a result of bilateral transfer of learning of a visuo-motor task. K. M. KIRBY; O. T. CARMICHAEL; A. W. VAN GEMMERT*. *Louisiana State Univ., Pennington Biomed. Res. Ctr.*

11:00 KK19 **691.24** Visuomotor rotation to quantify the impact of vision on grip force control. S. TOMA*; M. SANTELLO. *Arizona State Univ. - Tempe Campus.*



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**POSTER**

**692. The Control of Grasp and Grip II**

***Theme E: Motor Systems***

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

8:00 KK20 **692.01** Transcutaneous multi-electrode array nerve stimulation for delayed hand fatigue. H. SHIN*; C. DAI; X. HU. *Univ. of North Carolina At Chapel Hill, North Carolina State Univ.*

8:00 DP08/KK21 **692.02** (Dynamic Poster) Postnatal motor cortex stroke alters development of the rubrospinal system and proprioceptive afferents. P. T. WILLIAMS*; J. R. BRANDENBURG; J. H. MARTIN. *CUNY Sch. of Med., Grad. Center, City Univ. of New York.*

10:00 KK22 **692.03** Age-related differences in white matter integrity and its association with measurements of grasping. T. R. VANGBERG*; O. VASYLENKO; S. A. CASTRO-CHAVIRA; M. M. GORECKA; K. WATERLOO; C. RODRIGUEZ-ARANDA. *Univ. Hosp. of North Norway, Univ. of Tromsø.*

11:00 KK23 **692.04** Prolonged time to close the hand during fine grasping after spinal cord injury. M. A. PEREZ*; L. YUMING. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

8:00 KK24 **692.05** Neural information processing in motor control during aging. S. DAUN*; N. ROSJAT; S. POPOVYCH; L. LIU; B. WANG; T. TOTH; C. GREFKES; G. FINK. *Univ. of Cologne, Forschungszentrum Juelich, Uniklinik Koeln.*

9:00 KK25 **692.06** The influence of cerebellar transcranial direct stimulation on motor skill acquisition in a complex visuomotor task in Parkinson's disease. L. LIMA DE ALBUQUERQUE*; K. M. FISCHER; S. JALENE; M. R. LANDERS; Z. A. RILEY; B. POSTON. *Univ. of Nevada, Las Vegas, Indiana Univ. Purdue Univ. at Indianapolis.*

10:00 KK26 **692.07** Effects of aging on postural adjustments to visual perturbations during fast pointing. Y. ZHANG*; E. BRENNER; J. DUYSENS; S. VERSCHUEREN; J. B. J. SMEETS. *Vrije Univ. Amsterdam, KU Leuven.*

11:00 KK27 **692.08** ● Changes in muscle activity secondary to a six-week hand training program using a novel concept rehabilitation device. A. PEPE; D. VASILIU; B. VOLLEBREGT; A. JAIN; K. REINIKKA; J. LAWRENCE-DEWAR; V. B. JOHNSON*. *Carleton Univ., Independent Consultant, Lakehead Univ., SJCG, NOSM, TBRRI.*

8:00 KK28 **692.09** The effects of daily activity on the age-related decline in finger motor function. T. AOKI*. *Prefectural Uni of Kumamoto.*

9:00 KK29 **692.10** Cortical motor control of reeler mice. M. NISHIBE*; T. YAMASHITA. *Osaka University, Osaka Univ.*

10:00 KK30 **692.11** A novel method for the prediction of decreased motor performances in the elderly using handwriting characteristics. Y. HOSOKAWA*; K. WATANABE; T. WATANABE; E. TANAKA; T. ANME; H. KAWAGUCHI. *Toyo Univ., Univ. of Tsukuba.*

11:00 KK31 **692.12** Abnormal electroencephalographic oscillations in β and low γ bands in patients with writer's cramp. G. CISOTTO*; K. KITA; K. UEHARA; K. YOSHINAGA; Y. HASHIMOTO; T. SAKAMOTO; J. USHIBA; T. HANAKAWA. *Univ. of Padua, Chiba Univ., Arizona State Univ., Natl. Ctr. of Neurol. and Psychiatry, Kitami Inst. of Technol., Natl. Ctr. of Neurol. and Psychiatry, Keio Univ., Natl. Ctr. Neurol & Psych.*

8:00 KK32 **692.13** Common neural substrates support visually guided force control and working memory in healthy older adults. K. A. NEELY*; K. A. KURKELA; J. T. GOODMAN; S. SAMIMY; S. L. BLOUCH; A. CHENNAVASIN; M. T. DIAZ; N. A. DENNIS. *Pennsylvania State Univ., Pennsylvania State Univ., Pennsylvania State Univ., Pennsylvania State Univ.*

9:00 KK33 **692.14** Grip force control during different manipulative tasks in individuals with diabetic peripheral neuropathy. K. C. LIMA*; G. O. C. SANTOS; S. S. V. DONATO; P. B. DE FREITAS, JR. *Univ. Cruzeiro Do Sul, Univ. Cruzeiro do Sul, Univ. Cruzeiro Do Sul.*

10:00 KK34 **692.15** Carpal Tunnel Syndrome intervened with the sensorimotor learning process in unconstrained grip tasks. W. ZHANG*; B. SCHMITT; M. SANTELLO. *City Univ. of New York / CSI, Sorbonne Univ., Arizona State Univ.*

11:00 KK35 **692.16** Recovered hand function in chronic stroke is related to task based contralesional M1 activity independent of the integrity of lesioned M1 and CST. K. P. REVILL*; J. J. FREEMAN; G. M. KOWALSKI; M. PIFER; M. W. HAUT; S. R. BELAGAJE; C. M. BUETEFISCH. *Emory Univ., West Virginia Univ.*

8:00 KK36 **692.17** Relationship between the performance in the Archimedes spiral drawing and Jebsen and Taylor hand function test in individuals with Parkinson disease. C. C. ALONSO*; P. B. FREITAS, Jr; R. S. PIRES; R. B. D. C. GARBUS; D. LUSTOSA; R. CARNEIRO; S. M. FREITAS. *Univ. Cidade De São Paulo, Master and Doctoral Program in Healthy Sciences, Cruzeiro do Sul University; São Paulo, Brazil., Univ. Cidade De São Paulo, Univ. Cidade de São Paulo, Univ. Cidade de São Paulo, Univ. Cidade De Sao Paulo.*

**POSTER**

**693. Human Motor Learning: Neural and Clinical**

***Theme E: Motor Systems***

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

8:00 LL1 **693.01** Dynamic neural oscillations in the primary motor cortex during retention of motor adaptation. F. MAWASE*; S. UEHARA; K. CHERRY-ALLEN; P. CELNIK. *Johns Hopkins Sch. of Med.*

9:00 LL2 **693.02** Individual differences in adaptation learning are linked to dynamic changes in functional brain states. J. Y. NASHED*; D. STANDAGE; J. FLANAGAN; J. P. GALLIVAN. *Queen's Univ., Queen's Univ.*

10:00 LL3 **693.03** Reduction in motor evoked potentials following somatosensory perceptual training. M. DARAINY*; T. F. MANNING; D. J. OSTRY. *McGill Univ.*

11:00 LL4 **693.04** ▲ An acute bout of exercise performed immediately after motor learning alters Beta-band oscillations in the motor cortex. F. DAL MASO; B. DESORMEAU; A. GHOSH; M. ROIG; M. BOUDRIAS*. *McGill Univ.*



● Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

8:00 LL5 **693.05** Aging does not affect practice-induced increases in beta modulation during a motor task. R. MEHRARAM; S. RICCI; A. B. NELSON; E. TATTI; P. PANDAY; H. CHEN; B. O. THOMSON; M. BOSSINI-BAROGGI; M. KAMEL; M. F. GHILARDI*. *CUNY Med. Sch., Univ. of Genoa, CUNY.*

9:00 LL6 **693.06** EEG Beta-band modulations in implicit and explicit motor adaption processes. N. MALFAIT*; A. JAHANI; J. ALAYRANGUES; F. TORRECILLOS. *CNRS / INT, AMU / Inst. des Neurosciences de la Timone.*

10:00 LL7 **693.07** Neurochemical basis for learning novel sensorimotor maps. F. T. VAN VUGT*; T. HENNESSY; J. NEAR; J. DOYON; D. J. OSTRY. *McGill Univ., McGill Univ., Douglas Mental Hlth. Univ. Inst., CRIUGM - Univ. of Montreal, Univ. of Montreal, Inst. universitaire de gériatrie de Montréal, Haskins Labs.*

11:00 LL8 **693.08** Cerebellum drives motor skill acquisition through online learning and early consolidation. N. F. BERNARDI*; F. T. VAN VUGT; R. VALLE-MENA; S. VAHDAT; D. J. OSTRY. *McGill Univ., Haskins Labs., Stanford Univ.*

8:00 LL9 **693.09** Individual differences in cortical beta oscillations associated with motor learning. S. ESPENHAHN*; B. C. M. VAN WIJK; H. E. ROSSITER; A. O. DE BERKER; N. D. REDMAN; J. DIEDRICHSEN; N. S. WARD. *Inst. of Neurology, UCL, Inst. of Neurology, UCL, Charité - Univ. Med. Berlin, Sch. of Psychology, Cardiff Univ., Univ. of Western Ontario.*

9:00 LL10 **693.10** ▲ The effect of concussion on the learning of a novel visuomotor task in elite athletes. N. GURUPARAN; J. HURTUBISE; D. J. GORBET; L. E. SERGIO*. *York Univ., York Univ., York Univ., York Univ.*

10:00 LL11 **693.11** ▲ Adaptations to novel visuomotor rotations after stroke. R. T. MOORE*; S. P. DUKELOW; T. CLUFF. *Univ. of Calgary, Univ. of Calgary, Univ. of Calgary, Univ. of Calgary, Univ. of Calgary.*

11:00 LL12 **693.12** Application of POrtable Motor learning LABoratory (PoMLab): Cross-syndrome comparison of implicit visuomotor adaptation among patients with stroke and Parkinson's disease. M. SHINYA*; K. TAKIYAMA; T. SAKURADA; S. MURAMATSU; H. OGIHARA; T. SATO; T. KOMATSU. *Hiroshima Univ., Tokyo Univ. of Agr. and Technol., Jichi Med. Univ., Jichi Med. Univ., Kakeyu Hosp., Nihon Univ.*

8:00 LL13 **693.13** Fast and slow motor learning processes in Alzheimer's dementia. K. SUTTER*; L. OOSTWOUD WIJDENES; J. A. CLAASSEN; R. P. C. KESSELS; W. P. MEDENDORP. *Radboud Univ., Radboud Univ. Med. Ctr., Radboud Univ. Med. Ctr., Radboud Univ. Med. Ctr.*

9:00 LL14 **693.14** Impaired representation of limb dynamics after stroke. R. L. HARDESTY, JR; V. RAJASEKARAN; C. L. ROSEN; V. GRITSENKO*. *West Virginia Univ., West Virginia Univ.*

10:00 LL15 **693.15** Use of a EMG-controlled game as a therapeutic tool to retain hand muscle activation patterns following stroke. M. GHASSEMI; A. BARRY; K. TRIANDAFILOU; M. STOYKOV; D. G. KAMPER*; E. ROTH. *UNC & NC State, Shirley Ryan Ability Lab., North Carolina State University/ Univ. of Nor.*

11:00 LL16 **693.16** Age-Related differences in controlling a robot arm. M. R. PADMANABHAN*. *Michigan State Univ.*

**POSTER**

**694. Human Motor Learning: Cognitive and Proprioceptive Influences**

***Theme E: Motor Systems***

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

8:00 LL17 **694.01** Understanding the relationship between exploratory variability and learning ability by dissociating the effects of persistence versus task relevance for motor variability. T. RANJAN*; M. A. SMITH. *Harvard Univ., Harvard Univ.*

9:00 LL18 **694.02** The relation of proprioceptive working memory to human motor learning. A. SIDARTA*; F. T. VAN VUGT; N. F. BERNARDI; D. J. OSTRY. *McGill Univ.*

10:00 LL19 **694.03** Proprioceptive changes following complex motor skill learning. J. L. MIRDAMADI*; H. J. BLOCK. *Indiana Univ., Indiana Univ.*

11:00 LL20 **694.04** An experimental investigation of the role of spatial working memory in age-related declines in working memory. L. RAJESH KUMAR*; K. M. TREWARTHA. *Michigan Technological Univ., Michigan Technological Univ.*

8:00 LL21 **694.05** Mental workload and motor performance assessment during practice of reaching movements under various task demands. I. SHUGGI*; H. OH; P. A. SHEWOKIS; R. J. GENTILI. *Univ. of Maryland, Col. Park, Univ. of Maryland, Drexel Univ.*

9:00 LL22 **694.06** ● Older adults benefit less from explicit instruction, but show a larger change in perceived but not predicted estimate of hand position following visuomotor training. C. M. VACHON*; S. MODCHALINGAM; B. M. T'HART; D. Y. HENRIQUES. *York Univ., York Univ., York Univ., York Univ.*

10:00 LL23 **694.07** ● Is proprioceptive recalibration explained by a multi-rate model? J. E. RUTTLE*; B. 'T HART; D. HENRIQUES. *York Univ.*

11:00 LL24 **694.08** ● Explicit awareness of a perturbation during training does not affect predicted and perceived sensory consequences of hand motion. S. MODCHALINGAM*; C. M. VACHON; B. M. 'T HART; D. Y. HENRIQUES. *York Univ., York Univ., York Univ., York Univ.*

8:00 LL25 **694.09** Motivational state influences motor adaptation. J. GALARO*; A. DIZENZO; D. MCNAMEE; V. S. CHIB. *Johns Hopkins Sch. of Med., Kennedy Krieger Inst., Univ. of Cambridge.*

9:00 LL26 **694.10** Selective suppression of adaptation to motor errors irrelevant to task success. N. RAO; N. KUMAR*; P. K. MUTHA. *Univ. of Houston, Indian Inst. of Technol. Gandhinagar, Indian Inst. of Technol. Gandhinagar, Indian Inst. of Technol. Gandhinagar.*

10:00 LL27 **694.11** Influence of switching rule on motor learning. K. TAKIYAMA*; K. ISHII; T. HAYASHI. *Tokyo Univ. of Agr. and Technol.*

11:00 LL28 **694.12** ▲ Memory use during implicit learning varies across sensory feedback conditions, but is not impacted by interposed self-assessments . R. SLICK*; D. LANTAGNE; L. A. MROTEK; S. BEARDSLEY; D. THOMAS; D. LEIGH; I. AHAMED; R. A. SCHEIDT. *Marquette Univ., Univ. of Wisconsin Oshkosh, Med. Col. of Wisconsin, Northwestern Univ.*



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8:00 LL29 **694.13** The extent of overlap between explicit and implicit visuomotor learning. S. BAO; G. TAYS; J. WANG*. *Univ. of Wisconsin Milwaukee, Univ. of Wisconsin - Milwaukee, Univ. of Wisconsin.*

9:00 LL30 **694.14** Implicit visuomotor adaptation has temporally stable and labile components, but explicit adaptation is entirely stable. J. R. MOREHEAD*; M. A. SMITH. *Harvard Univ., Harvard Univ.*

10:00 LL31 **694.15** Sensitivity of implicit motor adaptation and explicit aiming. S. A. HUTTER*; J. A. TAYLOR. *Princeton Univ.*

**POSTER**

**695. Neuroimmune Responses and Behavior**

***Theme F: Integrative Physiology and Behavior***

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

8:00 LL32 **695.01** CXCR4 but not CCR5 antagonism reduce the rewarding effects of the 'bath salt' 3,4-methylenedioxy-N-methylcathinone (MDPV). C. F. OLIVER*; J. K. KIM; S. U. NAYAK; S. M. RAWLS. *Temple Univ., McLean Hosp., Temple Univ.*

9:00 LL33 **695.02** Profiling the neuroimmune response to poly I:C: sex differences, sickness behaviors, and memory. C. K. POSILLICO*; N. C. TRONSON. *Univ. of Michigan.*

10:00 MM1 **695.03** The effects of a ketogenic diet on two-way active avoidance learning during an immune challenge in mice. E. GUENDNER; M. E. GIEDRAITIS; R. A. KOHMAN*. *Univ. of North Carolina Wilmington.*

11:00 MM2 **695.04** ▲ Maternal high fructose diet and neonatal immune challenge alters offspring anxiety-like behavior across the lifespan. S. H. F. BUKHARI; O. E. CLARK; L. L. WILLIAMSON*. *Williams Col., Williams Col.*

8:00 MM3 **695.05** Effects of intrauterine inflammation on cognition and motivation in male and female mice. T. M. REYES*; K. R. LLOYD; R. A. MAKINSON; H. LUNDE; S. K. YAGHOUBI. *Univ. of Cincinnati, Univ. of Cincinnati.*

9:00 MM4 **695.06** ▲ Assessment of associative learning in toll-like receptor-4 deficient mice. O. V. POTTER*; M. E. GIEDRAITIS; R. A. KOHMAN. *Univ. of North Carolina At Wilmington, Univ. of North Carolina Wilmington.*

10:00 MM5 **695.07** ▲ Examination into the effects of a second pregnancy on postpartum anhedonia and neuroimmune function. J. GOMEZ*; J. M. SCHWARZ. *Dept. of Psychological and Brain Sci., Univ. of Delaware.*

11:00 MM6 **695.08** CCR6 mediates Th17 cells pathogenicity in depressive-like behavior in mice. J. LOWELL*; E. BEUREL. *Univ. of Miami Miller Sch. of Med.*

8:00 MM7 **695.09** ▲ Behavioral effects of maternal immune activation in mice. M. E. CRONIN; K. T. PRESTI; A. C. BASU*. *Col. of the Holy Cross, Col. of the Holy Cross.*

9:00 MM8 **695.10** Impact of minocycline administration on neuroimmune outcomes following prenatal alcohol exposure. T. S. BODNAR*; J. WEINBERG. *The Univ. of British Columbia.*

10:00 MM9 **695.11** The effects of alcohol on memory function and microglial cells in rat. S. CHEN*; C. YANG; S. YANG; J. WANG. *HungKuang Univ., Departments of Pediatrics and Med. Research, E-DA Hospital, Col. of Medicine, I-Shou Univ.*

11:00 MM10 **695.12** The influence of social hierarchy on immune responsiveness. D. AMADO RUIZ*; T. LODDER; M. TOEBES; A. KALSBEEK; H. HU; T. N. SCHUMACHER; H. W. KESSELS. *Netherlands Inst. For Neurosci., Netherlands Cancer Inst., Netherlands Inst. For Neurosci., Interdisciplinary Inst. of Neurosci. and Technology, Zhejiang Univ. Sch. of Med.*

8:00 MM11 **695.13** Astrocyte specific mediation of heroin-conditioned immune suppression. J. E. PANICCIA*; C. L. LEBONVILLE; M. E. JONES; D. T. LYSLE. *Univ. of North Carolina-Chapel Hill.*

9:00 MM12 **695.14** Role of ventral hippocampus in context-heroin conditioned immunosuppression. C. LEBONVILLE*; M. E. JONES; J. E. PANICCIA; R. A. FUCHS; D. T. LYSLE. *Univ. of North Carolina At Chapel Hill, Washington State Univ.*

10:00 MM13 **695.15** Neuroimmune signaling in stress-enhanced fear learning, an animal model of post-traumatic stress disorder. M. E. JONES*; J. E. PANICCIA; C. LEBONVILLE; D. T. LYSLE. *Univ. of North Carolina At Chapel Hill, Univ. of North Carolina-Chapel Hill, Univ. of North Carolina at Chapel Hill.*

11:00 MM14 **695.16** ● Effects of adolescent exposure to the short-chain fatty acid, propionic acid, and lipopolysaccharide on adolescent and adult rat anxiety and sensorimotor gating. D. WAH*; M. KAVALIERS; K. OSSENKOPP. *Univ. of Western Ontario.*

8:00 MM15 **695.17** Chemokine circulatory levels in adolescents MDD patients along eight weeks of clinical follow up with SSRI. L. PAVON-ROMERO*; F. DE LA PEÑA; C. CRUZ-FUENTES; M. I. GIRÓN-PEREZ; C. TELLEZ-SANTILLAN; S. ALVAREZ-HERRERA; G. PEREZ-SANCHEZ; E. BECERRIL VILLANUEVA. *Natl. Inst. of Psychiatry. Mexico, Inst. Nacional de Psiquiatria, Inst. Nacional de Psiquiatria, Univ. Autónoma de Nayarit, Hosp. Gen. Naval de Alta Especialidad, Secretaria de Marina, Natl. Inst. of Psychiatry. Mexico.*

9:00 MM16 **695.18** Elucidating adaptive roles for microglia in chronically stressed mice. M. L. LEHMANN*; T. K. WEIGEL; H. A. COOPER; S. L. KIGAR; M. A. HERKENHAM. *NIH, Temple Univ.*

10:00 MM17 **695.19** T cells are necessary for resolution of inflammation-induced depression-like behavior via an IL-10 dependent pathway. A. KAVELAARS*; G. LAUMET; J. D. EDRALIN; R. DANTZER; C. J. J. HEIJNEN. *Univ. of Texas MD Anderson Cancer Ctr.*

11:00 MM18 **695.20** Effects of (R, S) Ketamine and (2R, 6R) hydroxynorketamine on lipopolysaccharide-induced sickness symptoms and anhedonia. S. M. CLARK*; P. ZANOS; T. D. GOULD; L. H. TONELLI. *Univ. of Maryland Sch. of Med., Dept. of Veterans Affairs, VA Maryland Hlth. Care Syst., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

8:00 MM19 **695.21** An inflammatory pathway links dietary antioxidant levels and human gray matter morphology: Moderation by cardiorespiratory fitness. R. L. LECKIE*; D. C. KUAN; P. J. GIANAROS. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. Pittsburgh.*

9:00 MM20 **695.22** Mating and reward system activation increases the expression of CCR5 on T cells. T. BEN-SHAANAN*; M. SCHILLER; N. BOSHNAK; B. KORIN; H. AZULAY-DEBBY; A. ROLLS. *Technion Fac. of Med.*



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* Indicates abstract's submitting author

10:00 MM21 **695.23** Isoforms of HMGB1 modulate pain response in animals and activate neuronal cells. H. YANG*; Q. ZENG; M. ADDORISIO; M. K. GUNASEKARAN; S. S. CHAVAN; K. J. TRACEY. *Feinstein Inst.*

**POSTER**

**696. The Blood Brain Barrier in Health and Disease**

***Theme F: Integrative Physiology and Behavior***

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

8:00 MM22 **696.01** ▲ Characterization of hedgehog-responsive cells in the adult mouse spinal cord. M. S. RALLO; M. P. MATISE*. *Rutgers-RWJMS.*

9:00 NN1 **696.02** Isoflurane mitigates Evans blue dye extravasation caused by carbogen inhalation in mice and rats. K. LIAO; K. POON; Y. PAN; H. WANG; K. CHEN; Y. LIU; T. W. LAI*. *China Med. Univ., China Med. Univ. Hosp., China Med. Univ., China Med. Univ. Hosp.*

10:00 NN2 **696.03** Interstitial solute transport in 3D reconstructed neuropil: Diffusion predominates. K. H. PETTERSEN*; K. E. HOLTER; B. KEHLET; A. DEVOR; T. J. SEJNOWSKI; A. M. DALE; S. W. OMHOLT; O. P. OTTERSEN; K. MARDAL; E. A. NAGELHUS. *Univ. of Oslo, Univ. of Oslo, Univ. of Oslo, Simula Res. Lab., Univ. of California San Diego, Massachusetts Gen. Hospital, Harvard Med. Sch., Salk Inst., Univ. of California San Diego, Univ. of California San Diego, NTNU Norwegian Univ. of Sci. and Technol., Univ. of Oslo, Univ. of Oslo.*

11:00 NN3 **696.04** Mixture theory based analysis of the glymphatic system. P. A. PATKI*; B. J. GLUCKMAN; P. J. DREW; F. COSTANZO. *The Pennsylvania State Univ., Penn State Univ., Pennsylvania State Univ., The Pennsylvania State Univ.*

8:00 NN4 **696.05** Treatment frequency of focused ultrasound mediated blood-brain barrier opening treatment for Alzheimer's disease. C. POON*; K. SHAH; R. TSE; K. KIM; S. MOONEY; K. HYNYNEN. *Sunnybrook Hlth. Sci. Ctr., Univ. of Toronto.*

9:00 NN5 **696.06** Anatomical basis for cerebrospinal fluid transport through the cribriform plate in mice. J. N. NORWOOD*; D. CARD; A. CRAINE; T. RYAN; Q. ZHANG; P. J. DREW. *Pennsylvania State Univ., Pennsylvania State Univ., Pennsylvania State Univ., Pennsylvania State Univ., Pennsylvania State Univ., Pennsylvania State Univ.*

10:00 NN6 **696.07** Exploring the angiogenic response of hippocampal vasculature to focused ultrasound-mediated increases in blood-brain barrier permeability. D. MCMAHON*; K. HYNYNEN. *Sunnybrook Res. Inst., Univ. of Toronto.*

11:00 NN7 **696.08** Nuclear functional kinin-B2 receptors in the human hCMEC/D3 blood brain barrier cell model. M. N. GONZALEZ VEGA*; Y. FERRER ACOSTA; W. TORRES; A. H. MARTINS. *Univ. Central Del Caribe, Univ. Central Del Caribe, Univ. del Este, Univ. of Puerto Rico Med. Sci. Campus.*

8:00 DP10/NN8 **696.09** ● (Dynamic Poster) Aberrant Cdk5 activation induces blood-brain barrier modifications in CK-p25 mice, an inducible model of neurodegeneration. C. TACCOLA*; S. CARTOT-COTTON; D. VALENTE; P. BARNEOUD; M. LOCHUS; X. DECLÈVES; F. BOURASSET. *Faculté De Pharmacie, Inserm UMR-S 1144, Sanofi, Sanofi, Sanofi.*

9:00 NN9 **696.10** Establishing multiple cell culture model of the blood-brain barrier. M. JO*; N. B. ABID; M. KIM; A. KHAN; M. KHAN; M. KIM. *Gyeongsang Natl. Univ.*

10:00 NN10 **696.11** Pericyte degeneration leads to diffuse white matter disease. A. MONTAGNE*; A. M. NIKOLAKOPOULOU; Z. ZHAO; G. SI; A. P. SAGARE; D. LAZIC; S. R. BARNES; M. DAIANU; A. RAMANATHAN; A. GO; E. J. LAWSON; Y. WANG; W. J. MACK; P. M. THOMPSON; J. A. SCHNEIDER; R. E. JACOBS; B. V. ZLOKOVIC. *USC, Caltech, USC, Rush Univ. Med. Ctr.*

11:00 NN11 **696.12** Evaluating the size of focused ultrasound-induced blood-brain barrier opening in cats using 7 Tesla magnetic resonance imaging. H. LAI*; X. FENG; C. WANG; T. HE; W. XIONG; C. TSAI; B. XU; H. LIU. *Zhejiang Univ., Chang Gung University.*

8:00 NN12 **696.13** Intranasal delivery of antibodies achieves significantly higher CNS to blood ratios than systemic delivery - an investigation of distribution, pharmacokinetics, dose-response, and mechanism of transport. N. KUMAR*; J. J. LOCHHEAD; M. E. PIZZO; D. J. WOLAK; G. NEHRA; S. BOROUMAND; E. BRUNETTE; D. STANIMIROVIC; R. G. THORNE. *Univ. of Wisconsin - Madison, Natl. Res. Council of Canada, Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison.*

9:00 NN13 **696.14** NG291 a stable B2 kinin receptor agonist increase the permeability in normal blood brain barrier- possible role in organophosphate poisoning. S. R. MASSO; S. MARTINEZ; V. A. ETEROVIC; P. A. FERCHMIN; A. H. MARTINS*. *Univ. of Puerto Rico, Univ. Central Del Caribe, Univ. Central Del Caribe, Neuroprotection For Life.*

10:00 NN14 **696.15** Impact of western versus omega-3 diets on mfsd2a expression. K. E. SANDOVAL; J. S. WOOTEN; M. L. SCHALLER; M. P. HARRIS; K. A. WITT*. *Southern Illinois Univ., Southern Illinois Univ. Edwardsville, Southern Illinois Univ. Edwardsville.*

11:00 NN15 **696.16** Intrathecal administration of antisense oligonucleotides: CNS distribution and implications for neurodegenerative disease treatment. B. WILKEN-RESMAN*; M. E. PIZZO; E. BRUNETTE; N. KUMAR; K. VANG; G. GREENE; D. B. STANIMIROVIC; R. G. THORNE. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Inst. for Biol. Sciences, Natl. Res. Council of Canada, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

8:00 NN16 **696.17** ● Vascular abnormalities in a rat model for neurocysticercosis. R. P. CARMEN*; D. G. DÁVILA; R. GILMAN; Y. CAUNA; N. CHILE; A. D. DELGADO; J. D. MORALES; G. CASTILLO; L. E. BAQUEDANO; R. H. CELIZ; M. R. VERASTEGUI. *Univ. Peruana Cayetano Heredia, Johns Hopkins Univ.*

9:00 NN17 **696.18** Impact of western versus omega-3 based diets on glut-1 expression. K. A. WITT; J. S. WOOTEN; M. L. SCHALLER; M. P. HARRIS; K. E. SANDOVAL*. *Southern Illinois Univ. Edwardsville, Southern Illinois Univ., Southern Illinois Univ.*

10:00 NN18 **696.19** Modelling the diseased blood-brain barrier using patient-derived stem cells: Making a case about Batten's disease and Familial form of Alzheimer's disease. R. PATEL*; A. ALAHMAD. *Texastech Univ. Hlth. Sci. Ctr.*

11:00 NN19 **696.20** ● Modeling ischemic stroke injury at the human blood-brain barrier *in vitro* using patient derived stem cells. A. ALAHMAD*; S. PAGE. *Texas Tech. Univ. Hlth. Sci. Ctr.*



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8:00 NN20 **696.21** Pericytes in the neurovascular unit of a sexually dimorphic nucleus in rats. Z. HE*; S. A. FERGUSON; M. PAULE. *Natl. Ctr. For Toxicology Res.*

**POSTER**

**697. Motivation: Subcortical Neurocircuitry**

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

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

8:00 NN21 **697.01** Zona incerta as a substrate for orchestration of adaptive responding - variation on a theme by John Mitrofanis (Neuroscience 130:1-15, 2005). D. S. ZAHM*; M. T. DESTA; S. SUBRAMANIAN; Y. TAN; K. P. PARSLEY. *St. Louis Univ. Sch. of Med., St. Louis Univ. Sch. of Med., St Louis Univ. Sch. Med.*

9:00 NN22 **697.02** Elucidating the role of the supramammillary nucleus in motivational processes. A. KESNER*; S. IKEMOTO. *Natl. Inst. On Drug Abuse, Natl. Inst. on Drug Abuse.*

10:00 NN23 **697.03** Coordinated gamma oscillations in the lateral septum and the lateral hypothalamus drive food seeking. M. CARUS-CADAVIECO*; M. GORBATI; L. YE; F. BENDER; S. VAN DER VELDT; N. DENISOVA; F. RAMM; K. DEISSEROTH; A. PONOMARENKO; T. KOROTKOVA. *FMP Berlin, Stanford Univ. Dept. of Psychology.*

11:00 NN24 **697.04** Gamma-rhythmic input from the medial prefrontal cortex to the lateral septum regulates performance in a food-rewarded learning task. M. GORBATI; M. CARUS-CADAVIECO; L. YE; F. BENDER; Y. HU; C. BÖRGERS; N. DENISOVA; S. LEE; C. RAMAKRISHNAN; E. VOLITAKI; K. WEINECK; K. DEISSEROTH; T. KOROTKOVA*; A. PONOMARENKO. *Leibniz Inst. for Mol. Pharmacol. (FMP) / NeuroCure, Stanford Univ. Dept. of Psychology, Tufts Univ., Max-Planck Inst. For Metabolism Res.*

8:00 NN25 **697.05** Role of theta rhythmic signaling from hippocampus to lateral septum during exploratory behaviour. F. BENDER*; M. GORBATI; M. CARUS-CADAVIECO; N. DENISOVA; X. GAO; C. HOLMAN; T. KOROTKOVA; A. PONOMARENKO. *(FMP), Leibniz-Institut Für Molekulare Pharmakologie (FMP), Max Planck Inst. for Metabolism Res.*

9:00 NN26 **697.06** Diffusion-imaging derived cell density in the nucleus accumbens core predicts delay discounting in humans. J. J. CASTRELLON*; K. H. KARLSGODT. *UCLA, UCLA, UCLA.*

10:00 NN27 **697.07** Effects of inhibiting the lateral preoptic area and ventral pallidum on psychostimulant induced and basal locomotion. R. A. REICHARD*; S. SUBRAMANIAN; K. P. PARSLEY; D. S. ZAHM. *St. Louis Univ. Med. Sch.*

11:00 NN28 **697.08** Animals can use optogenetic-induced brain activations of the prefrontal cortex or the nucleus accumbens shell, as a predictive cue to avoid punishment and to obtain rewards. J. LUIS*; B. DURAN-SOSA; G. B. FLORAN; R. GUTIERREZ. *CINVESTAV, CINVESTAV.*

8:00 NN29 **697.09** Optogenetic stimulation of lateral hypothalamus GABAergic neurons in a closed-loop open-field task elicits place preference and increases consumption of the nearest most salient stimuli. A. I. HERNANDEZ-COSS*; J. LUIS-ISLAS; A. GARCÍA-GUTIÉRREZ; L. PURÓN-SIERRA; D. ELÍAS-VIÑAS; R. GUTIERREZ. *CINVESTAV, CINVESTAV, Inst. de Fisiología Celular.*

9:00 NN30 **697.10** Activation of the lateral hypothalamus GABAergic neurons that promote consummatory behavior depends on the proximity and palatability of the stimulus. D. A. GARCÍA*; J. LUIS-ISLAS; A. HERNANDEZ-COSS; L. PURON-SIERRA; R. GUTIERREZ. *UNAM, CINVESTAV.*

10:00 NN31 **697.11** ▲ The pallido-subthalamic projection and indirect cortical integration in the subthalamic nucleus. C. A. BISHOP*; S. R. HEILBRONNER; S. N. HABER. *Univ. of Rochester Med. Ctr.*

11:00 NN32 **697.12** Function dissection of neural circuitry in paraventricular hypothalamus. S. XU*; H. YANG; F. HENRY; S. M. STERNSON. *Janelia Res. Campus, HHMI.*

8:00 NN33 **697.13** A peri-VTA prepronociceptin neuronal system that gates motivation. A. M. GOMEZ*; K. E. PARKER; C. E. PEDERSEN; S. M. SPANGLER; M. C. WALICKI; S. FENG; R. AL-HASANI; G. D. STUBER; T. L. KASH; T. C. JHOU; M. R. BRUCHAS. *Washington Univ. Sch. of Med., Univ. of North Carolina, Univ. of North Carolina, Univ. of North Carolina, Med. Univ. of South Carolina, Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*

9:00 OO1 **697.14** Nucleus accumbens mu-opioid receptors are necessary for the enhancement of motivated behaviors. D. C. CASTRO*; A. GUGLIN; T. ONYEADOR; M. R. BRUCHAS. *Washington Univ. in St Louis.*

10:00 OO2 **697.15** DREADD-activation of the mesolimbic circuit alters cue-induced behavior. L. FERGUSON*; L. G. LONGYEAR; A. M. AHRENS; J. ALDRIDGE. *Univ. of Michigan, Univ. of Michigan.*

11:00 OO3 **697.16** Motivational regulation by dopamine D2 receptor downstream signaling pathways. T. RAHBEK-CLEMMENSEN*; E. GALLO; P. DONTHAMSETTI; J. JAVITCH; C. KELLENDONK. *Columbia Univ.*

8:00 OO4 **697.17** ▲ Nucleus accumbens activity during acquisition, maintenance, and extinction of sign-tracking and goal-tracking behavior. Z. S. GILLIS*; S. E. MORRISON. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

9:00 OO5 **697.18** Cortical-amygdala circuits for value-based decision making. M. MALVAEZ*; C. SHIEH; M. MURPHY; V. Y. GREENFIELD; H. G. MONBOUQUETTE; K. M. WASSUM. *UCLA, UCLA.*

10:00 OO6 **697.19** The role of basolateral amygdala output pathways in reward expectation-guided behavior. N. T. LICHTENBERG*; Z. T. PENNINGTON; V. Y. GREENFIELD; K. M. WASSUM. *UCLA, Brain Res. Institute, UCLA.*

11:00 OO7 **697.20** A novel viral approach for genetically targeting ventral tegmental area GABA projection neurons in wildtype rats reveal heterogeneous terminal fields throughout the cortex, subcortical and mesolimbic regions. M. FEJA*; A. SHIELDS; K. T. WAKABAYASHI; A. VENNER; P. M. FULLER; C. E. BASS. *Univ. At Buffalo SUNY, Res. Inst. On Addictions / Univ. At Buffalo, Harvard Med. Sch., Harvard Med. Sch.*

8:00 OO8 **697.21** White-matter tract connecting amygdala and nucleus accumbens is associated with probabilistic reward learning. J. K. LEONG*; G. R. SAMANEZ-LARKIN; B. KNUTSON. *Stanford Univ., Duke Univ.*

9:00 OO9 **697.22** Effects of optogenetic stimulation of DRN 5-HT neurons and 5-HT input to the mesolimbic DA system on operant responding for a primary reinforcer. C. J. BROWNE*; X. JI; Z. LI; P. J. FLETCHER. *Univ. of Toronto, Ctr. for Addiction and Mental Hlth., Univ. of Toronto.*



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**POSTER**

**698. Emotional States: Anxiety and Pain**

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

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

8:00 OO10 **698.01** ● Amygdalar neural ensembles that encode the aversive quality of pain experience. G. F. CORDER*; B. AHANONU; B. GREWE; M. SCHNITZER; G. SCHERRER. *Stanford Univ., Stanford Univ., ETH Zurich, Stanford Univ., Stanford Univ.*

9:00 OO11 **698.02** A new monosynaptic craniofacial affective pain neural circuit drives robust aversive behaviors. E. RODRIGUEZ*; K. SAKURAI; J. XU; D. RYU; S. ZHAO; K. TODA; H. H. YIN; B. HAN; F. WANG. *Duke Univ., Duke Univ.*

10:00 OO12 **698.03** Distinct time course of the limbic activation between spinal and trigeminal inflammatory pain models as revealed with manganese enhanced MRI in the mouse. F. KATO*; D. ARIMURA; Y. TAKAHASHI; K. SHINOHARA; T. TSURUGIZAWA; T. TOKITA; R. IKEDA; K. MARUMO. *Dept Neurosci, Jikei Univ., Dept. Orthop., Jikei Univ. Sch. Med., Neurospin/I2BM/DSV/CEA.*

11:00 OO13 **698.04** Ketamine attenuates the aversive effects of chronic pain. H. ZHOU*; K. LIU; J. WANG. *NYU Sch. of Med.*

8:00 OO14 **698.05** Aversive emotional circuits are impaired in the MeCP2$^{Tg}$ mouse. B. YU*; L. HE; T. CHENG; B. YUAN; R. ZHANG; Z. QIU. *Inst. of Neuroscience, CAS, Baylor college of medicine.*

9:00 OO15 **698.06** Neural signaling in the basolateral amygdala during anxiety. G. MAN*; J. POPOVITZ; H. ADWANIKAR. *Johns Hopkins Univ.*

10:00 OO16 **698.07** ▲ Differential activation of arginine-vasopressin receptor subtypes in the amygdaloid modulation of anxiety in the rat by arginine-vasopressin. O. R. HERNANDEZ PEREZ*; M. CRESPO-RAMIREZ; M. PEREZ DE LA MORA; K. FUXE. *Inst. de Fisiologia Celular, UNAM, Karolinska Institutet.*

11:00 OO17 **698.08** Anxiety cells in a hippocampal-hypothalamic circuit. J. C. JIMENEZ*; K. SU; A. GOLDBERG; V. LUNA; P. ZHOU; G. ORDEK; S. ONG; L. ZWEIFEL; L. PANINSKI; R. HEN; M. KHEIRBEK. *Columbia Univ., Columbia Univ., Columbia Univ., Univ. of Washington, Columbia Univ., Univ. of California, San Francisco.*

8:00 OO18 **698.09** Opposite effects produced by N-methyl-D-aspartate (NMDA) receptor activation within the left or right medial prefrontal cortex on anxiety in mice. R. L. NUNES-DE-SOUZA*; N. S. COSTA; B. S. CARDOSO. *Univ. Estadual Paulista, UNESP, Joint Grad. Program in Physiological Sci. (PIPGCF).*

9:00 OO19 **698.10** Carbon monoxide promoted anxiolytic-like effect and increasing expression of heme-oxigenase in locus coeruleus. C. R. LEITE-PANISSI*; R. A. CAZUZA. *Ribeirao Preto Dent. Sch. - USP, Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto.*

10:00 OO20 **698.11** Control of anxiety-like behavior by serotonergic circuits innervating the interpeduncular nucleus. I. YOU*; L. LIU; A. SACINO; M. UCHIGASHIMA; K. FUTAI; A. R. TAPPER. *Univ. of Massachusetts Med. Sch., Hokkaido Univ.*

11:00 OO21 **698.12** Molecular mechanism of circadian regulation of mouse anxiety-like behavior. K. SHIMIZU*; J. NAKANO; Y. FUKADA. *Dept. Biol. Sciences, The Univ. of Tokyo.*

8:00 OO22 **698.13** Efficacy of voluntary exercise in reducing anxiety in female mice. C. NEELY*; L. ROSARIO; A. SANCHEZ; B. ADAMS; J. FLINN. *George Mason Univ., George Mason Univ.*

9:00 OO23 **698.14** Candidate anxiolytic drug testing in human approach-avoidance anxiety: Comparison of lorazepam, pregabalin, and valproate. D. R. BACH*; C. W. KORN; A. BANTEL; J. VUNDER. *Univ. of Zurich.*

10:00 OO24 **698.15** Neural correlates of subjective pleasure and displeasure in nociceptive pain. V. RIMEIKYTE*; J. L. WHITLOCK; A. K. ANDERSON. *Cornell Univ., Cornell Univ.*

11:00 OO25 **698.16** Relationship between growth mindset and stress. C. FOX*; I. DESTA; L. YOON; B. SHIBLEY; K. MOORE; S. PAJOR; M. DEANDA. *Holy Cross Col., Univ. of Notre Dame.*

8:00 OO26 **698.17** Caffeine administration and elevated plus-maze exposure in rats activate populations of serotonergic neurons in the dorsal raphe nucleus relaxin-3 neurons in the nucleus incertus: Implications for the role of relaxin-3 in modulating serotonergic systems in the control of anxiety states. A. J. LAWTHER; S. KENT*; A. M. FLAVELL; S. MA; C. A. LOWRY; A. L. GUNDLACH; M. W. HALE. *La Trobe Univ., The Florey Inst. of Neurosci. and Mental Hlth., Univ. of Colorado Boulder.*

9:00 OO27 **698.18** Anxiety: Ethanol and hydroxyzine oral consumption after reward devaluation. L. MANZO*; A. GORDILLO; A. C. TAFOLLA. *Univ. Michoacana De San Nicolas De Hidalgo, Univ. Michoacana San Nicolas de Hidalgo.*

10:00 OO28 **698.19** ▲ Anxyolitic effects of oxytocin in nucleus accumbens. S. D. GONZALEZ-GARCIA*; A. D. HERNANDEZ; S. P. CAÑARTE-VARELA; E. N. LEVARIO-RAMIREZ; M. CRESPO; M. PEREZ DE LA MORA. *UNAM Facultad de Medicina, UNAM Inst. de Fisiologia Celular.*

11:00 OO29 **698.20** Withdrawn

8:00 OO30 **698.21** Serotonin transporter inhibition induced behavioral alterations in *Drosophila.* P. G. MANDELA*. *Univ. of St. Joseph.*

9:00 OO31 **698.22** The effects of maternal exposure to organophosphate flame-retardants on offspring feeding and exploratory behaviors. S. WALLEY*; A. YASREBI; T. A. ROEPKE. *Rutgers, Rutgers, The State Univ. of New Jersey, Rutgers, The State Univ. of New Jersey.*

10:00 OO32 **698.23** The role of ERa-mediated ERE-dependent and ERE-independent signaling in feeding and exploratory behaviors in male and female mice. A. YASREBI*; T. A. ROEPKE. *Rutgers, The State Univ. of New Jersey, Rutgers Univ., Rutgers, The State Univ. of New Jersey.*



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

**POSTER**

## 699. Emotional States

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

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

8:00 OO33 **699.01** What is happening in our brain when we feel music-induced chills and don't feel chills? A. YANG*; K. I. KOBAYASHI. *Doshisha Univ.*

9:00 OO34 **699.02** Stress Reduction from a Music Intervention. E. E. LEAVER*; L. ST. PIERRE; R. WARFIELD; B. HEARN; H. ENNERFELT; V. FALLON. *Salisbury Univ., Salisbury Univ.*

8:00 DP11/OO35 **699.03** (Dynamic Poster) Measuring physiological markers of restorative landscapes using virtual reality environments. M. MURARIK*; C. L. JIMENEZ CHAVEZ*; J. LADNER; T. PEGORS. *Azusa Pacific Univ., Azusa Pacific Univ.*

11:00 OO36 **699.04** Focusing on slow breathing modulates early and late components of affective pictures. W. ZHANG*; L. LIANG; P. LI; X. LIU; B. SUN; H. LI. *Yancheng Inst. of Technol., Chengdu Univ., Liaoning Normal Univ., Beijing Normal Univ., Zhejiang Normal Univ., Chengdu Univ.*

8:00 PP1 **699.05** Neural and autonomic responses to long-lasting slow stroking. C. TRISCOLI*; G. HÄGGBLAD; P. HAMILTON; S. STEUDTE-SCHMIEDGEN; H. OLAUSSON; I. CROY; U. SAILER. *Univ. of Gothenburg, Gothenburg Univ., Linköping Univ., Technische Univ. Dresden, Linkoping Univ., Technische Univ. Dresden, Oslo Univ.*

9:00 PP2 **699.06** The Fusiform Face Area shows distinct patterns of fMRI activity to African American and Caucasian faces in different emotional contexts. B. NARDOS*; E. RUBIEN-THOMAS; E. E. SCHIFSKY; B. J. CASEY; D. A. FAIR. *Oregon Hlth. & Sci. Univ., Yale Univ., Oregon Hlth. & Sci. Univ., Weill Cornell Med. Col., Oregon Hlth. Sci. Univ.*

10:00 PP3 **699.07** Multivoxel pattern analysis of affective picture processing: A simultaneous EEG-fMRI study. K. BO*; S. YIN; Y. LIU; A. KEIL; M. DING. *Univ. of Florida, Univ. of Florida, Univ. of California Davis Ctr. for Mind and Brain, Univ. Florida, Univ. Florida.*

11:00 PP4 **699.08** ● Investigation of Emotional Valence using EEG. W. R. MCGARRY*. *George Mason Univ.*

8:00 PP5 **699.09** Temporal and spectral changes of human EEG according to emotional arousal. H. KIM*; P. SEO; D. YEO; S. HER; J. CHOI; J. CHOI; K. KIM. *Yonsei Univ.*

9:00 PP6 **699.10** Time-frequency analysis of the electroencephalogram evoked by skin conductance response to emotional events. P. SEO; H. KIM; D. YEO; S. HER; J. CHOI; J. CHOI; K. KIM*. *Yonsei Univ.*

10:00 PP7 **699.11** Changes in posterior cingulate cortex current density in response to emotional visual stimuli. D. YEO*; J. CHOI; K. CHA; H. KIM; P. SEO; S. HER; K. KIM. *Yonsei Univ.*

11:00 PP8 **699.12** Dopamine D1 and D2/3 receptor antagonism effect on tickling induced 50-kHz ultrasonic vocalizations in the adolescent rats. M. HORI*; R. SHIMOJU; J. OHNISHI; K. MURAKAMI; M. KUROSAWA. *Fndn. For Advancement of Intl. Sci., Intl. Univ. of Hlth. and Welfare, Tokyo Kasei Univ., Intl. Univ. of Hlth. and Welfare.*

8:00 PP9 **699.13** HPA axis activation in various tasks evaluating memory and anxiety. N. L. GARCIA SALDIVAR*; M. R. A. GONZÁLEZ-LÓPEZ; S. E. CRUZ-MORALES. *UNAM FES-Iztacala, UNAM FES-Iztacala.*

9:00 PP10 **699.14** Neurobiological components of varying coping strategies: Influence of behavioral, endocrine, neural and dynamic genome markers. K. G. LAMBERT*; J. PERDOMO-TREJO; M. KENT; C. SYDNOR; A. A. BARTLETT; H. E. LAPP; S. SCAROLA; S. NEAL; B. THOMPSON; S. LAMBERT; D. VAVRA; M. BARDI; R. G. HUNTER. *Univ. of Richmond, Randolph-Macon Col., Univ. of Massachusetts.*

10:00 PP11 **699.15** Discrete roles for the ventral pallidum in depression. D. KNOWLAND*; V. LILASCHAROEN; C. PACIA; S. SHIN; E. WANG; B. LIM. *UCSD.*

11:00 PP12 **699.16** Inhibitory control of a thalamic stress circuit. B. S. BEAS; B. J. WRIGHT; Y. LENG; O. KOITA; N. RINGELBERG; M. A. PENZO*. *Natl. Inst. of Mental Hlth., NIH.*

8:00 PP13 **699.17** Dual processing in the primate dorsal raphe nucleus for choice behavior under different mood. M. YASUDA*; Y. UEDA; K. NAKAMURA. *Kansai Med. Univ.*

9:00 PP14 **699.18** Virally-transduced deletion from locus coeruleus norepinephrine neurons suggests a role for glucocorticoid receptors in preventing depression-like behavior. L. JACOBSON*. *Dept. of Neurosci. & Exptl. Therapeut.*

8:00 DP12/PP15 **699.19** (Dynamic Poster) Transcriptional signatures of experience reveal Egr2 as a regulator of behavioral response to aversive stimuli. B. M. IGNATOWSKA-JANKOWSKA*; B. GONZALES; L. IZAKSON; D. HARITAN; C. COHEN; N. BLEISTEIN; A. TEREM; D. MUKHERJEE; E. ITZKOVITZ; H. TURM; A. CITRI. *Hebrew Univ. of Jerusalem, Hebrew Univ. of Jerusalem.*

11:00 PP16 **699.20** Activation of basolateral nucleus of the amygdala on dopamine activity in behaving rats. C. LAI*; C. CHANG. *Natl. Tsing Hua Univ.*

8:00 PP17 **699.21** Neuronal activity related to preference of visual stimuli in monkey amygdala. K. KURAOKA*; M. INASE. *Dep.of Physiology, Kansai Med. Univ., Dep. of Physiology, Kindai Univ. Fac. of Med.*

9:00 PP18 **699.22** ● ▲ Distribution of functional serotonin receptors in relation to the dopaminergic system. N. M. WLODARSKI; A. M. MITZEY; M. S. BROWNFIELD*. *Univ. of Wisconsin, Univ. of Wisconsin, Univ. Wisconsin.*

10:00 PP19 **699.23** Bridging the gap between pro-environmental concern and behaviour: The role of biological and psychological facets of learned helplessness. N. R. LANDRY*; T. MILFONT; A. C. WEEKS; R. GIFFORD; S. ARNOCKY. *Nipissing Univ., Victoria Univ. of Wellington, Univ. of Victoria.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

## 700. Emotional States: Empathy

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

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

8:00 PP20 **700.01** Exploring possible cortical brain regions involved during the experience and observation of pain in mice. R. BRULS*; M. CARRILLO; K. L. KOOIJ; A. ROMAGUERA ÁLVAREZ; N. JELINEK; V. GAZZOLA; C. KEYSERS. *Netherlands Inst. For Neurosci., Univ. of Amsterdam, VU university, Univ. of Applied Sci.*

9:00 PP21 **700.02** Empathy for pain: Alteration of hormonal levels and serotonergic and dopaminergic neurotransmission within amygdala and insula in mice living with a conspecific in chronic pain. A. CANTO-DE-SOUZA*; D. BAPTISTA-DE-SOUZA; I. CARMONA; C. R. ZANIBONI; R. L. NUNES-DE-SOUZA. *Psychobiology Group, Dept of Psychology, UFSCar, Grad. Program in Psychology/ UFSCar, Joint Grad. Program in Physiological Sci. UFSCar, Pharmacol, FCFar.*

10:00 PP22 **700.03** Neural mechanisms of emotional contagion behavior in rats. Z. WANG*; C. ZHENG. *Inst. of Neurosciences, CAS.*

11:00 PP23 **700.04** Understanding the neural basis of empathy in rodents. M. CONTRERAS*; A. HATFIELD; J. CUMMINGS; K. CRUZ; J. FELLOUS. *Univ. of Arizona, MIT.*

8:00 PP24 **700.05** Rodent model of Empathy: Rats employ taught behavior to help cagemate that remains intact during environmental change. M. H. BLYSTAD*; D. ANDERSEN; E. B. JOHANSEN. *Oslo and Akershus Univ. Col. of Applied Sc.*

9:00 PP25 **700.06** Parsing the neural circuits for visual empathy. H. JUNG*; A. D. HUBERMAN. *Stanford Univ. of Sch. of Med., Stanford Univ. Sch. of Med.*

10:00 PP26 **700.07** "Observational learning: Comparing a foraging and aversive motivated task in female rats". R. TROHA*; D. DONG; T. PIETRUSZEWSKI; A. AGRAWAL; K. MATHEW; N. HERNANDEZ; E. MARKUS. *Univ. of Connecticut.*

11:00 PP27 **700.08** Effects of placebo analgesia on the multi-voxel representations of directly experienced pain and pain empathy. I. WAGNER*; M. RÜTGEN; C. LAMM. *Univ. of Vienna.*

8:00 PP28 **700.09** Anxiety, pain, and cognition are integrated in the brain. M. D. STOCKBRIDGE*; A. J. FURMAN; M. L. KEASER; J. S. PAYANO SOSA; S. PADMALA; A. S. FOX; L. PESSOA; J. F. SMITH; D. A. SEMINOWICZ; A. J. SHACKMAN. *Univ. of Maryland, Univ. of Maryland Sch. of Med., Univ. of Maryland, Univ. of Maryland, Univ. of California - Davis, Univ. of Maryland.*

9:00 PP29 **700.10** ▲ Neurophysiology of emotional reactivity from a corpus of affective speech: Theory of mind and referential proximity. F. ISEL*; A. LACHERET-DUJOUR. *Paris Nanterre - Paris Lumières Univ., Paris Nanterre - Paris Lumières Univ.*

**POSTER**

## 701. Behavioral Effects in Preclinical Models of Anxiety

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

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

8:00 QQ1 **701.01** Hatano rats suitable as metabolic syndrome model focusing on feeding behavior and physiological strain differences. A. ISOBE; G. SHIMAZAKI; T. SAKAWA; T. SHIMADA; M. ABURADA; T. NAKAMURA; R. OHTA; M. KAWAGUCHI. *Sch. of Agriculture, Meiji Univ., Fac. of Pharmaceut. Sciences, Teikyo Heisei Univ., Kanazawa Univ., Musashino Univ., Food and Drug Safety Ctr., Hatano Res. Inst.*

9:00 QQ2 **701.02** ● Previous inescapable stress interferes with the immunizing, but not the acute, effect of later escapable stressors. K. L. BARTHOLOMAY*; S. TILDEN; J. AMAT; L. WATKINS; S. F. MAIER. *Univ. of Colorado Boulder.*

10:00 QQ3 **701.03** SABV and the limitations of animal studies for addressing gender disparities in neurobehavioral health. L. S. ELIOT*; S. S. RICHARDSON. *Rosalind Franklin Univ. of Med. & Sci., Harvard Univ.*

11:00 QQ4 **701.04** The anxiolytic-like effect of Montanoa tomentosa depend of endocrine condition. E. M. ESTRADA*; D. M. ISLAS-PRECIADO; I. SOLLOZO-DUPONT; C. LOPEZ-RUBALCAVA. *Inst. Natl. Psiquiatria, Inst. Natl. Psiquiatria, Ctr. de Investigación y Estudios Avanzados, CINVESTAV-IPN.*

8:00 QQ5 **701.05** Low-yawning line showed higher anxiety and depression respect to high-yawning and Sprague-Dawley rats. J. EGUIBAR*; C. CORTES; A. UGARTE; L. DIAZ; A. TRUJILLO. *Benemerita Univ. Autonoma De Puebla, Benemérita Univ. Autonoma de Puebla, Benemérita Univ. Autonoma de Puebla.*

9:00 QQ6 **701.06** Contextual fear conditioning test in Hatano high and low avoidance rats. T. OKAWARA*; R. OHTA; T. INOUE; M. KUBONOYA; M. KAWAGUCHI. *Meiji Univ., Hatano Res. Inst., Sch. of Agriculture, Meiji Univ.*

10:00 QQ7 **701.07** Chronic stress-induced changes in parvalbumin cells of the prefrontal cortex contribute to increased anxiety in a sex-specific manner. L. COUTELLIER*; R. SHEPARD; K. HESLIN; C. PAGE. *Ohio State Univ., Ohio State Univ.*

11:00 QQ8 **701.08** Age and sex dependent effects of repeated social stress on rat prefrontal cortical pyramidal neuron morphology. K. R. URBAN*; E. GENG; S. BHATNAGAR; R. J. VALENTINO. *Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia, Univ. Pennsylvania, Children's Hosp Philadelphia, Children's Hosp Philadelphia.*

8:00 QQ9 **701.09** Strain differences in learning ability and emotional behavior of Hatano high and low avoidance rats. K. KAWAKAMI*; T. OKAWARA; K. MUSYA; Y. HORI; R. OHTA; M. KAWAGUCHI. *Sch. of Agriculture, Meiji Univ., Sch. of Agriculture, Meiji Univ., Hatano Res. Inst.*

9:00 QQ10 **701.10** ● Unguided identification of mouse behavioral phenotypes. J. G. MCCALL*; C. C. HAMMARSTEN; A. A. BORD; M. E. SHELTON; T. D. SHEAHAN; J. P. GOLDEN; R. W. GEREAU, III. *Washington Univ., Lafayette Col., Washington Univ.*



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* Indicates abstract's submitting author

10:00 QQ11 **701.11** Analgesic effects of tramadol in male and female rats with an anxious trait. C. CORTES*; J. EGUIBAR; S. L. RUGERIO; M. MARTINEZ-GOMEZ. *B. Univ. Autonoma de Puebla, Benemerita Univ. Autonoma de Puebla, Benemérita Univ. Autónoma De Puebla, Inst. de Investigaciones Biomédicas UNAM.*

11:00 QQ12 **701.12** ▲ Rats bred for high propensity to anxiety- and depression-like behavior display altered mitochondrial markers in limbic brain regions. J. P. HUAMAN*; C. R. MCCOY; S. M. CLINTON. *Virginia Polytechnic Inst. and State Universit.*

**POSTER**

**702. Developmental Effects of Addictive Drugs**

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

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

8:00 QQ13 **702.01** A sex-specific role of prenatal testosterone in adult alcohol and water drinking in mice. C. P. MUELLER*; I. ZOICAS; M. REICHEL; C. MUEHLE; C. BUETTNER; A. B. EKICI; B. LENZ; J. KORNHUBER; S. E. HUBER. *Dept. of Psychiatry and Psychotherapy, Friedrich-Alexander-University Erlangen-Nuremberg.*

9:00 QQ14 **702.02** Developmental ethanol exposure and prefrontal layer VI neurons: Near-term effects on neuron structure and function. E. L. LOUTH*; C. D. SUTTON; L. K. SPATAFORA; C. F. KUPKA; C. D. C. BAILEY. *Univ. of Guelph.*

10:00 QQ15 **702.03** Epigenetic changes associated with motor skill learning elicited by prenatal alcohol exposure. M. SHAHID*; S. ISHII; P. LI; A. I. SON; L. WANG; Z. M. N. QUEZADO; F. IMAMURA; J. LIU; Y. I. KAWASAWA; M. TORII; K. HASHIMOTO-TORII. *Children's Natl. Med. Ctr., Children's Natl. Med. Ctr., Pen State University, Col. of Med., The George Washington Univ., Yale Univ.*

11:00 QQ16 **702.04** A novel pseudogene-encoded long noncoding RNA mediates fetal alcohol effects. N. SALEM*; A. M. TSENG; A. H. MAHNKE; C. GARCIA; R. C. MIRANDA. *Texas A&M Hlth. Sci. Ctr., Texas A&M Inst. for Neurosci.*

8:00 QQ17 **702.05** Adolescent ethanol exposure induces social anxiety and alters the balance between the oxytocin and vasopressin systems. C. DANNENHOFFER*; D. F. WERNER; E. I. VARLINSKAYA; L. P. SPEAR. *Binghamton Univ., Binghamton Univ., Binghamton Univ., Ctr. For Develop. and Behavioral Neurosci.*

9:00 QQ18 **702.06** Gestational exposure to low concentrations of tobacco smoke components, nicotine and benzo-a-pyrene, diminishes normal sex-differences in behavior in rats. A. B. HAWKEY*; S. JUNAID; L. YAO; Z. SPIERA; M. CAULEY; C. WELLS; H. WHITE; E. LEVIN. *Duke Univ., Duke Univ.*

10:00 QQ19 **702.07** Developmental nicotine exposure and Chrna5 D397N genotype impact pre-pulse inhibition across multiple generations: A model for differential outcomes in schizophrenia? H. C. O'NEILL*; J. A. STITZEL. *Univ. of Colorado Boulder Inst. for Behavioral Genet.*

11:00 QQ20 **702.08** Age-dependent effects of low-dose nicotine pre-exposure on adolescent and adult alcohol and cocaine preference. A. M. CARDENAS*; J. A. TIRTORAHARDJO; S. W. LIU; Y. YIN; Y. BAI; S. LOTFIPOUR. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine.*

8:00 QQ21 **702.09** Prenatal nicotine alters membrane and synaptic responses of laterodorsal tegmental (LDT) neurons to postnatal alcohol exposure. A. N. FREITAS*; N. SONI; K. A. KOHLMEIER. *Univ. do Estado do Rio de Janeiro, Yale Univ., Univ. of Copenhagen.*

9:00 QQ22 **702.10** Effects of ketamine on the unconditioned and conditioned locomotor activity of male and female preadolescent and adolescent rats. A. E. MORAN*; T. J. BAUM; M. J. APODACA; V. REAL; V. GOMEZ; S. A. MCDOUGALL. *California State Univ.*

10:00 RR1 **702.11** Repeated administration of ketamine and phencyclidine in adolescence has effects that last into adulthood. T. ZAFAR*; A. ROCHA; K. A. TRUJILLO. *California State Univ. San Marcos, California State Univ. San Marcos.*

11:00 RR2 **702.12** ● NMDA receptor blockade has differential effects on the synaptic proteome in juvenile versus adult mice. K. BORGMANN-WINTER*; A. BANERJEE; J. JOHNSON; N. M. BOWMAN; W. BILKER; S. J. SIEGEL; C. HAHN. *Univ. of Pennsylvania, Univ. Pennsylvania Sch. of Med., Univ. of Pennsylvania, Univ. of Pennsylvania Dept. of Psychiatry, Univ. Pennsylvania Sch. Med., USC.*

8:00 RR3 **702.13** Effects of adolescent cannabinoid exposure on conditioned and unconditioned natural reward seeking in adult rats. C. RUIZ*; M. HUERTA; H. SCHOCH; R. R. CAMPBELL; S. V. MAHLER. *UC Irvine, UC Irvine, Univ. of California Irvine, Univ. of California, Irvine, Univ. of California Irvine Dept. of Neurobio. and Behavior.*

9:00 RR4 **702.14** Gestational cannabinoid exposure influences extracellular kynurenic acid and glutamate levels in the medial prefrontal cortex of adolescent offspring. S. BEGGIATO*; L. FERRARO; R. SCHWARCZ. *Univ. of Ferrara, Maryland Psychiatric Res. Ctr.*

10:00 RR5 **702.15** Neurobehavioral effects of early opioid exposure in mice: Influence of the Oprm1 A112G single nucleotide polymorphism. S. A. ROBINSON*; A. D. JONES; M. E. EHRLICH; J. A. BLENDY. *Univ. of Pennsylvania, Mt. Sinai Sch. Med.*

11:00 RR6 **702.16** Prenatal oxycodone self-administration and postnatal outcomes. E. M. BYRNES*; A. TOORIE; M. LAPOINTE; F. M. VASSOLER. *Tufts Univ. Cummings Sch. Vet Med., Tufts Univ., Tufts Univ. Cummings Sch. of Vet. Med., Tufts Univ. Cummings Sch. of Vet. Med.*

8:00 RR7 **702.17** Modeling opioid-mediated neonatal abstinence syndrome (NAS) to improve our understanding of challenges in neurodevelopment. S. STEVENS*; A. SIEFERT; S. MOHAN. *Marshall Univ. Sch. of Pharm., Univ. of Kentucky.*

**POSTER**

**703. Amphetamines: Neural Mechanisms of Addiction**

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

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

8:00 RR8 **703.01** Social-based voluntary abstinence prevents the emergence of incubation of drug craving. M. VENNIRO*; M. ZHANG; D. CAPRIOLI; Y. SHAHAM. *Natl. Inst. On Drug Abuse.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 RR9 **703.02** Influence of serotonin transporter SLC6A4 genotype on interaction between stimulant effects and risk-taking in the orbitofrontal cortex. A. Z. NITENSON*; J. E. MCGEARY; T. L. WHITE. *Brown Univ., Brown Univ.*

10:00 RR10 **703.03** Interactions between methamphetamine and cocaine on dopamine neuron synaptic currents following self-administration experience. A. M. HAGER*; S. DOMINGUEZ-LOPEZ; M. J. BECKSTEAD. *Univ. of Texas Hlth. Sci. Ctr. At San A, Univ. of Texas Hlth. Sci. Ctr., Univ. of Texas at San Antonio.*

11:00 RR11 **703.04** Spatiotemporal suppression of striatal excitability elicited by amphetamine in Wistar rat. A. LOTFI*; O. LAGSTRÖM; B. SÖDERPALM; M. ERICSON; L. ADERMARK. *Univ. of Gothenburg.*

8:00 RR12 **703.05** Antagonism of neurotensin receptors in the ventral tegmental area decreases methamphetamine self-administration in mice. S. DOMINGUEZ-LOPEZ*; W. B. LYNCH; M. WOLLET; A. L. SHARPE; M. J. BECKSTEAD. *Univ. of Texas Hlth. Sci. Ctr., Univ. of the Incarnate Word.*

9:00 RR13 **703.06** Discovery of novel DAT inhibitors based on the modafinil scaffold for the treatment of psychostimulant abuse. J. GIANCOLA; A. BONIFAZI; J. CAO; R. SLACK; A. GADIANO; R. RAIS; B. SLUSHER; A. H. NEWMAN*. *NIDA-IRP, Johns Hopkins Univ. Sch. of Med.*

10:00 RR14 **703.07** ▲ Chronic voluntary oral Methamphetamine administration disrupts spatial-memory performance by producing a long-lasting neuroinflammatory response that disrupts synaptic protein trafficking in the hippocampus of adolescent mice. D. SHOR*; J. A. AVILA; R. ZANCA; N. PALEOLOGOS; A. ALLIGER; M. E. FIGUIEREDO-PEREIRA; P. A. SERRANO. *Hunter Col., The Grad. Ctr. of CUNY, Hunter Col.*

11:00 RR15 **703.08** Two-weeks of voluntary oral Methamphetamine administration produces acute spatial-memory deficit and increases chronic neuroinflammatory activity in the hippocampus of adolescent male C57Bl6 mice during abstinence. J. A. AVILA*; D. SHOR; F. TAVERNIER; R. M. ZANCA; D. ALVARADO-MATEO; A. TANG; M. E. FIGUEIREDO-PEREIRA; P. A. SERRANO. *Hunter Col., The Grad. Ctr. of CUNY, York Col., Hunter Col.*

8:00 RR16 **703.09** Regulation of calcium binding proteins in the anterior cingulate area correlates with methamphetamine addiction and maladaptive sexual behavior. L. B. KUIPER*; L. M. COOLEN. *Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr.*

9:00 RR17 **703.10** Methamphetamine and psychological stress activate corticotropin-releasing factor receptor 1 cells in a sex dependent manner. J. JACOBSKIND*; Z. J. ROSINGER; N. J. JUSTICE; D. G. ZULOAGA. *SUNY Albany, Univ. of Texas Hlth. Sci. Ctr., Univ. at Albany.*

10:00 RR18 **703.11** The anterior insula→central amygdala glutamatergic pathway is critical to relapse after contingency management. M. ZHANG*; D. CAPRIOLI; L. R. WHITAKER; S. ZHANG; B. L. WARREN; C. CIFANI; N. J. MARCHANT; O. YIZHAR; J. M. BOSSERT; C. CHIAMULERA; M. MORALES; Y. SHAHAM; M. VENNIRO. *NIH, Univ. of Rome-Sapienza, Univ. of Camerino, VU Univ. Med. Ctr., Weizmann Inst. of Sci., Univ. of Verona.*

11:00 RR19 **703.12** Role of anterior intralaminar nuclei of thalamus projections to dorsomedial striatum in incubation of methamphetamine craving. X. LI*; K. WITONSKY; F. SURJONO; J. ZHANG; J. M. BOSSERT; Y. SHAHAM. *Natl. Inst. On Drug Abuse, Inst. of Psychology, Chinese Acad. of Sci.*

8:00 RR20 **703.13** Chemogenetic inhibition of dopamine neurons reveals phasic dopamine release as a critical substrate for amphetamine induced dopamine activation and hyperlocomotion. S. M. CONWAY*; M. F. ROITMAN. *Univ. of Illinois At Chicago, Grad. Program in Neurosci.*

9:00 RR21 **703.14** Virus-mediated inactivation of GluA1 in ventral tegmental area dopamine neurons prevents social stress-induced psychostimulant cross-sensitization in rats. M. L. RUDOLPH*; R. N. HENDERSON; R. L. NEVE; R. P. HAMMER; E. M. NIKULINA. *Univ. of Arizona Col. of Med., Arizona State Univ., MIT.*

10:00 RR22 **703.15** Compulsive methamphetamine taking is associated with increased CARTpt expression in the rat dorsal striatum. J. L. CADET*; I. KRASNOVA; S. JAYANTHI; B. LADENHEIM; M. MCCOY. *NIH.*

11:00 RR23 **703.16** RGS12 modulates the dopamine transporter in ventral striatum and locomotor responses to psychostimulant drugs-of-abuse. J. D. GROSS*; S. W. KASKI; A. B. SCHROER; K. WIX; D. P. SIDEROVSKI; V. SETOLA. *West Virginia Univ.*

8:00 RR24 **703.17** A possible role of orexin signaling pathway in methamphetamine-mediated drug addiction. C. LEE; G. PARK; J. JANG*. *Sch. of Medicine, Keimyung Univ., Kyungpook Natl. Univ.*

9:00 RR25 **703.18** Phosphorylation by PKC but not PKA of AMPA receptor GluA1 subunit residues in the nucleus accumbens is required for expression of sensitized amphetamine-induced locomotion and self-administration. P. VEZINA*; J. BROWN; N. NEUGEBAUER; K. RODVELT; D. LI; N. BUBULA; P. MASCIA. *The Univ. of Chicago.*

10:00 RR26 **703.19** ▲ The brain mechanisms of methamphetamine-induced behavioral sensitization: Nucleus accumbens core and shell. C. CHENG*; C. A. HUANG. *Fo Guang University, Psychology, Natl. Central Univ.*

11:00 RR27 **703.20** Repeated exposure of adolescent mice to 3,4-methylenedioxypyrovalerone activates transcriptional mechanisms that persist until adulthood and are similar to those activated by cocaine. L. DUART-CASTELLS; M. H. BUENROSTRO-JAUREGUI*; P. MUÑOZ-VILLEGAS; R. LÓPEZ-ARNAU; J. CAMARASA; D. PUBILL; E. ESCUBEDO. *Univ. of Barcelona, Univ. Iberoamericana, Ctr. de Enseñanza Técnica Industrial.*

**POSTER**

**704. Cocaine Seeking and Reinstatement I**

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

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

8:00 RR28 **704.01** Roles for prelimbic prefrontal cortex projections to nucleus accumbens or rostromedial tegmental nucleus in cue-induced reinstatement of cocaine seeking. L. S. LAIKS*; T. H. KIM; T. C. JHOU; R. J. SMITH. *Texas A&M Univ., Johns Hopkins Univ., Med. Univ. of South Carolina.*

9:00 RR29 **704.02** Goal-directed and habitual cocaine seeking using ratio and interval schedules of reinforcement. R. J. SMITH*; T. H. KIM; H. F. SPENCER. *Texas A&M Univ., Johns Hopkins Univ.*

10:00 RR30 **704.03** Ventral pallidum roles in mixed appetitive/aversive motivational states related to cocaine relapse. M. R. FARRELL*; C. RUIZ; H. SCHOCH; E. CASTILLO; C. KHANBIJIAN; S. LIU; S. V. MAHLER. *Univ. of California Irvine.*



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* Indicates abstract's submitting author

11:00 RR31 **704.04** Role of anterior dorsal lateral hypothalamic area perineuronal nets in cue-induced reinstatement of cocaine-seeking behavior. J. M. BLACKTOP*; B. A. SORG. *Washington State Univ. Vancouver.*

8:00 RR32 **704.05** Calcineurin regulates cocaine-cue neuroplastic changes in the amygdala to alter relapse-like behavior. M. T. RICH*; T. J. CAHANAP; Y. H. HUANG; M. M. TORREGROSSA. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

9:00 RR33 **704.06** Mesolimbic endocannabinoid signaling involvement in chronic electric footshock stress-induced escalation of cocaine intake in rats. J. R. MCREYNOLDS*; C. P. WOLF; D. M. STARCK; R. SCHAPS; C. J. HILLARD; J. R. MANTSCH. *Marquette Univ., Med. Col. of Wisconsin.*

10:00 RR34 **704.07** ▲ Sex differences in vulnerability to cocaine seeking are exaggerated by stress. G. LIDDIARD*; E. M. DONCHECK; M. C. DEBAKER; L. M. BARRON; C. D. KONRATH; J. R. MCREYNOLDS; E. N. GRAF; C. J. HILLARD; J. R. MANTSCH. *Marquette Univ., Med. Col. Wisconsin.*

11:00 RR35 **704.08** The prelimbic cortical endocannabinoid system mediates stress-enhanced cocaine-seeking vulnerability: Investigation of sex differences. E. M. DONCHECK*; J. R. MCREYNOLDS; E. N. GRAF; O. VRANJKOVIC; M. C. DEBAKER; G. T. LIDDIARD; L. M. BARRON; C. D. KONRATH; L. A. URBANIK; Q. LIU; C. J. HILLARD; J. R. MANTSCH. *Marquette Univ., Med. Col. of Wisconsin.*

8:00 RR36 **704.09** ▲ Corticosterone potentiates reinstatement of cocaine seeking through activation of the cortico-accumbens pathway. P. J. GOTTSHALL*; J. R. MCREYNOLDS; T. STOLLENWERK; X. LIU; Q. LIU; C. J. HILLARD; J. R. MANTSCH. *Marquette Univ., Marquette Univ., Med. Col. of Wisconsin.*

9:00 SS1 **704.10** ▲ Perineuronal net removal decreases cue-induced reinstatement in cocaine self-administering rats. J. WINGERT*; R. P. TODD; B. A. SORG. *Washington State Univ., Washington State Univ., Washington State Univ.*

10:00 SS2 **704.11** Sex and estrous cycle effects on the attenuation of cue-primed reinstatement of cocaine-seeking by ceftriaxone. P. HAMOR*; A. R. BECHARD; M. SCHWENDT; L. A. KNACKSTEDT. *Univ. of Florida.*

11:00 SS3 **704.12** Chemogenetic inhibition of pyramidal neurons in prelimbic cortex blocks BDNF-mediated attenuation of cocaine seeking. G. GIANNOTTI*; S. M. BARRY; B. M. SIEMSEN; J. F. MCGINTY. *Med. Univ. of South Carolina.*

8:00 SS4 **704.13** The effect of chemogenetic activation of the prelimbic cortex on relapse to cocaine-seeking: A potential role for glutamatergic pathway specificity. B. M. SIEMSEN*; G. GIANNOTTI; C. J. HU; J. A. MCFADDIN; J. F. MCGINTY. *Med. Univ. of South Carolina.*

9:00 SS5 **704.14** Activation of amylin receptors in the nucleus accumbens reduces cocaine taking and seeking in rats. Y. ZHANG*; C. A. TURNER; H. D. SCHMIDT. *Univ. of Pennsylvania.*

10:00 SS6 **704.15** Intermittent cocaine self-administration induces strong potentiation of incubation of cocaine craving in female rats. C. NICOLAS*; A. PIERCE; Y. SHAHAM; S. IKEMOTO. *Natl. Inst. On Drug Abuse-Irp.*

11:00 SS7 **704.16** Oxytocin infused into the nucleus accumbens core decreases cocaine seeking and increases extracellular glutamate. C. N. LOGAN; R. WEBER; J. PERIS; K. LEONG; L. A. KNACKSTEDT; C. M. REICHEL*. *Univ. of Florida, Med. Univ. of South Carolina, Univ. of Florida, Med. Univ. of South Carolina, Univ. of Florida, Med. Univ. of South Carolina.*

8:00 SS8 **704.17** ▲ Opposite effects of BLA inactivation on context-induced relapse to cocaine seeking after suppression of drug self-administration by extinction versus punishment. A. M. MINIER-TORIBIO*; J. BOSSERT; Y. SHAHAM; Y. PELLOUX. *NIH/NIDA/IRP.*

9:00 SS9 **704.18** Pavlovian extinction and ceftriaxone differentially attenuate context- versus cue-primed cocaine relapse. L. A. KNACKSTEDT*; Y. PADOVAN HERNANDEZ; A. BECHARD. *Univ. of Florida.*

10:00 SS10 **704.19** Tetrahydroisoquinoline orexin-1 receptor antagonists with improved drug-like properties. Y. ZHANG*; D. A. PERREY; A. M. DECKER; T. LANGSTON. *Res. Triangle Inst.*

11:00 SS11 **704.20** Orexin A in the posterior paraventricular nucleus of the thalamus: promotion of reward seeking behavior and hypothalamic activation. A. MATZEU*; R. MARTIN-FARDON. *Scripps Res. Inst., The Scripps Res. Inst.*

8:00 SS12 **704.21** Dynorphin counteracts orexin in the posterior paraventricular nucleus of the thalamus: cellular and behavioral evidence. R. MARTIN-FARDON*; M. KALLUPI; O. GEORGE; P. SCHWEITZER; A. MATZEU. *Scripps Res. Inst. SP30-2003.*

9:00 SS13 **704.22** Glucagon-like peptide-1 receptor activation in the lateral dorsal tegmental nucleus attenuates cocaine seeking in rats. N. S. HERNANDEZ*; V. R. WEIR; C. A. TURNER; H. D. SCHMIDT. *Univ. of Pennsylvania.*

10:00 SS14 **704.23** Nr4a2 in the medial habenula is a molecular regulator of cocaine reinstatement behaviors. A. J. LOPEZ*; P. H. HWANG; O. CHITNES; R. R. CAMPBELL; J. L. KWAPIS; Y. ALAGHBAND; T. HEMSTEDT; D. P. MATHEOS; M. A. WOOD. *Univ. of California Irvine Dept. of Neurobio. and Behavior.*

11:00 SS15 **704.24** A neural pathway mediating acupuncture effect on addiction: LHb-VTA/RMTg pathway. S. CHANG*; Y. RYU; K. SONG; J. SHIN; M. KO; E. JANG; C. YANG; H. KIM. *Daegu Haany Univ., Acupuncture, Moxibustion& Meridian Res. Center, Div. of Standard Research, Korea Inst. of Oriental Medicine.*

8:00 SS16 **704.25** Corticostriatal circuit representations of the incubation of cocaine craving in rats. N. E. ZLEBNIK*; J. F. CHEER. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

9:00 SS17 **704.26** Activity-guided inhibition of the infralimbic cortex reveals a critical temporal window in the extinction of cue-driven cocaine seeking. K. NETT*; A. L. GUTMAN; R. T. LALUMIERE. *Univ. of Iowa, Univ. of Iowa.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**705. Cortical and Thalamic Circuits**

***Theme H: Cognition***

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

8:00 SS18 **705.01** Limbic projections to the claustrum in the rhesus monkey (Macaca mulatta). J. T. JACOBS*; M. GORSICH; M. MISHKIN; R. C. SAUNDERS. *NIMH/NIH.*

9:00 SS19 **705.02** Functional and metabolic connectivity of the awake and anesthetized primate brain. A. B. MCMILLAN; A. Z. RAJALA; S. A. HURLEY; B. J. STIEVE; R. L. JENISON; R. M. BIRN; L. C. POPULIN*. *Univ. Wisconsin, Univ. Wisconsin, Univ. Wisconsin, Univ. Wisconsin.*

10:00 SS20 **705.03** Innervation differences of layer 5a and 5b Martinotti cells in frontal cortex. Y. KAWAGUCHI*; M. MORISHIMA. *Natl. Inst. Physiol Sci.*

11:00 SS21 **705.04** Comparative morphology of gigantopyramidal neurons in primary motor cortex across mammals. B. G. JACOBS*; M. E. GARCIA; N. B. SHEA-SHUMSKY; M. TENNISON; L. J. SLOAN; A. P. WARLING; M. SCHALL; A. J. BULL; M. RAGHANTI; A. H. LEWANDOWSKI; B. WICINSKI; H. CHUI; M. F. BERTELSEN; T. WALSH; A. BHAGWANDIN; M. A. SPOCTER; P. R. HOF; C. C. SHERWOOD; P. R. MANGER. *Colorado Col., Colorado Col., Kent State Univ., Cleveland Metroparks Zoo, Icahn Sch. of Med. at Mount Sinai, Copenhagen Zoo, Smithsonian Natl. Zoological Park, Univ. of the Witwatersrand, Des Moines Univ., George Washington Univ.*

8:00 SS22 **705.05** ● Utilizing 24(S)-hydroxycholesterol to identify patient populations and clinical endpoints: Negative emotion processing in Huntington's disease as proof of principle. M. C. LEWIS*; J. DAI; J. KENNEDY; B. BOROWSKI; A. MOHAN; S. TABRIZI; A. ROBICHAUD; J. DOHERTY; M. QUIRK. *Sage Therapeut., CHDI, Univ. Col. London.*

9:00 SS23 **705.06** ● A pharmacological characterization of novel oxysterol modulators of nmda receptors. M. A. ACKLEY*; A. ALTHAUS; M. C. QUIRK; G. MARTINEZ-BOTELLA; F. G. SALITURO; A. J. ROBICHAUD; J. J. DOHERTY. *SAGE Therapeut.*

10:00 SS24 **705.07** ● Novel oxysterol NMDA receptor positive allosteric modulators exhibit diverse effects in an *in vitro* model of cortical network activity. A. L. ALTHAUS*; M. ACKLEY; M. QUIRK; G. MARTINEZ BOTELLA; F. SALITURO; A. ROBICHAUD; J. DOHERTY. *Sage Therapeut.*

11:00 SS25 **705.08** Cognitive interaction between territorial infarction and chronic cerebral hypoperfusion in a rat model. D. BACK; H. KIM*. *Konkuk Univ. Sch. of Med.*

8:00 SS26 **705.09** Functional classification of claustrum neurons. M. GRAF*; G. J. AUGUSTINE. *Nanyang Technological Univ.*

9:00 SS27 **705.10** Reciprocal circuits linking the prefrontal cortex and thalamus. D. COLLINS*; P. ANASTASIADES; J. MARLIN; A. CARTER. *New York Univ.*

10:00 SS28 **705.11** Motor cortical control of thalamus projecting inhibitory neurons in the brainstem. V. M. PLATTNER*; E. BőSZ; M. A. DIANA; L. ACSÁDY. *Inst. of Exptl. Med. HAS, Pierre et Marie Curie Univ.*

11:00 SS29 **705.12** Contributions of specific cell types to sensorimotor decision making. J. ESSIG*; G. FELSEN. *U. of Colorado Anschutz Med. Campus, U. of Colorado Sch. of Med.*

8:00 SS30 **705.13** A midbrain mechanism for computing instinctive escape behavior. D. EVANS*; S. RUEHLE; A. STEMPEL; R. VALE; T. BRANCO. *UCL Sainsbury Wellcome Ctr., MRC Lab. of Mol. Biol.*

9:00 SS31 **705.14** An accessible method for chronic social defeat stress in female mice. A. HARRIS*; Z. H. BRETTON; P. ATSAK; E. S. HOLT; R. ALAM; M. P. MORTON; A. I. ABBAS; E. D. LEONARDO; S. S. BOLKAN; R. HEN; J. A. GORDON. *Columbia Univ., NYSPI, Barnard Col., NYSPI, Natl. Inst. of Mental Hlth.*

10:00 SS32 **705.15** The role of prefrontal interneuron subtypes in working memory. A. I. ABBAS*; M. J. M. SUNDIANG; E. MYHRE; B. HENOCH; M. P. MORTON; S. S. BOLKAN; A. Z. HARRIS; C. KELLENDONK; J. A. GORDON. *Columbia University/NYS Psychiatric Inst., Natl. Inst. of Mental Hlth.*

11:00 SS33 **705.16** Frequency-specific facilitation of hippocampal-prefrontal transmission increases anxiety-like behavior. N. PADILLA COREANO*; S. E. CANETTA; E. TEBOUL; A. GARCIA-GARCIA; R. WARREN; C. KELLENDONK; J. A. GORDON. *MIT, Columbia Univ., Columbia Univ., Natl. Inst. of Mental Hlth.*

8:00 SS34 **705.17** Thalamic projections sustain prefrontal activity during working memory maintenance. S. S. BOLKAN*; J. M. STUJENSKE; S. PARNAUDEAU; T. J. SPELLMAN; C. RAUFFENBART; A. I. ABBAS; A. HARRIS; J. A. GORDON; C. KELLENDONK. *Princeton Univ., Columbia Univ., Sorbonne Universités, UPMC Paris 06, Weill Cornell Med. Col., Columbia Univ., Columbia University/NYS Psychiatric Inst., Columbia Univ., Columbia Univ. Press.*

**POSTER**

**706. Executive Function in Learning and Memory**

***Theme H: Cognition***

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

8:00 SS35 **706.01** Environmental enrichment impacts place avoidance memory in zebrafish. J. NISSANOV*; T. VICKERY. *Touro Univ. Nevada, Touro University, Nevada.*

9:00 SS36 **706.02** Cognitive deficit correlated with changes in neuronal activity in Disc1$^{\Delta 2\text{-}3/\Delta 2\text{-}3}$ mice in touchscreen-based visual discrimination task. B. WULAER*; T. NAGAI; A. SOBUE; K. KURODA; K. KAIBUCHI; T. NABESHIMA; K. YAMADA. *Nagoya Univ. Grad Sch. Med., Nagoya Univ. Grad Sch. Med., Fujita Hlth. Univ.*

10:00 SS37 **706.03** Functional significance of the repetition suppression of the neural firing in the perirhinal cortex during object recognition. J. AHN; Y. KIM; I. LEE*, PhD. *Seoul Natl. Univ.*

11:00 SS38 **706.04** Role of feedback and statistical density in rat visual category learning. M. B. BROSCHARD*; J. KIM; L. CASTRO; E. A. WASSERMAN; V. M. SLOUTSKY; J. H. FREEMAN. *Univ. of Iowa, Ohio State Univ.*

8:00 SS39 **706.05** Lateral habenula inactivation impairs delayed alternation performance but not working memory in rats. P. M. BAKER*; E. M. GARCIA; B. K. LEUNG; S. J. Y. MIZUMORI. *Univ. of Washington.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 SS40 **706.06** Single episode of neonatal status epilepticus impairs sociability but not cognitive function in rats. R. M. CYSNEIROS*; A. PACÍFICO; S. P. BATISTA; P. BASTOS; G. L. BARBOSA. *Univ. Presbiteriana Mackenzie, Mackenzie Presbyterian Univ.*

10:00 SS41 **706.07** Developmental lead exposure reduces encephalization and cortical quotients resulting in dysexecutive functions in the rat. L. S. NEUWIRTH*; Y. KIM; S. R. RUBI; S. KAUR; N. MATHEW; S. MASOOD; B. TRANQUILLE; V. THIRUVERKADU; T. J. JOSE; C. JO; T. F. DACIUS, Jr.; J. R. BONITTO; J. C. SKEEN; A. ALVIRA; E. KHAIRI; A. IQBAL. *SUNY Old Westbury, SUNY Old Westbury, SUNY Old Westbury, SUNY Old Westbury.*

11:00 SS42 **706.08** Advanced techniques for characerizing rodent brains with diffusion MRI. L. DO*; A. BERNSTEIN; P. K. BHARADWAJ; G. E. ALEXANDER; C. A. BARNES; T. TROUARD. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

8:00 SS43 **706.09** Decoding brain areas using the local field potential. S. J. HOFFMAN*; N. M. DOTSON; C. M. GRAY. *Montana State Univ. Bozeman.*

9:00 SS44 **706.10** Iterated Prisoner Dilemma boost the emergence of high reciprocal altruism-based cooperative behaviors in rats. G. DELMAS; S. E. LEW*; B. S. ZANUTTO. *Inst. de Ingeniería Biomédica, Univ. de Buenos Aires, Univ. de Buenos Aires, Univ. Buenos Aires-CONICET.*

10:00 SS45 **706.11** What you see is what you get? - Testing predictions of overexpectation derived from the Rescorla-Wagner model. J. PACKHEISER*; R. PUSCH; O. GUNTURKUN; M. UENGOER. *RUB, Philipps-Universität Marburg.*

11:00 SS46 **706.12** Hasty decision-making delays accomplishment of learning. Y. YAWATA*; K. MAKINO; Y. IKEGAYA. *The Univ. of Tokyo.*

8:00 SS47 **706.13** Gaussian process regression for inferring the temporal evolution of neuronal activity during within-session learning in monkeys. F. A. MUNOZ*; G. JENSEN; V. P. FERRERA. *Columbia Univ., Columbia Univ., Columbia Univ. Press.*

9:00 SS48 **706.14** Cerebellar simple spikes report the trial outcome during sensorimotor learning. N. SENDHILNATHAN*; M. SEMEWORK; M. E. GOLDBERG; A. E. IPATA. *Columbia Univ. Dept. of Neurosci., Columbia Univesity, Columbia Univ. Press, Columbia Univ.*

10:00 SS49 **706.15** Input pathways for value-coded visual responses in midbrain dopamine neurons. N. TAKAKUWA*; R. KATO; P. REDGRAVE; T. ISA. *Kyoto Univ., Nat'l Inst. Physiol. Sci., SOKENDAI, Univ. of Sheffield.*

11:00 SS50 **706.16** Astrocytic modulation of neuronal oscillations is associated with changes in cognitive flexibility. A. T. BROCKETT*; G. A. KANE; E. GOULD. *Princeton Univ.*

8:00 SS51 **706.17** ▲ A recurrent neural network model of task switch cost. X. LI*; Z. ZHANG; J. C. ERLICH. *New York Univ. Shanghai, New York Univ. Shanghai, NYU Shanghai.*

9:00 SS52 **706.18** Increasing orbitofrontal coordination and restoring behavioral flexibility after prenatal alcohol exposure. J. A. KENTON*, JR; K. MARQUARDT; J. L. BRIGMAN. *Univ. of New Mexico, Univ. of New Mexico, New Mexico Alcohol Res. Ctr.*

10:00 SS53 **706.19** Maternal fructose intake during pregnancy and lactation reduces learning capability in adult offspring. F. A. TOBAR*; S. R. ZAMUDIO, Sr; L. QUEVEDO, Sr. *Inst. Politécnico Nacional.*

11:00 SS54 **706.20** Maternal overnutrition leads to cognitive and neurochemical abnormalities in the offspring. D. PELEG-RAIBSTEIN*; C. WOLFRUM. *ETH Zurich.*

8:00 SS55 **706.21** ● Cell penetrating fusion protein in postoperative cognitive dysfunction model. B. KOO*. *Yonsei Univ.*

9:00 SS56 **706.22** Nasal administration of mesenchymal stem cells promote recovery from cisplatin-induced chemobrain. G. S. CHIU*; N. BOUKELMOUNE; A. KAVELAARS; V. RAO; C. KINGSLEY; S. R. KESLER; C. J. HEIJNEN. *Univ. of Texas MD Anderson Cancer Ctr., Univ. of Texas MD Anderson Cancer Ctr., Univ. of Texas MD Anderson Cancer Ctr.*

**POSTER**

**707. Learning: From Model Systems to Modeling**

***Theme H: Cognition***

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

8:00 SS57 **707.01** Lateral prefrontal cortex single neuron and ensemble activity during associative learning in virtually navigating monkeys. L. DUONG*; R. A. GULLI; B. W. CORRIGAN; M. L. LEAVITT; G. DOUCET; J. C. MARTINEZ-TRUJILLO. *Robarts Res. Inst., Western Univ., McGill Univ., McGill Univ., Univ. of Western Ontario.*

9:00 SS58 **707.02** Hippocampal single neuron and ensemble activity during associative learning in virtually navigating primates. R. A. GULLI*; L. DUONG; B. W. CORRIGAN; G. DOUCET; M. L. LEAVITT; S. WILLIAMS; J. C. MARTINEZ-TRUJILLO. *Western Univ., Robarts Res. Inst., Univ. of Western Ontario, McGill Univ., McGill Univ., McGill Univ.*

10:00 SS59 **707.03** Prefrontal cortex ensemble activity during associative visuomotor rule learning in primates. M. L. LEAVITT*; C. BOULAY; R. A. GULLI; L. DUONG; A. J. SACHS; J. C. MARTINEZ-TRUJILLO. *McGill Univ., Ottawa Hosp. Res. Inst., Western Univ., Robarts Res. Inst., Ottawa Hosp. Res. Institute, Univ. of Ottawa, Univ. of Western Ontario.*

11:00 SS60 **707.04** The macaque fronto-striatal-hippocampus axis encodes feature-specific prediction errors. M. OEMISCH*; S. WESTENDORFF; D. KAPING; T. WOMELSDORF. *York Univ., Natl. Inst. of Mental Hlth., Vanderbilt Univ.*

8:00 SS61 **707.05** Assigning credit : Sustained neural activity between prefrontal cortex and striatum. E. LEE*; E. N. ESKANDAR; W. F. ASAAD. *Brown Univ., Brown Inst. for Brain Sci., Massachusetts Gen. Hosp., Brown Univ., Rhode Island Hosp.*

9:00 SS62 **707.06** Structural changes in the primate brain following cognitive training. J. SIMON*, IV; C. G. DAMATAC; J. OLMSTEAD; J. NAGY; S. FROUDIST-WALSH; D. L. DICKSTEIN; M. VARGHESE; W. G. JANSSEN; L. FLEYSHER; R. O'HALLORAN; P. L. CROXSON. *Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. At Mount Sinai.*

10:00 SS63 **707.07** Impaired cognitive flexibility after neonatal perirhinal lesions in rhesus macaques. A. R. WEISS*; J. B. WHITE; R. RICHARDSON; J. BACHEVALIER. *Oregon Hlth. and Sci. University/Onprc, Emory University/YNPRC.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

11:00 SS64 **707.08** Transient inactivation of the parahippocampal cortex impairs nonnavigational spatial memory in macaques. E. LAFLAMME*; H. WAGUESPACK; P. A. FORCELLI; L. MALKOVA. *Georgetown Univ., Georgetown Univ., Georgetown Univ., Georgetown Univ. Med. Ctr.*

8:00 SS65 **707.09** Mapped or to be mapped? Learning the meaning of new stimuli increase the cross-correlated activity of prefrontal neurons. S. NOUGARET*; L. FERRUCCI; E. MARCOS; A. GENOVESIO. *Sapienza Univ. of Rome.*

9:00 SS66 **707.10** Learning sound sequences in mouse auditory cortex. A. G. LIBBY*; T. BUSCHMAN. *Princeton Univ., Princeton Univ.*

10:00 TT1 **707.11** Memory through randomness: A spiking network model for flexible working memory. F. BOUCHACOURT*; T. BUSCHMAN. *Princeton Neurosci. Inst., Princeton Univ.*

11:00 TT2 **707.12** ● Navigating in neural and behavioral manifolds with mutli-site electrical microstimulation. S. TAFAZOLI*; K. LETAI; T. BUSCHMAN. *Princeton Univ., Princeton Univ., Princeton Univ.*

8:00 TT3 **707.13** Compression of information in visual working memory. P. KOLLIAS*; T. BUSCHMAN. *Princeton Univ.*

9:00 TT4 **707.14** Oscillatory neural activity for perceived and memorized representations of motion direction in the primate lateral prefrontal cortex. M. ROUSSY*; D. MENDOZA-HALLIDAY; J. C. MARTINEZ-TRUJILLO; L. PALANIYAPPAN. *Univ. of Western Ontario, MIT, Univ. of Western Ontario, Univ. of Western Ontario.*

**POSTER**

**708. Focal and Brain-Wide Network Activity**

***Theme H: Cognition***

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

8:00 TT5 **708.01** Structural variability across the primate brain. P. L. CROXSON*; S. J. FORKEL; L. CERLIANI; M. THIEBAUT DE SCHOTTEN. *Icahn Sch. of Med. at Mount Sinai, Kings Col. London, Inst. du Cerveau et de la Moelle épinière (ICM).*

9:00 TT6 **708.02** Dynamic plasticity of the functional connectome is predicted by pre-lesion connectivity in the non-human primate brain. S. FROUDIST-WALSH*; P. G. F. BROWNING; J. J. YOUNG; K. L. MURPHY; R. B. MARS; L. FLEYSHER; P. CROXSON. *Icahn Sch. of Med. at Mount Sinai, Natl. Inst. of Mental Hlth., Newcastle Univ., Radboud Univ., Univ. of Oxford.*

10:00 TT7 **708.03** Unravelling the intrinsic functional boundaries of the macaque monkey cortex. T. XU; A. OPITZ; A. FALCHIER; G. LINN; D. ROSS; J. RAMIREZ; D. STURGEON; E. SULLIVAN; E. FECZKO; J. BAGLEY; S. COLCOMBE; D. FAIR; C. SCHROEDER; M. P. MILHAM*. *Child Mind Inst., Nathan Kline Inst. for Psychiatric Res., Oregon Hlth. and Sci. Univ., Columbia Univ. Col. of Physicians and Surgeons.*

11:00 TT8 **708.04** Monkey to human comparative anatomy of the frontal lobe association tracts. M. THIEBAUT DE SCHOTTEN*. *Frontlab, Inst. Du Cerveau Et La Moelle Épinièr.*

8:00 TT9 **708.05** Systematic flexibility of global functional connectivity patterns supports flexible cognitive control. D. H. SCHULTZ*; T. ITO; L. SOLOMYAK; R. CHEN; R. MILL; K. KULKARNI; M. W. COLE. *Rutgers-Newark.*

9:00 TT10 **708.06** The frequency-dependent dynamics of the primate frontal executive networks in a state of action preparation. S. E. SEIDL*; W. M. USREY; E. G. ANTZOULATOS, 95618. *Univ. of California Davis.*

10:00 TT11 **708.07** Covert and overt face recognition, one or two routes? D. GÓNGORA*; A. M. CASTRO-LAGUARDIA; J. IGLESIAS-FUSTER; E. KARAHAN; M. LI; M. VALDÉS-SOSA; E. GONZÁLEZ-DALMAU; E. GONZÁLEZ-ALEMAÑY; P. VALDES-SOSA; M. A. BOBES. *Cuban Neurosci. Ctr., Univ. of Electronic Sci. and Technol. of China, Cuban Neurosci. Ctr.*

11:00 TT12 **708.08** Stable representations in the prefrontal cortex of unrestrained monkeys: Linking neurophysiology to causal evidence from lesion studies. S. TREMBLAY*; C. TESTARD; M. PETRIDES. *Montreal Neurolog. Inst.*

8:00 TT13 **708.09** Impact of noise correlations on information scaling in large neural ensembles from the macaque prefrontal cortex. R. BARTOLO*; R. C. SAUNDERS; P. G. BROWNING; A. R. MITZ; B. B. AVERBECK. *NIMH/NIH.*

9:00 TT14 **708.10** Contribution of the basal forebrain cholinergic system to cortico-cortical network interactions. P. GOMBKOTO*; M. GIELOW; C. CHAVEZ; L. ZABORSZKY. *Rutgers The State Univ. of New Jersey.*

10:00 TT15 **708.11** Persistent neurons drive stable population-level working memory representations. K. WIMMER; J. M. BARBOSA; A. GALÁN; C. CONSTANTINIDIS; G. MONGILLO; A. COMPTE*. *Univ. Pompeu Fabra and Ctr. de Recerca Matemàtica, IDIBAPS, Wake Forest Univ. Sch. of Med., Neurophysics and Physiol. UMR 8119 CNRS - Paris Descartes Univ.*

**POSTER**

**709. Learning and Memory: Cortical-Hippocampal Interactions**

***Theme H: Cognition***

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

8:00 TT16 **709.01** Behavioral correlates of deliberation and habit on a contingency switching task for rats. B. HASZ*; A. D. REDISH. *Univ. of Minnesota, Univ. of Minnesota Dept. of Neurosci.*

9:00 TT17 **709.02** Indecisive behavior in response to environmental threat. C. J. WALTERS*; A. D. REDISH. *Univ. of Minnesota, Univ. of Minnesota Dept. of Neurosci.*

10:00 TT18 **709.03** DREADD disruption of mPFC alters hippocampal economic decision making processes. B. SCHMIDT*; A. D. REDISH. *Univ. Minnesota, Univ. of Minnesota Dept. of Neurosci.*

11:00 TT19 **709.04** Sunk costs and intertemporal choices in a neuroeconomic foraging task in mice. B. SWEIS*; A. E. MCLAUGHLIN; C. E. E. HUTCHINSON; D. M. MANCEBO; M. A. H. JONES; A. R. THOMPSON; M. THOMAS; A. D. REDISH. *Univ. of Minnesota, Univ. of Minnesota, Providence Col., Univ. of Minnesota Syst., Univ. of Minnesota Dept. of Neurosci.*



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* Indicates abstract's submitting author

8:00 TT20 **709.05** The role of extracellular matrix molecules for spatial representations in medial entorhinal cortex. A. CHRISTENSEN*; K. K. LENSJØ; M. E. LEPPEROD; M. FYHN; T. HAFTING-FYHN. *Univ. of Oslo, Univ. of Oslo, Univ. of Oslo, Dept. of Biosci.*

9:00 TT21 **709.06** Perineuronal nets in the lateral secondary visual cortex are essential for remote visual fear memory. E. H. THOMPSON*; K. K. LENSJØ; M. B. WIGESTAND; T. HAFTING-FYHN; A. MALTHE-SØRENSSEN; M. FYHN. *Univ. In Oslo, Univ. of Oslo, Univ. in Oslo.*

10:00 TT22 **709.07** Population density model of the entorhinal stellate-cell network with adaptation. M. E. LEPPEROD*; Y. LAI; M. FYHN; G. T. EINEVOLL; T. SOLSTAD; T. HAFTING; M. DE KAMPS. *Univ. of Oslo, Sch. of Computing, Univ. of Leeds, Univ. of Oslo, Norwegian Univ. Life Sci., Fac. of Teacher and Interpreter Education, NTNU.*

11:00 TT23 **709.08** Conditional knock-out of the ACAN gene removes aggrecan and perineuronal nets in adult mice and induces life-long brain plasticity. K. K. LENSJØ*; D. ROWLANDS; T. DINH; M. R. ANDREWS; T. HAFTING-FYHN; M. FYHN; J. W. FAWCETT; G. DICK. *Univ. of Oslo, Cambridge Univ., Univ. of Oslo, Inst. of Biol. Sci.*

8:00 TT24 **709.09** Sensory-motor coordination during spontaneous exploration of rats. E. BLANCO*; J. GRABOSKI; A. SIROTA. *Ludwig Maximilian Univ. of Munich.*

9:00 TT25 **709.10** Capturing attractor dynamics in hippocampal place cell remapping through micro-endoscopic imaging in freely moving mice. E. ITZCOVICH*; N. KARALIS; A. V. HERZ; A. M. SIROTA. *Ludwig-maximilians-Universität München, Ludwig-Maximilians-Universität München, Ludwig-Maximilians-Universität München, Ludwig-Maximilians Univ. München.*

10:00 TT26 **709.11** Slow oscillations in the lateral and medial entorhinal cortex differentially couple to hippocampal ripples in non-anaesthetized sleeping rats. G. SCHWESIG*; J. MARTINEZ ALCANTARA; A. SIROTA. *Ludwig-Maximilians-Universität München.*

11:00 TT27 **709.12** Respiratory entrainment of memory circuits. N. KARALIS*; A. SIROTA. *Ludwig-Maximilians-Universität München.*

8:00 TT28 **709.13** Impaired spatial reorientation in the 3xTg-AD mouse model of Alzheimer's disease. A. C. STIMMELL*; D. BAGLIETTO-VARGAS; V. LAPOINTE; F. M. LAFERLA; B. L. MCNAUGHTON; A. A. WILBER. *Florida State Univ., Univ. of California, Irvine, The Univ. of Lethbridge, Univ. of California, Irvine, The Univ. of Lethbridge.*

9:00 TT29 **709.14** Decoding kinematic motion from neural recordings in the parietal cortex using a generalized linear model. I. SKELIN; W. WU; B. L. MCNAUGHTON; A. A. WILBER*. *Univ. of Lethbridge, Florida State Univ., The Univ. of Lethbridge.*

10:00 TT30 **709.15** Hippocampus is necessary for intact retrosplenial place cell activity. D. MAO*; A. NEUMANN; J. SUN; V. BONIN; M. MOHAJERANI; B. MCNAUGHTON. *Univ. of Lethbridge, Neuro-Electronics Res. Flanders, Vlaams Inst. voor Biotechnologie, KU Leuven.*

11:00 TT31 **709.16** Hippocampal contributions to V1-dependent memory and plasticity. P. S. FINNIE*; Y. LI; H. KIM; S. F. COOKE; M. F. BEAR. *MIT, Wellesley Col., Kings Col. London.*

8:00 TT32 **709.17** Communication between the hippocampus and olfactory system is needed for contextually cued retrieval of odor memories. N. HERNANDEZ*; L. RAIT; J. DOBBIN; T. CLELAND; C. LINSTER; D. M. SMITH. *Cornell Univ., Cornell Univ., Cornell Univ.*

9:00 TT33 **709.18** Rapid sensory-evoked modulation of hippocampal spatial activity. R. ZEMLA*; M. DUFOUR; S. SUNDAR; A. HAIRSTON; J. BASU. *New York Univ. Sch. of Med.*

10:00 TT34 **709.19** Retrieval specificity of remote memory is affected by the order of retrieval. A. SINGH*; S. KUNDU; R. SUGANDHITA; S. KUMAR; A. DAS; J. BALAJI. *Indian Inst. of Sci.*

11:00 TT35 **709.20** An *in vivo* approach to identify and segregate neuronal ensembles of multiple memories using temporal expression dynamics of a single immediate early gene. M. PRABOD KUMAR*; S. KUMAR; T. CHERIAN; B. JAYAPRAKASH. *Indian Inst. of Sci., Indian Inst. of Sci.*

8:00 TT36 **709.21** Systems consolidation of temporal content in episodic memory. S. SHRIDHAR*; V. PAL SINGH; S. KUNDU; B. JAYAPRAKASH. *Indian Inst. of Science, Bengaluru.*

9:00 TT37 **709.22** ● Single galvo based simultaneous glu-uncaging and imaging using single ultrafast laser system. S. SAUMITRA*; V. R. SINGH; S. K. SIKDAR; A. GHOSH; J. BALAJI. *Indian Inst. of Sci., Indian Inst. of Sci., Indian Inst. of Sci.*

10:00 TT38 **709.23** Fluorescence saturation dynamics based *in vivo* classification of spines. S. KUMAR*; B. JAYAPRAKASH. *Indian Inst. of Sci., Indian Inst. of Sci. Malleshwaram Bangalore.*

11:00 TT39 **709.24** Bayesian nature of remote memory assisted learning (mental Schema) and its role in problem solving in mice. V. SINGH*; R. BHATT; S. KUNDU; S. SHRIDHAR; S. SAUMITRA; A. SINGH; B. JAYAPRAKASH. *Indian Inst. of Sci., Indian Inst. of Sci.*

8:00 TT40 **709.25** Acute effects of social defeat stress on cortical neuronal activity. R. NAKAYAMA*; T. SASAKI; Y. IKEGAYA. *The Univ. of Tokyo.*

9:00 TT41 **709.26** ▲ Interaction of multiple memory systems during spatial alternation task in the rat. N. T. REITZ*; J. L. VINCZE; J. B. HALES. *UNIVERSITY OF SAN DIEGO.*

**POSTER**

**710. Hippocampal Circuits Involved in Learning and Memory**

***Theme H: Cognition***

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

8:00 TT42 **710.01** The effect of eye movements and gaze on hippocampal activity in non-human primates in virtual environments. B. W. CORRIGAN*; R. A. GULLI; G. DOUCET; J. C. MARTINEZ-TRUJILLO. *Univ. of Western Ontario, McGill Univ.*

9:00 TT43 **710.02** Head direction cell instability in the anterior dorsal nucleus of the thalamus following intraseptal microinfusions of the $GABA_A$ agonist muscimol. I. PASTOR*; C. P. CERVANTES ALDANA; M. Y. HURTADO; J. L. CALTON. *California State Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 TT44 **710.03** ▲ Galantamine potentiates neuroprotective effect of taurine & coenzyme Q 10 & their interaction against Aβ (1-42) induced cognitive dysfunction. A. SINGH*; A. KUMAR. *Panjab Univ.*

11:00 TT45 **710.04** Determinants of sparse population coding in a computational model of the rat dentate gyrus. I. RAIKOV*; A. D. MILSTEIN; I. SOLTESZ. *Stanford Univ., Stanford Univ. Sch. of Med., Stanford Univ.*

8:00 TT46 **710.05** Neural correlates of goal representations and planning in a multi-step navigation task. N. ZARR*; J. W. BROWN. *Indiana Univ., Indiana Univ.*

9:00 TT47 **710.06** Neuroprotective effects of quercetin loaded nanoconstructs in murine neurocognitive model. C. SINGH*. *Panjab Univ.*

10:00 TT48 **710.07** Calcium imaging in tethered behaving honeybees. M. HELD*; L. LAVIS; V. JAYARAMAN; K. PFEIFFER. *HHMI Janelia Res. Campus, Biocenter Univ. of Wuerzburg.*

11:00 TT49 **710.08** How the ultrastructure of the fly compass circuit shapes its dynamics. S. ALI; A. SHERIDAN; T. PATERSON; R. FRANCONVILLE; D. B. TURNER-EVANS; S. WEGENER; T. WOLFF; J. S. LAURITZEN; D. BOCK; V. JAYARAMAN*. *Janelia Res. Campus, HHMI.*

8:00 TT50 **710.09** Understanding neural activity and behavior during visual learning in *Drosophila.* C. DAN*; J. WITTENBACH; A. HERMUNDSTAD; V. JAYARAMAN. *Janelia Res. Campus, HHMI.*

9:00 TT51 **710.10** Monkey Hippocampal. W. K. PAGE*; C. J. DUFFY. *Univ. of Rochester.*

10:00 TT52 **710.11** Biasing head-direction activity of single presubicular neurons by juxtacellular stimulation. S. COLETTA*; M. FREY; K. NASR; P. PRESTON-FERRER; A. BURGALOSSI. *Univ. of Tübingen, Grad. Training Ctr. of Neurosci. - IMPRS, Univ. of Tübingen.*

11:00 TT53 **710.12** Coherence and stability of head direction cells in an open-loop state in pre-eye opening rat pups. J. P. BASSETT*; T. J. WILLS; F. CACUCCI. *Univ. Col. London, Univ. Col. London.*

8:00 TT54 **710.13** Egocentric border cells upstream of the entorhinal cortex. X. GOFMAN; S. WEISS; S. RAPOPORT; D. DERDIKMAN*. *Technion - Israel Inst. of Technol., Tel-Aviv Univ.*

9:00 TT55 **710.14** *In vivo* imaging of entorhinal inputs to hippocampal area CA1 in behaving mice. J. BOWLER*; A. LOSONCZY. *Columbia Univ., Columbia Univ.*

10:00 TT56 **710.15** Oscillatory dynamics in the limbic thalamo-cortical network reveal subcortical information flow to and from the hippocampal formation. G. VIEJO*; G. BUZSAKI; A. PEYRACHE. *Univ. McGill, New York University, Sch. of Med., McGill Univ.*

11:00 TT57 **710.16** Thalamic processing of the head-direction signal. A. J. DUSZKIEWICZ*; D. WANG; A. PEYRACHE. *McGill Univ.*

8:00 TT58 **710.17** Topological map learning during preexposure and replay as an explanation of latent learning. P. SCLEIDOROVICH; M. LLOFRIU ALONSO; N. CAZIN; B. HARLAND; P. F. DOMINEY; J. FELLOUS; A. WEITZENFELD*. *Univ. of South Florida, Univ. of South Florida, Inserm U1208, SBRI, Univ. of Arizona, INSERM U846, Univ. of Arizona.*

9:00 TT59 **710.18** Extracting grid and border components from field potentials in hippocampus and entorhinal cortex. S. MACKESEY*; M. MATENA; F. T. SOMMER. *Univ. of California Berkeley, Univ. of California, Berkeley, Helen Wills Neurosci. Inst.*

10:00 TT60 **710.19** Hippocampal subregion CA1 requires CA3 input to encode novel space. I. SHANK*; M. P. BRANDON. *McGill Univ., McGill Univ.*

11:00 TT61 **710.20** Investigation of the head direction signal in the anterodorsal thalamic nucleus using miniaturized microscopes in behaving mice. Z. AJABI*; M. P. BRANDON. *McGill Univ., McGill Univ.*

8:00 TT62 **710.21** Dissecting the role of medial septal circuits in the hippocampal code for time. H. YONG*; M. P. BRANDON. *McGill Univ., McGill Univ.*

9:00 TT63 **710.22** Potential role of cholinergic medial septal inputs in coding speed and location in the entorhinal cortex. H. DANNENBERG*; M. E. HASSELMO. *Boston Univ., Boston Univ.*

10:00 TT64 **710.23** Egocentric representation of environmental boundaries in the striatum. J. R. HINMAN*; G. W. CHAPMAN, IV; M. E. HASSELMO. *Boston Univ., Univ. of Colorodo, Boston Univ.*

11:00 TT65 **710.24** Reverse replay strengthens forward pathways to reward through Hebbian learning and short-term depression. T. HAGA*; T. FUKAI. *RIKEN Brain Sci. Inst., RIKEN.*

8:00 TT66 **710.25** A continuous-attractor model of head direction determination by retrosplenial 'flip cells'. A. V. SAMSONOVICH*; H. PAGE; K. J. JEFFERY. *George Mason Univ., Natl. Res. Nuclear Univ. MEPhI, Univ. Col. London.*

9:00 UU1 **710.26** Two star mazes, but a single representation of space in the monkey hippocampus. P. BARADUC; S. PINEDE; A. PLANTÉ; J. DUHAMEL*; S. WIRTH. *Gipsa-Lab, CNRS / U. Grenoble-Alpes UMR 5216, Inst. Des Sci. Cognitives UMR-5229.*

10:00 UU2 **710.27** Cheap, scalable camera system for tracking rat behavior in large spaces. R. SAXENA; D. JAIN; I. R. JAKHALEKAR; W. BARDE; A. BISHNOI; S. S. DESHMUKH*. *Indian Inst. of Sci.*

11:00 UU3 **710.28** *In vivo* two-photon imaging of cortical head direction cells during passive rotation. A. R. CHAMBERS*; E. HENNESTAD; R. LANTON; W. TANG; K. VERVAEKE. *Univ. of Oslo, Inst. of Basic Med. Sciences,University of Oslo.*

8:00 UU4 **710.29** Search for allocentric navigation encoding in the goldfish brain. E. VINEPINSKY; O. DONCHIN*; R. SEGEV. *Ben Gurion Univ.*

**POSTER**

**711. Learning and Memory: Hippocampal Circuits in Disease Models**

***Theme H: Cognition***

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

8:00 UU5 **711.01** L-Thyroxine normalizes hypothyriodism-induced suppression of CaMKII pathway during hippocampus-dependent learning and memory processes. K. H. ALZOUBI; K. A. ALKADHI*. *Jordan Univ. of Sci. & Technol., Univ. Houston Col. Pharm.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 UU6 **711.02** Oral minocycline hydrochloride prevents hippocampal-dependent cognitive impairment associated with cafeteria diet both before and after the onset of obesity. S. LEIGH*; R. F. WESTBROOK; M. J. MORRIS. *UNSW Sydney, UNSW Sydney, UNSW Sydney.*

10:00 UU7 **711.03** Lactate mediates the effects of exercise on learning and memory through Sirt-dependent BDNF induction. S. SLEIMAN*; L. EL-HAYEK; V. ZIBARA; R. ABI ASSAAD; N. EMMANUAL; N. KARNIB; R. EL-GHANDOUR. *LAU Sch. of Arts and Sci.*

11:00 UU8 **711.04** Obesogenic diets affect cognition in rats through gut microbiome and associated chnages in brain neuroplasticity and inflammation. M. J. MORRIS*; J. BEILHARZ; J. MANIAM; N. KAAKOUSH. *Univ. New South Wales.*

8:00 UU9 **711.05** Polyphenol-enriched green tea extract restores depressive symptoms and hippocampal synaptic plasticity in ovariectomized rat. S. KO*; S. CHUNG. *Yonsei Univ., Yonsei Univ.*

9:00 UU10 **711.06** ● Impaired hippocampal gamma-frequency oscillations and mitochondrial dysfunction in a mouse model of alpha-synucleinopathy. F. E. RANDALL*; C. TWEEDY; E. ROBSON; A. REEVE; G. J. CLOWRY; E. OLKHOVA; J. TAYLOR; P. J. ATKINSON; F. E. N. LEBEAU. *Andover Innovative Medicines Institute, Eisai Inc., Newcastle Univ., Eisai Ltd.*

10:00 UU11 **711.07** ● Early hippocampal network hyperexcitability in a mouse model of alpha-synucleinopathy. C. TWEEDY*; J. CURRY; G. J. CLOWRY; A. REEVE; E. OLKHOVA; J. TAYLOR; F. E. RANDALL; P. J. ATKINSON; F. E. N. LEBEAU. *Newcastle Univ., Eisai Inc, Eisai Ltd.*

11:00 UU12 **711.08** MPH reestablish the behavior and hippocampal plasticity in a mouse model of ADHD induced by prenatal nicotine exposure. D. CONTRERAS PACHECO; C. A. CARVALLO; R. PIÑA; G. UGARTE; M. ZEISE; R. A. DELGADO; J. KLAGGES; D. MORALES; M. ALBORNOZ; C. A. ROZAS; B. E. MORALES*. *Univ. of Santiago of Chile, Univ. De Santiago De Chile, Univ. of Santiago of Chile, Univ. of Chile, Univ. of Santiago de Chile, Univ. of Santiago.*

8:00 UU13 **711.09** Differential cFos expression after Morris Water Maze exposure in cortical malformation model. W. J. CURRY*, III. *Univ. of Vermont.*

9:00 UU14 **711.10** ▲ Characterizing the effect of asynchronous distributed microelectrode stimulation on spatial memory. O. ASHMAIG; M. J. CONNOLLY; R. E. GROSS; B. MAHMOUDI*. *Emory Univ. Sch. of Med., Emory Univ., Emory Univ. Sch. Med., Emory Univ.*

10:00 UU15 **711.11** ▲ The effect of multiple levels of chronic zinc supplementation on b6 mice. T. DIMOPOULOS*; M. L. SMITH; W. R. KOCHEN; N. COSCHIGANO; J. M. FLINN. *George Mason Univ.*

**POSTER**

## 712. Learning and Memory: Aging and Behavior

***Theme H: Cognition***

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

8:00 UU16 **712.01** Cognitive impacts of recurring inflammatory/infection-like experiences during aging. E. B. ENGLER-CHIURAZZI*; J. M. POVROZNIK; A. E. RUSSELL; K. N. PORTER; D. WANG; B. G. SCHREURS; J. W. SIMPKINS. *West Virginia Univ., Blanchette Rockefeller Neurosciences Institute, West Virginia Univ., Ctr. for Basic and Translational Stroke Research, West Virginia Univ., Dept. of Pharmaceuticals, West Virginia Univ.*

9:00 UU17 **712.02** Learning and memory enhancing efficacy of Withania somenifera in aged mice. M. LATA*; P. SRIVASTAV, 302021. *Univ. of Rajasthan, university of Rajastha.*

10:00 UU18 **712.03** Conditioning-induced modulation of theta activity in dentate gyrus, entorhinal cortex and perirhinal cortex. E. E. SUTER*; C. WEISS; J. F. DISTERHOFT. *Northwestern Univ., Northwestern Univ. Dept. of Physiol., Northwestern Univ. - Chicago.*

11:00 UU19 **712.04** Trace eyeblink conditioning in head-fixed mice pairing vibrissae stimulation and corneal airpuff. L. T. VINSON; A. RAPP; L. N. MILLER; C. WEISS*; J. F. DISTERHOFT. *Northwestern Univ., Northwestern Univ. Med. Sch.*

8:00 UU20 **712.05** Cholinergic agonist carbachol reduces the postburst AHP and increases [$Ca^{2+}$] in CA1 pyramidal neurons of aged rats. M. M. OH; J. F. DISTERHOFT*. *Northwestern Univ. Med. Sch., Northwestern Univ. - Chicago.*

9:00 UU21 **712.06** Aging-related changes in the intrinsic excitability of layer III pyramidal neurons of the LEC. C. LIN*; M. M. OH; J. F. DISTERHOFT. *Northwestern Univ.*

10:00 UU22 **712.07** Age differences in ERP correlates of subjective recollection and source memory. E. D. HORNE*; J. D. KOEN; N. HAUCK; M. D. RUGG. *Univ. of Texas At Dallas.*

11:00 UU23 **712.08** Sex differences in executive function, stress reactivity, neurochemistry and resting state functional connectivity in middle-aged marmosets. M. G. LACLAIR; N. J. GERVAIS; K. P. WORKMAN; L. PAYNE; C. M. MOORE; J. A. KING; A. LACREUSE*. *Univ. of Massachusetts, Amherst, Univ. of Massachusetts Amherst, Univ. of Massachusetts Med. Sch., Univ. of Massachusetts Amherst.*

8:00 UU24 **712.09** ▲ Age differences on cognition and emotion related behaviors. A. MORA-GALLEGOS*; J. FORNAGUERA. *Univ. of Costa Rica.*

9:00 UU25 **712.10** Dissociation of performance in hippocampus- and prefrontal cortical-dependent tasks in aging fisher 344 rats. N. J. CAREY*; M. A. ZEMPARE; C. J. NGUYEN; K. M. BOHNE; M. K. CHAWLA; S. SINARI; M. J. HUENTELMAN; D. BILLHEIMER; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

10:00 UU26 **712.11** Deficits in aged rats on the W-track continuous spatial alternation task suggest impaired hippocampal-prefrontal interactions. A. J. KAPELLUSCH*; A. W. LESTER; B. A. SCHWARTZ; J. R. BREWSTER; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 UU27 **712.12** ▲ Sparser representation of experience by aged rat Lateral Entorhinal Cortex. A. COMRIE*; J. P. LISTER; M. K. CHAWLA; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, UCLA, Univ. of Arizona.*

8:00 UU28 **712.13** A separable state-space model of learning across trials and days in an aging study in macaque monkeys. N. MALEM-SHINITSKI; Y. ZHANG; D. T. GRAY; S. N. BURKE; A. SMITH*; C. A. BARNES; D. BA. *Technische Univ. Berlin, Harvard Univ., Univ. of Arizona, Univ. of Arizona, Univ. of Florida, Univ. of Arizona, Univ. of Arizona.*

9:00 UU29 **712.14** Preserved overall basal firing rates in aged rat basolateral complex of the amygdala, but neurons from aged rats are more engaged in anticipation of rewards compared to young rats. R. D. SAMSON*; L. DUARTE; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

10:00 UU30 **712.15** The alpha-2 noradrenergic receptor agonist guanfacine impairs flexible attention in young and aged macaques. D. T. GRAY*; A. C. SMITH; S. N. BURKE; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Florida, Univ. of Arizona.*

11:00 UU31 **712.16** Semi-automated layer classification tool for defining cortical architecture. V. SOMASUNDAR; R. PADMANABHAN; B. ROYSAM; C. A. BARNES; J. P. LISTER*. *Univ. of Houston, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, David Geffen Sch. of Med. UCLA.*

8:00 UU32 **712.17** Age-associated changes in awake hippocampal sharp-wave ripples during spatial eyeblink conditioning. S. L. COWEN*; D. T. GRAY; J. WIEGAND; L. A. SCHIMANSKI; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

9:00 UU33 **712.18** Dynamic expression of RNA stress granule components in aging brains: From flies to rats. D. C. ZARNESCU*; B. BAGEVALU SIDDEGOWDA; M. K. CHAWLA; S. YAO; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

10:00 UU34 **712.19** Brain region-specific changes in melanocortin receptor expression in aged rat brain. M. K. CHAWLA*; Y. ZHOU; L. WANG; N. J. CAREY; M. A. ZEMPARE; C. J. NGUYEN; V. J. HRUBY; C. A. BARNES; M. CAI. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

11:00 UU35 **712.20** Temporal contiguity predicts reward association learning in bonnet macaques. C. KYLE*; A. C. SMITH; D. T. GRAY; S. N. BURKE; C. A. BARNES. *Univ. of Arizona, Univ. of Florida, Univ. of Florida, Univ. of Arizona, Univ. of Arizona.*

8:00 UU36 **712.21** An alternative to dye-based approaches to remove lipofuscin-induced background autofluorescence from primate brain tissue. W. PYON; D. T. GRAY; M. K. CHAWLA; C. A. BARNES*. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

9:00 UU37 **712.22** Role of wine derived polyphenolics as novel epigenetic modifiers in age related cognitive impairment. From responsible nutrition to promotion of neuroresilience. A. SHARMA*; S. C. M. DE BOER; A. ESTEBAN-FERNANDEZ; J. WANG; B. VALCARCEL; G. M. PASINETTI. *Icahn Sch. of Med. At Mount Sinai.*

10:00 UU38 **712.23** Apoaequorin differentially modulates fear conditioning in adult and aged rats. V. L. EHLERS*; J. A. TUMA; K. L. FELDMANN; J. R. MOYER, Jr. *Univ. of Wisconsin Milwaukee Dept. of Psychology, Univ. of Wisconsin Milwaukee Dept. of Psychology.*

11:00 UU39 **712.24** Deterioration of visual discrimination learning in aged marmosets. A. TAKEMOTO; E. L. MUNGER; M. RAGHANTI; K. NAKAMURA*. *Primate Res. Institute, Kyoto Univ., Kent State Univ., Kent State Univ.*

8:00 UU40 **712.25** Does acarbose treatment differentially modulate cognitive healthspan with respect to age, genetic background, or neurodegenerative disease? S. J. MOORE*; R. C. PARENT; L. OUILLETTE; G. G. MURPHY. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

9:00 UU41 **712.26** ● Specific behavioral and cognitive changes in mouse models of different neurodegenerative diseases and normally aging mice. B. KOOPMANS*; S. SPIJKER; R. E. VAN KESTEREN; M. VERHAGE; A. B. SMIT; M. LOOS. *Sylics, Ctr. For Neurogenomics & Cognitive Research, VUA, VU Univ. Amsterdam, CNCR, Vrije Univ. (VU) and VU Med. Cente, Ctr. For Neurogenomics & Cognitive Research, VU Univ.*

10:00 UU42 **712.27** The early life immune stimulation induces a sex differences in long lasting modifications in cognitive behavior in middle aged rats. I. BERKIKS*; A. EL HESSNI, 14000; A. MESFIOUI. *Ibn Tofail Univ., ibn tofail.*

**POSTER**

**713. Perceptual Decision Making**

***Theme H: Cognition***

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

8:00 UU43 **713.01** Pupil-linked arousal adjusts the perceptual decision process to changing environments. P. MURPHY*; T. PFEFFER; K. TSETSOS; T. H. DONNER. *Univ. Med. Ctr. Hamburg-Eppendorf.*

9:00 UU44 **713.02** Choices bias the accumulation of perceptual evidence in the next trial. A. E. URAI*; A. BRAUN; T. H. DONNER. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. of Amsterdam, Univ. of Amsterdam.*

10:00 UU45 **713.03** GABAergic competition boosts the irrationality of human decision making. K. TSETSOS*; T. H. DONNER. *Univ. Med. Ctr. Hamburg.*

11:00 UU46 **713.04** Dissociated catecholaminergic and cholinergic shaping of large-scale cortical correlations. T. PFEFFER*; A. PONCE-ALVAREZ; G. NOLTE; R. L. VAN DEN BRINK; S. NIEUWENHUIS; A. K. ENGEL; G. DECO; T. H. DONNER. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Pompeu Fabra, Univ. Med. Ctr. Hamburg-Eppendorf, Leiden Univ.*

8:00 UU47 **713.05** Computational and neuromodulatory correlates of pupil dilation during perceptual choice. O. COLIZOLI*; J. W. DE GEE; T. H. DONNER. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. of Amsterdam, Univ. of Amsterdam.*

9:00 UU48 **713.06** Cortical dynamics reflecting Bayesian uncertainty and surprise about the timing of perceptual events. T. MEINDERTSMA*; N. A. KLOOSTERMAN; A. K. ENGEL; E. WAGENMAKERS; T. H. DONNER. *Univ. of Amsterdam, Univ. of Amsterdam, Unversity Med. Ctr. Hamburg-Eppendorf, Max Planck Inst. for Human Develop.*

10:00 UU49 **713.07** Phasic pupil-linked arousal reduces decision biases in mice and men. J. W. DE GEE*; K. TSETSOS; D. A. MCCORMICK; M. J. MCGINLEY; T. H. DONNER. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. of Amsterdam, Yale Univ. Sch. of Med., Baylor Col. of Med., Univ. of Amsterdam.*



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

11:00 UU50 **713.08** The role of saccades and visual information quantity on spatiotemporal patterns of parietofrontal ERPs underlying the perception of complex tool-use affordances. N. NATRAJ*; S. BASUNIA; B. ALTERMAN; L. A. WHEATON. *Univ. of California, San Francisco, Georgia Inst. of Technol.*

8:00 UU51 **713.09** Changes to post-sensory processing predict performance enhancements in human multisensory decision making. G. M. DE SOUSA*; L. FRANZEN; C. KAYSER; M. G. PHILIASTIDES. *Univ. of Glasgow, Univ. of Glasgow.*

9:00 UU52 **713.10** Temporal characterization of the neural correlates of multisensory perceptual decision making in adult dyslexia. L. FRANZEN*; G. M. DE SOUSA; C. KAYSER; M. G. PHILIASTIDES. *Univ. of Glasgow.*

10:00 UU53 **713.11** Concurrent increases in spatial stability and temporal neural dynamics during perceptual decision making. N. A. KLOOSTERMAN*; J. J. FAHRENFORT; D. D. GARRETT. *Max Planck UCL Ctr. for Computat. Psychiatry, VU Univ.*

11:00 UU54 **713.12** The impact of sustained and dynamic uncertainty on simultaneous perceptual- and reward-based decision making. M. GHANE*; S. JAPEE; J. A. RICHEY; L. G. UNGERLEIDER. *Virginia Tech., Natl. Inst. of Mental Hlth., NIH, Natl. Inst. of Mental Hlth.*

8:00 UU55 **713.13** Variability in psychopathology is linked to confidence but not performance in perceptual decision-making. T. SEOW*; M. ROUAULT; C. M. GILLAN; S. M. FLEMING. *Trinity Col. Dublin, Univ. Col. London.*

9:00 UU56 **713.14** Neural mediators of changes of mind about perceptual decisions. S. M. FLEMING*; E. J. VAN DER PUTTEN; N. D. DAW. *Univ. Col. London, Univ. of Amsterdam, Princeton Univ.*

10:00 UU57 **713.15** Human ventromedial prefrontal cortex encodes early signatures of confidence in perceptual decisions. S. GHERMAN*; M. G. PHILIASTIDES. *Univ. of Glasgow.*

## POSTER

### 714. Social and Emotional Processes

***Theme H: Cognition***

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

8:00 UU58 **714.01** Neurocognitive processing in breast cancer patients: Harmful effects of messages perceived as a threat. A. N. SOKOLOV*; M. A. PAVLOVA; S. Y. BRUCKER; D. WALLWIENER; E. SIMOES. *Eberhard Karls Univ. Hosp. Tübingen, Univ. of Tübingen Med. Sch., Eberhard Karls Univ. Hosp. Tübingen.*

9:00 UU59 **714.02** ▲ Differences of n170 amplitudes in emotion information processing among individuals with alexithymia. D. A. BANUELOS*; K. GARCIA; K. JOHNS; S. KANG. *California State Univ. Northridge.*

10:00 UU60 **714.03** Evoked potentials of social comparisons in people with social anxiety/depression. V. PAZ*; E. NICOLAISEN-SOBESKY; G. FERNANDEZ-THEODULOZ; S. GARAT; O. NIEVAS; A. PÉREZ; D. KESSEL; Á. CABANA; V. B. GRADIN. *Univ. De La República Uruguay.*

11:00 UU61 **714.04** Reduced modulation of the language-related network during perception of acoustically degraded speech in autism spectrum disorder. R. HASHIMOTO*; T. ITAHASHI; M. NAKAMURA; H. OHTA; C. KANAI; N. KATO. *Tokyo Metropolitan Univ., Showa Univ.*

8:00 UU62 **714.05** Late positive event-related potentials in electroencephalography can distinguish acquaintances from strangers when both groups recognize faces. S. LEE*; J. KANG; I. OAKLEY; S. KIM. *Ulsan Natl. Inst. of Sci. and Technol.*

9:00 UU63 **714.06** Anatomical evidence of the insula connections with the mirror system in humans and macaque monkeys. G. DI CESARE; C. PINARDI; C. CARAPELLI; F. CARUANA*; M. GERBELLA; G. RIZZOLATTI. *Italian Inst. of Technol., Univ. of Parma, Italian Inst. of Technol.*

10:00 UU64 **714.07** Brain signal complexity during social perception in infancy is associated with epigenetic variability of the oxytocinergic system. M. H. PUGLIA*; K. M. KROL; M. MISSANA; J. P. MORRIS; J. CONNELLY; T. GROSSMANN. *Univ. of Virginia, Max Planck Inst. for Human Cognitive and Brain Sci., Leipzig Univ.*

11:00 UU65 **714.08** Neural correlates of deceptive behavior in children with autism spectrum disorder. S. YOKOTA*; T. HASHIMOTO; R. KAWASHIMA. *Kyushu Univ., Tohoku Univ.*

8:00 UU66 **714.09** A behavioral and neural study of deception. A. SHUSTER*; D. J. LEVY. *Tel Aviv Univ., Tel Aviv Univ.*

9:00 UU67 **714.10** Beta wave oscillations distinguish between dynamic actions of initiating and terminating eye contact with a real partner. X. ZHANG*; J. A. NOAH; S. DRAVIDA; Y. ONO; J. HIRSCH. *Yale Sch. of Med., Yale Sch. of Med., Meiji Univ., Yale Sch. of Med., Yale Sch. of Med., Yale Sch. of Med., Univ. Col. London.*

10:00 UU68 **714.11** Affective and cooperative interactions modulate brain connectivity within the action observation system. S. F. CAPPA*; M. ARIOLI; E. CATRICALÀ; D. PERANI; A. M. PROVERBIO; A. ZANI; A. FALINI; N. CANESSA. *IUSS Pavia, V-S San Raffaele Univ., IRCCS S. Raffaele, Univ. Milano-Bicocca, Inst. Molecul Bioimaging & Physiol_ibfm_National Council Res. (CNR), Vita-Salute Univ., IRCCS S. Raffaele.*

11:00 UU69 **714.12** ▲ Effects of acute aerobic exercise on ocular measures of emotion processing during an emotional face perception task. C. REYES; N. THOM*; H. THOMAS; N. VARBERG; M. P. HERRING; M. J. CAMPBELL. *Wheaton Col., Wheaton Col., Wheaton Col., Univ. of Limerick, Univ. of Limerick.*

8:00 UU70 **714.13** Spatial and temporal dynamics of the networks for body motion processing. M. PAVLOVA*; M. ERB; G. HAGBERG; J. LOUREIRO; A. N. SOKOLOV; K. SCHEFFLER. *Univ. of Tübingen Med. Sch., Univ. of Tuebingen Med. Sch., Eberhard Karls Univ. Hosp. Tübingen, Univ. of Tuebingen Med. Sch.*

9:00 UU71 **714.14** Neural sources and underlying mechanisms of neural responses to heartbeats, and their role in bodily self-consciousness: An intracranial EEG study. H. PARK*; F. BERNASCONI; R. SALOMON; C. TALLON-BAUDRY; L. SPINELLI; M. SEECK; K. SCHALLER; O. BLANKE. *École Polytechnique Fédérale De Lausanne, Gonda Multidisciplinary Brain Res. Ctr., Ecole Normale Supérieure, Geneva Univ. Hosp.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 UU72 **714.15** ▲Assessing effective connectivity of frontal-thalamic network interactions between OCD patients & healthy controls during basic motor control. J. JAVED*; V. A. DIWADKAR; A. CHOWDURY; P. EASTER; D. ROSENBERG; G. HANNA; P. ARNOLD. *Wayne State Univ. Sch. of Med., Wayne State Univ. SOM, Wayne State Univ. Sch. of Med., Wayne State Univ. SOM, Univ. of Michigan, Univ. of Calgary.*

11:00 UU73 **714.16** Impulsive behaviour of ADHD probands may result from biased maternal transmission of DAT and COMT gene variants. S. MAITRA*; S. SINHA; K. MUKHOPADHYAY. *Manovikas Kendra, Manovikas Kendra.*

8:00 UU74 **714.17** Ongoing neuronal activity as marker of human amygdala function. T. FEDELE*; B. STEIGER; A. TZOVARA; D. BACH; P. HILFIKER; T. GRUNWALD; L. STIEGLITZ; H. JOKEIT; J. SARNTHEIN. *Unispital Zürich, Swiss Epilepsy Ctr., Div. of Clin. Psychiatry Res. & Neurosci. Ctr. Zurich, Univ. of Zurich, Wellcome Trust Ctr. for Neuroimaging, Univ. Col. WC1N 3BG London, UK, Unispital Zürich, Neurosci. Center, ETH.*

9:00 UU75 **714.18** Human amygdala intracranial recordings during emotional memory encoding and recognition. M. COSTA; A. GIL-NAGEL; R. TOLEDANO; M. YEBRA; C. MÉNDEZ-BÉRTOLO; S. MORATTI; B. A. STRANGE*. *Lab. For Clin. Neurosci., Ruber Intl. Hosp., Univ. Complutense de Madrid, Reina Sofia Ctr. for Alzheimer's Res.*

10:00 UU76 **714.19** Temporal dynamics of compensatory neural response to cognitive fatigue in a 3 hour Stroop task. I. B. SAMUEL*; C. WANG; B. KLUGER; M. DING. *Univ. of Florida, Univ. of Florida, Univ. of Colorado Denver.*

11:00 UU77 **714.20** The effect of motivation and valence on attentional scope: An event-related potential (ERP) study. K. R. MICKLEY STEINMETZ*; K. S. ARJUNE; P. G. BOLTON; A. E. BRASINGTON; T. J. BUNGE; S. V. PADULA; T. K. PHILLIPS; V. C. ZARUBIN. *Wofford Col., Wofford Col.*

8:00 UU78 **714.21** Navarasa neural correlates. R. P. REDDY*; J. RAJESWARAN. *NIMHANS.*

9:00 UU79 **714.22** Electroencephalographic correlation during social decision-making in young women. A. SIU*; J. HEVIA; R. HIDALGO-AGUIRRE; M. PEREZ-HERNANDEZ; M. HERNANDEZ-GONZALEZ; M. GUEVARA. *Inst. De Neurociencias, Inst. de Neurobiologia, UNAM, campus Juriquilla.*

**POSTER**

**715. Clinical and Animal Studies of the Symptoms of Schizophrenia**

***Theme H: Cognition***

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

8:00 UU80 **715.01** Automated measures of semantic content predict conversion to schizophrenia. N. REZAII*; E. WALKER; P. WOLFF. *EMORY Sch. of Medicine, Dept. of Psychiatry, Dept. of Psychology, Emory Univ.*

9:00 UU81 **715.02** Deficient belief updating explains abnormal information seeking associated with delusions in schizophrenia. S. C. BAKER; A. B. KONOVA; N. D. DAW; G. HORGA*. *New York State Psychiatric Inst., New York Univ., New York Univ., Columbia Univ. Med. Ctr.*

8:00 DP13/UU82 **715.03** (Dynamic Poster) Response inhibition and temporal prediction errors in patients with schizophrenia. B. BOHATEREWICZ; M. NOWICKA; A. PLEWKA; R. LIMONGI*. *Univ. of Social Sci. and Humanities, Univ. of Social Sci. and Humanities, Univ. De Valparaíso Facultad De Medicina.*

11:00 UU83 **715.04** Altered auditory substrates observed in auditory verbal hallucination. K. MATSUO*. *Dokkyo Med. Univ.*

8:00 VV1 **715.05** Hyperctivation of left temporo-parietal regions shortens resting EEG microstates in schizophrenia. S. SONI*; S. P. MUTHUKRISHNAN; M. SOOD; S. KAUR; N. MEHTA; R. SHARMA. *All India Inst. of Med. Sciences, New Delhi, All India Inst. of Med. Sciences, New Delhi.*

9:00 VV2 **715.06** Role of gamma neurofeedback in working memory of persons diagnosed with schizophrenia. E. I. HERRERA*; F. SINGH; A. SMITH; N. DUDECK; Z. YANG; L. RING; S. ERIBEZ; A. AMELLO; M. LIAO; R. CHENG; Y. QIU; R. GOSLA; J. A. PINEDA. *Univ. of California San Diego, Univ. of California San Diego.*

10:00 VV3 **715.07** Do anomalies in millesecond timing lead to the self-disturbances in schizophrenia? experimental, phenomenological and predictive coding approaches. A. L. MISHARA*; A. GIERSCH. *The Chicago Sch. of Professional Psychology, INSERM U1114, Fédération de Médecine Translationnelle de Strasbourg, Strasbourg Univ. Hosp.*

11:00 VV4 **715.08** Cannabis use and aberrant salience processing: Role of cannabis use variables and personality dimensions. C. M. O'TUATHAIGH*; A. BICKERDIKE; C. O'NEILL; P. M. MORAN. *Univ. Col. Cork, Cork Inst. of Technol., Univ. of Nottingham.*

8:00 VV5 **715.09** Aberrant functional connectivity between thalamus and visual cortex is related to attentional impairment in schizophrenia. M. YAMAMOTO*; I. KUSHIMA; R. SUZUKI; A. BRANKO; N. KAWANO; T. INADA; T. IIDAKA; N. OZAKI. *Nagoya Univ.*

9:00 VV6 **715.10** Connectome-wide association of resting-state connectivity with positive symptoms in medication-free patients with primary psychosis. A. BOROSHOK*; M. D. GREGORY; M. L. ELLIOTT; J. S. KIPPENHAN; J. CZARAPATA; D. P. EISENBERG; K. F. BERMAN. *Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*

10:00 VV7 **715.11** ▲Assessing brain activations during an "active" resting state in schizophrenia: evidence of reduced potentiation for action. H. A. BOALBANAT*; V. A. DIWADKAR; J. A. STANLEY; A. CHOWDURY; D. KHATIB; L. HADDAD; P. THOMAS; U. RAJAN; A. AMIRSADRI. *Wayne state school of medicine, Wayne State Univ. SOM, Wayne State Univ. Sch. of Med., Wayne State Univ. Sch. of Med., Wayne State Univ. Sch. of Med.*

11:00 VV8 **715.12** Delusion-like thinking is linked to glutamate concentrations and alterations in the neural mechanisms facilitating about uncertain rewards. K. M. DIEDEREN*; J. HAARSMA; T. SPENCER; H. ZIAUDDEEN; P. C. FLETCHER. *Univ. of Cambridge, King's Col. London.*

8:00 VV9 **715.13** The role of dopamine and psychosis in the precision-weighting of unsigned prediction errors in the dorsal anterior cingulate cortex. J. HAARSMA*; K. M. DIEDEREN; H. J. TAVERNE; J. D. GRIFFIN; G. K. MURRAY; I. M. GOODYER; P. C. FLETCHER. *Univ. of Cambridge, Univ. of Cambridge, Univ. of Cambridge.*



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* Indicates abstract's submitting author

9:00 VV10 **715.14** A greater tendency for mediated learning in a ketamine mouse model of schizophrenia. P. AHRENS; M. KOH*; M. GALLAGHER. *Johns Hopkins Univ.*

10:00 VV11 **715.15** Associative activation and treatment of perceptual 'hedonic hallucinations' in a mouse model of neuropsychiatric illness. A. W. JOHNSON*; R. GIFFORD; C. MANNING; A. J. ROBISON; M. NIWA; A. SAWA. *Michigan State Univ., Michigan State Univ., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ.*

11:00 VV12 **715.16** Upregulation of a brain-enriched microRNA, microRNA-124, contributes to common endophenotypes of schizophrenia and bipolar disorder. H. NAMKUNG*; H. JAARO-PELED; K. SHARMA; S. KANNAN; R. HUGANIR; A. SAWA. *Psychiatry, Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Neuroscience, Johns Hopkins Sch. of Med., Mental Health, Johns Hopkins Sch. of Publ. Hlth.*

8:00 VV13 **715.17** The Dysbindin-1A isoform selectively modulates basal ganglia-related phenotypes through astrocytic-dependent functioning. R. MASTROGIACOMO*; D. MAURO; V. FERRETTI; A. FORGIARINI; F. MANAGÒ; R. MAROTTA; D. ROTHMOND; J. L. WADDINGTON; C. S. WEICKERT; G. ORSO; F. PAPALEO. *Iit, Inst. of Pediatric Research, IRP, NeuRa Fndn., Royal Col. of Surgeons in Ireland, IRCCS E. Medea Scientific Inst.*

9:00 VV14 **715.18** ERRα as a putative mediator of PGC-1α-dependent gene expression: Relevance for the pathophysiology of Schizophrenia. L. J. MCMEEKIN*; L. M. JENKINS; B. M. WATKINS; A. S. BOHANNON; A. PATEL; A. KRALLI; J. J. HABLITZ; R. M. COWELL. *Univ. of Alabama At Birmingham, Univ. of Miami Leonard M. Miller Sch. of Med., The Scripps Res. Inst.*

10:00 VV15 **715.19** Arduino-based prepulse inhibition behavioral box: A low cost method for schizophrenia symptoms assessment. L. ANDREOLI*; E. MORYA. *Inst. Santos Dumont, Inst. Santos Dumont.*

11:00 VV16 **715.20** Neurogranin regulates sensorimotor gating through cortico-striatal circuitry. B. GO*; J. M. SULLIVAN, III; A. N. REKER; H. W. NAM. *LSUHSC-Shreveport.*

8:00 VV17 **715.21** Schizophrenia-like behavioral deficits can be reproduced by regional knockdown of parvalbumin or somatostatin interneurons in the prefrontal cortex or ventral hippocampus. A. M. BOLEY*; S. M. PEREZ; D. J. LODGE. *UTHSCSA.*

9:00 VV18 **715.22** Comparison of allelic mutations in the L-type calcium channel subunit CACNA1c, a risk factor in neuropsychiatric diseases. P. LAU*; E. HOBBS; V. TUCCI; G. LASSI; M. PARSONS; G. T. BANKS; P. M. NOLAN. *MRC Harwell Inst., Neurosci. and Brain Technologies.*

10:00 VV19 **715.23** Reduced synapsin II expression in the medial prefrontal cortex of rats manifests behavioural and brain metabolic changes: Implications in the pathophysiology of schizophrenia. A. M. BERNARDO; S. THOMSON; L. P. NILES*; R. K. MISHRA. *McMaster Univ., McMaster Univ., McMaster Univ.*

**POSTER**

## 716. Biochemical and Signaling Techniques

***Theme I: Techniques***

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

8:00 VV20 **716.01** Subcellular localization of non-prenylatable Rho GTPases and its implication in signal cascades. N. G. RAUT*; J. M. REDDY; D. L. HYNDS. *Texas Women's Univ., Texas Woman's Univ., Texas Woman's Univ.*

9:00 VV21 **716.02** Multiprotein complexes in plasticity. L. A. DENNER*; E. ISHIMWE; I. CORTEZ; E. HOSSAIN; K. T. DINELEY. *Univ. Texas Med. Br., Univ. Texas Med. Br.*

10:00 VV22 **716.03** Revealing the peptide inventory of neurons belonging to an insect locomotor system. S. LIESSEM*; S. NEUPERT; A. BÜSCHGES; R. PREDEL. *Univ. of Cologne.*

11:00 VV23 **716.04** Development of LC3-GABARAP sensors containing a LIR and a hydrophobic domain to monitor autophagy and its application in neurological disorders. J. LEE*; Y. LEE; Y. JUN; H. CHOI; Y. HUH; B. KAANG; D. JANG. *Hannam Univ., Kyungpook Natl. Univ., Korea Basic Sci. Inst., Seoul Natl. Univ., Kyungpook Natl. Univ.*

8:00 VV24 **716.05** Temporal characteristics and behavioral consequences of chemogenetic oxytocin neuron activation. T. GRUND*; R. MENON; S. PROBST; V. GRINEVICH; I. D. NEUMANN. *Univ. of Regensburg, Univ. of Regensburg, German Cancer Res. Ctr.*

9:00 VV25 **716.06** Protein kinase c inhibitors attenuate amphetamine-stimulated dopamine overflow. A. G. ZESTOS*; M. E. GNEGY; R. T. KENNEDY. *American Univ., Univ. Michigan Med. Sch., Univ. of MIchigan.*

10:00 VV26 **716.07** Clozapine N-oxide, the DREADD agonist, does not affect learning-dependent cortical plasticity. G. DOBRZANSKI*; R. ZAKRZEWSKA; M. LIGUZ-LECZNAR; M. KOSSUT. *Nencki Inst. of Exptl. Biol. PAS.*

11:00 VV27 **716.08** Whole-brain activity mapping using the immediate-early promoter-driven reporter system in the cricket. T. WATANABE*; A. UGAJIN; H. AONUMA. *Hokkaido Univ., JT Biohistory Res. Hall.*

8:00 VV28 **716.09** Magnetic sorting of glutamatergic synaptosomes using a recombinant extracellular tag. E. A. BROWN*; L. J. SEVERS; P. WOO; S. E. P. SMITH. *Seattle Children's Res. Inst., Seattle Childrens Res. Inst., Univ. of Washington, Univ. of Washington, Seattle Children's Res. Inst.*

9:00 VV29 **716.10** The effect of the neural environment on lifetime of enzymatic biosensors for neurotransmitter detection. A. M. YORITA*; S. CHEN; A. TOOKER; A. M. BELLE. *Lawrence Livermore Natl. Lab.*

10:00 VV30 **716.11** Novel lactate oxidase-modified carbon-fiber microbiosensor for monitoring rapid lactate fluctuations in the rat striatum using fast-scan cyclic voltammetry. S. SMITH*; S. GOSRANI; M. DAUSCH, 27695; C. A. LEE; G. MCCARTY; L. A. SOMBERS. *North Carolina State Univ., North Carolina State Univ., Pine Res. Instrumentation, North Carolina State Univ.*

11:00 VV31 **716.12** Autoradiography methodologies in CNS research. J. RYTKÖNEN; O. M. KONTKANEN*; T. PARKKARI; A. J. NURMI; T. HUHTALA. *Charles River Discovery.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 VV32 **716.13** ▲ Quantitative comparison of enzyme immobilization strategies for real-time glucose detection employing fast scan cyclic voltammetry. S. GOSRANI*; S. K. SMITH; L. Z. LUGO-MORALES; C. TANG; G. S. MCCARTY; S. KHAN; L. A. SOMBERS. *North Carolina State Univ.*

**POSTER**

**717. Optogenetics Methods**

***Theme I: Techniques***

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

8:00 VV33 **717.01** ● Simultaneous optogenetic manipulations and cellular resolution calcium imaging during active behavior using a head-mountable miniaturized microscope. A. M. STAMATAKIS*; M. J. SCHACHTER; S. GULATI; S. MALANOWSKI; M. TRULSON; S. OTTE. *Inscopix.*

9:00 VV34 **717.02** Influence Mapping: All-optical, causal measurement of effective microcircuit connectivity in mouse cortex. S. CHETTIH*; C. D. HARVEY. *Harvard Med. Sch.*

10:00 VV35 **717.03** Causal mapping of brainwide dynamics by activity-targeted circuit perturbation. N. VLADIMIROV*; Y. MU; J. D. WITTENBACH; J. FREEMAN; S. PREIBISCH; M. AHRENS. *Max-Delbrueck Ctr., HHMI Janelia Res. Campus.*

11:00 VV36 **717.04** Low frequency hippocampal-cortical activity drives brain-wide resting-state functional connectivity: An optogenetic functional MRI study. R. W. CHAN*; A. T. L. LEONG; E. C. WONG; L. C. HO; P. P. GAO; C. M. DONG; Y. S. CHAN; L. W. LIM; E. X. WU. *The Univ. of Hong Kong, The Univ. of Hong Kong, The Univ. of Hong Kong.*

8:00 VV37 **717.05** High-density µLED probes on flexible and stiff substrates. E. KLEIN*; S. AYUB; C. GOSSLER; O. PAUL; P. RUTHER. *Univ. of Freiburg.*

9:00 VV38 **717.06** Single-scan, whole-brain functional network mapping using optogenetic fMRI with CBV. A. WEITZ*; M. CHOY; B. DUFFY; J. LIU; J. LEE. *Stanford Univ., Stanford Univ.*

10:00 VV39 **717.07** Carbon fiber electrodes for single-unit recording combined with artifact-free MRI. M. E. CHUAPOCO*; B. A. DUFFY; H. J. LEE; M. CHOY; J. H. LEE. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

11:00 VV40 **717.08** Motor- versus sensory- neuron selective optogenetic stimulation. Cell autonomously enhanced axon regeneration. P. J. WARD*; S. CLANTON; A. ENGLISH. *Emory Univ. Dept. of Cell Biol.*

8:00 VV41 **717.09** ▲ Genetically encoded light sources for non-invasive optogenetics. T. M. BROWN*; G. G. LAMBERT; A. PAL; M. PRAKASH; N. C. SHANER; U. HOCHGESCHWENDER. *Central Michigan Univ., The Scintillon Inst.*

9:00 VV42 **717.10** Bioluminescence driven optogenetics for investigating functional synaptic communication. M. PRAKASH*; R. LAURENT; A. PAL; B. W. CONNORS; D. LIPSCOMBE; J. A. KAUER; C. I. MOORE; U. HOCHGESCHWENDER. *Central Michigan Univ., Brown Univ., Central Michigan Univ., Brown Univ., Brown Univ., Brown Univ., Brown Univ., Central Michigan Univ.*

10:00 VV43 **717.11** Imaging and regulation of cortical neurons using bioluminescent molecules: A biological method for tracking neural dynamics and driving optogenetic elements *in vivo*. M. GOMEZ-RAMIREZ*; A. I. MORE; A. PAL; B. W. CONNORS; J. A. KAUER; D. LIPSCOMBE; U. HOCHGESCHWENDER; C. I. MOORE. *Brown Univ., Central Michigan Univ.*

11:00 VV44 **717.12** Characterization, sub-cellular targeting and novel applications of a split Gaussia luciferase based genetically encoded calcium indicator. A. PAL*; M. GOMEZ-RAMIREZ; W. E. MEDENDORP; Z. ZAIDI; J. A. KAUER; D. LIPSCOMBE; B. W. CONNORS; C. I. MOORE; U. HOCHGESCHWENDER. *Central Michigan Univ., Brown Univ.*

8:00 VV45 **717.13** ● Chronic activation of dopaminergic neurons via opto-chemogenetics provides neuroprotection in a rodent model of Parkinson's disease. F. SHIU*; K. BERGLUND; A. M. FERNANDEZ; J. K. TUNG; K. MANDI; C. N. GUTEKUNST; R. E. GROSS. *Emory Univ., Emory Univ., Georgia Inst. of Technol., Emory Univ. Sch. of Med., Emory Univ. Sch. Med.*

9:00 VV46 **717.14** Optogenetic stimulation and hypoxic preconditioning enhanced wound healing and protection against inflammatory injury. Z. Z. WEI*; Y. B. ZHANG; J. Y. ZHANG; K. I. BURGLUND; M. R. MCCRARY; J. M. LI; L. WEI; S. P. YU. *Anesthesiol./ Neurol., Emory Univ. Sch. Med., Neurol. Dis. Ctr., Beijing Friendship Hosp., Capital Med. Univ., Neurosurg., Emory Univ. Sch. Med.*

10:00 VV47 **717.15** ● Manipulation of sleep activity using optogenetic stimulation. D. A. JOHNSON*; E. NAYLOR; S. GABBERT; D. V. AILLON; D. A. JOHNSON. *Pinnacle Technology, Inc.*

11:00 VV48 **717.16** Optogenetic and pharmacological resting-state functional MRI reveals thalamic modulation of brain-wide functional connectivity. A. T. LEONG*; X. WANG; R. W. CHAN; C. M. DONG; W. YUNG; Y. CHAN; K. K. TSIA; E. X. WU. *The Univ. of Hong Kong, The Univ. of Hong Kong, The Chinese Univ. of Hong Kong, Sch. of Biomedic. Sci., Fac. Med., Univ. Hong Kong.*

8:00 VV49 **717.17** A high-conductance chemo-optogenetic system based on the vertebrate channel Trpa1b. P. LAM*; S. K. MENDU; R. W. MILLS; B. ZHENG; H. PADILLA; D. J. MILAN; B. N. DESAI; R. T. PETERSON. *Univ. of Utah, Univ. of Virginia Sch. of Med., Massachusetts Gen. Hosp.*

9:00 VV50 **717.18** Tapered optical fibers for optogenetics. F. PISANO*; G. MANDELBAUM; M. PISANELLO; I. A. OLDENBURG; L. SILEO; J. E. MARKOWITZ; R. E. PETERSON; A. DELLA PATRIA; R. PEIXOTO; T. M. HAYNES; E. MAGLIE; M. S. EMARA; E. BELLISTRI; B. SPAGNOLO; E. LEMMA; A. RIZZO; S. R. DATTA; B. L. SABATINI; M. DE VITTORIO; F. PISANELLO. *Italian Inst. of Technol., Howard Hughes Med. Institute, Harvard Med. Sch., Harvard Med. Sch., Howard Hughes Medical Institute, Harvard Med. Sch., Italian Inst. of Technol. and Univ. of Salento, Italian Inst. of Technology; Univ. of Salento.*

10:00 VV51 **717.19** Parallel optical method enables submillisecond optogenetic activation in mouse visual cortex *in vivo*. I. CHEN*; E. RONZITTI; O. A. SHEMESH; D. DALKARA; H. ZENG; E. S. BOYDEN; V. EMILIANI; E. PAPAGIAKOUMOU. *CNRS UMR8250, Paris Descartes Univ., MIT, The Vision Inst., Allen Inst. for Brain Sci., MIT.*



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* Indicates abstract's submitting author

11:00 VV52 **717.20** Three-dimensional, high-resolution, parallel patterned illumination via multiplexed spatiotemporal wavefront shaping. E. PAPAGIAKOUMOU; N. ACCANTO; C. MOLINIER; D. TANESE; E. RONZITTI*; I. CHEN; V. EMILIANI. *CNRS UMR8250, Paris Descartes Univ.*

8:00 VV53 **717.21** Probing the retinal circuit by combining two photon holographic stimulation and multi electrode recordings. G. L. SPAMPINATO*; E. ESPOSITO; P. YGER; B. LEFEBVRE; E. RONZITTI; E. PAPAGIAKOUMOU; C. ROBERT; W. DESCHAMPS; S. A. PICAUD; D. DALKARA; J. DUEBEL; V. EMILIANI; O. MARRE. *The Vision Inst., UPMC, Inst. De La Vision, INSERM, laboratoire de physique statistique CNRS,UPMC,ENS UMR 8550 et PSL research university, Univ. Paris Descartes - CNRS, Paris Descartes Univ., Inst. De La Vision, INSERM, U968, Paris, F-75012, France.*

9:00 VV54 **717.22** Widespread functional opsin transduction in the rat cortex via convection-enhanced delivery. Z. YU*; I. OZDEN; A. V. NURMIKKO. *Brown Univ., Univ. of Missouri.*

10:00 VV55 **717.23** Channelrhodopsin-2 expression localized to deep CA1 hippocampal sublayer in Thy1 line 18 mice. D. L. DOBBINS*; D. C. KLORIG; T. SMITH, 27157; D. W. GODWIN. *Wake Forest Univ., Wake Forest Hlth. Sci., Wake Forest Univ., Wake Forest Sch. of Med.*

11:00 VV56 **717.24** Optical manipulation of neural activity with cellular resolution *in vivo.* A. FORLI; N. BININI; D. VECCHIA; S. BOVETTI; C. MORETTI; T. FELLIN*. *Inst. Italiano di Tecnologia.*

8:00 VV57 **717.25** Fiberless optogenetics to manipulate neuronal activity in both *ex vivo* and *in vivo.* S. CHOWDHURY*; T. MIYAZAKI; H. YAWO; A. YAMANAKA. *Nagoya Univ., Res. Inst. of Envrn. Medicine, Nagoya Univ., Tohoku Univ. Grad Sch. Life Sci.*

9:00 VV58 **717.26** Tapered optical fibers as potential tools to reduce heating artifacts in optogenetics experiments. E. BELLISTRI*; M. PISANELLO; E. MAGLIE; F. PISANO; B. SPAGNOLO; L. SILEO; G. MANDELBAUM; M. DE VITTORIO; F. PISANELLO. *IIT, Harvard Med. Sch.*

10:00 VV59 **717.27** Extending optical techniques to deep brain regions through minimally invasive, splaying optical microfibers. N. PERKINS*; D. SEMU; J. SHEN; T. J. GARDNER. *Boston Univ., Boston Univ.*

11:00 VV60 **717.28** Optogenetic and chemogenetic inhibition of striatal dopaminergic cell transplants in hemiparkinsonian rats to ameliorate graft-induced dyskinesias. V. IYER*; K. VENKITESWARAN; N. PATEL; S. CHINNIAH; K. LE; C. WHITE; E. HANDLY; A. ZENEROVITZ; A. COCKING; Z. LIU; C. RAMAKRISHNAN; K. DEISSEROTH; T. SUBRAMANIAN. *Indiana Univ., The Pennsylvania State Univ. Col. of Med., The Pennsylvania State Univ., Stanford Univ. Dept. of Psychology.*

8:00 VV61 **717.29** Novel luminopsins for improved bimodal opto- and chemogenetic control of neural function. S. PARK*; S. SONG; B. PALMATEER; A. PAL; G. P. SHALL; R. M. WELCHKO; K. IBATA; A. MIYAWAKI; G. J. AUGUSTINE; U. HOCHGESCHWENDER. *Korea Inst. of Sci. and Technol., Seoul Natl. Univ., Nanyang Technological Univ., Inst. of Mol. and Cell Biol., Central Michigan Univ., Central Michigan Univ., RIKEN Brain Sci. Inst., Keio Univ.*

9:00 VV62 **717.30** Optogenetic control of BDNF/TrkB signalling. A. M. ZBELA*; D. A. GELL; L. C. FOA; J. Y. LIN. *Univ. of Tasmania.*

**POSTER**

**718. Clinical Computational Models**

***Theme I: Techniques***

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

8:00 VV63 **718.01** Examination of PTSD pathology using small world graph representations. J. K. STATZ*; R. M. MCCARRON; E. MCGINNIS; M. L. MEHALICK; S. T. AHLERS; P. B. WALKER; I. N. DAVIDSON; J. D. HUGHES. *Naval Med. Res. Ctr., Henry M. Jackson Fndn., Uniformed Services Univ. of Hlth. Sci., Univ. of California - Davis, Walter Reed Army Inst. of Res.*

9:00 VV64 **718.02** Neuronal hyperactivity in LRRK2 G2019S cellular models of Parkinson's disease. S. HACHI*; E. LUCUMI MORENO; J. C. SCHWAMBORN; P. VANDEN BERGHE; R. M. T. FLEMING. *Univ. of Luxembourg, Univ. of Leuven.*

10:00 VV65 **718.03** ● Identifying developmental trajectories in whole brain community structure in Autism Spectrum Disorder using multilayer community detection. U. BRAUN*; A. MOSCICKI; C. MOESSNANG; S. BARON-COHEN; S. DURSTON; A. M. PERSICO; W. SPOOREN; D. MURPHY; E. LOTH; J. BUITELAAR; T. BANASCHEWSKI; D. BRANDEIS; H. TOST; A. S. MEYER-LINDENBERG. *Central Inst. of Mental Hlth., Cambridge Univ., Rudolf Magnus Brain Ctr., Univ. of Messina, Hoffmann-La Roche, King's Col. London, Donders Inst. for Brain, Cognition and Behaviour, Univ. of Zurich.*

11:00 VV66 **718.04** Pharmacophore based screening and molecular docking probing the novel inhibitors against BACE1 of Alzheimer's disease. P. JANGAMPALLI ADI*; P. REDDY. *Texas Tech. Hlth. Sci. Ctr.*

8:00 VV67 **718.05** Bioinformatics analysis of a F2 mouse dataset reveals gene networks regulating sleep homeostasis and major depressive disorder. V. GAO*; P. JIANG; J. R. SCARPA; K. FITZPATRICK; M. VITATERNA; A. KASARSKIS; F. W. TUREK. *Northwestern Univ., Icahn Sch. of Med. at Mount Sinai, Strategic Analysis/Support To DARPA BTO.*

9:00 VV68 **718.06** Bionic legs restore the dexterity, confidence and ownership in lower-limb amputees. S. RASPOPOVIC*; F. PETRINI; G. VALLE; P. CVANCARA; A. HIAIRRASSARY; D. GUIRAUD; A. ALEXANDERSSON; T. STIEGLITZ; S. MICERA; M. BUMBASIREVIC. *Ecole Polytechnique Federale De Lausanne, EPFL, Scuola Superiore Sant Anna, IMTEK, Univ. of Montpellier - LIRMM, OSSUR, Univ. of Freiburg, Univ. of Belgrade.*

10:00 VV69 **718.07** ▲ A mathematical network model of ischemic stroke. M. SARKAR*; R. A. LEE; C. J. CONTE; D. H. TERMAN. *Ohio State Univ.*

11:00 VV70 **718.08** Modeling striatal network dynamics in disease. A. P. PONZI*; S. J. BARTON; G. V. REBEC; J. R. KOZLOSKI. *IBM, Indiana Univ.*

8:00 VV71 **718.09** Towards the optimal control of nonlinear brain networks dynamics in Alzheimer's disease. L. M. SANCHEZ-RODRIGUEZ; Y. ITURRIA-MEDINA; R. C. SOTERO*. *Univ. of Calgary, Montreal Neurolog. Inst., Univ. of Calgary.*

9:00 VV72 **718.10** Shape analysis of human white matter tracts. T. GLOZMAN*; L. BRUCKERT; F. PESTILLI; D. W. YECIES; L. GUIBAS; K. YEOM. *Stanford Univ., Indiana Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 VV73 **718.11** ● A computational framework for closed-loop control of general anesthesia in macaques. S. CHAKRAVARTY*; J. A. DONOGHUE; M. MAHNKE; D. KISHNAN; P. L. PURDON; E. K. MILLER; E. N. BROWN. *MIT, MIT, Massachusetts Gen. Hosp., MIT-Harvard Hlth. Sci. and Technol., MIT.*

**POSTER**

**719. Cortical and Hippocampal Network Models**

***Theme I: Techniques***

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

8:00 VV74 **719.01** A generative model for cortical networks. D. L. BARABASI*; Z. TOROCZKAI. *Univ. of Notre Dame.*

9:00 VV75 **719.02** Human neocortical neurosolver (HNN): A new computational tool for localizing and interpreting human neocortical dynamics. S. A. NEYMOTIN*; N. PELED; R. A. MCDOUGAL; N. T. CARNEVALE; M. L. HINES; M. HAMALAINEN; S. R. JONES. *Brown Univ., MGH/HST Martinos Ctr. For Biomed. Imaging, Yale Univ., Harvard Med. Sch., Providence VAMC.*

10:00 VV76 **719.03** A cortical microcircuit model with heterogeneous excitatory and inhibitory neurons. N. L. KAMIJI*; R. SHIMOURA; R. F. PENA; V. L. CORDEIRO; C. ROMARO; C. C. CEBALLOS; A. C. ROQUE. *Univ. of Sao Paulo.*

11:00 VV77 **719.04** Noise-enhanced transition from synchronized to desynchronized states in a cortical network model. R. D. PENA*; M. ZAKS; A. C. R. *Univ. of São Paulo, Humboldt Univ. of Berlin.*

8:00 VV78 **719.05** Combining computational neuroscience and electrophysiology for optimal cortical electric stimulation. M. DANNHAUER*; K. SHAYESTEHFARD; S. GULER; D. J. CALDWELL; J. A. CRONIN; A. GKOGKIDIS; R. MACLEOD; T. BALL; J. G. OJEMANN; D. BROOKS. *Univ. of Utah, Northeastern Univ., Univ. of Washington, Universtity Med. Ctr. Freiburg, Univ. of Washington.*

9:00 VV79 **719.06** Automatic labeling of cortical sulci in human fetal brains. H. YUN*; B. GAGOSKI; C. ROLLINS; C. ORTINAU; E. YANG; P. E. GRANT; K. IM. *Boston Children's Hosp., Boston Children's Hosp., Washington Univ. Sch. of Med., Boston Children's Hosp.*

10:00 VV80 **719.07** Selective activation of cortical neurons by extracellular electrical stimulation. M. KOMAROV*; P. MALERBA; E. HALGREN; M. BAZHENOV. *Univ. of California San Diego.*

11:00 VV81 **719.08** A stochastic cortical microcircuit model. A. C. ROQUE*; N. L. KAMIJI; V. L. CORDEIRO; C. C. CEBALLOS; R. O. SHIMOURA; R. F. O. PENA; C. ROMARO. *Univ. de Sao Paulo.*

8:00 VV82 **719.09** Sparse coding and dimensionality reduction in cortex. E. ROUNDS*; M. BEYELER; K. D. CARLSON; J. L. KRICHMAR; N. DUTT. *Univ. of California, Irvine, Univ. of Washington, Sandia Natl. Labs., Univ. of California, Irvine.*

9:00 VV83 **719.10** Anatomic determinants of spatiotemporal patterns of activity in a NEURON-Admittance Method study of hippocampal protheses. C. S. BINGHAM*; K. LOIZOS; G. J. YU; J. C. BOUTEILLER; D. SONG; G. LAZZI; T. W. BERGER. *USC, Univ. of Utah, USC, Univ. of Southern California Dept. of Biomed. Engin., Univ. of Utah.*

10:00 VV84 **719.11** Multimodal characterization of the mesial temporal lobe. R. VOS DE WAEL*; B. CALDAIROU; B. JEFFERIES; J. SMALLWOOD; N. BERNASCONI; B. C. BERNHARDT. *McGill Univ., Univ. of York.*

11:00 VV85 **719.12** Structural and dynamic properties of critical associative memory networks. D. ZHANG*; C. ZHANG; A. B. STEPANYANTS. *Northeastern Univ., Northeastern Univ.*

8:00 VV86 **719.13** Robustness to fluctuations in neural activity is reflected in the structure of critical associative memory networks. C. ZHANG*; D. ZHANG; A. B. STEPANYANTS. *Northeastern Univ., Northeastern Univ.*

9:00 VV87 **719.14** Basins of attraction in neural networks: A computational study. B. ROVIRA*; A. ROXIN. *Ctr. De Recerca Matemàtica.*

10:00 VV88 **719.15** Predicting emergent sequences from network connectivity . K. MORRISON; C. PARMELEE; S. MOORE; C. P. CURTO*. *Univ. of Northern Colorado, Keene State, The Pennsylvania State Univ.*

**POSTER**

**720. Simple Biological Models for Neurocomputational Analysis**

***Theme I: Techniques***

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

8:00 VV89 **720.01** Entropy based graph theory models of hydra regeneration. S. BATIR*; J. LOVAS; R. YUSTE. *Columbia Univ.*

9:00 VV90 **720.02** Dynamic network analysis, an application to *C. elegans.* V. GEORGE*; F. PUPPO; G. A. SILVA. *UC San Diego.*

10:00 VV91 **720.03** ● Wide-field imaging of magnetic fields from brain slice using nitrogen-vacancy centers in diamond. M. KARADAS*; A. M. WOJCIECHOWSKI; A. HUCK; U. L. ANDERSEN; N. O. DALBY; A. THIELSCHER. *Tech. Univ. of Denmark, Tech. Univ. of Denmark, Copenhagen Univ., Copenhagen Univ. Hosp. Hvidovre.*

11:00 VV92 **720.04** Implementation of artificial vision for behavioral tests in rats. R. BELTRAN-RAMIREZ*; C. VENTURA- MEJIA; M. CERPA GALLEGOS; E. ARCINIEGA VÁZQUEZ; J. ESPINOZA - JR.; R. ZEPEDA-GOMEZ; J. MARTINEZ-MENDOZA; S. CONTRERAS-DELATORRE; C. GONZALEZ-SANDOVAL; R. MACIEL-ARELLANO; V. LARIOS- ROSILLO. *Univ. De Guadalajara, Ctr. de Enseñanza Técnica Industrial.*

8:00 WW1 **720.05** Structural properties of a probabilistic model of neuronal connectivity in a simple vertebrate animal. A. FERRARIO*; R. MERRISON-HORT; R. BORISYUK. *Plymouth Univ.*

9:00 WW2 **720.06** A CPG-driven neuromechanical model of forward locomotion in *C. elegans.* E. OLIVARES*; E. J. IZQUIERDO; R. D. BEER. *Indiana Univ., Indiana Univ.*

10:00 WW3 **720.07** *C. elegans* Neural Interactome: Interactive visualization of a full neuronal system. E. SHLIZERMAN*; J. KIM. *Univ. of Washington, Univ. of Washington.*

8:00 DP14/WW4 **720.08** (Dynamic Poster) Network models of zebrafish whole-brain cell-resolution dynamics. M. RUBINOV*; Y. MU; D. V. BENNETT; N. VLADIMIROV; M. B. AHRENS. *Howard Hughes Med. Inst.*

• Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

8:00 WW5 **720.09** ▲ Multi-timescale hidden state modelling of rat behavior reveals temporal-spatial patterns. H. SHAN*; P. MASON. *Univ. of Chicago.*

9:00 WW6 **720.10** Integrated neuromechanical model shows stretch-reception can generate and propagate wave responsible for forward locomotion. E. J. IZQUIERDO*; R. D. BEER. *Cognitive Sci. Program, Indiana Univ., Indiana Univ.*

**POSTER**

**721. Software Tools II**

***Theme I: Techniques***

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

8:00 WW7 **721.01** Implementation of a query language to enable searching structured neurophysiology data. P. JEŽEK*; J. TEETERS; F. SOMMER. *Univ. of California Berkeley.*

9:00 WW8 **721.02** Harmonization of cortical thickness measurements across scanners and sites. N. CULLEN*; J. FORTIN; Y. I. SHELINE; R. SHINOHARA. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

8:00 DP15/WW9 **721.03** (Dynamic Poster) Analyzing volumetric anatomical data with immersive virtual reality tools. S. PAGÈS*; A. HOLTMAAT; J. DONOGHUE; G. REYMOND. *Univ. of Geneva, Wyss Ctr. for Bio and Neuroengineering.*

11:00 WW10 **721.04** Open-source group feeding experimentation device (g-fed): Monitoring home cage feeding behavior in rodents. M. A. ALI*; K. P. NGUYEN; A. V. KRAVITZ. *Natl. Inst. of Hlth., Carnegie Mellon Univ., Natl. Inst. of Hlth.*

8:00 WW11 **721.05** Integrating molecular markers and gene expression in SenseLab for neuroinformatics-driven discovery. M. SURLES-ZEIGLER*; T. M. MORSE; R. A. MCDOUGAL; G. M. SHEPHERD. *Yale Univ., Yale Univ. Sch. Med., Yale Univ., Yale Univ. Sch. of Med.*

9:00 WW12 **721.06** Digital signal processing toolbox for real time MEG data analysis in source space. A. MOISEEV; N. PEATFIELD; S. DOESBURG; T. CHEUNG; U. RIBARY*. *Simon Fraser Univ. (SFU).*

10:00 WW13 **721.07** ● Robust estimation of calcium transients by modeling contamination. J. L. GAUTHIER; A. S. CHARLES*; J. W. PILLOW; D. W. TANK. *Princeton Univ., Princeton Univ., Princeton Neurosci. Inst.*

11:00 WW14 **721.08** Selective, subsecond measurement of *in vivo* hydrogen peroxide dynamics employing a double voltammetric waveform. C. MEUNIER*; E. MITCHELL; V. TOUPS; J. ROBERTS; G. MCCARTY; L. A. SOMBERS. *North Carolina State Univ.*

8:00 WW15 **721.09** Designing workflows for the collaborative management and analysis of electrophysiological data and metadata. J. SPRENGER; A. YEGENOGLU; S. GRÜN; M. DENKER*. *Jülich Res. Ctr., Jülich Res. Ctr., Jülich Res. Ctr., RWTH Aachen Univ.*

9:00 WW16 **721.10** Apes: Automated pipeline for EEG source reconstruction for large scale EEG analysis. M. VIRMANI*; N. AHUJA; N. PEGWAL; R. SHARMA. *Stress & Cognitive Electro Imaging Lab. (SCEL), Stress & Cognitive Electro Imaging Lab. (SCEL), All India Inst. of Med. Sci. (AIIMS).*

10:00 WW17 **721.11** Real-time experimental control with graphical user interface (REC-GUI) for neuroscience research. B. KIM*; S. KENCHAPPA; T. CHANG; L. W. THOMPSON; A. ROSENBERG. *Univ. of Wisconsin - Madison.*

11:00 WW18 **721.12** Particle Tracking based Motion Compensation for neuronal imaging. W. LOSERT*; S. AGHAYEE; D. WINKOWSKI; P. KANOLD. *Univ. of Maryland.*

8:00 WW19 **721.13** ● Whole mouse brain cell mapping with anatomic specificity using a standardized atlas. N. J. O'CONNOR*; B. S. EASTWOOD; S. J. TAPPAN; M. J. FAY; S. GERFEN; P. J. ANGSTMAN; C. R. GERFEN; J. R. GLASER. *MBF Biosci., Natl. Inst. of Mental Hlth.*

9:00 WW20 **721.14** ● Using a probabilistic atlas to improve manual parcellation of the cerebellum. A. J. WORTH*; J. A. TOURVILLE. *Neuromorphometrics, Inc., Boston Univ.*

10:00 WW21 **721.15** Real-time, automatic calcium image segmentation via topology. M. VAIANA*; E. M. GOLDBERG; S. E. MULDOON. *Univ. At Buffalo, Children's Hosp. of Philadelphia, The Perelman Sch. of Med. at The Univ. of Pennsylvania, Univ. At Buffalo, SUNY.*

11:00 WW22 **721.16** ● ▲ How to find candidate drugs to be repositioned for neurodegenerative disorders within a graph of globally connected machine-readable papers? R. GURINOVICH*; A. PASHUK; E. MOROZ; Y. PETROVKIY; A. DMITRIEVSKIJ; O. KURYAN; A. TIGGRE; A. SCERBACOV. *sci.AI.*

8:00 WW23 **721.17** Automated reconstruction pipeline for oblique light sheet tomography. J. MIZRACHI*; A. NARASIMHAN; K. UMADEVI VENKATARAJU; P. OSTEN. *Cold Spring Harbor Lab., Cold Spring Harbor Lab., Cold Spring Harbor Lab., Cold Spring Harbor Lab.*

9:00 WW24 **721.18** Semi-automated detection and characterization of spike-wave discharges (SWDs) in a mouse model of absence epilepsy. J. A. PFAMMATTER*; E. P. WALLACE; R. K. MAGANTI; M. V. JONES. *Univ. of Wisconsin Madison, Univ. of Wisconsin, Univ. of Wisconsin, Univ. of Wisconsin Madison.*

10:00 WW25 **721.19** Automatic segmentation of the primate brain using deep fully-convolutional networks. K. BROWN*; P. VELASCO; B. PESARAN. *New York Univ., Ctr. for Brain Imaging, New York Univ. Ctr. for Neural Sci.*

11:00 WW26 **721.20** Defining and assessing the integrity of cortical layering: A quantitative approach. A. T. KARST*; J. BERGER; J. J. HUTSLER. *Univ. of Wisconsin, Oshkosh, Univ. of Wisconsin, Oshkosh, Univ. of Nevada.*

8:00 WW27 **721.21** Building a prototype application for visualizing neuroanatomy and quantitative cell features from the Allen Brain Atlas in virtual space. A. BERNARD*; B. BLANCHARD; F. LEE; T. DOLBEARE; N. GRADDIS; D. TOLOUDIS; N. GOUWENS; D. FENG; L. NG; C. KOCH. *Allen Inst. for Brain Sci., Allen Inst. for Cell Sci.*

9:00 WW28 **721.22** HyperTools: A python toolbox for visualizing and manipulating high-dimensional neural time-series data. A. C. HEUSSER*; K. ZIMAN; L. L. W. OWEN; J. R. MANNING. *Dartmouth Col., Dartmouth Col.*



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* Indicates abstract's submitting author

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

**722. Neuroepigenetic Pathways in Learning and Memory in Mouse and Ant** — CME

Wed. 1:00 PM - 2:10 PM — Hall D

*Speaker:* S. L. BERGER, *Perelman Sch. of Medicine, Univ. of Pennsylvania.*

Epigenetic pathways are important for controlling learning and memory. Epigenetics encompasses mechanisms that alter the structure of chromatin, composed of DNA and packaging proteins called histones, and these alterations in turn modulate neuronal gene expression in ways that shape behavior. This lecture will present findings from studies of epigenetic transcriptional mechanisms in mice and ants, eusocial insects living in complex societies, to explore the functional consequences of neuroepigenetics for behavioral plasticity.

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

**723. ● Illuminating Neural Circuits: From Molecules to MRI** — CME

Wed. 1:30 PM - 4:00 PM — Ballroom A

*Chair:* J. LEE
*Co-Chair:* A. C. KREITZER

The symposium will introduce: cutting-edge experimental approaches for visualizing and manipulating neural circuits, novel circuit mechanisms, role of circuit defects in neurological disease, and therapeutic approaches aimed at manipulating circuit mechanisms. The goal is to better understand the role of neural circuits in normal brain function and how their impairment underlies neurological disease, as well as to discuss emerging ability to utilize this knowledge to develop therapeutics.

1:30 **723.01** Introduction.

1:35 **723.02** Function of basal ganglia circuitry in movement and action selection. A. C. KREITZER. *Gladstone Inst. of Neurolog. Dis.*

2:10 **723.03** ● Decoding memory in health and Alzheimer's disease. A. C. SINGER. *Georgia Inst. of Technol.*

2:45 **723.04** ● Investigation of global brain circuit mechanisms with cell type specificity. J. LEE. *Stanford Univ.*

3:20 **723.05** ● Central thalamic brain stimulation for arousal regulation. N. SCHIFF. *Weill Cornell Med.*

3:55 **723.06** Closing Remarks.

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

**724. Neural Correlates of Consciousness: Progress and Problems** — CME

Wed. 1:30 PM - 4:00 PM — Ballroom B

*Chair:* J. STORM
*Co-Chair:* M. BOLY

Consciousness research is developing rapidly. Using evidence from brain injury in patients and physiological and behavioral studies in humans and related animals (single neuron, fMRI, EEG, TMS, intracranial recordings), the symposium will highlight how different conscious states and contents arise in the brain. Speakers will discuss different experimental approaches and theoretical frameworks as well as the medical and ethical relevance of this area.

1:30 **724.01** Introduction.

1:35 **724.02** Are the neural correlates of consciousness in the front or in the back of the cerebral cortex? M. BOLY. *Univ. of Wisconsin-Madison.*

2:10 **724.03** Assessing Consciousness through Cortical Perturbations. M. MASSIMINI. *Univ. of Milan.*

2:45 **724.04** How to disentangle conscious perception from decision making and visuomotor processes. M. WILKE. *Univ. Med. Goettingen.*

3:20 **724.05** The conscious rodent brain: Ensemble behavior and long-range correlation patterns. C. M. A. PENNARTZ. *Univ. of Amsterdam.*

3:55 **724.06** Closing Remarks.

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

**725. After the Data Deluge: Grappling With Transcriptional Complexity in the Brain** — CME

Wed. 1:30 PM - 4:00 PM — Ballroom C

*Chair:* J. GILLIS
*Co-Chair:* V. MENON

Advances in gene expression analysis have vastly improved the scale and diversity of information that can be used to characterize neurons in the brain. In this minisymposium, we will describe how sophisticated analytical approaches exploit large-scale data, particularly at the cellular level, to provide novel insights into the regulation of neuronal identity. A focus will be on how the lessons learned from big data can improve the design and interpretation of smaller scale experiments.

1:30 **725.01** Introduction.

1:35 **725.02** Developmental and genetic regulation of the human cortex transcriptome. A. JAFFE. *Lieber Inst. for Brain Develop.*

1:55 **725.03** Classifying and characterizing single cells using transcriptional and epigenetic analysis. J. FAN. *Harvard Univ.*

2:15 **725.04** Identifying cell types in multiple cortical regions using multimodal single-cell data. Z. YAO. *Allen Inst. for Brain Sci.*



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* Indicates abstract's submitting author

2:35 **725.05** Assessing the impact of read depth, cell number, and clustering methods on transcriptomic cell type identification. V. MENON. *Howard Hughes Med. Inst.*

2:55 **725.06** Validating neuronal identity through meta-analysis. M. CROW. *Cold Spring Harbor Lab.*

3:15 **725.07** Transcriptomic correlates of neuron electrophysiological diversity. S. TRIPATHY. *Univ. of British Columbia.*

3:35 **725.08** Closing Remarks.

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

**726. Dendritic Computation: Linking Dendritic Mechanisms to Circuits and Behavior** — CME

Wed. 1:30 PM - 4:00 PM — 146A

*Chair:* W. WEI
*Co-Chair:* J. DING

A key function of neuronal dendrites is integrating and transforming synaptic inputs to drive appropriate outputs. This minisymposium will focus on the complexity and physiological relevance of dendritic computations in the brain, and will explore dendritic processing in various cell types of the sensory and motor systems as well as spatial navigation. The session will also highlight emerging studies that directly link dendritic mechanisms to neural circuit function and behavior.

1:30 **726.01** Introduction.

1:35 **726.02** Intricacies of synaptic connectivity in the dendrites of pyramidal neurons receiving input from several presynaptic cell types. N. P. SPRUSTON. *HHMI Janelia Res. Campus.*

1:55 **726.03** Inhibition enhances neuronal coding of place in hippocampal area CA1. C. GRIENBERGER. *HHMI/ Janelia Res. Campus.*

2:15 **726.04** The role of dendritic calcium transients in the formation of hippocampal cognitive maps during novel environment exposure. M. SHEFFIELD. *Northwestern Univ.*

2:35 **726.05** Cross-compartmental modulation of starburst amacrine cell dendrites underlies motion computation in the retina. W. WEI. *Univ. of Chicago.*

2:55 **726.06** Branch specific inhibition of dendritic plateau potential in striatal spiny projection neurons. J. DING. *Stanford Univ.*

3:15 **726.07** The role of cortical dendrites during sensory input and perception. L. PALMER. *Florey Institute, Univ. of Melbourne.*

3:35 **726.08** Closing Remarks.

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

**727. Deep-Layer Projection Neurons of the Neocortex: Specialized Subpopulations Exhibiting Distinct Integration and Output** — CME

Wed. 1:30 PM - 4:00 PM — 151B

*Chair:* N. C. DEMBROW
*Co-Chair:* A. L. BAKER

Charting the six-layered cortical microcircuit dates back to the days of Ramón y Cajal, yet how information is processed by this network remains elusive. This minisymposium will focus on recent advances regarding the distinct subpopulations of deep-layer pyramidal neurons that provide output from this network to various cortical and subcortical targets. Comparing across multiple cortices, this session aims to identify fundamental mechanisms that contribute to the diversity of cortical output channels.

1:30 **727.01** Introduction.

1:35 **727.02** Interaction between GABAergic cells and projection specific pyramidal cells in the layer 5 of rat frontal cortex. M. MORISHIMA. *NIPS.*

1:55 **727.03** The synaptic organization of layer 6 cortical projection neurons. J. KIM. *Johns Hopkins Univ.*

2:15 **727.04** Dendritic integration properties of layer 5 neurons depend upon their long-range projection target. N. C. DEMBROW. *Univ. of Washington.*

2:35 **727.05** Layer 5 cells in visual cortex with defined projections have distinct response properties. A. JUAVINETT. *Cold Spring Harbor Lab.*

2:55 **727.06** Motor cortex projection neurons underlying motor planning and movement. N. LI. *Baylor Col. of Med.*

3:15 **727.07** Inferring long-range projections of L5 pyramidal neurons in human middle temporal gyrus using correlative analyses of gene expression and physiology. B. KALMBACH. *Allen Inst. for Brain Sci.*

3:35 **727.08** Closing Remarks.

**NANOSYMPOSIUM**

**728. Autism: Physiology and Behavior**

***Theme A: Development***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, 152A

1:00 **728.01** Brain dynamics in high-functioning autistic adults. T. WATANABE*; G. E. REES. *Inst. of Cognitive Neuroscience, Univ. Col. London, Univ. Col. London.*

1:15 **728.02** Metabolic disorders impair mitochondrial-ER-$Ca^{2+}$ homeostasis in radial glial cell fibers and disrupt neuronal migration to the neocortex. B. G. RASH*; T. L. HORVATH; P. RAKIC. *Yale Univ., Yale Univ., Yale Univ.*

1:30 **728.03** Mapping microglia heterogeneity in the developing brain using single-cell sequencing. T. R. HAMMOND*; A. WYSOCKER; B. SEICOL; A. SAUNDERS; E. MACOSKO; J. NEMESH; S. MCCARROLL; B. A. STEVENS. *Boston Children's Hosp., Stanley Ctr. for Psychiatric Illness, Harvard Med. Sch., Harvard Med. Sch., Harvard Med. Sch., Childrens Hosp.*





• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:45 **728.04** ● A functional imaging investigation of typical and atypical development of the social brain. C. MOESSNANG*; A. MOSCICKI; U. BRAUN; S. BAUMEISTER; D. BRANDEIS; S. BARON-COHEN; S. DURSTON; A. M. PERSICO; W. SPOOREN; D. MURPHY; E. LOTH; J. BUITELAAR; T. BANASCHEWSKI; H. TOST; A. S. MEYER-LINDENBERG. *Central Inst. of Mental Hlth., Harvard Med. Sch., Central Inst. of Mental Hlth., Cambridge Univ., Rudolf Magnus Brain Ctr., Univ. of Messina, Hoffmann-La Roche, King's Col. London, Radboud Univ. Nijmegen Med. Ctr., Central Inst. of Mental Hlth.*

2:00 **728.05** Disrupted neural circuits in a mouse model of ASD. J. GIOVANNIELLO*; S. AHRENS; B. LI. *Cold Spring Harbor Lab., Cold Spring Harbor Lab.*

2:15 **728.06** Maternal insecticide exposure during pregnancy and risk of autism in offspring from a national birth cohort. A. S. BROWN*; K. CHESLACK-POSTAVA; P. RANTAKOKKO; H. SURCEL; S. HINKKA-YLI-SAOMÄKI; I. MCKEAGUE; H. KIVIRANTA; A. SOURANDER. *New York State Psychiatric Inst., Columbia Univ., Natl. Inst. for Hlth. and Welfare, Turku Univ., Columbia Univ. Mailman Sch. of Publ. Hlth.*

2:30 **728.07** Large-scale brain networks in middle-aged adults with autism spectrum disorder: Functional connectivity differences and relationships with symptoms. M. STOECKMANN*; L. BAXTER; C. SMITH; B. BRADEN. *Autism Brain Aging Lab., Arizona State Univ., Barrow Neurolog. Inst., Southwest Autism Res. & Resource Ctr.*

2:45 **728.08** Imaging brain function in children with autism spectrum disorder with diffuse optical tomography. A. T. EGGEBRECHT*; J. P. CULVER. *Washington Univ. Sch. of Med., Washington Univ. in St Louis.*

3:00 **728.09** Awake mouse functional MRI for the detection of the abnormal neural circuit in autism model mouse. T. TSURUGIZAWA*; K. TAMADA; A. KITAMURA; N. ONO; S. KARAKAWA; Y. KODAMA; T. TAKUMI. *NeuroSpin/CEA-Saclay, RIKEN Brain Sci. Inst., Ajinomoto. Co., Inc.*

**NANOSYMPOSIUM**

**729. Protective and Pathogenetic Mechanisms in Alzheimer's Disease**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, 140A

1:00 **729.01** Validation of novel genetically diverse mouse model for understanding complex etiology of Alzheimer's disease. S. M. NEUNER*; R. RICHHOLT; M. DE BOTH; M. J. HUENTELMAN; K. M. S. O'CONNELL; C. C. KACZOROWSKI. *Univ. of Tennessee Hlth. Sci. Ctr., The Jackson Lab., Translational Genomics Res. Inst.*

1:15 **729.02** A novel angiotensin converting enzyme 1 mutation is associated with increased risk for Alzheimer's disease and may reduce cell survival. L. K. CUDDY*; R. E. TANZI; R. J. VASSAR. *Northwestern Univ., MassGeneral Inst. for Neurodegenerative Dis.*

1:30 **729.03** ● Retromer viral vector technology for Alzheimer's disease. Y. H. QURESHI*; D. E. BERMAN; R. L. KLEIN; V. M. PATEL; G. A. PETSKO; S. A. SMALL. *Columbia Univ. Med. Ctr., LSUHSC, Weill Cornell Med.*

1:45 **729.04** Boosting monoaminergic transmission counteracts cognitive and psychiatric symptoms in Alzheimer's disease. D. BECKMAN*; J. H. LEDO; L. E. S. SANTOS; M. V. LOURENCO; F. C. RIBEIRO; S. BOSCHEN; J. T. S. FORTUNA; C. D. CUNHA; P. F. GARDINO; F. G. DE FELICE; S. T. FERREIRA. *UC Davis, Federal Univ. of Rio de Janeiro, Federal Univ. of Parana, Federal Univ. of Rio de Janeiro, Queen's Univ.*

2:00 **729.05** Intersection of TREM2-C1q in Alzheimer disease. B. P. LEUNG*; K. R. DOTY; C. J. MILLER; T. M. WEITZ; A. W. VESLING; M. F. UCHOA; K. W. IM; D. GATE; A. M. QUIHUIS; M. GUILLOT-SESTIER; J. RODRIGUEZ, Jr; K. T. CHANG; A. J. TENNER; M. COLONNA; T. TOWN. *USC, USC, USC, Zilkha Neurogenetic Institute, Keck Sch. of Medi, USC, Stanford Univ., Zilkha Neurogenetic Institute, Keck Sch. of Med. of USC, USC, Univ. California Irvine, Washington Univ. Sch. of Med. at St Louis, Zilkha Neurogenetic Inst.*

2:15 **729.06** Expanding roles for prion protein $PrP^C$ in Alzheimer disease: An ancient conserved interaction. W. T. ALLISON*; P. L. LEIGHTON. *Univ. of Alberta, Univ. of Alberta.*

2:30 **729.07** FNDC5/irisin corrects memory deficits in animal models of Alzheimer's disease. M. V. LOURENCO*; S. T. FERREIRA; F. G. DE FELICE. *Fed Univ. of Rio De Janeiro, Fed. Univ. Rio de Janeiro, Fed Univ. Rio De Janeiro.*

2:45 **729.08** Roles of amyloid-beta precursor protein and metabolites in acute traumatic brain injury. N. CHOPRA; B. MALONEY; B. L. BAYON; Y. KIM; R. G. PRESSON; R. B. RODGERS; T. W. MCALLISTER; F. A. WHITE*; D. K. LAHIRI. *Indiana Univ. Sch. of Med., Stark Neurosci. Res. Inst., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. Med., Richard L. Roudebush VA Med. Ctr., St. Vincent Hosp., Indiana Univ. Sch. of Med.*

3:00 **729.09** The diversity of amyloid-beta proteoforms in Alzheimer's disease brain. N. C. WILDBURGER*; T. J. ESPARZA; R. D. LEDUC; R. T. FELLERS; P. M. THOMAS; N. J. CAIRNS; N. L. KELLEHER; R. J. BATEMAN; D. L. BRODY. *Washington Univ. in St. Louis Sch. of Med., Northwestern Univ., Washington Univ. in St. Louis Sch. of Med., Northwestern Univ., Northwestern Univ., Washington Univ. in St. Louis Sch. of Med.*

3:15 **729.10** Tau-induced neurodegeneration in TBI brain. A. BITTAR*; T. F. HASAN; F. BASSAL; B. LUCKE-WOLD; A. LOGSDON; C. ROSEN; R. TURNER; R. KAYED. *UTMB, Univ. of Texas Med. Br., West Virginia Univ., Univ. of Texas Med. Br.*

3:30 **729.11** Assembly of A and A familial mutants: Structures and mechanism. M. T. BOWERS*; M. DOWNEY; M. GIAMMONA; S. K. BURATTO. *Univ. California, Santa Barbara, Univ. California, Santa Barbara.*

3:45 **729.12** Prion-like amyloid seeding from Alzheimer's disease and pathological aging brain lysates. B. MOORE*; S. FROMHOLT; J. M. LEWIS; D. R. BORCHELT. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*



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**NANOSYMPOSIUM**

**730. Amyloid-Beta and Tau Biochemistry and Toxicity**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, 150A

1:00 **730.01** A novel lysosome-to-mitochondria signaling pathway disrupted in Alzheimer's disease. A. NORAMBUENA; H. WALLRABE; Z. SVINDRYCH; D. BIGLER-WANG; R. CAO; S. HU; G. S. BLOOM*. *Univ. of Virginia.*

1:15 **730.02** Diffusible Alzheimer's disease brain-derived Aβ disrupts synaptic plasticity. W. HONG; Z. WANG; W. LIU; T. O'MALLEY; M. FROSCH; D. M. WALSH*. *Brigham & Women's Hosp. & Harvard Med. Sch., Massachusetts Gen. Hosp. and Harvard Med. Sch., Brigham & Women's Hosp.*

1:30 **730.03** Characterization of the high molecular weight Abeta oligomers derived from the brains of APP transgenic mice. T. HASHIMOTO*; Y. NAKA; T. TAJIRI; M. HAKOZAKI-KASHIWAGI; T. IWATSUBO. *The Univ. of Tokyo.*

1:45 **730.04** Amyloid-β peptide activates NFκB through cytosolic phospholipase A2 in cerebral endothelial cells. T. TENG*; D. M. RIDGLEY; A. TSOY; G. Y. SUN; S. ASKAROVA; J. LEE. *Univ. of Illinois at Chicago, Nazarbayev Univ., Univ. Missouri.*

2:00 **730.05** IL17A reduces brain amyloid beta load by upregulating ATP-binding cassette efflux transporter. J. YANG*; J. KOU; R. LALONDE; K. FUKUCHI. *Univ. of Illinois Col. of Med. At Peoria, Univ. of Rouen.*

2:15 **730.06** The astacin protease meprin β is involved in formation of pyroglutamate-modified Aβ peptides. S. SCHILLING*; D. SCHLENZIG; H. CYNIS; M. BUCHHOLZ; M. HARTLAGE-RÜBSAMEN; S. D. ROSSNER; H. DEMUTH. *Fraunhofer IZI-MWT, Paul Flechsig Inst. For Brain Res.*

2:30 **730.07** ● Gamma-secretase modulator reduces A-beta mediated changes in endosomal structure and function. M. SAWA; X. CHEN; R. E. TANZI; S. WAGNER; W. C. MOBLEY*. *Univ. of California San Diego Dept. of Neurosciences, Massachusetts Gen Hosp, Harvard Med. Sch.*

2:45 **730.08** An oxidative mechanism for cholinergic dysfunction in neurons exposed to Alzheimer's-linked Aβ-oligomers. L. E. SANTOS*; C. FIGUEIREDO-FREITAS; S. T. FERREIRA; F. G. DE MELLO. *UFRJ, UFRJ.*

3:00 **730.09** ● Chronic treatment with the sulfonylurea, glyburide, decreases Alzheimer's disease pathology by altering neurovascular coupling, neuronal activity, CNS metabolism, and amyloid-β production. S. L. MACAULEY*; A. Q. BAUER; W. MORITZ; E. E. CAESAR; Y. SASAKI; T. E. MAHAN; D. M. HOLTZMAN. *Washington Univ. Sch. of Med., Washington Univ. In St. Louis, Washington Univ., Washington Univ., Washington Univ. St. Louis, Washington Univ.*

3:15 **730.10** A-type $K^+$ channels drive enhanced excitability in CA3 pyramidal neurons in a mouse model of tauopathy. Z. SISKOVA*; A. SYDOW; E. MANDELKOW; E. MANDELKOW. *DZNE E.V., CAESAR Res. Ctr., Max-Planck Inst. for Metabolism Res.*

3:30 **730.11** Carbamylation, an age related protein modification as a facilitator of *in vitro* tau oligomerization and fibrillization. S. GUPTA*; G. K. VISHWANATHAN; L. BAWEJA; K. RALHAN. *Indian Inst. of Technol. Gandhinagar.*

3:45 **730.12** ● Age-related alterations to electrical membrane properties of CA1 hippocampal glutamatergic and GABAergic neurons in a mouse model of progressive tauopathy. F. TAMAGNINI*; J. HANCOCK; K. WEDGWOOD; K. TSANEVA-ATASANOVA; J. BROWN; A. RANDALL. *Univ. of Exeter Med. School, Univ. of Exeter, Exeter, Univ. of Reading, Whiteknights, Univ. of Exeter, Univ. of Exeter.*

**NANOSYMPOSIUM**

**731. Motor Neuron Disease Mechanisms**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, 150B

1:00 **731.01** Converging and diverging paths in upper motor neuron vulnerability. P. OZDINLER*. *Northwestern Univ. Feinberg Sch. of Med.*

1:15 **731.02** Systems biology approach to understanding factors driving disease progression in ALS motor neurons and muscle. I. LEAF*. *Biogen.*

1:30 **731.03** Histone deacetylase expression is altered in amyotrophic lateral sclerosis. K. A. MUELLER*; E. GRANUCCI; A. DIOS; J. D. BERRY; N. ATASSI; G. SADRI-VAKILI. *Massgeneral Inst. - Neurodegenerative Dis., Massachusetts Gen. Hosp.*

1:45 **731.04** The nuclear pore complex is compromised in ALS and ALS/FTD. J. C. GRIMA*; J. G. DAIGLE; K. ZHANG; J. RICHARD; V. J. DARDOV; A. D. MATLOCK; M. J. ELRICK; S. VIDENSKY; A. COYNE; Y. HUO; J. CHEW; Y. ZHANG; L. OSTROW; C. J. DONNELLY; L. P. W. RANUM; J. V. EYK; L. PETRUCELLI; N. J. MARAGAKIS; M. J. MATUNIS; T. E. LLOYD; J. D. ROTHSTEIN. *Johns Hopkins Neurosci., Cedars-Sinai, Mayo Clin., Univ. of Pittsburgh, Univ. of Florida.*

2:00 **731.05** Lipocalin-2 levels are increased in amyotrophic lateral sclerosis and activate microglia. G. SADRI-VAKILI*; K. E. GLAJCH; E. J. GRANUCCI; R. HANAMSAGAR; A. DIOS; K. A. MUELLER; S. D. BILBO; J. D. BERRY. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp. Dept. of Neurol., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Harvard Med. School/MGH.*

2:15 **731.06** Mutant SOD1 aggregates from human ventral horn transmit templated aggregation and fatal ALS-like disease. T. BRANNSTROM*; E. EKHTIARI BIDHENDI; J. BERGH; K. FORSBERG; B. PAKKENBERG; P. ZETTERSTROM; P. M. ANDERSEN; S. L. MARKLUND. *Umea University/Department of Med. Biosci., Umea Univ., Bispebjerg Univ. Hosp., Umea Univ.*

2:30 **731.07** MicroRNAs profile of iPSCs-derived motor neurons as molecular therapy for ALS. M. RIZZUTI; M. NIZZARDO; V. MELZI; G. FILOSA; L. DIONI; L. CALANDRIELLO; M. LOCATELLI; N. BRESOLIN; G. P. COMI*; S. BARABINO; S. CORTI. *Univ. of Milan, Ospedale Maggiore Policlinico, Dept. of Biotech. and Biosciences, Univ. of Milano-Bicocca.*

2:45 **731.08** Synaptotagmin 13 protects motor neurons from degeneration in ALS and SMA. S. CORTI*; M. NIZZARDO; F. RIZZO; M. TAIANA; I. FARAVELLI; I. ALLODI; J. AGUILA BENITEZ; J. NIJSSEN; V. MELZI; R. DEL BO; N. BRESOLIN; G. P. COMI; E. HEDLUND. *Univ. of Milan, Karolinska Institutet.*





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* Indicates abstract's submitting author

3:00 **731.09** Molecular pathology of early-onset amyotrophic lateral sclerosis associated with a novel TARDBP S375G variant. K. L. NEWELL*; F. PARON; J. MURRELL; E. SALIS; C. STUANI; M. ROMANO; B. GHETTI; E. BURATTI. *Univ. of Kansas Med. Ctr., Intl. Ctr. for Genet. Engin. and Biotech. (ICGEB), Indiana Univ. Sch. of Med., Univ. of Trieste.*

3:15 **731.10** A novel ALS-associated variant in UBQLN4 regulates motor neuron axon morphogenesis. Y. C. MA*; J. YAN; N. MILLER; H. X. DENG; T. SIDDIQUE; B. M. EDENS. *Ann and Robert H Lurie Children's Hosp. of Chicago, Northwestern Univ.*

**NANOSYMPOSIUM**

**732. Chronic Pain and Trigeminal Processing**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, 143A

1:00 **732.01** Neuronal ERK signaling in the anterior cingulate cortex contribute to the development of dynamic allodynia after nerve injury. C. BIAN; R. HU; J. YANG; J. ASGAR; W. GUO; S. ZOU; R. DUBNER; K. REN; F. WEI*. *Univ. of Maryland, Baltimore.*

1:15 **732.02** Sex differences in orofacial zoster pain model. P. KRAMER; C. P. STINSON; P. R. KINCHINGTON; M. B. YEE; M. RAO; L. L. BELLINGER*. *Texas A&M Univ. Col. of Dent., Texas A&M Univ. Baylor Col. of Dent., Univ. of Pittsburg.*

1:30 **732.03** Role of mechanosensitive ion channel Piezo2 in dental primary afferent neurons. S. OH; J. WON*; H. VANG; P. LEE; Y. KIM; H. KIM; Y. KANG. *Seoul Natl. Univ., Gacheon Univ., Osaka Univ. Grad. Sch. Dent.*

1:45 **732.04** Cdk5 activity modulates TRPA1 nociceptive responses. A. B. KULKARNI*; B. HALL, 20892; P. MINETOS, 20892; A. TERSE; N. D. AMIN; J. JOSEPH; H. C. PANT; M. CHUNG; M. PROCHAZKOVA. *NIDCR, NIH, NIDCR, NIH, NIH, Univ. of Maryland Baltimore, NIH, Univ. of Maryland Dent. Sch.*

2:00 **732.05** Role of central VEGF pathway in the development of trigeminal neuropathic pain. D. K. AHN*; J. SON; J. JU; S. KANG; K. YANG; M. PARK; M. LEE. *Dentistry, Kyungpook Univ., Kyungpook Natl. Univ. of Dent., KNU Sch. of Dent., Kyungpook Natl. Univ., Kyungpook Natl. Univ., Kyung-Woon Univ., Dong-Eui Univ.*

2:15 **732.06** Involvement of neuron-glia interactions in extraterritorial orofacial pain under pathological condition. K. IWATA*; A. KATAGIRI; M. SHINODA. *Nihon Univ. Sch. of Dent.*

2:30 **732.07** Role of TRPV1 and TRPM8 in ocular pain-like behavior in a rat model for dry eye. D. A. BEREITER*; R. THOMPSON; P. THAMMASUPAPONG; H. SAITO; M. RAHMAN. *U of Minnesota Sch. of Dent.*

2:45 **732.08** Voluntary biting behavior as a functional measure of orofacial pain in mice. K. REN*; S. ZOU; J. YANG; Z. MOHAMMAD; F. WEI; R. DUBNER; M. CHUNG; J. RO; W. GUO. *Univ. of Maryland Sch. of Dent.*

3:00 **732.09** A role for the purinergic receptor $P2X_3$ in brainstem astrocytes in the mechanism of craniofacial neuropathic pain. Y. BAE*; W. MAH; S. LEE; J. LEE; J. BAE; J. JU; C. LEE; D. AHN. *Sch. of Dentistry, Kyungpook Natl. Univ., Korea Inst. of Sci. and Technol., Dept. Oral PhysiologySchool of Dentistry, Kyungpook Natl. Univ.*

3:15 **732.10** Regulation of TRPV1 activities by serotonin-mediated sexually dimorphic mechanisms. N. B. RUPAREL*; M. ESKANDER; A. N. AKOPIAN; M. A. HENRY; K. M. HARGREAVES. *Univ. of Texas Hlth. Sci. Cntr At San Antonio, Univ. of Texas Hlth. Sci. Cntr San Antonio, UT Hlth. Sci. Ctr., UTHSCSA, Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*

3:30 **732.11** Neuroplastic changes in face sensorimotor cortex in a rat model of orofacial neuropathic pain. B. J. SESSLE*; D. YAO. *Univ. Toronto, Nanchang Univ.*

3:45 **732.12** Capsaicin receptor in craniofacial muscle pain. M. CHUNG*; S. WANG; J. LIM; J. JOSEPH; S. WANG; F. WEI; J. Y. RO. *Univ. of Maryland Dent. Sch.*

4:00 **732.13** Pain vulnerability is inherent in affective dimension of pain. C. LI; C. ZHOU; Y. CAI; Z. Z. PAN*. *UT-MD Anderson Cancer Ctr.*

**NANOSYMPOSIUM**

**733. Development of Sensory Systems**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, 152B

1:00 **733.01** Elp3 controls early cochlear development. L. DELACROIX*; S. D. FREEMAN, Jr; S. MATEO-SANCHEZ; R. L. POUYO; A. CZAJKOWSKI; L. NGUYEN; B. MALGRANGE. *Univ. of Liege.*

1:15 **733.02** miRNAs and inner ear. B. MALGRANGE*; P. VAN DEN ACKERVEKEN; A. MOUNIER; A. HUYGHE; R. SACHELI; L. DELACROIX; L. NGUYEN. *Univ. of Liege.*

1:30 **733.03** Transplantation of ears reveals molecular guidance mechanisms for finding targets within the central nervous system. K. ELLIOTT THOMPSON*; C. GORDY; B. FRITZSCH. *Univ. of Iowa.*

1:45 **733.04** Rewiring the Taste System. H. LEE*; L. J. MACPHERSON; C. A. PARADA*; C. ZUKER; N. J. P. RYBA*. *Columbia Univ., NIH.*

2:00 **733.05** Functional and structural plasticity of adult-born versus preexisting granule cells of the olfactory bulb during simple and complex perceptual learning in mice. J. FOREST*; J. SACQUET; I. CAILLE; M. RICHARD; A. DIDIER; N. MANDAIRON. *Lyon Neurosci. Res. Ctr., Univ. Pierre et Marie Curie Univ. Paris 06, IBPS ; Univ. Paris Diderot-Paris 7.*

2:15 **733.06** Nrp2 is sufficient to instruct circuit formation of mitral-cells to mediate odor-induced attractive social responses. K. INOKUCHI*; F. IMAMURA; H. TAKEUCHI; R. KIM; H. OKUNO; H. NISHIZUMI; H. BITO; T. KIKUSUI; H. SAKANO. *The Univ. of Tokyo, Univ. of Fukui, Pennsylvania State Univ. Col. of Med., The Univ. of Tokyo, Dept. Neurochemistry, Grad. Sch. of Med., Kyoto Univ. Grad Schl of Med., Univ. of Fukui, Univ. Tokyo Grad Sch. Med., Azabu Univ., Univ. of Fukui.*

2:30 **733.07** Retinoic acid is a conserved pathway regulating patterning of a high acuity visual area. S. I. SILVA*; C. L. CEPKO. *Harvard Med. Sch.*



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* Indicates abstract's submitting author

**NANOSYMPOSIUM**

**734. Interrogating Neurovascular-Coupling in Functional Imaging**

***Theme F: Integrative Physiology and Behavior***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, 147B

1:00 **734.01** Diverse character of negative hemodynamic response is inconsistent with linearity. E. HALFEN*; A. TAYLOR; J. KIM; D. RESS. *Baylor Col. of Med.*

1:15 **734.02** Decipher the concurrent bidirectional regulation of the fMRI signal by astrocytes. M. WANG*; Y. HE; T. J. SEJNOWSKI; X. YU. *Max Planck Inst. For Biol. Cybernetics, Salk Inst.*

1:30 **734.03** Classifying acute brain injury based on noninvasive measurements of neurovascular sensory reactivity. H. JANG; L. WANG; S. HUANG; M. YE; D. X. HAMMER; C. G. WELLE; J. A. FISHER*. *New York Med. Col., US Food and Drug Admin., Univ. of Colorado.*

1:45 **734.04** Two channel fiber optic mediated glutamate and calcium recording with simultaneous fMRI. Y. JIANG*; X. YU. *Max Planck Inst. For Biol. Cybernetics.*

2:00 **734.05** What layer-specific fMRI responses in the rat olfactory bulb tell us about vascular regulation, hemodynamic spread, and the role of GABAergic cells in neurovascular coupling. A. J. POPLAWSKY*; H. FUKUDA; B. IORDANOVA; A. VAZQUEZ; B. KANG; J. KIM; M. SUH; S. KIM. *Univ. of Pittsburgh, Ctr. for Neurosci. Imaging Research, Inst. for Basic Sci., Sungkyunkwan Univ.*

2:15 **734.06** Modeling the negative blood oxygen-level dependent hemodynamic response function. D. RESS*; E. HALFEN; J. KIM. *Baylor Col. of Med.*

2:30 **734.07** Tau alters neurovascular coupling by impairing NMDA receptor-dependent nitric oxide production. L. PARK*; K. UEKAWA; Y. HATTORI; G. WANG; P. ZHOU; J. ANRATHER; C. IADECOLA. *Weill Cornell Med. Col.*

2:45 **734.08** Attention modulates the negative BOLD response in DMN without disrupting its functional connectivity. Q. R. RAZLIGHI*; D. B. PARKER. *Columbia Univ.*

3:00 **734.09** The negative BOLD response varies according to cognitive task domain. S. M. NELSON*; Q. R. RAZLIGHI. *Ctr. of Excellence for Res. on War Veterans, Univ. of Texas - Dallas, Baylor Univ., Columbia Univ.*

**NANOSYMPOSIUM**

**735. Motivation: Subcortical Neurocircuitry**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, 146C

1:00 **735.01** Medial orbitofrontal cortex ensemble dynamics during cue-reward associative learning. V. K. NAMBOODIRI*; J. M. OTIS; K. VAN HEESWIJK; E. VOETS; J. RODRIGUEZ-ROMAGUERA; L. E. H. ECKMAN; G. D. STUBER. *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.*

1:15 **735.02** Function of basal ganglia circuitry in motivation. C. H. DONAHUE*; A. C. KREITZER. *The Gladstone Inst., Gladstone Inst. of Neurolog. Dis.*

1:30 **735.03** Dopaminergic modulation of projection-defined prefrontal circuits. C. M. VANDER WEELE*; C. A. SICILIANO; G. A. MATTHEWS; E. IZADMEHR; I. C. ESPINEL; E. H. NIEH; P. NAMBURI; E. H. S. SCHUT; E. KIMCHI; A. BEYELER; R. WICHMANN; N. PADILLA-COREANO; K. TYE. *MIT, Radboudumc.*

1:45 **735.04** Activity transients in dopaminergic neurons modulate action initiation but not action execution. J. ALVES DA SILVA*; V. PAIXÃO; F. TECUAPETLA; R. M. COSTA. *Champalimaud Res., Inst. De Fisiologia Celular-UNAM, Columbia Univ.*

2:00 **735.05** The spatiotemporal organization of striatal direct- and indirect-pathway projection neurons encodes action space. A. KLAUS*; G. J. MARTINS; V. B. PAIXAO; P. ZHOU; L. PANINSKI; R. M. COSTA. *Champalimaud Ctr. For the Unknown, Champalimaud Neurosci. Programme, Carnegie Mellon Univ., Dept. of Statistics, Columbia Univ., Columbia Univ.*

2:15 **735.06** Heterogeneous coding of sensory, motor, and cognitive variables in midbrain dopamine neurons. B. ENGELHARD*; J. FINKELSTEIN; D. W. TANK; I. B. WITTEN. *Princeton Univ., Princeton Univ., Princeton Univ.*

2:30 **735.07** Role of hippocampal VIP interneurons in reward-oriented spatial learning. G. F. TURI*; W. LI; Z. LIAO; J. D. ZAREMBA; A. GROSMARK; M. LADOW; A. LOSONCZY. *Columbia Univ.*

2:45 **735.08** Nociceptin neurons in the bed nucleus of the stria terminalis regulate anxiety. J. RODRIGUEZ-ROMAGUERA*; R. UNG; H. NOMURA; V. K. NAMBOODIRI; J. M. OTIS; J. ROBINSON; S. RESENDEZ; J. A. MCHENRY; L. E. H. ECKMAN; O. KOSYK; H. E. VAN DEN MUNKHOF; P. ZHOU; L. PANINSKI; T. KASH; M. R. BRUCHAS; G. D. STUBER. *Univ. of North Carolina at Chapel Hill, Columbia Univ., Univ. of North Carolina at Chapel Hill, Washington Univ.*

3:00 **735.09** Modulation of contextual fear discrimination by the locus coeruleus noradrenergic system in the dentate gyrus. D. SEO*; L. E. MOTARD; L. XIA; M. R. BRUCHAS. *Washington Univ. In St. Louis.*

3:15 **735.10** ● Ensemble coding of amygdala circuits in anxiety and fear behaviours. J. GRUNDEMANN*; Y. BITTERMAN; T. LU; S. KRABBE; K. HAGIHARA; B. F. GREWE; M. J. SCHNITZER; A. LÜTHI. *Friedrich Miescher Inst., ETH, Stanford Univ.*

3:30 **735.11** Hypothalamic ensemble representations during social interactions, mating and fighting. R. REMEDIOS*. *Caltech.*

3:45 **735.12** Using *in vivo* microscopy to assess the role of striatal medium spiny neurons in compulsive behavior and response to pharmacological treatment. S. C. PIANTADOSI*; J. R. HYDE; S. E. AHMARI. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

4:00 **735.13** The central amygdala controls learning in the lateral amygdala. K. YU*; S. AHRENS; X. ZHANG; H. C. SCHIFF; C. RAMAKRISHNAN; L. FENNO; K. DEISSEROTH; P. ZHOU; L. PANINSKI; B. LI. *Cold Spring Harbor Lab., Stanford Univ. Dept. of Psychology, Columbia Univ., Cold Spring Harbor Lab.*

4:15 **735.14** Midbrain GABAergic pathways for feeding behavior. S. HAO*; H. YANG; X. WANG; X. WU; L. PAN; Y. LIU; H. LOU; S. DUAN; H. WANG. *Inst. of Neurosci.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**NANOSYMPOSIUM**

## 736. Self-Control and Decision Making

***Theme H: Cognition***

Wed. 1:30 PM – *Walter E. Washington Convention Center*, 145B

1:30 **736.01** Stress and incentive effects on the subjective cost of self-control. C. M. RAIO*; P. GLIMCHER. *New York Univ.*

1:45 **736.02** Indulgent food options can paradoxically increase dietary self-control. N. SULLIVAN*; G. FITZSIMONS; M. L. PLATT; S. A. HUETTEL. *Duke Univ., Duke Univ., Univ. of Pennsylvania.*

2:00 **736.03** The utility of affective stimuli: A value-based computational approach to continuous self-control. P. SOKOL-HESSNER*; K. A. SHAFFER. *Univ. of Denver, Univ. of Denver.*

2:15 **736.04** Constraints associated with cognitive control and the stability-flexibility dilemma. S. MUSSLICK*; S. J. JANG; M. PANICHELLO; L. BUSTAMANTE; A. SHENHAV; J. D. COHEN. *Princeton Univ., Brown Univ.*

2:30 **736.05** Self-control in decision making involves prefrontal theta band oscillatory dynamics. H. LIN*; B. SAUNDERS; C. A. HUTCHERSON; M. INZLICHT. *Univ. of Toronto.*

2:45 **736.06** Binding oneself to the mast: Stimulating frontopolar cortex enhances precommitment. A. SOUTSCHEK*; G. UGAZIO; C. RUFF; M. J. CROCKETT; T. KALENSCHER; P. N. TOBLER. *Univ. of Zurich, Univ. of Oxford, Univ. of Duesseldorf.*

3:00 **736.07** Behavioral evidence for PID-like feedback control. H. RITZ*; M. R. NASSAR; M. J. FRANK; A. SHENHAV. *Brown Univ., Brown Inst. for Brain Sci.*

3:15 **736.08** Metacontrol in reinforcement learning. W. KOOL*; F. A. CUSHMAN; S. GERSHMAN. *Harvard Univ.*

3:30 **736.09** Variability in the timing of value-based decisions is associated with hippocampal BOLD activity. A. BAKKOUR*; H. R. KANG; M. N. SHADLEN; D. SHOHAMY. *Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ.*

3:45 **736.10** The opportunity cost of time modulates cognitive effort expenditure. R. OTTO*; N. D. DAW. *New York Univ., McGill Univ., Princeton Univ.*

4:00 **736.11** Subjective value encoding during cognitive effort-based decision-making. J. A. WESTBROOK*. *Brown Univ.*

4:15 **736.12** Learning to (mis)allocate control: Maltransfer can lead to self-control failure. L. A. BUSTAMANTE*; F. LIEDER; S. MUSSLICK; A. SHENHAV; J. D. COHEN. *Princeton Univ., Univ. of California, Berkeley, Brown Univ.*

4:30 **736.13** Disentangling neural representations of confidence and certainty in the human brain. D. BANG*; S. M. FLEMING. *Univ. Col. London.*

4:45 **736.14** Association with decision uncertainty, not value comparison in ventromedial prefrontal cortex. N. YINMEI*; S. JIE; S. WANG; X. WAN. *Beijing Normal Univ., State Key Lab. and Cognitive Neurosci. and Learning.*

**NANOSYMPOSIUM**

## 737. Individual Differences in Cognition and Behavior

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, 144A

1:00 **737.01** Are brain and body oscillations frequency-ratio related? E. EL RASSI*; G. DORFFNER; W. KLIMESCH. *Universirty of Salzburg, Med. Univ. of Vienna, Universirty of Salzburg.*

1:15 **737.02** Microstructural properties of fiber tracts in the left hemisphere are related to individual differences in face recognition behavior. D. B. ELBICH*; S. SCHERF. *The Pennsylvania State Univ., The Pennsylvania State Univ.*

1:30 **737.03** ● Preliminary evidence for an association of MAOA genotype with functional and structural connectivity estimates in extended brain networks. A. HARNEIT*; U. BRAUN; H. WALTER; S. ERK; S. MOHNKE; A. HEINZ; N. ROMANCZUK-SEIFERTH; S. WITT; S. CICHON; M. M. NÖTHEN; M. RIETSCHEL; A. S. MEYER-LINDENBERG; H. TOST. *Central Inst. of Mental Hlth., Charité Universitätsmedizin Berlin, Dept. of Genomics, Univ. of Bonn.*

1:45 **737.04** Unable to Attend Exploring predisposition to anomalous visual experiences using transcranial direct current brain stimulation. R. MARCHANT*; J. J. BRAITHWAITE. *Univ. of Birmingham, Lancaster Univ.*

2:00 **737.05** Ventral striatal dopamine transporter availability uniquely predicts lower trait impulsivity in healthy young adults. C. T. SMITH*; D. T. SAN JUAN; D. T. KATZ; L. C. DANG; S. F. PERKINS; L. L. BURGESS; R. L. COWAN; G. R. SAMANEZ-LARKIN; D. H. ZALD. *Vanderbilt Univ., Vanderbilt Univ. Sch. of Med., Duke Univ.*

2:15 **737.06** The lateral hypothalamic area sends inhibitory projections to the medial septum/diagonal band of broca that drive feeding behavior. R. M. CASSIDY*; Y. LU; L. MANGIERI; Q. TONG. *The Univ. of Texas Hlth. Sci. Ctr. At H, The Univ. of Texas Hlth. Sci. Ctr. At Houston.*

2:30 **737.07** Neurotransmitters' diversity and their roles in temperament traits: Functional ecology approach. I. TROFIMOVA*. *McMaster Univ.*

2:45 **737.08** Paraventricular hypothalamic projections to the ventral tegmental area drive aversion. L. R. MANGIERI*; Y. LU; Y. XU; R. M. CASSIDY; B. R. ARENKIEL; Q. TONG. *Univ. Of Texas Hlth. Sci. Center-Houston, Univ. of Texas Hlth. Sci. Center-Houston, Baylor Col. of Med., Univ. of Texas Hlth. Sci. Ctr. at Houston.*

3:00 **737.09** Nash equilibrium in the personality game. K. MOGI*. *Sony Comp Sci. Lab.*

3:15 **737.10** 'Trait' or 'state' frontal and occipital GABA and Glx concentrations - How to best predict behaviour? L. J. TALSMA*; A. M. VAN LOON; S. H. SCHOLTE; H. A. SLAGTER. *Univ. of Amsterdam, Vrije Univ. Amsterdam, Univ. of Amsterdam.*

3:30 **737.11** Functional connectivity-based neuromarker outperforms gaze, pupillary, and fMRI activation-based markers in predicting reading comprehension. D. C. JANGRAW*; J. GONZALEZ CASTILLO; D. A. HANDWERKER; M. GHANE; M. D. ROSENBERG; P. PANWAR; P. BANDETTINI. *NIH, SFIM/LBC/NIMH/NIH, Natl. Inst. of Mental Hlth., Virginia Tech., Yale Univ., NIMH-NIH.*



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* Indicates abstract's submitting author

3:45 **737.12** Inter-subject correlations in brain activity during an ambiguous narrative predict similarity of subjects' ultimate interpretation of the narrative. E. S. FINN*; P. R. CORLETT; G. CHEN; P. BANDETTINI; R. T. CONSTABLE. *Natl. Inst. of Mental Hlth., Yale Sch. of Med., Natl. Inst. of Mental Hlth., NIMH-NIH, Yale Univ.*

4:00 **737.13** Network complexity of coherence patterns in the delta-theta frequency range correlates with mean subjects' reaction time. C. DEVIA*; P. E. MALDONADO; E. RODRIGUEZ. *Univ. Catolica de Chile, Biomed. Neurosci. Inst. (BNI), Univ. De Chile.*

**NANOSYMPOSIUM**

**738. Schizophrenia: The Immune System**

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, 156

1:00 **738.01** Are neuronal cell surface antibodies causing a proportion of schizophrenia? B. LENNOX*. *Univ. of Oxford.*

1:15 **738.02** ● [$^3$H]PK11195 binding to the translocator protein (TSPO) in the DLPFC in schizophrenia. K. A. NEWELL*; H. CAI; T. M. DU BOIS; X. HUANG; C. S. WEICKERT. *Univ. of Wollongong, Neurosci. Res. Australia/Unsw, Neurosci. Res. Australia.*

1:30 **738.03** ● Evidence for blood-barrier disruption, antibody presence and complement activation in brains of people with schizophrenia. C. S. WEICKERT*; H. Q. CAI; L. J. GLASS; M. J. WEBSTER. *Neurosci. Res. Australia, NeuRA, Stanley Med. Res. Inst.*

1:45 **738.04** Peripheral inflammation, the microbiome and the gut-brain axis in schizophrenia. E. G. SEVERANCE*; F. DICKERSON; R. YOLKEN. *Johns Hopkins Univ., Sheppard Pratt Hlth. Syst.*

2:00 **738.05** Neuroimmunology and microRNAs. C. JEFFRIES; D. O. PERKINS. *Renaissance Computing Inst., U of NC Chapel Hill.*

2:15 **738.06** ● The interleukin-1 beta single nucleotide polymorphism rs16944 influences verbal memory and prefrontal cortex volume in women with schizophrenia. T. W. WEICKERT*; S. KIM; D. LLOYD; M. O'DONNELL; J. BRUGGEMANN; R. LENROOT; C. S. WEICKERT. *Univ. of New South Wales, Univ. of New South Wales, Univ. of New South Wales, Prince of Wales Hosp.*

2:30 **738.07** Association between inflammatory markers and negative symptoms in individuals with persistent symptoms of schizophrenia treated with clozapine. D. GOLDSMITH*; S. L. KOPELOVICH; D. M. NOVACEK; J. R. WIDENER; E. C. WOMMACK; J. C. FELGER; A. H. MILLER; R. O. COTES. *Emory Univ., Univ. of Washington, Emory Univ.*

2:45 **738.08** ● Blood-brain barrier genes altered in schizophrenia and bipolar disorder associated with inflammation and stress. H. Q. CAI*; V. S. CATTS; M. J. WEBSTER; C. SHANNON WEICKERT. *Neurosci. Res. Australia, Univ. of New South Wales, Schizophrenia Res. Inst., Stanley Med. Res. Inst.*

3:00 **738.09** ● Inflammation-associated disruptions in reward circuitry in depression and reversal with levodopa: Preliminary findings. J. C. FELGER*; Z. LI; E. HAROON; A. H. MILLER. *Emory Univ., WInship Cancer Inst., Shenzhen Univ., Winship Cancer Inst., Emory Univ. Sch. of Med., Emory Univ. Sch. Med.*

**NANOSYMPOSIUM**

**739. Transcranial Magnetic Stimulation**

***Theme I: Techniques***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, 147A

1:00 **739.01** Anisotropy of non-invasive brain stimulation in human motor cortex implicates specific interneuron circuits in motor learning. R. HANNAH*; A. IACOVOU; V. RAWJI; J. C. ROTHWELL. *UCL Inst. of Neurol.*

1:15 **739.02** Corticospinal axonal responses to TMS with different coil orientations. I. S. GLOVER*; S. A. EDGLEY; S. N. BAKER. *Newcastle Univ., Univ. of Cambridge.*

1:30 **739.03** ● Primary somatosensory cortex-motor cortex interactions measured using dual-site transcranial magnetic stimulation. M. J. BROWN*; A. WEISSBACH; M. VESIA; C. GUNRAJ; J. BAARBE; T. BÄUMER; A. MÜNCHAU; R. CHEN. *Toronto Western Hosp., Univ. of Lübeck.*

1:45 **739.04** Mapping effective connectivity between the premotor cortex and contralateral primary motor cortex using dual-coil transcranial magnetic stimulation. K. L. BUNDAY*; S. BETTI; J. J. BONAIUTO; G. A. ORBAN; M. DAVARE. *Univ. Col. London, Univ. degli Studi di Padova, Univ. of Parma, Inst. of Neurol.*

2:00 **739.05** Selective effects of late I-wave stimulation during human power grip. T. TAZOE*; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

2:15 **739.06** Linking electric field simulations and physiological measurements to reveal how TMS stimulates the human motor hand area. A. THIELSCHER*; A. ANTUNES; A. BUNGERT; S. ESPENHAHN; M. HAMADA; P. J. SØRENSEN; E. RAFFIN; J. C. ROTHWELL; H. R. SIEBNER. *Danish Res. Ctr. For Magnetic Resonance, Cop, MPI for Biol. Cybernetics, MPI, Inst. of Neurology, UCL, The Univ. of Tokyo, Danish Res. Ctr. for Magnetic Resonance, INSERM, U1216, Grenoble Inst. des Neurosciences, GIN, Inst. Neurol, Copenhagen Univ. Hosp. Hvidovre.*

2:30 **739.07** ● Targeting space and time in the human hand knob with focal transcranial magnetic stimulation. H. R. SIEBNER*; E. RAFFIN; A. KARABANOV; L. TOMASEVIC; M. SAFELDT; A. THIELSCHER; K. H. MADSEN; R. DUBBIOSO. *Copenhagen Univ. Hosp. Hvidovre, Copenhagen Univ. Hosp. Bispebjerg, Ecole Polytechnique Fédérale de Lausanne (EPFL), Denmarks Technological Univ. (DTU), Tech. Univ. of Denmark, Univ. Federico II of Naples.*

2:45 **739.08** Neural effects of theta-burst Transcranial Magnetic Stimulation on single neurons in macaque parietal cortex. M. C. ROMERO*; P. JANSSEN; M. DAVARE. *KULeuven.*

3:00 **739.09** ● Temporal and spatial patterns of inter-laminar connectivity in the macaque motor cortex leading to I wave generation. S. N. BAKER*; W. XU. *Newcastle Univ., Newcastle Univ.*

3:15 **739.10** Accurate modeling of axonal activation by initial polarization from transverse field in magnetic stimulation. B. WANG*; A. S. ABERRA; W. M. GRILL; A. V. PETERCHEV. *Duke Univ., Duke Univ.*

3:30 **739.11** On the causal role of cortical beta oscillation for voluntary force control using rhythmic TMS. K. UEHARA*; J. FINE; M. SANTELLO. *Arizona State Univ.*



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* Indicates abstract's submitting author

3:45 **739.12** Cortico-cortical contributions to the silent period in humans with spinal cord injury. F. D. BENAVIDES*; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

4:00 **739.13** Transcranial magnetic stimulation of morphologically-accurate, layer-specific neuron models in realistic head geometry. A. ABERRA*; B. WANG; A. V. PETERCHEV; W. M. GRILL. *Duke Univ., Duke Univ., Duke Univ., Duke Univ., Duke Univ.*

4:15 **739.14** Motor cortical changes in reaction time paradigms involving different levels of information about the response time. J. IBANEZ PEREDA*; R. HANNAH; L. ROCCHI; J. C. ROTHWELL. *Univ. Col. London, UCL Inst. of Neurol., Inst. Neurol.*

**POSTER**

**740. Transplantation for Neural Repair**

***Theme A: Development***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 A1 **740.01** Transplantation of human embryonic stem cell derived interneuron progenitors to ameliorate seizures in a mouse model of temporal lobe epilepsy. S. SHRESTHA*; N. ANDERSON; J. GUPTA; D. LAWRENCE; J. NAEGELE; L. GRABEL; G. AARON. *Wesleyan Univ.*

2:00 A2 **740.02** Reversal of dendritic hypertrophy following transplantation of fetal GABAergic progenitors into the dentate gyrus in a mouse model of temporal lobe epilepsy. J. GUPTA*; M. BROMWICH; J. RADELL; S. GONZALEZ; G. B. AARON; B. W. LUIKART; J. R. NAEGELE. *Wesleyan Univ., Dartmouth Col. Geisel Sch. of Med.*

3:00 A3 **740.03** Rescue of spatial memory deficits and behavioral abnormalities in mice with temporal lobe epilepsy following intrahippocampal transplantation of human PSC-derived GABAergic interneurons. M. A. VAN ZANDT*; N. C. ANDERSON; J. GUPTA; S. SHRESTHA; L. B. GRABEL; G. B. AARON; J. R. NAEGELE. *Wesleyan, Wesleyan Univ., Wesleyan Univ., Wesleyan Univ., Wesleyan Univ.*

4:00 A4 **740.04** 3D printing nano conductive multi-walled carbon nanotubes scaffolds for promoting neuronal differentiation of mouse neural progenitors. S. LEE*; W. ZHU; M. NOWICKI; G. LEE; D. HEO; J. KIM; Y. Y. ZUO; L. G. ZHANG. *George Washington Univ., Univ. of Hawaii at Manoa.*

1:00 A5 **740.05** Neovascularization for optimal survival of neural transplants. J. E. KRZYSPIAK*; B. GALINSKI; J. HEBERT. *Albert Einstein Col. of Med.*

2:00 A6 **740.06** ▲ Molecular mechanisms of anterior-posterior (AP) axis neural plasticity in the embryonic Xenopus laevis central nervous system. C. DONG*; L. BOLKHOVITINOV; J. GIRIBHATTANAVAR; C. GOLINO; R. CUTLER; A. HALLERAN; M. SAHA. *Col. of William and Mary.*

3:00 A7 **740.07** Interneuron-based cell therapy in null Cntnap2 mouse model of autism spectrum disorder. R. PATERNO*; T. LI; S. C. BARABAN. *Epilepsy Res. Lab. and Weill Inst.*

4:00 A8 **740.08** Time course of neural progenitor cell survival and development after transplantation into jaundiced rat brain. F. YANG*; S. RIORDAN; J. VIVIAN; S. SHAPIRO; J. A. STANFORD. *Univ. of Kansas Med. Ctr., Children's Mercy Hosp., Univ. of Kansas Med. Ctr., Children's Mercy Hosp. & Clin., Univ. Kansas Med. Ctr.*

1:00 A9 **740.09** Micro-tissue engineered aligned astrocyte networks to emulate the glial tube in the rostral migratory stream. J. C. O'DONNELL*; K. S. KATIYAR; W. J. GORDIÁN-VÉLEZ; C. C. WINTER; D. K. CULLEN. *Corporal Michael J Crescenz VA Med. Ctr., Univ. of Pennsylvania, Drexel Univ.*

2:00 A10 **740.10** Long term effectiveness of transplanted human neural progenitor cells on a rat model of ataxia. W. M. TIERNEY*; B. ORTEGA; A. LEMUS; T. UHLENDORF; J. OCHOA; W. VAN TRIGT; A. KOPYOV; O. V. KOPYOV; R. COHEN. *California State University, Northridge, Celavie Biosciences, LLC.*

3:00 B1 **740.11** Human induced pluripotent stem cells potentially protect isolated and transplanted retinal ganglion cells from death. S. WU*; K. CHANG; J. L. GOLDBERG. *Eye, Ear, Nose & Throat Hospital, Fudan Univ., Stanford Univ. Sch. of Med.*

4:00 B2 **740.12** ● Reconstructing brain pathways using transplantable micro-tissue engineered neural networks. J. C. BURRELL*; D. O. ADEWOLE; K. D. BROWNE; L. A. STRUZYNA; J. C. MAGGIORE; M. D. SERRUYA; D. K. CULLEN. *Univ. of Pennsylvania, Corporal Michael J. Crescenz Veterans Affairs Med. Ctr., Thomas Jefferson Univ.*

1:00 B3 **740.13** Growth of neural progenitor cells on poly (ε-caprolactone) microfibers promotes proliferation and glial differentiation. B. B. PATEL*; D. P. STROUD; F. SHARIFI; N. N. HASHEMI; D. S. SAKAGUCHI. *Iowa State Univ., Iowa State Univ.*

2:00 B4 **740.14** ● Single-cell-based analysis revealed unique populations among human induced pluripotent cell-derived neural progenitor cells, which harbor high activity to generate undesired grafts. M. ISODA*; T. SANOSAKA; K. SUGAI; T. ANDOH-NODA; I. KOYA; S. BANNO; R. YAMAGUCHI; T. ITO; H. OKANO; J. KOHYAMA; M. NAKAMURA. *Keio Univ. Sch. of Med., Keio Univ. Sch. of Med.*

3:00 B5 **740.15** Distribution of mesenchymal stem cell-derived exosomes in the intact and injured brain following intranasal administration. O. W. CASTRO*; M. KODALI; R. UPADHYA; D. KIM; B. SHUAI; D. J. PROCKOP; A. K. SHETTY. *Inst. For Regen Med, Texas A&M Univ. Coll Med., Federal Univ. of Alagoas, Olin E. Teague Veterans' Med. Center, CTVHCS.*

4:00 B6 **740.16** Combined MGE-NSC grafting and FGF-2 treatment improves memory, mood and neurogenesis, and alleviates spontaneous seizures in a rat model of temporal lobe epilepsy. M. KODALI*; D. UPADHYA; A. BATES; B. SHUAI; X. RAO; S. ATTALURI; B. HATTIANGADY; A. SHETTY. *Inst. For Regen Med, Texas A&M Univ. Coll Med., Olin E. Teague Veterans' Med.Center, CTVHCS.*

1:00 B7 **740.17** Early curcumin treatment after exposure to blast shock waves prevents long-term cognitive and memory impairments and maintains higher levels of hippocampal neurogenesis. R. UPADHYA*; D. UPADHYA; B. HATTIANGADY; A. ROBBINS; M. KODALI; B. SHUAI; A. BATES; M. MORENO; A. K. SHETTY. *Inst. For Regen Med, Texas A&M Univ. Coll Med., Olin E. Teague Veterans Med. Ctr. CTVHCS, Texas A&M Univ.*



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* Indicates abstract's submitting author

**POSTER**

**741. Regeneration in the Peripheral Nervous System**

***Theme A: Development***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 B8 **741.01** Characterization of motor, sensory, and mixed nerve regenerative peripheral nerve interfaces (RPNIs). A. VANBELKUM; N. LAWERA; V. THIEU; P. CEDERNA; S. W. KEMP*. *Univ. of Michigan.*

2:00 B9 **741.02** $Na^+/K^+$-ATPase coupled to $ET_BR$ promotes peripheral nerve regeneration via lactate signaling. S. ITO*; T. H. NGUYEN; T. KATANO; S. MATSUMURA; F. NOBUO; V. M. PHAM. *Kansai Med. Univ.*

3:00 B10 **741.03** Arginase 1-dependent oncomodulin expression is a critical determinant of pro-regenerative macrophage phenotype following preconditioning peripheral nerve injury. H. YUN*; E. KIM; B. G. KIM. *Ajou Univ. Sch. of Med., Ajou Univ. Sch. of Med., Ajou Univ. Sch. Med.*

4:00 B11 **741.04** Exercise enhances sensory neuron regeneration after peripheral nerve injury in a sex-dependent manner. A. BRUCE*; J. C. WILHELM. *Col. of Charleston.*

1:00 B12 **741.05** Estradiol treatment enhances sensory neuron participation in axon regeneration after peripheral nerve injury in mice. J. C. WILHELM*; A. E. GOSINE; B. K. CASEY; J. I. GOODMAN; A. A. BRUCE. *Col. of Charleston.*

2:00 B13 **741.06** Imaging the reassembly of Hydra's nervous system from dissociated cells. J. LOVAS*; R. YUSTE. *Columbia Univ.*

3:00 B14 **741.07** Impaired peripheral nerve regeneration in type 2 diabetic mouse model. V. M. PHAM*; T. H. NGUYEN; T. KATANO; S. MATSUMURA; S. ITO. *Kansai Med. Univ.*

4:00 B15 **741.08** ▲ Glycl channel expression and function during regeneration in holoturia glaberrima. G. A. RODRIGUEZ*. *Univ. Metropolitana.*

1:00 B16 **741.09** Blockade of neuromuscular glutamate receptors impairs reinnervation following nerve crush. K. E. PERSONIUS*; E. KUBINIEC; S. B. UDIN. *Univ. at Buffalo, Univ. at Buffalo.*

2:00 B17 **741.10** Light-controlled engineered axonal tracts as 'living electrodes' for synaptic-based brain-machine interface. D. O. ADEWOLE*; L. A. STRUZYNA; J. C. BURELL; K. D. BROWNE; A. D. NEMES; H. I. CHEN; J. A. WOLF; M. D. SERRUYA; D. K. CULLEN. *Univ. of Pennsylvania, Perelman Sch. of Medicine, Univ. of Pennsylvania, Ctr. for Neurotrauma, Neurodegeneration, and Restoration, Michael J. Crescenz Veterans Affairs Med. Ctr., Thomas Jefferson Univ.*

3:00 B18 **741.11** Neurite elongation is enhanced in cells heterozygous for BDNF Val66Met polymorphism. C. MCGREGOR*; A. W. ENGLISH. *Emory Univ., Emory Univ. Sch. of Med.*

4:00 B19 **741.12** Collapsin response mediator protein 4 (CRMP4) facilitates neuronal regeneration and Wallerian degeneration following sciatic nerve injury. M. GIROUARD*; M. R. KHAZAEI; A. D. JOHNSTONE; N. UNSAIN; R. L. SANZ; I. RAMBALDI; M. DI RADDO; P. A. BARKER; V. M. VERGE; A. E. FOURNIER. *Montreal Neurolog. Inst., McGill Univ., Univ. of British Columbia, Univ. Nacional de Córdoba, Univ. of Saskatchewan-CMSNRC.*

1:00 B20 **741.13** ▲ Site-specific role of macrophages in peripheral nerve degeneration and regeneration. K. WANG; J. P. NIEMI*; A. DEFRANCESCO; J. S. PACHTER; R. E. ZIGMOND. *Hathaway Brown Sch., Case Western Reserve Univ., Univ. of Connecticut Hlth. Ctr.*

2:00 B21 **741.14** Neutrophils play an essential role in Wallerian degeneration after a peripheral nerve injury. J. LINDBORG*; R. E. ZIGMOND. *Case Western Reserve Univ.*

**POSTER**

**742. Transplantation and Regeneration**

***Theme A: Development***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 B22 **742.01** Functional brain repair following focal stroke through neurod1-mediated *in vivo* cell conversion. Y. CHEN*; N. MA; Z. PEI; Z. WU; J. YIN; G. CHEN. *Pennsylvania State Univ. Dept. of Biol., Pennsylvania State Univ. Dept. of Biol., Pennsylvania State Univ. Dept. of Biol.*

2:00 B23 **742.02** An injectable hydrogel enhances tissue repair after spinal cord injury by promoting extracellular matrix remodeling. H. PARK*; L. HONG; D. HWANG; Y. KIM; S. SONG; B. KIM. *Ajou Univ. of Med., Korea Inst. of Sci. and Technology(KIST).*

3:00 B24 **742.03** Sox11 expression in retinal ganglion cells differentially promotes either regeneration or ablation of RGC subtypes. M. NORSWORTHY*; F. BEI; R. KAWAGUCHI; C. WANG; Q. WANG; Y. LI; N. TRAN; B. BROMMER; Y. ZHANG; J. R. SANES; G. COPPOLA; Z. HE. *Harvard Boston Childrens Hosp., Harvard Med. Sch., Semel Inst. for Neurosci. and Human Behavior, Boston Childrens Hosp., Harvard Med. Sch. / Boston Childrens Hosp., Harvard Univ., Childrens Hosp. Boston, Harvard Univ., Semel Inst. for Neurosci. and Human Behavior, Children's Hosp Boston.*

4:00 B25 **742.04** Mmp-9 regulates photoreceptor regeneration in the retina of the zebrafish. N. J. SILVA*; L. KAKUK-ATKINS; P. F. HITCHCOCK. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

1:00 B26 **742.05** Critical role for ephrinA in retinocollicular map compression. T. S. BALMER; D. B. MUDD; Y. T. MAO; Q. CHENG; D. WILLSHAW; S. L. PALLAS*. *Georgia State Univ., Oregon Hlth. and Sci. Univ., Georgia State Univ., Thomas Jefferson Univ., Univ. of Edinburgh.*

1:00 DP01/B27 **742.06** (Dynamic Poster) Melatonin improves homeostatic plasticity of corticospinal neurons following a mid-thoracic spinal hemisection. X. LIN; T. ZHAO; W. XIONG; M. J. WALKER; S. WEN; W. WU; T. NGUYEN; C. CHEN; X. JIN; X. M. XU*. *Indiana Univ. Sch. of Med., Shandong Cancer Hosp., Indiana Univ. Sch. of Med., Inst. of Basic Med. Sci., Indiana Univ. Sch. of Med., Indiana Univ. Dept. of Neurolog. Surg, Iupuistark Neurosci. Res. Inst., Indiana Univ.*

3:00 B28 **742.07** Paradoxical mRNA and protein expression of suppressor of cytokine signaling 3 (SOCS3) in successful optic axon regeneration in Xenopus laevis. R. P. CHOUDHARY*; B. G. SZARO. *Univ. At Albany, State Univ. of New York.*

4:00 B29 **742.08** Withdrawn



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 B30 **742.09** Amacrine cells regulate retinal $Zn^{2+}$ accumulation, ganglion cell survival, and axon regeneration after optic nerve injury via two distinct nitric oxide mechanisms. Y. LI*; K. YUKI; K. OMURA; H. GILBERT; Y. YIN; S. DE LIMA; M. WALTER; P. HUANG; S. J. LIPPARD; P. A. ROSENBERG; L. I. BENOWITZ. *Boston Children's Hosp. and Harvard Med. Sch., State Key Lab. of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen Univ., MIT, Massachusetts Gen. Hosp.*

2:00 B31 **742.10** Changes in bdnf in non-regenerating vs. regenerating spinal cord in Ambystoma mexicanum. R. N. CHRISTENSEN*; B. MENDEZ; S. EALLONARDO. *Coe Col., Univ. of Notre Dame.*

3:00 B32 **742.11** Mechanisms underlying glia-axon interaction and optic axon pathfinding in adult mammals. M. RIBEIRO*; B. E. YON; K. LEVAY; E. R. BRAY; B. J. YUNGHER; K. K. PARK. *Univ. of Miami Miller Sch. of Med.*

4:00 B33 **742.12** Rescue of stroke-induced deficits in fear conditioning by NeuroD1-mediated glia-to-neuron cell conversion in the amygdala. F. H. DO MONTE*; A. M. MINIER-TORIBIO; Y. CHEN; G. CHEN; G. J. QUIRK. *Univ. of Texas Hlth. Sci. Ctr., NIH/NIDA/IRP, Pennsylvania State Univ. Dept. of Biol., Univ. Puerto Rico Sch. of Med.*

1:00 B34 **742.13** A behavioral method to assess planarian brain regeneration. O. R. PAGAN*; R. DYMOND; D. BAKER; S. DEATS; G. DE MICHELLE. *West Chester Univ., West Chester university.*

2:00 B35 **742.14** Exploring the molecular mechanisms associated with electric field induced adult neural stem cell differentiation and migration. Z. PEI*; Z. DONG; A. KHAN; X. MENG. *Jilin Univ. Med. Sch., Dept. of Histology & Embryology, Col. of Basic Med. Sciences, Jilin University, CUNY Grad. Sch.*

3:00 B36 **742.15** RNA-seq analysis of optic nerve and spinal cord injury in Xenopus laevis reveals a core set of injury-induced genes associated with successful CNS axon regeneration. B. G. SZARO*; J. L. BELROSE; M. A. SAMMONS; K. M. GIBBS. *Univ. At Albany, State Univ. of New York, Morehead State Univ.*

4:00 B37 **742.16** Stepwise depletion of neural stem cells and impairment of neurogenesis concomitant with disruption of blood-brain barrier in a rat model of recurrent ischemic stroke. R. LIN*; N. HEINSINGER; M. J. LANG; G. STRICSEK; L. KENYON; R. IOZZO; R. ROSENWASSER; L. IACOVITTI. *Thomas Jefferson Univ., Thomas Jefferson Univ., Thomas Jefferson Univ., Thomas Jefferson Univ.*

1:00 B38 **742.17** Retrograde injury signaling following central axotomy: Distinctive activation pattern in JNK and STAT3 pathways. Y. OH*; H. SHIN; B. KIM. *AJOU UNIVERSITY.*

2:00 B39 **742.18** ▲ An *in vitro* technique for echinoderm radial nerve explants. P. V. FIGUEROA-DELGADO*; C. G. CASTRO-RUÍZ; J. E. GARCÍA-ARRARÁS. *Univ. of Puerto Rico, Rio Piedras Campus.*

3:00 B40 **742.19** Transcriptional profiling of early postnatal corticospinal motor neurons identifies intrinsic axon growth modulators for intact CNS neurons after injury. D. A. GIMBEL; R. O'BRIEN; J. SCHMERLER; K. L. FINK; S. M. STRITTMATTER; W. B. CAFFERTY*. *Yale Univ., Yale Univ., Yale Univ.*

4:00 B41 **742.20** An integrated in silico pipeline identifies novel transcription factor combinations to promote axon outgrowth in CNS neurons. I. VENKATESH*; M. SIMPSON; V. MEHRA; Z. WANG; M. BLACKMORE. *Marquette Univ., Marquette Univ., Blood Ctr. of Wisconsin.*

1:00 B42 **742.21** Promote axon regeneration in the adult CNS by regulating lin-28 protein. F. AROKIANATHAN*; Y. OHTAKE; M. HORIUCHI; L. MA; M. BAKRENEV; S. LI. *Shriners Hosp. Pediatric Res. Ctr.*

2:00 B43 **742.22** ▲ A new *Drosophila* model for examining axonal injury signaling and repair of injured synaptic branches. L. JUNGINGER*; L. J. SMITHSON; C. A. COLLINS. *Univ. of Michigan, Univ. of Michigan.*

**POSTER**

**743. Opiates, Cytokines, and Other Neuropeptides**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 B44 **743.01** Real-time electrochemical measurements of opioid peptide fluctuations reveal a neuromodulatory role for methionine enkephalin in the rat striatum. C. A. LEE*; S. E. CALHOUN; S. K. SMITH; C. J. MEUNIER; G. S. MCCARTY; L. A. SOMBERS. *North Carolina State Univ.*

2:00 B45 **743.02** Opioid functional selectivity determined by RGS proteins. K. B. MCPHERSON; E. R. LEFF; M. LI; K. L. SUCHLAND; J. R. TRAYNOR; S. L. INGRAM*. *Oregon Hlth. & Sci. Univ., Univ. of Michigan Med. Sch.*

3:00 B46 **743.03** Transcriptomic analysis of spinal microglia activation by opioids. E. I. SYPEK*; C. BOHLEN; A. FRANCOIS; B. A. BARRES; G. SCHERRER. *Stanford Univ., Stanford Univ.*

4:00 B47 **743.04** Potential sites for regulation of FGF2-mediated ERK1/2 pathway activation in human SH-SY5Y neuroblastoma cells. L. A. DOKAS*; S. J. WATSON; H. AKIL. *Univ. of Michigan.*

1:00 B48 **743.05** Interleukin-10 facilitates excitatory synaptic transmission, homeostatic and long-term plasticity. E. V. PERSHINA*; M. V. KONAKOV; A. MALKOV; I. Y. TEPLOV; M. N. NENOV; S. G. LEVIN. *Inst. of Theoretical and Exptl. Biophysics, Pushchino State Inst. of Natural Sci., Inst. of Cell Biophysics, Univ. of Texas Med. Br.*

2:00 B49 **743.06** The actions of tumor necrosis factor alpha on subfornical organ neurons: Implications for inflammation in central cardiovascular regulation. N. J. SIMPSON*; A. V. FERGUSON, K7L3N6. *Queen's Univ.*

3:00 B50 **743.07** Combined inhibition of IL-1 and TNFα signaling in mice results in neuroprotection and physiological improvements. J. IRWIN*; K. LAITIPAYA; J. CHANDLER; D. PALMER; T. FERRARA-BOWENS; C. L. HONNOLD; M. D. WEGNER; E. A. JOHNSON. *USAMRICD, USAMRICD, USAMRICD, AFRIMS.*

4:00 B51 **743.08** Proinflammatory cytokines are increased in novel model for Neurocisticercosis. D. G. DÁVILA*; R. P. CARMEN; R. H. GILMAN; Y. CAUNA; G. CASTILLO; M. CRIOLLO; N. CHILE; A. D. DELGADO; L. E. BAQUEDANO; R. H. CÉLIZ; J. D. MORALES; M. R. VERASTEGUI. *Univ. Peruana Cayetano Heredia, Johns Hopkins Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 B52 **743.09** Neuronal co-trafficking of the serine protease tissue-type plasminogen activator (tPA) and the neurotrophin brain-derived neurotrophic factor (BDNF). S. LENOIR*; L. LEBOUVIER; V. LESSMANN; T. GALLI; Y. HOMMET; D. VIVIEN. *Inserm U1237 -GIP Cyceron/Ucn, Otto-von-Guericke Univ., Inst. Jacques Monod INSERM ERL U950.*

2:00 B53 **743.10** ▲ Localization of pedal peptide 4-like immunoreactivity in the central nervous system of biomphalaria spp., intermediate hosts for schistosomiasis. A. N. ACEVEDO ARROYO*; M. ROSA CASILLAS; J. MALDONADO ALERS; A. HERNÁNDEZ VÁZQUEZ; L. VICENTE RODRÍGUEZ; M. R. HABIB; R. R. CROLL; M. W. MILLER. *Inst. of Neurobio., Inst. of Neurobio., Med. Malacology, Theodor Bilharz Res. Inst., Dept. of Physiol. and Biophysics, Dalhouse Univ.*

3:00 B54 **743.11** ▲ Localization of fulicin-like immunoreactivity in Biomphalaria glabrata: Evidence for a role in reproductive behavior. A. HERNÁNDEZ VÁZQUEZ*; M. B. RODRÍGUEZ; S. ROLÓN MARTÍNEZ; L. O. VAASJO; P. MÉNDEZ DE JESÚS; M. W. MILLER. *Inst. of Neurobio., Inst. of Neurobio.*

4:00 B55 **743.12** Novel eclosion hormone expressing neurons are important for *Drosophila ecdysis.* S. PARK*; F. DIAO; R. SCOTT; B. WHITE. *Natl. Inst. of Hlth.*

1:00 B56 **743.13** Spatial characterization of peptide release from cultured dorsal root ganglia cells using microfluidic devices coupled with mass spectrometric analysis. E. G. TILLMAAND*; A. E. LENHART; S. S. RUBAKHIN; J. V. SWEEDLER. *Univ. of Illinois At Urbana-Champaign.*

2:00 B57 **743.14** ● Alteration in regulation of tryptophan hydroxylase in morphine dependent rats after nalbuphine treatment. R. RAGHAV*; R. JAIN; T. ROY; A. DHAWAN; P. KUMAR. *ALL INDIA INSTITUTE OF MEDICAL SCIENCES, ALL INDIA INSTITUTE OF MEDICAL SCIENCES, ALL INDIA INSTITUTE OF MEDICAL SCIENCES.*

3:00 B58 **743.15** Expression of semaphorin 3A and nerve cell adhesion molecules L1 in sensory and motor nerve injury. F. DING*; Q. HE; M. SHEN; S. YU; J. QIU; L. WEI; M. CONG; H. XU. *Nantong University, China.*

4:00 B59 **743.16** Focal cerebral ischemia-induced proteomic changes in the hippocampus of mice with neuropeptide processing deficiency. C. DE VERA*; Z. YANG; Z. XIONG; A. ZHOU. *Morehouse Sch. of Med.*

1:00 B60 **743.17** Regulation of hippocampal dentate gyrus granule cell excitability by pituitary adenylate cyclase activating polypeptide. G. C. JOHNSON*; V. MAY; S. E. HAMMACK. *Univ. of Vermont, Univ. of Vermont, Univ. of Vermont Col. of Med., Univ. of Vermont.*

**POSTER**

**744. GABAA Receptors**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 B61 **744.01** Selective inhibition of NPY-expressing neurons in the dorsovagal complex by optogenetic stimulation of SST-GABA neurons. N. SAHIBZADA*; D. COSIO; S. GARCIA DUBAR; A. SEPULVEDA RODRIGUEZ; R. A. GILLIS; S. VICINI. *Georgetown Univ. Med. Cent, Georgetown Univ. Med. Cent.*

2:00 B62 **744.02** Optogenetic stimulation of CRH specific neurons in Barrington's nucleus recapitulate the social stress voiding phenotype. J. P. VAN BATAVIA; S. BUTLER; E. LEWIS; J. FESI; S. A. ZDERIC; R. J. VALENTINO*. *Children's Hosp. of Philadelphia, Natl. Inst. of Drug Abuse.*

3:00 B63 **744.03** Somatostatin neurons in mouse Barrington's nucleus inhibit locus ceruleus neurons. S. VICINI*; S. GARCIA DUBAR; D. COSIO; N. SAHIBZADA; R. J. VALENTINO. *Georgetown Univ. Med. Ctr., Children's Hosp. of Philadelphia.*

4:00 B64 **744.04** ● A chemogenetic approach reveals synaptic contributions of δ subunit-containing $GABA_A$ receptors in dentate granule neurons. M. SUN*; H. SHU; J. BRACAMONTES; C. F. ZORUMSKI; J. H. STEINBACH; S. MENNERICK. *Washington Univ. in St. Louis, Washington Univ. in St. Louis, Washington Univ. in St. Louis, Washington Univ. in St. Louis.*

1:00 B65 **744.05** ▲ Early postnatal administration of general anesthetics alters inhibitory drive in the ventrobasal thalamic nucleus in young rats. T. J. WOODWARD*; S. M. TODOROVIC. *Univ. of Colorado Anschutz Med. Campus.*

2:00 C1 **744.06** Hyperosmolar therapy reduces neocortical epileptiform activity *in vitro* at a clinically relevant dose during early development. J. C. GLYKYS*; E. DUQUETTE; K. J. STALEY. *Massachusetts Gen. Hosp., Harvard Med. Sch., Northeastern Univ.*

3:00 C2 **744.07** ● The Brain's Valium: Investigating the role of DBI in regulating GABA-mediated inhibition. J. S. BORCHARDT*; K. P. MANGAN; C. CZAJKOWSKI. *Univ. of Wisconsin-Madison, Cell. Dynamics, Intl.*

4:00 C3 **744.08** Characterization of the $GABA_A$ Θ subunit. J. NUWER*; M. W. FLECK. *Albany Med. Col.*

1:00 C4 **744.09** Altered $GABA_A$ receptor membrane dynamics and scaffolding proteins in a severe genetic epilepsy knockin mouse, Gabrg2(Q390X). J. KANG; C. ZHANG; J. LIU; Q. ZHANG; W. SHEN; R. L. MACDONALD*. *Vanderbilt Univ., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ., Vanderbilt Univ.*

2:00 C5 **744.10** Transient ischemia facilitates neuronal chloride accumulation, severity of seizures and cell death. T. BLAUWBLOMME; V. I. DZHALA*; M. MAIL; K. STALEY. *Massachusetts Gen. Hosp.*

3:00 C6 **744.11** Neuronal chloride concentration and the contributions of cytoskeletal components to $E_{GABA}$. K. P. NORMOYLE*; K. STALEY. *Massachusetts Gen. Hosp.*

4:00 C7 **744.12** Characterization of neuronal chloride microdomains. N. RAHMATI*; T. JACOB; K. STALEY. *Harvard Med. Sch. & Massachusetts Gen. Hos.*

1:00 C8 **744.13** Transgenic manipulation of GABA(A) receptor synaptic clustering in selected neuron types of the hippocampus. S. GEORGE*; A. L. DE BLAS. *Univ. of Connecticut Dept. of Physiol. and Neurobi, Univ. of Connecticut Dept. of Physiol. and Neurobio.*

2:00 C9 **744.14** Overexpression and knockdown of IQSEC3 (BRAG3, SynArfGEF) in cultured hippocampal neurons. C. D. FEKETE*; T. CHIOU; A. L. DE BLAS. *Univ. of Connecticut.*

3:00 C10 **744.15** Effect of mutagenesis in the benzodiazepine-site on positive allosteric modulators of $GABA_A$ receptors. O. MOODY*; A. JENKINS. *Emory Univ., Emory Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 C11 **744.16** PSD-95 alters GABAergic inhibition in the medial prefrontal cortex. E. P. MCEACHERN*; A. A. COLEY; W. GAO. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*

1:00 C12 **744.17** Gaboxadol reduces repeated food restriction evoked wheel running in an animal model of anorexia nervosa, possibly by activating $\alpha_4\beta\delta GABA_A$ receptors in hippocampal pyramidal cells. A. D. SHERPA*; A. A. NAIK; C. AOKI. *New York Univ., New York Univ.*

2:00 C13 **744.18** Chronic treatment with bifidobacterium (longum, breve, infantis) changes $GABA_A$ subunits expression and excitability in the hippocampus of adult male rats. F. BIGGIO*; M. C. MOSTALLINO; G. TALANI; V. LOCCI; L. BOI; E. SANNA; G. BIGGIO. *Univ. of Cagliari, Inst. of Neuroscience, Natl. Res. Council, Dept. of Psychiatry, Univ. of Illinois, Univ. of Cagliari.*

**POSTER**

**745. Transmitters and Messengers**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 C14 **745.01** Introduction of TGN-073, a novel aquaporin 4 facilitator. V. J. HUBER*; H. IGARASHI; M. TSUJITA; T. NAKADA. *Brain Res. Institute, Univ. of Niigata.*

2:00 C15 **745.02** Arc1 is a trans-synaptic RNA-binding protein with retrovirus-like properties. B. CORDY*; J. ASHLEY; D. LUCIA; L. G. FRADKIN; V. BUDNIK; T. THOMSON. *Univ. of Massachusetts Med. Sch.*

3:00 C16 **745.03** Modulation of calcium dynamics by caffeine and cacao metabolites in hippocampal neurons. N. PLICK*; R. G. CUTLER; S. CAMANDOLA; M. P. MATTSON. *Natl. Inst. On Aging.*

4:00 C17 **745.04** Distribution and localization of cannabinoid receptor type 1 system components in the nucleus accumbens core and shell of vervet monkeys. R. KUCERA*; J. BOUSKILA; L. ELKRIEF; A. FINK-JENSEN; R. PALMOUR; J. BOUCHARD; M. PTITO. *Univ. of Montreal, McGill Univ., St-Kitts Behavioural Sci. Fndn., Univ. of Montreal, Psychiatric Ctr. Copenhagen.*

1:00 C18 **745.05** Purinergic P2Y1 receptor involvement in non-synaptic cross-depolarization rat dorsal root ganglia. G. CARVALHO; Y. MULPURI; A. R. DAMASIO; I. SPIGELMAN*. *USC, UCLA Sch. of Dent., USC, Univ. of California Los Angeles.*

2:00 C19 **745.06** Modeling the effects of nitic oxide diffusion and degradation on neurovascular coupling. W. D. HASELDEN*; P. J. DREW. *The Pennsylvania State Univ., Pennsylvania State Univ.*

3:00 C20 **745.07** Simultaneous detection of nitric oxide and glutamate in the nucleus accumbens. M. D. SCOFIELD*; H. A. BOGER; P. W. KALIVAS. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*

4:00 C21 **745.08** Identification of enzymes involved in 2-Arachidonylglycerol synthesis and metabolism in Hirudo. E. J. KABEISEMAN*; R. MISKIMINS; B. D. BURRELL. *The Univ. of South Dakota, Univ. of South Dakota, The Univ. of South Dakota.*

1:00 C22 **745.09** Hormonal and dietary influences on endocannabinoid signaling at hypothalamic steroidogenic factor-1/ proopiomelanocortin synapses. C. FABELO*; J. HERNANDEZ; E. J. WAGNER. *Western Univ. of Hlth. Sci.*

2:00 C23 **745.10** ▲ Effects on the extracellular levels of adenosine after administrations of AA-5-HT during the lights-off period of rats. J. M. GONZÁLEZ MADARIAGA*; N. BARBOSA-ROCHA; H. BUDDE; S. MANCHADO; E. MURILLO-RODRIGUEZ. *Escuela De Medicina. Univ. Anáhuac Mayab., Grupo de Investigación en Envejecimiento. División Ciencias de la Salud Univ. Anáhuac Mayab, Grupo de Investigación Desarrollos Tecnológicos para la Salud División de Ingeniería y Ciencias Exactas. Univ. Anáhuac Mayab, Intercontinental Neurosci. Res. Group, Intercontinental Neurosci. Res. Group, Fac. of Hlth. Sciences, Polytechnic Inst. of Porto., Intercontinental Neurosci. Res. Group, Fac. of Human Sciences, Med. Sch. Hamburg, Physical Activity, Physical Education, Hlth. and Sport Res. Ctr. (PAPESH), Sports Sci. Department, Sch. of Sci. and Engineering, Reykjavik Univ., Lithuanian Sports Univ., Intercontinental Neurosci. Res. Group, Lab. of Panic and Respiration. Inst. of PsychiatryLaboratory of Panic and Respiration. Inst. of Psychiatry Federal Univ. of Rio de Janeiro (IPUB/UFRJ), Salgado de Oliveira Univ., Physical Activity Neurosci. Laboratory, Physical Activity Sci. Postgraduate Program-Salgado de Oliveira Univ. (UNIVERSO), Lab. de Neurociencias Moleculares e Integrativas. Escuela de Medicina.*

**POSTER**

**746. Presynaptic Structure and Function**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 C24 **746.01** Bcl-xL depletion or inhibition decreases presynaptic vesicle docking and enhances short term depression in hippocampus. E. A. JONAS*; S. SACCHETTI; H. PARK; P. LICZNERSKI; C. RIPOLI; M. GRAHAM; K. N. ALAVIAN; J. HARDWICK; M. D'ASCENZO; S. WATANABE; V. K. GRIBKOFF. *Yale Univ. Sch. Med., Inst. Italiano di Tecnologia, Univ. Cattolica Sch. of Med., Imperial Col. London, Johns Hopkins Univ., Catholic Univ., Johns Hopkins Univ.*

2:00 C25 **746.02** Role of Munc13 N-terminus in regulating rapid replenishment of synaptic vesicles for sustaining high frequency firing rates. T. RADULOVIC*; R. SATTERFIELD; C. IMIG; S. M. WOJCIK; N. BROSE; S. M. YOUNG, JR. *Dept. of Anat. and Cell Biol., Max Planck Inst. for Neurosci., Max Planck Inst. of Exptl. Med., Univ. of Iowa.*

3:00 C26 **746.03** Synaptotagmin and the evolution of synaptic transmission. T. W. ABRAMS*; W. S. SOSSIN. *Univ. of Maryland Med. Sch., McGill Univ.*

4:00 C27 **746.04** Apparent $Ca^{2+}$-dependence of vesicle recruitment with two pools of vesicles. A. RITZAU-JOST; J. VIOTTI; S. J. HALLERMANN*. *Univ. Leipzig, Univ. Med. Ctr. Göttingen.*

1:00 C28 **746.05** Presynaptic energy utilization during high-frequency synaptic transmission at the calyx of Held. M. SINGH*; B. J. LUJAN; R. B. RENDEN. *Univ. of Nevada, Univ. of Nevada Med. Sch., Univ. of Nevada, Reno Sch. of Med.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 C29 **746.06** Ring-like oligomers of synaptotagmin-1 involved in calcium regulated neuroexocytosis. O. BELLO; O. JOUANNOT; A. CHAUDHURI; E. STROEVA; J. COLEMAN; J. ROTHMAN; S. S. KRISHNAKUMAR*. *UCL Inst. of Neurol., Yale Univ.*

3:00 C30 **746.07** Regulation of synaptic vesicle recycling by synaptotagmin calcium sensitive ring-like oligomers. E. TAGLIATTI; O. BELLO; E. NICHOLSON; S. KRISHNAKUMAR; J. E. ROTHMAN; K. E. VOLYNSKI*. *UCL Inst. of Neurol., Yale Univ.*

4:00 C31 **746.08** Spatial control of vesicle release probability at central synapses. G. F. KUSICK*; M. CHIN; S. WATANABE. *The Johns Hopkins Univ. Sch. of Med., Dartmouth Col.*

1:00 C32 **746.09** Impact of acute ATP depletion on synaptic vesicle endocytosis at the ultrastructural level. Q. GAN*; S. WATANABE, 21205. *Johns Hopkins Sch. of Med.*

2:00 C33 **746.10** Synaptojanin 1 regulates vesicle fusogenicity and synaptic transmission in a temperature-dependent manner. L. E. MAMER*; C. ROSENMUND. *Charite Universitaetsmedizin Berlin.*

3:00 C34 **746.11** $Sr^{2+}$ has low efficiency in regulating spontaneous release at the Calyx of Held synapses. S. ZHANG; X. WANG; X. WANG; X. SHEN; X. HU; P. CHEN; J. SUN*. *Inst. of Biophysics, Chinese Acad. of Sci., Capital Med. Univ., Kunming Inst. of Zoology, Chinese Acad. of Sci., Chinese Acad. of Sci.*

4:00 C35 **746.12** ● SUVN-1603054: A novel serotonergic and dopaminergic receptors modulator for psychiatric disorders. A. VUYYURU; R. KALLEPALLI; S. YATHAVAKILLA; J. FERNANDES; J. TADIPARTHI; S. IRAPPANAVAR; V. KAMUJU; S. GANDIPUDI; J. THENTU; D. SISODAYA; R. EEDA; S. PANDEY; S. PETLU; P. NISSANKARARAO MARY; S. EDULA; T. BANDYALA; V. BHATTA; P. ACHANTA; A. SHINDE; K. MUDIGONDA*; R. NIROGI. *Suven Life Sci. Ltd, Suven Life Sci.*

1:00 C36 **746.13** Investigating the Synapsin Ia's interaction with Syntaxin I in a phosphorylation-dependent manner. H. YANG*; C. WANG. *Natl. Taiwan Univ. and Academia Sinica, Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ.*

2:00 C37 **746.14** Measuring glutamate transients at individual Schaffer collateral synapses. C. D. DÜRST*; J. S. WIEGERT; C. SCHULZE; N. HELASSA; K. TÖRÖK; T. G. OERTNER. *ISP, Ctr. For Mol. Neurobio., Cell Biol. and Genet. Res. Centre, Mol. and Clin. Sci. Res. Inst.*

3:00 C38 **746.15** ● TRPM7 channels are critical for synaptic vesicle endocytosis in neurons. W. LI*; Z. JIANG; L. GONG. *Univ. of Illinois At Chicago.*

4:00 C39 **746.16** Mechanisms of phosphatidic acid-producing enzymes in the synaptic vesicle cycle. C. BARBER*; H. L. GOLDSCHMIDT; R. L. HUGANIR; D. M. RABEN. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

1:00 C40 **746.17** Absence of Syngap1 impairs presynaptic vesicle recycling. K. BONNYCASTLE*; P. C. KIND; M. A. COUSIN. *Univ. of Edinburgh, Univ. of Edinburgh.*

2:00 C41 **746.18** Synaptotagmin and calcium regulation of single synaptic vesicle retrieval. N. L. CHANADAY*; Y. C. LI; W. XU; E. T. KAVALALI. *UT Southwestern Med. Ctr.*

3:00 C42 **746.19** ▲ Identification of novel substrates of protein kinase c epsilon using a chemical genetic strategy. Y. SHAH; R. MAIYA*; D. WU; S. GIOVANETTI; J. WANG; R. MESSING. *The Univ. of Texas at Austin, Univ. of Texas at Austin.*

4:00 C43 **746.20** Dissecting the molecular mechanisms of vesicle docking and priming. C. IMIG*; K. M. MAN; J. RHEE; N. BROSE; S. M. WOJCIK; B. H. COOPER. *Max Planck Inst. of Exptl. Med., Univ. of California.*

1:00 C44 **746.21** Some properties of the silent pool of synaptic vesicles. A. C. ASHTON*; S. GILBODY; T. G. KUAN; A. P. ROSTRON. *Sch. of Pharm. and Biomed. Sci.*

2:00 C45 **746.22** CAPS1 stabilizes synaptic vesicles on active zones and ensures basal synaptic transmission at hippocampal CA3-CA1 synapses. C. ISHII*; Y. SHINODA; Y. FUKAZAWA; T. SADAKATA; Y. SANO; Y. ISHII; N. SHIBANO; T. FURUICHI. *Tokyo Univ. of Sci., Tokyo Univ. of Pharm. and Life Sci., Univ. of Fukui, Gumma Univ.*

3:00 C46 **746.23** The mode of synaptic vesicle exocytosis is determined by presynaptic calcium level. Y. KIM*; U. LEE; S. CHANG. *Seoul Natioanl Univ. Col. of Med.*

4:00 C47 **746.24** Modeling the vesicular functions of ATM and ATR proteins in budding yeast. K. E. LIU*; A. CHENG; L. CHEN; T. ZHAO; S. DU; D. K. BANFIELD; K. HERRUP. *Hong Kong Univ. of Sci. and Technol., Light Innovation Technol. Ltd., Hong Kong Univ. of Sci. and Technol.*

1:00 C48 **746.25** TRPM7 is important for endocytosis in chromaffin cells. Z. JIANG*; L. GONG. *Univ. of Illinois at Chicago.*

2:00 C49 **746.26** On-cell membrane capacitance measurements from mouse cochlear inner hair cells indicate a predominance of univesicular fusion. C. P. GRABNER*; T. MOSER. *Max Planck Inst., Univ. Med. Ctr. Göttingen, Max Planck Inst.*

**POSTER**

**747. Presynaptic Ultrastructure and Calcium Channels**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 C50 **747.01** Interaction of Piccolino and RIBEYE at the photoreceptor ribbon synapse. T. M. MÜLLER*; K. K. GIERKE; H. STICHT; J. H. BRANDSTATTER; H. REGUS-LEIDIG. *FAU Erlangen-Nürnberg.*

2:00 C51 **747.02** Identification of a second SV binding site in the middle region of the C-terminal of presynaptic voltage gated calcium channels. C. SNIDAL*; S. R. GARDEZI; B. B. ELLIOTT; H. K. MAH; R. H. CHEN; Q. LI; E. F. STANLEY. *Toronto Western Res. Inst., Krembil Res. Inst., Toronto Western Hosp. Krembil Discovery Tower, Univ. Hlth. Network.*

3:00 C52 **747.03** Ultrastructural analysis of rod photoreceptor ribbon synapses in a piccolino deficient rat. K. K. GIERKE*; T. M. MÜLLER; C. C. GARNER; J. H. BRANDSTATTER; H. REGUS-LEIDIG. *FAU Erlangen-Nürnberg, Charité - Universitätsmedizin Berlin.*

4:00 C53 **747.04** A novel role of phosphatidylinositol-5-phosphate, 4-kinases (PI5P4Ks) at the synapse. E. NOCH*; I. YIM; T. MILNER; L. C. CANTLEY. *Weill Cornell Med., Weill Cornell Med., Weill Cornell Med.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 C54 **747.05** Electron microscopy analysis of synaptic vesicle tethering by calcium channels at presynaptic active zones. R. H. CHEN*; E. F. STANLEY. *Krembil Res. Inst.*

2:00 C55 **747.06** Immunogenic analysis of a CaV2.1 calcium channel C-terminal synaptic vesicle binding site. H. K. MAH*; C. SNIDAL; R. H. CHEN; Q. LI; E. F. STANLEY. *TORONTO WESTERN RESEARCH INSTITUTE KREMBIL DISCOVE, Toronto Western Res. Inst., Krembil Res. Inst., Univ. Hlth. Network.*

**POSTER**

**748. Presynaptic Organization**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 C56 **748.01** A novel synergistic role of alpha-synuclein and synapsins in maintaining synaptic homeostasis. M. ATIAS*; Y. TEVET; J. KAHN; D. GITLER. *Ben-Gurion Univ. of the Negev, Ben-Gurion Univ. of the Negev.*

2:00 C57 **748.02** Large-scale synapse annotation of a FIB-SEM dataset uncovers a novel arrangement of reciprocal axo-axonic synapses in the *Drosophila* mushroom body. P. K. RIVLIN*; G. HUANG; D. J. OLBRIS; L. UMAYAM; S. TAKEMURA; S. LAUCHIE; A. SHINOMIYA; S. PLAZA; L. K. SCHEFFER. *HHMI-Janelia Res. Campus.*

3:00 C58 **748.03** Synaptic function of RIM1α: Role of phosphorylation sites. J. MÜLLER*; K. ENGELHOLM-KELLER; D. DIETRICH; M. GRAHAM; S. SCHOCH. *Univ. of Bonn Med. Ctr., Univ. of Bonn, Children's Med. Res. Inst., Univ. of Bonn Med. Ctr.*

4:00 C59 **748.04** Acute introduction of alpha-Synuclein dimers inhibits vesicle fission during clathrin-mediated synaptic vesicle recycling. A. T. MEDEIROS*; L. G. SOLL; I. TESSARI; L. BUBACCO; J. R. MORGAN. *Marine Biol. Lab., Univ. of Padova.*

1:00 C60 **748.05** Excess alpha-synuclein causes synaptic vesicle trafficking defects that are rescued by Hsc70. S. M. BANKS*; A. T. MEDEIROS; L. WANG; D. J. BUSCH; A. S. IBARRARAN-VINIEGRA; S. ROY; R. SOUSA; E. M. LAFER; J. R. MORGAN. *Florida Southern Col., Marine Biol. Lab., Univ. of Wisconsin, The Univ. of Texas at Austin, Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*

2:00 C61 **748.06** An F-Bar domain protein is required for the proper biogenesis of synaptic vesicles. O. SHUPLIAKOV*; O. VORONTSOVA; K. A. REES; E. SOPOVA; N. AKKURATOVA; C. F. KELLY; E. M. MESSELAAR; A. A. RODAL; Å. M. E. WINTHER. *Karolinska Institutet, Inst. of Translational Biomedicine, Brandeis Univ.*

3:00 C62 **748.07** Distinct nanoscale motifs of calcium channels and synaptic vesicles topologies contribute to the diversity of synaptic function. N. A. REBOLA*; M. REVA; T. KIRIZS; Z. NUSSER; D. DIGREGORIO. *CNRS UMR 7225, Neurosci. Department, Inst. Pasteur, Inst. of Exptl. Medicine, Hungarian Acad. Sc.*

4:00 C63 **748.08** Extracellular matrix ensures temporally precise high frequency synaptic transmission at the calyx of Held. C. KÖRBER*; D. HARRACH; T. KUNER. *Univ. of Heidelberg.*

1:00 D1 **748.09** $Ca_V2.1$ expression levels impact $Ca_V2$ abundance and neurotransmitter release before and after circuit maturation. R. O. GORAL*; M. LÜBBERT; C. THOMAS; T. PUTZKE; R. SATTERFIELD; D. GUERRERO-GIVEN; N. KAMASAWA; S. M. YOUNG, Jr. *Max Planck Florida Insitute For Neurosci., Univ. of Iowa, Max Planck Florida Insitute For Neurosci., Univ. of Iowa.*

2:00 D2 **748.10** Neonatal nicotine-induced neurotransmitter plasticity affecting reward-seeking behavior. B. ROMOLI*; A. F. LOZADA; S. BARNES; D. K. BERG; D. DULCIS. *UC San Diego, UC San Diego, UC San Diego.*

3:00 D3 **748.11** A stochastic model of active zone material mediated synaptic vesicle docking and priming. J. JUNG*. *Texas A&M Univ.*

1:00 DP02/D4 **748.12** (Dynamic Poster) Establishment of volumetric methods for gross and fine scale presynaptic morphological analysis in electron microscopy. N. KAMASAWA*; C. I. THOMAS; S. OKAYAMA; C. KEINE; R. SATTERFIELD; D. GUERRERO-GIVEN; S. M. YOUNG, JR. *Max Planck Florida Inst., Max Planck Florida Inst., Univ. of Iowa, Univ. of Iowa.*

1:00 D5 **748.13** A novel computational model for the development of a new therapeutic approach for Lambert-Eaton myasthenic syndrome. S. P. GINEBAUGH*; R. LAGHAEI; K. S. OJALA; T. B. TARR; S. D. MERINEY. *Univ. of Pittsburgh, Pittsburgh Supercomputing Ctr., Univ. of Pittsburgh, Univ. of Maryland Sch. of Med., Univ. Pittsburgh.*

2:00 D6 **748.14** Expression of the *Drosophila* vesicular acetylcholine transporter in central synapses. S. BOPPANA*; O. OPEYEMI AKINRINSOLA; D. WHITE; J. MURPHY; H. LAWAL. *Delaware State Univ., Delaware State Univ.*

3:00 D7 **748.15** Exocyst subunits are critical for proper synaptic growth and function at the *Drosophila* NMJ. J. P. ROCHE*; E. ISKO; E. R. GRAF. *Amherst Col., Amherst Col.*

4:00 D8 **748.16** Presynaptic proteins in aging mouse brain. A. ROZYCKA*; R. ZAKRZEWSKA; M. KOSSUT; M. LIGUZ-LECZNAR. *Nencki Inst. of Exptl. Biol. PAS.*

1:00 D9 **748.17** Synaptotagmin 7 promotes sustained high-frequency transmission and vesicle replenishment at a central inhibitory synapse. C. CHEN; P. JONAS*. *Inst. of Sci. and Technol. (IST) Austria.*

**POSTER**

**749. LTP: Kinases and Intracellular Mechanisms**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 D10 **749.01** On the mechanism of long-term memory erasure by ZIP: PKMζ inhibition with no evidence of neuronal silencing. A. A. FENTON*; E. PARK; J. BARRY; E. PASTALKOVA; T. C. SACKTOR. *New York Univ., Univ. of Vermont, Eastern Mennonite Univ., SUNY Downstate Med. Ctr.*

2:00 D11 **749.02** A PKMζ-selective negative allosteric modulator reverses LTP maintenance in wild-type mice but not in PKMζ-null mice. P. TSOKAS*; C. HSIEH; M. P. SAJAN; M. ACEVEDO-DUNCAN; R. V. FARESE; A. A. FENTON; T. C. SACKTOR. *SUNY Downstate Med. Ctr. Col. of Med., SUNY Downstate Med. Ctr. Col. of Med., James A Haley Veterans Hospital, Univ. of South Florida, Univ. of South Florida, New York Univ., SUNY Downstate Med. Ctr. Col. of Med.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 D12 **749.03** Isoform-selective inhibitors reveal a double dissociation between the functions of PKMζ and PKCι/λ in the maintenance of long-term memory in wild-type and PKMζ-null mice. C. HSIEH*; P. TSOKAS; M. P. SAJAN; M. ACEVEDO-DUNCAN; R. V. FARESE; A. A. FENTON; T. C. SACKTOR. *SUNY Downstate Med. Ctr., SUNY Downstate Med. Ctr., SUNY Downstate Med. Ctr., James A Haley Veterans Med. Center, Univ. of South Florida, Univ. of South Florida, New York Univ., SUNY Downstate Med. Ctr.*

4:00 D13 **749.04** Kinesin-3 molecular motors in synaptic plasticity. Y. GUTIERREZ*; S. LOPEZ-GARCIA; A. LARIO; M. ROYO; C. DELEVOYE; J. A. ESTEBAN. *CSIC, Univ. of California San Francisco (UCSF), Columbia Univ., UMR144/ Institut Curie, CNRS. PSL Res. Univ.*

1:00 D14 **749.05** Regulation of AMPA receptor synaptic function by GSK3. J. E. DRAFFIN*; J. A. ESTEBAN. *Ctr. de Biología Mol. 'Severo Ochoa'.*

2:00 D15 **749.06** Preferential generation of $Ca^{2+}$-permeable AMPA receptors by AKAP79-anchored PKC proceeds via GluA1 phosphorylation at Ser831. S. J. TAVALIN*; A. S. BOGARD; K. C. SUMMERS. *Univ. of Tennessee Hlth. Sci. Ctr.*

3:00 D16 **749.07** Inhibition of GluN2A NMDA receptors in the Fragile X Syndrome mouse model normalizes impaired synaptic plasticity. T. G. BANKE*; A. H. TOFT; C. J. LUNDBYE. *Aarhus Univ.*

4:00 D17 **749.08** Post-synaptic signaling molecules predicts striatal synaptic plasticity. K. L. BLACKWELL*; A. G. SALINAS; P. TEWATIA; J. HELLGREN KOTALESKI; D. M. LOVINGER. *George Mason Univ., Natl. Inst. On Alcohol Abuse and Alcoholism, Kungliga Tekniska Hogskolan, Natl. Inst. on Alcohol Abuse and Alcoholism Rockville Office.*

1:00 D18 **749.09** Phosphoproteomic analysis of synaptic plasticity identifies a novel phosphorylation site of calcineurin that enhances its activity. L. LI*; R. AHMAD; A. J. CAMPBELL; A. GHOSHAL; K. DUONG; J. M. MADISON; M. E. FITZPATRICK; M. NAGIEC; M. WEIWER; F. F. WAGNER; M. J. SZUCS; S. A. CARR; E. M. SCOLNICK; Y. ZHANG; J. R. COTTRELL. *Broad Inst. of MIT and Harvard, Broad Inst. of MIT and Harvard.*

2:00 D19 **749.10** The impact of PKA-dependent phosphorylation of GluN2B on hippocampal plasticity and cognition. M. W. PORCH*; J. HWANG; A. E. CHÁVEZ; R. S. ZUKIN. *Albert Einstein Col. of Med., Univ. of Valparaiso.*

3:00 D20 **749.11** Integration of spatiotemporally distinct signals by PKCα during synaptic plasticity and metaplasticity. L. A. COLGAN*; M. HU; J. A. MISLER; P. PARRA-BUENO; C. M. MORAN; R. YASUDA. *Max Planck Florida Inst.*

4:00 D21 **749.12** Intracellular regulation of calcium-calmodulin dependent protein kinase type II function by NMDA receptor subunit GluN2B. L. K*; M. M; A. R. CHANDRIKA; R. V. OMKUMAR; R. RAJU; A. ANIRUDHAN. *Rajiv Gandhi Ctr. For Biotech., Rajiv Gandhi Ctr. For Biotech., SreeChitraTirunal Inst. for Med. Sci. and Technol.*

1:00 D22 **749.13** A rule-based, multi-state model of the CaMKII holoenzyme. M. C. PHARRIS*; T. L. KINZER-URSEM; M. STEFAN. *Purdue Univ., The Univ. of Edinburgh.*

2:00 D23 **749.14** LTP at individual glutamatergic spine affects the synaptic plasticity at neighboring GABAergic synapses. T. RAVASENGA*; E. PETRINI; C. ROSILLO; M. RUBEN; A. BARBERIS. *Inst. Italiano Di Tecnologia, Universita' degli Studi di Pavia.*

3:00 D24 **749.15** AKT isoforms have distinct roles in synaptic plasticity. J. LEVENGA*; H. WONG; C. A. HOEFFER. *Univ. of Colorado Boulder, Linda Crnic Inst., Inst. for Behavioral Genet.*

4:00 D25 **749.16** Modeling a molecular feedback loop important for LTM consolidation predicts prolonged PKC activation and rescue of LTP impaired by CBP mutation. P. D. SMOLEN*; Y. ZHANG; D. A. BAXTER; J. H. BYRNE. *The Univ. of Texas Med. Sch.*

1:00 D26 **749.17** ● p75 neurotrophin receptor as a mediator of synaptic changes in sleep deprivation. L. WONG*; C. IBANEZ; S. SAJIKUMAR. *Natl. Univ. of Singapore.*

2:00 D27 **749.18** Distinct roles of pkcι/λ and pkmζ in the initiation and maintenance of hippocampal long-term potentiation and memory. S. WANG*; T. SHENG; S. REN; T. TIAN; W. LU. *Southeast Univ., Nanjing Med. Univ.*

3:00 D28 **749.19** An emerging role of leukocyte specific protein-1 in normal brain function. J. STOCKWELL*; X. QIN; L. HAO; L. LIU; F. S. CAYABYAB. *Univ. of Saskatchewan, Univ. of Saskatchewan, Univ. of Saskatchewan.*

4:00 D29 **749.20** The brain-enriched microRNA, miR-9-3p, regulates synaptic plasticity and memory. S. SIM*; C. LIM; J. KIM; D. SEO; H. CHUN; N. YU; J. LEE; S. J. KANG; H. KO; J. CHOI; T. KIM; E. JANG; J. HAN; M. BAK; J. PARK; D. JANG; D. BAEK; Y. LEE; B. KAANG. *Seoul Natl. Univ., Seoul Natl. Univ., Ctr. for RNA Res., Chung-Ang Univ., Kyungpook Natl. Univ., Bioinformatics Inst.*

1:00 D30 **749.21** Role of PDE inhibitors on AMPA receptor trafficking and downstream cyclic nucleotide signaling. E. K. ARGYROUSI*; S. R. NEVES-ZAPH; J. PRICKAERTS. *Maastricht Univ., Icahn Sch. of Med. at Mount Sinai.*

2:00 D31 **749.22** Consolidation of contextual and auditory fear memories within amygdala, hippocampus and prefrontal cortex. N. CHAAYA*; A. JACQUES; A. BATTLE; L. R. JOHNSON. *Queensland Univ. of Technol., Queensland Univ. of Technol., Inst. of Hlth. and Biomed. Innovation, Translational Res. Inst., Ctr. for the Study of Traumatic Stress.*

3:00 D32 **749.23** Learning-induced suboptimal compensation for pkcι/λ function in mutant mice. T. SHENG*; S. WANG; D. QIAN; J. GAO; S. OHNO; W. LU. *Southeast Univ., Nanjing Med. Univ., Yokohama City Univ.*

4:00 D33 **749.24** Characterization of the small optic lobe (SOL) calpain in *Aplysia* and mice. C. ZHA; W. S. SOSSIN*; C. A. FARAH; M. H. HASTINGS; A. QIU; Y. MAHDID. *McGill Univ., McGill Univ., McGill Univ.*

1:00 D34 **749.25** Post-synaptic translocation of CaMKII during synaptic potentiation requires calpain activity. K. SEHGAL; C. SALESSE; M. LEMIEUX; S. LABRECQUE; P. DE KONINCK*. *Univ. Laval, Univ. Laval.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**750. Forebrain Neuron Cell Types and Firing Properties**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 D35 **750.01** ● Potassium channel subunits Kv9.3 regulate parvalbumin neuron physiology in mouse prefrontal cortex. T. MIYAMAE*; R. KAWABATA; M. ABRAHAM; G. B. ERMENTROUT; D. A. LEWIS; T. HASHIMOTO; G. GONZALEZ-BURGOS. *Univ. of Pittsburgh, Kanazawa Univ., Univ. of Pittsburgh.*

2:00 D36 **750.02** Gain and membrane input resistance are lower *in vivo* than *in vitro* in layer 2/3 pyramidal cells of somatosensory cortex. F. R. FERNANDEZ*; B. RAHSEPAR; J. A. WHITE. *Boston Univ., Boston Univ.*

3:00 D37 **750.03** Perineuronal nets regulate the spike frequency of PV interneurons in the cerebral cortex. B. P. TEWARI*; S. CAMPBELL; H. SONTHEIMER. *Virginia Tech. Carilion Res. Inst., Virginia Tech. Sch. of neuroscience.*

4:00 D38 **750.04** Spontaneous fluctuations in spiking activity are related to cardiac cycle duration in humans. K. KIM*; M. BABO-REBELO; A. BUOT; A. CLAUDE; V. LAMBRECQ; V. NAVARRO; K. LEHONGRE; C. TALLON-BAUDRY. *ENS, PSL Res. University, INSERM, ENS, PSL Res. University, INSERM, Inserm U 1127, CNRS UMR 7225, Sorbonne Universités, UPMC Univ. Paris 06 UMR S 1127, Inst. du Cerveau et de la Moelle épinière, ICM, AP-HP, GH Pitie-Salpêtrière-Charles Foix, Epileptology Unit and Neurophysiol. Dept.*

1:00 D39 **750.05** Cell-type specific dopamine receptor modulation in the mouse prefrontal cortex. P. G. ANASTASIADES*; A. G. CARTER. *New York Univ.*

2:00 D40 **750.06** Overexpression of BORCS7, a schizophrenia risk gene, attenuates intrinsic excitability of prefrontal neurons in rats. G. R. HAMERSKY; J. F. BOHLEN; H. CHEN; R. E. STRAUB*; B. J. MAHER. *Lieber Inst. For Brain Develop., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med.*

3:00 D41 **750.07** Juvenile stress-induced alteration of emotional contagion and intrinsic neuronal membrane plasticity in the mouse brain. T. YOSHIDA*; M. KOBIE; Y. OHMURA; M. YOSHIOKA. *Hokkaido Univ. Grad. Sch. of Med., Hokkaido Univ. Grad. Sch. of Med., Hokkaido Univ. Fac. of Med.*

4:00 D42 **750.08** Cell-type specific regulation of ion channel function by Fragile X mental retardation protein. F. BRANDALISE; D. H. BRAGER*; B. KALMBACH; P. MEHTA; B. L. KAJS; D. JOHNSTON; B. V. ZEMELMAN. *Univ. of Texas at Austin, Univ. Texas at Austin, Allen Inst. for Brain Sci.*

1:00 D43 **750.09** Amplification of gamma- and theta-band inputs by distinct cortical interneuronal populations. R. M. MERINO*; C. LEON-PINZON; W. STUEHMER; A. NEEF; F. WOLF. *MPI Dynamics and Self-Organization, MPI Exptl. Med., Bernstein Ctr. for Computat. Neurosci.*

2:00 D44 **750.10** ● Layer 3 pyramidal neuron heterogeneity in monkey prefrontal and parietal cortex: Morphology, electrophysiology and transcriptome analysis. G. GONZALEZ-BURGOS*; T. MIYAMAE; Y. KRIMER; D. ARION; J. F. ENWRIGHT, III; D. A. LEWIS. *Univ. of Pittsburgh, Univ. of Pittsburgh Sch. of Med., Univ. of Pittsburgh, Univ. of Pittsburgh Med. Ctr., Univ. Pittsburgh.*

3:00 D45 **750.11** Transcriptomic correlates of neuron electrophysiological diversity. S. TRIPATHY*; L. TOKER; O. MANCARCI; P. PAVLIDIS. *Univ. of British Columbia, Univ. of British Columbia, Univ. British Columbia.*

4:00 D46 **750.12** NeuroExpresso: A brain cell type specific gene expression database composed of pooled microarray and single cell RNA sequencing data. O. MANCARCI*; L. TOKER; S. J. TRIPATHY; B. LI; B. ROCCO; E. SIBILLE; P. PAVLIDIS. *Univ. of British Columbia, Univ. of Toronto.*

**POSTER**

**751. Oscillations and Synchrony: Unit Studies**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 D47 **751.01** Network oscillations spontaneously emerge in human iPSC-derived cortical organoids. R. GAO*; &. D. NEGRAES; C. TRUJILLO; A. R. MUOTRI; B. VOYTEK. *Univ. of California San Diego Dept. of Cognitive Sci., Univ. of California San Diego, UCSD, Univ. of California San Diego Dept. of Cognitive Sci., Univ. of California San Diego.*

2:00 D48 **751.02** Extracting neural networks formed by consistent between-population spike timing from multiunit activity. R. VAN DER MEIJ*; B. VOYTEK. *Univ. of California San Diego, Univ. of California San Diego Dept. of Cognitive Sci.*

3:00 D49 **751.03** Stimulation of central lateral thalamus restores conscious processing under propofol and isoflurane anesthesia. M. J. REDINBAUGH*; J. M. PHILLIPS; N. A. KAMBI; S. MOHANTA; A. RAZ; Y. B. SAALMANN. *UW Madison, UW Madison, Rambam Hlth. Care Campus.*

4:00 D50 **751.04** Thalamic deep brain stimulation restores awake-like behavior and cortical dynamics in the anesthetized macaque. J. A. DONOGHUE*; S. KORNBLITH; M. MAHNKE; M. LUNDQVIST; J. E. ROY; E. N. BROWN; E. K. MILLER. *MIT, MIT, MIT, MIT, Massachusetts Inst. Technol.*

1:00 D51 **751.05** Suggested role of gamma and beta bursts in volitional control of working memory. M. LUNDQVIST*; P. HERMAN; M. R. WARDEN; S. L. BRINCAT; E. K. MILLER. *MIT, KTH Royal Inst. of Technol., Cornell Univ.*

2:00 D52 **751.06** Category representations at different levels of abstractness in beta and gamma frequency band rhythms. A. WUTZ*; R. LOONIS; J. E. ROY; E. K. MILLER. *MIT.*

3:00 D53 **751.07** Predicting the effect of drugs and network structure on the bursting activity of neuronal cultures. T. FARDET*; S. BOTTANI; S. MÉTENS; P. MONCEAU. *CNRS UMR 7057, Univ. Paris 7, Diderot, Univ. d'Évry.*

4:00 D54 **751.08** Inhibitory control of state transition in the neocortex. S. ZUCCA*; G. D'URSO; V. PASQUALE; D. VECCHIA; G. PICA; S. BOVETTI; C. MORETTI; S. VARANI; M. MOLANO-MAZÓN; M. CHIAPPALONE; S. PANZERI; T. FELLIN. *Inst. Italiano Di Tecnologia, Inst. Italiano di Tecnologia, Inst. Italiano di Tecnologia, Inst. Italiano di Tecnologia.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 D55 **751.09** Direct estimation of the phase dynamics from spikes of realistically modeled neurons by Bayesian estimation. K. SUZUKI; T. AOYAGI; K. KITANO*. *The Univ. of Tokyo, RIKEN Brain Sci. Inst., Kyoto Univ., Ritsumeikan Univ.*

2:00 D56 **751.10** Deep and superficial single-cell dynamics during theta oscillations in CA1. M. VALERO*; I. FERNANDEZ-LAMO; E. CID; A. C. NAVAS-OLIVE; G. GAMBINO; B. GAL; L. M. DE LA PRIDA. *Inst. Cajal - CSIC, Univ. Europea de Madrid.*

3:00 D57 **751.11** Communication between the hippocampus and the neocortex underlying memory consolidation during slow wave sleep. R. TODOROVA*; N. MAINGRET; R. FAYAT; M. ZUGARO. *CNRS UMR7241, INSERM U1050, CNRS UMR7241, INSERM U1050, Collège de France.*

4:00 D58 **751.12** Characterization of cell types across the primate cortex. C. TRAINITO*; C. VON NICOLAI; E. K. MILLER; M. SIEGEL. *Univ. of Tübingen, Univ. of Tübingen, Univ. of Tübingen, Massachusetts Inst. Technol.*

1:00 D59 **751.13** ● Ketamine anesthesia produces alternating peaks in delta and gamma power in prefrontal and parietal cortex of macaque monkeys. M. M. KOWALSKI*; J. A. DONOGHUE; M. M. MCCARTHY; N. J. KOPELL; E. K. MILLER; E. N. BROWN. *Boston Univ., MIT, MIT, Harvard-MIT, MIT, Massachusets Gen. Hosp.*

2:00 D60 **751.14** Discrete information processing states in anaesthetized rat recordings. D. BATTAGLIA*; C. BERNARD; A. F. VICENTE; P. P. QUILICHINI. *INS, Univ. Aix-Marseille.*

3:00 D61 **751.15** Tonic-to-bursting transitions mediated by a characteristic firing rate in gap-junction-coupled neurons. E. ROSA*; A. SHAFFER; W. STEIN; R. FOLLMANN. *Illinois State Univ., Illinois State Univ.*

**POSTER**

**752. Oscillations and Synchrony: EEG Studies**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 D62 **752.01** Cortically projecting parvalbumin positive neurons in basal forebrain mediate top-down processing by reorganizing gamma oscillation network. E. HWANG*; H. HAN; B. KIM; R. E. BROWN; R. W. MCCARLEY; J. T. MCKENNA; T. KIM; J. CHOI. *Korea Inst. of Sci. and Technol., VA BHS & Harvard Med. Sch., VA Boston Healthcare Syst. & Harvard Med. Sch., VA Boston Healthcare System/Harvard Med. Sch., Gwangju Inst. of Sci. and Technol., Korea Inst. of Sci. and Technol. (KIST).*

2:00 D63 **752.02** Cortical oscillatory network induced by perceptual binding in mice. H. HAN*; E. HWANG; S. LEE; M. KIM; J. CHOI. *Korea Inst. of Sci. and Technol., Yonsei Univ., Lablup Inc., Univ. of Sci. and Technol.*

3:00 E1 **752.03** Dynamic Granger causality during repetitive transcranial magnetic stimulation: An EEG-based biomarker of neuromodulatory effect. C. C. CLINE*; N. N. JOHNSON; C. A. ZURN; B. HE. *Univ. of Minnesota, Univ. of Minnesota.*

4:00 E2 **752.04** Cross-frequency coupling between alpha- and gamma-band sensorimotor cortex oscillations does not covary with corticospinal excitability at rest. E. R. BUCH*; S. HUSSAIN; L. CLAUDINO; M. BOENSTRUP; R. THOMPSON; G. CRUCIANI; L. G. COHEN. *Natl. Inst. of Neurolog. Disorders and S.*

1:00 E3 **752.05** Differential desynchronization of sensorimotor rhythms during online motor learning and consolidation. M. BÖNSTRUP*; R. THOMPSON; G. CRUCIANI; L. G. COHEN. *Natl. Inst. of Neurolog. Disorders and S.*

2:00 E4 **752.06** Instantaneous oscillatory phase and power interact to influence TMS effects. S. J. HUSSAIN*; M. BOENSTRUP; L. CLAUDINO; G. CRUCIANI; R. THOMPSON; E. BUCH; L. COHEN. *NIH.*

3:00 E5 **752.07** Modeling variability induced by coil positioning enhanced detection of TMS effects. L. CLAUDINO*; S. HUSSAIN; E. BUCH; L. COHEN. *Natl. Inst. of Neurolog. Disorders and S.*

4:00 E6 **752.08** Cortical control of wakefulness: Differential role of cholinergic and noradrenergic processes in prefrontal and posterior parietal cortices. J. DEAN*; D. LI; T. LIU; G. A. MASHOUR; D. PAL. *Univ. of Michigan Dept. of Mol. and Integrative Physiol., Univ. of Michigan.*

1:00 E7 **752.09** ● Cortical networks under propofol anesthesia are fractured by spatiotemporally incoherent slow waves: A dimensionality analysis using EEG source localization. E. P. STEPHEN*; M. S. HÄMÄLÄINEN; S. KHAN; E. T. PIERCE; P. G. HARRELL; J. L. WALSH; E. N. BROWN; P. L. PURDON. *MIT, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., MIT, Harvard Univ.*

2:00 E8 **752.10** Duration of electroencephalogram suppression does not predict recovery time from general anesthesia. R. A. MAK-MCCULLY*; H. UNG; M. S. AVIDAN; G. A. MASHOUR; M. B. KELZ; A. PROEKT. *UC Berkeley, Univ. of Pennsylvania, Washington Univ. Sch. of Med. in St. Louis, Univ. of Michigan, Univ. Pennsylvania.*

3:00 E9 **752.11** The slow (0.1-1 Hz) oscillation during propofol anesthesia, dexmedetomidine sedation and natural sleep. G. HOTAN*; E. P. STEPHEN; O. AKEJU; M. J. PRERAU; P. L. PURDON. *MIT, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp.*

4:00 E10 **752.12** ● Relationships between MEG and BOLD resting-state connectivity: Insights from computational modeling. M. HELMER*; J. B. BURT; M. DEMIRTAS; L. JIE; C. H. SCHLEIFER; B. D. ADKINSON; A. ANTICEVIC; J. D. MURRAY. *Yale Univ., Yale Univ.*

1:00 E11 **752.13** A theoretical study of subpopulation network structure and electroencephalogram coherence coupling. N. SATO*. *Future Univ. Hakodate.*

2:00 E12 **752.14** Entrainment of large-scale cortical networks underlie the processing of periodic auditory stimulus. N. KUMAR*; A. JAISWAL; V. G. KUMAR; D. ROY; A. BANERJEE . *Natl. Brain Res. Ctr., Ctr. of Behavioural and Cognitive Sciences, Univ. of Allahabad.*

3:00 F1 **752.15** Frequency dependent contributions to directed functional connectivity in the human cortex. J. I. CHAPETON*; K. A. ZAGHLOUL; S. K. INATI. *NIH, NINDS, NIH, NINDS.*



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* Indicates abstract's submitting author

4:00 F2 **752.16** ● The role of ambient illumination and stimulation duration on the aftereffect of alpha-band tACS. H. I. STECHER*; T. M. POLLOK; D. STRÜBER; F. SOBOTKA; C. S. HERRMANN. *Carl Von Ossietzky Univ. of Oldenburg, Carl von Ossietzky Univ. of Oldenburg, Carl von Ossietzky Univ. of Oldenburg.*

1:00 F3 **752.17** Mapping the relationship between phase- and amplitude coupling in the human brain. M. SIEMS*; M. SIEGEL. *Univ. of Tübingen.*

2:00 F4 **752.18** Cross-frequency coupling in the resting human brain? J. GIEHL*; N. NOURY; J. F. HIPP; M. SIEGEL. *Univ. of Tübingen, Univ. of Tübingen.*

3:00 F5 **752.19** Traveling theta and alpha oscillations in human neocortex. J. JACOBS*; H. ZHANG; A. WATROUS; A. PATEL. *Columbia Univ., Drexel Univ., Columbia Univ.*

4:00 F6 **752.20** ▲ Frequency filtering effects of the skull on scalp EEG. D. ISSAR*; A. C. SNYDER; M. A. SMITH. *Univ. of Pittsburgh, Univ. of Pittsburgh, Carnegie Mellon Univ.*

1:00 F7 **752.21** Variable background quality can cause both false negative and false positive detections of high frequency oscillations. S. GLISKE*; K. L. LAU; C. G. FINK; W. C. STACEY. *Univ. of Michigan, Univ. of Michigan, Ohio Wesleyan Univ., Univ. of Michigan.*

**POSTER**

**753. Oscillations and Synchrony: LFP Studies**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 F8 **753.01** Disruption of perineuronal nets increases the abundance and alters the dynamics of sharp wave ripples. A. CACCAVANO*; Z. SUN; P. BOZZELLI; M. ALLEN; J. BALMUTH; S. VICINI; J. WU; K. CONANT. *Georgetown Univ., Jilin Women's and Children's Hlth. Hosp., Johns Hopkins Univ., Georgetown Univ., Georgetown Univ.*

2:00 F9 **753.02** Oscillations shape the spiking pattern in neural network near Excitatory-Inhibitory balance. J. WU*; N. OGNJANOVSKI; S. J. ATON; M. R. ZOCHOWSKI. *Univ. of Michigan, Univ. of Michigan Aton Lab., Univ. of Michigan, Univ. of Michigan.*

3:00 F10 **753.03** Layer-dependent changes in the peak timing of sensory cortical field potentials. Y. KAJIKAWA*; C. E. SCHROEDER. *Nathan Kline Inst., Columbia Univ. Col. of Physicians and Surgeons.*

4:00 F11 **753.04** Gamma and theta rhythms in networks of striatal fast-spiking interneurons modulate oscillatory behavior of striatal projection neurons. J. A. CHARTOVE*; B. R. PITTMAN-POLLETTA; M. M. MCCARTHY; N. J. KOPELL. *Boston Univ., Harvard Med. Sch.*

1:00 F12 **753.05** Beta1 rhythm in parietal cortex can facilitate memory, support cell assemblies, and modulate the ability to drive downstream targets. A. GELASTOPOULOS*; N. J. KOPELL; M. A. WHITTINGTON. *Boston Univ., Univ. of York.*

2:00 G1 **753.06** Mechanisms underlying dynamic cross-frequency interactions in primary auditory cortex during entrainment to non-stationary stimuli. D. A. STANLEY*; A. Y. FALCHIER; B. R. PITTMAN-POLLETTA; M. A. WHITTINGTON; C. E. SCHROEDER; N. J. KOPELL. *Boston Univ., Nathan Kline Inst., Hull York Med. Sch., Columbia Univ. Col. of Physicians and Surgeons.*

3:00 G2 **753.07** Cross-frequency coupling in a single cell: Delta-theta interactions from intrinsic currents in a computational model. B. R. PITTMAN-POLLETTA*; D. A. STANLEY; M. WHITTINGTON; C. E. SCHROEDER; N. J. KOPELL. *Boston Univ., Boston Univ., HYMS, Columbia Univ. Col. of Physicians and Surgeons, Boston Univ.*

4:00 G3 **753.08** Increased power of high-gamma oscillations in the rat nucleus accumbens during spontaneous social interaction. A. ITURRA MENA*; M. AGUILAR-RIVERA; M. N. ARRIAGADA; A. DAGNINO-SUBIABRE. *UNIVERSIDAD DE VALPARAISO, UCSD, Univ. of Valparaíso, Univ. De Valparaíso.*

1:00 G4 **753.09** ● Cell-type specific bursts interact uniquely with theta and beta rhythms during attention states. B. VOLOH*; T. WOMELSDORF. *York Univ., Vanderbilt Univ.*

2:00 G5 **753.10** Dissociation of broadband high-frequency activity and neuronal firing: Evidence from intracortical laminar recordings in human and nonhuman primates. M. LESZCZYNSKI*; A. BARCZAK; L. MELLONI; Y. KAJIKAWA; I. TAL; S. HAEGENS; A. Y. FALCHIER; T. THESEN; W. DOYLE; O. DEVINSKY; C. E. SCHROEDER. *Columbia Univ., Nathan Kline Inst., New York University, Sch. of Med., Donders Inst. for Brain, Cognition and Behaviour.*

3:00 G6 **753.11** Single neuron dynamics of the human alpha rhythm. M. HALGREN*; G. COSGROVE; J. EICHENLAUB; D. FABÓ; I. ULBERT; O. DEVINSKY; W. K. DOYLE; L. ERőSS; S. S. CASH. *UCSD, Brigham and Women's Hosp., Massachusetts Gen. Hosp., Natl. Inst. of Clin. Neurosciences, Hungarian Acad. of Sci., New York Univ., Natl. Inst. of Clin. Neurosciences.*

4:00 G7 **753.12** *De novo* rhythmogenesis through gamma band interactions. D. HAUFLER*; D. PARÉ. *Rutgers-Newark.*

1:00 G8 **753.13** The waveform shape of hippocampal theta oscillations weakly informs local spiking statistics. S. R. COLE*; B. VOYTEK. *UCSD.*

2:00 G9 **753.14** Reorganization of pair-wise correlations preserves avalanche dynamics in cortex. S. R. MILLER*; S. YU; D. PLENZ. *UMCP, Inst. of Automation, Chinese Acad. of Sci., Natl. Inst. of Mental Health, NIH.*

3:00 G10 **753.15** ▲ Differentiating noise from structure in electrophysiological power spectra via the spectral coefficient of variation. L. D. LIAO*; R. GAO; B. VOYTEK. *UCSD, Univ. of California San Diego Dept. of Cognitive Sci., Univ. of California San Diego Dept. of Cognitive Sci.*

4:00 H1 **753.16** Rescue of neocortical circuit deficits with modified bone marrow-derived mesenchymal stem cells, SB623, in a rat model of photothrombotic stroke. A. URRY*; Z. WARRAICH; A. N. SATO; E. MORADI; D. BATES; Y. ANDREWS-ZWILLING; J. PAZ. *Gladstone Inst., SanBio Inc., Univ. of California San Francisco.*

1:00 H2 **753.17** Human visual cortical gamma reflects stimulus structure. N. BRUNET*; J. PARVIZI; P. FRIES. *SUNY Downstate Med. Ctr., Stanford Univ., Ernst Strüngmann Inst. (ESI) for Neurosci. in Cooperation with Max Planck Society.*



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* Indicates abstract's submitting author

2:00 H3 **753.18** Repetitive co-activation of large populations of cortical neurons potentiates global neuronal excitability. D. ZHANG*; X. YAN; Y. WEN; M. POO. *Inst. of Neuroscience, CAS.*

3:00 H4 **753.19** Traveling waves in marmoset area mt modulate spiking probability, stimulus evoked responses, and perceptual sensitivity. Z. W. DAVIS*; L. MULLER; T. SEJNOWSKI; J. C. MARTINEZ-TRUJILLO; J. REYNOLDS. *Salk Inst. for Biol. Studies, Robarts Res. Inst. and Brain and Mind Inst.*

4:00 H5 **753.20** *In vivo* evidence of negative fMRI response without decrease in neuronal activity: A combined optogenetic fMRI and electrophysiology study. B. M. KATZ*; D. L. ALBAUGH; S. LEE; W. BAN; M. J. MACKINNON; C. YU; W. GRILL; Y. I. SHIH. *Univ. of North Carolina Chapel Hill, Univ. of North Carolina Chapel Hill, Univ. of North Carolina Chapel Hill, Univ. of North Carolina Chapel Hill, Duke Univ., Duke Univ.*

**POSTER**

**754. Brain Wellness**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 H6 **754.01** Age-dependent changes in cortical gene expression after transcranial magnetic stimulation in rats. M. WEILER; J. M. LONG*; K. STIEGER; E. LEHRMANN; Y. ZHANG; K. BECKER; P. R. RAPP. *NIH.*

2:00 H7 **754.02** Age-related changes in basal forebrain afferent activation in response to food paired stimuli. B. L. SOMERA*; J. R. FADEL. *USC Sch. of Med.*

3:00 H8 **754.03** Cognitive benefits of team and strategy sports. M. I. FALCON*; S. L. SMALL. *Univ. of California Irvine, Univ. of California, Irvine.*

4:00 H9 **754.04** Lifespan trajectories of white matter changes in rhesus monkeys. M. BAXI*; O. PASTERNAK; Y. TANG; N. CHUNGA; A. LYALL; Y. RATHI; R. ECKBO; S. BOUIX; F. MORTAZAVI; G. PAPADIMITRIOU; M. E. SHENTON; C. WESTIN; R. J. KILLIANY; N. MAKRIS; D. L. ROSENE; M. KUBICKI. *Boston Univ., Brigham and Women's Hospital, Harvard Med. Sch., Shanghai Med. Ctr., BU Sch. of Med., Massachusetts Gen. Hospital, Harvard Med. Sch., Boston Univ. Sch. Of Med., Massachusetts Gen. Hosp, Boston Univ, Med. Campus.*

1:00 H10 **754.05** Aging-related alteration of functional connectivity in task control network. L. KANG*; Z. LIU; M. DING; X. WU; X. WEN. *Renmin Univ. of China, Univ. Florida, Beijing Normal Univ.*

2:00 H11 **754.06** Altered large-scale brain network of oscillatory activities in long-term mindfulness meditators. H. JIANG*; X. GUO; X. WANG; Z. WANG; T. XUE; H. LI; T. XU; S. YE; S. TONG; D. CUI; B. HE. *Univ. of Minnesota, Shanghai Jiao Tong Univ.*

3:00 H12 **754.07** Group housing moderates individual difference in voluntary exercise in laboratory rats. N. KUBOTA*; S. YANAGITA. *Tokyo Univ. of Sci.*

4:00 I1 **754.08** ▲ Making American Football Safer: What factors play a role in the type of helmets worn on the playing field? I. A. COLELLO; D. ABDELHAMEID; R. J. COLELLO*. *Virginia Tech., Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

1:00 I2 **754.09** Neural network of verbal, nonverbal and amodal semantic processing deficits in semantic dementia. Y. CHEN*; K. CHEN; J. DING; Q. YANG; Q. GUO; Z. HAN. *Inst. For Brain Res., Huashan Hosp.*

2:00 I3 **754.10** The aging process alters circulating extracellular vesicles of Wistar rats - effect of treadmill exercise. K. BERTOLDI*; L. R. CECHINEL; B. SCHALLENBERGER; I. R. SIQUEIRA. *Univ. Federal Do Rio Grande Do Sul, Univ. Federal do Rio Grande do Sul.*

3:00 I4 **754.11** ● Brain reserve and survival in young-onset dementia. L. M. MASSIMO*; C. CASWELL; S. X. XIE; C. MCMILLAN; M. GROSSMAN. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

4:00 I5 **754.12** Evidence for oxytocin receptor upregulation in vascular dementia. E. MCKAY*; J. S. BECK; M. E. WINN; K. DYKEMA; A. P. LIEBERMAN; H. L. PAULSON; S. E. COUNTS. *Michigan State Univ., Michigan State Univ., Van Andel Res. Inst., Univ. of Michigan, Univ. of Michigan Dept. of Neurol., Michigan State Univ.*

1:00 I6 **754.13** Age-dependent effects of training modalities on motor and memory performance. L. R. CECHINEL*; L. C. F. MEIRELES; F. GALVÃO, Jr; K. BERTOLDI; G. ANDRADE; G. A. LOVATEL; I. R. SIQUEIRA. *Univ. Federal Do Rio Grande Do Sul, Univ. Federal de Santa Catarina.*

2:00 I7 **754.14** TDP-43 regulates both conserved and non-conserved cryptic exon incorporation. M. SUN*; H. HAN; L. CHEN. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med.*

3:00 I8 **754.15** Resting state network integrity in middle-aged adults at genetic risk for cognitive impairment. J. K. BLUJUS*; L. K. KORTHAUER; I. DRISCOLL. *Univ. of Wisconsin-Milwaukee.*

4:00 I9 **754.16** ● Effects of young and aged human plasma on aged murine hippocampal neurogenesis and survival. M. CASTRO; R. ALCANTARA-LEE; S. BRAITHWAITE; I. D. GALLAGER*. *Alkahest Inc.*

1:00 I10 **754.17** ● Characterization of kainic acid-induced excitotoxic injury in immune-deficient NSG mice. A. T. LIU; C. TUN; S. MINAMI*; S. P. BRAITHWAITE; E. CZIRR. *Alkahest, Inc.*

2:00 J1 **754.18** ● Aged human plasma administration negatively influences neurogenesis and cognition in young immunodeficient mice. C. TUN; A. T. LIU; S. P. BRAITHWAITE; E. CZIRR*. *Alkahest Inc.*

3:00 J2 **754.19** ● Longevity of beneficial effects with young human plasma treatment. R. R. ALCANTARA-LEE*; M. CASTRO; S. BRAITHWAITE; I. GALLAGER. *Alkahest.*

4:00 J3 **754.20** Deficiency of endothelial nitric oxide synthase (eNOS) exacerbates white matter damage and cognitive deficits in a model of vascular dementia. Y. SHEN*; P. VENKAT; A. ZACHAREK; L. LIANG; P. YU; J. LANDSCHOOT; M. CHOPP; J. CHEN. *Henry Ford Hosp.*

1:00 J4 **754.21** Keeping brains young with making music. L. ROGENMOSER*; J. KERNBACH; G. SCHLAUG; C. GASER. *Georgetown Univ., Beth Israel Deaconess Med. Ctr. and Harvard Med. Sch., Univ. Hospital, RWTH Aachen Univ., Univ. Hosp. Jena.*

2:00 J5 **754.22** The reliability of DTI metrics in tracts surrounded by cerebrospinal fluid. N. SPOTORNO*; J. ACOSTA-CABRONERO; B. GAIDZIK; P. NESTOR. *German Ctr. For Neurodegenerative Dis. (DZNE, Univ. Col. of London, German Ctr. For Neurodegenerative Dis. (DZNE).*



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* Indicates abstract's submitting author

3:00 J6 **754.23** Modular patterns of lifespan tissue change in human white matter. D. SLATER*; L. MELIE-GARCIA; F. KHERIF; A. LUTTI; B. DRAGANSKI. *UNIL - CHUV, Lab. of Res. in Neuroimaging (LREN) – Dept. of Clin. Neurosci. - CHUV.*

4:00 J7 **754.24** MR-based age- and sex-related effects on the striatum, globus pallidus and thalamus in healthy individuals across the adult lifespan. S. TULLO*; G. A. DEVENYI; R. PATEL; A. SALACIAK; S. BEDFORD; M. CHAKRAVARTY. *Douglas Mental Hlth. Univ. Inst., McGill Univ., McGill Univ., McGill Univ.*

1:00 J8 **754.25** The dynamics of stress: A longitudinal characterisation of the maladaptive response to stress. R. MAGALHAES*; D. A. BARRIÉRE; A. NOVAIS; F. MARQUES; P. MARQUES; J. C. SOUSA; J. CERQUEIRA; A. CACHIA; M. BOTTLAENDER; F. BOUMEZBEUR; S. MÉRIAUX; T. JAY; N. SOUSA. *Life and Hlth. Sci. Res. Inst., ICVS/3Bs PT Government Associate Lab., Physiopathologie des Maladies Psychiatriques, UMR_S 894 Inserm, Univ. Paris Descartes, Neurospin, I2BM, CEA.*

2:00 J9 **754.26** The effects of transcranial LED therapy on cerebral blood flow in the elderly women. L. SEGANTIN; A. S. I. SALGADO; R. B. PARREIRA*; R. A. ZANGARO; I. I. KERPPERS; L. A. CECI. *Inst. Salgado, Salgado Inst. of Integral Hlth., Salgado Inst. of Integral Hlth., Camilo Castelo Branco Univ., Univ. Estadual do Centro-Oeste, Salgado Inst. of Integral Hlth.*

3:00 J10 **754.27** The flavor enhancer maltol induces thyroid hormone-like changes in the developing tadpole brain. C. K. THOMPSON*; S. S. SHARMA; Z. HUSAIN. *Virginia Tech.*

4:00 J11 **754.28** ▲ Effect of aging on locomotor activity, learning akd memory in C57BL/6 mice. E. MONROY HERNÁNDEZ*, ESQ; F. DE; G. FLORES. *Inst. Politecnico Nacional, Inst. Politecnico Nacional, Univ. Autonoma de Puebla / Inst. de Fisiologia.*

1:00 J12 **754.29** ▲ Environmental enrichment improved cognitive performance in the aged mice under normoxia and hypoxia. S. BINDRA; J. C. LAMANNA; K. XU*. *Hathaway Brown High Sch., Case Western Reserve Univ. Sch. Med., Case Western Reserve Univ.*

**POSTER**

**755. Alzheimer's Disease: APP and Its Processing**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 K1 **755.01** The role of β-amyloid peptides in kainic acid toxicity and implications for temporal lobe epilepsy. S. KAR*; D. I. OURDEV. *Univ. Alberta, Univ. of Alberta.*

2:00 K2 **755.02** Investigation of the mechanisms that APP interacting proteins regulate in APP processing. K. LAU*; D. CHAU; W. LI; J. NGO. *The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong.*

3:00 K3 **755.03** Synaptotoxicity in Alzheimer disease: Influence of APP processing on excitatory synapses. R. L. POWELL; A. BUISSON*; E. BOREL; S. BOISSEAU; F. LANTE; M. JACQUIER-SARLIN. *Gin-U1216-Université Grenoble-Alpes.*

4:00 K4 **755.04** SENP1 regulates sumoylation of amyloid precursor protein. T. MARUYAMA*; Y. ABE; T. NIIKURA. *Sophia Univ., Sch. of Medicine, Keio Univ., Sophia Univ.*

1:00 K5 **755.05** Elevated cholesterol in a familial Alzheimer's disease-associated presenilin mutant increases the localization of amyloid precursor protein in lipid rafts. Y. CHO*; O. KWON; H. OH; S. CHUNG. *Sungkyunkwan Univ.*

2:00 K6 **755.06** Testing secreted APP alpha as a therapeutic for diabetic encephalopathy. B. AULSTON*; G. ODERO; G. GLAZNER. *St. Boniface Res. Ctr.*

3:00 K7 **755.07** Insulin increases O-GlcNAcylation of amyloid precursor protein promoting its non-amyloidogenic processing. O. KWON*; Y. CHO; H. OH; S. CHUNG. *Sungkyunkwan Univ. Sch. of Med.*

4:00 K8 **755.08** Gamma-secretase and cholesterol modulates neuronal surface expression of full-length amyloid precursor protein. C. DELBOVE*; C. E. STROTHMAN; Q. ZHANG. *Vanderbilt Univ., Vanderbilt Univ.*

1:00 K9 **755.09** Amyloid precursor protein expression regulates insulin degrading enzyme levels. J. KULAS*; G. D. MANOCHA; C. K. COMBS. *Univ. of North Dakota, Univ. of North Dakota, Univ. of North Dakota Sch. of Med.*

2:00 K10 **755.10** Mechanisms linking impaired hippocampal insulin signaling and diabetes-associated cognitive dysfunction. A. TOKUNAGA*; H. TADA; D. TANOKASHIRA; T. SAJI; M. KASHIWADA; M. IMAI; A. TAGUCHI. *Natl. Ctr. for Geriatrics and Gerontology.*

3:00 K11 **755.11** ▲ Neuropeptides amyloid beta and oxytocin directly reduce viability of Salmonella enterica. G. D. GRIFFIN*; T. DEMPSEY; B. ELLSWORTH; A. O'MEARA. *Hope Col., Hope Col.*

4:00 K12 **755.12** Common variants in the BACE2 locus may modify Alzheimer's disease risk in APOE4 non-carriers. W. M. JEPSEN*; I. S. PIRAS; M. D. DE BOTH; M. J. HUENTELMAN. *Translational Genomics Res. Inst., TGEN - Neurogenomic Div., Tgen.*

1:00 L1 **755.13** Real-time evaluation of BACE1 activity on APP C99 site through a novel cell-based protein reporter. B. D. HERCULANO*; Z. WANG; W. SONG. *Univ. of British Columbia.*

2:00 L2 **755.14** Effect of arsenic exposure on the expression of P2X7 and P2Y2 purinergic receptors in cultured neurons and rodents. C. BARRON*; G. MARTEL; M. DELGADO-RAMIREZ; A. RODRIGUEZ-MENCHACA; I. PEREZ-MALDONADO; S. ZARAZUA. *Univ. Autónoma De San Luis Potosí, Univ. Autónoma De San Luis Potosí, Univ. Autónoma De San Luis Potosí.*

3:00 L3 **755.15** Herpes simplex virus type 1 and Chlamydia pneumoniae co-infection in human astrocytes alter host cell transcription of ADAM10, BACE1 and PSEN1, secretases implicated in Alzheimer disease. S. HAQUE; C. HAMMOND; D. APPELT; S. T. HINGLEY*. *Philadelphia Col. of Osteo. Med.*

4:00 L4 **755.16** The product of inflammation prostaglandin J2 promotes β-secretase processing of mature glycosylated APP in neuronal cells: Relevance to Alzheimer's disease. T. JEAN-LOUIS*; P. ROCKWELL; M. E. FIGUEIREDO-PEREIRA. *Hunter Col., CUNY Grad. Ctr., Hunter Col., CUNY Grad. Ctr.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 L5 **755.17** New evidence that amyloid precursor proteins function as unconventional Go-coupled receptors to regulate neuronal motility. P. F. COPENHAVER*; J. M. RAMAKER. *Oregon Hlth. and Sci. Univ.*

1:00 DP03/L6 **755.18** (Dynamic Poster) Tracking the intracellular itinerary of APP and *de novo* amyloid beta generation using fluorogenic click chemistry. L. R. CZERNIEWSKI*; Q. XIAO; K. BRIA; M. KIM; A. G. CASHIKAR; N. SRINIVAS; A. LENG; A. BENZ; S. L. CRICK; S. MENNERICK; P. I. HANSON; J. LEE. *Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis.*

**POSTER**

**756. Imaging Studies in Neurodegenerative Diseases**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 L7 **756.01** Identification of cerebral metabolic patterns in subjects with delirium. J. SOUCY*; C. MALOPION; J. FILION; J. NEHME; P. DESMARAIS; H. MASSON; M. BRUNEAU. *Montreal Neurolog. Inst., Concordia Univ., Univ. de Montréal, CHUM.*

2:00 L8 **756.02** Preclinical studies of T-type calcium channel enhancer in AD. K. FUKUNAGA; H. IZUMI; Y. SHINODA; Y. YABUKI; M. MORIOKA*. *Tohoku Univ. Grad Sch. Pharm Sci., Kurume Med. Sch.*

3:00 L9 **756.03** Longitudinal functional brain mapping in Supernormals. X. WANG*; T. BARAN; P. REN; R. D. RAIZADA; F. LIN. *Univ. of Rochester, Univ. of Rochester, Univ. of Rochester Med. Ctr.*

4:00 L10 **756.04** Relationship between reduction of water influx into CSF and senile plaque (β-amyloid) formation. Y. SUZUKI*; H. IGARASHI; Y. NAKAMURA; K. YAMADA; T. NAKADA. *Brain Res. Institute, Univ. of Niigata, C.*

1:00 M1 **756.05** Proteomic markers of cognitive decline in subjects at risk for Alzheimer's. J. OH*; M. DORAISWAMY; S. SRIVATSA. *Duke Univ.*

2:00 M2 **756.06** Evaluation of potential MR contrast agent brain accumulation using high-resolution T1-weighted MRI analysis in cognitively impaired participants: A longitudinal study. G. RAJAGOPAL*; A. MONTAGNE; M. LAW; A. W. TOGA; B. V. ZLOKOVIC. *USC, USC, USC.*

3:00 M3 **756.07** Imaging superoxide levels in a rodent model of neuroinflammation with PET. C. HOU; S. LI; K. XU; H. LEE; T. J. GRAHAM; C. HSIEH; R. DOOT; C. WENG; L. L. DUGAN; M. A. MINTUN; R. H. MACH*. *Univ. of Pennsylvania, Vanderbilt Univ. Med. Ctr., Avid Radiopharmaceuticals.*

4:00 M4 **756.08** Neurological findings in aged rats using translational imaging technologies: PET, SPECT and MRI. S. K. SOININEN*; J. RYTKÖNEN; P. POUTIAINEN; A. SHATILLO; K. LEHTIMÄKI; T. HUHTALA. *Charles River Discovery Finland, Charles River Discovery, A.I. Virtanen Inst. for Mol. Medicine, Univ. of Eastern Finland, Kuopio Univ. Hosp.*

1:00 M5 **756.09** Imaging of dopamine transporter in rodents using PET and SPECT. T. HUHTALA; T. T. AHTONIEMI*; J. RYTKÖNEN; P. POUTIAINEN; R. O. PUSSINEN; T. PARKKARI; A. J. NURMI. *Charles River Discovery, A.I. Virtanen Inst. for Mol. Medicine, Univ. of Eastern Finland, Kuopio Univ. Hosp.*

2:00 M6 **756.10** Preclinical PET imaging of CNS diseases in rodent models. J. RYTKÖNEN*; P. POUTIAINEN; T. PARKKARI; A. J. NURMI; T. HUHTALA. *Charles River Discovery, A.I. Virtanen Inst. for Mol. Medicine, Univ. of Eastern Finland, Kuopio Univ. Hosp.*

3:00 M7 **756.11** Neurite-orientation-dispersion imaging (NODDI) for patients with transient global amnesia (TGA). K. SHIMIZU; S. M. HARA; T. TAZAWA; M. HORI; Y. TANAKA; T. MAEHARA; S. AOKI; T. NARIAI*. *Tokyo Med. and Dent. Univ., Shintoshin Tazawa Clin., Juntendo Univ., Tokyo Med. and Dent. Univ.*

4:00 M8 **756.12** The cholinergic deficit in mild cognitive impairment due to Alzheimer's disease influences the effect of rivastigmine on episodic memory: A combined pharmacological MRI and PET study. N. RICHTER*; N. BECKERS; O. A. ONUR; L. KRACHT; M. DIETLEIN; M. TITTGEMEYER; B. NEUMAIER; G. R. FINK; J. KUKOLJA. *Univ. Hosp. of Cologne, Res. Ctr. Jülich, Max-Planck-Institute for Metabolism Res., Univ. Hosp. of Cologne, Univ. of Cologne, Res. Ctr. Jülich.*

1:00 M9 **756.13** ● PiB PET retention is associated with dendritic spine loss in the precuneus: An imaging-neuropathology correlation study. Z. MI*; E. E. ABRAHAMSON; J. K. KOFLER; K. N. FISH; R. A. SWEET; C. A. MATHIS; W. E. KLUNK; E. J. MUFSON; M. D. IKONOMOVIC. *Univ. of Pittsburgh, VA Pittsburgh Healthcare Syst., Univ. of Pittsburgh, Univ. of Pittsburgh, VA Pittsburgh Healthcare Syst., Univ. of Pittsburgh, Barrow Neurolog. Inst.*

2:00 M10 **756.14** Differences in gray matter volume are associated with HIV status, cognitive performance, and medical condition. S. HASSANZADEH-BEHBAHANI*; K. F. SHATTUCK; M. DAWSON; A. BUDZINSKI; M. MAGNUS; P. KUMAR; M. YOUNG; D. J. MOORE; R. J. ELLIS; X. JIANG. *Georgetown Univ. Med. Ctr., UCSD, UCSD, George Washington Univ., Georgetown Univ. Med. Ctr.*

**POSTER**

**757. Cellular Mechanisms of Parkinson's Disease I**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 N1 **757.01** 27 hydroxycholesterol induces alpha-synuclein expression through LXR activation in dopaminergic neurons-Relevance to synucleinopathies. J. SCHOMMER*; G. MARWARHA; M. KLEINJAN; J. LILEK; S. ONCEL; J. WARNS; O. GHRIBI. *Univ. of North Dakota.*

2:00 N2 **757.02** Role of leucine rich repeat kinase (LRRK2) in an α-synuclein rat model of late onset Parkinson disease. V. DELIC*; S. CHANDRA; X. HU; T. MALTBIE; N. BRYANT; H. ABDELMOTILIB; V. KRENDELCHTCHIKOVA; A. B. WEST. *Univ. of Alabama At Birmingham.*

3:00 N3 **757.03** Mitochondria-lysosome contacts regulate mitochondrial fission via Rab7 hydrolysis. Y. C. WONG*; D. KRAINC. *Northwestern Univ., Northwestern Univ. Feinberg Sch. of Med.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 N4 **757.04** Phosphodiesterase 10A inhibition suppresses L-DOPA-induced dyskinesias in 6-OHDA-lesioned rats: Neurophysiological and molecular studies. F. E. PADOVAN-NETO; F. ALTWAL; N. VOELKNER; C. TABAS; N. CHO; A. WOWOLO; S. SHARMA; C. ZOLETA; J. BEVERLEY; H. STEINER; A. R. WEST*. *Rosalind Franklin Univ. of Med. and Sci.*

1:00 N5 **757.05** Parkinson's disease-linked DNAJC13 mutation aggravates α-synuclein-induced neurotoxicity through alteration of endosomal trafficking. T. HASEGAWA*; S. YOSHIDA; M. SUZUKI; N. SUGENO; J. KOBAYASHI; M. EZURA; A. KIKUCHI; A. TAKEDA; H. MOCHIDUKI; Y. NAGAI; M. AOKI. *Tohoku Univ., Tokyo Metropolitan Inst. of Med. Sci., Natl. Hosp. Organization Sendai-Nishitaga Hosp., Osaka Univ.*

2:00 N6 **757.06** Astroglial connexin 30 deletion leads to hypersensitivity in a MPTP mouse model of Parkinson's disease. H. YAMAGUCHI*; A. FUJITA; Y. KOBAYAKAWA; Y. MATSUOKA; K. YAMADA; R. YAMASAKI; J. KIRA. *Neurolog. Inst, Kyushu Univ. Sch. of Med., Fac. of Pharmaceut. Sciences, Kyushu Univ.*

3:00 N7 **757.07** Ultrafine carbon particles promote rotenone-induced dopamine neuronal loss through activating microglial NADPH oxidase. H. ZHOU*; Y. WANG. *Peking Univ., Peking Univ.*

4:00 N8 **757.08** Reorganization of thalamocortical glutamatergic synapses in the supplementary motor area (SMA) of MPTP-treated parkinsonian monkeys. J. A. BEHNKE; R. M. VILLALBA; J. PARE; S. JENKINS; Y. SMITH*. *Yerkes Resch Ctr. and Udall Ctr. of Excelence For Parkinson's Disease, Emory Un, Yerkes Res. Ctr., Udall Ctr. Excel. For Parkinson's Dis. and Dept. of Neurol.*

1:00 N9 **757.09** Mechanisms that underlie LRRK2 phosphorylation of Rab10. Z. LIU*; N. A. BRYANT; A. B. WEST. *Univ. of Alabama at Birmingham.*

2:00 N10 **757.10** Synaptic Inputs to GABAergic Interneurons in the ventral motor thalamus of nonhuman primates: A comparative analysis between control and MPTP-treated parkinsonian monkeys. D. ALBAUGH*; J. PARE; S. JENKINS; T. WICHMANN; Y. SMITH. *Emory Univ., Udall Ctr. of Excellence for Parkinson's Dis. at Emory Univ., Emory Univ.*

3:00 N11 **757.11** Is vGluT2 a universal marker of thalamic terminals? S. LEE; A. AMIR; J. PARE*; S. JENKINS; D. PARE; Y. SMITH. *Emory Univ., Rutgers Univ.*

4:00 N12 **757.12** Structural plasticity of GABAergic and glutamatergic inputs to the ventral motor and caudal intralaminar thalamic nuclei in MPTP-treated Parkinsonian monkeys. A. J. SWAIN*; H. KELLY; J. PARE; A. GALVAN; T. WICHMANN; Y. SMITH. *Yerkes Natl. Primate Res. Ctr., Emory Univ., Sch. of Med.*

1:00 O1 **757.13** Significant increase in the density of striatal cholinergic interneurons in the caudate nucleus of MPTP-treated parkinsonian monkeys. R. M. VILLALBA*; Y. SMITH. *Yerkes Resch Ctr. and Udall Ctr. of Excelence For Parkinson's Disease, Emory Un, Yerkes Res. Ctr., Udall Ctr. Excel For Parkinson's Dis. and Dept of Neurol., Emory Univ., Dept. of Neurology, Emory Univ.*

2:00 O2 **757.14** Cellular senescence is induced by the environmental neurotoxin paraquat and contributes to neuropathology associated with Parkinson's disease. S. J. CHINTA*; G. WOODS; M. DEMARIA; A. RANE; Y. ZOU; C. LIMBAD; J. CAMPISI; J. ANDERSEN. *Touro Univ. California, Buck Inst. for Res. on Aging, Buck Inst. for Res. on Aging, Univ. of California, Lawrence Berkeley Natl. Lab.*

3:00 O3 **757.15** The N370S-GBA1 mutation causes lysosomal cholesterol accumulation disrupting cellular homeostasis in Parkinson's disease. P. GARCÍA SANZ*; L. ORGAZ GORDILLO; G. BUENO GIL; I. ESPADAS; E. RODRÍGUEZ TRAVER; J. KULISEVSKY; A. GUTIÉRREZ PÉREZ; J. C. DÁVILA; R. A. GONZÁLEZ-POLO; J. M. FUENTES; C. VICARIO; R. MORATALLA. *Cajal Inst. /CSIC, Ctr. de investigación Biomédica en Red sobre enfermedades neurodegenerativas (CIBERNED), Movement Disorders Unit, Neurol. Department, Hosp. Sant Pau (IIB-Sant Pau), Facultad de Ciencias, IBIMA, Univ. de Málaga, Dept. de Bioquímica y Biología Mol. y Genética, F. Enfermería y T.O., Univ. de Extremadura.*

4:00 O4 **757.16** Age-dependent haploinsufficiency of SYNJ1 in PIP2 regulation contributes to dopamine neuron vulnerability. P. PAN*; P. SHEEHAN; J. WANG; Q. WANG; F. EL GAAMOUCH; L. ZHU; J. CAO; Y. ZHANG; D. CAI; Z. YUE. *Mount Sinai Med. Sch.*

1:00 O5 **757.17** Study the role of claudins in nervous system. V. TIKIYANI*; K. BABU. *IISER MOHALI.*

2:00 O6 **757.18** ● Brain insulin resistance and Parkinson's disease. F. BASSIL; P. GUERIN; M. CANRON; N. DUTHEIL; A. VITAL; E. BEZARD; P. FERNAGUT; W. MEISSNER*. *Inst. Des Maladies Neurodégénératives.*

3:00 O7 **757.19** Recombinant probes for assessing cytosolic PINK1. G. G. GROSS*; T. T. TAKAHASHI; D. B. ARNOLD. *USC, USC.*

4:00 O8 **757.20** Prolyl oligopeptidase alterates cortical glutamate and metabotropic glutamate receptor mGluR5 in mice. U. JULKU*; T. T. MYÖHÄNEN. *Univ. of Helsinki.*

1:00 O9 **757.21** ● Physical dynamics inside the lysosome link GBA mutation to Parkinson's disease. A. D. LEE*; I. IKEDA; D. A. DODDS; J. W. RYAN; B. BEHROUZ. *Neuroinitiative.*

2:00 O10 **757.22** Investigating the molecular basis of Parkinson's disease. Y. GAO*; G. R. WILSON; S. E. M. STEPHENSON; M. DOTTORI; P. J. LOCKHART. *Murdoch Childrens Res. Inst., Univ. of Melbourne, Univ. of Melbourne.*

3:00 P1 **757.23** The hyperpolarization activated current affects synaptic excitability calcium activity and viability of substantia nigra dopaminergic neurons. C. CARBONE*; A. COSTA; G. PROVENSI; G. MANNAIONI; A. MASI. *Univ. Degli Studi Di Firenze.*

**POSTER**

**758. Cellular Mechanisms of Parkinson's Disease II**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 P2 **758.01** Comparison study of different cell models relevant to Parkinson's disease. E. ESNEAULT*; C. LEGRAND; M. FERDERIN; F. SIMON; P. KITCHENER. *Porsolt, Fluofarma.*

2:00 P3 **758.02** A stem cell repository for human neurological and psychiatric disease research. M. SHELDON*; J. C. MOORE; S. F. SACCONE; M. L. SUTHERLAND; D. M. PANCHISION; J. A. TISCHFIELD. *Rutgers Univ., Rutgers Univ., Washington Univ., NINDS/NIH, Natl. Inst. of Mental Hlth., RUCDR Infinite Biologics / Rutgers Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 P4 **758.03** Interactions of glial cells and neurons with mast cells and inflammatory mediators release in neuroinflammation and neurodegeneration. K. DURAISAMY*; G. SELVAKUMAR; R. THANGAVE; M. AHMED; S. P. RAIKWAR; S. ZAHEER; S. IYER; A. ZAHEER. *Univ. of Missouri Sch. of Med., Harry S. Truman Mem. Veterans Hosp.*

4:00 P5 **758.04** Mechanisms of cellular toxicity of pathogenic mutant VPS35 in a transgenic model of Parkinson's disease. K. VENDEROVA*; R. LINHART; A. DESENS; A. STUART; A. AYON-VERDUZCO. *Keck Grad. Inst. of Applied Life Sci., Keck Grad. Inst., Scripps Col.*

1:00 P6 **758.05** Pyramidal neuronal knocking-out of Vps35 causes neurodegenerative pathology in developing mouse neocortex. F. TANG*; L. MEI; W. XIONG. *Augusta Univ., Augusta Univ., Med. Col. of Georgia.*

2:00 P7 **758.06** Glycosphingolipid accumulation in the brain in aging is associated with alpha-synuclein dimerization. O. R. BREKK; M. HUEBECKER; E. B. MOLONEY; A. MOSKITES; D. A. PRIESTMAN; F. M. PLATT; P. HALLETT*; O. ISACSON. *Harvard Med. Sch. / McLean Hos., Univ. of Oxford.*

3:00 P8 **758.07** Antiapoptotic effect of copper sulfate in a model of Parkinson's disease in rats. M. ISLAS*; S. ZAMUDIO; C. RIOS; M. RUBIO-OSORNIO; A. DIAZ-RUIZ. *IPN, Natl. Inst. of Neurol. and Neurosurg. "Manuel Velasco Suarez".*

4:00 P9 **758.08** Understanding the pathogenesis of Parkinson's disease through genetic modifiers of GBA1 deficiency. M. DAVIS*; A. GERMANOS; S. YU; R. THOMAS; L. PALLANCK. *Univ. of Washington, VA Puget Sound, Univ. of Washington.*

1:00 P10 **758.09** Glia maturation factor impairs mitochondrial pgc-1α and activates redox flux dependent apoptosis in dopaminergic neuronal cells. S. GOVINDHASAMY PUSHPAVATHI*; K. DURAISAMY; T. RAMASAMY; M. AHMED; S. RAIKWAR; S. ZAHEER; S. IYER; A. ZAHEER. *Univ. of Missouri Columbia, Harry S. Truman Mem. Veterans Hosp.*

2:00 Q1 **758.10** 5-HT1B serotonin receptor expression in the striatum: Regulation by dopamine depletion and L-DOPA treatment. F. ALTWAL; F. E. PADOVAN-NETO; S. PATTERSON; N. VOELKNER; J. BEVERLEY; A. R. WEST; H. STEINER*. *Chicago Med. School/RFUMS.*

3:00 Q2 **758.11** Acne bacteria in Parkinson's: Exploring cause, effect, and dynamics. J. R. LEHESTE*; N. MIKHAIL; P. MOONDRA; K. E. RUVOLO; G. TORRES. *NYIT Col. of Osteo. Med.*

4:00 Q3 **758.12** The role of transferrin receptor 2 in the pathogenesis of Parkinson's disease. C. QIAN*; W. K. WONG; X. LIU; T. S. H. CHOW; W. YUNG; Y. KE. *Fudan Univ., The Chinese Univ. of HK.*

1:00 Q4 **758.13** GBA haploinsufficiency is a Parkinson's disease-relevant biomarker that is phenocopied in sporadic PD-derived fibroblasts. E. B. MOLONEY*; M. HUEBECKER; J. A. KORECKA; E. FERRARI; D. A. PRIESTMAN; F. M. PLATT; O. ISACSON; P. J. HALLETT. *Neuroregeneration Res. Inst., Univ. of Oxford.*

2:00 Q5 **758.14** Characterization of microglial activation in the progression of neuronal loss after 6-hydroxydopamine injections. C. P. PEREIRA*; A. YAMAGUCHI; L. R. BRITTO. *Univ. of Sao Paulo, Univ. of Sao Paulo.*

3:00 Q6 **758.15** The NINDS human cell and data repository (NHCDR) for neuroscience research. M. L. SUTHERLAND*; J. A. TISCHFIELD; J. C. MOORE; S. SACCONE; M. SHELDON. *NINDS/NIH, RUCDR Infinite Biologics / Rutgers Univ., Rutgers Univ., Washington Univ., Rutgers Univ.*

4:00 Q7 **758.16** Nlrp3 mediates inflammatory changes in the MPTP mouse model of Parkinson's disease. E. M. MARTINEZ*; M. COFFEY; A. YOUNG; B. BERWIN; M. HAVRDA. *Dartmouth Med. Sch.*

1:00 Q8 **758.17** Modulation of dopamine neuron number and axonal arborization size in D2 receptor knockout mice. N. GIGUERE*; A. VOISIN; B. GIROS; L. TRUDEAU. *Univ. De Montreal, McGill Univ. / Douglas Hosp. Res. Ctr.*

1:00 DP04/Q9 **758.18** ● (Dynamic Poster) New fluorescent tools to identify stressed cells and interrogate second messenger signaling in neurodegeneration. T. E. HUGHES*; K. HARLEN. *Montana Mol., Montana Mol.*

3:00 Q10 **758.19** The Michael J. Fox Foundation's strategy to generate, characterize, and distribute preclinicalantibody tools for investigating Parkin/PINK1 and LRRK2- or PINK1-related Rab molecular biology. T. N. MARTINEZ*; M. CHOU; D. R. ALESSI; P. DAVIES; P. LIS; M. MUQIT; M. G. SCHLOSSMACHER; P. TAYLOR; B. O'NUALLAIN; J. TOKAREW; D. EL-KODSI; J. TOMLINSON; S. PADMANABHAN; M. BAPTISTA; N. K. POLINSKI; K. D. DAVE. *The Michael J. Fox Fndn. For Parkinson's Res., Abcam, Inc., Univ. of Dundee, Univ. of Ottawa, BioLegend, Inc., Univ. of Ottawa.*

4:00 Q11 **758.20** ▲ SNARE proteins restore lysosomal function in Parkinson's disease cell models. K. TSUTSUMI*; L. K. CUDDY; J. R. MAZZULLI. *Northwestern Univ., Northwestern Univ. Feinberg Sch. of Med.*

1:00 Q12 **758.21** p66-Shc mediates 6-hydroxydopamine-induced oxidative cell death in SH-SY5Y cells. S. MUN; H. MOON*; J. JANG; G. PARK*. *Kyungpook Natl. Univ., Daegu Gyeongbuk Inst. of Sci. & Technol., Sch. of Medicine, Keimyung Univ.*

2:00 R1 **758.22** Caffeine and Paraxanthine alter calcium dynamics in zebrafish Locus Coeruleus neurons. K. J. HARTSUYKER; M. WILSON; N. ARORA; Z. KAJANI; R. O'CALLAHAN; B. MAZZAG; E. B. GAHTAN*. *Humboldt State Univ., Humboldt State Univ., Humboldt State Univ., Humboldt State Univ.*

**POSTER**

**759. The Pathogenesis Mechanisms of Mitochondria in Parkinson's Disease**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 R2 **759.01** Mitochondrial dysfunction caused by mutations in familial Parkinson's disease protein DJ1. R. CHEN*; K. N. ALAVIAN; Y. NIU; J. WU; H. PARK; P. MIRANDA; W. J. MANDEMAKERS; V. BONIFATI; E. A. JONAS. *Yale Univ., Imperial Col. London, Erasmus MC.*

2:00 R3 **759.02** Investigating Methylene Blue as a rescue for mitochondrial dysfunction in a Parkin loss-of-function *Drosophila melanogaster* model of Parkinson's disease. A. N. JUBA*; S. J. GUTIERREZ-LUKE; K. PEARMAN; G. B. CALL; L. BUHLMAN. *Midwestern Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 R4 **759.03** ● Usp30 inhibitors for Parkinson's disease. P. THOMPSON*; R. MCMENAMIN; C. STEAD; L. IGELMANN; M. OUSSET; J. CONNELL; T. FULLER; A. J. NURMI; J. T. PUOLIVALI; M. KOSLOWSKI. *Mission Therapeut., Talisman Therapeut., Charles River Discovery.*

4:00 R5 **759.04** ● Targeting USP30 in Parkinson's iPSC-derived dopamine neurons. M. CHERUBINI*; F. ZAMBON; P. THOMPSON; R. WADE-MARTINS. *Univ. of Oxford, Mission Therapeut.*

1:00 R6 **759.05** The role of PINK1 and Parkin mediated mitophagy in senescence and age-related neurodegenerative diseases. D. TRUBAN*; A. M. MCCARTY; X. HOU; F. C. FIESEL; E. JAMES; M. C. CASTANEDES; D. W. DICKSON; Z. K. WSZOLEK; O. ROSS; W. SPRINGER. *Mayo Clin., Mayo Clin. Jacksonville, Mayo clinic.*

2:00 R7 **759.06** Alpha-synuclein mutations present with different mitochondrial phenotype. C. GUARDIA LAGUARTA*; M. PERA; D. WILLIAMS; T. WORGALL; E. SCHON; E. AREA-GOMEZ; S. PRZEDBORSKI. *Columbia Univ.*

3:00 R8 **759.07** Cytosolic PINK1 promotes ubiquitin phosphorylation and Parkin-mediated mitophagy independently of mitochondrial-localized PINK1. H. CHAN*; G. G. Y. LIM; A. H. BASIL; Y. CHEN; D. S. K. CHUA; S. K. SZE; J. CHUNG; K. LIM. *Natl. Neurosci. Inst., NUS Grad. Sch. for Integrative Sci. and Engin., Natl. Univ. of Singapore, Nanyang Technological Univ., Seoul Natl. Univ., Duke-NUS Med. Sch.*

4:00 R9 **759.08** Necessity of mitochondrial oxidative status and transport machineries for PINK1 accumulation. F. GAO*; Y. ZHANG; G. WANG. *Univ. of Sicence and Technol. of China, Soochow Univ.*

1:00 R10 **759.09** MitoNEET (CISD1) knockout mice show signs of stratal mitochondrial dysfunction and a Parkinson's disease phenotype. S. A. BENKOVIC*, JR; C. M. BROWN; W. J. GELDENHUYS. *West Virginia Univ. Res. Corp., West Virginia Univ. Res. Corp.*

2:00 S1 **759.10** Bcl-2 associated athanogene 5 has context-dependent effects on apoptosis. E. L. FRIESEN*; M. L. DE SNOO; O. PELLERITO; X. WANG; D. WILLIAMS; H. CHAU; G. SCHMITT-ULMS; L. V. KALIA; S. K. KALIA. *Univ. of Toronto, Univ. Hlth. Network, Univ. of Toronto, Movement Disorders Centre, Toronto Western Hosp., Toronto Western Res. Inst.*

3:00 S2 **759.11** Direct interaction of oligomeric alpha-synuclein with ATP synthase causes neuronal cell death in Parkinson's disease. M. LUDTMANN*; P. ANGELOVA; M. CHOI; M. HORROCKS; M. RODRIGUES; A. BAEV; Z. YAO; D. LITTLE; M. DEVINE; A. BEREZHNOV; B. BANUSHI; D. WHITEN; P. GISSEN; E. PAVLOV; D. KLENERMAN; A. ABRAMOV; S. GANDHI. *Inst. of Neurol., UCL, Inst. of Neurol., Univ. of Cambridge, Dept. of Chem., Lab. of Biophysics and Biochem., UCL, MRC Lab. for Mol. Cell Biol., Inst. of Cell Biophysics Russian Acad. of Sci., New York Univ. Col. of Dent., Inst. of Neurology, UCL.*

4:00 S3 **759.12** Mitochondrial dysfunction and mitophagy defect triggered by heterozygous gba1 mutations. H. LI*; A. HAM; E. KANTER; D. KIM; H. KO; S. KUO; U. J. KANG; D. SULZER; G. TANG. *Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr., Johns Hopkins Univ.*

1:00 S4 **759.13** Mitochondrial HSP90 inhibitor Gamitrinib-triphenylphosphonium (G-TPP) induces PINK1/Parkin-dependent mitochondrial quality control. F. C. FIESEL*; E. D. JAMES; R. HUDEC; W. SPRINGER. *Mayo Clin.*

2:00 T1 **759.14** Age- and disease-dependent increase of the mitophagy marker phospho-ubiquitin in normal aging and Lewy body disease. X. HOU*; F. C. FIESEL; M. CASTANEDES CASEY; L. G. ROUSSEAU; A. I. SOTO; P. TACIK; D. TRUBAN; M. E. MURRAY; N. N. DIEHL; M. G. HECKMAN; Z. K. WSZOLEK; O. A. ROSS; D. W. DICKSON; W. SPRINGER. *Mayo Clin., Mayo Clin. Col. of Med. and Sci., Mayo Clin., Mayo Clin.*

3:00 T2 **759.15** ● Is there selection against harmful mitochondrial DNA mutations *in vivo?* C. L. SAMSTAG*; M. WALTON; J. G. HOEKSTRA; C. HUANG; S. R. KENNEDY; R. J. YOULE; L. J. PALLANCK. *Univ. of Washington, Univ. of Washington, Univ. of Washington, NIH.*

4:00 T3 **759.16** The co-chaperone Bcl-2 associated athanogene 5 modulates PINK1/parkin dependent mitochondrial quality control. M. L. DE SNOO*; E. L. FRIESEN; O. PELLERITO; H. CHAU; L. V. KALIA; S. K. KALIA. *Univ. of Toronto, Krembil Res. Inst., Toronto Western Hosp., Toronto Western Hosp.*

**POSTER**

**760. ALS: Disease Mechanisms**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 T4 **760.01** Role of nucleocytoplasmic transport defects in PFN1-linked ALS. C. FALLINI*; E. DANIELSON, 01605; A. W. GIAMPETRUZZI; J. E. LANDERS. *Univ. of Massachusetts Med. Sch. Dept. of Neurol., Umass medical school.*

2:00 T5 **760.02** Converging neuropsychological and neuroimaging evidence for genetic factors associated with frontal disease in ALS. K. PLACEK*; D. IRWIN; G. BAER; V. VAN DEERLIN; L. ELMAN; L. MCCLUSKEY; M. GROSSMAN; C. T. MCMILLAN. *Univ. of Pennsylvania.*

3:00 T6 **760.03** Answer ALS: Early analyses of clinical and and iPS motor neuron multi-omics signature from a large population of sporadic and familial ALS patients reveals verifiable subgroups and molecular pathways. J. D. ROTHSTEIN*; M. CUDKOWICZ; C. N. SVENDSEN; L. M. THOMPSON; E. FRAENKEL; S. FINKBEINER; J. VAN EYKE; D. SAREEN; N. MARAGAKIS; J. D. BERRY; A. SHERMAN; J. GLASS; T. M. MILLER; S. KOLB; R. H. BALOH; E. MOSMILLER; S. VAUGHAN; G. DAIGLE; J. KAYE; V. J. DARDOV; R. G. LIM; P. MILANI; T. THOMPSON; S. FARR; E. G. BAXI. *Johns Hopkins Univ., Massachusetts Gen. Hosp., Cedars-Sinai Med. Ctr., Univ. California, MIT, Gladstone Inst. of Neurolog. Dis., Cedars Sinai, Cedars-Sinai Med. Ctr., Emory Univ., Washington Univ, Sch. Med., Ohio State Univ., Cedars-Sinai Med. Ctr., Gladstone Inst., Cedars Sinai, Univ. of California, Irvine, Univ. California, Johns Hopkins Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 T7 **760.04** Exercise improves the impaired BDNF/TrkB/PKCbI signaling in skeletal muscle in a model of amyotrophic lateral sclerosis. M. A. LANUZA*; E. HURTADO; L. JUST; V. CILLEROS; A. SIMO; L. NADAL; M. TOMAS; O. BIONDI; F. CHARBONNIER; N. GARCIA; J. TOMAS. *Univ. Rovira i Virgili, INSERM UMRS 1124 and Univ. Paris Descartes.*

1:00 T8 **760.05** A thiol switch in Mitofusin-2 mediates redox-mediated changes in mitochondrial shape and respiration. A. METHNER*; O. THAHER; C. WOLF; P. N. DEY; A. POUYA; V. WÜLLNER. *Johannes Gutenberg Univ. Mainz, UM Mainz Neurol., Christina Wolf.*

2:00 T9 **760.06** Optogenetic induction of TDP-43 proteinopathies. J. R. MANN*; M. R. MARKS; B. T. HURTLE; A. GLEIXNER; J. CLARKE; K. E. COPLEY; A. LUCE; S. SIVAJI; Z. P. WILLS; C. J. DONNELLY. *Univ. of Pittsburgh, Live Like Lou Ctr. for ALS Res., Univ. of Pittsburgh, Univ. of Pittsburgh.*

3:00 T10 **760.07** Evaluation of FG nucleoporin deficits in C9ORF72 ALS. A. GLEIXNER*; K. E. COPLEY; A. LUCE; J. R. MANN; M. R. MARKS; A. R. HAEUSLER; U. B. PANDEY; C. J. DONNELLY. *Univ. of Pittsburgh, Univ. of Pittsburgh, Thomas Jefferson Univ., Univ. of Pittsburgh Med. Ctr., Univ. of Pittsburgh.*

4:00 T11 **760.08** ▲ Dysregulation of nuclear transport receptors in C9ORF72 ALS. K. E. COPLEY; M. R. MARKS; A. GLEIXNER; J. R. MANN; C. J. DONNELLY*. *Univ. of Pittsburgh, Univ. of Pittsburgh Brain Inst., Univ. of Pittsburgh.*

1:00 T12 **760.09** Interplay of c9orf72 als/ftd hexanucleotide repeat and tdp-43 and through nuclear export pathways. M. R. MARKS*; J. R. MANN; K. E. COPLEY; A. M. GLEIXNER; C. J. DONNELLY. *Univ. of Pittsburgh, Live Like Lou Ctr. for ALS Res., Ctr. for Neurosci., Univ. of Pittsburgh.*

2:00 U1 **760.10** Impairment of SOD1-G93A motility is linked to mitochondrialmovement in axons of hippocampal neurons. J. BAE*; S. KIM. *Kyung Hee Univ., Kyung Hee University, Sch. of Med.*

3:00 U2 **760.11** Misfolded SOD1 pathology in sporadic ALS. B. PARÉ*; M. LEHMANN; J. JULIEN; S. L. MARKLUND; P. M. ANDERSEN; T. BRANNSTROM; N. DUPRÉ; P. GOULD; F. GROS-LOUIS. *Laval Univ., Umeå Univ., Laval Univ., Dept Med. Biosci., Inst. Clin. Neurosci, Umea University/Department of Med. Biosci., Laval Univ., Laval Univ.*

4:00 U3 **760.12** *In vitro* and *in vivo* studies of the ALS-FTLD related mitochondrial protein CHCHD10. G. MANFREDI*; S. R. BURSTEIN; F. VALSECCHI; H. KAWAMATA; M. BOURENS; T. A. MILNER; C. LUTZ; A. BARRIENTOS. *Weill Med. Col. Cornell Univ., Weill Cornell Med., Weil Cornell Med., Univ. of Mlami, The Jackson Lab.*

1:00 U4 **760.13** Alterations in endoplasmic reticulum calcium signaling and oxidative protein folding in human iPSC-derived mutant SOD1 astrocytes. V. GRANATIERO; K. BREDVIK; C. KONRAD; G. MANFREDI; H. KAWAMATA*. *Weill Cornell Med., Weill Cornell Med.*

2:00 U5 **760.14** Nucleo-cytoplasmic mislocalization of ADAR2 in C9orf72-ALS and FTD. S. P. MOORE*; E. MENDEZ; A. STARR; I. LORENZINI; A. NELSON; L. GHAFFARI; J. LEVY; C. BURCIU; J. CHEW; V. BELZIL; J. ROBERTSON; T. CONTENTE-CUOMO; E. ALSOP; L. PETRUCELLI; M. MURTAZA; K. JENSEN; R. G. KALB; R. SATTLER. *Barrow Neurolog. Inst., Arizona State Univ., Mayo Clin., Univ. of Toronto, Translational Genomics, Children's Hosp of Philadelphia.*

3:00 U6 **760.15** ● Reduced copper transporter trafficking and synaptic deficits in iPSC-MNs derived from an ALS patient with a novel variant of ATP7A. A. STARR*; N. BAKKAR; Z. MCEACHIN; I. LORENZINI; G. J. BASSELL; N. M. BOULIS; R. SATTLER; R. BOWSER. *Barrow Neurolog. Inst., Emory Univ.*

4:00 U7 **760.16** Interleukin-6 receptor genotype as a potential modifier of amyotrophic lateral sclerosis. M. WOSISKI-KUHN*; G. HAWKINS; C. LANGEFELD; M. ROBINSON; P. AROUNLEUT; J. STRUPE; J. CARESS; C. MILLIGAN. *Wake Forest Sch. of Med., Wake Forest Univ. Sch. of Med., Wake Forest Sch. Med.*

1:00 U8 **760.17** Recombinant heat shock protein 70 cognate may have therapeutic value in motor neuron disease. M. LYON*; P. AROUNLEUT; M. WOSISKI-KUHN; E. FORBES; M. ROBINSON; C. MILLIGAN. *Wake Forest Univ. Grad. Sch.*

2:00 U9 **760.18** Soma size plasticity of spinal motoneurons in ALS. S. S. DUKKIPATI; T. L. GARRETT; S. M. ELBASIOUNY*. *Wright State Univ., Wright State Univ.*

3:00 U10 **760.19** A functional genomics approach for identifying pharmacodynamic markers of C9orf72 related ALS. R. G. LIM*; J. G. DAIGLE; J. LI; R. ESCALANTE; V. DARDOV; A. MATLOCK; P. MILANI; J. OSTERLOH; J. KAYE; K. HASTON; L. HAYES; U. HUSSAIN; L. ORNELAS; A. REYES-ORTIZ; J. WU; K. SACHS; R. HO; B. SHELLEY; V. VENKATRAMAN; M. ADAM; B. MANDEFRO; M. CASALE; T. G. THOMPSON; D. SAREEN; S. FINKBEINER; J. VAN EYK; C. SVENDSEN; E. FRAENKEL; J. ROTHSTEIN; L. M. THOMPSON. *Univ. of California, Irvine, John Hopkins Univ., MIT, Cedars-Sinai Med. Ctr., Gladstone Inst., Univ. of California, Irvine, Univ. of California, Irvine.*

4:00 U11 **760.20** Molecular taxonomy of sporadic amyotrophic lateral sclerosis using disease-associated genes. G. MORELLO; A. G. SPAMPINATO; V. LA COGNATA; V. D'AGATA; S. CAVALLARO*. *CNR, ISN-CNR, Univ. of Catania, Italian Natl. Res. Council.*

1:00 U12 **760.21** Patient-derived *in vitro* models of sporadic ALS show relevant disease protein phenotypes and changes in electrical activity. A. NELSON; L. GHAFFARI*; S. MOORE; A. STARR; I. LORENZINI; J. LEVY; C. BURCIU; J. MERTENS; R. SATTLER. *Barrow Neurolog. Inst., The Salk Inst. for Biol. Studies.*

**POSTER**

**761. Neuroinflammation: Disease Models**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 V1 **761.01** FAM19A5, a novel secreted protein, modulates the microglia/macrophage messenger and precedes Alzheimer diseases. S. KIM*. *Bundang Hosp. of Seoul Natl. Univ.*

2:00 V2 **761.02** DNA methylation changes in intron 1 of triggering receptor expressed on myeloid cell 2 in Japanese schizophrenia subjects. Y. YOSHINO*; Y. OZAKI; K. YAMAZAKI; S. OCHI; J. I. IGA, 791-0295; S. UENO. *Neuropsychiatry, Ehime Univ. Grad. Sch. of Med.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 V3 **761.03** Glibenclamide reduces inflammation by decreasing the ET-1 secretion from astrocytes in EAE mice. M. I. ARVAS*; P. R. GUDA; D. TRISLER; V. GERZANICH; M. J. SIMARD; C. BEVER, Jr; T. K. MAKAR. *Univ. of Maryland, VA medical center, VA Multiple Sclerosis of Excellence, Univ. of Maryland.*

4:00 V4 **761.04** The TREM2 R47H variant confers a loss-of-function phenotype in a murine model of AD. P. J. CHENG-HATHAWAY*; E. G. REED-GEAGHAN; T. R. JAY; B. T. CASALI; S. M. BEMILLER; J. C. KARLO; G. XU; S. S. PUNTAMBEKAR; R. M. RANSOHOFF; G. E. LANDRETH; B. T. LAMB. *Case Western Reserve Univ. Sch. of Med., Indiana University, Sch. of Med., Biogen, Cleveland Clin. Lerner Res. Inst.*

1:00 V5 **761.05** Increased neuroimmune gene induction, microglial and astrocyte activation, and neurodegeneration in post-mortem human alcoholic brain. L. QIN*; R. P. VETRENO; F. T. CREWS. *Univ. North Carolina, Sch. Med.*

2:00 V6 **761.06** Effect of microglia/macrophage alternative activation on epileptogenesis through inhibition of MyD88 signaling after status epilepticus in mice. F. KUANG*; J. LIU; S. WU; H. ZHANG. *The Fourth Military Med. Univ., The Fourth Military Med. Univ., The Fourth Military Med. Univ.*

3:00 V7 **761.07** ● Dendrimer-mediated therapies for targeted delivery to tumor associated macrophages in glioblastoma. K. LIAW*; R. REDDY; S. KANNAN; R. M. KANNAN. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*

4:00 V8 **761.08** Dendrimer-NAC ameliorates cerebellar inflammation and improves cerebellar function in a rabbit model of cerebral palsy. Z. ZHANG*; S. NARAYAN; L. SU; J. LIU; Y. LIN; H. AL-ALAWYAT; K. RANGARAMANUJAM; S. KANNAN. *Johns Hopkins Sch. of Med.*

1:00 V9 **761.09** The potential of omega-3 polyunsaturated fatty acids in ameliorating central neuropathic pain following spinal cord injury. M. GEORGIEVA*; M. DUMITRASCUTA; A. LEESON-PAYNE; Y. WEI; A. RAJNICEK; W. HUANG. *Univ. of Aberdeen.*

2:00 V10 **761.10** Microglial PARP-1 ablation prevents cognitive impairment in offspring exposure to gestational diabetes mellitus. J. KIM*; L. TESSLER; K. BRAUN; A. MEHRABADI; T. KAUPPINEN. *Col. of Medicine, Univ. of Manitoba, Neurosci. Res. Program, Kleysen Inst. for Advanced Med., The Children's Hosp. Res. Inst. of Manitoba.*

3:00 V11 **761.11** PARP-1 driven microglial activation promotes disease progression in 3xTg-AD mouse model of Alzheimer's disease. A. REZAEIAN MEHRABADI; J. KIM; L. TESSLER; T. M. KAUPPINEN*. *Univ. of Manitoba, Hlth. Sci. Ctr.*

4:00 V12 **761.12** Increased expression of colony stimulating factor 1 in mouse spinal cord with experimental autoimmune encephalomyelitis may lead to neuronal death. S. GUSHCHINA; G. PRYCE; P. YIP; G. GIOVANNONI; D. BAKER; X. BO*. *Queen Mary Univ. of London.*

1:00 V13 **761.13** Glucose deprivation blocks microglial ROS production in ischemia stroke. S. GHOSH*; S. J. WON; E. FRIAS; Y. ZHANG; R. K. BISHOP; R. A. SWANSON. *Univ. of California, San Francisco, San Francisco Veterans Affairs Med. Ctr.*

2:00 V14 **761.14** Histone demethylase (KDM6B) is dysregulated in alcohol dependence inflammatory signaling pathways. N. S. ANDRADE*; A. JOHNSTONE; Z. ZEIER; E. D. BARBIER; M. HEILIG; C. WAHLESTEDT. *Univ. of Miami, Dept. of Clin. and Exptl. Medicine.*

3:00 V15 **761.15** Treatment with pertussis toxin does not induce a multiple sclerosis-like phenotype in cuprizone-treated mice. M. K. SEN; P. J. SHORTLAND; S. J. MYERS; J. COORSSEN; D. A. MAHNS*. *Western Sydney Univ., Western Sydney Univ., Brock Univ.*

4:00 V16 **761.16** Loss of CREST induces microglia activation by neuronal signals and motor deficits of ALS. C. CHENG*; Z. LIU; T. DANG; K. YANG; X. WU; Z. QIU. *Inst. of Neuroscience, CAS, Inst. of Biomed. Sci. of Shanghai Med. College, Fudan Univ., Inst. of Envrn. Sci. and Engin. , Donghua Univ., Xiangya Hospital, Central South Univ.*

1:00 V17 **761.17** Tspo deficiency enhances the aerobic glycolysis to promote glioma progression. Y. FU*; D. WANG; H. WANG; H. CHEN; Y. HU; W. HE; J. ZHANG. *Inst. of Basic Med. Sciences, Chinese Acade.*

2:00 V18 **761.18** The role of microglial Interleukin-6 in experimental autoimmune encephalomyelitis. P. SANCHIS*; O. FERNÁNDEZ-GAYOL; G. COMES; A. ESCRIG; T. FÉREZ; A. MOLINERO; M. GIRALT; J. HIDALGO. *Inst. de Neurociències (INc), Univ. Autònoma de Barcelona (UAB).*

3:00 V19 **761.19** Guanabenz, a microglial modulator in EAE. K. K. THOMPSON*; S. E. TSIRKA. *Stony Brook Univ. Hosp.*

4:00 V20 **761.20** Sodium valproate promotes remyelination by the epigenetic control of M2 microglia polarization after a focal demyelinating lesion. G. WANG*; L. DING; Z. JIANG; D. GAN; C. GAO; L. XUE. *Inst. of Nautical Medicine, Nantong Univ., Nantong Univ.*

1:00 V21 **761.21** Accumulation of $CD11c^{+}$ microglia in the brain of middle-aged $Apobec1^{-/-}$ mouse reveals age-related neuroinflammation. K. GAGNIDZE*; K. H. HAJDAROVIC; D. C. COLE; F. N. PAPAVASILIOU; K. BULLOCH. *Rockefeller Univ., Rockefeller Univ., German Cancer Res. Ctr. (DKFZ).*

2:00 V22 **761.22** Proteomic comparison of aged and young microglia highlights biological consequences of aging. A. JALLOH*; A. FLOWERS; S. M. STEVENS; P. C. BICKFORD. *Univ. of South Florida, Univ. of South Florida, James A. Haley Veterans Hosp.*

3:00 V23 **761.23** Hypothalamic CCL2/CCR2 neuroimmune system: Role in mediating neuronal and behavioral effects of prenatal ethanol exposure. S. F. LEIBOWITZ*; G. CHANG; O. CHACHAM; V. HALKINA; V. KEWALDAR; J. EDELSTIEN; E. RAMIREZ. *Rockefeller Univ., Rockefeller.edu.*

4:00 V24 **761.24** Chronic neuroinflammation suppresses resting state functional connectivity in mice. E. OYARZABAL*; M. DAS; S. SONG; J. HONG; Y. I. SHIH. *UNC, Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill, Natl. Inst. of Envrn. Hlth. Sci., Univ. of North Carolina at Chapel Hill.*

1:00 V25 **761.25** Early lead ($Pb^{2+}$) exposure induces region-specific alterations in cell populations in zebrafish brain. N. FERRARO*; E. C. JENKINS, Jr; M. SCOTTO; S. KEANE; K. PREIS; S. LAURIA; N. MAGNAVITA; S. GUARIGLIA. *St. Josephs By the Sea HS, CUNY Col. of Staten Island/Saint Joseph by the Sea High Sch.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 V26 **761.26** PER2 clock auto-immunity in a preclinical model of chronic alcohol binge drinking. S. PERREAU-LENZ*; N. SCHOLLER; W. POLGAR. *SRI Intl.*

3:00 W1 **761.27** ▲ The effects of the herbicides glyphosate and atrazine on anxiety-like behavior in adult zebrafish (Danio rerio). M. GILDEA; K. MELVIN; M. ABDELMAGEED; J. A. SCHROEDER*. *Connecticut Coll.*

**POSTER**

**762. Neuroinflammation: Activation, Inhibition, and Depletion**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 W2 **762.01** N-docosahexaenoylethanolamine/gpr110 signaling ameliorates LPS-induced neuroinflammation. T. PARK*; H. CHEN; H. KWON; H. KIM. *NIH, NIH.*

2:00 W3 **762.02** Resolving persistent neuroinflammation by microglia depletion and repopulation in organotypic brain slice cultures. J. Y. ZOU*; F. T. CREWS. *Univ. North Carolina, Chapel Hill, Skipper Bowles Ctr. Alcohol.*

3:00 W4 **762.03** Anti-oxidative effects of docosahexaenoic acid and its peroxidation products in microglia. G. Y. SUN*; R. LI; B. YANG; M. GREENLIEF; K. L. FRITSCHE; J. CUI; D. Q. BEVERSDORF. *Univ. Missouri, Univ. Missouri, Univ. Missouri, Univ. Missouri, Univ. Missouri, Univ. Missouri.*

4:00 W5 **762.04** Acute pifithrin-μ treatment reduces damage after spinal cord injury. M. D. CAPONEGRO*; L. TORRES; C. RASTEGAR; N. RATH; M. ANDERSON; J. K. ROBINSON; S. E. TSIRKA. *Stony Brook Univ., Stony Brook Univ., Cornell Univ., Stony Brook Univ.*

1:00 W6 **762.05** Microglia depletion using inducible attenuated diphtheria toxin expression prior to cranial irradiation of juvenile mice. K. ZHOU*. *Karolinska Inst.*

2:00 W7 **762.06** Microglial depletion with clodronate liposome induces brain injury. X. HAN*; Q. LI; X. LAN; J. WANG. *Johns Hopkins Univ.*

3:00 W8 **762.07** piRNAs interact with ARE binding proteins to modulate microglial activation. Q. HU*; C. SOZHEESVARI SUBHRAMANYAM; C. WANG; Q. CAO. *Natl. Univ. of Singapore.*

4:00 W9 **762.08** Targeting pleiotrophin inhibits LPS-induced astrogliosis and regulates microglia activity in mice: Implications for neuroinflammation. R. FERNÁNDEZ-CALLE; M. VICENTE-RODRÍGUEZ; E. GRAMAGE; C. PÉREZ-GARCÍA; G. HERRADON*. *Pharmacology, CEU San Pablo Univ.*

1:00 W10 **762.09** Azithromycin suppresses lipopolysaccharide-induced oligodendrocyte progenitor cell injury mediated by microglia. S. RAMARAO*; K. CARTER; Y. PANG; A. J. BHATT. *Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr., Univ. of Mississippi Dept. of Med.*

2:00 W11 **762.10** Unable to Attend SIRT3 deficiency dysregulates interactions between brain microvascular endothelial cells and microglia. S. PUGAZHENTHI*; A. TYAGI; T. CHONG; C. NGUYEN. *Denver VA Med. Ctr.*

3:00 W12 **762.11** Participation of SR-A in the neurotoxic activation of microglia by Aβ and inflammatory mediators. R. VON BERNHARDI*; F. HEREDIA; P. MUNOZ; L. EUGENIN-VON BERNHARDI; F. CORNEJO. *Pontificia U Catolica De Chile, Fac Med., Pontificia U Catolica De Chile, Fac Med., Hosp. Sotero del Rio.*

1:00 DP05/W13 **762.12** (Dynamic Poster) Differential response of microglia to distinct alpha-synuclein assemblies. A. VAN DER PERREN*; G. GELDERS; L. BOUSSET; F. MACCHI; W. PEELAERTS; C. VAN DEN HAUTE; R. MELKI; V. BAEKELANDT. *KU Leuven, CNRS.*

1:00 W14 **762.13** Cytosolic phospholipase A2 facilitates soluble oligomeric amyloid-beta uptake through its effect on membrane-cytoskeleton adhesion in microglia. J. C. LEE*; T. TENG; D. M. RIDGLEY; L. DONG; M. LADU; O. LAZAROV; G. Y. SUN. *Univ. of Illinois at Chicago, Univ. of Missouri, Univ. of Illinois at Chicago, Univ. Missouri.*

2:00 W15 **762.14** SUMO1 regulates the NFκB-mediated inflammatory response of activated microglia. T. DHEEN*; A. KARTHIKEYAN; N. GUPTA; P. RANGARAJAN; K. MALLIANKARAMAN; E. A. LING. *Natl. Univ. Singapo.*

3:00 W16 **762.15** The anti-inflammatory effects of the adenosine A3 receptor agonist CL-IB-MECA in LPS-induced microglial activation and proinflammatory responses. C. LUO*; B. YI; H. FENG; Z. Z. WEI; S. P. YU; L. WEI. *Neurosurg. Southwest Hosp.Third Military Med. Univ., Anesthesiol., Sch. Med., Emory Univ., Anesthesiol., Southwest Hosp., Third Military Med. Univ.*

4:00 W17 **762.16** Estrogen receptor alpha is expressed in microglia in male and female adolescent rats. A. SILVA-GOTAY*; E. TAVARES; A. LIN; A. HOLT; D. LIU; H. N. RICHARDSON. *Univ. of Massachusetts Amherst, Univ. of Massachusetts Amherst.*

1:00 W18 **762.17** Inhibition of HSP90 reduces neuroinflammation in the entorhinal cortex of female mice. E. TAVARES*; A. SILVA-GOTAY; A. CHOUDHURY; G. POIRIER; A. LIM; D. BULLOCK; J. KING; P. MANDREKAR; H. N. RICHARDSON. *Univ. of Massachusetts - Amherst, Univ. of Massachusetts Med. Sch.*

2:00 W19 **762.18** Microglial priming persists in the aged brain following CSF1R antagonist-mediated depletion and subsequent repopulation of new microglia. S. M. O'NEIL*; K. G. WITCHER; J. P. GODBOUT. *The Ohio State Univ.*

3:00 W20 **762.19** Effects of the psychiatric susceptibility gene Cacna1c on LPS-induced neuroinflammation in primary microglia. S. MICHELS*; H. MARTINS; M. D. BRAUN; T. M. KISKO; G. M. SCHRATT; R. K. W. SCHWARTING; M. WÖHR; H. GARN; C. CULMSEE. *Philipps-University, Philipps-University, Philipps-University, Philipps-University.*

4:00 W21 **762.20** High content miniaturized neuroinflammation assays for the screening of neuroprotective compounds. P. KITCHENER*; L. PAULHAC; F. SIMON. *Fluofarma.*

1:00 W22 **762.21** Inflammatory pathways impair the microglial DNA damage response by regulating ATM shuttling. X. SONG*. *Hong Kong Univ. of Sci. and Technol.*

2:00 W23 **762.22** What is the role of microglia in radiation induced cognitive impairment? S. GOKHAN*; K. M. ARONSON; P. N. BRODIN; V. CHITU; E. R. STANLEY; M. E. GULINELLO; A. C. TOMÉ; Y. M. ALTUN; C. GUHA; M. F. MEHLER; W. A. TOMÉ. *Albert Einstein Coll Medici, Wellesley Col., Albert Einstein Coll Medici, Albert Einstein Coll Medici, Albert Einstein Coll Medici.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 W24 **762.23** Chronic inflammation alters vasopressin expression in the suprachiasmatic nucleus. J. WHYLINGS*; S. PATEL; G. J. DE VRIES. *Georgia State Univ.*

4:00 W25 **762.24** Effects of gut-derived endotoxin on anxiety-like and repetitive behaviors in male and female mice. C. FIELDS*; B. CHASSAING; A. T. GEWIRTZ; G. J. DE VRIES. *Georgia State Univ., Georgia State Univ.*

1:00 W26 **762.25** Influence of female sexual hormones in the febrile response and in the receptor expression of central mediators in the hypothalamus. A. R. ZAMPRONIO*; D. R. RADULSKI; C. R. C. FRANCO; L. M. BRITO; H. O. BRITO. *Federal Univ. Parana, Federal Univ. of Maranhão.*

**POSTER**

**763. Neuroinflammation: Beyond Microglia**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 W27 **763.01** Immune cells contribute to preterm brain injury. X. WANG*; A. NAZMI; A. ALBERTSSON; X. ZHANG; R. VONTELL; C. ZHU; C. MALLARD; H. HAGBERG. *Univ. of Gothenburg, King's Col. London, St. Thomas' Hospital.*

2:00 W28 **763.02** Loss of myeloperoxidase function is protective in the mouse model of subarachnoid hemorrhage. A. P. COULIBALY*; P. PEZUK; J. J. PROVENCIO. *Univ. of Virginia.*

3:00 W29 **763.03** Chemotherapy-induced cognitive impairment is associated with dysregulation of cytokines and disruption in neuroplasticity. Z. ZHANG*; D. SHI. *The Univ. of Hong Kong.*

4:00 W30 **763.04** CCR7 mediates dendritic cell migration out of the CNS during neuroinflammation. M. HSU*; B. D. CLARKSON; A. WALKER; M. G. HARRIS; A. RAYASAM; M. SANDOR; Z. FABRY. *Univ. of Wisconsin - Madison, Mayo Clin., Univ. of Wisconsin - Madison.*

1:00 W31 **763.05** Induction of macrophage polarization by 7.8-DHF controlled release from PLLA nanofibers potential for neural regeneration. T. GUO*; X. SUN; L. HE. *GHMICR.*

2:00 W32 **763.06** Effects of chronic inflammation and galnon on stress-related behavior and the mesocorticolimbic dopamine system. J. SMITH*; A. ALI; K. C. WILLIAMS, III; A. HARBERT; E. MOORE; S. M. MOHANKUMAR; P. S. MOHANKUMAR; L. L. MILLER; P. V. HOLMES. *Univ. of Georgia, Univ. of Georgia, Univ. of Georgia, Univ. of Georgia, Augusta Univ.*

3:00 W33 **763.07** Prostaglandin receptor EP2 signaling in innate immune cells exacerbates status epilepticus-induced morbidity. N. H. VARVEL*; A. BIEGEL; R. DINGLEDINE. *Emory Univ.*

4:00 W34 **763.08** EP2 receptor signaling in human monocytes. D. CHEN*; N. H. VARVEL; A. ROJAS; W. WANG; T. GANESH; R. DINGLEDINE. *Dept. of Pharmacology, Emory Univ.*

1:00 W35 **763.09** Cellular localization of three inflammatory proteins (COX-1, -2, and TSPO) in drug-resistant epilepsy. L. D. WEIDNER; P. KANNAN; N. MITSIOS; M. D. HALL; W. H. THEODORE; R. B. INNIS*; J. MULDER. *NIH, NIMH, Karolinska Institutet, NIH, NCI, NIH, NINDS, NIH, NIMH, MIB.*

2:00 W36 **763.10** Novel inflammatory cues: The extracellular matrix components differentially promote activity of immune cells in an animal model of multiple sclerosis. M. K. MISHRA*; D. A. MOUSSIENKO; E. STEPHENSON; V. W. YONG. *Hotchkiss Brain Inst.*

3:00 X1 **763.11** Testing anti-methamphetamine gene therapy on reducing neuroinflammation. C. BOLDEN*; C. HAY; E. PETERSON. *Univ. of Arkansas For Med. Sci.*

4:00 X2 **763.12** Extranuclear apurinic/apyrimidinic endonuclease 1/redox effector factor-1 in reactive astrocytes. C. NEUPANE; H. CHO; J. PARK*. *Dept. of Boimedicine, Graduated School, Chungnam Natl. Univ., Dept. of Physiology, Sch. of Medicine, Chungnam Natl. Univ.*

1:00 X3 **763.13** Role of NF-kB in Cytochrome P450 epoxygenases downregulation during an inflammatory process in astrocytes. C. NAVARRO-MABARAK*; I. B. MITRE-AGUILAR; S. L. HERNÁNDEZ-OJEDA; R. CAMACHO-CARRANZA; A. ZENTELLA-DEHESA; J. J. ESPINOSA-AGUIRRE. *Univ. Nacional Autónoma De México, Inst. Nacional de Ciencias Médicas y Nutrición Salvador Zubirán (INCMNSZ), Inst. de Investigaciones Biomédicas.*

2:00 X4 **763.14** cAMP effects on polarization of BMDM and RAW264.7 macrophages to proinflammatory or antiinflammatory phenotypes. G. MENGOD*; R. MARTIN-ALVAREZ; G. CASTELLANOS-MAYOS; A. MORENO-GIRO; A. MARTÍNEZ-SIRES; D. V. DIAZ-LUCENA; A. GARCIA; R. CORTES. *IIBB-CSIC, IDIBAPS, CIBERNED, Inst. of Biotech. and Biomedicine, UAB.*

3:00 X5 **763.15** Whole transcriptome analysis of stromal cells in experimental autoimmune encephalomyelitis. F. FERNÁNDEZ KLETT*; A. MILDNER; S. M. BRENDECKE; C. FERNÁNDEZ ZAPATA; M. PRINZ; J. PRILLER. *Charité-Universitätsmedizin Berlin, Charité-Universitätsmedizin Berlin, Universitätsklinik Freiburg.*

4:00 X6 **763.16** Unhelped CD8 T cells fail to establish resident memory in the brain. T. MOCKUS*; A. JAIPRAKASH; T. COOPER; A. LUKACHER. *Penn State Col. of Med., Fort Dietrick.*

1:00 X7 **763.17** Meta-study of the ASIC-BK/$K_v$ proximity on neighboring cells. V. SNITSAREV; E. PETROFF*. *Montclair State Univ.*

2:00 X8 **763.18** Astrocytic Ebf1/Rgs5 signaling is required for the modulation of neuroinflammation. S. YIN*; S. LU; P. LIANG; Y. YIN; Y. LI; J. HOU; J. ZHOU. *Inst. of Neurosci.*

3:00 X9 **763.19** Activation of GPR55 enhances adult hippocampal neurogenesis and is neuroprotective during chronic, low-level systemic inflammation. J. D. HILL*; V. ZULUAGA-RAMIREZ; M. WINFIELD; S. GAJGHATE; Y. PERSIDSKY. *Lewis Katz Sch. of Medicine, Temple Univ., Lewis Katz Sch. of Medicine, Temple Univ.*

4:00 X10 **763.20** Molecular evidence of kynurenine pathway modulation in the midbrain in schizophrenia. J. ZIEBA*; T. D. PURVES-TYSON; D. BOERRIGTER; T. KARL; C. S. WEICKERT. *Neura, Sch. of Med. Sci. UNSW, Schizophrenia Res. Lab., Schizophrenia Res. Inst., NeuRA, Sch. of Psychiatry, UNSW, Sch. of Medicine, Western Sydney Univ., NeuRA.*



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* Indicates abstract's submitting author

1:00 X11 **763.21** Essential role of PTEN in neurological deficits of experimental autoimmune encephalomyelitis by regulating T cell and oligodendrocyte functions. S. LI*; M. HORIUCHI; Y. OHTAKE; L. MA. *Temple Univ. Sch. of Med., Lewis Katz Sch. of Med. at Temple Univ.*

2:00 X12 **763.22** Intracerebral BCG infection induced dendritic cell recruitment and microglial activation in the central nervous system. K. KGOADI*; N. HSU; R. KEETON; M. JACOBS. *Univ. of Cape Town, Natl. Hlth. Lab. Service, South African Med. Res. Council.*

3:00 X13 **763.23** A novel automated dissociation procedure for efficient recovery and comprehensive detection of immune cells from inflamed neural brain and spinal cord. H. ZHANG; S. REIß; A. BOSIO*; M. JUNGBLUT. *Miltenyi Biotec.*

4:00 X14 **763.24** Ligand-directed integrin labeling: Novel insights into glia-mediated engulfment in synaptic elimination. W. T. SLATTERY*. *Univ. of British Columbia.*

**POSTER**

**764. Neuroinflammation: Virus and Infections II**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 X15 **764.01** Role of glial CCR5 in mediating HIV-Tat and opiate neurotoxicity and behavioral phenotype. S. KIM; J. J. PARIS; K. F. HAUSER; P. E. KNAPP*. *Virginia Commonwealth Univ., Virginia Commonwealth Univ., Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

2:00 X16 **764.02** Characterizing the Role of Cysteinyl Leukotrienes in HIV-1 gp120 associated brain injury. N. Y. YUAN*; P. SANCHEZ PAVON; R. MAUNG; A. J. ROBERTS; M. KAUL. *Sanford Burnham Prebys Inst., Scripps Res. Inst.*

3:00 X17 **764.03** Loss of substantia nigra dopaminergic neurons in HIV-positive humans and HIV-1 Tat mice. N. SHARIF*; D. O. SAMBO; D. MILLER; C. J. MARTYNIUK; J. MCLAUGHLIN; W. J. STREIT; H. KHOSHBOUEI. *Univ. of Florida, Ctr. for Envrn. and Human Toxicology & Dept. of Physiological Sci., Univ. of Florida Dept. of Pharmacodynamics Col. of Pharm.*

4:00 X18 **764.04** Optical electrophysiology of human primary neurons: The role of KCC2 in excitatory-inhibitory imbalances induced by HIV ± morphine exposure. A. J. BARBOUR*; J. M. BALINANG; A. R. MCQUISTON; K. F. HAUSER; P. E. KNAPP. *Virginia Commonwealth Univ.*

1:00 X19 **764.05** Herpes protein US9 as a new tool to study lipid rafts and amyloid beta in HIV associated neurocognitive disorders (HAND). G. HILL*; B. S. NASH; R. BRANDIMARTI; O. MEUCCI. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*

2:00 X20 **764.06** Cathepsin B neuronal internalization triggers apoptosis and decreased synapsis upon HIV infection. Y. M. CANTRES-ROSARIO*; A. SANTOS; S. GORANTLA; L. M. MELENDEZ. *Univ. of Puerto Rico, Med. Sci. Campus, Univ. of Puerto Rico, Nebraska Med. Ctr., Univ. of Puerto Rico Med. Sci.*

3:00 X21 **764.07** HIV-1 Tat causes selective reductions in dendritic spines in the stratum oriens and stratum radiatum, but not the stratum lacunosum-moleculare of hippocampal CA1 pyramidal cells. J. MOON; W. MARKS; A. J. BARBOUR; P. E. KNAPP; K. F. HAUSER*. *Virginia Commonwealth Univ., Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

4:00 X22 **764.08** Lipocalin-2 in HIV-induced neuronal damage. D. OJEDA JUAREZ*; R. L. SHAH; A. B. SANCHEZ; A. J. ROBERTS; M. KAUL. *Sanford Burnham Prebys Med. Discovery Inst., The Scripps Res. Inst., Univ. of California San Diego.*

1:00 X23 **764.09** ▲ Defining sub-neuronal localization of toxoplasma gondii *in vivo* over the course of infection. J. S. PYON*; C. M. CABRAL; A. A. KOSHY. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

2:00 X24 **764.10** West Nile encephalitis alters DNA methylation patterns in hippocampal neurons. K. E. FUNK*; M. KING; R. S. KLEIN. *Washington Univ. In St Louis.*

3:00 X25 **764.11** The effects of the Lyme disease pathogen Borrelia burgdorferi on the human astrocyte epigenome. D. THOMPSON*; T. CASSELLI; A. DHASARATHY; J. WATT; C. BRISSETTE. *Univ. of North Dakota.*

4:00 X26 **764.12** Alterations in the IL-7/IL-7Ralpha pathway in Lyme encephalopathy. E. A. ECKMAN*; D. M. CLAUSEN; J. PACHECO-QUINTO; A. R. HERDT; J. J. HALPERIN. *Biomed. Res. Inst. of New Jersey, Atlantic Hlth. Syst., Overlook Med. Ctr.*

1:00 X27 **764.13** ▲ Toxoplasma-injected neuron enrichment in cortex and medium spiny neurons. C. J. POTTER*; O. A. MENDEZ; A. A. KOSHY. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

2:00 X28 **764.14** PLVAP and GKN3 are two critical host cell receptors which facilitate Japanese encephalitis virus entry into neurons. S. MUKHERJEE*. *Natl. Brain Res. Ctr.*

3:00 X29 **764.15** Gene expression changes in Brazilian versus African strain of Zika virus in neural stem cells. S. GOLDTHORPE*; O. LOSSIA; M. O. TREE; B. SRINAGESHWAR; G. L. DUNBAR; M. J. CONWAY; J. ROSSIGNOL. *Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Central Michigan Unversity, Field Neurosciences Inst. Lab.*

4:00 X30 **764.16** A CRISPR method for studying the function of the transcription factor Mafb in BV2 cells. P. MILLER-RHODES*; S. LU; H. A. GELBARD. *Univ. of Rochester Med. Ctr.*

1:00 X31 **764.17** Impact of Zika virus on adult human brain structure and functional organization. R. O. BIDO MEDINA*; J. WIRSICH; M. RODRIGUEZ; J. OVIEDO; I. MICHES; P. BIDO; L. TUSEN; P. STOETER; S. SADAGHIANI. *Univ. of Illinois At Urbana Champaign, Univ. of Illinois at Urbana Champaign, Hosp. Salvador B. Gautier, CEDIMAT, Univ. of Illinois at Urbana Champaign, Univ. of Illinois, Urbana-Champaign.*



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* Indicates abstract's submitting author

**POSTER**

**765. Stroke: Molecular Targets, Pathogenesis, and Recovery**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 X32 **765.01** Association between BDNF genotype and upper extremity motor outcome in stroke. W. CHANG*; E. PARK; J. LEE; A. LEE; Y. KIM. *Samsung Med. Ctr., Heart Vascular Stroke Institute, Samsung Med. Center, Sungkyunkwan Univ. Sch. of Med., SAIHST, Sungkyunkwan Univ., SAIHST, Sungkyunkwan Univ.*

2:00 X33 **765.02** Blood microRNA-122 improves stroke outcome via Pla2g2a pathway. D. LIU*; G. C. JICKLING; X. CHENG; H. HULL; X. XINHUA ZHANA; B. P. ANDER; B. STAMOVA; N. SHROFF; C. DYKSTRA-AIELLO; B. G. LYETH; F. R. SHARP. *UC Davis, UC Davis.*

3:00 Y1 **765.03** Ngf gene expression improves cognitive function of post-ischemia. C. JIAYU*. *Shanghai Jiao Tong Univ. Sch. of Med.*

4:00 Y2 **765.04** Prevention of acute and recurrent stroke with statins and interaction with thrombolysis. F. FERRARI*; A. MORETTI; R. F. VILLA. *Univ. of Pavia.*

1:00 Y3 **765.05** The role of EphA4 and ephrinA5 in neural repair following ischemic stroke. A. DE BOER; A. STORM; C. BOULETI; L. RUE; W. ROBBERECHT; R. LEMMENS*. *KU Leuven - VIB, KU Leuven - UZ Leuven.*

2:00 Y4 **765.06** ● Recombinant human soluble thrombomodulin ameliorates cerebral ischemic injury through a high-mobility group box 1 inhibitory mechanism without hemorrhagic complications in mice. Y. NAKAMURA*; T. NAKANO; K. IRIE; K. SANO; J. TANAKA; Y. YAMASHITA; T. SATHO; K. MATSUO; M. FUJIOKA; H. ISHIKURA; K. MISHIMA. *Fukuoka Univ. Hosp., Dept. of Pharmacology, Fac. of Pharmaceut. Sciences, Fukuoka Univ., Dept. of Pharmaceut. and Hlth. Care Management, Fac. of Pharmaceut. Sciences, Fukuoka Univ.*

3:00 Y5 **765.07** Transcriptome analysis of grafted human neural stem cells: Predicting the molecular crosstalk between transplanted cells and ischemic brain. R. AZEVEDO-PEREIRA*; N. C. MANLEY; J. U. VU; M. WINGE; J. BERRY; G. SUN; T. BLISS; G. K. STEINBERG. *Stanford Univ., Stanford Univ.*

4:00 Y6 **765.08** Different transcriptional programs in human blood following ischemic stroke and intracerebral hemorrhage. B. STAMOVA*; M. DUROCHER; G. JICKLING; X. ZHAN; D. LIU; X. CHEN; H. HULL; C. DYKSTRA-AIELLO; N. SHROFF; M. ORANTIA; F. HAMADE; B. ANDER; F. SHARP. *Univ. of California, Davis Sch. of Med., Univ. of Alberta.*

1:00 Y7 **765.09** Brain iron efflux transporter BCRP and FLVCR as novel therapeutic targets in neurodegenerative disorders. V. SINGH*; S. JIANG; M. SHARMA; V. C. BOINPELLY; B. C. DAS; R. SHARMA; S. HE. *Kansas City VA Med. Ctr., Univ. of Kansas Sch. of Med., Hunan Acad. of Traditional Chinese Med., Univ. of Kansas Sch. of Med.*

2:00 Y8 **765.10** The point mutation UCH-L1 C152A ameliorates ischemic brain injury and facilitates neurological functional recovery. H. LIU*; M. E. ROSE; F. ZHANG; J. S. BANTON; S. H. GRAHAM. *Univ. of Pittsburgh, VA Pittsburgh Healthcare Syst.*

3:00 Y9 **765.11** Leukotriene $B_4$ plays a key role in pathogenesis of intracerebral hemorrhage in mice. M. HIJIOKA*; Y. KURAUCHI; A. HISATSUNE; T. SEKI; T. KOGA; Y. KITAMURA; T. YOKOMIZO; T. SHIMIZU; H. KATSUKI. *Ritsumeikan Univ., Kumamoto Univ., Juntendo Univ., Natl. Ctr. for Global Hlth. and Med.*

4:00 Y10 **765.12** Nurr1-NR4A2 (Nuclear receptor subfamily 4 group A member 2) and RARRES2 (Retinoic acid receptor responder 2, Chemerin protein) are hub genes in the blood of humans with ischemic stroke. F. R. SHARP*; M. DUROCHER; G. JICKLING; N. SHROFF; C. DYKSTRA-AIELLO; X. CHEN; D. LIU; X. ZHAN; B. ANDER; B. STAMOVA. *Univ. of California At Davis.*

1:00 Y11 **765.13** Heme molecule functions as an endogenous agonist of astrocyte TLR2 to contribute to secondary brain damage after intracerebral hemorrhage. H. MIN*; B. CHOI; S. LEE. *Seoul Natl. Univ.*

2:00 Y12 **765.14** Selective inhibition of JAK3 has no impact on anatomical or neurobehavioral outcomes in permanent ischemic stroke in mice. K. M. DEMARS*; S. C. PACHECO; C. YANG; E. CANDELARIO-JALIL. *Univ. of Florida, Univ. of Florida.*

3:00 Y13 **765.15** Association of MTHFR and kininogen 1 (KNG1) gene polymorphisms with cryptogenic young ischemic stroke in India. C. S. CHRISTUDASS*; S. AARON; B. S. B. SALOMI; R. SOLOMON; V. P. TURAKA. *Christian Med. Col. - Vellore.*

4:00 Y14 **765.16** Profiling of transcriptome and gene expressions in intermittent fasted mice under stroke. J. KIM*; T. V. ARUMUGAM. *Natl. Univ. of Singapore, Korea Inst. of Sci. and Technol.*

1:00 Y15 **765.17** Lipopolysaccharide conditioning protects neurons from heme *in vitro* and intracerebral hemorrhage *in vivo.* R. F. REGAN*; J. CHEN-ROETLING. *Thomas Jefferson Univ., Thomas Jefferson Univ.*

2:00 Y16 **765.18** Tan-67-mediated neuroprotection in a mouse model of transient cerebral ischemia is associated with increased ubiquilin-1 expression. J. MIN; Y. LIU; H. WANG*. *Div. of Basic Biomed. Sci., Univ. of South Dakota.*

3:00 Y17 **765.19** Angiopoietin-1 mimetic peptide promotes neurorestorative effects after stroke in type one diabetic rats. P. VENKAT*; M. CHOPP; R. NING; T. YAN; A. ZACHAREK; P. SLYKE; J. CHEN. *Henry Ford Hosp., oakland university, Tianjin Med. Univ. Gen. Hosp., Vasomune Therapeut.*

4:00 Y18 **765.20** ▲ Overexpression of the neurogenic gene NGN2 in the peri-infarct region to reduce glial scar and support transplanted iPS cell-derived cells after neonatal stroke in rats. A. GANGAL*; Z. Z. WEI; M. Q. JIANG; H. GU; L. WEI; S. P. YU. *Emory Univ., Ctr. for Visual and Neurocognitive Rehabil. (CVNR), Atlanta VA Med. Ctr.*

1:00 Z1 **765.21** Toll-like receptor-regulated cerebrospinal fluid hypersecretion from the choroid plexus in post-hemorrhagic hydrocephalus. J. K. KARIMY*; J. ZHANG; D. B. KURLAND; B. CARUSILLO; D. DURAN; J. A. STOKUM; C. FUREY; E. DELPIRE; S. L. ALPER; V. GERZANICH; R. MEDZHITOV; J. SIMARD; K. KAHLE. *Yale Univ., Univ. of Exeter Med. Sch., Univ. of Maryland Sch. of Med., Univ. of Maryland Baltimore, Univ. of Maryland, Baltimore, Vanderbilt Univ. Med. Sch., Harvard Med. Sch., Univ. of Maryland, Baltimore, Yale Univ., Univ. Maryland, Yale Univ. Sch. of Med.*



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* Indicates abstract's submitting author

2:00 Z2 **765.22** Notch3 Cys456Arg knock-in mice display histopathologic features of the neurovascular disorder cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy. S. CHOI*; J. PARK; A. C. SILVA. *NIH/NINDS.*

3:00 Z3 **765.23** Genetic deletion of haptoglobin ameliorates intracerebral hemorrhage-induced brain damage. S. DORÉ*; J. LECLERC; A. LAMPERT; S. JEAN; C. AMADOR; M. DILLER; E. TOLOSANO. *Univ. of Florida, Univ. of Florida, Univ. of Torino.*

4:00 Z4 **765.24** Estrogen receptor alpha mediated hippocampal neuroprotection is sexually differentiated following neonatal brain injury. D. ZAFER; V. CHANANA; J. H. CHANDRASHEKAR; D. B. KINTNER; D. HANALIOGLU; A. OTLES; K. FREEMAN; B. NOVAK; R. ALSUBU; S. M. ABDUL KAREEM; P. A. FERRAZZANO; J. E. LEVINE; P. CENGIZ*. *Dept. Pediatrics and Waisman Center, Univ. of Wisconsin-Madison, Dept. of Neuroscience, Univ. of Wisconsin-Madison.*

1:00 Z5 **765.25** Inhibition of monoacylglycerol lipase decreases brain edema and intracranial hypertension in rodent models of intracerebral hemorrhage. Y. PI*; J. PIRO; S. M. O'NEILL; J. PANG; C. R. BUTLER; T. SAMAD. *Pfizer Inc, Pfizer Inc.*

**POSTER**

**766. Nociceptive Circuits**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 Z6 **766.01** Sema3a inhibits small myelinated axons in a Y-choice assay with BDNF and NGF molecular attractants. S. ANAND*; A. KANNEGANTI; E. RAMIREZ; M. TRAN; Y. HONG; M. I. ROMERO-ORTEGA. *Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Arlington.*

2:00 Z7 **766.02** Brainstem circuit that promotes escape from noxious stimuli. A. BARIK*; J. THOMPSON; A. T. CHESLER. *NIH, Natl. Ctr. For Complementary and Integrative.*

3:00 Z8 **766.03** The other half of gate control theory: Allodynia pathways opened by strong C nociceptor inputs. Y. ZHANG*; L. CHENG; Q. MA. *Dana Farber Cancer Inst., Wannan Med. Col., Fudan Univ.*

4:00 Z9 **766.04** Somatostatin contributes to itch and pain sensations. J. HUANG; E. BERESFORD-POLGAR; H. SOLINSKI; X. GU; P. TSENG; S. K. MISHRA; A. J. TODD; M. HOON*. *The Fourth Military Med. Universit, Univ. of Glasgow, NIDCR, Col. Of Veterinery Medcine, NC State Univ., Univ. Glasgow.*

1:00 Z10 **766.05** Oxytocin neurons participate in nociception and pain avoidance. S. LUKS-MORGAN*; C. L. WEE; M. NIKITCHENKO; F. ENGERT; A. D. DOUGLASS. *Univ. of Utah, Harvard Univ., Harvard Univ., Univ. of Utah.*

2:00 Z11 **766.06** Changes in nociception evoked cardiovascular responses after cervical spinal cord injury depend on cutaneous afferent types. H. LEE*; J. CHUNG; K. E. TANSEY. *Univ. of Mississippi Med. Ctr., G.V. (Sonny) Montgomery VA Med. Ctr., Univ. of Mississippi Med. Ctr., G.V. (Sonny) Montgomery VA Med. Ctr., Methodist Rehabil. Ctr.*

3:00 Z12 **766.07** Late born dorsal horn neurons are involved in acute pain circuits. Z. MÉSZÁR; É. KÓKAI; A. VARGA; M. SIVADÓ; D. HADHÁZI; M. ANTAL*; P. SZÜCS. *Univ. of Debrecen.*

4:00 Z13 **766.08** Reelin-expressing superficial dorsal horn neurons co-express Lmx1b and are present in Disabled-1 mutant mice. G. METTA YVONE*; C. L. CHAVEZ-MARTINEZ; D. WANG; P. E. PHELPS. *UCLA.*

1:00 Z14 **766.09** Developmental changes in morphological and electrophysiological properties in rat spinal substantia gelatinosa neurons. S. C. PENG; J. WU; D. Y. ZHANG; C. N. XIE; T. LIU*. *The First Affiliated Hosp. of Nanchang Univ.*

2:00 Z15 **766.10** The role of legumain and cathepsin S in oral cancer pain. E. W. CHEN*; M. WINKLE; L. EDGINGTON-MITCHELL; N. W. BUNNETT; B. L. SCHMIDT. *Bluestone Ctr. For Clin. Research, New York U, SUNY Downstate Med. Ctr., Monash Inst. of Pharmaceut. Sci., Columbia Univ. Col. of Physicians and Surg, New York Univ. Col. of Dent.*

3:00 Z16 **766.11** Dexmedetomidine affects C-, but not Aδ-nociception in rats. L. WEBER*; M. KLUKINOV; A. TZABAZIS; M. I. NEMENOV; D. C. YEOMANS. *Stanford Univ., Lasmed LLC.*

**POSTER**

**767. Treatments for Persistent Pain**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 Z17 **767.01** Effect of fish oil, eicosapentaenoic acid or docosahexaenoic acid treatment on neuropathic pain and anxiogenic-like behavior associated with experimental diabetes. D. B. REDIVO*; B. B. SOTOMAIOR; M. A. DA SILVA; A. T. GASPARIN; C. H. A. JESUS; J. M. ZANOVELI; J. M. CUNHA. *Federal Univ. of Paraná.*

2:00 Z18 **767.02** Inhibiting dual leucine zipper kinase to treat nerve injury induced pain. C. E. LE PICHON*; H. SILBERBERG; E. K. NGUYEN; J. GLUSKI; A. T. CHESLER. *NICHD, NIH, Univ. of Pittsburgh, Natl. Ctr. For Complementary and Integrative Hlth.*

3:00 Z19 **767.03** Long-lasting pharmacological inhibition of FKBP51 resolves neuropathic pain across sex. M. MAIARU*; O. MORGAN; T. MAO; M. BREITSAMER; M. POHLMANN; M. SCHMIDT; G. WINTER; F. HAUSCH; S. GÉRANTON. *Univ. Col. London, Inst. of Organic Chem. and Biochemistry, Tech. Univ. Darmstadt, Fac. of Chem. and Pharmacy, Ludwig-Maximilians-Universität München, Max Planck Inst. of Psychiatry.*

4:00 Z20 **767.04** Biodistribution of intrathecally delivered AAV5 viral vector particles. K. PFLEPSEN*; C. D. PETERSON; K. F. KITTO; M. S. RIEDL; G. L. WILCOX; L. VULCHANOVA; C. A. FAIRBANKS. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

1:00 Z21 **767.05** ▲ Antiallodynic and antihyperalgesic activity of haloperidol in neuropathic pain. R. VILLAFAN-GUTIERREZ*; J. ESPINOSA-JUAREZ; F. J. LOPEZ MUNOZ; M. DECIGA-CAMPOS. *SEPI, Escuela Superior De Medicina IPN, D.F. Mexic, CINVESTAV-IPN, CINVESTAV, Escuela Superior De Medicina IPN.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 Z22 **767.06** Metformin reverses neuropathic and post-surgical pain and spinal microglial activation specifically in male mice. K. E. INYANG*; M. BURTON; T. SZABO-PARDI; E. WENTWORTH; G. DUSSOR; T. PRICE. *Univ. of Texas At Dallas.*

3:00 Z23 **767.07** Foxp3 overexpression with microglia-targeted PLGA nanoparticles ameliorates microglia activation and spinal nerve ligation-induced neuropathic pain behavior. J. HONG*; J. SHIN; Y. YIN; H. SHIN; D. KIM. *Chungnam Natl. Univ.*

4:00 Z24 **767.08** Comparison of brain permeant and impermeant inhibitors of fatty-acid amide hydrolase (FAAH) with the opioid analgesic morphine on the development and maintenance of paclitaxel-induced neuropathic pain. R. SLIVICKI*; S. MALI; A. G. HOHMANN. *Indiana Univ.*

1:00 Z25 **767.09** ▲ Targetting mitochondrial function to reduce hyperalgesia and glial reactivity in chronic pain models. V. LAGOS RODRÍGUEZ*; L. MARTÍNEZ-PALMA; A. CASSINA; N. LAGO; P. CASSINA. *Facultad De Medicina, Univ. De La República, Facultad de Medicina,Universidad de la Republica, Inst. Pasteur Montevideo.*

2:00 Z26 **767.10** Nano-engineered drug encapsulation: A long-lasting, localised drug delivery in chronic pain treatment. O. KOPACH*; K. ZHENG; L. DONG; A. SAPELKIN; N. VOITENKO; G. SUKHORUKOV; D. A. RUSAKOV. *UCL Inst. of Neurology, UCL Inst. of Neurol., Queen Mary Univ. of London, Queen Mary Univ. of London, Bogomoletz Inst. of Physiol.*

3:00 Z27 **767.11** ● Antisense oligonucleotides as an alternative therapeutic modality for the treatment of pain. B. FITZSIMMONS*; A. MOHAN; H. KORDASIEWICZ; E. SWAYZE. *Ionis Pharmaceuticals.*

4:00 Z28 **767.12** ● Distribution and efficacy of centrally and systemically administered antisense oligonucleotides to the dorsal root ganglia. C. MAZUR*; B. FITZSIMMONS; A. MOHAN; H. KORDASIEWICZ; E. SWAYZE. *Ionis Pharmaceuticals, Inc.*

1:00 Z29 **767.13** Intradermal gene delivery of the photosensitive chloride channel, iC++, facilitates transdermal light-mediated inhibition of post-surgical pain in rodents. C. TOWNE*; S. KHAN; C. DISCENZA; S. MCCORMACK; M. CHEN; T. GALFIN; M. KAPLITT. *Circuit Therapeut. Inc.*

2:00 Z30 **767.14** Peripheral sensory ganglion, an extra gate for controlling nociceptive transmission. X. DU*; H. HAO; H. ZHANG; N. GAMPER. *Hebei Med. Univ., Hebei Med. Univ., Univ. Leeds.*

3:00 Z31 **767.15** Pain control through selective chemo-axotomy of centrally-projecting TRPV1+ sensory neurons. M. R. SAPIO*; J. K. NEUBERT; D. M. LAPAGLIA; S. J. RAITHEL; R. M. CAUDLE; J. D. HEISS; A. J. MANNES; M. J. IADAROLA. *NIH, Natl. Inst. of Health, Clin. Ctr., Univ. Florida, UFCD, Natl. Inst. of Health, NINDS.*

4:00 Z32 **767.16** Reversal of long-established neuropathic pain by overexpression of arginine decarboxylase. C. PETERSON*; S. J. ERB; K. PFLEPSEN; M. RIEDL; K. KITTO; M. EKBLAD; L. VULCHANOVA; G. L. WILCOX; C. A. FAIRBANKS. *Univ. of Minnesota, Univ. of Minnesota Twin Cities, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota Dept. of Neurosci., Univ. Minnesota Med. Sch., Univ. Minnesota.*

1:00 AA1 **767.17** Protective actions of a novel mesenchymal stem cell population in a rat model of diabetic neuropathy: Do soluble adhesion molecules play a role? S. OLIVEIRA; I. F. TAVARES*; A. CAMPOS; S. J. ELLIMAN; T. O'BRIEN. *Fac. of Med. of the Univ. of Porto, i3S-Instituto de Investigação e Inovação em Saúde, Univ. do Porto, Orbsen Therapeut. Ltd., Regenerative Med. Inst. (REMEDI) and Biosci. Building, Natl. Univ. of Ireland, Dept. of Medicine, Galway Univ. Hosp. (GUH).*

2:00 AA2 **767.18** Intrathecal umbilical cord mesenchymal stem cell exosome for nerve injury-induced pain in rats. J. CHENG*; S. SHIUE. *Mackay Mem. Hosp.*

3:00 AA3 **767.19** ● Spinal inhibition of p38 MAP kinase α isoform with novel antisense oligonucleotides alleviates neuropathic pain in male but not female mice. X. LUO*; B. FITZSIMMONS; A. MOHAN; H. KORDASIEWICZ; R. JI. *Duke Univ., Ionis Pharmaceuticals.*

4:00 AA4 **767.20** ▲ Effect of sodium valproate treatment on neuropathic pain, depression and anxiety associated with experimental diabetes. B. B. SOTOMAIOR*; M. A. DA SILVA; F. F. SCARANTE; D. D. B. REDIVO; C. H. A. JESUS; J. M. ZANOVELI; J. M. CUNHA. *Federal Univ. Of Paraná.*

1:00 AA5 **767.21** Neuromodulation via Electroacupuncture and auricular stimulation protects chemotherapy induced neuropathic pain and neuroinflammation in male and female mice. S. BANG*; Y. D. HUH; R. JI. *Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*

2:00 AA6 **767.22** High frequency spinal cord stimulation attenuates spared nerve injury-induced neuropathic pain through differential modification of MAPK activity. C. LIN*; C. WU. *Kaohsiung Chang Gung Mem. Hosp. and Chang Gung Univ. Col. of Medi.*

3:00 AA7 **767.23** Effect of low level laser therapy on painful behavior in rats with chronic constriction injury. M. OLIVEIRA*. *Univ. of Sao Paulo.*

4:00 AA8 **767.24** Endogenous regulation of recombinant genes expression by NFκB-responsive elements. S. JERGOVA; A. CHTARTO; A. LANJEWAR; A. R. NIEDECKEN; J. SAGEN*. *Univ. Miami,Sch Med., Lab. of Exptl. Neurosurg. and Multidisciplinary Res. Inst.*

1:00 AA9 **767.25** ● Changes in extracellular potassium concentration ($[K^+]$) during kilohertz frequency spinal cord stimulation (KHF-SCS). N. D. TITUS*; N. D. CROSBY; W. M. GRILL. *Duke Univ., Duke Univ.*

2:00 AA10 **767.26** ● Disruption of nNOS-NOS1AP protein-protein interactions reduces noxious stimulus-evoked Fos expression in lumbar dorsal horn and attenuates inflammatory and neuropathic pain in rodents. L. M. CAREY*, IV; W. LEE; L. LI; Y. Y. LAI; M. J. COURTNEY; A. G. HOHMANN. *Indiana Univ., Indiana University, Bloomington, Indiana University, Bloomington, Indiana Univ. Bloomington, Univ. of Turku, Univ. of Turku, Indiana University, Bloomington, Indiana University, Bloomington.*

3:00 AA11 **767.27** Antinociceptive activity of Dysphania graveolens in mice. M. DECIGA-CAMPOS*; R. MATA; I. RIVERO CRUZ. *SEPI, Escuela Superior De Medicina IPN, UNAM.*

4:00 AA12 **767.28** ● Pharmacological validation of a human, pain-relevant high throughput assay. M. KARLSSON; S. LARDELL; C. NODIN; A. KARLSSON; J. PIHL*; P. KARILA. *Cellectricon AB.*

Wed. PM

• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 AA13 **767.29** Study of sigma-1 receptor topology using APEX2 peroxidase and electron microscopy. T. A. MAVLYUTOV*; X. CHEN; L. GUO; J. YANG. *Univ. of Wisconsin, Ohio State Univ.*

2:00 AA14 **767.30** Antinociceptive and anti-inflammatory effect of the aerial parts of Oenothera rosea in mice and phytochemical screening. R. VARGAS-RUIZ*; J. E. ROA-CORIA; A. ZAMILPA-ALVAREZ; M. L. HERRERA-RUIZ; R. M. MONTIEL-RUIZ; J. A. RUPERTO*. *Inst. Politécnico Nacional, Inst. Politécnico Nacional, Inst. Mexicano del Seguro Social.*

**POSTER**

**768. Visceral and Musculoskeletal Pain**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 AA15 **768.01** The role of artemin in bone pain. S. NENCINI*; J. THAI; J. J. IVANUSIC. *Univ. Of Melbourne.*

2:00 AA16 **768.02** Neonatal reprogramming of miRNA-19a negatively regulates GRK6 expression in adult rats with visceral hypersensitivity. Y. ZHOU; G. XU*. *Affiliated Hosp. of Nantong Univ., Soochow Univ.*

3:00 AA17 **768.03** Chronic comorbid visceral hypersensitivity induced by stress is mediated by peripheral CRF receptors in female rats. Y. JI; B. HU; J. LI; D. DESSEM; S. G. DORSEY; R. J. TRAUB*. *Univ. of Maryland Sch. of Dent., Univ. of Maryland, Univ. of Maryland Sch. of Nursing.*

4:00 AA18 **768.04** Transcranial direct current stimulation and heat pain sensitivity in older adults with knee osteoarthritis pain: A double-blind, randomized, sham-controlled pilot clinical study. H. AHN*; A. J. WOODS; E. CHOI; R. B. FILLINGIM. *Univ. of Texas Hlth. Sci. Ctr. Houston, Univ. of Florida, Epic Hlth. Services, Univ. of Florida.*

1:00 AA19 **768.05** CGRP expression is associated with chronic pain following Escherichia coli infection. A. VICENTE-SANCHEZ*; R. E. YAGGIE; R. J. MILLER; D. J. KLUMPP. *Northwestern Univ., Northwestern Univ. - Chicago.*

2:00 AA20 **768.06** Increased pain related behaviors and cardiovascular responses to exercise after ischemia and reperfusion injuries are regulated by enhanced GDNF dependent signaling in muscle afferents. L. F. QUEME COBAR*; E. C. PURVIS; A. A. WEYLER; J. L. ROSS; R. C. HUDGINS; M. P. JANKOWSKI. *Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati Col. of Med.*

3:00 AA21 **768.07** Neonatal hyperalgesic priming is regulated by macrophage dependent sequestering of peripheral growth hormone. Z. K. FORD*; X. LIU; R. C. HUDGINS; M. P. JANKOWSKI. *Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati.*

4:00 AA22 **768.08** Stress-induced mechanical allodynia, bladder hypersensitivity, and anhedonia in an anxiety-prone mouse strain. P. WU*; X. YANG; D. E. WRIGHT; J. A. CHRISTIANSON. *Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr.*

1:00 AA23 **768.09** ● Eluxadoline reverses the sensitization of mouse primary afferents to colorectal stretch. B. FENG*; T. GUO; S. J. ILHAM; L. CHEN. *Univ. of Connecticut.*

**POSTER**

**769. Somatosensation: Neural Prostheses**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 AA24 **769.01** Brain-wide analysis of the emergence of distributed infrared light representations following use of cortical sensory neuroprosthesis. J. M. KHANI*; G. NAYAR; J. PARK; I. ZEA; E. E. THOMSON; M. A. L. NICOLELIS. *Duke Univ., Duke Univ. Med. Ctr., Duke Univ., Duke Univ.*

2:00 AA25 **769.02** Optimizing multimodal sensory integration in a cortical prosthetic system. I. ZEA ARMENTA*; E. E. THOMSON; W. WINDHAM; M. A. NICOLELIS. *Duke Univ.*

3:00 AA26 **769.03** Simultaneous tactile and proprioceptive feedback in myo-controlled hand prostheses using intraneural electrical stimulation. E. D'ANNA*; G. VALLE; I. STRAUSS; J. PATTON; F. M. PETRINI; S. RASPOPOVIC; G. GRANATA; R. DI IORIO; T. STIEGLITZ; P. ROSSINI; S. MICERA. *EPFL, The Biorobotics Institute, Scuola Superiore Sant'Anna, Inst. of Neurology, Catholic Univ. of The Sacred Heart, Policlinic A. Gemelli Fndn., Univ. of Freiburg.*

4:00 AA27 **769.04** ● Probing proprioceptive map modifications induced by peripheral nerve stimulation. T. N. HEARN*; J. C. TANNER; C. K. OVERSTREET; J. CHENG; E. W. KEEFER, III; S. I. HELMS TILLERY. *Arizona State Univ., Nerves Inc.*

1:00 AA28 **769.05** ● Median nerve stimulation via a fast-life array elicits a timing dependent graded response in primary somatosensory cortex area 3b. J. C. TANNER*; T. HEARN; S. HELMS TILLERY; E. KEEFER; J. CHENG. *Arizona State Univ., Nerves Inc.*

2:00 AA29 **769.06** Effect of cutaneous vibro-tactile stimulation of the laryngeal area on voice quality and somatosensory-motor cortical neural activities in spasmodic dysphonia. S. KHOSRAVANI*; A. MAHNAN; I. YEH; Y. ZHANG; P. WATSON; J. KONCZAK. *Univ. of Minnesota.*

**POSTER**

**770. Primary Olfactory and Taste Transduction**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 AA30 **770.01** Potential hypoactivation of odor-induced ERK and mTOR pathways in peripheral olfactory sensory neurons of Fragile X mice. D. DEBARTOLO*; L. KORSAK; M. MITCHELL; M. R. AKINS. *Drexel Univ., Drexel Univ.*

2:00 AA31 **770.02** Understanding odorant-directed changes in odorant receptor transcription. N. SHIH*; S. JIAO; L. BELLUSCIO. *NIH.*

3:00 AA32 **770.03** Odor detection and discrimination by newborn olfactory sensory neurons *in vivo.* C. E. CHEETHAM*; R. MUGGLETON; B. LIU. *Univ. of Pittsburgh, Carnegie Mellon Univ.*

4:00 AA33 **770.04** Scape microscopy reveals extensive antagonism in olfactory response to odor blends. L. XU*; W. LI; V. VOLETI; Z. PETERLIN; C. ZHANG; E. M. C. HILLMAN; S. FIRESTEIN. *Columbia Univ., Columbia Univ., Firmenich.*

1:00 AA34 **770.05** Primacy model and the evolution of the olfactory receptor repertoire. A. KOULAKOV*; H. GIAFFAR; D. R. KEPPLE; D. RINBERG. *Cold Spring Harbor Lab., Cold Spring Harbor Lab., Cold Spring Harbor Lab. Watson Sch. of Bio, New York Univ.*

2:00 AA35 **770.06** Evidence that stimulus-dependent regulation of vitamin A metabolism regulates adult neurogenesis in the olfactory epithelium. S. HÅGLIN*; A. BERGHARD; S. BOHM. *Umea Univ.*

3:00 AA36 **770.07** Active sampling of olfactory cues by motile-cilia-mediated flow. N. JURISCH-YAKSI*; C. RINGERS; I. REITEN; F. E. USLU; S. L. FORE; R. PELGRIMS; C. DIAZ VERDUGO; M. HOFFMANN; P. LAL; K. KAWAKAMI; K. PEKKAN; E. YAKSI. *Kavli Inst. For Systems Neuroscience, NTNU, Koc Univ., Natl. Inst. of Genet.*

4:00 BB1 **770.08** Effects of O-glycosylation in activity-dependent cAMP mediated olfactory signaling. S. RYU*; T. SHIM; S. KIM; B. CHO; C. MOON. *DGIST.*

1:00 BB2 **770.09** Loss of the hyperpolarization activated cyclic nucleotide gated subunit 1 causes a delay in stem cell proliferation and sensory neuron maturation in the olfactory epithelium. A. S. MOBLEY*; L. J. VERDI; A. C. HURLEY; C. A. GREER. *Western New England Univ., Western New England Universoty, Western New England Univ., Yale Univ. Sch. Med.*

2:00 BB3 **770.10** Calcium-activated chloride channels suppress odor-evoked activity in olfactory receptor neurons *in vivo*. J. D. ZAK*; J. GRIMAUD; R. LI; C. LIN; K. YAU; V. N. MURTHY. *Harvard Univ., Johns Hopkins Univ.*

3:00 BB4 **770.11** Detecting internal and external cues using MS4A chemosensors. P. L. GREER*; D. BEAR; T. TSUKAHARA; S. R. DATTA. *Harvard Med. Sch., Harvard Med. Sch., Harvard Med. Sch.*

4:00 BB5 **770.12** ▲ Destruction and recovery of the olfactory system following repeated wax plug insertion in adult zebrafish. J. J. SCHEIB; J. M. POZZUTO; C. A. BYRD-JACOBS*. *Western Michigan Univ.*

1:00 BB6 **770.13** A novel mechanism of olfactory discrimination by arrestin mediated receptor downregulation. I. K. MACKAY-CLACKETT*; D. M. MERRITT; S. KRISHNAKUMAR; C. TRAN; D. VAN DER KOOY. *Univ. of Toronto, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto.*

2:00 BB7 **770.14** Investigation of differential gene expression in mouse vomeronasal organ. K. DUYCK, 64110; V. DUTELL; L. MA*; C. R. YU. *Stowers Inst. for Med. Res., Stowers Inst. For Med. Res.*

3:00 BB8 **770.15** ▲ Determining the identity of major urinary proteins (MUPs) capable of activating specific vomeronasal sensory receptors (VSNRs) *in vitro*. J. SHERMAN; T. MORGAN; W. E. BROWN; K. SPARROW; A. KAUR*. *UNC Asheville.*

4:00 BB9 **770.16** High-throughput optical tools for discovering molecular identity from functionally-identified neuronal subtypes in mouse. D. LEE*; T. E. HOLY. *Washington Univ. In St. Louis, Washington Univ. In St. Louis.*

1:00 BB10 **770.17** Menthol decreases aversion to oral nicotine through a TRPM8 dependent mechanism. S. JABBA*; L. FAN; S. BALAKRISHNA; P. BONNER; S. R. TAYLOR; M. R. PICCIOTTO; S. E. JORDT. *Duke Univ. Hlth. Syst., Yale Univ., Duke Univ.*

2:00 BB11 **770.18** Regional variation in the response properties of mouse fungiform taste papillae. S. A. MCCAUGHEY*. *Univ. of Pennsylvania.*

**POSTER**

**771. Olfactory Coding I**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 BB12 **771.01** Gap junction coupling reduces mitral cell sensitivity to sensory input in the olfactory bulb. S. JONES*; J. ZYLBERBERG; N. SCHOPPA. *Univ. of Colorado Sch. of Med.*

2:00 BB13 **771.02** Firing pattern and current modulation in mitral cells of the main olfactory bulb by G-protein coupled receptors. P. T. AUSTIN*; Z. WANG; L. SUN; J. D. HARVEY; T. HEINBOCKEL. *Howard Univ. Col. of Med.*

3:00 BB14 **771.03** ● Voltage-gated sodium channels and NMDA receptors contribute to GABA release from granule cell spines during local reciprocal synaptic transmission in the olfactory bulb. V. RUPPRECHT*; B. ROZSA; V. EGGER. *Univ. of Regensburg, Inst.of Exptl. Med.*

4:00 BB15 **771.04** Direct comparison of odor-evoked calcium responses of identical glomeruli in the medial/lateral maps of the mouse olfactory bulb. T. SATO*; R. HOMMA; S. NAGAYAMA. *McGovern Med. Sch. At UTHealth.*

1:00 BB16 **771.05** Experience dependent plasticity in accessory olfactory bulb interneurons following male-male social interaction. H. L. CANSLER*; M. A. MAKSIMOVA; J. P. MEEKS. *Univ. of Texas Southwestern Med. Ctr.*

2:00 BB17 **771.06** *In vivo* optical dissection of glutamatergic signaling underlying odor responses of olfactory bulb output neurons. A. K. MORAN*; M. WACHOWIAK. *Univ. of Utah, Univ. of Utah.*

3:00 BB18 **771.07** Neuron-specific noradrenergic modulation between the main and accessory olfactory bulbs. R. HU*; A. L. ARAI; K. N. SCHNEIDER; R. C. ARANEDA. *Univ. of Maryland at Col. Park Dept. of Biol., Univ. of Maryland, Univ. of Maryland.*

4:00 BB19 **771.08** Regulation of basal forebrain GABAergic transmission in the olfactory bulb. P. VILLAR*; R. C. ARANEDA. *Univ. of Maryland.*

1:00 BB20 **771.09** Adult-born neurons boost odor-reward association. A. GRELAT*; L. BENOIT; S. WAGNER; C. MOIGNEU; M. ALONSO; P. LLEDO. *Lab. Perception & Mémoire, Inst. Pasteur, Ctr. Natl. de la Recherche Scientifique, UMR 3571.*

2:00 BB21 **771.10** Olfactory bulb granule cell layer interneurons have diverse firing patterns during odor evoked beta oscillations. B. L. OSINSKI*; L. M. KAY. *Univ. of Chicago, Univ. of Chicago, Univ. of Chicago.*

3:00 BB22 **771.11** Infraslow oscillations in the mouse accessory olfactory bulb. J. MOHRHARDT*; C. TSITOURA; K. WATZNAUER; S. MALINOWSKI; K. GERHOLD; M. GORIN; M. SPEHR. *RWTH Aachen, RWTH Aachen Univ.*

4:00 BB23 **771.12** Functional relevance of dual olfactory bulbs in olfactory coding. P. KURUPPATH*; L. BELLUSCIO. *Natl. Inst. of Hlth.*

1:00 BB24 **771.13** Olfactory bulb dopamine neurons may be a part of the peripheral clock that regulates olfactory circadian rhythms. K. S. KORSHUNOV*; L. J. BLAKEMORE; P. Q. TROMBLEY. *Florida State Univ., Florida State Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 BB25 **771.14** Resting state activity forms a foundation for odor-activation maps in the anesthetized rat olfactory bulb using intrinsic imaging and fMRI. J. V. VERHAGEN*; G. J. THOMPSON; B. G. SANGANAHALLI; K. L. BAKER; P. HERMAN; G. M. SHEPHERD; F. HYDER. *John B. Pierce Lab., Yale Univ., Yale Univ., Yale Univ., Yale Univ., Yale Univ.*

3:00 BB26 **771.15** Feedforward inhibition shapes *in vivo* dynamics of inhalation-linked odor responses in subpopulations of olfactory bulb neurons. S. M. SHORT*; M. WACHOWIAK. *Univ. of Utah.*

4:00 BB27 **771.16** Inhibition induced decorrelation of sensory representations in the olfactory bulb. S. GARG*; C. ASSISI. *Indian Inst. of Sci. and Educ. Res.*

1:00 CC1 **771.17** Active sniffing drives context-dependent enhancement of odor representation. R. JORDAN*; I. FUKUNAGA; M. KOLLO; A. T. SCHAEFER. *Francis Crick Inst., Univ. Col. London.*

2:00 CC2 **771.18** Defining olfactory bulb functions via comparison of input and output. D. A. STORACE*; L. B. COHEN. *Yale Univ., Korea Inst. of Sci. and Technol.*

3:00 CC3 **771.19** Imaging sensory representations in the accessory olfactory bulb during behavior. I. G. DAVISON*; Y. GAO. *Boston Univ.*

4:00 CC4 **771.20** Chemosensory tuning properties of accessory olfactory bulb external granule cells. X. ZHANG*; M. A. MAKSIMOVA; J. P. MEEKS. *UT Southwestern Med. Ctr.*

1:00 CC5 **771.21** CCKergic superficial tufted cells amplify olfactory bulb output. X. SUN; S. LIU*. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

2:00 CC6 **771.22** Mapping sensory inputs to behavior using patterned optogenetics. E. CHONG*; C. WILSON; J. KAPPEL; N. AMIN; D. RINBERG. *NYU Neurosci. Inst., New York Univ.*

3:00 CC7 **771.23** Interhemispheric connections across olfactory bulbs improve odor detection. E. YAKSI*; F. KERMEN. *Norwegian Univ. of Sci. and Technol.*

4:00 CC8 **771.24** The differential roles of mitral and middle tufted cells for signal processing in the olfactory bulb. M. MIGLIORE; F. CAVARRETTA; G. M. SHEPHERD*; K. M. IGARASHI; M. L. HINES. *Natl. Res. Council, Yale Univ. Sch. of Med., Univ. of California, Irvine.*

1:00 CC9 **771.25** Noradrenergic modulation of spontaneous and evoked activity in the accessory olfactory bulb. W. I. DOYLE*; J. P. MEEKS. *Univ. of Texas Southwestern Med. Ctr.*

2:00 CC10 **771.26** Changes in sniff frequency differentially reformat population responses among principal neurons in the olfactory bulb. T. P. EITING*; M. WACHOWIAK. *Univ. of Utah.*

3:00 CC11 **771.27** fMRI study of the role of glutamate NMDA receptor in the olfactory processing of monkeys. F. ZHAO*; M. A. HOLAHAN; X. WANG; J. M. USLANER; H. K. HOUGHTON; J. L. EVELHOCH; C. T. WINKELMANN; C. D. G. HINES. *Merck & Co.*

4:00 CC12 **771.28** Temporal features of AOB responses: Limitations and opportunities for decoding. M. YOLES-FRENKEL*; Y. BEN-SHAUL. *Hebrew Univ., Hebrew Univ.*

1:00 CC13 **771.29** Two parallel pathways for olfactory processing in the mammalian brain. H. CHAE*; A. BANERJEE; G. H. OTAZU; D. F. ALBEANU. *Cold Spring Harbor Lab.*

**POSTER**

**772. Olfactory Coding II**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 CC14 **772.01** Pruning and degenerating larval LNs regulate adult antenna lobe formation. N. LIOU*; S. LIN; Y. CHEN; C. YANG; T. WU; Y. CHEN; H. LIN; K. TSAI; T. LIN; S. YANG; Y. CHOU. *Academia Sinica.*

2:00 CC15 **772.02** Modulation of odor responses by 5-HT7 receptors in the *Drosophila* antennal lobe. Y. SUZUKI*; Q. GAUDRY. *Univ. of Maryland, Univ. of Maryland.*

3:00 CC16 **772.03** Systematic characterization of serotonin receptor-expressing local interneurons in the *Drosophila* antennal lobe. J. E. SCHENK*; Q. GAUDRY. *Univ. of Maryland.*

4:00 CC17 **772.04** An open-source model of the early olfactory system of the fruit fly and its I/O characterization. C. YEH*; A. A. LAZAR. *Columbia Univ.*

1:00 CC18 **772.05** ▲ Encoding expected versus surprising olfactory stimuli. A. B. CHEN*; L. ZHANG; B. RAMAN. *Washington Univ. In St. Louis, Washington Univ. In St. Louis.*

2:00 CC19 **772.06** Dynamic contrast enhancement and flexible odor codes. S. NIZAMPATNAM*; D. SAHA; R. CHANDAK; B. RAMAN. *Washington Univ. In St Louis, Washington Univ. In St Louis.*

3:00 CC20 **772.07** Compressed encoding of stimulus intensity in an olfactory circuit. L. ZHANG*; N. KATTA; R. CHANDAK; B. RAMAN. *Washington Univ. In St. Louis, Washington Univ. In St. Louis.*

4:00 CC21 **772.08** Spatial modulation of a serotonergic neuron in the olfactory system of *Drosophila.* X. ZHANG*; K. E. COATES; A. T. MAJOT; A. M. DACKS; Q. GAUDRY. *Univ. of Maryland, West Virginia Univ.*

1:00 CC22 **772.09** ● ▲ Functional implications of connectivity in two olfactory circuits, the fruit fly and the locust. A. RAJAGOPALAN ECHAMBADI*; C. G. ASSISI. *Indian Inst. of Sci. Educ. and Res., Indian Inst. of Sci. Educ. and Res. Pune.*

2:00 CC23 **772.10** Compartmentalized modulations of sensory and interneuronal relations on early adaptation in *C. elegans.* K. ASHIDA*; H. SHIDARA; K. HOTTA; K. OKA. *Keio Univ., Hokkaido Univ., Keio Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**773. Olfactory Processing II**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 CC24 **773.01** Functional analysis of an inhibitory microcircuit in the *Drosophila* mushroom body calyx. M. F. BRILL*; P. RANFT; G. TAVOSANIS; D. BOCK; G. C. TURNER. *Janelia Res. Campus, HHMI, German Ctr. for Neurodegenerative Dis. (DZNE).*

2:00 CC25 **773.02** Randomness versus order in the mushroom body of *Drosophila melanogaster.* Z. ZHENG*; J. S. LAURITZEN; M. NICHOLS; C. FISHER; N. SHARIFI; S. CALLE-SCHULER; L. KMECOVA; J. ALI; D. BOCK. *HHMI Janelia Res. Campus.*

3:00 CC26 **773.03** Global or local? Role of a nonspiking neuron in sparse coding in the locust olfactory system. S. RAY*; T. LI; N. GUPTA; M. A. STOPFER. *NICHD/NIH, Indian Inst. of Technol. Kanpur, NIH.*

4:00 CC27 **773.04** Feature extraction by an olfactory system. Z. N. ALDWORTH*; M. A. STOPFER. *NIH-NICHD.*

1:00 CC28 **773.05** Role of corticofugal feedback in the processing of social signals by the accessory olfactory bulb. L. OBOTI*; T. TRAN; M. GOODRICH; J. CORBIN. *Children's Natl. Hlth. Syst.*

2:00 CC29 **773.06** In human ApoE4 homozygotes, olfactory decline is observed already in middle-age. J. OLOFSSON*; M. LARSSON; S. NORDIN; M. JOSEFSSON. *Stockholm Univ., Stockholm Univ., Umeå Univ., Umeå Univ.*

3:00 CC30 **773.07** High-throughput mapping of olfactory bulb projections across the brain. Y. CHEN*; J. M. KEBSCHULL; W. BAST; A. KOULAKOV; A. M. ZADOR; D. F. ALBEANU. *Cold Spring Harbor Lab., Cold Spring Harbor Lab., Cold Spring Harbor Lab.*

4:00 CC31 **773.08** Task related representations in the cortical-bulbar feedback. P. GARCIA DA SILVA*; C. VELASQUEZ; G. VARGOVA; H. CHAE; P. GUPTA; B. REBOUILLAT; D. F. ALBEANU. *Champalimaud Fndn., Cold Spring Harbor Lab., Inst. of Neuroimmunology, Slovak Acad. of Sci., ENS Cachan.*

1:00 CC32 **773.09** Correlated functional convergence of olfactory glomeruli onto higher-order neurons. J. M. JEANNE*; M. FISEK; R. I. WILSON. *Harvard Med. Sch.*

2:00 CC33 **773.10** Piriform cortex excitatory output implements concentration-invariant odor identification. K. A. BOLDING*; K. M. FRANKS. *Duke Univ.*

3:00 DD1 **773.11** Implementation and characterization of semilunar and superficial pyramidal cells in a biophysical model of piriform cortex. F. CAVARRETTA*; C. LINSTER; T. A. CLELAND. *Cornell Univ., Cornell Univ.*

4:00 DD2 **773.12** Various functions of inhibitory microcircuits in the zebrafish homolog of olfactory cortex. T. FRANK*; N. M. MOENIG; K. KAWAKAMI; S. HIGASHIJIMA; R. W. FRIEDRICH. *Friedrich Miescher Inst., Natl. Inst. of Genet., Ctr. for Integrative Biosci.*

1:00 DD3 **773.13** Viral mapping of projections between higher olfactory brain areas in zebrafish. C. SATOU*; R. NEVE; R. W. FRIEDRICH. *Friedrich Miescher Inst. For Biomed. Resear, MIT.*

2:00 DD4 **773.14** Odor-driven modulation of olfactory perception by basal forebrain nuclei. M. MÜLLER*; I. SCHWARZ; M. K. SCHWARZ; M. FUHRMANN. *German Ctr. For Neurodegenerative Dis. DZNE, Med. School, Univ. of Bonn.*

3:00 DD5 **773.15** Feedforward and feedback information carried by distinct oscillatory frequencies in the olfactory system. S. CHAKRABORTY*; S. GAUTAM; W. L. SHEW. *Univ. of Arkansas, Univ. of Arkansas Fayetteville.*

4:00 DD6 **773.16** State-dependent olfactory information processing. M. SCHRECK*; L. ZHANG; A. H. MOBERLY; K. A. WHITE; D. W. WESSON; M. MA. *Univ. of Pennsylvania, Univ. of Florida.*

1:00 DD7 **773.17** Using data-driven models to predict network attributes in the rat olfactory system. C. LY*; A. K. BARREIRO; S. GAUTAM; W. L. SHEW. *Virginia Commonwealth Univ., Southern Methodist Univ., Univ. of Arkansas, Univ. of Arkansas Fayetteville.*

2:00 DD8 **773.18** Structured features in the connectivity between olfactory sensory regions. H. GIAFFAR*; D. RINBERG; A. KOULAKOV. *Cold Spring Harbor Lab. Watson Sch. of Bio, New York Univ., Cold Spring Harbor Lab.*

3:00 DD9 **773.19** A framework for robust sensory processing based on sparse independent representations of inputs. R. RAJ; D. DAHLEN; C. R. YU*. *Stowers Inst. for Med. Res., Stowers Inst. For Med. Res.*

4:00 DD10 **773.20** Scaling principles of non-stereotypic circuits. S. SRINIVASAN*; C. F. STEVENS. *Salk Inst. and KIBM, UCSD.*

**POSTER**

**774. Color and Contrast**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 DD11 **774.01** A supervised approach to understanding human color constancy for naturalistic scenes. V. SINGH*; B. HEASLY; N. COTTARIS; D. H. BRAINARD; J. BURGE. *Univ. of Pennsylvania.*

2:00 DD12 **774.02** Decoding hue and luminance with magnetoencephalography. I. ROSENTHAL*; K. L. HERMANN; C. VONDER HAAR; D. PANTAZIS; B. R. CONWAY. *NIH NEI, Wellesley Col., MIT, Natl. Inst. of Hlth. Office of Intramural.*

3:00 DD13 **774.03** Representation of object colors across the cerebral cortex: Combined fMRI and single-unit recording in macaque monkey. B. R. CONWAY*; T. HAILE; S. EASTMAN; S. RATNASIGNAM; J. FULLER-DEETS; K. BOHON. *Natl. Inst. of Hlth. Office of Intramural.*

4:00 DD14 **774.04** Representation dissimilarity analysis of cortical responses to color stimuli. I. KURIKI*; W. MAEMURA; K. MATSUMIYA; S. SHIOIRI. *Tohoku Univ.*

1:00 DD15 **774.05** Nonlinear spike timing in NHP V1 correlates with brightness effects in humans. N. BRUNET; H. RIEIRO; J. CUI; S. MARTINEZ-CONDE; S. L. MACKNIK*. *SUNY Downstate Med. Ctr., Univ. de Vigo, Univ. of Toronto, State Univ. of New York Downstate Med. Ctr., SUNY Downstate Med. Ctr. Col. of Med.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 DD16 **774.06** Topographic maps of chromatic coding in mouse primary visual cortex. I. RHIM*; G. COELLO-REYES; I. NAUHAUS. *The Univ. of Texas At Austin, The Univ. of Texas at Austin, The Univ. of Texas at Austin.*

3:00 DD17 **774.07** Contrast adaptation in the mouse primary visual cortex is altered by optogenetic stimulation of parvalbumin and somatostatin expressing interneurons. J. KING*; A. C. KORGAN; N. A. CROWDER. *Dalhousie Univ.*

4:00 DD18 **774.08** Neurophysiology and computation of human visual recognition under high dynamic range (HDR) luminance. C. P. HUNG*; A. V. HARRISON; A. J. WALKER; M. WEI; B. D. VAUGHAN. *US Army Res. Lab., Georgetown Univ. Med. Ctr., US Army Res. Lab., DCS Corp.*

1:00 DD19 **774.09** Altered sensitivity to naturalistic image statistics in amblyopia. G. M. LEE*; L. E. HALLUM; N. J. MAJAJ; L. KIORPES; J. A. MOVSHON. *New York Univ.*

2:00 DD20 **774.10** Probing contrast sensitivity and adaptation in the head-fixed mouse. M. J. WELLS*; P. ZATKA-HAAS; K. D. HARRIS; M. CARANDINI. *Univ. Col. London.*

3:00 DD21 **774.11** A unified model for sensitivity to intensity distributions and local features in visual textures. J. D. VICTOR*; J. W. BUSH; C. F. CHUBB; M. M. CONTE. *Weill Cornell Med. Col., Univ. of Waterloo, Univ. of California, Irvine.*

4:00 DD22 **774.12** Characteristics of alternation between overlapping visual surface representations. C. HAN; T. OOI; Z. HE*. *The Ohio State Univ., Univ. of Louisville.*

1:00 DD23 **774.13** Hierarchical processing for perceptual grouping revealed by decoded BOLD signals. C. CHEN*; Y. LIN. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ.*

2:00 DD24 **774.14** Change blindness: Is v1 actually blind ? A. EDADAN*; W. ZUIDERBAAN; A. FRACASSO; S. O. DUMOULIN. *Utrecht Univ., Spinoza Ctr. for Neuroimaging, Dept. of Radiology, Univ. Med. Ctr., Exptl. and Applied Psychology, VU Univ.*

3:00 DD25 **774.15** The dynamics of top-down modulation in human visual cortex. K. N. KAY*; J. WINAWER; J. ZHOU; M. SERTEL; D. YOSHOR; M. BEAUCHAMP. *Univ. of Minnesota Twin Cities, New York Univ., Baylor Col. of Med.*

**POSTER**

**775. Cross-Modal Processing: Neural Circuitry and Development**

***Theme D: Sensory Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 DD26 **775.01** Plastic changes in sensory cortices induced by fear conditioning. G. TASAKA; M. YAMASHITA; Y. IDE; Y. SAKAI; T. AIHARA*. *Tamagawa Univ., Tamagawa Univ., Tamagawa Univ.*

2:00 DD27 **775.02** ▲ Circuit interactions to shape multisensory processing. J. BASU*; A. HAIRSTON; S. SUNDAR; R. ZEMLA; M. DUFOUR. *Neurosci. Institute, New York Univ. Sch.*

3:00 DD28 **775.03** Auditory and visual cortices represent sensory and non-sensory task elements in a multisensory 2-choice detection task. P. E. MERTENS*; U. OLCESE; C. M. A. PENNARTZ; C. S. LANSINK. *Univ. of Amsterdam.*

4:00 DD29 **775.04** Multisensory integration in the primary visual cortex and association area AL of the mouse during a stimulus detection task. G. T. MEIJER*; J. S. MONTIJN; C. M. A. PENNARTZ; C. S. LANSINK. *Univ. of Amsterdam.*

1:00 DD30 **775.05** Weighting of auditory and visual cues during cross-modal stimulus detection. C. S. LANSINK*; G. T. MEIJER; T. L. DOLMAN; C. M. A. PENNARTZ. *Univ. of Amsterdam, Univ. of Amsterdam.*

2:00 DD31 **775.06** Investigation of the diversity of neurosecretory compounds released in the cerebrospinal fluid by contacting neurons. H. B. MARNAS*; F. B. QUAN; L. DJENOUNE; A. PRENDERGAST; L. DESBAN; P. BARDET; C. WYART. *INSTITUT DU CERVEAU ET DE LA MOELLE EPINIERE.*

3:00 DD32 **775.07** A mechanism for detection of cerebrospinal fluid dynamics in the spinal cord. J. R. STERNBERG*; Y. CANTAUT-BELARIF; L. DJENOUNE; L. BROSSE; L. CASTILLO; J. MCDEARMID; P. BARDET; H. OKAMOTO; P. DELMAS; A. E. PRENDERGAST; C. WYART. *Inst. Du Cerveau Et De La Moelle Epiniere (ICM), Aix Marseille Université, CNRS, CRN2M-UMR7286, Univ. of Leicester, Riken Brain Sci. Inst.*

4:00 DD33 **775.08** *In vivo* investigation of the mechanisms underlying the morphogenesis and the sensory functions of cerebrospinal fluid-contacting neurons in zebrafish. L. DESBAN*; A. PRENDERGAST; J. ROUSSEL; C. WYART; P. BARDET. *Inst. For Brain and Spinal Cord, Inst. du Cerveau et de la Moelle Épinère, Brain and Spine Inst., Inst. Cerveau Et Moelle Epiniere.*

1:00 DD34 **775.09** Cerebrospinal fluid-contacting neurons respond to pathogen invasion associated with bacterial meningitis. A. PRENDERGAST*; L. DESBAN; K. JIM; L. DJENOUNE; U. L. BÖHM; P. BARDET; A. M. VAN DER SAR; C. M. J. E. VANDENBROUCKE-GRAULS; C. WYART. *Inst. du Cerveau et de la Moelle Épinère, Inst. For Brain and Spinal Cord, VU Univ. Med. Ctr., Inst. Cerveau Et Moelle Epiniere, Inst. du Cerveau et de la Moelle Epiniere.*

2:00 DD35 **775.10** A novel transgenic tool for investigation of the claustrum and dorsal endopiriform nucleus. C. H. BERNDTSSON*; R. R. NAIR; J. S. GRIMSTVEDT; S. BLANKVOORT; A. A. ROBINSON; M. P. WITTER; C. G. KENTROS. *NTNU, Kavli Inst. for Systems Neurosci.*

3:00 DD36 **775.11** Patterned cross-modal cues evoke larger than expected multisensory enhancement. E. C. BACH*; J. W. VAUGHAN; B. E. STEIN; B. A. ROWLAND. *Wake Forest Baptist Med. Ctr.*

4:00 EE1 **775.12** Beyond simple association: How covariant cortical inputs initiate multisensory development in the midbrain. B. A. ROWLAND*; B. E. STEIN; M. URSINO; C. CUPPINI. *Wake Forest Sch. of Med., Univ. of Bologna.*

1:00 EE2 **775.13** Cross-modal exposure during anesthesia reverses lesion-induced hemianopia. H. JIANG*; B. A. ROWLAND; B. E. STEIN. *Wake Forest Sch. Med., Wake Forest Sch. Med., Wake Forest Sch. Med.*

2:00 EE3 **775.14** Multisensory integration enhances response reliability. A. S. DAKOS*; T. R. STANFORD; B. E. STEIN; B. A. ROWLAND. *Wake Forest Sch. of Med.*

3:00 EE4 **775.15** ● A computational reinterpretation of the canonical cortical circuit. H. YAMAKAWA*; N. ARAKAWA; K. TAKAHASHI. *Dwango, Whole Brain Architecture Initiative, Dwango, RIKEN, Keio Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

4:00 EE5 **775.16** Monosynaptic connections between auditory and visual areas in the marmoset monkey. M. G. ROSA*; P. MAJKA; Y. TAKAHASHI; K. H. WORTHY; M. K. LIN; I. H. WOLKOWICZ; A. S. TOLPYGO; S. BAI; B. HUO; J. M. CHAN; E. SASAKI; D. H. RESER; H. OKANO; P. P. MITRA. *Monash Univ., Nencki Inst. of Exptl. Biol., Rikan Brain Sci. Inst., Monash Univ., Cold Spring Harbor Lab., Central Inst. For Exptl. Animals, Monash Univ., Keio Univ. Sch. of Med.*

1:00 EE6 **775.17** Different nuclei of the basal forebrain projects in a distinct manner to the contralateral sensory and prefrontal cortices in mice. I. CHAVES-COIRA*; M. RODRIGO-ANGULO; A. NUNEZ. *Univ. Autonoma Madrid, UAM, Univ. Autonoma De Madrid.*

1:00 DP06/EE7 **775.18** (Dynamic Poster) Network properties of multisensory integration in the developing optic tectum. T. L. S. TRUSZKOWSKI*; O. A. CARRILLO; J. L. BLEIER; S. COHEN; C. D. AIZENMAN. *Brown Univ.*

3:00 EE8 **775.19** Somatosensory-auditory interactions in auditory thalamus. M. LOHSE*; J. DAHMEN; V. M. BAJO; E. MANN; A. J. KING. *Univ. of Oxford.*

4:00 EE9 **775.20** Neural circuit genetics of the claustrum 1: Anatomy. Y. YOSHIHARA*; S. MITSUI; M. SHIOZAKI; H. HAMANAKA; J. P. JOHANSEN; R. MIZUGUCHI. *Brain Sci. Inst. RIKEN.*

1:00 EE10 **775.21** Neural circuit genetics of the claustrum 2: slice physiology. A. AJIMA*; M. SHIOZAKI; Y. YOSHIHARA. *Lab. for Neurobio. of Synapse, RIKEN BSI.*

2:00 EE11 **775.22** Neural circuit genetics of the claustrum 3: *In vivo* physiology. K. NARIKIYO*; M. SHIOZAKI; Y. YOSHIHARA. *RIKEN Brain Sci. Inst.*

3:00 EE12 **775.23** Loss of early sensory experience alters the dendritic morphology of supragranular pyramidal neurons in primary sensory cortices. T. MACHARADZE*; F. OHL; H. SCHEICH; E. BUDINGER; J. HENSCHKE. *Tbilisi State Univ., Leibniz Inst. for Neurobio., Ctr. for Behavioral Brain Sci., Leibniz Inst. for Neurobio.*

4:00 EE13 **775.24** Multisensory integration in the neocortex of the naked mole-rat (Heterocephalus glaber). B. W. CAIN*; D. K. SARKO. *Southern Illinois Univ. Sch. of Med., Southern Illinois Univ. (SIU).*

1:00 EE14 **775.25** Afferent connections of the primary somatosensory cortex of the mouse for contextual and multisensory processing. I. O. MASSE*; S. BLANCHET-GODBOUT; G. BRONCHTI; D. BOIRE. *UQTR.*

2:00 EE15 **775.26** Behavioral and neurophysiological approach of audiovisual integration and integration-induced illusion in rodent. Y. ITO*; R. SATO; T. FURUYAMA; S. HIRYU; K. I. KOBAYASI. *Doshisha Univ., JST PREST.*

3:00 EE16 **775.27** Cross-modal interactions in thalamo-thalamic reticular interconnectvivity. K. PAUL*; D. A. LLANO. *Univ. of Illinois at Urbana-Champaign.*

4:00 EE17 **775.28** Local and long-range input to layer 1 of somatosensory cortex. J. LEDDEROSE*; T. A. ZOLNIK; B. J. EICKHOLT; M. E. LARKUM; R. N. SACHDEV. *Charité Universitätsmedizin Berlin.*

**POSTER**

## 776. Brain Computer Interface: Implementations and Methods

***Theme E: Motor Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 EE18 **776.01** ECoG neural signal decoding using Markov switching linear model for upper limb trajectories reconstruction: Toward a brain computer interface clinical trial. T. AKSENOVA*; M. SCHAEFFER; A. ELISEYEV; T. COSTECALDE; S. COKGUNGOR; C. MESTAIS; G. CHARVET; A. BENABID. *CEA, LETI, CLINATEC.*

2:00 EE19 **776.02** EEG-controlled functional electrical stimulation (FES) for hand opening and closing in subjects with chronic complete cervical spinal cord injury. N. W. PRINS*; K. GANT; S. GUERRA; B. A. PARKS; L. ZIMMERMAN; A. PRASAD. *Univ. of Miami, Univ. of Miami, Univ. of Miami, Univ. of Michigan, Univ. of Miami.*

3:00 EE20 **776.03** Closed-loop functional electrical stimulation for upper limb rehabilitation following stroke and SCI. E. HODKIN*; I. GLOVER; Y. LEI; J. HUMBY; S. CHOUDHURY; H. KUMAR; M. A. PEREZ; H. RODGERS; A. JACKSON. *Newcastle Univ., Univ. of Miami, Inst. of Neurosciences, Kolkata.*

4:00 EE21 **776.04** ● The EEG-based communication support system using motor imagery with closed eyes. N. YAMAWAKI*. *Kinki Univ.*

1:00 EE22 **776.05** A robotic therapy system for hand function rehabilitation in children with unilateral cerebral palsy. R. L. HOLLINGSHEAD*; S. GIRDLER; C. ELLIOTT; D. G. KAMPER; T. TAN. *Curtin Univ., Curtin Univ., North Carolina State University/ Univ. of Nor.*

2:00 EE23 **776.06** Boosting the online performance of a noninvasive brain-computer interface in a continuous tracking task through real time EEG source estimation. B. J. EDELMAN*; E. NAGARAJAN; C. ZURN; C. C. CLINE; B. HE. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

3:00 EE24 **776.07** ▲ Simulating random eye-movement in a P300- based brain-computer interface. K. N. SHUBERT*; M. R. KELLICUT-JONES; S. A. CHAMBERS; D. B. RYAN; E. W. SELLERS. *East Tennessee State Univ., James H. Qullien VAMC.*

4:00 EE25 **776.08** A transfer learning approach towards zero-training bci for eeg-based two dimensional cursor control. S. BORHANI*; R. ABIRI; X. ZHAO; Y. JIANG. *Univ. of Tennessee, Univ. of Kentucky Chandler Med. Ctr.*

1:00 EE26 **776.09** Location and graspable tools as stimuli in a P300-based brain computer interface. M. R. KELLICUT-JONES*; A. J. GARDNER, 37601; T. J. WILEY; A. N. KAZMARK; E. W. SELLERS. *East Tennessee State Univ., East Tennessee State Univ.*

2:00 EE27 **776.10** ● Ionically conductive materials for low-cost EEG phantom heads. M. MCBREARTY*; M. NONTE; W. HAIRSTON. *DCS Corp., US Army Res. Lab.*

3:00 EE28 **776.11** Characterization of EEG motion artifacts using a novel motion platform. M. NONTE*; W. HAIRSTON; M. MCBREARTY. *DCS Corp., US Army Res. Lab.*

4:00 EE29 **776.12** Assessing factors that influence BCI performance. J. R. MCDANIEL*; A. MARATHE; W. D. HAIRSTON; S. M. GORDON. *DCS Corp, U.S. Army Res. Lab.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
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* Indicates abstract's submitting author

1:00 FF1 **776.13** Use of a phantom head model for EEG motion noise quantification. W. HAIRSTON*; M. W. NONTE; M. J. MCBREARTY. *US Army Res. Lab., DCS Corp.*

2:00 FF2 **776.14** ● Multi-ring focused electrical stimulator. M. M. ISLAM*; Q. MENG; K. DEMMERLE; X. DU; E. HONG; F. CHOA. *UMBC, Maryland Psychiatric Res. Ctr., Maryland Psychiatric Res. Ctr.*

3:00 FF3 **776.15** EEG-based brain-computer interface (BCI) access to Tobii Dynavox Communicator 5. T. M. VAUGHAN*; C. S. CARMACK; D. J. MCFARLAND; K. A. GOSMANOVA, 12208; D. GOLDBERG; D. M. ZEITLIN; B. ZOLTAN; J. R. WOLPAW. *Wadsworth Ctr, NYS Dept Hlth., Wadsworth Ctr., Wadsworth Center, NYS Dept of Hlth., Tobii Dynavox, Helen Hayes Rehabil. Hosptial, Wadsworth Center, NY State Dept. of Hlth.*

4:00 FF4 **776.16** Long-term training with non-invasive brain machine-interfaces and locomotion promotes neurological improvement in patients with chronic complete paraplegia: A pilot clinical trial. S. SHOKUR*; A. DONATI; M. NICOLELIS. *Associacao Alberto Santos Dumont para Apoio à Pesq, Associação de Assistência à Criança Deficiente, Edmond and Lily Safra Intl. Inst. of Neuroscience, Santos Dumont Inst., Duke Univ., Duke Univ., Duke Univ.*

1:00 FF5 **776.17** Controlling high-complexity robotic swarms with low-complexity eeg brain-machine interfaces. G. H. CANAL*; Y. DIAZ-MERCADO; M. EGERSTEDT; C. J. ROZELL. *Georgia Inst. of Technol.*

2:00 FF6 **776.18** Longitudinal eeg correlates of bci performance variations in people with amyotrophic lateral sclerosis. S. M. HECKMAN*; Y. SHAHRIARI; T. M. VAUGHAN; D. M. ZEITLIN; L. M. MCCANE; C. S. CARMACK; J. R. WOLPAW; B. Z. ALLISON; D. J. KRUSIENSKI. *Wadsworth Center, NY State Dept. Hlth., Univ. of Rhode Island, Old Dominion Univ., Helen Hayes Hosp., Stratton VA Med. Ctr., UCSD.*

3:00 FF7 **776.19** Drowsiness and performance in a brain-computer interface for communication. T. MEMMOTT*; B. EDDY; O. F. CHESLEY; B. S. OKEN; D. ERDOGMUS; M. FRIED-OKEN. *Oregon Hlth. & Sci. Univ., Northeastern Univ.*

4:00 FF8 **776.20** Decoding of muscle contraction level from EEG signals using dimensionality-reduction based regression. M. HAYASHI*; S. TSUCHIMOTO; N. MIZUGUCHI; S. KASUGA; J. USHIBA. *Keio Univ., Keio Univ., JSPS Res. Fellow.*

1:00 FF9 **776.21** ▲ Melding mind and machine: Robot navigation using a wireless brain-computer interface device. A. GORESHNIK*; B. T. SMITH; M. L. SCHIMMEL; Y. YU; L. A. GABEL. *Lafayette Col., Lafayette Col., Lafayette Col., Lafayette Col.*

**POSTER**

## 777. Neural Representations and Brain Machine Interface (BMI)

***Theme E: Motor Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 FF10 **777.01** Motor cortex spiking and local field potentials (LFP) during a reaching task in common marmosets (Callithrix jacchus). R. MYLAVARAPU*; N. W. PRINS; S. DEBNATH; A. CASTRO; S. GENG; E. A. POHLMEYER; J. C. SANCHEZ; A. PRASAD. *Univ. of Miami, Univ. of Miami, Univ. of Miami, Univ. of Miami, Johns Hopkins Univ., DARPA, Univ. of Miami.*

2:00 FF11 **777.02** Reward-induced changes of neural activity in the primary motor cortex toward an autonomously updating brain-machine interface. J. AN*; V. S. A. TARIGOPPULA; T. YADAV; J. T. FRANCIS. *Univ. of Houston, SUNY Downstate Med. Ctr.*

3:00 FF12 **777.03** High-gamma activity in primary somatosensory cortex is mainly induced by sensory feedback. S. RYUN*; J. KIM; E. JEON; C. CHUNG. *Seoul Natl. Univ., Seoul Nat Univ., Seoul Natl. Univ.*

4:00 FF13 **777.04** Sleep dependent processing after neuroprosthetic learning. T. GULATI*; D. B. SILVERSMITH; L. GUO; D. RAMANATHAN; K. GANGULY. *San Francisco VA Med. Center/ UCSF, Univ. of California San Francisco, UCSF, Univ. of California San Francisco, UCSF.*

1:00 FF14 **777.05** An analysis of contributions of spike waveforms to the 300 - 1000 Hz spiking band. S. R. NASON*; C. S. NU; A. J. BULLARD; P. G. PATIL; C. A. CHESTEK. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

2:00 FF15 **777.06** Why learning can be difficult? A brain-machine interface study with a tetraplegic human. S. SAKELLARIDI*; V. N. CHRISTOPOULOS; T. AFLALO; K. W. PEJSA; E. ROSARIO; D. S. OUELLETTE; N. POURATIAN; R. A. ANDERSEN. *Caltech, Caltech, Caltech, Casa Colina Hosp. and Centers For Healthcare, Univ. of California Los Angeles.*

3:00 FF16 **777.07** Decoding neural data to predict locomotion with intracortical and epidural arrays. M. K. JANTZ*; P. M. TOSTADO; A. A. KINKHABWALA; F. O. BARROSO; E. PEI; M. C. TRESCH; L. E. MILLER. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Shirley Ryan AbilityLab.*

4:00 FF17 **777.08** A neuroscience toolbox for the wired and wireless acquisition and real-time processing of extracellular electrophysiological recordings. P. THOMPSON*; M. A. LEBEDEV; M. A. L. NICOLELIS. *Duke Univ.*

1:00 FF18 **777.09** Motor, somatosensory and visual areas encode self-motion in rhesus monkeys. S. RAJANGAM*; N. ADELL-MILL; P. THOMPSON; M. LEBEDEV; M. NICOLELIS. *Duke Univ., Univ. Pompeu Fabra.*

2:00 FF19 **777.10** "Mirror neurons" in the primary motor cortex are highly dependent on behavioral context. Y. BYUN*; A. RAMAKRISHNAN; M. A. LEBEDEV; M. A. NICOLELIS. *Duke Univ., Univ. of Pennsylvania, Duke Univ. Med. Cntr, Duke Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 FF20 **777.11** Place cells in monkey motor cortex. A. YIN*; P. TSENG; S. RAJANGAM; M. A. LEBEDEV; M. A. NICOLELIS. *Duke Univ., Duke Univ., Duke Univ., Duke Univ. Med. Cntr.*

4:00 FF21 **777.12** Brain-to-brain synchronization between monkey pairs during whole-body navigation. P. TSENG*; S. RAJANGAM; G. LEHEW; M. LEBEDEV; M. NICOLELIS. *Duke Univ.*

1:00 FF22 **777.13** Decoding hindlimb pose and locomotion state from single-unit motor cortical activity using deep neural networks in non-human primates. Y. WANG*; D. Y. XING; D. A. BORTON. *Brown Univ., Brown Univ., Dept. of Veterans Affairs, Providence Med. Center, Ctr. for Neurorestoration and Neurotechnology.*

2:00 GG1 **777.14** Single trial classification of saccade metrics using superior colliculus population activity. M. R. HEUSSER*; C. MASSOT; N. J. GANDHI. *Univ. of Pittsburgh.*

3:00 GG2 **777.15** Exploration and consolidation of neural activity patterns in large-scale cortical networks during neuroprosthetic control. V. R. ATHALYE*; F. J. SANTOS; R. M. COSTA; J. M. CARMENA. *Univ. of California, Berkeley, Champalimaud Fndn., Columbia Univ., UC Berkeley.*

4:00 GG3 **777.16** Changes in apparent preferred directions induced by brain-machine interfaces. M. ZACKSENHOUSE*; M. BENYAMINI. *Tech. IsraelInstTech.*

1:00 GG4 **777.17** High resolution micro-electrocorticographic studies of human sensorimotor cortex during finger movements. C. KUO*; T. M. BLAKELY; J. WU; K. CASIMO; D. SARMA; D. J. CALDWELL; J. A. CRONIN; K. L. COLLINS; K. E. WEAVER; J. D. WANDER; H. SUN; J. D. OLSON; R. P. RAO; J. G. OJEMANN. *Univ. of Washington, Oregon Hlth. & Sci. Univ., Univ. of Colorado.*

2:00 GG5 **777.18** Fixation duration in visual search: A complementary role in improving the brain-computer interface (BCI) system? M. WEI*; S. M. GORDON. *DCS Corp.*

1:00 DP07/GG6 **777.19** (Dynamic Poster) Validation of motor coordination and forepaw dexterity tests for use in rodent models of neurological disorders. C. S. WARD*; P. ALBELDA DE LA HAZA; S. VEERARAGAVAN; R. C. SAMACO. *Baylor Col. of Med., Jan and Dan Duncan Neurolog. Res. Inst., Baylor Col. of Med.*

4:00 GG7 **777.20** The network state of M1 L23 remains at criticality during ensemble activity reorganization over motor learning. Z. MA*; H. LIU; A. J. PETERS; T. KOMIYAMA; R. WESSEL. *Washington Univ. In St. Louis, Univ. of California San Diego.*

1:00 GG8 **777.21** A cell-assembly time series reduction of M1 population activity predicts movements. J. K. JOHNSON*; Z. MA; J. XIA; H. LIU; A. J. PETERS; T. KOMIYAMA; R. WESSEL. *Washington Univ. Physics, Univ. of California San Diego.*

2:00 GG9 **777.22** Automated closed-loop optogenetics and homecage training of mice in a center-out reach task. T. BOLLU*; N. PRASAD; S. C. WHITEHEAD; J. WALKER; R. SUBRAMANIAN; N. SHYAMKUMAR; I. COHEN; J. H. GOLDBERG. *Cornell Univ., Cornell Univ.*

3:00 GG10 **777.23** Neural correlates of increased movement variability after stroke. L. GUO*; A. HISHINUMA; D. RAMANATHAN; K. GANGULY. *UCSF, SFVAMC, SFVAMC.*

4:00 GG11 **777.24** Differential Modulation of premotor (M2) and motor (M1) cortices during early motor skill learning. T. VEUTHEY*; K. DEROSIER; K. GANGULY. *Ganguly Lab, UCSF, UCSF.*

1:00 GG12 **777.25** Corticostriatal coherence is involved in the execution of motor cortex-dependent skills. S. M. LEMKE*; D. RAMANATHAN; K. GANGULY. *Univ. of California, San Francisco, San Francisco VA Med. Ctr.*

**POSTER**

**778. Motor Systems: Molecular, Synaptic, and Cellular Mechanisms**

***Theme E: Motor Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 GG13 **778.01** Genetic dissection of locomotor neural circuits in *Drosophila melanogaster.* R. MINEGISHI*; K. FENG; B. J. DICKSON. *HHMI Janelia, Queensland Brain Institute, Univ. of Queensland.*

2:00 GG14 **778.02** Cell-type specific, activity-dependent expression of ion channel and receptor mRNAs in crustacean motor neurons. A. J. NORTHCUTT*; B. J. LANE; V. GARCIA; E. MARDER; D. J. SCHULZ. *Univ. of Missouri-Columbia, Brandeis Univ., Volen Ctr., Univ. of Missouri-Columbia.*

3:00 GG15 **778.03** PumpHCO-db: The influence of $Na^+$/$K^+$ pump on the robustness of bursting activity in half-center oscillator model. A. DOLOC-MIHU*; R. L. CALABRESE. *Emory Univ.*

4:00 GG16 **778.04** Selective expression of DREADDs in thoraco-lumbar cholinergic interneurons. K. STECINA*; X. CHEN; P. B. BHULLAR; K. ARMSTRONG; M. NAZZAL. *Univ. of Manitoba.*

1:00 GG17 **778.05** Influence of partially activated persistent inward current on the input-output properties of spinal motoneurons. H. KIM*. *Daegu Gyeongbuk Inst. of Sci. & Technol.*

2:00 GG18 **778.06** Glutamatergic synaptic currents of rat jaw-closing motoneurons during transition period from sucking to chewing. S. NAKAMURA*; K. NAKAYAMA; A. MOCHIZUKI; T. INOUE. *Dept. of Oral Physiology, Showa Univ. Sch. of Dent.*

3:00 GG19 **778.07** Chloride-mediated neurotransmission to motoneurons is excitatory at rest and inhibitory during the application of a locomotor drug cocktail. N. CHUB*; M. FALGAIROLLE; M. J. O'DONOVAN. *NINDS, NIH.*

4:00 GG20 **778.08** Characteristics of a novel recurrent excitatory spinal micro-circuit. J. CHALIF*; G. Z. MENTIS. *Columbia Univ.*

1:00 GG21 **778.09** Distinctive properties of Phox2b neurons located in the rat reticular formation dorsal to the trigeminal motor nucleus. K. NAGOYA*; S. NAKAMURA; K. IKEDA; H. ONIMARU; K. NAKAYAMA; A. MOCHIZUKI; F. SATO; A. YOSHIDA; K. KAWAKAMI; M. INOUE; T. INOUE. *Niigata Univ., Showa Univ. Sch. Dent., Hyogo Col. of Med., Showa Univ. Sch. of Med., Osaka Univ. Grad. Sch. of Dent., Jichi Med. Univ.*



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2:00 GG22 **778.10** Investigating the role of Trp channels in inspiratory burst generation in the mouse preBotzinger Complex. M. D. PICARDO*; Y. K. SUGIMURA; K. E. DORST; C. A. DEL NEGRO. *Col. of William and Mary, The Jikei Univ. Sch. of Med., Col. of William and Mary, Col. of William and Mary Dept. of Applied Sci.*

3:00 GG23 **778.11** Nav 1.6-mediated persistent sodium current is dispensable for pacemaker properties but critical for plateau potentials of the spinal locomotor network in mice. C. BROCARD*; S. ZANELLA; J. VIEMARI; L. KHALKI; F. BROCARD. *Inst. De Neurosciences De La Timone CNRS UMR 7289, Univ. Mohammed VI of health of Sciences, Casablanca, Morocco · Preclinical Sci.*

4:00 GG24 **778.12** Calpain upregulates the persistent sodium current and alters the chloride homeostasis to generate spastic hyperreflexia after spinal cord injury in neonatal rats. I. SANCHEZ*; V. PLANTIER; C. BROCARD; F. GACKIÈRE; S. LIABEUF; F. BROCARD. *UMR CNRS 7289, INSERM, Inst. de Neurosciences de la Timone UMR CNRS 7289, Neuroservice.*

1:00 GG25 **778.13** Slow inactivation of Kv1.2 potassium channels promotes non-linear firing of lumbar motoneurons and builds up locomotor outputs in neonatal rats. R. BOS*; R. M. HARRIS-WARRICK; C. BROCARD; M. BOUHADFANE; F. BROCARD. *CNRS UNR7289, Aix-Marseille Univ., Cornell Univ.*

2:00 GG26 **778.14** The potassium M-current regulates pacemaker activities in the central pattern generator for locomtion and locomotor rhythm. J. PEYRONNET-ROUX*; J. VERNEUIL; C. BROCARD; F. BROCARD. *Aix-Marseille Univ. UMR CNRS 7289.*

**POSTER**

**779. Respiratory Control**

***Theme E: Motor Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 GG27 **779.01** Phrenic motor neuron loss and morphology alterations in aged rats. M. J. FOGARTY*; T. S. OMAR; W. ZHAN; C. B. MANTILLA; G. C. SIECK. *Mayo Clin., Mayo Clin., Mayo Clin.*

2:00 GG28 **779.02** Impaired cholera toxin B uptake to phrenic motor neurons in aged rats is not activity-dependent at the neuromuscular junction. C. B. MANTILLA*; M. J. FOGARTY; M. A. GONZALEZ PORRAS; T. S. OMAR; W. ZHAN; G. C. SIECK. *Mayo Clin., Mayo Clin.*

3:00 GG29 **779.03** Diffusion tensor imaging shows brain tissue changes before and after positive airway pressure treatment in patients with obstructive sleep apnea. L. EHLERT; B. ROY; A. SAHIB; X. SONG; S. SINGH; M. TOWNSLEY; D. KANG; R. AYSOLA; E. WEN; M. WOO; R. HARPER; R. KUMAR*. *Univ. of California at Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles.*

4:00 GG30 **779.04** Adaptive control of ventilation through respiratory pacing following spinal cord injury. R. SIU*; J. J. ABBAS; B. K. HILLEN; R. JUNG. *Florida Intl. Univ., Arizona State Univ.*

1:00 DP08/GG31 **779.05** (Dynamic Poster) Chemogenetic approach in obstructive sleep apnea. V. Y. POLOTSKY*; T. FLEURY CURADO; H. PHO; K. FISHBEIN, 21224; O. DERGACHEVA; L. PHAM; E. LADENHEIM; R. SPENCER; D. S. MENDELOWITZ; A. SCHWARTZ. *Johns Hopkins Univ. Sch. of Med., NIH, GW Univ., George Washington Univ.*

2:00 GG32 **779.06** Brain regional homogeneity changes before and after positive airway pressure treatment in patients with obstructive sleep apnea. X. SONG*; B. ROY; S. SINGH; A. SAHIB; L. EHLERT; M. TOWNSLEY; D. KANG; R. AYSOLA; E. WEN; M. WOO; R. M. HARPER; R. KUMAR. *Univ. Of California At Los Angeles, Univ. of California at Los Angeles, Univ. Of California At Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles.*

3:00 GG33 **779.07** Impaired default mode network integrity in patients with obstructive sleep apnea. M. TOWNSLEY; X. SONG; B. ROY; L. EHLERT; D. KANG; R. AYSOLA; E. WEN; P. M. MACEY; M. A. WOO; R. M. HARPER*; R. KUMAR. *UCLA, UCLA, UCLA, UCLA, Univ. of California at Los Angeles.*

4:00 HH1 **779.08** Role of orexinergic neurons in the chemosensory control of breathing in a Parkinson's disease model. B. FALQUETTO*; L. M. OLIVEIRA; T. S. MOREIRA; A. C. TAKAKURA. *Univ. of Sao Paulo, Univ. of Sao Paulo.*

1:00 HH2 **779.09** ▲ Retrotrapezoid nucleous stimulation in a Parkinson disease. A. T. TAKAKURA*; S. A. FERNANDES-JUNIOR; T. S. MOREIRA. *Dept of Pharmacology, Inst. of Biomed. Science, Univ. of Sao Paulo, Univ. de São Paulo, Univ. de São Paulo.*

2:00 HH3 **779.10** Topographic neurochemical microstimulation in the midbrain periaqueductal gray elicits different vocalizations, characterized by specific patterns of muscle recruitment and representing different emotions. G. HOLSTEGE*; T. BORLOO; M. LO; P. A. SILBURN; S. SINGH; H. H. SUBRAMANIAN. *The Univ. of Queensland, Herston Qld 4006, Australia, The Univ. of Queensland, The Univ. of Queensland, The Univ. of Queensland, The Univ. of Queensland.*

3:00 HH4 **779.11** Identification of differentially expressed genes during postnatal development of rat ventral respiratory column. C. MORGADO-VALLE*; C. GONZÁLEZ-CASTILLO; E. MUÑOZ-ORTIZ; C. GUZMÁN-BRAMBILA; A. E. ROJAS-MAYORQUÍN; L. BELTRAN-PARRAZAL; D. ORTUÑO-SAHAGÚN. *Univ. Veracruzana, Tecnológico de Monterrey, Univ. de Guadalajara.*

4:00 HH5 **779.12** Central cholinergic neurotransmission and severe respiratory abnormalities in a mouse model of Dravet syndrome and SUDEP. E. BRAVO*; Y. KIM; G. B. RICHERSON. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa.*

1:00 HH6 **779.13** CO2/H+ inhibited VGAT-expressing neurons near the ventral medullary surface: Cellular properties and potential roles in chemoreception and respiratory dysfunction in a mouse model of Dravet syndrome. F. KUO*; D. K. MULKEY. *Univ. of Connecticut, Physiol. And Neurobio., Univ. Connecticut.*

2:00 HH7 **779.14** Severe postictal respiratory dysfunction in Dravet Syndrome. Y. KIM*; E. BRAVO; C. K. THIRNBECK; L. A. SMITH-MELLECKER; S. KIM; B. K. GEHLBACH; L. LAUX; D. R. NORDLI; G. B. RICHERSON. *Univ. of Iowa, Yonsei Univ. Col. of Med., Univ. of Iowa, Northwestern Univ., USC, Univ. of Iowa.*

3:00 HH8 **779.15** Kir4.1 channels in astrocytes are a novel target of the volatile anesthetic isoflurane: Implications for control of breathing. M. OU*; T. ZHU; G. DU; D. MULKEY. *UNIVERSITY OF CONNECTICUT, Sichuan Univ.*



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**POSTER**

**780. Spinal Cord and Peripheral Nerve Injury: Neurophysiology**

***Theme E: Motor Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 HH9 **780.01** Reduced cortical voluntary activation of upper-limb muscles after cervical spinal cord injury. L. CHRISTIANSEN*; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

2:00 HH10 **780.02** Modulation of cortico-cortical inputs to corticospinal neurons during voluntary activity following spinal cord injury. H. JO*; M. A. PEREZ. *Univ. of Miami.*

3:00 HH11 **780.03** Biphasic stimulation of the median nerve reduces artifacts in responses recorded from the flexor carpi radialis (FCR). A. EFTEKHAR*; L. M. MCCANE; S. M. HECKMAN; A. K. THOMPSON; J. R. WOLPAW. *Wadsworth Center, NY State Dept. of Hlth., Med. Univ. of South Carolina.*

4:00 HH12 **780.04** Impact of soleus H-reflex conditioning on soleus H-reflex and locomotor function in rats with sciatic nerve transection and regeneration. L. CHEN*; Y. CHEN; X. YANG; Y. WANG; J. WOLPAW; X. CHEN. *Wadsworth Center, NYSDOH, Stratton VA Med. Ctr.*

1:00 HH13 **780.05** Sensorimotor rhythm (SMR) activity during operant conditioning of the flexor carpi radialis (FCR) H-reflex in humans. J. R. WOLPAW*; A. EFTEKHAR; L. M. MCCANE; S. M. HECKMAN; A. K. THOMPSON. *Wadsworth Center, NY State Dept. of Hlth., Stratton VA Medican Ctr., Med. Univ. of South Carolina.*

2:00 HH14 **780.06** Operant conditioning the soleus H-reflex in a person with traumatic brain injury improves mobility. L. M. MCCANE*; S. M. HECKMAN; B. SULLIVAN; A. EFTEKHAR; J. H. BARNES; A. K. THOMPSON; J. R. WOLPAW. *Wadsworth Center, NYS Dept of Hlth., Med. Univ. of South Carolina, Stratton VA Med. Ctr.*

3:00 HH15 **780.07** Impact of soleus H-reflex up-conditioning on soleus motoneuron axon initial segment (AIS) structural properties. X. Y. CHEN*; Y. WANG; Y. CHEN; L. CHEN; J. WOLPAW. *Wadsworth Center, NYSDOH, Stratton VA Med. Ctr.*

4:00 HH16 **780.08** H-reflex down-conditioning induces activation of spinal cord extracellular signal-regulated kinase (ERK) and p38MAP kinase. Y. WANG*; L. CHEN; Y. CHEN; J. WOLPAW; X. CHEN. *Wadsworth Center, NYSDOH, Stratton VA Med. Ctr.*

1:00 HH17 **780.09** Effects of combining H-reflex conditioning and locomotor training on locomotor recovery in rats with lateral column transection: Initial study. Y. CHEN*; L. CHEN; X. YANG; Y. WANG; J. WOLPAW; X. CHEN. *Natl. Ctr. For Adaptive Neurotechnologies, Stratton VA Med. Ctr.*

2:00 HH18 **780.10** Changes in operation of postural networks in rabbits with postural functions recovered after lateral hemisection of the spinal cord. P. V. ZELENIN; V. F. LYALKA; G. N. ORLOVSKY; T. DELIAGINA*. *Karolinska Inst.*

3:00 HH19 **780.11** Muscle spasms and sustained muscle activity after spinal cord injury: Henneman's size principle and the persistent inward currents. V. CAGGIANO*; C. BELLARDITA; O. KIEHN. *IBM Res., Karolinska Institutet, Dept. of Neuroscience, Karolinska.*

4:00 HH20 **780.12** Probing injured axon connectivity after spinal cord injury. A. HUSCH*; D. A. ELLIOTT; F. BRADKE. *German Ctr. For Neurogenerative Dis. (DZNE).*

1:00 HH21 **780.13** Voluntary control of the sensorimotor rhythm affects the size of the flexor carpi radialis h-reflex. D. J. MCFARLAND*; H. CARRUTH; R. E. HAYWOOD; J. HILL; W. SARNACKI; L. M. MCCANE; J. R. WOLPAW; A. K. THOMPSON. *Wadsworth Ctr., Univ. of Glasgow, Burke Med. Res. Inst., Natl. Ctr. for Adaptive Neurotechnologies, Wadsworth Center, New York State Dept. Hlth., Natl. Ctr. for Adaptive Neurotechnologies, Wadsworth Center, NYS Dept of Hlth., Med. Univ. of South Carolina.*

2:00 HH22 **780.14** A strategy to enhance the plasticity in the targeted pathway: Operant down-conditioning of the soleus h-reflex during walking in people with chronic incomplete spinal cord injury. A. K. THOMPSON*; C. R. GILL; R. COTE; J. R. WOLPAW. *Med. Univ. of South Carolina, Med. Univ. Of South Carolina, Med. Univ. of South Carolina, Wadsworth Center, NYS Dept. of Hlth., Stratton VA Med. Ctr.*

3:00 HH23 **780.15** Operant down-conditioning of the soleus H-reflex in people after stroke. C. R. GILL*; R. L. SEGAL; W. W. FENG; A. K. THOMPSON. *Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. Of South Carolina, Med. Univ. of South Carolina.*

4:00 HH24 **780.16** Effects of the stretch amount and velocity on the amplitude and latency of the human soleus stretch reflexes. Y. MAKIHARA*; P. O. SILVA; L. ARENDT-NIELSEN; A. K. THOMPSON; N. MRACHACZ-KERSTING. *Intl. Univesity of Hlth. and Welfare, Ctr. for Sensory-Motor Interaction, Aalborg Univ., Med. Univ. of South Carolina, Aalborg Univ.*

1:00 HH25 **780.17** Crossed corticospinal facilitation between arm and trunk muscles following spinal cord injury. S. CHIOU; A. GALL; P. H. STRUTTON*. *Imperial Col. London, London Spinal Cord Injury Centre, Royal Natl. Orthopaedic Hosp.*

2:00 HH26 **780.18** ▲ Combining anodal tDCS and repetitive arm cycling increases corticospinal excitability of trunk muscles in healthy subjects. L. WANG*; G. C. HIRSZ; S. CHIOU; P. H. STRUTTON. *Imperial Col. London.*

3:00 HH27 **780.19** Exploration of the neurophysiology of direct spinal stimulation. M. K. CHARDON*; C. HECKMAN; M. D. JOHNSON; J. F. MILLER. *Northwestern Univ.*

**POSTER**

**781. Motor Neuron: Muscle Interface**

***Theme E: Motor Systems***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 HH28 **781.01** Use-dependent potentiation of voltage-gated calcium channels restores neurotransmission in nerve terminals intoxicated by botulinum neurotoxin serotype A. J. MACHAMER*; P. H. BESKE; K. M. HOFFMAN; M. R. EISEN; P. M. MCNUTT. *US Army Med. Res. Inst. of Chem. Def.*

2:00 HH29 **781.02** ● Functional characterisation of recombinant botulinum neurotoxin serotype FA. B. GRAY; G. HACKETT; K. MOORE; D. BURGIN; F. HORNBY; M. ELLIOTT; C. PERIER; M. BEARD; J. J. KRUPP*. *Ipsen, Ipsen.*



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* Indicates abstract's submitting author

3:00 HH30 **781.03** ● Preclinical characterisation of a modified recombinant botulinum neurotoxin B with improved affinity to human synaptotagmins. M. S. ELLIOTT*; J. MAIGNEL-LUDOP; C. FAVRE-GUILMARD; M. BEARD; S. PALAN; S. M. LIU; P. STENMARK; M. DONG; J. J. KRUPP. *Ipsen, Ipsen, Stockholm Univ., Boston Children's Hosp.*

4:00 HH31 **781.04** Comparison of the intrinsic excitability of human motoneurons in lower limb flexor and extensor muscles. E. KIM*; C. J. HECKMAN; J. M. WILSON. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*

1:00 HH32 **781.05** Lycium barbarum polysaccharides improves functional recovery and muscle reinnervation after prolonged denervation. G. KUMAR*; P. ASTHANA; R. C. CHANG; K. F. SO; C. H. E. MA. *City Univ. of Hong Kong, The Univ. of Hong Kong, The Univ. of Hong Kong, The Univ. of Hong Kong, City Univ. of Hong Kong.*

2:00 HH33 **781.06** ● Visualization of neuromuscular junctions in iPSC-derived disease models for pathophysiological analysis and drug screening. T. ITO*; S. TANAKA; D. SHIMOJO; M. DOYU; H. OKANO; Y. OKADA. *Aichi Med. Univ. Sch. of Med., Nagoya Univ. Grad. Sch. of Med., Keio Univ. Sch. of Med.*

3:00 HH34 **781.07** Dependence of electrically-evoked force on intramuscular electrode location. D. A. MACIAS*; A. J. BUCKMIRE; A. J. FUGLEVAND. *Univ. of Arizona, Univ. of Arizona.*

4:00 HH35 **781.08** Multielectrode stimulation to reduce fatigue associated with functional electrical stimulation. A. J. BUCKMIRE*; T. J. ARAKERI; J. P. REINHARD; A. J. FUGLEVAND. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

1:00 HH36 **781.09** A double knockout zebrafish revealed distinctive regulations of nicotinic acetylcholine receptors in slow and fast muscles. B. ZEMPO*; Y. YAMAMOTO; T. WILLIAMS; J. PARK; F. ONO. *Osaka Med. Col., NIH.*

2:00 II1 **781.10** Neuregulin-1 accelerates functional motor recovery by improving neuronal survival in mice following brachial plexus root avulsion. S. CHEN*; Z. ZHAO; Y. LUO; Y. HOU; J. LI; L. HE; L. ZHOU; W. WU. *GHMICR, Jinan Univ., Key Lab. of Biomaterials of Guangdong Higher Educ. Institutes, Dept. of Biomed. Engineering, Col. of Life Sci. and Technology, Jinan Univ., Sch. of Biomed. Science, LKS Fac. of Medicine, The Univ. of Hong Kong, State Key Lab. of Brain and Cognitive Sciences, The Univ. of Hong Kong.*

3:00 II2 **781.11** Engineering a bio-inspired, three-dimensional spinal cord-skeletal muscle soft robot. C. KAUFMAN*; C. S. LIU; C. CVETKOVIC; R. BASHIR; M. U. GILLETTE. *Univ. of Illinois, Urbana-Champaign, Univ. of Illinois, Univ. of Illinois, Univ. of Illinois.*

4:00 II3 **781.12** Hypothyroidism impairs pelvic floor reflexes involved in the micturition of female rabbits. O. SÁNCHEZ-GARCÍA; R. LÓPEZ-JUÁREZ; J. RODRÍGUEZ-CASTELÁN; D. L. CORONA-QUINTANILLA; M. MARTINEZ-GOMEZ; E. CUEVAS; F. CASTELÁN*. *Benemérita Univ. Autónoma de Puebla, Univ. Autónoma de Tlaxcala, Univ. Autónoma de Tlaxcala, Univ. Nacional Autónoma de México, Univ. Nacional Autonoma De Mexico.*

1:00 II4 **781.13** ▲ Optogenetic stimulation of giant fiber neurons in *Drosophila*: Impact on competing motivational states. E. P. WIERTELAK*; C. CAYTON; J. E. MEYERS-MANOR; A. ISMAT. *Macalester Col., Univ. of St. Thomas.*

2:00 II5 **781.14** Influence of multiparity and aging on pelvic floor reflexes involved in the micturition of female rabbits. R. LÓPEZ-JUÁREZ; D. L. CORONA-QUINTANILLA; M. I. ROMERO-ORTEGA; F. CASTELÁN; M. MARTINEZ-GOMEZ*. *Univ. Autónoma de Tlaxcala, Univ. Autónoma de Tlaxcala, Univ. of Texas at Dallas, Univ. Nacional Autonoma De Mexico, Inst. de Investigaciones Biomédicas UNAM.*

3:00 II6 **781.15** Seasonal regulation of transmitter release from amphibian neuromuscular junctions: Possible role of dynorphin-A. D. GE*. *The Univ. of Queensland.*

**POSTER**

**782. Neural Control of Social Interactions: Parental Behavior**

***Theme F: Integrative Physiology and Behavior***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 II7 **782.01** Neural basis of the variability in the behavioral response to pups in inexperienced female mice (c57bl/6). M. ALSINA*; D. OLAZÁBAL. *Facultad De Medicina.*

2:00 II8 **782.02** ▲ Oxytocin and estrogen receptor alpha levels differ in "good" and "bad" maternal rats. A. O. RIPLEY; T. C. FRUCHTERMAN; K. A. UNROE; A. FRANSSEN*. *Longwood Univ., Longwood Univ.*

3:00 II9 **782.03** Critical role of progesterone in the control of late postpartum maternal behavior. Z. GRIEB*; J. LONSTEIN. *Michigan State Univ.*

4:00 II10 **782.04** Female reproductive state influences raphe and forebrain serotonin 1A, 2A, and 2C receptor expression. E. M. VITALE*; C. L. WASHINGTON; J. S. LONSTEIN. *Michigan State Univ., Michigan State Univ., Michigan State Univ.*

1:00 II11 **782.05** ▲ The effects of clomipramine on the development of obsessive-compulsive disorder: A two-generational epigenetic model. A. CROSSMAN*; H. CABUHAY; C. M. RAGAN. *Colgate Univ., Colgate Univ., Colgate Univ.*

2:00 II12 **782.06** Estrogen withdrawal increases oxytocin in the paraventricular nucleus of the hypothalamus and alters open field behavior in Syrian hamsters. V. L. HEDGES; H. BIANCO; T. FRIENDT; C. AMARAL; C. BODIE; B. D'ANTONIO; R. LEE; L. E. BEEN*. *Northern Michigan Univ., Haverford Col.*

3:00 II13 **782.07** Maternal behavior and epigenetic regulation of the oxytocin receptor gene following induction of labor in the prairie vole (Microtus ochrogaster). A. M. PERKEYBILE*; W. M. KENKEL; J. J. CONNELLY; C. S. CARTER. *Indiana Univ., Univ. of Virginia.*

4:00 II14 **782.08** Pup-stimulated activation pf orexin neurons in the medial hypothalamus of lactating Wistar rats. J. C. BITTENCOURT*; G. B. DINIZ; P. L. CANDIDO; L. F. FELICIO; R. D. ALVISI. *Inst. Biomed. Sci. - Univ. of Sao Paulo, Ctr. for Neurosci. and Behavior, FMVZ-USP, FMVZ-USP.*

1:00 II15 **782.09** Effects of short and long-term maternal environmental enrichment on male and female offspring development and behavior. M. G. MARTINS*; C. F. R. BLANCO; G. P. OLIVEIRA; L. P. RODRIGUES; M. A. CAMPOS; S. C. G. GOEDE; S. C. PAIVA; V. FERREIRA, Jr; A. C. I. KISS. *São Paulo State University, Inst. of Biosci.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 II16 **782.10** Effects of chronic central insulin infusion during lactation on maternal behavior. A. C. KISS*; M. G. MARTINS; M. O. KLEIN; L. F. FELÍCIO; B. WOODSIDE. *Sao Paulo State University, UNESP Botucatu, Sch. of Vet. Medicine, Univ. of Sao Paulo, Ctr. for Studies in Behavioral Neurobiology, Psychology Department, Concordia Univ.*

3:00 II17 **782.11** An investigation of restricted environmental resources and threat presence on maternal responsiveness: A rodent model of variable socioeconomic status. M. H. KENT*; S. J. SCAROLA; M. BARDI; S. M. NEAL; J. R. PERDOMO-TREJO; B. THOMPSON; S. LAMBERT; K. G. LAMBERT. *Univ. of Richmond, Randolph Macon Col., Furman Univ., Univ. of Richmond.*

4:00 II18 **782.12** Anxiety during the postpartum period: examining the role of GABA in the medial prefrontal cortex. C. POST*; S. MAURER; S. SABIHI; B. LEUNER. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*

1:00 II19 **782.13** The effects of nursing demand and chronic stress on maternal behavior, stress coping strategies, and hippocampal neurogenesis during the postpartum period. R. M. DE GUZMAN*; J. L. WORKMAN. *Univ. at Albany, State Univ. of New York, Univ. at Albany State Univ. of New York.*

2:00 II20 **782.14** Severe but not moderate vitamin B12 deficiency leads to poor nesting and depressive behaviours in female mice. J. K. SINHA*; S. GHOSH; M. RAGHUNATH; S. CHAKRAVARTY; A. KUMAR. *Ctr. For Cell. and Mol. Biol. (CCMB), Natl. Inst. of Nutr. (NIN), Indian Inst. of Chem. Technol. (CSIR-IICT).*

3:00 II21 **782.15** ▲ Perinatal undernutrition: Neuronal alterations in the basolateral amygdala and the anterior cingulate related to the retrieval of offspring in the rat. M. ORTIZ*; M. REGALADO; C. TORRERO; M. SALAS. *Univ. Autónoma de México.*

4:00 II22 **782.16** effect of total maternal privation and artificial rearing on dendritic morphologyof the system in the adult male rat. A. A. ALAMO*; I. C. CAMACHO, jr; C. CORTES; I. JIMENEZ-ESTRADA; G. FLORES; J. EGUIBAR; A. I. MELO. *Inst. De Fisiología De La Benemérita Autonoma, benemerita universidad autonoma de puebla, Benemerita Univ. Autonoma de Puebla, IPN Ctr. Invst & Adv Studies, Univ. Autonoma de Puebla / Inst. de Fisiologia, Benemerita Univ. Autonoma de Puebla, Cinvestav-lab.tlax. Universidad Autónoma De Tlaxcala.*

1:00 II23 **782.17** Elevation of TLR4 signaling in paraventricular nucleus precipitates visceral hypersensitivity induced by maternal separation in mice. Y. ZHANG*; H. TANG. *Jiangsu Province Key Lab. of Anesthesiol.*

2:00 II24 **782.18** Deserted prairie vole mothers: Unaltered maternal investment but increased emotionality due to heightened brain CRF system activity. O. J. BOSCH*; T. T. POHL; I. D. NEUMANN; L. J. YOUNG. *Univ. of Regensburg, Emory Univ.*

3:00 II25 **782.19** Molecular features of maternal behaviors in the octopus. Z. WANG*; C. W. RAGSDALE. *Univ. of Chicago.*

4:00 II26 **782.20** Fatherhood alters gene expression within the MPOA. A. M. SEELKE*; J. M. BOND; D. STOLZENBERG; M. RHEMTULLA; K. L. BALES. *Univ. of California Davis, Univ. of California, Davis.*

1:00 DP09/II27 **782.21** (Dynamic Poster) Species differences in male parenting behavior: A role for prolactin? S. STAGKOURAKIS; P. WILLIAMS; S. KAKADELLIS; C. C. BROBERGER*. *Karolinska Institutet, Karolinska Institutet.*

1:00 DP10/JJ1 **782.22** (Dynamic Poster) Neural circuits governing parental behavior. A. E. AUTRY*; Z. WU; J. KOHL; N. D. RUBINSTEIN; B. I. MARIN-RODRIGUEZ; D. BAMBAH-MUKKU; C. G. DULAC. *Harvard Univ., Columbia Univ., Harvard Univ., Harvard Univ.*

3:00 JJ2 **782.23** Neocortical gene expression and connections in newborn Prairie voles raised with different parenting styles. R. T. BOTTOM*; L. A. KRUBITZER; K. J. HUFFMAN. *Univ. of California, Riverside, UC Davis, Univ. of California, Riverside.*

**POSTER**

**783. Neural Control of Social Interactions: Role of Oxytocin and Vasopressin**

***Theme F: Integrative Physiology and Behavior***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 JJ3 **783.01** Postnatal oxytocin production in mice. R. VAIDYANATHAN*; E. A. HAMMOCK. *Florida State Univ., Florida State Univ.*

2:00 JJ4 **783.02** Neural and behavioral response to oral oxytocin in pre-weaning mice. M. TABBAA*; E. A. D. HAMMOCK. *Florida State Univ.*

3:00 JJ5 **783.03** Peripheral expression of oxytocin receptors: A cross-species comparison. M. A. GREENWOOD*; E. A. HAMMOCK. *Florida State Univ., Florida State Univ.*

1:00 DP11/JJ6 **783.04** (Dynamic Poster) Offspring social behavior and thermoregulation following maternal oxytocin administration at birth. W. KENKEL*; A. M. PERKEYBILE; J. R. YEE; T. LILLARD; C. CARTER; J. CONNELLY. *Indiana Univ. Bloomington, Indiana Univ., Northeastern Univ., Univ. of Virginia, Kinsey Inst. for Res. in Sex Gender and Reproduction.*

1:00 JJ7 **783.05** ▲ Neural distribution of oxytocin receptors during development in zebra finches. M. DAVIS*; K. E. GROGAN; T. J. LIBECAP; D. L. MANEY. *Emory Univ., Emory Univ.*

2:00 JJ8 **783.06** Interaction between oxytocin signalling and social environment in the regulation of zebrafish social behavior. R. F. OLIVEIRA*; D. RIBEIRO; R. NUNES; M. TELES; S. ANBALAGAN; J. BLECHMAN; G. LEVKOWITZ. *ISPA - Inst. Universitário, Inst. Gulbenkian de Ciência, Weizmann Inst. of Sci.*

3:00 JJ9 **783.07** ▲ Effects of post-weaning social isolation & oxytocin on adult sociability. M. LAVOIE; R. TOMA; F. PHILLIPS; H. H. LOPEZ*. *Skidmore Col., Skidmore Col.*

4:00 JJ10 **783.08** Infusions of a vasopressin 1a receptor antagonist into the anterior hypothalamus decrease play in female juvenile rats. L. M. BROWN*; M. J. PAUL. *Univ. At Buffalo, Univ. At Buffalo.*

1:00 JJ11 **783.09** Light mediate the oxytocin release in mouse. P. LIAO*; J. CHEN; S. CHEN. *Natl. Taiwan Univ., Natl. Taiwan Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 JJ12 **783.10** ▲ BDNF-TrkB signaling in oxytocin neurons contributes to maternal behavior in mice. A. GUPTA*; K. MAYNARD; J. HOBBS; S. RAJPUROHIT; K. MARTINOWICH. *Lieber Inst. For Brain Develop.*

3:00 JJ13 **783.11** Peripheral methylation of macaque OXT and OXTR genes, oxytocin levels in cerebrospinal fluid, and social behavior. D. DE LEON*; S. NISHITANI; H. WALUM; K. MCCORMACK; J. ROGERS; M. WILSON; A. SMITH; L. YOUNG; M. SANCHEZ. *Emory Univ., Spelman, Baylor Col. of Med.*

4:00 JJ14 **783.12** Optogenetic excitation of neurons in the prefrontal cortex that express oxytocin receptors eliminates preference for social novelty. Y. TAN; S. M. SINGHAL; H. HILLER; D. NGUYEN; L. M. COLON-PEREZ; M. FEBO; L. WANG; K. M. CAHILL; A. D. DE KLOET; C. J. FRAZIER; E. G. KRAUSE*. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of North Texas, Univ. of Florida, Univ. of Florida.*

1:00 JJ15 **783.13** Gene expression and neural excitability of vasopressin-responsive neurons in the dorsal raphe. B. D. ROOD*; O. MALLARI; S. M. DYMECKI. *Harvard Med. Sch.*

2:00 JJ16 **783.14** Consequences of prenatal stress and SSRI exposure on social behavior in the California mouse. S. PETERSON*; J. P. CRUZ; E. MCDONALD; J. FORBES; C. SWEENEY; E. A. BECKER. *St. Joseph's Univ., Washington Univ.*

3:00 JJ17 **783.15** Sex differences in oxytocin modulation of social reward and social motivation in syrian hamsters. J. BORLAND*; L. AIANI; K. GRANTHAM; A. JOHNSON; K. J. FRANTZ; H. E. ALBERS. *Georgia State Univ. Neurosci. Inst., Georgia State Univ.*

4:00 JJ18 **783.16** The effects of oxytocin in the ventral tegmental area on cocaine conditioned place preference. G. OVERHOLTZER*; J. M. BORLAND; K. J. FRANTZ; H. E. ALBERS. *Georgia State Univ., Georgia State Univ.*

1:00 JJ19 **783.17** Robust quantification of "social personality" for male and female prairie voles (Microtus ochrogaster) under three different social conditions. T. H. AHERN*; E. LUCIBELLA; R. TUDINO; S. OLSEN. *Quinnipiac Univ.*

2:00 JJ20 **783.18** Aging-related alterations in oxytocin in paraventricular nucleus of the hypothalamus and posterior bed nucleus of the stria terminalis. A. E. PERKINS*; D. LOVELOCK; A. TOMCZIK; R. L. SPENCER; T. DEAK. *Binghamton Univ., Binghamton Univ., Univ. of Colorado Boulder, Univ. of Colorado At Boulder, Binghamton University-SUNY.*

**POSTER**

**784. Hormones and Cognition**

***Theme F: Integrative Physiology and Behavior***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 JJ21 **784.01** ● Prenatal thyroid hormone insufficiency diminishes short-term object recognition memory in Long-Evans rats. M. L. SIEG*; C. A. TOWNES; R. C. BALACHANDRAN; M. E. GILBERT; P. A. EUBIG. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, U.S. Envrn. Protection Agency.*

2:00 JJ22 **784.02** Maternal sucrose consumption has long-term effects on male offspring behavior in rats: A possible role for neurosteroids. D. J. TOBIANSKY*; K. L. SCHMIDT; R. T. ENOS; G. V. KACHKOVSKI; C. MA; R. J. TOMM; J. E. HAMDEN; S. B. FLORESCO; E. A. MURPHY; K. K. SOMA. *The Univ. of British Columbia, The Univ. of British Columbia, Simon Fraser Univ., Univ. of South Carolina, The Univ. of British Columbia.*

3:00 JJ23 **784.03** Hormonal regulation of corticotropin-releasing hormone in the peripartum period. S. ZOUBOVSKY*; J. SCHEIMANN; L. MUGLIA; J. SCHULKIN; L. J. MUGLIA. *Univ. of Cincinnati, Cincinnati Children's Hosp. Med. Ctr., Georgetown Univ. Sch. of Med.*

4:00 JJ24 **784.04** Thyroid hormone-mediated actin dynamics regulate the reopening of the sensitive period of filial imprinting in chicks. S. YAMAGUCHI*; N. AOKI; K. J. HOMMA. *Teikyo Univ.*

1:00 JJ25 **784.05** ▲ Sex-specific associative-learning deficits in adolescent rats are mediated by endogenous androgens. E. P. BAKER; K. A. LEININGER; A. K. FULLER; J. M. WESTBERRY*; K. R. ILLIG. *Univ. of St. Thomas.*

2:00 JJ26 **784.06** ▲ Sex-specific associative learning deficits in adolescent rats are mediated by endogenous androgens. E. P. BAKER; K. LEININGER; A. FULLER; J. M. WESTBERRY; K. R. ILLIG*. *Univ. of St. Thomas.*

3:00 JJ27 **784.07** Impact of pre-pubertal and adult gonadectomy on sex differences in impulsive behavior in adult rats. J. S. DARLING*; A. MEHROTRA; W. L. SMITH; J. M. DANIEL. *Tulane Univ., Tulane Univ., Tulane Univ.*

4:00 JJ28 **784.08** The combinative effects of sex, early life experience, and stress responsivity on cognitive performance in adult California mice (Peromyscus californicus). S. KHANTSIS; L. HALLGARTH; N. PALIN; E. R. GLASPER*. *Univ. of Maryland at Col. Park.*

1:00 JJ29 **784.09** Memory and anxiety-like behavior depend on estrous cycle and parity in mice. A. M. STATHOPOULOS*; J. M. JONES; A. J. TOMCHO. *Wittenberg Univ.*

2:00 JJ30 **784.10** Insulin-like growth factor I as a biomarker of vulnerability to stress. A. SANTI*; I. TORRES-ALEMAN. *Inst. Cajal.*

3:00 KK1 **784.11** ▲ Sexually dimorphic effects of chronic stress on the distribution of delta opioid receptors in the CA1 pyramidal cell dendrites in the rat hippocampus. J. M. BERMAN*; A. D. DYER; E. M. WATERS; B. S. MCEWEN; T. A. MILNER. *Weill Cornell Med., The Rockefeller Univ.*

4:00 KK2 **784.12** Oxycodone conditioned place preference redistributes mu opioid receptors within parvalbumin interneurons in the rat dentate gyrus in a sex-dependent manner. J. D. RYAN*; Y. ZHOU; J. D. GRAY; J. F. KOGAN; K. T. BEN; B. S. MCEWEN; M. J. KREEK; T. A. MILNER. *Weill Cornell Med., The Rockefeller Univ., The Rockefeller Univ.*

1:00 KK3 **784.13** Social learning is differentially affected by muscarinic acetylcholine receptor blockade in gonadally intact and ovariectomized female mice. K. S. ERVIN*; C. MAIN; W. QIU; E. CHOLERIS. *Univ. of Guelph, Univ. of British Columbia, Univ. of Guelph.*



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* Indicates abstract's submitting author

2:00 KK4 **784.14** ▲ Neuronal quantification in the hippocampus and neuroprotective effect of apicultural mixture in ovx rats. N. H. MONTES CRUZ*; P. VERGARA ARAGÓN; A. SÁNCHEZ-GARCÍA; B. MEZA-AUPART; M. F. GUTIÉRREZ RIVAS; J. L. MENDOZA-ESCALONA. *Natl. Autonomous Univ. of Mexico, instituto de neurología y neurocirugía.*

3:00 KK5 **784.15** Long term ghrelin agonist treatment and cognitive measurements in mice: Effects of genotype, age and gender. I. KADISH*; T. VAN GROEN; A. PATKI; T. R. NAGY; D. B. ALLISON. *Univ. of Alabama Birmingham, Univ. of Alabama Birmingham, Univ. of Alabama Birmingham.*

4:00 KK6 **784.16** Alterations in peripheral beta-arrestin 1 protein, testosterone, and prolactin levels during premenstrual dysphoric disorder (PMDD). K. SMITH*; A. E. ARCHIBONG; T. A. ANSAH; T. NAYYAR. *Meharry Med. Col., Meharry Med. Col.*

1:00 KK7 **784.17** ● Role of inter trial interval in object recognition task for assessing episodic memory impairment accompanying menopause. J. TADIPARTHI; V. GRANDHI; N. GANUGA; R. MEDAPATI; R. ABRAHAM; P. JAYARAJAN; V. BENADE*; R. NIROGI. *Suven Life Sci. Ltd.*

2:00 KK8 **784.18** ▲ The effect of a bee mixture in posmenopausic rats hippocampus. M. F. GUTIÉRREZ RIVAS*; P. VERGARA-ARAGÓN; A. SÁNCHEZ-GARCÍA; B. MEZA-AUPART; M. PIZARRO-RODAS. *Univ. Nacional Autónoma De México.*

3:00 KK9 **784.19** Sex-dimorphic behavioral endocrinology of corticosterone-treated BDNF val66met mice. G. H. PETTY*; J. MARROCCO; C. LE FLOCH; J. KOGAN; J. D. GRAY; I. N. KARATSOREOS; B. S. MCEWEN. *The Rockefeller Univ., Washington State Univ.*

4:00 KK10 **784.20** Aged BDNF val66met mice show behavioral impairment and sex-specific differences in metabolic and inflammatory markers. J. D. GRAY*; J. KOGAN; I. SALAS-ALLENDE; G. H. PETTY; J. MARROCCO; B. S. MCEWEN. *The Rockefeller Univ.*

1:00 KK11 **784.21** Testosterone replacement causes dose-dependent improvements in spatial memory among aged male rats. M. D. SPRITZER*; E. C. GOINS; E. C. B. JAEGER; L. E. MILLER; J. W. LOWER; D. E. MORRISON; R. A. RAMDEV. *Middlebury Col.*

2:00 KK12 **784.22** Effects of long-term testosterone deprivation and replacement on cognition and oxidative stress in middle aged male rats. D. A. SCHREIHOFER*; C. SMITH; J. G. CONTRERAS; D. METZGER; A. OPPONG-GYEBI; E. A. KASANGA; P. VANN; J. WONG; N. SUMIEN; R. L. CUNNINGHAM. *Univ. of North Texas Hlth. Sci. Ctr. At Fort Worth, Univ. of North Texas Hlth. Sci. Ctr., Univ. of North Texas Hlth. Sci. Ctr.*

3:00 KK13 **784.23** Hippocampal insulin resistance and morphological plasticity. C. A. GRILLO*; H. B. COWAN; V. A. MACHT; J. L. WOODRUFF; G. G. PIROLI; L. P. REAGAN. *Univ. of South Carolina Sch. of Med., WJB Dorn VA Med. Ctr.*

4:00 KK14 **784.24** Central insulin modulates the valuation of food cues via mesolimbic pathways. L. TIEDEMANN*; S. M. SCHMID; J. HETTEL; K. GIESEN; P. FRANCKE; C. BÜCHEL; S. BRASSEN. *Univ. Med. Ctr. Hamburg-Eppendorf, Dept. of Intrnl. Med. I.*

1:00 KK15 **784.25** Central insulin effects on food memory are mediated by insulin sensitivity and gender. S. BRASSEN*; J. HETTEL; L. TIEDEMANN; P. FRANCKE; S. M. SCHMID; C. BÜCHEL. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Hosp. Lübeck.*

2:00 KK16 **784.26** Androgen receptors negatively regulate fear memory and affect histone h2a.z expression. F. RAMZAN*; A. B. AZAM; A. B. SWIFT-GALLANT; D. A. MONKS; I. B. ZOVKIC. *Univ. of Toronto, Univ. of Toronto Mississauga, Univ. of Toronto Mississauga.*

3:00 KK17 **784.27** Physiological responses to intrasexual competition. G. OSTRANDER*; M. L. SHOUP-KNOX. *James Madison Univ., James Madison Univ.*

**POSTER**

**785. Neuroendocrine Anatomy, Physiology, and Plasticity**

***Theme F: Integrative Physiology and Behavior***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 KK18 **785.01** ▲ Elongator function in the anterior pituitary and its relevance to familial dysautonomia. J. B. WALTERS*; J. GOFFENA; L. GEORGE. *Montana State Univ. Billings.*

2:00 KK19 **785.02** Molecular characterization and mapping of thermosensitive neurons in the rat organum vasculosum laminae terminalis (OVLT). C. A. ZAELZER*; C. GIZOWSKI; E. TRUDEL; C. BOURQUE. *McGill Univ. Hlth. Ctr., Res. Inst. of the MUHC, McGill Univ.*

3:00 KK20 **785.03** Estrogen may inhibit the genesis of salt-dependent hypertension by keeping GABA from functioning as an excitatory neurotransmitter in vasopressin neurons. Y. KIM; W. KIM; X. JIN; W. JUNG; H. KANG; Y. I. KIM*. *Dept. of Physiology, Korea Univ. Col. of Med.*

4:00 KK21 **785.04** Effect of chronic salt intake on vasopressinergic magnocellular neurosecretory neurons in the supraoptic nucleus. D. LEVI*; M. PRAGER-KHOUTORSKY; C. W. BOURQUE. *Res. Inst. of the MUHC, McGill Univ.*

1:00 KK22 **785.05** A novel glial-neuronal circuit in the external zone of the median eminence regulating the hypophysiotropic TRH neurons via the endocannabinoid system. E. FARKAS; E. VARGA; A. COTE-VÉLEZ; M. MATZIARI; M. TÓTH; A. SZILVÁSY-SZABÓ; A. KÁDÁR; R. M. LECHAN; J. CHARLI; P. JOSEPH-BRAVO; C. FEKETE*. *Inst. of Exptl. Medicine, Hungarian Acad. of Sci., Inst. de Biotecnología, Univ. Nacional Autonoma de Mexico (UNAM), Xi´an Jiaotong-Liverpool Univ., Tufts Med. Ctr.*

2:00 KK23 **785.06** Progesterone receptor influence on reelin expression in cajal-retzius cells of the dentate gyrus of the hippocampus. A. J. NEWELL*; C. K. WAGNER. *Univ. At Albany, Univ. at Albany.*

3:00 KK24 **785.07** A feedback loop between PGE2- and estradiol-dependent signaling pathways supports neuroprotection of the injured brain. C. J. SALDANHA*; J. L. BROWNROUT; A. L. PEDERSEN. *American Univ., American Univ.*

4:00 KK25 **785.08** Tyrosine phosphatase IA-2 and IA-2beta affect the hypothalamo-pituitary functions through proopiomelanocortin expression. A. LAMARCA*; G. N. CARMONA; X. YANG; R. M. PREVIDE; M. ROKIC; M. M. JANJIC; M. TOMIC; T. CAI; S. STOJILKOVIC, Sr. *Natl. Inst. of Hlth., Natl. Inst. of Hlth.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 KK26 **785.09** Alpha-melanocyte stimulating hormone regulation of oxytocin neuron activity in lactation. C. H. BROWN*; R. A. AUGUSTINE. *Univ. Otago.*

2:00 KK27 **785.10** Establishment of the cell type-specific gene expression technique to study the regulatory mechanism of oxytocin release. E. CHEN*; S. LIOU; P. CHEN; C. WANG. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ. and Academia Sinica.*

3:00 KK28 **785.11** Effect of dietary salt intake on epithelial Na+ channels (ENaCs) in the hypothalamus of Dahl salt-sensitive rats. N. J. MILLS; R. TERUYAMA*. *Louisiana State Univ.*

4:00 KK29 **785.12** PACAP signaling in CNS: Distribution, cell type, regional connectivity, postsynaptic targets and behavioral implications. L. ZHANG*; V. S. HERNANDEZ; L. E. EIDEN. *Natl. Autonomous Univ. of Mexico, NIH, NIMH-IRP.*

1:00 KK30 **785.13** Brain-derived insulin-expressing neurons in the paraventricular nucleus of the hypothalamus project to the median eminence. K. KIM*; J. LEE; J. CHO; E. KIM. *DGIST.*

2:00 KK31 **785.14** ▲ Gonadectomy and caloric restriction influence neurosteroid levels in the mesocorticolimbic system of the adult male rat. A. M. KOROL*; D. J. TOBIANSKY; C. MA; J. E. HAMDEN; C. JALABERT; R. J. TOMM; K. K. SOMA. *The Univ. of British Columbia, The Univ. of British Columbia, The Univ. of British Columbia.*

3:00 KK32 **785.15** Salt loading-induced AMPA receptor plasticity requires rapid protein translation in hypothalamic magnocellular neurons. S. DI*; L. M. HARRISON; Z. JIANG; J. G. TASKER. *Tulane Univ.*

4:00 KK33 **785.16** Oxytocin receptor expressing cells are located in the ependymal cell layer of the third ventricle in the mouse. K. SHARMA*; R. GUIDRY; R. TERUYAMA. *Louisiana State Univ., Louisiana State Univ. Sch. of Med.*

1:00 KK34 **785.17** The effect of acute hyperglycemia on resting state functional connectivity networks. O. NEYMAN*; A. Z. SNYDER; A. M. ARBELAEZ; A. MITRA; T. HERSHEY; M. E. RAICHLE. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*

2:00 KK35 **785.18** Expression of Huntingtin-associated protein 1 in human gastrointestinal tract. T. LI*; N. XIN; X. GAO; Q. CAI; S. LI; X. LI. *Emory Univ. Sch. of Med., Emory Univ. school of medicine.*

3:00 KK36 **785.19** Colocalization of progesterone receptor-ir and BDNF-ir within the somatosensory cortex of postnatal rats. J. MEDINA*; C. K. WAGNER. *Univ. At Albany.*

4:00 LL1 **785.20** Withdrawn

1:00 LL2 **785.21** ▲ Effect of caspsaicin and AMG9810 in the uterine cell depelopment of female Hartley guinea pigs. H. A. TREJO*; F. LUNA; L. MARTÍNEZ-MENDIETA; D. I. LIMON; I. MARÍNEZ-GARCIA; V. ALATRISTE. *BUAP.*

2:00 LL3 **785.22** Ovarian hormones (estradiol an progesterone) modulate TRPV1 expression and cell proliferation in uterus of female Hartley guinea pig. V. ALATRISTE*; D. BAUTISTA; L. MARTÍNEZ-MENDIETA; D. I. LIMÓN; I. MRTÍNEZ-GARCIA; F. LUNA. *BUAP, BUAP.*

3:00 LL4 **785.23** Thyroid-stimulating hormone as a paracrine modulator of pituitary corticotroph function. R. M. PREVIDE*; M. M. JANJIC; M. TOMIC; M. T. NUNES; S. S. STOJILKOVIC. *NIH, Univ. of São Paulo.*

4:00 LL5 **785.24** Sexually dimorphic distribution of corticotropin-releasing factor receptor 1 (CRFR1) in the mouse hypothalamus. Z. J. ROSINGER*; J. S. JACOBSKIND; S. G. PARK; M. E. MALONE; K. SZAFRANSKA; N. J. JUSTICE; D. G. ZULOAGA. *SUNY Albany, Institue of Mol. Medicine, Univ. of Texas Hlth. Sci. Ctr.*

1:00 LL6 **785.25** Simultaneous visualization of all three kndy peptide mrnas in the same neurons of the ovine arcuate nucleus. D. T. PORTER*; R. L. GOODMAN; L. M. COOLEN; M. N. LEHMAN. *Univ. of Mississippi Med. Ctr., West Virginia Univ., Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr.*

2:00 LL7 **785.26** Distribution of LH and LHR in the CNS during high and normal levels of peripheral LH. S. BHATTA*; J. A. BLAIR; G. CASADESUS. *Kent State Univ., Kent State Univ.*

3:00 LL8 **785.27** Effects of short-day photoperiod and dietary isoflavones on the hypothalamic-pituitary-adrenal stress axis in male C57BL/6J mice. B. M. BAUMAN*; R. J. HANDA; T. J. WU. *Uniformed Services Univ., Colorado State Univ.*

4:00 LL9 **785.28** Cold stress enhances nerve growth factor activity in brown fat and testis and regulates mRNA levels of brain-derived neurotrophic factor and osteocalcin in bone and brain of mice. F. DRAGO*; C. CAMERINO; E. CONTE; A. FONZINO; K. MUSARAJ; R. CALOIERO; M. CARRATÙ; D. TRICARICO. *Dept of Biomed. and Biotechnological Sciences, Dept. of Biomed. Sci. & Human Oncology, Univ. of Bari, Italy, Dept. of Pharm. – Drug Sciences, Univ. of Bari, Italy;.*

1:00 LL10 **785.29** Mapping projection profiles of Avpr1b CA2 hippocampal neurons. S. WILLIAMS*; S. YOUNG. *NIMH, Natl. Inst. of Mental Hlth.*

2:00 LL11 **785.30** Dissecting the TRH-TSH-Thyroid axis in behaving animals. P. CAMPOS; A. GUILLOU; O. HOA; P. E. MOLLARD*. *CNRS, IGF, IGF-CNRS UMR 5203 / INSERM U1191.*

**POSTER**

**786. Sexual Differentiation**

***Theme F: Integrative Physiology and Behavior***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 LL12 **786.01** Are sex differences in the brain canalized? M. M. MCCARTHY*; S. J. YU; K. E. KIGHT; C. L. WRIGHT. *Univ. of Maryland Sch. of Med.*

2:00 LL13 **786.02** Electrophysiological properties of male and female medium spiny neuron subtypes in the nucleus accumbens core of Drd1a-tdTomato line 6 BAC transgenic mice. J. CAO; D. M. DORRIS; J. MEITZEN*. *North Carolina State Univ.*

3:00 LL14 **786.03** Sex specific accumulation, neuroendocrine, and behavioral impacts following developmental exposure to the flame retardant mixture Firemaster® 550 in Wistar rats. K. D. ROCK*; B. HORMAN; A. L. PHILLIPS; S. E. ARAMBULA; S. L. MCRITCHIE; S. WATSON; S. J. SUMNER; H. M. STAPLETON; H. B. PATISAUL. *North Carolina State Univ., Duke Univ., Univ. of North Carolina at Chapel Hill, North Carolina State Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 LL15 **786.04** Phagoptosis by microglia determines the size of the sexually dimorphic nucleus (SDN) of the POA. L. A. PICKETT*; M. M. MCCARTHY. *Univ. of Maryland Sch. of Med.*

1:00 LL16 **786.05** ▲ Perinatal BPA (Bisphenol A) has minimal effects on the volume of juvenile rat sexually dimorphic nuclei: Results from a CLARITY-BPA Consortium study. J. FUCHS; S. E. ARAMBULA; J. CAO; H. B. PATISAUL*. *North Carolina State Univ., Ctr. For Human Hlth. and the Envrn.*

2:00 LL17 **786.06** Endocannabinoid-induced phagoptosis by microglia determines a sex difference in cell genesis in developing rat amygdala. J. W. VANRYZIN*; K. J. ARGUE; M. M. MCCARTHY. *Univ. of Maryland, Baltimore, Univ. of Maryland, Baltimore.*

3:00 LL18 **786.07** No evidence for sex differences in intrinsic electrophysiological properties of nucleus accumbens core medium spiny neurons in the gonadectomized adult rat. S. PROANO*; L. KUNZ; J. MEITZEN. *North Carolina State Univ., North Carolina State Univ.*

4:00 LL19 **786.08** The influence of biological sex and early life stress on DNA Topoisomerases in the developing amygdala. A. CUARENTA*; S. L. KIGAR; A. P. KEESE; L. CHANG; V. P. BAKSHI; A. P. AUGER. *Univ. of Wisconsin.*

1:00 LL20 **786.09** Progesterone receptor is expressed in serotonergic raphe cells in neonatal mice. D. LALITSASIVIMOL*; C. K. WAGNER. *Univ. At Albany.*

2:00 LL21 **786.10** The role of microglia in mediating cerebellar sensitivity to early life peripheral inflammation. E. L. REINL*; M. PEREZ-POUCHOULEN; C. L. WRIGHT; M. M. MCCARTHY. *Univ. of Maryland Baltimore, Univ. of Maryland, SOM, Univ. of Maryland, Univ. of Maryland Sch. of Med.*

3:00 LL22 **786.11** Sex differences in juvenile social behaviors in the neurexin 1 knockout rat. K. J. ARGUE*; M. M. MCCARTHY. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

4:00 LL23 **786.12** *In vivo* magnetic resonance images reveal neuroanatomical sex differences through the application of voxel-based morphometry in C57BL/6 mice. C. E. MEYER*; F. KURTH; S. LEPORE; J. GAO; H. JOHNSONBAUGH; S. SAWIAK; A. MACKENZIE-GRAHAM. *UCLA, Univ. of Cambridge.*

1:00 LL24 **786.13** Adiponectin levels and adiponectin receptor expression are dependent on estrous cycle and regulated by estrogens. Y. LEI*; C. LI; X. LIU; F. MENG; M. GUO; X. LU. *Univ. of Texas Hlth. Sci. Ctr. at San Antonio, BMU-UTHSCSA Joint Lab. for Metabolic and Neuropsychiatric Disorders, Binzhou Med. Univ.*

2:00 LL25 **786.14** Polluted by plastic: Disruption of sex-specific gene expression in the neonate rat brain by gestational bisphenol A exposure. S. ARAMBULA*; S. M. BELCHER; H. B. PATISAUL. *North Carolina State Univ.*

3:00 LL26 **786.15** Estrous cycle-dependent sex differences in rat dorsal striatal msn excitability. J. WILLETT*; A. G. JOHNSON; O. H. PATEL; D. DORRIS; J. MEITZEN. *North Carolina State Univ., North Carolina State Univ.*

4:00 LL27 **786.16** Hippocampus-synthesized estrogen and androgen modulate deddritic spines and LTP in non-genomic manner. S. KAWATO*; M. SOMA. *Univ. of Tokyo, Teikyo Univ.*

1:00 LL28 **786.17** Sex-dependent effects of mild blast-induced traumatic brain injury on the central regulation of the neuroendocrine stress response. A. L. RUSSELL*; R. J. HANDA; J. WU. *Uniformed Services Univ., Uniformed Services Univ., Colorado State Univ., Uniformed Services Univ.*

2:00 LL29 **786.18** Src family kinase signaling mediates neuroprogesterone induction of the luteinizing hormone surge. T. CHUON*; S. ONDREJIK; P. E. MICEVYCH; K. SINCHAK. *California State University, Long Beach, David Geffen Sch. of Med. at Univ. of California, Los Angeles.*

3:00 LL30 **786.19** Estrogen signaling in pure populations of hypothalamic astrocytes across pubertal development in the female rat. M. A. MOHR*; P. E. MICEVYCH. *UCLA.*

4:00 LL31 **786.20** Male oxytocin knockout mice treated with PCP and then PPI tested have reduced c-fos activation. K. M. RODRIGUEZ*; M. E. RICH; H. K. CALDWELL. *Kent State Univ., Kent State Univ.*

1:00 LL32 **786.21** Endocannabinoid 1 receptor heterozygous mice have increased oxytocin binding in the anterior olfactory nucleus. S. K. WITCHEY*; E. M. MINTZ; H. K. CALDWELL. *Kent State Univ., Kent State Univ.*

2:00 LL33 **786.22** Vasopressin 1a receptor expression in the developing mouse brain. E. A. AULINO*; H. K. CALDWELL. *Kent State Univ.*

3:00 MM1 **786.23** Sexually diergic *in vitro* hypothalamic-pituitary-adrenal axis activity following *in vivo* continuous nicotine administration and withdrawal. M. E. RHODES*; M. A. SMAIL; C. A. WYLIE; F. L. NICHOLS; G. C. NOEL; A. Q. LE; R. T. RUBIN. *St. Vincent Col., VA Greater Los Angeles Healthcare Syst.*

4:00 MM2 **786.24** Exposure to a synthetic progestin reduces dopaminergic innervation of hippocampus in a sex-specific manner in neonates. M. LOLIER*; C. K. WAGNER. *Univ. At Albany.*

1:00 MM3 **786.25** ▲ Hypothalamic Pmch mRNA expression is altered in different states of female reproductive function. W. C. FRANKEL; D. GARCIA-GALIANO; C. F. ELIAS*. *Univ. of Michigan.*

2:00 MM4 **786.26** Sex differences in white matter development in mice: High fractional anisotropy (FA) in males during neonatal development and high FA in females during post-pubertal development. L. QIU*; D. J. FERNANDES; M. R. PALMERT; J. P. LERCH. *Hosp. For Sick Children, Mouse Imaging Ctr., Hosp. for Sick Children.*

3:00 MM5 **786.27** Sex differences in cerebral blood flow in healthy people. P. M. MACEY*; L. A. HENDERSON. *Univ. of California at Los Angeles, Univ. of Sydney.*

4:00 MM6 **786.28** Cranial irradiation induces delayed metabolic disturbances in the juvenile female rats. C. ZHU*; Y. XU; Y. SUN; T. LI; C. XIE. *Ctr. for Brain Repair and Rehabilitation, Univer, Zhengzhou Univ., Zhengzhou Univ.*

1:00 MM7 **786.29** An increase in dendritic spine density in the hippocampus and alterations of sex-dependent animal behaviors in a mouse model of hyperthyroidism. M. NODA*; Y. YOSHIOKA; Y. KITAHARA; T. SHUTO; K. OHTA; K. NAKAMURA; A. NISHI. *Grad. Sch. Pharm. Sci. Kyushu Univ., Kurume Univ. Sch. of Med., Kurume Univ. Sch. of Med.*

2:00 MM8 **786.30** Estradiol modulates hypothalamic POMC neurotransmssion. T. L. STINCIC*; O. K. RØNNEKLEIV; M. J. KELLY. *Oregon Hlth. & Sci. Univ., Oregon Natl. Primate Res. Ctr.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**787. Cellular and Endocrine Basis for the Effects of Stress on the Brain**

***Theme F: Integrative Physiology and Behavior***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 MM9 **787.01** Anxiety-associated protein expression in the choroid plexus and hippocampus in an outbred rat model. A. J. WYROBEK*; S. BHATNAGAR; T. STRAUME; L. PETERSON; B. M. RABIN. *Lawrence Berkeley Natl. Lab., NASA Ames Res. Ctr., Texas Methodist Res. Inst., Univ. Maryland Baltimore County.*

2:00 MM10 **787.02** Fisetin has antidepressant effects by activating the TrkB signal pathway in mice. Y. WANG; Z. MIAO; W. GE; X. XU*. *Soochow Univ., The Affiliated Hosp. of Xuzhou Med. Univ., Soochow Univ.*

3:00 MM11 **787.03** Mitochondrial complex I alterations in a mouse model of bipolar mania. G. N. KAPLAN*; N. K. KHATTAR; E. S. KRETZ; R. M. FRIEDLANDER; R. W. LOGAN; C. A. MCCLUNG. *Univ. of Pittsburgh, Univ. of Pittsburgh Sch. of Med.*

4:00 MM12 **787.04** Colocalization of CRF-binding protein and CRF receptors in the stress and reward pathways in male mouse brain. K. D. KETCHESIN; A. F. SEASHOLTZ*. *Univ. of Michigan, Univ. of Michigan.*

1:00 MM13 **787.05** Next-gen sequencing of TRAP/Ribotag mRNA from serotonergic raphe neurons identifies stress-sensitive gene regulation. A. J. LESIAK*; J. H. COHEN; K. COFFEY; C. I. CHAVKIN; J. F. NEUMAIER. *Univ. of Washington, Univ. of Washington, Univ. of Washington Dept. of Med., Univ. Washington.*

2:00 MM14 **787.06** Behavioral and VTA neuronal activity dose responses of acute and chronic MPD exposure in adult and adolescent rats. W. IP; C. REYES-VAZQUEZ*; N. DAFNY. *Univ. of Texas Med. Sch. at Houston, Dept. De Fisiología.*

3:00 MM15 **787.07** Investigating differentially expressed genes between posttraumatic stress disorder affected individuals and trauma exposed controls. H. M. HERHOLDT*. *Stellenbosch Univ.*

4:00 MM16 **787.08** Acute and chronic MPD exposure has a dose-response effect on PFC neurons recorded from male adult rats. S. VENKATARAMAN; C. CLAUSSEN; N. DAFNY*. *Univ. of Texas Med. Sch. at Houston.*

1:00 MM17 **787.09** Behavioral and electrophysiological MPD dose response study of the VTA and NAc in adolescent rats. E. BROUSSARD; C. REYES-VAZQUEZ; P. DASH*; N. DAFNY. *Univ. of Texas Med. Sch. at Houston, Depto. De Fisiología.*

2:00 MM18 **787.10** Age differences in behavioral and nucleus accumbens response to chronic MPD exposure. A. KABANI; C. REYES-VAZQUEZ; C. E. HULSEBOSCH*; N. DAFNY. *Univ. of Texas Hlth. Sci. Ctr. at Houston, Depto. De Fisiología, Univ. of Texas Med. Sch. at Houston.*

3:00 MM19 **787.11** Effects of acute and chronic methylphenidate exposure on behavioral and neuronal recordings from dorsal raphe nucleus in freely behaving adult and adolescent animals. R. TRAWEEK; C. REYES-VAZQUEZ; J. C. WAYMIRE*; N. DAFNY. *Univ. Texas-Houston Med. Sch., Dept. De Fisiología, Univ. of Texas Med. Sch. at Houston.*

4:00 MM20 **787.12** Non-specific and specific pre-frontal cortex impairment modulates differently the acute and chronic methylphenidate exposure. L. BATES-DUBROW; M. THOMAS; D. J. FELLEMAN*; N. DAFNY. *Univ. Texas Med. Sch., Univ. of Texas Med. Sch. at Houston.*

1:00 MM21 **787.13** Preventing the effects of stress with environmental enrichment. G. FERNANDES*; S. CHATTARJI. *Natl. Ctr. For Biol. Sci.*

2:00 MM22 **787.14** ● Blockade of GAPDH nuclear translocation in the hippocampus contributes to anti-depressant-like action in stressed mice. H. NAKAJIMA*; S. NAKAMURA; A. KITA; M. ITAKURA; C. SENAMI; M. KUWAMURA; T. HIKIDA; Y. AZUMA; T. TAKEUCHI. *Osaka Prefecture Univ., Tokyo Univ., Osaka Univ.*

3:00 NN1 **787.15** Characterization of various histone-modifying enzymes in an animal model of differential emotional temperament. S. CHAUDHURY*; P. M. MARAS; V. SHARMA; S. J. WATSON, Jr.; H. AKIL. *MBNI Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

4:00 NN2 **787.16** Genetic mechanisms of social stress responses: Gene expression following social defeat in adolescent and adult males and females. A. M. ROSENHAUER*; K. E. MCCANN; D. M. SINKIEWICZ; K. L. HUHMAN. *Georgia State Univ., Georgia State Univ.*

1:00 NN3 **787.17** TrkB inactivation in the basolateral amygdala during acute social defeat stress enhances conditioned defeat learning in $TrkB^{F616A}$ mice. L. Q. BEACH*; D. C. CHOI; K. L. HUHMAN. *Georgia State Univ.*

2:00 NN4 **787.18** Infralimbic cortical BDNF and TrkB receptor signaling modulates conditioned defeat learning in mice. D. C. CHOI*; L. Q. BEACH; K. L. HUHMAN. *GSU Neurosci. Inst., Georgia State Univ., Georgia State Univ.*

3:00 NN5 **787.19** Comparative distribution of corticotropin releasing hormone and arginine vasotocin neurons in the avian preoptic, septal and anterior hypothalamic regions: An emphasis on neuronal cell groups associated with stress. G. NAGARAJAN*; S. W. KANG; W. J. KUENZEL. *Univ. of Arkansas.*

4:00 NN6 **787.20** A septal nucleus containing CRH neurons and glia immunoreactive for the V1aR and TrkB receptor appears to be involved in the avian classical hypothalamic-pituitary-adrenal axis. W. J. KUENZEL*; G. NAGARAJAN; A. JURKEVICH; S. W. KANG. *Univ. Arkansas, Univ. of Missouri.*

1:00 NN7 **787.21** Mechanisms of stress-induced clock gene modulation in the prefrontal cortex of male rats. M. J. HARTSOCK*; N. A. DROEGER; A. C. TOMCZIK; L. E. CHUN; E. R. WOODRUFF; S. J. MORTON; R. L. SPENCER. *Univ. of Colorado Boulder.*

2:00 NN8 **787.22** Effects of short-term sleep deprivation on the hypothalamic-pituitary-adrenal axis stress response. E. A. SHUPE; S. K. MANI*; J. T. WU. *Uniformed Services Univ. of the Hlth. Sci., Baylor Col. Med.*

3:00 NN9 **787.23** Characterization of CRH-R2 signaling pathways involved in feeding behavior in the neuronal hypothalamic cell line mHypoA-2. V. ALCANTARA-ALONSO*; P. DE GORTARI; D. K. GRAMMATOPOULOS. *Inst. Nacional De Psiquiatria, Warwick Med. Sch., UHCW NHS Trust.*

4:00 NN10 **787.24** Chronic stress promotes anxiety through the upregulation of Melanin-Concentrating Hormone in the brain and physical exercise counteracts stress-induced anxiety-like phenotypes. T. KIM*; S. LEE; P. HAN. *Seoul Natl. Univ. Col. of Med., Ewha Womans Univ.*



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

1:00 NN11 **787.25** ● Effects of estrogen and corticosterone on the activity of HPA axis in female rats: Behavior and the length of telomeres. P. C. BARCELLOS-FILHO*; C. R. FRANCI. *Ribeirão Preto Sch. Med.*

2:00 NN12 **787.26** ▲ Chronic exposure to the aberrant light cycle T7 does not impair adult hippocampal neurogenesis. D. Q. PHAN*; S. HATTAR. *Johns Hopkins Univ., Johns Hopkins Univ.*

3:00 NN13 **787.27** Relevance of adult cytogenesis for behavior in female rats and the role of female hormones. P. PATRICIO*; A. MATEUS-PINHEIRO; J. S. CORREIA; E. NOVAIS; N. D. ALVES; A. R. MACHADO-SANTOS; N. SOUSA; L. PINTO. *ICVS, Univ. of Minho.*

4:00 NN14 **787.28** Characterization of CRH-expressing neurons of the mouse hippocampus. B. G. GUNN*; Y. CHEN; G. SANCHEZ; G. LYNCH; T. Z. BARAM. *Univ. of California Irvine, Univ. of California Irvine.*

1:00 NN15 **787.29** Corticosterone epigenetically regulates retrotransposon expression in C6 rat glioma cells. A. A. BARTLETT*; R. G. HUNTER, III. *Univ. of Massachusetts Boston.*

**POSTER**

**788. Reward: Dopamine, Pharmacology, and Pathophysiology**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 NN16 **788.01** The anxiolytic diazepam selectively blocks 50 kHz ultrasonic vocalizations induced in rats by amphetamine. C. DA CUNHA*; D. D. VECCHIA; R. R. K. W. SCHWARTING; D. L. ROBINSON; R. ANDREATINI; G. O. GUAITA. *Univ. Federal do Parana, Philipps-Universität Marburg, Univ. of North Carolina at Chapel Hill.*

2:00 NN17 **788.02** ● The dopamine D1 family agonist PF-142 reverses the effort-related motivational effects of the D1 receptor antagonist ecopipam. J. D. SALAMONE*; S. E. YOHN; R. KOZAK; P. GRAY; M. CORREA. *Univ. of Connecticut, Vanderbilt Univ., Pfizer, Psicobiologia. Univ. Jaume I.*

3:00 NN18 **788.03** Effort-related decision making in mice: A genetic and pharmacological study using touchscreen operant methods. R. PRESBY*; J. YANG; S. CAYER; R. ROTOLO; R. FITCH; M. CORREA; J. D. SALAMONE. *Univ. of Connecticut, Psicobiologia. Univ. Jaume I.*

4:00 NN19 **788.04** Modulation of dopamine function after different types of exercise: Impact on preference for active versus sedentary sources of reinforcement. M. CORREA*; R. OLIVARES-GARCÍA; C. CARRATALA-ROS; N. SANMIGUEL; M. CAPILLA-LOZANO; M. SARASUA DE LA BÁRCENA; P. IBAÑEZ-MARIN; L. LOPEZ-CRUZ; J. D. SALAMONE. *Psicobiologia. Univ. Jaume I, Univ. of Connecticut Dept. of Psychologi.*

1:00 NN20 **788.05** Catechol-o-methyltransferase (COMT) Val$^{158}$Met polymorphisms: Transgenic mice carrying the valine, but not methionine, allele showed reduced panel pressing in a touchscreen version of an effort-related decision making task. J. YANG*; R. PRESBY; S. CAYER; R. ROTOLO; R. FITCH; M. CORREA; J. SALAMONE. *Univ. of Connecticut, Psicobiologia. Univ. Jaume I.*

2:00 NN21 **788.06** Reversing effort-related motivational impairments with the adenosine $A_{2A}$ receptor antagonist preladenant. R. ROTOLO*; S. FERRIGNO; J. YANG; M. CORREA; J. D. SALAMONE. *Univ. of Connecticut, Psicobiologia. Univ. Jaume I.*

3:00 NN22 **788.07** Functional roles of dopaminergic neurons of the ventral tegmental area in itch signal processing. L. YUAN*; T. LIANG; Q. LI; Y. SUN. *Inst. of Neuroscience, CAS.*

4:00 NN23 **788.08** Dopamine release reflects both predictive value of a discriminative stimulus and satiety state. A. GOMEZ-A; T. A. SHNITKO; K. L. CAREF; S. M. NICOLA; D. L. ROBINSON*. *Univ. of North Carolina at Chapel Hill, Oregon Natl. Primate Res. Center, OHSU, Albert Einstein Col. of Med.*

1:00 NN24 **788.09** Impact of arousal on reward seeking in rats with disrupted dopaminergic signalling. M. KAZMIERCZAK*; S. M. NICOLA. *Albert Einstein Col. of Med., Albert Einstein Coll Med.*

2:00 NN25 **788.10** ▲ Locomotor activity induced by acute amphetamine is not changed by the administration of a scavenger of reactive oxygen species. J. A. ZEGERS*; I. M. VEGA-QUIROGA; H. E. YARUR; K. GYSLING. *Pontificia Univ. Catolica De Chile.*

3:00 NN26 **788.11** ▲ Modulation of nucleus accumbens dopamine extracellular levels induced by depolarization in adolescent rats subjected to isolation. J. A. NOVOA*; I. M. VEGA; A. C. SEGARRA; K. GYSLING. *Pontificia Univ. Catolica De Chile, Univ. of Puerto Rico.*

4:00 NN27 **788.12** A potential link between gambling addiction severity and central dopamine levels - Evidence from spontaneous eyeblink rates in pathological gamblers and controls. D. MATHAR*; A. WIEHLER; K. CHAKROUN; J. PETERS. *Univ. of Cologne, ICM - Hôpital Pitié Salpêtrière, Univ. Med. Ctr. Hamburg-Eppendorf.*

1:00 NN28 **788.13** Impact of chemogenetic inhibition of mesocorticolimbic dopamine signaling on cue-motivated behavior. S. B. OSTLUND*; B. HALBOUT; K. M. WASSUM; A. AZIZ. *UCI Sch. of Med., Univ. of California, Irvine, UCLA.*

2:00 NN29 **788.14** Disinhibition of VTA dopamine neurons drives heroin reinforcement. J. CORRE*. *UNIVERSITE DE MEDECINE.*

3:00 NN30 **788.15** Input-specific regulation of ventral tegmental area dopamine neurons via endocannabinoid signaling. D. P. COVEY*; J. CHEER. *Univ. of Maryland.*

4:00 NN31 **788.16** Corticotropin releasing factor (CRF) indirectly activates M5 receptors in the nucleus accumbens to facilitate dopamine dependent appetitive behaviors. J. C. LEMOS*; L. K. DOBBS; J. SHIN; V. A. ALVAREZ. *NIAAA/NIH.*

1:00 NN32 **788.17** ▲ Effects of dopamine receptor blocking on decision making on apis mellifera caucasica. J. ALEMÁN; J. ACEVEDO; D. LOUBRIEL; M. JOHNSON; O. NIEDZIALEK; J. L. AGOSTO*; D. OSKAY; C. I. ABRAMSON; T. GIRAY. *Univ. of Puerto Rico, Rio Piedras Campus, Dickinson Col., New York Univ., Namik Kemal Univ., Oklahoma State Univ.*



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* Indicates abstract's submitting author

**POSTER**

## 789. Motivation: Primates

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 NN33 **789.01** Revealed preferences for bundled rewards in humans. K. VOLKMANN*; A. PASTOR-BERNIER; W. SCHULTZ. *Dept. of Physiology, Univ. of Cambridge.*

2:00 OO1 **789.02** Neural correlates of revealed preference in monkeys. A. PASTOR-BERNIER*; W. SCHULTZ. *Univ. of Cambridge, Univ. Cambridge.*

3:00 OO2 **789.03** Presentation conditions of uncertain rewards modulate probability distortions in non-human primates. P. M. BUJOLD*; S. FERRARI TONIOLO; W. SCHULTZ. *Univ. of Cambridge.*

4:00 OO3 **789.04** Measuring effort disutility in non-human primates using riskless choices. M. H. BURRELL*; A. PASTOR-BERNIER; W. SCHULTZ. *Univ. of Cambridge.*

1:00 OO4 **789.05** Coding of expected utility in the macaque orbitofrontal cortex. S. FERRARI-TONIOLO*; W. SCHULTZ. *Univ. of Cambridge.*

2:00 OO5 **789.06** Primate amygdala neurons simulate decision processes of social partners. F. GRABENHORST*; R. BÁEZ-MENDOZA; W. GENEST; W. SCHULTZ. *Univ. of Cambridge, Massachusetts Gen. Hospital-Harvard Med. Sch., Univ. Cambridge.*

3:00 OO6 **789.07** Differential activations of amygdala neurons by safe-dangerous and rich-poor environmental contexts for reward-seeking behavior. K. MAEDA*; O. HIKOSAKA. *Lab. Sensorimotor Res., Natl. Eye Inst.*

4:00 OO7 **789.08** Reward-uncertainty related looking behavior and associated neuronal activity in primate dorsal striatum. J. K. WHITE*; I. E. MONOSOV. *Washington Univ. In St. Louis, Washington Univ. Sch. of Med.*

1:00 OO8 **789.09** Role of macaque anterior cingulate cortex in value-based prosocial decision-making. S. KM*; M. L. PLATT. *Univ. of Pennsylvania.*

2:00 OO9 **789.10** Pharmacological activation of the basolateral amygdala increases social dominance behavior in rhesus macaques. C. ELORETTE*; P. A. FORCELLI; L. MALKOVA. *Georgetown Univ., Georgetown Univ., Georgetown Univ. Med. Ctr.*

3:00 OO10 **789.11** Microstimulation-recording experiments demonstrate that striosomes in non-human primate control spike activity in the lateral habenula. S. HONG*; S. AMEMORI; E. CHUNG; K. AMEMORI; A. GRAYBIEL. *MIT.*

4:00 OO11 **789.12** Context-dependent reward coding in primary sensory and motor cortices of non-human primates. Y. ZHAO*; J. HESSBURG; A. TARIGOPPULA; J. FRANCIS. *SUNY Downstate Med. Ctr.*

1:00 DP12/OO12 **789.13** (Dynamic Poster) The effects of atomoxetine on motivation in macaque monkeys. M. KUSI*; L. T. THURSTON; C. CRANDELL; M. PARÉ. *Queen's Univ.*

**POSTER**

## 790. Circuits Underlying Emotional States: Amygdala

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 OO13 **790.01** Frequency-dependent changes in prefrontal cortex stimulation-induced local field potentials in the adolescent rat basolateral amygdala. R. A. SELLECK*; M. A. PADIVAL; J. A. ROSENKRANZ. *Rosalind Franklin Univ.*

2:00 OO14 **790.02** Dual neural connections from amygdala to the ventromedial (BA25) and dorsomedial (BA 24, 32) prefrontal cortex suggest collateralization in a subset of projection neurons in the macaque. E. A. KELLY*; C. PFEIFER; K. SHARMA; J. L. FUDGE. *Univ. of Rochester Med. Ctr., Univ. of Rochester Med. Ctr.*

3:00 OO15 **790.03** A more complete picture of cortico-amygdala paths: Inclusion of the intermediate basal nucleus. A. C. MCHALE*; E. A. KELLY; J. L. FUDGE. *Univ. of Rochester Med. Ctr.*

4:00 OO16 **790.04** Anatomical evaluation of the efferent pathways of Central Amygdala PKCδ-expressing cells within the mouse brain. S. VALDIVIA*; D. VELASQUEZ; S. ARANGO; T. WILSON; Y. CARRASQUILLO. *Natl. Inst. of Hlth. Office of Intramural, Natl. Inst. of health, Natl. Inst. of health.*

1:00 OO17 **790.05** Pathways for emotion and memory: Amygdalar projection to the hippocampus in primates. J. WANG*; H. BARBAS. *Boston Univ.*

2:00 OO18 **790.06** pBLA to vCA1 inputs modulate anxiety- and depression-related behaviors. D. GAO*; J. WANG. *Hua Zhong Univ. of Sci. and Technol., Hua Zhong Univ. of Sci. and Technol.*

3:00 OO19 **790.07** Neural circuits underlying NPY-mediated resilience. A. P. MIRANDA*; W. F. COLMERS; J. H. URBAN. *Univ. of Alberta, Chicago Med. Sch/Rosalind Franklin Univ. Med. & Sci.*

4:00 OO20 **790.08** Dendritic retraction of principal neurons and up-regulation of autophagic pathways in the BLA of NPY-induced stress resilient rats. M. BOMPOLAKI*; W. F. COLMERS; J. H. URBAN. *Rosalind Franklin Univ. of Med. and Sci., Univ. Alberta, Chicago Med. Sch/Rosalind Franklin Univ. Med. & Sci.*

1:00 OO21 **790.09** Neurotensin differentially modulates positive and negative associations in upstream basolateral amygdala circuits. P. NAMBURI*; N. HITORA-IMAMURA; A. BEYELER; G. G. CALHOON; S. R. CHOUDHURY; A. C. FELIX-ORTIZ; S. YOROZU; H. O. KING; M. BORIO; E. IZADMEHR; C. A. LEPPLA; K. YI LI; K. MCCULLOGH; J. M. GRAY; K. J. RESSLER; F. ZHANG; K. M. TYE. *MIT, Broad Inst. of MIT and Harvard, Harvard Med. Sch., Harvard Med. Sch.*

2:00 OO22 **790.10** Local interactions between projection-defined basolateral amygdala neurons change in a state-dependent manner. G. G. CALHOON*; A. K. SUTTON; A. BEYELER; G. F. GLOBER; P. NAMBURI; K. M. TYE. *MIT.*

3:00 OO23 **790.11** Anatomical organization of valence encoding cells in the basolateral amygdala. A. BEYELER*; M. SILVESTRE; C. CHANG; C. LÉVÊQUE; C. P. WILDES; P. NAMBURI; G. G. CALHOON; K. M. TYE. *Picower Insitute for Learning and Memory, MIT.*



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4:00 OO24 **790.12** Effects of GSK3B inhibition and anterior cingulate cortex stimulation on basolateral amygdala inputs into nucleus accumbens. M. K. LOH*; J. A. ROSENKRANZ. *Rosalind Franklin Univ. of Med. & Sci.*

1:00 OO25 **790.13** Neuronal oscillations in the nucleus accumbens and basolateral amygdala during social preference test and food conditioning. C. HSU*; T. E. MADSEN; E. O'GORMAN; R. HABIB; D. G. RAINNIE. *Emory Univ.*

2:00 OO26 **790.14** Serotonin gating of cortical & thalamic glutamate inputs onto principal neurons of the basolateral amygdala. J. GUO*; B. M. O'FLAHERTY; D. G. RAINNIE. *Emory Univ.*

3:00 OO27 **790.15** ● The effects of *in vitro* high-frequency electrical and optical stimulation on the basolateral amygdala. B. O'FLAHERTY*; D. G. RAINNIE. *Emory Univ.*

4:00 OO28 **790.16** Sex differences in the rat basolateral amygdala outputs to the bed nucleus stria terminalis. J. E. VANTREASE*; H. D. SAMBERG; J. H. URBAN; J. ROSENKRANZ. *Rosalind Franklin Univ. of Med. & Sci., Rosalind Franklin Univ. of Med. & Sci.*

1:00 OO29 **790.17** Optogenetic manipulations of the amygdalar pyramidal cells disrupt a distance gradient of fear in the hippocampus. M. KONG*; T. GALEN; E. KIM; J. J. KIM. *Univ. of Washington, Univ. of Washington, Univ. of Washington.*

2:00 OO30 **790.18** Dorsal periaqueductal gray-amygdala pathway mediates innate fear responses in foraging rats. E. KIM*; E. LEUNG; C. BAE; B. KIM; M. KONG; J. J. KIM. *Univ. of Washington, Univ. of Washington.*

3:00 OO31 **790.19** Ambiguous threat promotes generalization and differentially recruits cortico-amygdala regions. L. R. GLOVER*; M. NONAKA; A. F. POSTLE; A. HOLMES. *NIH, NIAAA.*

4:00 OO32 **790.20** ● Paired electrical stimulation alters connectivity and coherence in a fear regulation circuit. M. LO*; M. R. MILAD; A. S. WIDGE. *Massachusetts Gen. Hosp., Harvard Med. School, Mass. Gen. Hospital.*

1:00 OO33 **790.21** Parallel genetically-segregated extended amygdala-lateral hypothalamic circuits for opposing emotional states. W. J. GIARDINO*; A. EBAN-ROTHSCHILD; S. LI; D. J. CHRISTOFFEL; L. DE LECEA. *Stanford Univ.*

2:00 OO34 **790.22** Activation of the neuronal pathway from the bed nucleus of the stria terminalis to the central amygdala enhances anxiety-like behaviors. N. YAMAUCHI*; Y. NAGANO; D. TAKAHASHI; T. AMANO; M. MINAMI. *Grad. Sch. of Pharmaceut. Sci.*

3:00 OO35 **790.23** Topographic properties of the centromedial amygdala: Lateral prefrontal contributions and relevance to psychopathology. R. C. LAPATE*; K. HWANG; D. J. LURIE; M. A. BERTOLERO; A. TAMBINI; M. D'ESPOSITO. *Univ. of California Berkeley, Univ. of California Berkeley.*

4:00 OO36 **790.24** Voxel-level connectivity of the human amygdala in health and depression. E. T. ROLLS*; W. CHENG; J. QIU; Z. HU; Y. LI; C. HUANG; A. YANG; S. TSAI; X. ZHANG; K. ZHUANG; C. LIN; P. XIE; J. FENG. *Oxford Ctr. For Computat. Neurosci., Univ. of Warwick, Chongqing Med. Univ., Natl. Yang-Ming Univ., Southwest Univ., Taipei Veterans Gen. Hosp., Univ. of Warwick.*

**POSTER**

**791. Emotional States: Fear**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 PP1 **791.01** Effects of traumatic experience using a chasing robot during adolescence on anxiety and regulation of new fear memory in rats. J. LEE*; J. CHOI. *Korea Univ., Korea Univ.*

2:00 PP2 **791.02** Amygdala inactivation attenuates sensitizing effect of traumatic chasing stress on subsequent fear learning in rats. A. CHOI*; J. LEE; J. CHOI. *Korea Univ., Korea Univ., Korea Univ.*

3:00 PP3 **791.03** $CO_2$ inhalation increases the lability of fear memory to facilitate memory erasure or enhancement. J. DU*; M. P. PRICE; R. J. TAUGHER; Z. HOSSAIN; K. SINGH; J. MANDAL; J. A. WEMMIE; M. J. WELSH. *Univ. of Toledo, Univ. of Iowa, Intrnl. Med., Univ. of Iowa, The Univ. of Iowa, Howard Hughes Med. Inst. - Univ. of Iowa.*

4:00 PP4 **791.04** Determining the efficacy of 2-phenylethylamine and coyote urine as chemical surrogates for eliciting unconditioned and conditioned defensive behavior. C. R. OLGUIN*; G. M. MARTINEZ; S. BOUQUIN; N. PENTKOWSKI. *Univ. of New Mexico.*

1:00 PP5 **791.05** Reduction in the intensity of perineuronal nets surrounding PV cells in the BLA may contribute to hyper-excitability of the basolateral amygdala and hyper-responsiveness of weaning age rats following early life trauma. A. N. SANTIAGO*; K. Y. LIM; R. E. PERRY; M. OPENDAK; R. M. SULLIVAN; C. J. AOKI. *New York Univ., New York Univ., New York Univ. Med. Ctr., New York Univ., NKI & NYU Sch. of Med., New York Univ.*

2:00 PP6 **791.06** The role of posterior insular cortex in recall of remote fear memory. A. R. FOILB*; M. C. SARLITTO, 02467; J. P. CHRISTIANSON. *Boston Col.*

3:00 PP7 **791.07** Pulvinar modulates primary visual cortex in a laminar dependent manner during perception of fear. A. KOIZUMI*; M. ZHAN; H. BAN; I. KIDA; M. VAESSEN; B. DE GELDER; K. AMANO. *NICT, Maastricht Univ.*

4:00 PP8 **791.08** Circuit plasticity underlying fear memory expression. K. A. CUMMINGS*; R. L. CLEM. *Mount Sinai Sch. of Med.*

1:00 PP9 **791.09** Investigating the activity of medial prefrontal cortex neurons during transitions between fear and safety. S. BETZ*; T. SIGURDSSON. *Goethe-Universität.*

2:00 PP10 **791.10** Basolateral amygdala fosters rapid escape behaviour in rodents and humans. D. SCHEGGIA*; D. TERBURG; F. KLUMPERS; B. MORGAN; E. R. MONTOYA; P. A. BOS; G. GIOBELLINA; B. DE GELDER; D. J. STEIN; J. VAN HONK; R. STOOP. *CHUV, Lausanne Univ. Hosp., Utrecht Univ., Univ. of Cape Town, Radboud Univ. Nijmegen Med. Ctr., Univ. of Cape Town, Maastricht Univ., Univ. of Cape Town.*

3:00 PP11 **791.11** Role of midbrain dopamine neurons in threat discrimination. Y. JO*; L. S. ZWEIFEL. *Univ. of Washington, Univ. of Washington.*

4:00 PP12 **791.12** The relationship between the acoustic startle response and individual variation in fear extinction. A. S. RUSSO*; R. G. PARSONS. *Stony Brook Univ., Stony Brook Univ.*



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1:00 PP13 **791.13** The time course by which prior experience facilitates subsequent fear learning. R. G. PARSONS*; J. LEE. *Stony Brook Univ.*

2:00 PP14 **791.14** Response-specific sex difference in the retention of fear extinction. M. VOULO*; R. PARSONS. *Stony Brook Univ.*

3:00 PP15 **791.15** Lateral asymmetry and temporal fluctuations of amygdala functional connectivity in resting state. O. MARTYNOVA*; A. O. TETEREVA; V. BALAEV; S. I. KARTASHOV; V. L. USHAKOV; A. M. IVANITSKY. *Inst. of Higher Nervous Activity, Natl. Res. Univ. Higher Sch. of Econ., Natl. Res. Ctr. Kurchatov Inst.*

4:00 PP16 **791.16** Representational similarity analysis of hemodynamic responses to conditioned fear stimuli during extinction learning. J. GRANER*; D. STJEPANOVIC; K. S. LABAR. *Duke Univ., Duke Univ.*

1:00 PP17 **791.17** Diurnal variation in neuroplasticity-related intracellular signaling within the prefrontal cortex in response to conditioned fear extinction training. E. C. LOETZ*; N. J. TUTA; E. R. WOODRUFF; B. A. LLOYD; S. T. BLAND; R. L. SPENCER. *Univ. of Colorado Denver, Univ. of Colorado At Boulder, Univ. of Colorado Denver, Univ. of Colorado, Denver, Univ. of Colorado At Boulder.*

2:00 PP18 **791.18** Fear conditioning with a social cue in differentially housed adolescent rats: Effects on social and aggressive behaviors. L. M. DAWUD*; E. C. LOETZ; E. HOEFFKEN; B. LLOYD; R. BEAM; T. KHAN; B. N. GREENWOOD; S. T. BLAND. *Univ. of Colorado Denver, Univ. of Colorado Denver.*

3:00 PP19 **791.19** The phase classification of fear conditioning from temporal-spatial network dynamics in medial prefrontal cortex using recurrent convolutional neural network. T. CHOI*; H. LEE. *Looxidlabs.*

4:00 PP20 **791.20** The unexpected level of plasticity of the oxytocinergic system. S. GOYON*; F. ALTHAMMER; M. DA SILVA GOUVEIA; M. ELIAVA; P. POISBEAU; V. GRINEVICH; A. CHARLET. *Inst. Of Cell. and Integrative Neurosci., German Cancer Res. Ctr. DFKZ.*

1:00 PP21 **791.21** Amygdala activation to proximal objects. J. ROSÉN*; G. KASTRATI; T. WERNER; Y. LINDELL; F. ÅHS. *Dept. of Psychology.*

2:00 PP22 **791.22** Differential activation of defensive subcortical circuits during fear and anxiety: Evidence from a combined fMRI-startle EMG study. K. HILLBRANDT*; J. RICHTER; M. WEYMAR; A. KEIL; J. PFANNMÖLLER; A. O. HAMM; J. WENDT. *Univ. of Florida, Univ. of Greifswald, Univ. of Potsdam, Univ. of Greifswald.*

**POSTER**

**792. Treatment Mechanisms for Anxiety Disorders**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 PP23 **792.01** Acute exercise modulates anxiety to unpredictable threat but not fear to unpredictable threat. T. R. LAGO*; A. HSIUNG; B. LEITNER; C. DUCKWORTH; K. CHEN; C. GRILLON; M. ERNST. *NIMH, NIDDK.*

2:00 PP24 **792.02** Attention bias modification program alters how people interpret incongruent social feedback and functional brain networks. S. JUN*; Y. LIM; S. LEE; S. PARK; S. HAN. *Yonsei Univ., Integrative Neurocognitive Functional Imaging Center, Yonsei Univ., Col. of Medicine, Yonsei Univ., Cognitive Sci. Interdisciplinary Program, Yonsei Univ.*

3:00 PP25 **792.03** Positive allosteric modulation of glutamate transport: A novel therapeutic avenue for anxiety? T. PRIZON*; L. D. GODOY; M. V. B. CELANI; J. L. LIBERATO; A. C. FONTANA; W. F. SANTOS. *Univ. of São Paulo, Inst. de Neurociência e Comportamento - INeC, Drexel Univ.*

4:00 PP26 **792.04** Neural and mood-state changes with closed-loop stimulation in prefrontal areas. S. R. SANTACRUZ*; A. DE TONNAC; J. D. WALLIS; J. M. CARMENA. *Univ. of California, Berkeley, Univ. of California, Berkeley, École Polytechnique Fédérale de Lausanne, Univ. of California, Berkeley.*

1:00 PP27 **792.05** β-arrestin-biased signaling at δ-opioid receptor (δOR) as a novel therapeutic target for anxiety disorders. M. KO*; T. CHIANG; M. M. WEERA; J. A. CHESTER; R. M. VAN RIJN. *Purdue Univ., Purdue Univ., Purdue Inst. for Integrative Neurosci., Purdue Univ.*

2:00 PP28 **792.06** Effects of chronic mechanical allodynia on anxiety in the chronic constrictive nerve injury pain model. A. CHOO; S. DAVIS; A. BARBOZA; M. MANZANO; A. HU; M. OSBORNE; Q. CHANG; E. LEAHY*; T. HANANIA. *Psychogenics.*

3:00 PP29 **792.07** Enhanced emotional reactivity to optogenetic stimulation of the hippocampus in mice overexpressing the glucocorticoid receptor in forebrain. Q. WEI*; S. MOORE; F. LI; S. J. WATSON; K. DEISSEROTH; G. G. MURPHY; H. AKIL. *Mol. & Behav. Neurosci. Inst., Univ. of Mich., Stanford Univ. Dept. of Psychology.*

4:00 QQ1 **792.08** Anxiolytic activity of 3-Furan-2-yl-N-p-tolyl-acrylamide, a positive allosteric modulator of alpha-7 nicotinic receptors. N. L. FERNANDES*; K. M. TARGOWSKA-DUDA; D. MONTAG; B. BUDZYNSKA; K. JOZWIAK; G. BIALA; H. R. ARIAS. *California Northstate Univ., Med. Univ. of Lublin, Leibniz Inst. of Neurobio., Med. Univ. of Lublin.*

1:00 QQ2 **792.09** Effect of environmental enrichment on emotional, learning behavior, and hippocampus BDNF expression in Hatano rats. A. NAKAYAMA*; R. OHTA; H. OKAWA; H. ASANO; H. TOKUOKA; M. KAWAGUCHI. *Meiji Univ., Hatano Res. Inst. Food and Drug Safety Ctr.*

2:00 QQ3 **792.10** Deletion of Serotonin Receptor 4 from mature hippocampal neurons induces anxiogenic behaviors and antidepressant-like responses. R. KARAYOL*; E. B. HOLZNER; J. L. WARNER-SCHMIDT; N. HEINTZ; E. F. SCHMIDT. *The Rockefeller Univ., NeuroJenic Consulting LLC, Howard Hughes Med. Inst.*

3:00 QQ4 **792.11** ▲ Chronic treatment with serotonin modulating drugs produces anxiety-like behavior in C57BL/6 mice. G. L. FISHER; R. PARENT; H. E. BURNS; A. T. SMARSH; A. J. WILLIAMS*; G. G. MURPHY. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*



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**POSTER**

**793. Addiction and Behavior**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 QQ5 **793.01** CRF neurons in the central nucleus of the amygdala that project to the bed nucleus of the stria terminalis drive excessive alcohol drinking in dependent rats. G. DE GUGLIELMO*; M. B. POMRENZE; M. KALLUPI; S. SIMPSON; E. CRAWFORD; P. SCHWEITZER; G. F. KOOB; R. O. MESSING; O. GEORGE. *Scripps Res. Inst., Univ. of Texas at Austin, Natl. Inst. On Alcohol Abuse And Alcoholism.*

2:00 QQ6 **793.02** The Cocaine Biobank: A repository of biological samples from genetically characterized outbred rats that exhibit compulsive-like escalation of cocaine self-administration. L. MATURIN; O. GEORGE*; G. DE GUGLIELMO; M. BRENNAN; L. SOLBERG WOODS; A. A. PALMER. *Scripps Resch Inst., Wake Forest Univ., UCSD.*

3:00 QQ7 **793.03** Cebranopadol, a dual opioid and NOP receptor agonist, inhibits escalation of cocaine self-administration and conditioned reinstatement of cocaine seeking. J. KONONOFF*; G. DE GUGLIELMO; A. MATZEU; R. MARTIN-FARDON; O. GEORGE. *The Scripps Res. Inst.*

4:00 QQ8 **793.04** Identification and quantification of neuronal networks recruited during alcohol withdrawal using whole-brain Fos mapping in mice. A. J. KIMBROUGH*; A. COLLAZO; N. RENIER; C. CONTET; O. GEORGE. *The Scripps Res. Inst., Caltech, ICM Brain and Spine Inst.*

1:00 QQ9 **793.05** Alterations of microbiome composition increase escalation of oxycodone self-administration in Copenhagen rats. S. SIMPSON*; G. DE GUGLIELMO; M. KALLUPI; J. MATTIONI; O. GEORGE. *The Scripps Res. Inst.*

2:00 QQ10 **793.06** Nociceptin/orphanin FQ in the central nucleus of the amygdala selectively reduces oxycodone self-administration in high intake rats. M. KALLUPI*; G. DE GUGLIELMO; L. MATURIN; L. C. S. WOODS; A. PALMER; P. SCHWEITZER; O. GEORGE. *Scripps Res. Inst., Wake Forest Sch. of Med., UCSD.*

3:00 QQ11 **793.07** ▲ Prevalence, dosing-regimens, and withdrawal effects of electronic nicotine delivery systems (ENDS) and electronic-cigarettes (E-cigs). M. PETERSON*; C. J. LYNCH; T. ANDERSON; M. COMBE; S. LAWSON; D. CLARK; R. HANSEN; D. AGUILAR-ALVAREZ; M. NICHOLAS; T. M. HILLHOUSE. *Weber State Univ., Weber State Univ., Weber State Univ.*

4:00 QQ12 **793.08** ▲ Perceptions and poly-drug use: Comparison of electronic nicotine device systems (ENDS)/ electronic-cigarettes (E-cigs) and traditional cigarettes. C. J. LYNCH*; M. L. PETERSON; M. TINGEY; H. MARTINSSON; S. HONEYCUTT; K. GRIFFEY; T. M. HILLHOUSE. *Weber State Univ., Weber State Univ.*

1:00 QQ13 **793.09** Effects of morphine abstinence on oxycodone self-administration in male and female rats. M. MAVRIKAKI; S. PAGE; E. H. CHARTOFF*. *Harvard Med. Sch.*

2:00 QQ14 **793.10** ● Dopaminergic mediation of the discriminative stimulus effects of MDPV in male sprague-dawley rats. H. I. RISCA; L. E. BAKER*. *Western Michigan Univ.*

3:00 QQ15 **793.11** Functional adaptations of frontal-accumbal circuitry in rats expressing toluene-induced conditioned place preference. W. N. WAYMAN*; J. J. WOODWARD. *Med. Univ. of South Carolina.*

4:00 QQ16 **793.12** Inhibition of striatal BDNF-trkB signaling rescues nicotine withdrawal-related deficits in strategy set-shifting. R. COLE*; C. WOLSH; E. HARRINGTON; V. PARIKH. *Temple Univ.*

1:00 QQ17 **793.13** Evaluation of the neurochemical effects of diphenidine, a new psychoactive substance, on the dopaminergic reward system by using rat brain microdialysis. K. OKUDA*; H. TANAKA; M. ASARI; K. HORIOKA; K. MATSUBARA; H. SHIONO; K. SHIMIZU. *Asahikawa Med. Univ., Kyoto Univ. Hosp.*

2:00 QQ18 **793.14** Role of cocaine- and amphetamine-regulated transcript peptide (CART) in fear memory. C. D. BORKAR*; B. DESHMUKH; N. K. SUBHEDAR; D. M. KOKARE. *Rashtrasant Tukadoji Maharaj Nagpur Univ., Indian Inst. of Sci. Educ. and Res.*

3:00 QQ19 **793.15** Sex differences in intracellular signalling following a neurotoxic methamphetamine administration. A. KLAMBATSEN*; S. K. NYGARD; V. L. QUINONES-JENAB; S. JENAB. *Hunter Col., CUNY Grad. Ctr., Washington Univ. Sch. of Med., Hunter College, CUNY.*

4:00 QQ20 **793.16** Emotion recognition in alcohol use disorder. C. FREEMAN*; C. E. WIERS; A. ZEHRA; V. RAMIREZ; E. LINDGREN; G. MILLER; G. WANG; N. D. VOLKOW. *NIH Office of Intramural Res., Natl. Inst. on Alcohol Abuse and Alcoholism, Natl. Inst. On Alcohol Abuse and Alcoholism, NIH, Natl. Inst. of Alcohol Abuse and Alcoholism, NIH/NIDA.*

1:00 QQ21 **793.17** Tri-Fluoro-Methyl-Phenyl-Piperazine derivatives exerts its action by affecting serotonergic neurotransmission. M. ALMAGHRABI*; M. MAJRASHI; J. ANDERSON; D. DESAIA; M. GOVINDARAJULUA; J. DERUITERA; R. CLARKA; M. DHANASEKARAN; S. RAMESH; V. SUPPIRAMANIAM. *Auburn Univ.*

2:00 QQ22 **793.18** Combined use of alcohol and cigarette is more deleterius than either drug alone in the rat brain. R. GOMEZ*; D. A. QUINTEROS; B. BELLAVER; R. R. PULCINELLI; S. BANDIERA; L. D. BOBERMIN; A. W. HANSEN; A. QUINCOZES-SANTOS. *Univ. Federal Do Rio Grande Do Sul (UFRGS), Programa de Pós-Graduação em Farmacologia e Terapêutica (UFRGS), Programa de Pós-Graduação em Ciência Biológicas: Bioquímica (UFRGS), Univ. Federal Do Rio Grande Do Sul (UFRGS).*

3:00 RR1 **793.19** pCREB mediates MCU expression in an epigenetic manner at the periaqueductal gray in morphine withdrawal rats. S. LIU; H. YI; T. IIDA; D. IKEGAMI; Q. LIU; Y. KASHIWAGI; S. HAO*. *Univ. of Miami.*

4:00 RR2 **793.20** ● Varenicline restitutes neuroplasticity in cigarette smokers. M. A. NITSCHE*; M. KUO; W. PAULUS; J. GRUNDEY; A. HASAN; G. BATSIKADZE. *Leibniz Res. Ctr. for Working Envrn., Univ. Med. Hosp., Ludwig-Maximilians-University, Univ. Duisburg Essen.*

1:00 RR3 **793.21** Volatile solvent exposure increases heart rate in isolated perfused heart. D. GODINEZ HERNANDEZ; M. CARREON-GARCIDUEÑAS; L. ORTEGA-VARELA; M. Y. GAUTHEREAU*. *Univ. Michoacana De San Nicolás De Hidalgo, Univ. Michoacana De San Nicolás De Hidalgo, Univ. Michoacana De San Nicolás De Hidalgo.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 RR4 **793.22** The role of thioredoxin-1in regulating extinction of methamphetamine induced conditioned place preference. J. BAI*; M. HUANG; M. BAI; X. LI; Y. LI; N. GUO. *Kunming Univ. of Sci. and Technol., Med. Fac.*

3:00 RR5 **793.23** Neural compensation to drug-induced cognitive impariments. Z. HU*; C. M. BARKLEY; S. E. MARINO; C. WANG; M. DING. *Univ. of Florida, Univ. of Minnesota, Univ. of Minnesota.*

**POSTER**

**794. Learning, Memory, and Addiction: Behavioral Studies**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 RR6 **794.01** Cues associated with alcohol exposure during adolescence retain the ability to influence neuroimmune responses to adult ethanol challenge. A. S. VORE*; A. GANO; T. BARNEY; T. DEAK. *Binghamton Univ.*

2:00 RR7 **794.02** The influence of ethanol-conditioned cues on corticosterone and cytokine changes evoked by a subsequent immune challenge. J. E. MONDELLO*; A. S. VORE; A. GANO; T. DEAK. *Binghamton Univ.*

3:00 RR8 **794.03** Ethanol-induced conditioning of the neuroimmune and corticosterone response following a conditioned taste aversion procedure. A. GANO*; T. BARNEY; R. M. PAUTASSI; T. DEAK. *Binghamton Univ., Inst. de Investigación Médica M. y M. Ferreyra, Univ. Nacional de Córdoba.*

4:00 RR9 **794.04** Alcohol-associated memory replacement in mice during reconsolidation. K. GOLTSEKER*; O. SHAHAM; S. BARAK. *Tel Aviv Univ., Tel Aviv Univ.*

1:00 RR10 **794.05** Preventing the methamphetamine seeking with memory retrieval-extinction procedure. Y. XUE*; Y. CHEN; L. ZHANG; J. SHI; L. LU. *Natl. Inst. on Drug Dependence, Peking Univ., Peking Univ. Sixth Hospital/ Peking Univ. Inst. of Mental Health, Peking Univ.*

2:00 RR11 **794.06** BLA mediates the inhibitory effect of UCS-retrieval extinction on heroin craving after prolonged abstinence. L. LU*; K. YUAN; Y. HAN; J. SHI. *Inst. Mental Health,Peking Univ. Sixth Hospita, Natl. Inst. of Drug Dependence, Peking Univ., Natl. Inst. On Drug Dependence of Peking Un.*

3:00 RR12 **794.07** Noradrenergic mechanisms of cocaine-memory reconsolidation in the basolateral amygdala. J. A. HIGGINBOTHAM; R. WANG; E. J. HANSEN; R. A. FUCHS*. *Washington State Univ.*

4:00 RR13 **794.08** Identification of stable individual variation in murine conditioned place preference. A. N. WAGNER*; R. A. SHETTY; M. J. FORSTER. *UNT Hlth. Sci. Ctr.*

1:00 RR14 **794.09** Adolescent mice are less sensitive to the effects of nicotine on extinction and spontaneous recovery. D. ZEID*; M. G. KUTLU; J. TUMOLO; T. J. GOULD. *Penn State Univ., Penn State Univ., Temple Univ., Penn State.*

2:00 RR15 **794.10** Behavioral and neurochemical analysis of novel psychoactive substance ethylphenidate exposure in adolescent male and female mice. M. T. ROBINS*; A. L. BREWSTER; R. M. VAN RIJN. *Purdue Univ., Purdue Inst. of Integrative Neurosci., Purdue Univ.*

3:00 RR16 **794.11** ▲ Young addicts exhibit inhibitory control failures and blunted cortisol reactivity after 6 months of rehab treatment. Y. BENITEZ; Y. RUVALCABA-DELGADILLO; T. MORALES-SALCEDO; T. VILLASENOR-CABRERA; R. E. GONZALEZ-CASTAÑEDA; J. H. FERNANDO*. *Univ. De Guadalajara, Univ. de Guadalajara.*

4:00 RR17 **794.12** Re-evaluation of the reward comparison hypothesis: Ethanol and morphine. A. C. HUANG*; A. B. H. HE; C. WU. *Fo Guang Univ, Psychology, Dept. of Pharmacy, Keelung Hospital, Ministry of Hlth. and Welfare.*

1:00 RR18 **794.13** Impact of cocaine self-administration on anterior cingulate encoding in rats performing a reward-guided decision-making task. D. VAZQUEZ*; A. C. BURTON; S. TENNYSON; M. R. ROESCH. *Univ. of Maryland.*

2:00 RR19 **794.14** ▲ Single exposure conditioned place preference to diazepam in mice. P. M. GUTKIN*; J. E. GRISEL. *Bucknell Univ., Bucknell Univ.*

3:00 RR20 **794.15** Insula drive to the extended amygdala promotes reward-related behavior. K. S. GIRVEN*; D. R. SPARTA. *Univ. of Maryland, Baltimore, Univ. of Maryland Sch. of Med.*

4:00 RR21 **794.16** Co-administration of a serotonergic agonist blocks the long-term effects of anesthetic ketamine on go/no-go reversal learning in rats. H. FISHER*; T. OLSEN; R. RALEY; A. WESTON; C. L. PICKENS. *Kansas State Univ.*

1:00 RR22 **794.17** Mechanisms of the reinforcement enhancing effects of caffeine in rats. C. A. BRADLEY*; A. K. PATTERSON; A. SMITH; S. G. MALONE; C. S. BAILEY; M. I. PALMATIER. *East Tennessee State Univ., East Tennessee State Univ., East Tennessee State Univ.*

2:00 RR23 **794.18** Neural activity patterns of sign and goal trackers during fear conditioning. A. GHEIDI*; C. J. FITZPATRICK; R. L. ATKINSON; J. D. MORROW. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

3:00 RR24 **794.19** Long-term effects of prior cocaine and morphine exposure on hippocampal-dependent and striatal-dependent learning in rats. R. S. GARDNER*; D. L. KOROL; P. E. GOLD. *Syracuse Univ.*

4:00 RR25 **794.20** Aversive counterconditioning with kappa opioid receptor agonists as a potential treatment for cocaine addiction. A. B. FURBISH; J. PETERS*. *Med. Univ. of South Carolina.*

1:00 RR26 **794.21** Abuse liability of mitragynine and 7 hydroxymitragynine putative primary alkaloids of Mitragyna speciosa (Kratom). S. E. HEMBY*; S. MCINTOSH; S. J. CUTLER; C. R. MCCURDY. *Fred Wilson Sch. of Pharmacy/ High Point Univ., Fred Wilson Sch. of Pharmacy/High Point Univ., Univ. of South Carolina, Univ. of Florida.*



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* Indicates abstract's submitting author

**POSTER**

**795. Cocaine Reinforcement**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 RR27 **795.01** A prior history of binge-drinking reduces methamphetamine reinforcement by increasing the efficacy of the drug to elicit reward. E. K. FULTZ*; D. L. MARTIN; C. N. HUDSON; T. E. KIPPIN; K. K. SZUMLINSKI. *Univ. of California - Santa Barbara, Univ. of California - Santa Barbara, Univ. California, Santa Barbara, Univ. California-Santa Barbara.*

2:00 RR28 **795.02** Cocaine-induced PI3K activation within ventromedial prefrontal cortex is critical for the expression of drug-seeking. K. K. SZUMLINSKI*; A. W. ARY; C. B. SHIN; M. G. WROTEN; B. W. MILLER; O. BEN-SHAHAR; T. E. KIPPIN. *Univ. California-Santa Barbara.*

3:00 RR29 **795.03** Manipulation of glutamate within the prelimbic and infralimbic cortices during incubation of cocaine-craving in rats. C. B. SHIN*; T. J. TEMPLETON; A. S. CHIU; J. KIM; E. S. GABLE; T. E. KIPPIN; K. K. SZUMLINSKI. *Univ. of California, Santa Barbara, Univ. of California Santa Barbara, Univ. California, Santa Barbara, Univ. California-Santa Barbara.*

4:00 RR30 **795.04** Effects of increased Homer2b expression in the NAC on MA preference and reinforcement. C. N. BROWN*; S. FERDOUSIAN; S. ROGERS; T. E. KIPPIN; K. K. SZUMLINSKI. *UCSB Psychological and Brain Sci., Univ. of California, Santa Barbara, Univ. California, Santa Barbara, Univ. California-Santa Barbara.*

1:00 RR31 **795.05** Hnrnph1 deletion reduces reward and reinforcement but not analgesia. Q. RUAN*; A. HEALY; E. LUSTIG; K. K. SZUMLINSKI; C. D. BRYANT. *Boston Univ. Sch. of Med., Univ. of California, Santa Barbara, Boston Univ. Sch. of Med.*

2:00 RR32 **795.06** Intra-amygdalar D1 modulation of cocaine seeking behavior. E. S. KIM*; M. LATTAL. *Oregon Hlth. Sci. Univ.*

3:00 RR33 **795.07** ▲ C-fos expression in addiction circuitry of differentially reared rats following reinstatement of cocaine seeking. Z. S. ORBAN*; C. A. JOHN; K. M. EVENSON; O. R. LOPEZ; D. A. JANTZ; K. R. OLESEN; M. J. GILL. *North Central Col., North Central Col.*

4:00 RR34 **795.08** ▲ Effects of differential rearing on cocaine self-administration in female rats. M. BAILEY; D. KUIPERS; M. R. CROMWELL; Z. S. ORBAN; K. ROYBAL; E. SMIGLA; M. J. GILL*. *North Central Col., North Central Col., North Central Col.*

1:00 RR35 **795.09** Ovarian hormonal status influences 5-$HT_{1B}$ receptor agonist effects on cocaine self-administration in rats. S. SCOTT*; R. GARCIA; J. HESTERMAN; A. STONE; A. BRALICH; J. NEISEWANDER. *Arizona State Univ.*

2:00 RR36 **795.10** ▲ Effects of exposure to sucrose during adolescence on cocaine self-administration in adult rats. M. M. COBB*; J. E. RUSSO; K. GILBERT; D. P. HAGARTY; R. PARMAR; S. PULIDO; Y. MORAN; A. M. GANCARZ-KAUSCH. *California State University, Bakersfield.*

3:00 SS1 **795.11** Viral knockdown of HCRTr1 in VTA alters cocaine self administration, dopamine neurotransmission, and neuronal firing. D. L. BERNSTEIN*; J. R. BARSON; I. P. ALONSO; C. E. BASS; R. A. ESPAÑA. *Drexel Univ., Drexel Univ. Col. of Med., Univ. At Buffalo SUNY.*

4:00 SS2 **795.12** Striatal dopamine D1 and D2 receptor synergy in regulating the behavioral responses to repeated cocaine exposure. L. K. DOBBS*; A. R. KAPLAN; R. BOCK; J. H. SHIN; V. A. ALVAREZ. *NIH, Natl. Inst. on Alcohol Abuse and Alcoholism, Natl. Inst. on Alcohol Abuse and Alcoholism.*

1:00 SS3 **795.13** Every reinforcer matters - cocaine vs food choice. J. J. CHOW*; J. BECKMANN. *Univ. of Kentucky.*

2:00 SS4 **795.14** Role of estradiol in the development of an addicted phenotype in female rats. A. BAKHTI-SUROOSH*; T. NESIL; W. J. LYNCH. *Univ. of Virginia.*

3:00 SS5 **795.15** Utilizing the hypothetical purchase task to evaluate cocaine demand during phendimetrazine maintenance. J. C. STRICKLAND*; W. W. STOOPS. *Univ. of Kentucky.*

4:00 SS6 **795.16** Bariatric surgery controls bile acid signaling and impairs cocaine reward. N. K. SMITH*; I. A. REDDY; K. ERREGER; D. GHOSE; C. SAUNDERS; B. TURNER; A. POE; V. L. ALBAUGH; T. A. HACKETT; B. A. GRUETER; N. N. ABUMRAD; C. FLYNN; A. GALLI. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ.*

1:00 SS7 **795.17** NPAS2 knockout increases intravenous cocaine self-administration. L. DEPOY*; R. LOGAN; C. MCCLUNG. *Univ. of Pittsburgh.*

**POSTER**

**796. Cocaine Seeking and Reinstatement II**

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 SS8 **796.01** Dopamine D1 and D3 receptor interactions in cocaine reward and seeking in rats. E. J. GALAJ*; W. W. HARDING; R. RANALDI. *City Univ. of New York, Hunter Col., Queens Col.*

2:00 SS9 **796.02** Opposing roles of prefrontal cortex subregions in cocaine experience-induced transient synaptic plasticity in the nucleus accumbens and cue-induced reinstatement. L. N. BELOATE*; J. A. HEINSBROEK; P. W. KALIVAS. *Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. S Carolina.*

3:00 SS10 **796.03** Pump the brakes: The rostromedial tegmental nucleus inhibits compulsive cocaine seeking. P. J. VENTO*; S. L. BLACK; T. C. JHOU. *Med. Univ. of South Carolina, Col. of Charleston.*

4:00 SS11 **796.04** The effects of the female estrous cycle on behavior under different cocaine self-administration schedules in rats. M. MAUTERER*; S. E. ALBERTSON; S. R. JONES. *Wake Forest Univ. Sch. of Med.*

1:00 SS12 **796.05** Effect of DREADD-mediated activation of Gq-coupled signaling in lateral habenula neurons on anxiety and reinstatement of cocaine seeking in rats. S. G. NAIR*; P. R. SILVA; M. M. ESTABROOK; N. COHENCA; J. F. NEUMAIER. *Univ. of Washington, Univ. Washington.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 SS13 **796.06** ▲ Operant novelty seeking as a differential predictor of craving for cocaine and water. D. P. HAGARTY; M. M. COBB; K. GILBERT; J. E. RUSSO; A. M. GANCARZ-KAUSCH*. *California State University, Bakersfield, California State University, Bakersfield.*

3:00 SS14 **796.07** The estrous cycle modulates reinstatement of cocaine conditioned place preference. F. D. VALDES*; B. M. SWEIS; K. SILVIS; E. M. LARSON; M. J. THOMAS; P. G. MERMELSTEIN. *Univ. of Minnesota.*

4:00 SS15 **796.08** The estrous cycle alters optogenetic self-stimulation of glutamatergic terminals in the mouse nucleus accumbens. N. M. STEENROD*; E. B. LARSON; P. G. MERMELSTEIN; M. J. THOMAS. *Univ. of Minnesota.*

1:00 SS16 **796.09** Activation of amylin receptors in the ventral tegmental area reduces cocaine taking and seeking in rats. C. A. TURNER*; N. S. HERNANDEZ; Y. ZHANG; H. D. SCHMIDT. *Univ. of Pennsylvania.*

2:00 SS17 **796.10** Effects of perineuronal net disruption in the medial prefrontal cortex on acquisition of cocaine place preference and electrophysiology in the nucleus accumbens. B. A. SORG*; S. L. INGRAM; J. H. HARKNESS. *Washington State Univ., Oregon Hlth. & Sci. Univ., Washington State University, Vancouver.*

3:00 SS18 **796.11** The role of hypocretin (orexin) and dynorphin activity in the ventral tegmental area (VTA) contributing to cocaine reward. T. A. GENTILE*; S. J. SIMMONS; J. W. MUSCHAMP; M. WATSON. *Temple Univ., Temple University, Lewis Katz Sch. of Med., Temple Univ. Sch. of Med.*

4:00 SS19 **796.12** Npas4 regulates cocaine behaviors. M. TANIGUCHI*; M. B. CARREIA; Y. A. COOPER; E. A. BALMUTH; D. GUZMAN; J. KUMAR; L. N. SMITH; N. KOIKE; J. S. TAKAHASHI; T. KIM; D. SELF; Y. LIN; C. W. COWAN. *Med. Univ. of South Carolina, Harvard Med. Sch., MIT, UT Southwestern Med. Ctr., Texas A&M Univ. Hlth. Sci. Ctr., Univ. of Texas Southwestern Med. Ctr., UT Southwestern Med. Ctr., Med. Univ. of South Carolina.*

1:00 SS20 **796.13** Vagus nerve stimulation modulates plasticity in the extinction circuit and enhances extinction of drug-seeking behavior. J. CHILDS*; E. HSIU; C. DRISKILL; J. DELEON; S. KROENER. *Univ. of Texas at Dallas Sch. of Behavioral and Brain Sci.*

2:00 SS21 **796.14** Effects of a novel serotonin 7 receptor antaonist, MC-RG19, on spontaneous locomotion, cocaine-induced locomotion, and reinstatement of cocaine seeking behavior. B. A. PAGNI*; A. K. CARLSON; M. ZHENG; J. P. BONADONNA; B. E. BLASS; D. J. CANNEY; R. GAO; J. L. NEISEWANDER. *Arizona State Univ., Arizona State Univ., Temple Univ. Sch. of Pharm.*

3:00 SS22 **796.15** Reduced dopamine signaling induces drug seeking and behavioral indices of negative affect. M. G. SPRING*; R. C. TWINING; M. A. ROBBLE; S. M. CONWAY; D. S. WHEELER; M. F. ROITMAN; R. A. WHEELER. *Marquette Univ., McLean Hospital, Harvard Univ. Med. Sch., Univ. of Illinois at Chicago Dept. of Psychology.*

**POSTER**

## 797. Nicotine: Neural Mechanisms of Addiction

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

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 SS23 **797.01** Imaging the dopamine system with [$^{11}$C]PHNO and PET in recently abstinent tobacco smokers compared to nonsmokers. K. C. CALAKOS*; A. T. HILLMER; J. M. ANDERSON; Y. HUANG; R. E. CARSON; K. P. COSGROVE. *Yale Univ., Yale Univ., Yale Univ., Yale Univ., Yale Univ., Yale Univ.*

2:00 SS24 **797.02** Persisting reduction of nicotine self-administration in rats by co-treatment of chronic nicotine infusion with injections of amitifadine, a dopamine, norepinepherine and serotonin reuptake inhibitor. E. D. LEVIN; S. SLADE; C. WELLS; J. E. ROSE; A. H. REZVANI*. *Duke Univ.*

3:00 SS25 **797.03** N-acetylcysteine inhibits cue-induced nicotine seeking through a glutamate transporter GLT-1-dependent mechanism and decreases neuroinflammatory IκB kinase expression in the nucleus accumbens core. M. D. NAMBA*; G. L. POWELL; J. G. GOENAGA; A. P. DEL FRANCO; J. J. MCCALLUM; C. D. GIPSON. *Arizona State Univ., Arizona State Univ.*

4:00 SS26 **797.04** Nicotine relapse-induced rapid potentiation of excitatory synapses is regulated by GluN2B-containing NMDA receptors in the nucleus accumbens core. J. G. GOENAGA*; J. J. MCCALLUM; M. D. NAMBA; A. P. DEL FRANCO; G. L. POWELL; M. OLIVE; C. D. GIPSON. *Arizona State Univ., Arizona State Univ., Arizona State Univ., Arizona St Univ.*

1:00 SS27 **797.05** Developmental nicotine exposure induces persistent alterations in accumbens glutamatergic circuitry. C. D. GIPSON*; G. L. POWELL; J. G. GOENAGA; A. P. DEL FRANCO; M. C. HOLTER; R. GARCIA; A. VANNAN; J. L. NEISEWANDER. *Arizona State Univ., Arizona State Univ.*

2:00 SS28 **797.06** Menthol content in the mouse brain following exposure; relevance to tobacco addiction and electronic nicotine delivery systems (ENDs). S. L. O'RIORDAN*. *California Inst. of Technol. (Caltech).*

3:00 SS29 **797.07** Diacylglycerol lipase disinhibits VTA dopamine neurons during chronic nicotine exposure. M. W. BUCZYNSKI*; M. A. HERMAN; K. HSU; B. H. CRAVATT; M. ROBERTO; L. H. PARSONS. *Virginia Polytechnic Inst. and State Universit, Univ. of North Carolina Chapel Hill, Univ. of Virginia, The Scripps Res. Inst., Scripps Res. Inst., The Scripps Res. Inst.*

4:00 SS30 **797.08** Nicotine administration and withdrawal alters sleep and prepro-hypocretin levels in mice. H. L. MATHEWS*; S. AHMAD; J. STITZEL. *Univ. of Colorado Boulder Dept. of Psychology and Neurosci., The Inst. for Behavioral Genet., Univ. of Colorado - Boulder, Univ. of Colorado - Boulder, The Univ. of Colorado - Boulder.*

1:00 SS31 **797.09** Role of nicotine dose and dopamine signaling in acute withdrawal-related hypoactivity. W. WHITE*; S. L. CASE; I. M. WHITE. *Morehead State Univ.*

2:00 SS32 **797.10** Effects of acute exposure to nicotine on dorsalateral striatal neurotransmission in male juvenile Wistar rats. V. LICHERI*; L. ADERMARK. *Addiction Biol. Unit.*



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

3:00 SS33 **797.11** The neural processing of smoking behavior. I. PARK*; J. KIM; S. KI. *Intl. St.mary's Hosp., Inst. For Integrative Med., Intl. St. Mary's Hosp.*

4:00 SS34 **797.12** Effects of chronic exposure to electronic cigarettes vapors on nicotinic acetylcholine receptors and glial glutamate transporters in mesocorticolimbic brain regions of C57BL/6J mice. F. ALASMARI*; L. E. ALEXANDER; A. HAMMAD; E. BREEN; C. A. DRUMMOND; Y. SARI. *Univ. of Toledo, Univ. of California-San Deigo, Univ. of California-San Deigo, Univ. of Toledo.*

1:00 SS35 **797.13** Chronic exposure to tobacco smoke constituents upregulates nicotinic receptor binding in adult and adolescent rat brain. M. CANO*; D. REYNAGA; F. M. LESLIE. *Univ. of California- Irvine.*

2:00 SS36 **797.14** Epigenetic implications for extracellular signaling factors in nicotine dependence. V. LALLAI*; C. D. FOWLER. *UCI, Univ. of California Irvine.*

3:00 SS37 **797.15** ▲ The acute functional connectivity changes in the rat brain following nicotine administration. A. C. ROBY*; Y. LIU; N. ZHANG. *The Pennsylvania State Univ., Pennsylvania State Univ.*

4:00 SS38 **797.16** Chronic nicotine exposure changes functional connectivity in the rat brain and induces a preference for nicotine over water. Y. LIU*; A. ROBY; N. ZHANG. *Penn State Univ.*

1:00 SS39 **797.17** The effects of environmental enrichment on adolescent nicotine sensitization and GDNF in a rodent model of schizophrenia. R. W. BROWN*; M. A. SCHLITT; J. M. DOSE; E. D. CUMMINS; S. L. KIRBY; K. C. BURGESS; A. S. OWENS. *East Tennessee State Univ. Dept. of Biomed. Sci., St. Norbert Col., East Tennessee State Univ.*

2:00 SS40 **797.18** ▲ The effects of nicotine in the neonatal quinpirole model of psychosis: Nicotinic receptor changes and accumbal dopamine release. S. KIRBY*; C. L. KAESTNER; D. J. PETERSON; E. D. CUMMINS; K. C. BURGESS; W. GILL; J. R. PAULY; R. W. BROWN. *East Tennessee State Univ., East Tennessee State Univ., Univ. of Kentucky.*

3:00 SS41 **797.19** Evidence for epigenetic effects in the neonatal quinpirole model of schizophrenia. W. D. GILL*; J. D. WHERRY; M. E. VERVERIS; L. J. HERNANDEZ; M. J. CHANDLEY; K. C. BURGESS; R. W. BROWN. *East Tennessee State Univ.*

4:00 SS42 **797.20** The role of endocytic pathways downstream of G protein-coupled receptor (GPCR) signaling in nicotine-induced upregulation of alpha 7 (α7) nicotinic acetylcholine receptors (nAChRs) expressed in Xenopus oocytes. J. PANCHAL*; M. ISLAM; K. DEBOEUF; J. ANDERSON; J. HOFFER; V. SHEEL; J. FARLEY. *Indiana Univ., Indiana Univ. Bloomington, Indiana Univ. Bloomington, Indiana Univ. Bloomington.*

1:00 SS43 **797.21** Facilitation effects of sub-nanomolar concentrations of aβ(1-42) on α7 nachrs in xenopus oocytes. J. B. ANDERSON*; K. DEBOEUF; J. PANCHAL; M. ISLAM; J. FARLEY. *Indiana Univ. Bloomington, Indiana Univ. Bloomington.*

2:00 SS44 **797.22** Effect of microglial suppression by minocycline on periadolescent nicotine-induced sensitization to cocaine reward in the adult rat. B. A. MCMILLEN*; B. E. SVENSON; P. S. NAGCHOWDHURI; H. L. WILLIAMS. *East Carolina Univ.*

3:00 SS45 **797.23** Abstinent smokers show reduced brain responses to positive feedback and enhanced responses to negative feedback. J. S. FLANNERY*; M. T. SUTHERLAND; M. C. RIEDEL; A. R. LAIRD; B. SALMERON; T. J. ROSS; E. A. STEIN. *Florida Intl. Univ., Florida Intl. Univ., Natl. Inst. on Drug Abuse, Intramural Res. Program, NIH/DHHS.*

4:00 SS46 **797.24** JMV 2959 mitigates nicotine-cessation associated food intake and weight gain. J. A. RODRIGUEZ*; P. J. WELLMAN; J. FEHRENTZ. *Texas A&M Univ., Inst. des Biomolécules Max Mousseron.*

1:00 SS47 **797.25** Progressive modulation of accumbal neurotransmission and anxiety-like behaviour following extended nicotine withdrawal. J. E. MORUD*; J. STRANDBERG; A. ANDRÉN; M. ERICSON; B. SÖDERPALM; L. ADERMARK. *Univ. of Gothenburg, Sahlgrenska Academy, Goteborg Univ., Neurosci. and Physiol., Addiction Biol. Unit.*

**POSTER**

**798. Molecules, Mechanisms, and Models for Memory Consolidation and Reconsolidation**

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 SS48 **798.01** Histone ubiquitination regulates synaptic plasticity and memory formation in the hippocampus via Rpt6-dependent recruitment of histone methylation. T. J. JAROME*; G. A. PEREZ; W. M. WEBB; K. M. HATCH; R. M. HAUSER; A. A. BUTLER; F. D. LUBIN. *Univ. of Alabama At Birmingham.*

2:00 SS49 **798.02** Assessing cognition in mice lacking the synaptic protein Neuroligin-3. R. NORRIS*; A. J. HANNAN; N. BROSE; J. NITHIANANTHARAJAH. *Florey Inst. of Neurosci., Max Planck Inst. for Exptl. Med.*

3:00 SS50 **798.03** Neuroticism susceptibility genes association with sleep deprivation - mediated cognitive impairment is causally linked to impaired mRNA and protein translation mechanisms. S. SIMS*; T. FROLINGER; C. SMITH; A. ESTEBAN-FERNANDEZ; G. M. PASINETTI. *Icahn Sch. of Medicine, Mount Sinai Med. Cent.*

4:00 SS51 **798.04** Global coupling of spontaneous activity regulates neuronal firing patterns associated with working memory. X. GU*; L. G. D. MOLINO; X. DING; X. WANG; C. T. LI. *Inst. of Neurosci., New York Univ., New York Univ., Inst. of Neuroscience, SIBS, Chinese Acad. O.*

1:00 SS52 **798.05** Exposure to Δ9-tetrahydrocannabinol during adolescence impairs acquisition of paired-associate learning in adulthood. A. R. ABELA*; A. RAHBARNIA; S. WOOD; A. LÊ; P. J. FLETCHER. *Ctr. For Addiction and Mental Hlth., Univ. of Toronto, Univ. of Toronto, Ctr. for Addiction and Mental Hlth., Ctr. For Addiction and Mental Hlth.*

2:00 SS53 **798.06** Rapid memory consolidation by reactivation of neocortical circuits. A. F. SOUSA*; K. K. COWANSAGE; L. M. CARDOZO; E. J. YOO; M. MAYFORD. *UCSD.*

3:00 SS54 **798.07** The histone chaperone Anp32E removes H2A.Z from specific sites and regulates memory formation in the hippocampus. G. STEFANELLI*; B. J. WALTERS; M. BRIMBLE; K. NARKAJ; A. M. DAVIDOFF; I. ZOVKIC. *Univ. of Toronto Mississauga, Hosp. For Sick Children, St. Jude research Hosp.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 SS55 **798.08** Mechanisms for distributed working memory in a large-scale network model of the primate cortex. J. F. MEJIAS*; X. WANG. *Ctr. for Neural Science, New York Univ.*

1:00 SS56 **798.09** Top-down control of working memory through medial prefrontal-agranular insular circuit. J. ZHU*; Q. CHENG; Z. HAN; R. HOU; Y. CHEN; H. FAN; Z. CHEN; C. T. LI. *Inst. of Neuroscience,Cas, Inst. of Neuroscience, SIBS, Chinese Acad. O.*

2:00 SS57 **798.10** Learning and reasoning in a complex state space: you sunk my battleship! D. L. BARACK*; C. D. SALZMAN. *Columbia Univ.*

3:00 SS58 **798.11** Differences in dynamic and static coding within different subdivision of the prefrontal cortex. E. M. MEYERS*; M. RILEY; X. QI; C. CONSTANTINIDIS. *Hampshire Col., Wake Forest Sch. of Med., Wake Forest Univ. Sch. of Med.*

4:00 SS59 **798.12** Neuronal correlate of hierarchical categorization in primate lateral prefrontal cortex. M. MOAZAMI GOUDARZI*; J. CROMER; J. ROY; E. K. MILLER. *MIT.*

1:00 SS60 **798.13** Mixed selectivity morphs population codes in the prefrontal cortex. S. YEN*; A. PARTHASARATHY; R. HERIKSTAD; J. BONG; F. S. MEDINA; C. LIBEDINSKY. *Dept. of ECE, Nat. Univ. of Singapore, Inst. of Mol. and Cell Biol., Natl. Univ. of Singapore, Natl. Univ. of Singapore.*

2:00 SS61 **798.14** Human LRRK2 G2019S mutation represses post-synaptic protein PSD95 and causes cognitive impairment in transgenic mice. J. WANG*; S. O. ADEOSUN; X. HOU; B. ZHENG; H. L. MELROSE; T. MOSLEY. *Univ. of Mississippi Med. Ctr., Mayo Clin., Univ. of Mississippi Med. Ctr.*

**POSTER**

**799. Neural Circuit Mechanisms for Memory**

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 SS62 **799.01** Reactivation of interfering memories in the hippocampus shapes memory performance: A computational study. P. MALERBA*; S. NAGL; J. FELLOUS; M. BAZHENOV. *UC San Diego, Univ. of Arizona.*

2:00 SS63 **799.02** Multiple roles of hippocampal sharp wave - Ripples in coordinating cortical slow waves. M. V. BAZHENOV*; P. SANDA; P. MALERBA; G. P. KRISHNAN. *Univ. of California San Diego.*

3:00 SS64 **799.03** ▲ Spike sequence replay is nested within sleep spindles during stage 2 sleep. G. P. KRISHNAN*; Y. WEI; M. V. BAZHENOV. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego.*

4:00 SS65 **799.04** Enhancing memories by stimulation during sleep. Y. WEI*; G. P. KRISHNAN; M. V. BAZHENOV. *Univ. of California San Diego.*

1:00 SS66 **799.05** Prefrontal ensembles during flexible decision making in a social interaction task. R. EICHLER*; F. CHAUVEAU; L. REININK; L. GENZEL; S. M. GRANON; F. P. BATTAGLIA. *Radboud Univ. Nijmegen, Inst. de Recherche Biomédicale des Armées, Radboudumc, Radboud Univ., Ctr. de Neurosci. Paris Sud, Univ. Paris Sud 11.*

2:00 TT1 **799.06** Veridical vs cumulative memory: Effects of novelty and sleep. L. GENZEL*; O. STOUTJESDIJK; M. VERHEAG; T. SCHRÖDER; E. H. SCHUT; R. EICHLER; F. P. BATTAGLIA. *Donders Inst., Donders Insitute, Radboud Univ., Radboudumc, Radboud Univ.*

3:00 TT2 **799.07** Processing information over time in prefrontal cortex. E. H. SCHUT*; S. HULZEBOS; L. REININK; L. GENZEL; F. BATTAGLIA. *Donders Inst. For Brain, Cognition and Behavio.*

4:00 TT3 **799.08** Incorporating newly learned with established information within the prefrontal cortical network . M. LUCHETTE*; Z. WILLIAMS. *Boston Univ. Sch. of Med., Massachusetts Gen. Hosp.*

1:00 TT4 **799.09** Synapse copy with synfire-gated synfire chains. A. T. SORNBORGER*; Y. SHAO; S. PATANKAR; L. TAO. *Univ. of California Davis, Peking Univ.*

2:00 TT5 **799.10** Morphological analysis of dendritic spines in the hippocampal neurons activated during fear memory retrieval using Airyscan microscopy. K. MINATOHARA*; F. ISHIDATE; M. AKIYOSHI; A. ARAKI; Y. TAKAHASHI; H. BITO; H. OKUNO. *SK Project, Med. Innov. Ctr., Kyoto Univ. Grad. Sc, Inst. for Integrated Cell-Material Science, Kyoto Univ., Ďěpţ øf Ňěцřøčňěm, Цňįv. øf Ţǿķỳǿ Ģřǻđ. Ṣčħ. øf Měđ.*

3:00 TT6 **799.11** The role of the intercalated cells of the amygdala in fear extinction. A. W. LIMOGES*; O. BUKALO; A. AKSOY-AKSEL; I. EHRLICH; R. PALMITER; L. S. ZWEIFEL; A. HOLMES. *NIAAA, NIAAA, Univ. of Tubingen, Univ. of Washington.*

4:00 TT7 **799.12** Post-experience hippocampal memory processing is modulated by experienced reward. F. MICHON*; J. SUN; C. KIM; F. KLOOSTERMAN. *Neuro-Electronic Res. Flanders, VIB, KULeuven, Imec, Seoul Natl. Univ. Col. of Med.*

1:00 TT8 **799.13** Thalamic contribution to CA1-mPFC interactions during sleep. C. VARELA*; M. WILSON. *MIT.*

2:00 TT9 **799.14** Amygdalo-hippocampal pathway regulates high-fat diet-induced memory impairment. M. SANTOYO ZEDILLO*; F. NANEIX; G. PACHECO LÓPEZ; E. COUTUREAU; G. FERREIRA. *Univ. Autónoma Metropolitana (UAM), NutriNeuro, INRA-University of Bordeaux, INCIA, CNRS-University of Bordeaux.*

3:00 TT10 **799.15** Fatty acid-binding protein 3 deficiency impairs fear memory extinction. Y. YABUKI*; I. TAKAHATA; K. MASTUO; Y. OWADA; K. FUKUNAGA. *Grad. Sch. of Pharmaceut. Sciences, Tohoku, Tohoku Univ. Grad. Sch. of Pharmaceut. Sci., Dept. of Organ Anat., Tohoku Univ. Grad Sch. Pharm Sci.*

4:00 TT11 **799.16** Hippocampal sharp-wave ripples in awake mice are entrained by respiration. D. H. HECK*; S. S. MCAFEE; Y. LIU. *Univ. of Tennessee.*

1:00 TT12 **799.17** Early memory allocation to cortical ensembles is critical for remote memory expression. M. R. MATOS*; I. KRAMVIS; E. VISSER; L. FELLINGER; R. C. VAN DER LOO; R. ZALM; Y. GOUWENBERG; T. GEBUIS; A. B. SMIT; M. C. VAN DEN OEVER. *Vrije Univ. Amsterdam/ CNCR, Vrije Univ. Amsterdam/CNCR.*



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**POSTER**

**800. Neuromolecular Clues to Learning and Memory**

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 TT13 **800.01** ▲ Differential expression of immediate early genes in the basolateral amygdala of adolescent rats in the context pre-exposure facilitation effect (CPFE) paradigm. M. KAWAN*; N. A. HEROUX; L. A. MILLER; K. N. BUBAN; J. B. ROSEN; M. E. STANTON. *Univ. of Delaware.*

2:00 TT14 **800.02** Induction profiles of immediate early gene expression in the prefrontal cortex and hippocampus during context and contextual fear memory formation in the Context Preexposure Facilitation Effect (CPFE). N. A. HEROUX*; B. F. OSBORNE; M. KAWAN; L. A. MILLER; K. N. BUBAN; J. B. ROSEN; M. E. STANTON. *Univ. of Delaware (UD).*

3:00 TT15 **800.03** MAP2 and ATP5A links Casq2 KO caused reduction of exercise and cognitive decline. P. FENG*; S. GUPTA; B. QIN; S. AZZAM; A. JIN; A. AKLADIOUS. *Cleveland VA Med. Ctr., Case Western Reserve Univ., Henan medical Col.*

4:00 TT16 **800.04** Epigenetic silencing of netrin is associated with neurovascular impairment by high methionine containing diet. J. BEHERA; A. GEORGE; K. KELLY; N. TYAGI*. *Univ. Of Louisville.*

1:00 TT17 **800.05** Evolution of neuronal enhancers across vertebrates. T. PARK; M. WIRTHLIN*; A. R. PFENNING. *Carnegie Mellon Univ.*

2:00 TT18 **800.06** ● Potential novel link of neuroticism associated genes in intellectual disability. A. ESTEBAN FERNANDEZ*; G. M. PASINETTI. *Icahn Sch. of Medicine, Mount Sinai Med. Cent, Dietary Supplement Res. Center, Icahn Sch. of Med., Geriatric Research, Educ. and Clin. Center, James J. Peters Veterans Affairs Med. Ctr.*

3:00 TT19 **800.07** Small ubiquitin-like modifier (SUMO) conjugation critically controls episodic and emotional memory. W. YANG*; S. YU; R. M. RODRIGUIZ; F. GALEFFI; W. C. WETSEL; W. PASCHEN. *Duke Univ. Med. Ctr., Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*

4:00 TT20 **800.08** Identifying the role of RNA cytosine methylation in the adult mouse prefrontal cortex. J. BLAZE*; B. JAVIDFAR; S. AKBARIAN; F. G. HAGHIGHI. *Icahn Sch. of Med. at Mt. Sinai, Icahn Sch. of Med. at Mt. Sinai.*

1:00 TT21 **800.09** Enhancer RNAs as regulators of gene expression and neuronal function. N. GALLUS*; R. C. SIMON; K. D. BUNNER; J. S. REVANNA; K. E. SAVELL; F. A. SULTAN; J. J. DAY. *Univ. of Alabama at Birmingham.*

2:00 TT22 **800.10** UCH-L1 promotes hippocampus-dependent memory via its deubiquitinating effect on TrkB. B. SU*; Y. GUO, 250012; Y. LU; X. CHEN; J. DONG; Z. CHEN. *Shandong Univ., Shandong Univ., Shandong Univ.*

3:00 TT23 **800.11** Sex-specific changes in memory related signaling after systemic inflammation. D. TCHESSALOVA*; K. M. COLLETTE; N. C. TRONSON. *Univ. of Michigan, Univ. of Michigan.*

4:00 TT24 **800.12** Effects of Cacna1c gene deletion and different post-weaning environmental conditions on object memory, spatial and reversal learning capabilities in rats. M. D. BRAUN*; T. M. KISKO; R. KAYUMOVA; D. DALLA VECCHIA; R. ANDREATINI; C. HOHMEYER; M. RIETSCHEL; S. WITT; R. K. W. SCHWARTING; M. WÖHR. *Philipps-University Marburg, Federal Univ. of Paraná, Central Inst. of Mental Hlth.*

1:00 TT25 **800.13** Knockout of ZDHHC9, a gene associated with X-linked intellectual disability, causes reduced anxiety and a spatial learning deficit in adult male mice. M. KOUSKOU*; D. M. THOMSON; L. WHEELER; M. COLLINS; R. R. BRETT; J. A. PRATT; L. H. CHAMBERLAIN. *Univ. of Strathclyde, The Univ. of Sheffield.*

2:00 TT26 **800.14** ▲ The influence of orexin antagonist, SB-334867, on cognitive flexibility. Z. FORRESTER-FRONSTIN*; M. WINTERS; A. M. BAILEY. *St. Mary's Col. of Maryland.*

3:00 TT27 **800.15** Effects of 5-HT6 receptor agonist EMD386088 on working memory and behavioral flexibility. S. PETERSON; A. PAHUA; E. HEFNER; D. QI; J. VEGA; D. A. AMODEO*. *California State Univ. San Bernardino.*

4:00 TT28 **800.16** Habenula-specific GPCR signaling protein (HAGP) is necessary for hippocampal-dependent memory function. H. LEE*; B. HAN; I. BAK; D. YU; S. LEE; K. SHIN; C. KIM; I. SHIM. *Kyung Hee Univ., Korea Res. Inst. of Biosci. and Biotech., Kyung Hee Univ., Chungnam Natl. Univ.*

1:00 TT29 **800.17** Effects of ovariectomy and chronic estrogen receptor beta agonist treatment on the hippocampal transcriptome of middle-aged rats. Z. LIPOSITS*; I. KALLÓ; E. HRABOVSZKY; N. SOLYMOSI; C. VASTAGH; M. SÁRVÁRI. *Inst. of Exptl. Medicine, Hungarian Acad., Pázmány Péter Catholic Univ., Univ. of Vet. Med.*

2:00 TT30 **800.18** Abnormal control of behaviour by context related to low dosage of the psychiatric risk gene Cacna1c. J. HADDON; L. SYKES; Y. PATEL; J. CARTER; T. HUMBY; J. HALL; L. S. WILKINSON*. *Cardiff Univ., Neurosci. and Mental Hlth. Res. Inst.*

3:00 TT31 **800.19** Inhibition of GSK3β/NFκB signaling improves cognitive deficits in type 2 diabetic rats through regulation of CREB and glutamate/GABA Neurotransmitters. A. K. DATUSALIA*; S. S. SHARMA. *Natl. Brain Res. Ctr., Natl. Inst. of Pharmaceut. Educ. and Res. (NIPER).*

**POSTER**

**801. Learning: Reward, Feedback, and Neurofeedback**

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 TT32 **801.01** Dorsolateral prefrontal cortex holds motivational state during anticipation to influence subsequent memory. M. T. VU*; J. K. STANEK; L. LEREBOURS; T. EGNER; R. ADCOCK. *Duke Univ.*

2:00 TT33 **801.02** The effects of aging on curiosity and memory. E. TEDESCHI*; C. MARVIN; E. LANG; D. SHOHAMY. *Columbia Univ.*

3:00 TT34 **801.03** Constructing confidence in the absence of feedback. M. ROUAULT*; P. DAYAN; S. M. FLEMING. *Univ. Col. London, Gatsby Computat. Neurosci. Unit.*

Wed. PM

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4:00 TT35 **801.04** Dopaminergic effects on reinforcement learning and the transfer of learned value. B. V. MCCOY*; G. ENGELS; T. KNAPEN; J. THEEUWES. *VU Univ.*

1:00 TT36 **801.05** Pupil responses are indicators of value-based decision-making. J. C. VAN SLOOTEN*; S. JAHFARI; T. KNAPEN; J. THEEUWES. *Vrije Univ. Amsterdam.*

2:00 TT37 **801.06** ● ▲ Testing perseverative responding as a metric of habitual behavior across paradigms. G. GUO; S. DOVE; T. H. MCKIM*; A. ELTON; C. A. BOETTIGER. *Univ. of North Carolina at Chapel Hill, Brown Univ., The Univ. of North Carolina At Chapel Hill, Univ. of North Carolina.*

3:00 TT38 **801.07** Modulation of stimulus representation during crossmodal second-order conditioning in humans. S. REDZEPOVIC*; C. W. KORN; J. P. GLÄSCHER. *Univ. Med. Ctr. Hamburg-Eppendorf.*

4:00 TT39 **801.08** Common and distinct neural contributions to episodic and incrementally-learned value. R. T. GERRATY*; K. D. DUNCAN; B. B. DOLL; N. D. DAW; D. SHOHAMY. *Columbia Univ., Univ. of Toronto, New York Univ., Columbia Univ.*

1:00 TT40 **801.09** Inducing neural plasticity and perceptual similarity via real-time fMRI neurofeeback. M. IORDAN*; V. J. H. RITVO; K. A. NORMAN; N. B. TURK-BROWNE; J. D. COHEN. *Princeton Univ.*

2:00 TT41 **801.10** Up-regulation of supplementary motor area activation with fMRI neurofeedback improves motor reaction time. S. M. AL-WASITY*; A. VUCKOVIC; F. E. POLLICK. *Univ. of Glasgow, Univ. of Glasgow.*

3:00 TT42 **801.11** Simulated fMRI neurofeedback reveals principles of neural self-regulation. E. OBLAK*; J. A. LEWIS-PEACOCK; J. S. SULZER. *Univ. of Texas at Austin, Univ. of Texas at Austin, Univ. of Texas At Austin.*

4:00 TT43 **801.12** Does optimally-combined, multi-echo neurofeedback make a difference for real-time learning? S. KIMMICH*; J. GONZALEZ-CASTILLO; M. RAMOT; P. BANDETTINI. *Univ. Col. London - Natl. Inst. of, Section for Functional Methods Develop., NIH/NIMH, NIMH-NIH.*

1:00 TT44 **801.13** Neurofeedback training of selective attention and speech-in-noise recognition. S. KIM*; A. T. SCHWALJE; C. EMORY; I. CHOI. *Univ. of Iowa, Univ. of Iowa Hosp. and Clinics, Univ. of Iowa.*

2:00 TT45 **801.14** Impact of trait mindfulness and cognitive control on feedback related negativity (FRN) following single-session mindfulness meditation. T. GREIF*; H. WILKS; J. MULLINS; D. A. S. KAUFMAN. *St. Louis Univ.*

3:00 TT46 **801.15** Opposing neural effects of reward and punishment during sequence learning. A. D. STEEL*; E. H. SILSON; C. J. STAGG; C. I. BAKER. *NIH, Natl. Inst. of Mental Hlth., Univ. of Oxford, NIH.*

4:00 TT47 **801.16** Involuntary gaze bias guided by the long-term learned values of visual objects in human subjects. H. Z. KIM*; J. KANG; S. LEE; H. F. KIM. *Inst. For Basic Science(Ibs), Sungkyunkwan Univ. (SKKU), Korea Advanced Inst. of Sci. and Technol., Korea Advanced Inst. of Sci. and Technol.*

1:00 TT48 **801.17** Reward-driven representations of sequential task structure in prefrontal cortex. M. C. KLEIN-FLÜGGE*; A. SHPEKTOR; D. E. A. JENSEN; M. F. RUSHWORTH. *Oxford Univ., Univ. of Oxford, Univ. Oxford.*

2:00 TT49 **801.18** Beyond spatial mapping: Unique mechanisms of visuomotor associative learning. A. G. RENFRO*; A. T. MATTFELD. *Florida Internation Univ.*

3:00 TT50 **801.19** Changes in community structure in early vs late associative learning. A. KIMBLER*; A. T. MATTFELD. *Florida Intl. Univ.*

4:00 TT51 **801.20** Prismatic adaptation modulates feedback-based learning. S. SCHINTU*; M. FREEDBERG; Z. M. ALAM; W. M. ERIC; S. S. SHOMSTEIN. *Natl. Inst. of Hlth., George Washington Univ.*

1:00 TT52 **801.21** Neurofeedback training of alpha or sensorimotor rhythm enhances memory. F. SHAW*; T. CHEN; J. HSUEH. *Natl. Cheng Kung Univ., Natl. Cheng Kung Univ.*

2:00 TT53 **801.22** Modulation of cross-modal integration by reward learning. C. W. KORN; S. REDZEPOVIC; J. P. GLAESCHER*. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Med. Ctr. Hamburg-Eppendorf.*

3:00 TT54 **801.23** The efficacy of neurogames for teaching self-regulation to young children with anxiety and attention challenges. A. N. ANTLE*; L. CHESICK; E. S. MCLAREN*. *Simon Fraser Univ., Univ. of British Columbia.*

4:00 TT55 **801.24** ● Monetary incentive alters neural response during a spatial working memory task and differentiates unmedicated bipolar and unipolar depressed subjects. J. E. SZCZEPANIK*; C. MARTIN-SOELCH; J. L. REED; A. C. NUGENT; D. A. HANDWERKER; A. G. THOMAS; C. A. ZARATE, JR; W. C. DREVETS. *NIMH, Univ. of Freiburg, NIMH, NIMH, NIMH, Janssen Pharmaceuticals.*

1:00 TT56 **801.25** ● A preliminary study of the cognitive remediation therapy (CRT) in pediatric patients with chronic illness. B. JOO; J. LEE; S. SHIN; S. EOM*. *Severance Children's Hospital, Yonsei Univ. Col. of Med., Yonsei Univ. Col. of Med., Yonsei Univ. Col. of Med.*

2:00 TT57 **801.26** Evidence of a critical, lateralized role for ventromedial frontal lobe in learning spatial location-value associations in humans. G. PELLETIER*; L. K. FELLOWS. *McGill Univ.*

3:00 TT58 **801.27** Causal role of the inferolateral prefrontal cortex in the goal-directed control of behavior. M. BOGDANOV*; J. E. TIMMERMANN; J. GLÄSCHER; F. C. HUMMEL; L. SCHWABE. *Univ. of Hamburg, Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Med. Ctr. Hamburg-Eppendorf, Ctr. of Neuroprosthetics, Swiss Federal Inst. of Technol.*

4:00 TT59 **801.28** Evidence for reward learning in speech motor control. B. PARRELL*. *Univ. of Delaware.*

1:00 TT60 **801.29** ▲ The effects of brain training session on attention and optimal response. F. A. FRANCO*; G. K. UELAND; V. MAGANA; J. C. A. TORIO; R. P. ROSAL; J. P. ABARA. *California State Nothridge, California State Univ. Northridge, UC Merced, UC Santa Barbara.*

1:00 DP13/TT61 **801.30** (Dynamic Poster) Information sampling and object selection strategies demonstrate the learning and exploitation of feature relevance. M. R. WATSON*; B. VOLOH; M. NAGHIZADEH; S. CHEN; T. WOMELSDORF. *York Univ., York Univ., Vanderbilt Univ.*



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* Indicates abstract's submitting author

**POSTER**

**802. Human Medial Temporal Lobe and Spatial Learning**

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 TT62 **802.01** ● Spatial memory cognitive intervention induced long-term plasticity in the human hippocampus, neocortex and real life transfer. V. D. BOHBOT*; N. ANDERSEN; L. BHERER; H. M. CHERTKOW; L. DAHMANI; D. DUCHARME; C. FOUQUET; S. GAUTHIER; K. KONISHI; V. KURDI; J. P. LERCH; N. RAJAH; R. SHAM; D. J. SODUMS. *Douglas Mental Hlth. Univ. Inst., PERFORM Ctr., Lady Davis Inst. Med. Res., Ctr. de recherche de l'Institut Universitaire de Gériatrie de Montréal, Hosp. for Sick Children.*

2:00 TT63 **802.02** Development and validation of a short form of the Concurrent Spatial Discrimination Learning Task to identify early pathology in the hippocampus and entorhinal cortex. N. C. SCHMITZER-TORBERT*; J. LEE; D. DUCHARME; S. WEINTRAUB; M. MESULAM; R. C. GERSHON; V. D. BOHBOT. *Wabash Col., Douglas Mental Hlth. Univ. Inst., Douglas Mental Hlth. Univ. Inst., Northwestern University, Feinberg Sch. of Medici, Northwestern Univ., Northwestern Univ.*

3:00 TT64 **802.03** ▲ Spatial learners display enhanced oculomotor performance. É. AUMONT; V. D. BOHBOT; G. WEST*. *Univ. of Montreal, Douglas Mental Hlth. Univ. Inst., Univ. of Montreal.*

4:00 TT65 **802.04** APOE2 in older adults is associated with better spatial memory. K. KONISHI*; R. JOOBER; K. MACDONALD; J. BREITNER; V. D. BOHBOT. *Douglas Mental Hlth. Univ. Institute, McGill Univ., Ctr. for Studies on Prevention of Alzheimer's Dis. (StoP-AD), Douglas Mental Hlth. Univ. Institute, McGill Univ.*

1:00 TT66 **802.05** Structural covariance networks seeded from the parahippocampal and entorhinal cortices differ in individuals who spontaneously use spatial and response strategies in a virtual navigation task. A. ALMEY*; J. P. LERCH; A. EVANS; V. D. BOHBOT. *McGill University, Douglas Hosp. Res. Insti, Hosp. for Sick Children, McGill Univ., Douglas Mental Hlth. Univ. Inst.*

2:00 UU1 **802.06** ● Changes in hippocampus resting state functional connectivity after a spatial memory cognitive intervention program. D. DUCHARME*; D. J. SODUMS; L. BHERER; H. M. CHERTKOW; S. GAUTHIER; J. P. LERCH; N. RAJAH; V. D. BOHBOT. *Douglas Mental Hlth. Univ. Inst., PERFORM Ctr., Lady Davis Inst. Med. Res., Hosp. for Sick Children.*

3:00 UU2 **802.07** Autistic traits in normal individuals are associated with increased landmark use during navigation. C. BLANCHETTE*; J. AMIROVA; V. D. BOHBOT; G. L. WEST. *Univ. De Montréal, Douglas Mental Hlth. Univ. Inst.*

4:00 UU3 **802.08** Habitual action video game playing is associated with differences in resting state functional connectivity. J. BENADY-CHORNEY*; Y. ZHANG; Y. ZEIGHAMI; V. D. BOHBOT; G. WEST. *McGill Univ., Douglas Mental Hlth. Univ. Inst., McConnell Brain Imaging Centre, Montreal Neurolog. Institute, McGill Univ., Douglas Mental Hlth. Univ. Inst., Univ. of Montreal.*

1:00 UU4 **802.09** Multivariate decoding of allocentric boundary direction in the human entorhinal cortex and subiculum. J. SHINE*; J. P. VALDÉS-HERRERA; C. TEMPELMANN; T. WOLBERS. *DZNE, Otto-von-Guericke-University, Ctr. for Behavioral Brain Sci.*

2:00 UU5 **802.10** Reduced grid-cell-like representations are associated with path integration deficits in old age. M. STANGL*; K. HUBER; C. DIETRICH; D. BERRON; J. ACHTZEHN; J. ACOSTA-CABRONERO; C. TEMPELMANN; T. WOLBERS. *German Ctr. for Neurodegenerative Dis. (DZNE), Otto-von-Guericke Univ. Magdeburg, Univ. Col. London, Med. Faculty, Otto-von-Guericke Univ. Magdeburg, Ctr. for Behavioral Brain Sci.*

3:00 UU6 **802.11** The influence of decision-making on spatial learning and memory: An individual differences approach. E. R. CHRASTIL*; G. L. NICORA. *Univ. of California, Santa Barbara, Univ. of California, Santa Barbara.*

4:00 UU7 **802.12** Hippocampal and prefrontal cognitive map formation in naturalistic contexts. K. R. SHERRILL*; M. L. MACK; R. J. MOLITOR; A. R. PRESTON. *Univ. of Texas At Austin, Univ. of Toronto.*

**POSTER**

**803. Memory Processes**

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 UU8 **803.01** Neural mechanisms of context-dependent decision making. E. MIZRAK*; N. R. BOUFFARD; L. A. LIBBY; C. RANGANATH, Ph.D. *Univ. of California Davis, Univ. of California, UC Davis, UC Davis.*

2:00 UU9 **803.02** Probing the neural mechanisms of schema-based sequence knowledge. W. B. REILLY*; C. RANGANATH. *UC Davis.*

3:00 UU10 **803.03** Neural basis underlying the generalization of sequence structure. M. C. INHOFF*; N. R. BOUFFARD; L. HSIEH; C. RANGANATH. *UC Davis, UC Davis.*

4:00 UU11 **803.04** Retrieval-related memory enhancement and reactivation in the posterior medial/core recollection network. T. R. JONKER*; H. R. DIMSDALE-ZUCKER; M. RITCHEY; A. CLARKE; C. RANGANATH, Ph.D. *Univ. of California Davis, Univ. of California, Davis, Boston Col., Univ. of California Davis.*

1:00 UU12 **803.05** Contextual information modulates representations of items in a memory space. J. CRIVELLI-DECKER*; A. CLARKE; C. LOWELL; C. RANGANATH. *UC Davis, Univ. of Cambridge.*

2:00 UU13 **803.06** Different scales for time in the hippocampal subfields. H. R. DIMSDALE-ZUCKER*; M. E. MONTCHAL; S. WANG; L. A. LIBBY; C. RANGANATH. *UC Davis Ctr. for Neurosci., UC Irvine, Stanford Univ.*

3:00 UU14 **803.07** Effects of study context on recall organization. K. ZIMAN*; A. C. HEUSSER; J. R. MANNING. *Dartmouth Col., Dartmouth Col., Dartmouth Col.*

4:00 UU15 **803.08** The role of NREM stage 2 spindles in an afternoon nap for lab-based and real-world measures of episodic memory. S. Y. KIM*; J. D. PAYNE. *Univ. of Notre Dame.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 UU16 **803.09** Spaced learning enhances memory by improving spatiotemporal neural pattern similarity. K. FENG*; G. XUE. *State Key Lab. of Cognitive Neurosci. and Learning.*

2:00 UU17 **803.10** The neural code of the human brain as revealed through the analysis of intracranial recordings across a range of perceptual and cognitive tasks. P. F. VERSCHURE*; R. ZUCCA; D. PACHECO; D. SANTOS-PATA; G. MAFFEI; J. PUIGBÒ; X. D. ARSIWALLA; A. PRINCIPE; R. ROCAMORA; G. CONESA. *ICREA - Univ. Pompeu Fabra, SPECS, UPF, SPECS Univ. Pompeu Fabra, Hosp. del Mar Med. Res.*

3:00 UU18 **803.11** ● The neural dynamics of retrieving context-dependent emotional associations. M. BLUESTONE*; R. SUTHARD; M. RITCHEY. *Boston Col.*

4:00 UU19 **803.12** Representation of associative information during long-term memory retrieval. J. KANG*; S. LEE. *KAIST.*

1:00 UU20 **803.13** Selective inhibition of reactivated fear memory with propranolol prevents fear response and fear return. L. SHI*; J. DENG; S. CHEN; J. QUE; Y. SUN; Y. HAN; J. SHI; L. LU. *Peking Univ., Peking Univ. Sixth Hosp., Natl. Inst. on Drug Dependence of Peking Univ.*

2:00 UU21 **803.14** Hierarchical chunking in free recall of random lists of words. M. KATKOV*; S. RECANATESI; M. V. TSODYKS. *Weizmann Inst. of Sci.*

3:00 UU22 **803.15** Parietal cortex combines information about semantic content and mnemonic processes. H. LEE*; S. C. SWEIGART; B. A. KUHL. *New York Univ., Univ. of Oregon.*

4:00 UU23 **803.16** Effect of changes in stimulus valence on the contribution of familiarity and recollection to recognition memory in PTSD patients: A ROC study. E. ATUCHA TREVINO*; P. SCHULZE; B. SUCHAN; H. KESSLER; M. YOSHIDA; S. HERPETZ; M. SAUVAGE. *Leibniz Inst. For Neurobio., Ruhr Univ., Ruhr Univ., LWL-Universitätsklinikum der Ruhr-Universität Bochum, DZNE, Otto von Guericke Univ., Otto von Guericke Univ.*

1:00 UU24 **803.17** Psychological stress and the mechanisms of prospective navigation in humans. T. I. BROWN*; S. A. GAGNON; A. D. WAGNER. *Stanford Univ.*

2:00 UU25 **803.18** ▲ Widely different patterns of cortical activity in females and males during spatial long-term memory. D. SPETS*; B. JEYE; S. SLOTNICK. *Boston Col. Dept. of Psychology, Boston Col.*

3:00 UU26 **803.19** ERP correlates of recognition memory after active versus passive memory retrieval. J. M. ANDREAU*; S. A. IDESIS; S. TORRES BATAN; A. A. IORIO. *Univ. Del Salvador, Inst. de Biologia y Medicina Exptl.*

4:00 UU27 **803.20** The influence of biological, social and lifestyle variables on episodic memory decay across the adult life span. S. CANSINO*; F. TORRES-TREJO; C. ESTRADA-MANILLA; E. HERNÁNDEZ-RAMOS; J. G. MARTÍNEZ-GALINDO; T. GÓMEZ-FERNÁNDEZ; M. AYALA-HERNÁNDEZ; M. D. RAMÍREZ-GONZÁLEZ; S. RUIZ-VELASCO. *Lab. NeuroCognition, Nat Autonomous Univ. of Mexico, Univ. of Three Cultures, Sch. of Medecine, Natl. Autonomous Univ. of Mexico, Applied Mathematics and Systems Res. Institute, Natl. Autonomous Univ. of Mexico.*

1:00 UU28 **803.21** Quantifying the resolution and capacity of memory during free recall of real-world visual scenes. E. H. HALL*; W. A. BAINBRIDGE; C. I. BAKER. *Natl. Inst. of Mental Hlth.*

2:00 UU29 **803.22** Inhibiting scene memories through closed-loop modulation of retrieval strength. A. C. MENNEN*; J. POPPENK; M. T. DEBETTENCOURT; K. A. NORMAN. *Princeton Univ., Queen's Univ., Univ. of Chicago.*

3:00 UU30 **803.23** The effects of naming level and familiarity on the object representations in the human anterior temporal lobe. Z. XU*; P. SUN; Y. NAYA. *Peking Univ., Peking Univ., Tsinghua Univ., Peking Univ., Zhejiang Univ.*

4:00 UU31 **803.24** Caricaturizing the world; enhancement of distinctive features of objects during the consolidation of recently acquired visual memories. C. CHUNHARAS*; V. RAMACHANDRAN. *UCSD, King Chulalongkorn Mem. Hospital, Chulalongkorn Univ.*

1:00 UU32 **803.25** Parietal and medial frontal contributions to scene memory. T. M. ELLMORE*; C. P. REICHERT; K. NG; N. MEI. *The City Col. of New York.*

2:00 UU33 **803.26** Effect of mindfulness meditation on long-term memory. E. NYHUS*; W. A. ENGEL; T. DONATELLI PITFIELD. *Bowdoin Col., Bowdoin Col.*

3:00 UU34 **803.27** Meditation and memory: Breathing-focused meditation and progressive muscle relaxation meditation effective at disrupting declarative memory. G. HANSON GOTTHARD*; M. RANSEGNOLA; K. AMBROZE. *Muhlenberg Col., Muhlenberg Col.*

4:00 UU35 **803.28** Remembering what is desirable rather than what is true. D. CAHILL*; T. SHAROT. *Univ. Col. London, Univ. Col. London.*

1:00 UU36 **803.29** Acquired language deficit and retrograde memory. D. X. CAPRUSO*. *New York City Col. of Technol. (CUNY).*

2:00 UU37 **803.30** Negative functional connectivity between the dorsolateral prefrontal cortex and language processing cortex during semantic memory retrieval. B. M. JEYE*; S. M. KARK; E. A. KENSINGER; S. D. SLOTNICK. *Boston Col.*

**POSTER**

**804. Visual and Auditory Attention**

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 UU38 **804.01** Single-neuron representation of top-down signals in the human medial temporal lobe during memory-guided visual search. S. WANG*; A. N. MAMELAK; R. ADOLPHS; U. RUTISHAUSER. *Princeton Univ., Cedars-Sinai Med. Ctr., Caltech, Cedars-Sinai Med. Ctr.*

2:00 UU39 **804.02** Common variants of genes involved in synaptic plasticity are associated with individual variation in visual attention capacities. J. M. HALVORSEN*. *Univ. of Oslo.*

3:00 UU40 **804.03** Intracranial recordings define a cortico-hippocampal network in top-down and bottom-up visual attention. S. J. SLAMA*; A. SOLBAKK; T. ENDESTAD; P. G. LARSSON; J. J. LIN; P. B. WEBER; K. D. LAXER; D. KING-STEPHENS; R. T. KNIGHT. *UC Berkeley, Univ. of Oslo, Univ. of Oslo Hospital, Rikshospitalet, Univ. of California, Irvine, California Pacific Med. Ctr., California Pacific Med. Ctr., UC Berkeley.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 UU41 **804.04** Individual differences in selective and divided attention to complementary auditory and visual tasks. J. KWASA*; B. SHINN-CUNNINGHAM. *Boston Univ., Boston Univ.*

1:00 UU42 **804.05** Implicit temporal predictability enhances auditory pitch-discrimination sensitivity. S. K. HERBST*; M. PLÖCHL; A. HERRMANN; J. OBLESER. *Univ. of Luebeck.*

2:00 UU43 **804.06** Auditory attention and predictive processing co-modulate speech comprehension in middle-aged adults. S. TUNE*; M. WÖSTMANN; J. OBLESER. *Univ. of Luebeck.*

3:00 UU44 **804.07** Transcranial 10-Hz stimulation but also eye closure modulate auditory attention. M. WÖSTMANN*; L. SCHMITT; J. VOSSKUHL; C. S. HERRMANN; J. OBLESER. *Univ. of Luebeck, Oldenburg Univ.*

4:00 UU45 **804.08** Spatio-temporal expectations exert differential effects on visual and auditory discrimination. A. WILSCH*; J. OBLESER; C. E. SCHROEDER; C. S. HERRMANN; S. HAEGENS. *Univ. of Oldenburg, Univ. of Luebeck, Columbia Univ. Col. of Physicians and Surgeons, Nathan Kline Inst., Univ. of Oldenburg, Donders Inst. For Brain, Cognition & Behaviour.*

1:00 UU46 **804.09** Are visual and auditory detection performance driven by a supramodal attentional rhythm? M. PLOECHL*; S. KASTNER; I. C. FIEBELKORN; J. OBLESER. *Univ. zu Luebeck, Princeton Univ.*

2:00 UU47 **804.10** ▲ Subjective conscious perception shortens reaction time independently of objective task performance. S. FORMAN*; S. I. KRONEMER; E. SABERSKI; J. H. RYU; M. KHOSLA; W. R. XIAO; R. T. CONSTABLE; H. BLUMENFELD. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Yale Univ. Sch. of Med.*

3:00 UU48 **804.11** Effect of peri-stimulus alpha activity phase and power on detection of threshold visual perceptual stimuli. W. R. XIAO*; S. I. KRONEMER; J. L. GERRARD; D. D. SPENCER; H. BLUMENFELD. *Yale Univ., Yale Univ., Yale Univ.*

4:00 UU49 **804.12** The cortical and subcortical neural mechanisms of visual perception. S. I. KRONEMER*; S. FORMAN; J. RYU; M. KHOSLA; E. SABERSKI; W. R. XIAO; R. CONSTABLE; H. BLUMENFELD. *Yale Univ., Yale Univ., Yale Univ., Yale Univ.*

1:00 UU50 **804.13** ▲ Machine learning to predict conscious visual perception using pupillary dynamics. Z. DING*; J. S. PRINCE; S. FORMAN; O. MORGAN; C. W. ZHAO; S. WAFA; Y. CHEN; W. XIAO; S. I. KRONEMER; K. L. CHRISTISON-LAGAY; S. STEINERBERGER; M. MCGINLEY; D. MCCORMICK; H. BLUMENFELD. *Dept. of Neurology, Yale Univ., Yale Univ., Dept. of Mathematics, Yale Univ., Yale Univ.*

**POSTER**

**805. Attention Circuits**

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 UU51 **805.01** ● A translational electrophysiological signature of sustained attention in humans and mice. M. E. LEVIN*; K. A. RICHARDSON; S. HIRANO; B. BURAN; B. ESCHLE; G. A. FRANCIS; D. J. GERBER; K. M. SPENCER. *Galenea, Galenea, VA Boston/Harvard Med. Sch.*

2:00 UU52 **805.02** The human thalamus interacts with the prefrontal cortex to modulate task-evoked functional connectivity. K. HWANG*; J. M. SHINE; M. D'ESPOSITO. *Univ. of California Berkeley, The Univ. of Sydney.*

3:00 UU53 **805.03** Abnormal brain responses to a visual attention task in alcoholism. A. ZEHRA*; E. LINDGREN; D. TOMASI; C. WIERS; G. MILLER; L. TALAGALA; E. SHOKRI-KOJORI; C. FREEMAN; V. RAMIREZ; G. WANG; N. D. VOLKOW. *Natl. Inst. On Alcohol Abuse and Alcoholism, NIH/NIDA.*

4:00 UU54 **805.04** Selective attention reduces the trial-by-trial variability of human EEG activity. T. TRAN*; S. ITTHIPURIPAT; J. SERENCES; B. VOYTEK. *UCSD.*

1:00 UU55 **805.05** Cholinergic implications in a cross-species investigation of cortical network dynamics in feature binding. X. LI*; V. LJUBOJEVIC; J. ROUNDS; E. DE ROSA. *Dept. of Human Development, Cornell Univ., Univ. of Toronto Med. Sch.*

2:00 UU56 **805.06** ● Attention and memory in human hippocampal electrocorticography. S. MEISENHELTER*; M. E. TESTORF; N. R. HASULAK; T. K. TCHENG; D. S. RIZZUTO; M. J. KAHANA; B. C. JOBST. *Dartmouth Col. Geisel Sch. of Med., NeuroPace, Inc., Univ. of Pennsylvania, Univ. of Pennsylvania, Dartmouth-Hitchcock Med. Ctr.*

3:00 UU57 **805.07** Coupling of EEG and fMRI connector dynamics derived from concurrent EEG-fMRI. J. WIRSICH; B. MORILLON; K. LEHONGRE; A. GIRAUD; S. SADAGHIANI*. *Univ. of Illinois, Urbana-Champaign, Ecole Normale Superieure, Dept of Neurosci. - Univ. of Geneva, Univ. of Illinois, Urbana-Champaign.*

4:00 UU58 **805.08** Bringing attention to next level: Electrophysiological correlates of rajyoga meditation. K. SHARMA*; S. CHANDRA; A. K. DUBEY. *Netaji Subhash Inst. of Technol., Biomed. Engin.*

1:00 UU59 **805.09** Behavioral and neural mechanisms of top down visuospatial attention. S. BANERJEE*; S. GROVER; S. SUBBULAKSHMI; D. SRIDHARAN. *Indian Inst. of Sci.*

2:00 UU60 **805.10** ● Identification of a robust biomarker for continuous mental workload monitoring in complex driving scenarios. I. MOHAMMAD-REZAZADEH*; R. BHATTACHARYYA. *HRL Labs.*

3:00 UU61 **805.11** Cue-evoked pupillary response reveals a left visual field bias in covert spatial visual attention. S. MEYYAPPAN*; A. RAJAN; H. WALKER; Y. LIU; G. R. MANGUN; M. DING. *Univ. of Florida, Univ. of Florida, Univ. of California Davis Ctr. for Mind and Brain, Univ. of California Davis.*



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* Indicates abstract's submitting author

4:00 UU62 **805.12** ● An electroencephalographic study measuring the impact of physical exercise on working memory and visual attention-related brain oscillations. A. CHAIRE*; A. BECKE; E. DUEZEL. *Inst. of Cognitive Neurol. and Dementia (IKND), German Ctr. for Neurodegenerative Dis. (DZNE).*

1:00 UU63 **805.13** Brain activity and functional connectivity in attention and careless states by fNIRS. M. NISHIZAWA*; S. HIWA; T. HIROYASU. *Doshisha Univ. Kyotanabe Campus, Doshisha Univ., Doshisha Univ.*

2:00 UU64 **805.14** Self-regulation of primary auditory cortex activity via directed attention mediated by real-time fMRI neurofeedback is related to attentional control processes. M. S. SHERWOOD*; E. E. DILLER; S. GANAPATHY; K. B. BENNETT; J. T. NELSON; J. G. PARKER. *Wright State Univ., Wright State Univ., Wright State Univ., Wright State Univ., Dept. of Def. Hearing Ctr. of Excellence, Indiana Univ. Sch. of Med.*

3:00 UU65 **805.15** Consistent ECoG-fMRI correspondence of intrinsic networks across fMRI denoising strategies. A. KUCYI*; S. BICKEL; J. SCHROUFF; B. L. FOSTER; J. PARVIZI. *Aaron Kucyi, Stanford Univ., Baylor Col. of Med.*

4:00 UU66 **805.16** Investigating the relative timing of activations and deactivations in the default mode and antagonistic lateral parietal networks using intracranial recordings in the human brain. O. RACCAH*; A. L. DAITCH; J. PARVIZI. *Stanford Univ.*

1:00 UU67 **805.17** ● Chronic supplementation with a natural spearmint extract shows cognitive performance benefits in young healthy individuals. P. H. FALCONE; A. C. TRIBBY; J. A. LASRADO; B. A. FONSECA; B. J. LEWIS; K. A. HERRLINGER*. *MusclePharm, Kemin Foods, L.C.*

2:00 UU68 **805.18** Saccadic control networks in the brain during reading. B. T. CARTER*; T. JACKMAN; S. G. LUKE, 84602. *Brigham Young Univ., Brigham Young Univ.*

3:00 UU69 **805.19** Rapid reconfigurations of brain networks following rTMS to parietal cortex. J. O. GARCIA*; L. BATTELLI; E. B. PLOW; Z. CATTANEO; J. M. VETTEL; E. D. GROSSMAN. *U.S. Army Res. Lab., Univ. of Pennsylvania, Inst. Italiano di Tecnologia, Harvard Med. Sch., Cleveland Clin., Univ. of Milano-Bicocca, C. Mondino Natl. Neurolog. institute, Univ. of California, Santa Barbara, Univ. of California, Irvine.*

**POSTER**

**806. Executive Processes**

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 UU70 **806.01** Brief Mindfulness is not a panacea: Mindfulness inductions while viewing valenced pictures is associated with ERP reductions to viewing similar pictures post-mindfulness induction. S. T. FIX*; J. S. ELLIS; A. MASSEY; A. GRADONE; R. SOOD; K. FREELS; E. BERNAT. *Univ. of Maryland, Univ. of Maryland Col. Park.*

2:00 UU71 **806.02** Norepinephrine modulates the attentional allocation in response to novelty: An electrophysiological and pharmacological study. M. RANGEL-GOMEZ*; J. S. ELLIS; M. MEETER; E. M. BERNAT. *Univ. of Maryland, Col. Park, VU Univ. Amsterdam.*

3:00 UU72 **806.03** ▲ Time-Frequency Delta explains anxiety-based modulation of the feedback negativity component in a gambling task. A. VIVINO*; J. S. ELLIS; A. MASSEY; N. SCHMIDT; E. BERNAT. *Univ. of Maryland, Florida State Univ.*

4:00 UU73 **806.04** Time frequency delta underlying the N2 ERP component in a go/no-go task explains the differential modulation for internalizing and externalizing behaviors. J. S. ELLIS*; M. R. GOMEZ; N. B. SCHMIDT; E. M. BERNAT. *Univ. of Maryland Col. Park, Florida State Univ.*

1:00 UU74 **806.05** Theta and delta dynamics underlying ERPs in a gambling task: An assessment of FN and reward positivity. A. TOOTELL*; A. MASSEY; S. FIX; S. AVIYENTE; E. BERNAT. *Univ. of Maryland Col. Park, Michigan State Univ.*

2:00 UU75 **806.06** Changes in response inhibition in adolescent development as indexed by time-frequency amplitude and functional connectivity EEG measures. A. MASSEY*; H. M. ASKARI; M. NOVITSKAYA; N. JALALI; S. AVIYENTE; E. M. BERNAT; A. ANOKHIN. *Univ. of Maryland, Michigan State Univ., Washington Univ.*

3:00 UU76 **806.07** Response selection under conflict is determined by the reaction time. A. M. HAITH*; R. HARDWICK; M. VASS. *Johns Hopkins Univ., KU Leuven.*

4:00 UU77 **806.08** High gamma band (70-120 Hz) activity in human anterior cingulate and dorsolateral prefrontal cortex reflects level of task conflict. M. YATES*; E. SMITH; Y. PATHAK; S. SHETH. *Columbia Univ.*

1:00 UU78 **806.09** Enhancing introspective ability through adaptive training. J. M. CARPENTER*; M. SHERMAN; A. K. SETH; H. LAU; S. M. FLEMING. *Univ. Col. London, UCLA, Univ. of Sussex.*

2:00 UU79 **806.10** Conflict-sensitive high frequency activity and event-related potentials in medial and lateral prefrontal cortex during a Stroop task. C. HOY*; K. L. ANDERSON; V. PIAI; J. LIN; J. D. R. MILLAN; R. T. KNIGHT. *Univ. of California Berkeley, Kernel, Radboud Univ., Radboud Univ. Med. Ctr., Univ. of California, Irvine, Ecole Polytechnique Federale de Lausanne, Univ. of California Berkeley.*

1:00 DP14/UU80 **806.11** (Dynamic Poster) EnvironSim: An authoring tool to design customized complex ecological virtual environments. S. SANGANI; B. SEGAL; R. KIZONY; P. L. (TAMAR) WEISS; J. FUNG*. *Jewish Rehabil. Hosp., Univ. of Haifa, McGill Univ.*

4:00 UU81 **806.12** ● Individual differences in learning curves on tasks of executive function, memory and problem solving from a massive online dataset. N. NG*; A. KALUSZKA; N. SCHWARTZ; E. CORDELL; K. KERLAN; R. J. SCHAFER. *Lumos Labs, Inc.*

1:00 UU82 **806.13** ● Improved global-local visuospatial processing through online cognitive training. N. SCHWARTZ*. *Lumos Labs, Inc.*

2:00 UU83 **806.14** ● Transfer of learning between cognitive training tasks in a massive online dataset. R. J. SCHAFER*; C. LIU; E. CORDELL; K. KERLAN; N. NG. *Lumos Labs, Lumos Labs, Inc., Lumos Labs, Lumos Labs, Inc.*

3:00 VV1 **806.15** The significance of nutrition on domain specific cognitive ability. N. DATTA*; N. ZUCKER; G. MITTAL; A. KIRIDLY; T. BIDOPIA. *Duke Univ., Duke Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 VV2 **806.16** Electroencephalogram activity differentiates phases of cognitive tasks in human subjects. J. G. FOY*; J. C. SALINAS; C. C. CONNORS; M. R. FOY. *Loyola Marymount Univ., Loyola Marymount Univ.*

1:00 VV3 **806.17** Loss-of-function mutation in inositol monophosphatase 1 (IMPA1) results in abnormal synchrony in resting-state EEG. C. P. WALKER*; T. FIGUEIREDO; U. MELO; A. PESSOA; P. NÓBREGA; N. MURPHY; M. RAFFERTY; S. SANTOS; R. Y. CHO. *Univ. of Texas Hlth. Sci. Ctr. at Houston, Univ. of São Paulo, State Univ. of Ceará, Federal Univ. of Ceará, State Univ. of Paraíba.*

**POSTER**

**807. Schizophrenia and Bipolar Disorder: Cellular and Circuit Mechanisms**

***Theme H: Cognition***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 VV4 **807.01** Proteasome activity and expression in schizophrenia brain. M. R. SCOTT*; J. H. MEADOR-WOODRUFF. *Univ. of Alabama At Birmingham.*

2:00 VV5 **807.02** Complement innate immunity altered in schizophrenia and associated with cognitive performance. D. LLOYD*; S. WOO-KIM; R. LENROOT; R. BALZAN; M. O'DONNELL; C. GALLETLY; T. WEICKERT; C. WEICKERT. *Neurosci. Res. Australia (neura), Sch. of Psychiatry Univ. of New South Wales (UNSW), Sch. of Med. Sci. (UNSW), NeuRA, Prince of Wales Hosp., Univ. of Adelaide, Schizophrenia Res. Inst.*

3:00 VV6 **807.03** Differential glucocorticoid receptor cofactor and chaperone mRNA levels are related to positive symptoms and stress in schizophrenia. C. LEE*; D. SINCLAIR; C. S. WEICKERT; T. WEICKERT. *Neurosci. Res. Australia, Univ. of New South Wales, Univ. of Tasmania, Schizophrenia Res. Inst.*

4:00 VV7 **807.04** ● Peripheral changes of retinoid signalling genes in schizophrenia. S. TSAI*; J. M. FULLERTON; T. W. WEICKERT; V. S. CATTS; C. S. WEICKERT. *Neurosci. Res. Australia, Univ. of New South Wales, Schizophrenia Res. Inst., Univ. of New South Wales.*

1:00 VV8 **807.05** mGluR5 activity is strikingly reduced in DLPFCs of schizophrenia patients. C. HAHN*; H. WANG; P. SLEIMAN; M. MACDONALD; A. BANERJEE; K. E. BORGMANN-WINTER. *Univ. Pennsylvania Sch. Med., City Univ. of New York, The Children's Hosp. of Philadelphia and The Univ. Pennsylvania Sch. Med., Univ. of Pittsburg, Univ. Pennsylvania Sch. Med. and The Children's Hosp. of Philadelphia.*

2:00 VV9 **807.06** Decreased metabolic enzyme activity and abnormal expression of metabolic transcripts in pyramidal neurons in schizophrenia. C. R. SULLIVAN*; S. O'DONOVAN; R. KOENE; A. J. RAMSEY; R. MCCULLUMSMITH. *Univ. of Cincinnati, Univ. of Toronto.*

3:00 VV10 **807.07** Disrupted functional connectivity of the intralaminar thalamic nuclei. K. YASUDA*; T. IKUTA. *Tsukuba Wellness Res. Co., Ltd., Univ. of Mississippi.*

4:00 VV11 **807.08** Local gray matter volume correlates to the BPRS score in schizophrenia patients. T. UENO*; N. ORIBE; H. KUGA; N. NAKAYAMA; K. TASHIRO; K. KAWAKAMI; H. MIZUHARA; T. YUZURIHA. *Hizen Seishin Iryo Ctr., Kyoto Univ.*

1:00 VV12 **807.09** Orthogonal cytoarchitectonic, proteomic, and phosphoproteomic analyses reveal novel synaptic protein alterations linked to spine loss in schizophrenia. M. GARVER; J. NEWMAN; K. FISH; D. A. LEWIS; N. YATES; Y. DING; R. A. SWEET; M. L. MACDONALD*. *Univ. of Pittsburgh, Univ. Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh Dept. of Psychiatry.*

2:00 VV13 **807.10** A potential pathogenic role of hyperphosphorylated MAP2 in schizophrenia. X. S. SUN; J. SALSOVIC; M. GARVER; M. L. MACDONALD; M. GRUBISHA; R. OERLERMANS; C. CAMACHO; R. A. SWEET*. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Groningen, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh Dept. of Psychiatry.*

3:00 VV14 **807.11** Mitochondrial dysfunction in a developmental mouse model of schizophrenia and fibroblasts from early psychosis patients: A translational approach. I. KHADIMALLAH*; M. FOURNIER; J. H. CABUNGCAL; M. CLEUSIX; R. JENNI; P. KLAUSER; L. ALAMEDA; P. BAUMANN; M. CUENOD; P. CONUS; D. BEN-SHACHAR; K. Q. DO. *Ctr. For Psychiatric Neurosci., Service of Gen. Psychiatry, Lab. of Psychobiology.*

4:00 VV15 **807.12** Cell-specific changes in gene expression in adenosine pathways in schizophrenia. S. M. O'DONOVAN*; K. HASSELFELD; C. SULLIVAN; C. MOODY; R. KOENE; R. MCCULLUMSMITH. *Univ. of Cincinnati.*

1:00 VV16 **807.13** Role of GSK-3β in prefrontal cortex function. Y. LI*; N. URS; M. CARON; W. GAO. *Drexel Univ. Col. of Med., Univ. of Florida, Duke Univ. Med. Ctr.*

2:00 VV17 **807.14** Lower brain pH as a shared endophenotype of psychiatric disorders. H. HAGIHARA*; V. S. CATTS; Y. KATAYAMA; T. TAKAGI; F. L. HUANG; K. HUANG; S. ISHII; I. A. GRAEF; G. R. CRABTREE; K. I. NAKAYAMA; C. S. WEICKERT; T. MIYAKAWA. *Fujita Hlth. Univ., Neurosci. Res. Australia, Kyushu Univ., Aichi Human Service Ctr., Natl. Inst. of Child Hlth. and Human Develop., Natl. Inst. of Child Hlth. and Human Developmen, RIKEN Tsukuba Inst., Stanford Univ. Sch. of Med.*

3:00 VV18 **807.15** ● Gene expression of androgen receptor, but not 5α-reductase, is upregulated in bipolar disorder, but not in schizophrenia, in dorsolateral prefrontal cortex. S. J. OWENS*; T. D. PURVES-TYSON; M. J. WEBSTER; C. SHANNON WEICKERT. *Neurosci. Res. Australia, Univ. of New South Wales, Schizophrenia Res. Inst., Stanley Med. Res. Inst.*

4:00 VV19 **807.16** Working memory deficits in schizophrenia and ultra-high risk as indicated in disrupted theta gamma coupling during n-back task. M. RYU*; J. HAN; S. AN; J. PARK. *Yonsei Univ. Col. of Med., Severance Hosp., Gangnam Severance Hosp.*

1:00 VV20 **807.17** ● Molecular markers of adult neurogenesis are altered in the human subependymal zone in schizophrenia and bipolar disorder. C. WEISSLEDER*; H. F. NORTH; M. J. WEBSTER; C. SHANNON WEICKERT. *Neurosci. Res. Australia, Univ. of New South Wales, Schizophrenia Res. Inst., Stanley Med. Res. Inst.*

2:00 VV21 **807.18** ● Inflammatory changes in the neurogenic subependymal zone in schizophrenia and bipolar disorder. H. NORTH*; C. WEISSLEDER; C. SHANNON WEICKERT; M. J. WEBSTER. *Neurosci. Res. Australia, Stanley Med. Res. Inst.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 VV22 **807.19** Reduced frontoparietal theta phase synchronization during n-back task reflects working memory deficit in schizophrenia and ultra-high risk for psychosis compared to healthy controls. J. HAN*; M. RYU; M. BANG; J. PARK; S. AN. *Yonsei Univ. Col. of Med., Severance Hosp., Gangnam Severance Hosp.*

4:00 VV23 **807.20** Expression of cannabinoid receptor CNR1 in human prefrontal cortex, hippocampus and caudate nucleus. R. TAO; C. LI; R. YAMIN; J. SHIN; A. E. JAFFE; A. DEEP SOBOSLAY; D. R. WEINBERGER; T. M. HYDE*; J. E. KLEINMAN. *Lieber Inst. For Brain Develop.*

1:00 VV24 **807.21** White matter pathology in schizophrenia. R. C. ROBERTS*; K. SCHOONOVER; C. FARMER; A. CASH. *Univ. of Alabama, Birmingham, Univ. of Alabama, Birmingham.*

2:00 VV25 **807.22** Elucidating psychosis biotypes using biomarkers and iPSCs. A. M. BOBILEV*; M. E. HUDGENS-HANEY; E. I. IVLEVA; W. LI; B. A. CLEMENTZ; E. GERSHON; M. KESHEVAN; J. SWEENEY; G. PEARLSON; C. A. TAMMINGA. *Univ. of Texas Southwestern Med. Ctr., Univ. of Georgia, UT Southwestern Med. Center, Dept. of Psychiatry, UT Southwestern Med. Ctr., Univ. of Georgia Dept. of Psychology, Univ. of Chicago, Harvard Univ., Yale Univ., Univ. of Texas Southwestern Med. Ctr. at Dallas.*

**POSTER**

## 808. Methods: Non-Invasive Stimulation

***Theme I: Techniques***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 VV26 **808.01** A low-cost high-fidelity system for navigated transcranial magnetic stimulation. E. P. WASHABAUGH*, IV; J. RODSETH; C. KRISHNAN. *Univ. of Michigan.*

2:00 VV27 **808.02** Changes in neural activity of the primary motor cortex induced by repetitive transcranial magnetic stimulation (rTMS) in monkeys - An ECoG study. K. OGAWA*; S. NAKAMURA; T. HOSOKAWA; T. IIJIMA; Y. NISHIMURA; K. TSUTSUI. *Lab. of Systems Neuroscience, Tohoku Univ., Tokyo Metropolitan Inst. of Med. Sci.*

3:00 VV28 **808.03** Effect of tDCSs over primary motor cortex on corticospinal excitability and interhemispheric inhibition. M. VESIA*; R. CHEN; C. RINCHON; R. ISAYAMA; G. JEGATHEESWARAN; R. PELLICCIARI; T. LULIC; N. KUNARATNAM; J. L. CHEN. *Krembil Res. Inst., Toronto Western Hosp, Toronto Western Hosp., Toronto Western Hosp., Tornto Western Hosp., Univ. of Waterloo, Sunnybrook Res. Inst., Sunnybrook Res. Inst.*

4:00 VV29 **808.04** ● Comparison of the amplitude and spatial distribution of voltages induced by a new method of brain magnetic stimulation with conventional transcranial magnetic stimulation. S. A. HELEKAR*; A. PATEL; S. CONVENTO; B. JOHN; J. M. YAU. *Houston Methodist Res. Inst., Baylor Col. of Med.*

1:00 VV30 **808.05** Characterization of the horizontal cortical connectivity in the primary motor cortex using micro-electrocorticographical stimulation. A. KOSUGI*; E. CASTAGNOLA; S. CARLI; D. RICCI; L. FADIGA; A. IRIKI; J. USHIBA. *Keio Univ., RIKEN Brain Sci. Inst., Inst. Italiano di Tecnologia, Univ. of Ferrara, Keio Univ.*

2:00 VV31 **808.06** The effect of electrical cortical stimulation on population-level activity. L. J. CROWTHER*; P. BRUNNER; A. L. RITACCIO; G. SCHALK. *Wadsworth Ctr., Albany Med. Col., State Univ. of New York.*

3:00 VV32 **808.07** ● Specificity of theta burst stimulation. T. P. MORRIS*; P. DAVILA PEREZ; A. JANNATI; A. PASCUAL-LEONE; P. FRIED. *Beth Israel Deaconess Med. Ctr., Departament de Psicobiologia i Ciències de la Salut, Inst. de Neurociències, Univ. Autònoma de Barcelona, Univ. de A Coruna, Facultade de Ciencias de la Salud, Inst. Guttmann, Inst. Universitari de Neurorehabilitació adscrit a la UAB.*

4:00 VV33 **808.08** A non-invasive restraining system for awake mouse imaging: Assessment of motion. D. MADULARU*; A. MATHIEU; L. REYNOLDS; C. KUMARAGAMAGE; C. FLORES; M. N. RAJAH. *McGill Univ., McGill Univ.*

1:00 VV34 **808.09** Induction of long-term depression using transcranial focused ultrasound in rat hippocampus. X. NIU*; K. YU; J. D. BASILE; B. HE. *Univ. of Minnesota.*

2:00 VV35 **808.10** Ultrasonic neuromodulation *in vivo*: Discovery of a somato-auditory artifact and its implications. T. SATO*; M. G. SHAPIRO; D. Y. TSAO. *Caltech.*

3:00 VV36 **808.11** Ultrasound modulation of mouse peripheral nerve activity in an *ex vivo* skin-nerve preparation. Y. BABA*; B. U. HOFFMAN; M. E. DOWNS; S. LEE; E. KONOFAGOU; E. A. LUMPKIN. *Columbia Univ. Med. Ctr., Columbia Univ., Columbia Univ.*

4:00 VV37 **808.12** Focus ultrasound evoked responses in dorsal root ganglion neuorns. C. TONG*; D. FLOREZ PAZ; M. E. DOWS; S. A. LEE; E. KONOFAGOU; E. A. LUMPKIN. *Columbia Univ., Columbia Univ., Dept. of Dermatol.*

1:00 VV38 **808.13** Focused ultrasound neuromodulation of peripheral nerves *in vivo* via radiation force. S. A. LEE*; M. DOWNS; E. KONOFAGOU. *Columbia Univ., Columbia Univ., Columbia Univ.*

2:00 VV39 **808.14** Does 1-Hz repetitive TMS disinhibit the contralesional cortex? A test within the primate oculomotor system. S. J. LEHMANN*; B. D. CORNEIL. *Robarts Res. Inst. / Univ. of Western, Western Univ.*

3:00 VV40 **808.15** Optimal parameters for measuring short-interval intracortical inhibition (SICI) in the quadriceps muscle group. R. J. SANER*; E. P. WASHABAUGH, IV; C. KRISHNAN. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

4:00 VV41 **808.16** ● Relation of electric field strengths in regions of interest with motor threshold and clinical outcomes in repetitive transcranial magnetic stimulation. A. D. SNYDER*; A. K. PANDURANGI; S. FARHEEN; R. L. HADIMANI. *Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

1:00 VV42 **808.17** Interactions between reticulospinal and corticospinal systems - a SAS-TMS study. Y. CHEN*; S. LI; P. ZHOU; S. LI. *UTHealth.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

**POSTER**

**809. Optical Probes: Functional Readouts**

***Theme I: Techniques***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 VV43 **809.01** A Flp-dependent G-CaMP9a transgenic mouse for neuronal imaging *in vivo.* M. SAKAMOTO*; M. INOUE; K. SAKAI; S. KOBARI; S. TAKEMOTO-KIMURA; M. ABE; K. SAKIMURA; H. BITO. *Grad. Shool of Medicine,The Univ. of Tokyo, The Univ. of Tokyo, Brain Res. Institute, Niigata Univ.*

2:00 VV44 **809.02** Rational engineering of XCaMPs, a multicolor GECI suite for *in vivo* imaging of brain circuit dynamics. M. INOUE*; A. TAKEUCHI; S. MANITA; S. HORIGANE; R. KAWAKAMI; K. YAMAGUCHI; M. SAKAMOTO; H. YOKOYAMA; R. KIM; S. TAKEMOTO-KIMURA; M. ABE; K. SAKIMURA; T. NEMOTO; M. KANO; H. FUJII; K. KITAMURA; H. BITO. *Grad Sch. Med, Univ. Tokyo, Dept Neurophysiol, Grad Sch. Med, Univ. Tokyo, Univ. of Yamanashi, Nagoya Univ., Hokkaido Univ., Tohoku Univ., PRESTO-JST, Brain Res. Ins Niigata Univ., AMED-CREST.*

3:00 VV45 **809.03** Development of nanobodies against neuronal proteins for use as intrabodies and as nanoscale immunolabels. J. DONG; Y. LEE; D. BI; M. KIRMIZ; J. S. TRIMMER*. *Univ. of California, Davis.*

4:00 VV46 **809.04** Optogenetic, transient-sensing and chemogenetic mouse models available from The Jackson Laboratory. J. BECKWITH*; S. F. ROCKWOOD; C. LUTZ. *The Jackson Lab.*

1:00 VV47 **809.05** ▲ A novel genetically encodable hybrid voltage indicator (GEhVI) accurately reports over a wide range of frequency- and amplitude-modulated changes in membrane potential. T. C. ALICH*; L. POTHMANN; B. SZALONTAI; M. PABST; P. TRAN; G. C. FAAS; I. MODY. *Life&Brain Center, Univ. of Bonn Med. Ctr., The David Geffen Sch. of Med. at UCLA.*

2:00 VV48 **809.06** Phenotypic profiling of neuronal synapses using highly multiplexed fluorescence imaging and quantitative analysis. M. BATHE*; S. GUO; L. LI; S. GORDONOV; R. VENEZIANO; J. R. COTTRELL. *MIT, Broad Inst.*

3:00 VV49 **809.07** New high affinity DREADD ligands for *in vivo* PET imaging. J. BONAVENTURA*; J. L. GOMEZ; A. SULIMA; F. HU; W. LESNIAK; R. J. ELLIS; L. A. RODRIGUEZ; M. POMPER; R. DANNALS; A. HORTI; K. C. RICE; M. MICHAELIDES. *NIDA/NIH, NIH, NIDA & NIAAA, Johns Hopkins Univ.*

4:00 VV50 **809.08** Pharmacological characterization of DREADD agonist Compound 21. J. L. GOMEZ*; J. BONAVENTURA; R. J. ELLIS; L. A. RODRIGUEZ; M. MICHAELIDES. *Natl. Inst. on Drug Abuse.*

1:00 VV51 **809.09** Fiber-optic imaging of FRET biosensors for recording GPCR signalling *in vivo.* J. JONES-TABAH*; F. BENALIOUAD; P. B. S. CLARKE; T. E. HÉBERT. *McGill Univ., McGill Univ.*

2:00 VV52 **809.10** Near-infrared nanosensors for brain imaging of modulatory neurotransmitters. A. G. BEYENE*; M. P. LANDRY; K. DELEVICH; L. E. WILBRECHT. *UC Berkeley, UC Berkeley, Univ. of California Berkeley, UC Berkeley, UC Berkeley.*

3:00 VV53 **809.11** Investigating the efficacy of different inhibitory opsins in rat cortex. A. AKRAMI*; C. D. KOPEC; C. D. BRODY. *Princeton Neurosci. Inst. (PNI), Howard Hughes Med. Inst., Princeton Univ., HHMI / Princeton Univ.*

4:00 VV54 **809.12** Photostable nanosensors for real-time single-molecule imaging and tracking of neurotransmitters. X. XU*; M. JOHNSON; P. CHERUKURI. *Old Dominion Univ.*

1:00 VV55 **809.13** Synaptometrics: High-throughput synapse quantitation and connectomics using newly developed fluorescence-based tools. D. A. KULJIS*; M. T. MATSUSHITA; K. ZEMOURA; E. PARK; C. A. TELMER; W. XU; M. P. BRUCHEZ; A. L. BARTH. *Carnegie Mellon Univ., Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition, MIT, Carnegie Mellon Univ., Carnegie Mellon Univ.*

2:00 VV56 **809.14** Quantitative high-throughput, fluorescence analysis of synapse organization in GABAergic neurons from the mouse globus pallidus externa. A. RAY*; D. A. KULJIS; M. P. BRUCHEZ; V. RAVINDRANATH; A. H. GITTIS; A. L. BARTH. *Carnegie Mellon Univ., Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition, Carnegie Mellon Univ., Carnegie Mellon Univ., Indian Inst. of Sci.*

3:00 VV57 **809.15** Visualizing neural activities under stress and protease activities in mouse brain using implantable imaging device. Y. OHTA*; M. KAWAHARA; Y. SUNAGA; M. HARUTA; T. NODA; K. SASAGAWA; T. TOKUDA; J. OHTA. *Nara Institue of Sci. and Technol.*

4:00 VV58 **809.16** Long-term time-lapse observation by using portable *in vitro* cell imaging system. A. KIMURA*; M. HARUTA; T. NODA; K. SASAGAWA; T. TOKUDA; J. OHTA. *Nara Inst. of Sci. and Technol.*

1:00 VV59 **809.17** GCaMP imaging associated with visual stimulation by implantable imaging device. Y. SUNAGA*; A. SHIRAISHI; T. YAMAGUCHI; M. HARUTA; T. NODA; K. SASAGAWA; T. TOKUDA; Y. YOSHIMURA; J. OHTA. *Nara Inst. of Sci. and Technol., Natl. Inst. For Physiological Sci.*

2:00 VV60 **809.18** Optophysiological characterization of endogenous and recombinant nmda receptors in neuroblastoma cells. N. A. ALMUZAINI*; K. S. JONES. *Howard Univ., Univ. of Michigan.*

3:00 VV61 **809.19** ● Validated antibody database (VAD) update: Knockout subset and a clone-naming convention. H. XIE. *Labome / Synatom Res.*

4:00 VV62 **809.20** Optimizing fluorescent proteins and biosensors for two-photon microscopy. R. MOLINA*; T. E. HUGHES; M. DROBIZHEV. *Montana State Univ.*

1:00 VV63 **809.21** Bright monomeric fluorescent proteins with rapid expression and cell-filling properties for neuronal imaging. B. C. CAMPBELL*; E. M. NABEL; H. MORISHITA; G. A. PETSKO. *Weill Cornell Med. Col., Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

2:00 VV64 **809.22** Imaging extracellular potassium dynamics in brain tissue using a potassium sensitive nanosensor. J. WELLBOURNE-WOOD*; T. S. RIMMELE; J. CHATTON. *UNIL, Boston Children's Hosp., Univ. Lausanne.*

3:00 VV65 **809.23** Evolution of ultrafast voltage indicators capable of reporting brain activity in response to behavioral tasks. M. KANNAN*; G. VASAN; P. O'BRIEN; V. A. PIERIBONE. *The John B Pierce Lab.*

4:00 VV66 **809.24** Implanted nanophotonic probes for light sheet illumination and deep brain imaging. F. YE*; B. W. AWANTS; A. VEERARAGHAVAN; J. T. ROBINSON. *Rice Univ., Rice Univ., Baylor Col. of Med.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 VV67 **809.25** ● Characterization of genetically encoded voltage indicators for two-photon imaging of neural activity. F. ST-PIERRE*; S. CHAMBERLAND; H. H. YANG; S. GUAN; M. PAN; S. W. EVANS; M. CHAVARHA; Y. YANG; C. SALESSE; H. WU; J. C. WU; T. CLANDININ; K. TOTH; M. Z. LIN. *Baylor Col. of Med., CRULRG, Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., CRIUSMQ, Univ. Laval, Stanford.*

2:00 VV68 **809.26** Imaging neuromodulator signaling with genetically encoded indicators. T. PATRIARCHI; K. J. SEKIGUCHI; A. MARLEY; B. P. MCGREW; J. T. WILLIAMS; M. V. ZASTROW; A. NIMMERJAHN; L. TIAN*. *Univ. of California, Davis, Salk Inst. for Biol. Studies, Univ. of California, San Francisco, Oregon Hlth. Sci. Univ.*

3:00 VV69 **809.27** Rhythmic lights: Assessing the suitability of novel BOPIDY dyes for voltage sensitive imaging of the stomatogastric ganglion of Cancer pagurus. J. BUTCHER*; D. SIRBU; A. BENNISTON; P. E. ANDRAS. *Keele Univ., Newcastle Univ., Keele Univ.*

**POSTER**

**810. Optical Methods: Unlabeled Tissues, Endogenous Probes, and Imaging-Differentiated Stem Cells**

***Theme I: Techniques***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 VV70 **810.01** Multi-modal face-related signals using simultaneous fnirs and eeg. S. DRAVIDA*; J. A. NOAH; Y. ONO; X. ZHANG; J. HIRSCH. *Yale Sch. of Med., Yale Sch. of Med., Meiji Univ., Yale Sch. of Med., Yale Sch. of Med., Univ. Col. London.*

2:00 VV71 **810.02** ● Optical gene delivery, stimulation and label-free optical detection of neural activity. S. MOHANTY*; S. BATABYAL; S. GAJJERAMAN; W. WRIGHT. *Nanoscope Technologies, LLC.*

3:00 VV72 **810.03** Speckle image correlation velocimetry (SICV): A label-free tool for capillary velocimetry. A. SAFI*; M. QURESHI; C. YEON; E. CHUNG. *Gwangju Inst. of Sci. and Technol. (GIST), Gwangju Inst. of Sci. and Technol. (GIST), GIST, Gwangju Inst. of Sci. and Technol.*

4:00 VV73 **810.04** We can know whether you are motivated or not by measuring brain activity. M. YAMAZAKI*; H. EDA; N. OKAMOTO; Y. KURODA. *Daito Bunka Univ., Grad. Sch. For GPI, Col. of Social Sciences, Ritsumeikan Univ., Kyoto Univ. of Educ.*

1:00 VV74 **810.05** ● Increase of the deoxyHb calculated by NIRS indicates artifact, that does not contradict BOLD signal of fMRI. H. EDA*; M. YAMAZAKI; N. OKAMOTO; Y. KURODA. *Grad. Sch. For GPI, Photonics Innovations Co. Ltd., Daito Bunka Univ., Col. of Social Sciences, Ritsumeikan Univ., Kyoto Univ. of Educ.*

2:00 VV75 **810.06** Infrared laser light elicits cardiorespiratory responses when applied to the caudal nucleus tractus solitarius in the *in situ* rat brainstem preparation. G. KOLA*; T. DICK; M. DUTSCHMANN; M. JENKINS; H. CHIEL; S. LEWIS. *Case Western Reserve Univ., Case Western Reserve Univ., Howard Florey Inst. of Neurosci. and Mental Hlth., Case Western Reserve Univ., Case Western Reserve Univ., Case Western Reserve Univ.*

3:00 VV76 **810.07** Selective thermal inhibition of small-diameter axons. J. ZHUO*; E. H. LOTHET; E. D. JANSEN; C. C. HORN; H. J. CHIEL; M. W. JENKINS. *Case Western Reserve Univ., Case Western Reserve Univ., Vanderbilt Univ., Univ. of Pittsburgh Sch. of Med., Case Western Res. Univ.*

4:00 VV77 **810.08** Facilitating the adoption of oxygen partial pressure imaging with two-photon microscopy. S. SAKADZIC*; T. V. ESIPOVA; M. A. YASEEN; A. DEVOR; S. VINOGRADOV; D. A. BOAS. *Massachusetts Gen. Hosp., Univ. of Pennsylvania, Univ. of California San Diego.*

1:00 VV78 **810.09** Dynamic light scattering-optical coherent tomography (DLS-OCT) for neuron cell body motility and capillary velocimetry imaging. J. TANG*; E. ERDENER; J. LEE; D. A. BOAS. *Mgh-Harvard Med. Sch., Massachusetts Gen. Hosp., Brown Univ., Harvard Med. Sch.*

2:00 VV79 **810.10** Visualization of abnormal lipid accumulation in tissues from Fabry disease patient using Raman spectroscopic marker of globotriaosylceramide. Y. NAGASHIMA*; A. IWATA; K. YOSHIOKA; J. OMACHI; J. SHIMIZU; S. TSUJI; J. YUMOTO; M. KUWATA-GONOKAMI. *Dept. of Neurology, The Univ. of Tokyo, The Univ. of Tokyo, AMED-PRIME, Japan Agency for Med. Res. and Develop.*

3:00 VV80 **810.11** Three photon imaging of intact human cerebral organoids to assess key components of early neurogenesis in Rett Syndrome. M. YILDIRIM*; C. DELEPHINE; D. FELDMAN; T. WANG; D. OUZOUNOV; J. SWANEY; K. CHUNG; C. XU; P. SO; M. SUR. *MIT, MIT, Cornell Univ., Cornell Univ., MIT, MIT, MIT, MIT.*

4:00 VV81 **810.12** ● Long-term live cell visualization and quantification of spontaneous synaptic activity and pharmacological response from human induced pluripotent stem cell-derived neuronal networks. A. C. OVERLAND*; J. N. RAUCH; L. OUPICKA; M. D. UHLER; D. M. ROCK; D. M. APPLEDORN. *Essen Biosci. Inc, Univ. of Michigan.*

1:00 VV82 **810.13** ● High-throughput and high-speed data acquisition of compounds responses on calcium oscillation of human ipsc-derived glutamatergic neurons. S. DU*; K. ZUSHIDA; S. HISADA. *Hamamatsu Corp., Cell. Dynamics Intl. Japan, Hamamatsu Photonics K.K.*

2:00 VV83 **810.14** Towards understanding the distribution and function of ER-shaping proteins in neurones. J. J. NIXON-ABELL*; C. J. OBARA; F. RICCIO; J. LIPPINCOTT-SCHWARTZ; C. D. BLACKSTONE. *HHMI, NINDS.*

**POSTER**

**811. CRISPR-Cas9 Mediated Genome Editing Techniques**

***Theme I: Techniques***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 VV84 **811.01** Novel therapeutic nanoparticles enable *in vivo* CRISPR delivery for the identification and screening of spinal cord repair genes and their role in axon growth following spinal cord injury. C. G. GEOFFROY; N. ANDRONIKOU*; M. LI; X. DE MOLLERAT DU JEU. *UCSD, Texas A&M, Thermo Fisher Scientific.*

2:00 VV85 **811.02** A crispr/cas9 toolbox for the rapid generation of intersectional dual recombinase mouse lines for anatomical, molecular, and functional neural circuit mapping. J. SUN; R. RAY*. *Baylor Col. of Med., Baylor Col. of Med.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 VV86 **811.03** Generation of Pax6-IRES-EGFP knock-in mouse via cloning-free CRISPR/Cas9 system for neurodevelopmental researches. Y. U. INOUE*; M. HOSHINO; T. INOUE. *Natl. Inst. of Neuroscience, NCNP.*

4:00 VV87 **811.04** CRISPR/Cas9 system-mediated impariments of synaptobrevin/VAMP function in postmitotic hippocampal neurons. P. M. HORVATH*; E. T. KAVALALI; L. M. MONTEGGIA. *UT Southwestern Med. Ctr.*

1:00 VV88 **811.05** ▲ The development of an SaCas9 based CRISPR/Cas9 genome editing system that can be delivered to neurons *in vivo* via Adeno-Associated-Virus(AAV) and regulated spatially via Cre-recombinase and temporally via Doxycycline. W. C. STANFORD*; N. KUMAR; C. A. DE SOLIS; N. D. ABRAHAM; T. J. DAO; S. THASEEN; A. SAIRAVI; J. E. PLOSKI. *Univ. of Texas At Dallas, The Univ. of Texas at Dallas, Univ. of Texas at Dallas.*

2:00 VV89 **811.06** Modification of Shank3 and SynGAP using CRISPR/Cas9 system in mice. Y. KO*. *Univ. of Edinburgh.*

3:00 VV90 **811.07** Genetically modifying neurons in a Cas9 transgenic mouse. J. CHEN*; Y. SHI. *Model Animal Res. Center, Nanjing Univ., State Key Lab. of Pharmaceut. Biotechnology, Nanjing Univ., MOE Key Lab. of Model Animal for Dis. Study, Nanjing Univ.*

4:00 VV91 **811.08** Multiplexed genome engineering with CRISPR/Cas9 polycistronic-tRNA-gRNA strategy boosts neurological disorders research. F. DONG*; K. XIE; Y. CHEN; Y. YANG; Y. MAO. *Pennsylvania State Univ., Huazhong Agr. Univ., Pennsylvania State Univ.*

1:00 VV92 **811.09** ▲ Development of a novel inducible IDH1 R132H mutation cell model for the study of glioma pathogenesis. F. Y. FANG*; H. WANG; Z. ZHUANG. *Duke Univ., NIH.*

2:00 WW1 **811.10** ● The creation and characterization of a knock-in rat optogenetics toolbox. Z. LIU*; G. ZHAO. *Horizon Discovery.*

3:00 WW2 **811.11** Widespread genetic manipulation of neurons and glia in brain through *in utero* delivery of DNA nanoparticles. D. HEO*; K. NEGRÓN; J. SUK; J. S. HANES; D. E. BERGLES. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

**POSTER**

**812. Viral Techniques and Monitoring Neuronal Function**

***Theme I: Techniques***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 WW3 **812.01** Pros and cons of an AAV double infection method combined with the Tet system: An experimental study. N. HOSOI*; M. SHICHIDA; A. KONNO; H. HIRAI. *Gunma Univ. Grad. Sch. of Med.*

2:00 WW4 **812.02** High quality viral tools for optogenetics and chemogenetics applications. K. GUERIN*; M. REGO; L. HAERY; K. HARTEN; L. HANLEY; I. ERSING; K. CHEN; C. LAMANNA; N. WAXMONSKY; B. PYHTILA; T. FORD; J. KAMENS; M. FAN. *Addgene.*

3:00 WW5 **812.03** Specific transgene expression in hypophysiotrophic tanycytes using adenoassociated viri. A. RODRÍGUEZ-RODRÍGUEZ; R. M. URIBE; P. JOSEPH-BRAVO; J. CHARLI*. *Univ. Nacional Autonoma de Mexico, Univ. Nacional Autonoma de Mexico (UNAM), Univ. Nacional Autónoma de México (UNAM), Inst. de Biotecnología, Univ. Nacional Autonoma de Mexico (UNAM).*

4:00 WW6 **812.04** Differences in retrograde gene transfer efficiency and cytotoxicity between lentiviral vectors pseudotyped with FuG-E and FuG-B2 glycoprotein in rodent and primate brains. S. TANABE*; H. TSUGE; S. UEZONO; M. FUJIWARA; M. MIWA; N. KONOIKE; S. KATO; K. NAKAMURA; K. KOBAYASHI; K. INOUE; M. TAKADA. *Primate Res. Institute, Kyoto Univ., Primate Res. Institute, Kyoto Univ., Fukushima Med. Univ.*

1:00 WW7 **812.05** "Enhanced" viral vectors: Driving transgene expression limited to specific neuronal cell types in wildtype animals using enhancers identified by differential screening of brain regions. R. R. NAIR*; S. BLANKVOORT; M. P. WITTER; J. L. COTNEY; C. KENTROS. *The Kavli Inst. For Systems Neurosci. / CNC, UConn Hlth.*

2:00 WW8 **812.06** A virus-based toolkit for heterologous protein expression in the macaque cortex. M. P. WHITMIRE*; Y. CHEN; B. V. ZEMELMAN; E. SEIDEMANN. *Univ. of Texas at Austin, Univ. of Texas at Austin.*

3:00 WW9 **812.07** Viral techniques for the next generation connectivity atlases and cell type characterization. S. YAO*; B. OUELLETTE; T. DAIGLE; M. MORTRUD; T. R. REARDON; P. GROBLEWSKI; A. J. MURRAY; E. M. CALLAWAY; S. MCCONOUGHEY; J. A. HARRIS; H. ZENG; A. H. CETIN. *Allen Inst. For Brain Sci., Columbia Univ., Columbia Univ. Press, Salk Inst.*

4:00 WW10 **812.08** Cell-type-specific transgene expression in wild-type animals using endogenous proteins as scaffolds for assembling split transcription factors. I. R. WICKERSHAM*; S. DE PICCIOTTO; H. A. SULLIVAN; T. K. LAVIN; Y. HOU; R. XU; J. E. MICHALSKI; N. E. LEA; K. R. BABCOCK; V. G. LOPEZ-HUERTA; Z. FU; Y. CHO; G. FENG; K. D. WITTRUP. *MIT, MIT, Broad Inst. of MIT and Harvard, Univ. of Connecticut, MIT, MIT.*

1:00 WW11 **812.09** Circuitry and function of the relaxin-3 system: Studies in $Rln3^{Cre}$ mice. A. W. WALKER*; N. NASIROVA; L. A. QUINA; G. MORTON; E. E. TURNER. *Seattle Children's Res. Inst.*

2:00 WW12 **812.10** Improving genetically encoded voltage indicators with a novel screening system. S. W. EVANS*; M. CHAVARHA; L. PRADHAN; I. DIMOV; R. YANG; D. SHI; M. J. SCHNITZER; J. B. DING; M. Z. LIN. *Stanford Univ., Stanford Univ., Stanford, Stanford, Stanford Univ. Dept. of Biol., Stanford Univ. Dept. of Neurosurg., Stanford.*

1:00 DP15/WW13 **812.11** (Dynamic Poster) Calcium dependent molecular fMRI using a magnetic nanosensor. B. B. BARTELLE*; S. OKADA; N. LI; V. BRETON-PROVENCHER; M. SUR; A. JASANOFF. *MIT, MIT, MIT, MIT, MIT.*

4:00 WW14 **812.12** Generation of a red-wavelength shifted voltage-sensitive fluorescence protein for neuronal dynamics analysis. S. IORI*; R. KAJIWARA; D. MOTOMICHI. *Meiji Univ., AIST, Meiji Univ.*

1:00 WW15 **812.13** Improved methods for marking active neuronal populations. B. MOEYAERT*; G. HOLT; H. DANA; E. R. SCHREITER. *Janelia Res. Campus.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 WW16 **812.14** Novel optogenetic tools for regulation of neuronal function. M. FISCHER*; J. BINDER; P. CHANDER; V. DERETIC; K. BHASKAR; J. P. WEICK. *Univ. of New Mexico.*

3:00 WW17 **812.15** A critical role for the globus pallidus in cocaine-triggered plasticity revealed by rabies activity screen. K. BEIER*; C. K. KIM; P. HOERBELT; L. W. HUNG; B. D. HEIFETS; K. DELOACH; T. J. MOSCA; S. NEUNER; K. DEISSEROTH; L. LUO; R. C. MALENKA. *Stanford Univ., Stanford Univ., Stanford Univ., Thomas Jefferson Univ., Stanford Univ. Dept. of Psychology, Howard Hughes Med. Inst. - Stanford Univ., Stanford Univ. Sch. of Med.*

**POSTER**

**813. Biophysically-Detailed Models**

***Theme I: Techniques***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 WW18 **813.01** CARLsim4: A C++ library for the design, simulation, and parameter tuning of biologically detailed spiking neural networks on high performance clusters. H. J. KASHYAP*; T. CHOU; E. L. ROUNDS; J. XING; S. LISTOPAD; M. BEYELER; N. DUTT; J. L. KRICHMAR. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of Washington.*

2:00 WW19 **813.02** NestMC: A morphologically detailed neural network simulator for modern high performance computer architectures. A. PEYSER*; W. KLIJN; B. CUMMING; S. YATES; V. KARAKASIS. *Forschungszentrum Jülich, Swiss Natl. Supercomputing Ctr., Swiss Natl. Supercomputing Ctr.*

3:00 WW20 **813.03** Methodology and software tools for building and simulating large-scale biophysically detailed models of cortical circuits. Y. N. BILLEH*; S. L. GRATIY; C. MITELUT; K. DAI; D. FENG; N. W. GOUWENS; N. H. CAIN; C. KOCH; C. A. ANASTASSIOU; A. ARKHIPOV. *Allen Inst., Univ. of British Columbia.*

4:00 WW21 **813.04** Resting-state functional brain connectivity in the epileptic brain decoded by large-scale brain network modeling. J. COURTIOL*; S. PETKOSKI; V. K. JIRSA. *Inst. de Neurosciences des Systèmes.*

1:00 WW22 **813.05** Using a large-scale neural model of visual-auditory processing to investigate the neural substrate for managing multiple items in working memory. Q. LIU; A. ULLOA; B. HORWITZ*. *NIDCD-NIH, Univ. of Maryland, Neural Bytes LLC.*

2:00 WW23 **813.06** Exploring the responsive networks of the mouse brain using focal stimulation in a connectome-brain model. A. SPIEGLER*; V. K. JIRSA. *Aix Marseille Université, Inserm, INS Umr_s 1106, Aix Marseille Université, Inserm, INS UMR_s 1106.*

3:00 WW24 **813.07** Cataloguing and understanding dynamical regimes of the human brain using The Virtual Brain simulator. P. TRIEBKORN; J. ZIMMERMANN; L. STEFANOVSKI; R. DIPANJAN; A. SOLODKIN; V. K. JIRSA; G. DECO; M. BREAKSPEAR; A. R. MCINTOSH; P. RITTER*. *Charite, Univ. Med. Berlin, Rotman Res. Inst., Univ. of Allahabad, Univ. of California, Inst. De Neurosciences Des Systemes, Univ. Pompeu Fabra, Queensland Inst. of Med. Res.*

4:00 WW25 **813.08** ▲ Multiscale simulation of brain adaptation after stroke using the virtual brain. D. SIU; M. HIEBER; V. K. JIRSA; P. RITTER; R. MCINTOSH; C. S. WEILLER; S. L. SMALL; A. SOLODKIN*. *UC Irvine, Univ. Freiburg, Neurozentrum, Inst. De Neurosciences Des Systemes, Charite, Univ. Med. Berlin, Rotman Res. Inst. at Baycrest, Univ. of California Irvine Dept. of Neurol., Univ. of California, Irvine.*

1:00 WW26 **813.09** Personalized brain network models predict novel epilepsy surgery strategies. S. PETKOSKI*; S. OLMI; V. K. JIRSA. *Aix-Marseille Univ., Weierstrass Inst., Inst. De Neurosciences Des Systemes.*

2:00 WW27 **813.10** Biophysical parameters sensitive to repeated concussion in retired professional ice hockey players: A network modeling approach. T. J. GOOD*; C. ESOPENKO; B. LEVINE; A. R. MCINTOSH. *Rotman Res. Inst. At Baycrest Ctr., Rutgers, The State Univ. of New Jersey.*

3:00 WW28 **813.11** Patient-specific virtual brain models of Alzheimer's. J. ZIMMERMANN*; A. SOLODKIN; M. J. BREAKSPEAR; A. PERRY; M. SCHIRNER; P. RITTER; P. SACHDEV; W. WEN; N. KOCHAN; H. BRODATY; A. R. MCINTOSH. *Rotman Res. Inst., Univ. of California, Irvine, Queensland Inst. of Med. Res., QIMR Berghofer, Charité Univ. Berlin, Charite, Univ. Med. Berlin, Univ. of New South Wales, Ctr. for Healthy Brain Ageing, UNSW, Univ. of New South Wales, UNSW Med., UNSW Med., Baycrest Hlth. Sci.*

4:00 WW29 **813.12** Examining brain network dynamics in children with and without autism spectrum disorder using The Virtual Brain. A. K. EASSON*; M. SCHIRNER; P. RITTER; V. K. JIRSA; A. R. MCINTOSH. *Baycrest Hlth. Sci., Univ. of Toronto, Charite, Univ. Med. Berlin, Bernstein Focus State Dependencies of Learning & Bernstein Ctr. for Computat. Neurosci., Max Planck Inst. for Human Cognitive and Brain Sci., Humboldt Univ., Inst. De Neurosciences Des Systemes.*

1:00 WW30 **813.13** Comparing intrinsic and task-evoked functional connectivity in a computational model of visual short-term memory. A. ULLOA*; B. HORWITZ. *Brain Imaging and Modeling Section, NIDCD, NIH, Neural Bytes LLC.*

2:00 WW31 **813.14** A simple neuromorphic reconfigurable computer. J. DICECCO*; S. KOZIOL; C. J. TULOWIECKI; J. GAUDETTE; C. TOOLE; A. BATRAKOV. *Univ. of Rhode Island, Naval Undersea Warfare Ctr., Baylor Univ., Brown Univ., URI.*

3:00 WW32 **813.15** Reduction of multi-compartmental subthalamic neuron model preserving somatodendritic interactions. L. KOELMAN*; M. M. LOWERY. *Univ. Col. Dublin.*

4:00 WW33 **813.16** Multiplicative impact of digitally reconstructed neural arbors by online sharing. S. NANDA*; R. ARMANANZAS; P. MARAVER; M. A. AKRAM; G. A. ASCOLI. *Krasnow Inst. for Advanced Study, George Mason Univ.*

1:00 WW34 **813.17** A user-friendly interactive pipeline for single cell model building. C. LUPASCU*; L. L. BOLOGNA; R. MIGLIORE; S. M. ANTONEL; J. COURCOL; M. MIGLIORE. *Natl. Res. Council, Inst. of Biophysics, Natl. Res. Council, École Polytechnique Fédérale de Lausanne (EPFL).*

2:00 WW35 **813.18** Parallel stochastic spines in NEURON reaction-diffusion simulations. R. A. MCDOUGAL*; A. J. H. NEWTON; M. N. I. PATOARY; C. TROPPER; M. L. HINES; W. W. LYTTON. *Yale Univ., SUNY Downstate, McGill Univ., Kings County Hosp.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 WW36 **813.19** CoreNEURON: An optimized compute engine of the NEURON simulator for modern architectures from desktop to supercomputer. P. S. KUMBHAR*; M. HINES; J. KING; A. OVCHARENKO; G. CHINDEMI; E. MULLER; H. MARKRAM; F. SCHUERMANN; F. DELALONDRE. *Blue Brain Project, EPFL, Yale Univ.*

4:00 WW37 **813.20** Modeling electrodiffusion with the NEURON reaction-diffusion module. A. NEWTON*; R. A. MCDOUGAL; M. L. HINES; K. MIYAZAKI; W. N. ROSS; W. W. LYTTON. *Yale Univ., Yale Univ., New York Med. Col., SUNY Downstate.*

**POSTER**

**814. Database Tools**

***Theme I: Techniques***

Wed. 1:00 PM – *Walter E. Washington Convention Center*, Halls A-C

1:00 WW38 **814.01** ● SciBot mines RRIDs in the biomedical literature. A. E. BANDROWSKI*; M. E. MARTONE; J. S. GRETHE; T. H. GILLESPE; G. PINE. *UCSD, UCSD, Univ. of California San Diego, UCSD.*

2:00 WW39 **814.02** KnowledgeSpace: A community encyclopedia linking brain research concepts to data, models and literature. T. GILLESPIE; M. B. ABRAMS*; W. WONG; C. FITZPATRICK; J. S. GRETHE; S. L. HILL; M. E. MARTONE. *UCSD, INCF, Univ. of California San Diego, INCF, Univ. of California San Diego, Ecole Polytechnique Fédérale De Lausanne (EPFL), UCSD.*

3:00 WW40 **814.03** Cloud-native infrastructure and accessible interfaces to enable petascale neuroscience. J. MATELSKY*; S. BANNOWSKY; S. DAVIS; A. FRAZIER; K. PORTER; L. RODRIGUEZ; P. MANAVALAN; D. PRYOR; R. HIDER, Jr; T. GION; W. R. GRAY RONCAL; D. KLEISSAS. *Johns Hopkins Univ., Johns Hopkins Univ. Applied Physics Lab., Johns Hopkins Univ.*

4:00 WW41 **814.04** Practical formal representation of scientific protocols. T. GILLESPIE*; M. E. MARTONE. *UCSD, UCSD.*

1:00 WW42 **814.05** InterLex: A community lexicon for crowd sourcing terminologies and data-terminology mappings. J. S. GRETHE*; T. H. GILLESPIE; F. FANA; J. GO; M. E. MARTONE. *Univ. of California San Diego.*

2:00 WW43 **814.06** Real-time evaluation tools for integrated neuroscience analysis. C. A. BISHOP*; E. ATLABACHEW; M. CERVANTES; H. P. COWLEY; O. MARTINEZ; M. SIERRA-ARCE; E. ZHU; J. MATELSKY; B. WESTER; W. GRAY RONCAL. *Johns Hopkins Univ. Applied Physics Lab., Johns Hopkins Univ., Applied Physics Lab., Johns Hopkins Univ.*

3:00 WW44 **814.07** Pipeline to promote discovery and sharing of computational neuroscience research. T. M. MORSE*; R. WANG; N. T. CARNEVALE; G. M. SHEPHERD; R. A. MCDOUGAL. *Yale Univ. Sch. Med., Yale Univ. Sch. of Med.*

4:00 WW45 **814.08** The Neuroscience Gateway Portal: High performance computing for neuroscience. N. T. CARNEVALE*; A. MAJUMDAR; S. SIVAGNANAM; K. YOSHIMOTO. *Yale Univ. Sch. Med., Univ. of California.*

1:00 WW46 **814.09** Confirms: Creating optimized networks for informing reconstruction metrics and science. W. R. GRAY RONCAL*; M. ENCARNACION; J. MATELSKY; R. AZWOIR; C. DORSEY; M. FREDRICKS; N. JONES; M. SANTANGELO; H. TREVINO; P. K. RIVLIN; S. PLAZA; B. A. WESTER. *Johns Hopkins Univ., Johns Hopkins Univ., HHMI-Janelia Res. Campus, HHMI, Johns Hopkins Univ. Applied Physics Lab.*

2:00 WW47 **814.10** LiterMate: open source web based selection, annotation, and metadata organization of peer reviewed publications identified by full text mining. P. MARAVER; S. NANDA; R. ARMANANZAS; M. A. AKRAM; G. A. ASCOLI*. *George Mason Univ., Krasnow Inst. For Advanced Study, George Mason Univ.*



• Indicated a real or perceived conflict of interest, see page 146 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

# Conflict of Interest Statements

*The following presenters, signified by a dot (•) in the program, indicated a real or perceived conflict of interest. Presenters listed without a dot in the program had no financial relationships to disclose.*

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| 632 | **D. Bulmer:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Takeda. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GlaxoSmithKline. |
| 632.02 | **D. Bulmer:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Takeda. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GlaxoSmithKlineS. |
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| 638.01 | **D.B. Michael:** A. Employment/Salary (full or part-time); William Beaumont Hospital, Michigan Head and Spine Institute. **A. Martinez:** A. Employment/Salary (full or part-time); 21st Century Oncology. **M. Maddens:** A. Employment/Salary (full or part-time); William Beaumont Hospital. **P. Chinaiyan:** A. Employment/Salary (full or part-time); William Beaumont Hospital. **G.D. Wilson:** A. Employment/Salary (full or part-time); William Beaumont Hospital. |
| 638.06 | **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). |
| 638.08 | **Y. Tang:** A. Employment/Salary (full or part-time); Dept. of Histology and Embryology, Chongqing Med. Univ., Chongqing, P. R. China. |
| 638.11 | **F. Wang:** A. Employment/Salary (full or part-time); Progenra Inc. **I. Sokirniy:** A. Employment/Salary (full or part-time); Progenra Inc. **P. Arsenault:** A. Employment/Salary (full or part-time); Progenra Inc. **D. Sterner:** A. Employment/Salary (full or part-time); Progenra Inc. **J. Wu:** A. Employment/ Salary (full or part-time); Progenra Inc. **B. Cunnion:** A. Employment/Salary (full or part-time); Progenra Inc. **J. Weinstock:** A. Employment/Salary (full or part-time); Progenra Inc. **M. Mattern:** A. Employment/Salary (full or part-time); Progenra Inc. **T.R. Butt:** A. Employment/Salary (full or part-time); Progenra Inc. **S. Kumar:** A. Employment/ Salary (full or part-time); Progenra Inc. |
| 639.06 | **S. Pirot:** A. Employment/Salary (full or part-time); Inst Recherche Servier. **C. Mannoury la cour:** A. Employment/ Salary (full or part-time); Inst Recherche Servier. **M.J. Millan:** A. Employment/Salary (full or part-time); Inst Recherche Servier. |
| 640.02 | **S.W. Barger:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SWB receives royalties from MilliporeSigma for the sales of secreted amyloid precursor protein. |
| 642.07 | **K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); Neuralink Inc., consultant, Cognescent, Scientific Advisory Board, Heal, Scientific Advisory Board. |
| 642.08 | **R. Braanemark:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Integrum, Inc. F. Consulting Fees (e.g., advisory boards); Integrum, Inc. |
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| 642.13 | **J.D. Simeral:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ESPA (IP Rights). **C.D. Heelan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ESPA (IP Rights). **J. Komar:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BWD (IP Rights. Licensed to Blackrock Microsystems). ESPA (IP Rights). **A.V. Nurmikko:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BWD (IP Rights. Licensed to Blackrock Microsystems). ESPA (IP Rights). |
| 642.14 | **E.W. Keefer:** A. Employment/Salary (full or part-time); Nerves Incorporated. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Nerves Incorporated. **C. Overstreet:** A. Employment/Salary (full or part-time); Nerves Incorporated. **J. Cheng:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nerves Incorporated. |
| 646.02 | **Y. Yoshihara:** A. Employment/Salary (full or part-time); SRPBS from AMED. **G. Lisi:** 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.; SRPBS from AMED. **N. Yahata:** 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.; SRPBS from AMED. **Y. Matsumoto:** A. Employment/ Salary (full or part-time); SRPBS from AMED. **J. Miyata:** 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.; KAKENHI 26461767. **G. Sugihara:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or |

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| | 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.; KAKENHI 24591706, KAKENHI 15K09825. **M. Yamashita:** 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.; SRPBS from AMED. **R. 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.; SRPBS from AMED. **N. Ichikawa:** 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.; SRPBS from AMED. **Y. Okamoto:** 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.; SRPBS from AMED. **K. Kasai:** 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.; SRPBS from AMED. **N. Kato:** 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.; SRPBS from AMED. **H. Imamizu:** 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.; SRPBS from AMED. **R. Kahn:** 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.; Dutch Diabetes Research Foundation (2007.00.040), Lilly Pharmaceuticals, Houten, The Netherlands (Ho01-TOPFIT), Janssen Pharmaceuticals, Tilburg, The Netherlands, Dutch Psychomotor Therapy Foundation, Utrecht, The Netherlands. **A. Sawa:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIMH MH-094268, NIMH MH-092443, NIMH MH-105660, Silvio O. Conte center funded by NIMH, NIH P41EB015909, NIH R01NS084957, Stanley, S-R/RUSK, NARSAD, Mitsubishi Tanabe Pharm. Co. Ltd. (USA). **M. Kawato:** 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.; SRPBS from AMED. **T. Murai:** 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.; ImPACT 15808865, KAKENHI 16H06397, KAKENHI 15H04893. **J. Morimoto:** 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.; SRPBS from AMED. **H. Takahashi:** 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.; SRPBS from AMED, KAKENHI 23120009, KAKENHI 16H06572. |
| 646.03 | **M.I. Miller:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AnatomyWorks: owner. This arrangement is being managed by the Johns Hopkins University in accordance with its conflict-of-interest policies. **S. Mori:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AnatomyWorks: owner and CEO. This arrangement is being managed by the Johns Hopkins University in accordance with its conflict-of-interest policies. |
| 646.08 | **J. Shin:** A. Employment/Salary (full or part-time); Center for Cognition and Sociability, IBS, Department of Neurophysiology, SNU. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Center for Cognition and Sociality, IBS, Department of Neurophysiology, SNU. |
| 648.04 | **A. Alvarez-Buylla:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics. |
| 652.04 | **R.K. Prinjha:** A. Employment/Salary (full or part-time); GlaxoSmithKline. |
| 653.15 | **T.M. Maynard:** A. Employment/Salary (full or part-time); George Washington University. **E.M. Paronett:** A. Employment/Salary (full or part-time); George Washington University. **C.A. Bryan:** A. Employment/Salary (full or part-time); George Washington University. **J.A. Sabatino:** A. Employment/Salary (full or part-time); George Washington University. **B.A. Karpinski:** A. Employment/Salary (full or part-time); George Washington University. **A. Fernandez:** A. Employment/Salary (full or part-time); George Washington University. **A.S. LaMantia:** A. Employment/Salary (full or part-time); George Washington University. |
| 656.01 | **P. Sanguanvichaikul:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); National Institute of Health. |
| 657.01 | **P. Leff:** A. Employment/Salary (full or part-time); National Institute of Perinatology. Mexico City 11000. **M.E. Matus-Ortega:** A. Employment/Salary (full or part-time); Department of Neuroscience and Cell Biology, Rutgers Biomedical and Health Sciences, Newark, NJ, USA. |
| 658.15 | **J. Jeong:** A. Employment/Salary (full or part-time); NIH. **Y. Li:** A. Employment/Salary (full or part-time); NIH. **K.W. Roche:** A. Employment/Salary (full or part-time); NIH. |
| 658.17 | **F. Zhang:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Founder of Editas Medicine. F. Consulting Fees (e.g., advisory boards); Scientific advisor for Horizon Discovery. |
| 659.07 | **S.F. Traynelis:** F. Consulting Fees (e.g., advisory boards); consultant of Janssen Pharmaceuticals, Inc., Pfizer Inc, Boehringer Ingelheim Pharma GmbH & Co. KG, and a member of the Scientific Advisory Board for Sage Therapeutics. |
| 659.15 | **N.M. Boulis:** F. Consulting Fees (e.g., advisory boards); Agilis, MRI Interventions, Voyager, Oxford Biomedica, Q Therapeutics, Neuralstem Inc, Switch Bio Holdings. |
| 662.12 | **B.A. Stevens:** F. Consulting Fees (e.g., advisory boards); Annexon Scientific Advisory Board. |
| 663.20 | **A. Jannati:** A. Employment/Salary (full or part-time); Postdoctoral Fellowship from Natural Sciences and Engineering Research Council of Canada (NSERC PDF 454617). **A. Rotenberg:** F. Consulting Fees (e.g., advisory boards); Neuromotion, NeuroRex. **A. Pascual-Leone:** F. Consulting Fees (e.g., advisory boards); Magstim, Nexstim, Neuronix, Starlab Neuroscience, Neuroelectrics, Axilum Robotics, Constant Therapy, and Neosync. |
| 663.21 | **A. Pascual-Leone:** F. Consulting Fees (e.g., advisory boards); Magstim, Nexstim, Neuronix, Starlab |

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| | Neuroscience, Neuroelectrics, Axilum Robotics, and Neosync. **A. Rotenberg:** F. Consulting Fees (e.g., advisory boards); Neuromotion and NeuroRex. |
| 664.06 | **L. Sheybani:** 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.; Swiss National Foundation grant 323530_158125. |
| 664.12 | **D.C. Millard:** A. Employment/Salary (full or part-time); Axion BioSystems, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Axion BioSystems, Inc. **H.B. Hayes:** A. Employment/Salary (full or part-time); Axion BioSystems, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Axion BioSystems, Inc. **C.A. Arrowood:** A. Employment/ Salary (full or part-time); Axion BioSystems, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Axion BioSystems, Inc. **A.M. Nicolini:** A. Employment/Salary (full or part-time); Axion BioSystems, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Axion BioSystems, Inc. |
| 665.06 | **C.M. Dube:** A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. **P. Karimi Tari:** A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. **M. Waldbrook:** A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. **K. Nelkenbrecher:** A. Employment/ Salary (full or part-time); Xenon Pharmaceuticals. **J. Mark:** A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. **T. Focken:** A. Employment/ Salary (full or part-time); Xenon Pharmaceuticals. **N. Shuart:** A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. **K. Khakh:** A. Employment/ Salary (full or part-time); Xenon Pharmaceuticals. **R. Winquist:** A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. **J. Empfield:** A. Employment/ Salary (full or part-time); Xenon Pharmaceuticals. **C.J. Cohen:** A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. **J. Johnson:** A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. |
| 665.07 | **S.C. Baraban:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); EpyGenix Therapeutics. F. Consulting Fees (e.g., advisory boards); EpyGenix Therapeutics. |
| 665.10 | **J. Johnstone:** A. Employment/Salary (full or part-time); Biscayne Neurotherapeutics Inc. **S. Collins:** A. Employment/Salary (full or part-time); Biscayne Neurotherapeutics Inc. **S.C. Schachter:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biscayne Neurotherapeutics Inc. F. Consulting Fees (e.g., advisory boards); Biscayne Neurotherapeutics Inc. **A. Rotenberg:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Biscayne Neurotherapeutics. |
| 665.14 | **S.K. Sikdar:** A. Employment/Salary (full or part-time); Ministry of human resource and development,Goverment of India. 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.; Ministry of human resource and development. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Department of biotechnology, Ministry of human resource and development. |
| 665.16 | **T. Singh:** A. Employment/Salary (full or part-time); Indian Council of Medical Research, New Delhi, India. Project no. BIC/11(02)/2015. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Department of Science and technology, New Delhi, India to provide funding (Grant no: INT/RUS/RFBR/P-244/2016). C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Department of Science and technology, New Delhi, India to provide funding (Grant no: INT/RUS/ RFBR/P-244/2016). |
| 665.19 | **M.A. Rogawski:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); UC Davis. |
| 665.20 | **X. Xie:** 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. |
| 666.17 | **C. Theunis:** A. Employment/Salary (full or part-time); Janssen Pharmaceutica. **K. Van Kolen:** A. Employment/ Salary (full or part-time); Janssen Pharmaceutica. **B. Van Broeck:** A. Employment/Salary (full or part-time); Janssen Pharmaceutica. **G. Daneels:** A. Employment/Salary (full or part-time); Janssen Pharmaceutica. **M. Vandermeeren:** A. Employment/Salary (full or part-time); Janssen Pharmaceutica. **M. Mercken:** A. Employment/Salary (full or part-time); Janssen Pharmaceutica. |
| 666.19 | **G. Bhyrapuneni:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **K. Mudigonda:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **R. Palacharla:** 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. Abraham:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **R. Subramanian:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **V. Goyal:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **S. Pandey:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **D. Ajjala:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **A. Mohammed:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **S. Jetta:** 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. |
| 667.01 | **R.V. Nirogi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **K. Mudigonda:** A. Employment/ Salary (full or part-time); Suven Life Sciences Ltd. **J. Ravula:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **G. Bhyrapuneni:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **V. Benade:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **N. Muddana:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **V. Palacharla:** A. Employment/ Salary (full or part-time); Suven Life Sciences Ltd. **D. Ajjala:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **V. Goyal:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Pandey:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **J. Fernandes:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Abraham:** 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. Kambhampati:** A. Employment/ Salary (full or part-time); Suven Life Sciences Ltd. **K. Kandukuri:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **A. Shinde:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. |
| 667.02 | **N. Muddana:** 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. **K. Mudigonda:** A. Employment/Salary (full or part-time); |

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| | Suven Life Sciences Ltd., Hyderabad, India. **P. Jayarajan:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **R. Abraham:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **R. Subramanian:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **V. Goyal:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **S. Pandey:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **D. Ajjala:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **A. Shinde:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **J. Ravula:** 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. |
| 667.14 | **B.A. Reynolds:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Prana Therapeutics. **D.A. Steindler:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Prana Therapeutics. |
| 667.18 | **T.L. Green:** A. Employment/Salary (full or part-time); The Jackson Laboratory. **T. McGarr:** A. Employment/Salary (full or part-time); The Jackson Laboratory. **S.S. Winter:** A. Employment/Salary (full or part-time); The Jackson Laboratory. **L. Anderson:** A. Employment/Salary (full or part-time); The Jackson Laboratory. **S.J. Sukoff Rizzo:** A. Employment/Salary (full or part-time); The Jackson Laboratory. |
| 667.19 | **N. Delétage:** A. Employment/Salary (full or part-time); Neuronax. **S. Gobron:** 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. |
| 668.19 | **W. Chang:** 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 Research Foundation of Korea. **Y. 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.; National Research Foundation of Korea. |
| 669.02 | **N.R. McFarland:** A. Employment/Salary (full or part-time); University of Florida. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH. **M.S. Okun:** A. Employment/Salary (full or part-time); University of Florida. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH. **S. Lai:** A. Employment/Salary (full or part-time); University of Florida. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH. **D.E. Vaillancourt:** A. Employment/Salary (full or part-time); University of Florida. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH. |
| 669.07 | **R. Patriat:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Surgical Information Sciences. F. Consulting Fees (e.g., advisory boards); Cardionomic. **Y. Duchin:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Surgical Information Sciences. **J. Vitek:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Surgical Information Sciences. F. Consulting Fees (e.g., advisory boards); InsighTec, Medtronic, Abbott, Boston Scientific. **N. Harel:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Surgical Information Sciences. |
| 669.13 | **J.G. Pilitsis:** 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.; GE Global Research, Boston Scientific and St. Jude. |
| 669.24 | **D.J. Goble:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ownership interest in Balance Tracking Systems. |
| 670.01 | **M.L. Hendrickson:** A. Employment/Salary (full or part-time); BrainXell, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BrainXell, Inc. **Z. Du:** A. Employment/Salary (full or part-time); BrainXell, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BrainXell, Inc. |
| 670.03 | **I. Hollander:** A. Employment/Salary (full or part-time); Lauren Sciences LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lauren Sciences LLC. **M. Popov:** A. Employment/Salary (full or part-time); Lauren Sciences LLC. **E. Shaubi:** A. Employment/Salary (full or part-time); Lauren Sciences LLC. **A. Armoza:** A. Employment/Salary (full or part-time); Lauren Sciences LLC. **J. Milam:** A. Employment/Salary (full or part-time); Lauren Sciences LLC. **E. Harlev:** A. Employment/Salary (full or part-time); Lauren Sciences LLC. **V. Kas'yanov:** A. Employment/Salary (full or part-time); Lauren Sciences LLC. **C. Linder:** A. Employment/ Salary (full or part-time); Lauren Sciences LLC. **E. Heldman:** A. Employment/Salary (full or part-time); Lauren Sciences LLC. |
| 670.08 | **S. Selvarajah:** A. Employment/Salary (full or part-time); FTE at Prosetta. **S. Sahu:** A. Employment/Salary (full or part-time); FTE Prosetta. **I. Solviev:** A. Employment/ Salary (full or part-time); FTE Prosetta. **N. DeYarman:** A. Employment/Salary (full or part-time); FTE Prosetta. **S. Jacobsen:** A. Employment/Salary (full or part-time); FTE AstraZeneca. **N. Brandon:** A. Employment/Salary (full or part-time); FTE AstraZeneca. **K. Paulvannan:** A. Employment/Salary (full or part-time); FTE Prosetta. **V. Asundi:** A. Employment/Salary (full or part-time); FTE Prosetta. **D. Dey:** A. Employment/Salary (full or part-time); FTE Prosetta. **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.; Study largely funded by Prosetta, but not own salary. **V.R. Lingappa:** A. Employment/Salary (full or part-time); FTE Prosetta. |
| 670.09 | **J.H. Prehn:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); RCSI. |
| 670.17 | **L.J. Aigner:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); receipt of intellectual property rights/patent holder. **U. Bogdahn:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); receipt of intellectual property rights/patent holder. |

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| 670.18 | **L.M. Stanek:** A. Employment/Salary (full or part-time); Sanofi. **C. O'Riordan:** A. Employment/Salary (full or part-time); Sanofi. **J. Sullivan:** A. Employment/Salary (full or part-time); Sanofi. **S. Nass:** A. Employment/Salary (full or part-time); Sanofi. **M. Mattingy:** A. Employment/Salary (full or part-time); Sanofi. **D. Woodcock:** A. Employment/Salary (full or part-time); Sanofi. **L. Shihabuddin:** A. Employment/Salary (full or part-time); Sanofi. |
| 670.19 | **D. Ko:** A. Employment/Salary (full or part-time); Dorothy Ko is an executive of Genervon Biopharmaceuticals, LLC, the sponsor of the trial. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dorothy Ko has ownership interest in Genervon Biopharmaceuticals, LLC. |
| 670.20 | **M.E. Butchbach:** 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.; AurimMed Pharma, Inc. F. Consulting Fees (e.g., advisory boards); AurimMed Pharma, Inc. **A. Pesyan:** A. Employment/Salary (full or part-time); AurimMed Pharma, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AurimMed Pharma, Inc. |
| 671.20 | **K. Kim:** A. Employment/Salary (full or part-time); Cellular Dynamics International. **N. Aoyama:** A. Employment/Salary (full or part-time); Cellular Dynamics International. **K. Mangan:** A. Employment/Salary (full or part-time); Cellular Dynamics International. **M. Hancock:** A. Employment/Salary (full or part-time); Cellular Dynamics International. **C.B. Carlson:** A. Employment/Salary (full or part-time); Cellular Dynamics International. |
| 672.31 | **D.D. Dougherty:** 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.; Cyberonics, Medtronic. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Medtronic. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Medtronic. **E.N. Eskandar:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Medtronic, NeuroPace. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cerenova. **A.S. Widge:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Medtronic. |
| 673.03 | **S.H. Scott:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BKIN Technologies. |
| 673.06 | **M. Ito:** Other; Japan Society for the Promotion of Science. |
| 675.03 | **G. Popescu:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PhiOptics Inc. |
| 675.05 | **G. Popescu:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Phi Optics Inc. |
| 676.14 | **A.M. Tan:** A. Employment/Salary (full or part-time); Yale University, Department of Veterans Affairs. |
| 676.18 | **A. Yamashita:** A. Employment/Salary (full or part-time); Neurorehabilitation Research Institute, Morinomiya Hospital,. |
| 677.13 | **J.J. Treanor:** A. Employment/Salary (full or part-time); ADRx Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ADRx Inc. **M. Apostol:** A. Employment/Salary (full or part-time); ADRx Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ADRx Inc. **A. Wright:** A. Employment/Salary (full or part-time); adrx Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); adrx Inc. **S. Tanaka:** A. Employment/Salary (full or part-time); ADRx Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ADRx Inc. **J. Scherrer:** A. Employment/Salary (full or part-time); adrx Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); adrx Inc. |
| 677.14 | **H. Wei:** F. Consulting Fees (e.g., advisory boards); Eagle Pharmaceutical Company, New Jersey, USA, Well Lead Medical Company, Guangzhou, China. |
| 677.15 | **H. Wei:** F. Consulting Fees (e.g., advisory boards); advisory boards. |
| 678.05 | **N. Ribeiro Palha:** A. Employment/Salary (full or part-time); Institut de recherches Servier. **C. Quevedo:** A. Employment/Salary (full or part-time); Biobide. **A. Dekeyne:** A. Employment/Salary (full or part-time); Institut de Recherches servier. **B. Puvion:** A. Employment/Salary (full or part-time); Institut de Recherches servier. **A. Muriana:** A. Employment/Salary (full or part-time); Biobide. **A. Azualde:** A. Employment/Salary (full or part-time); Biobide. **C. Louis:** A. Employment/Salary (full or part-time); Institut de Recherches servier. **J.P. Kiss:** A. Employment/Salary (full or part-time); Institut de Recherches servier. |
| 682.02 | **R. Gutierrez:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Productos Medix, Problemas Nacionales 464, Fronteras de la Ciencia 63. |
| 684.04 | **D. Pruneau:** A. Employment/Salary (full or part-time); GenSight Biologics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GenSight Biologics. **D. Dalkara:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GenSight Biologics. F. Consulting Fees (e.g., advisory boards); GenSight Biologics. **J. Sahel:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GenSight Biologics. F. Consulting Fees (e.g., advisory boards); GenSight Biologics. **S. Picaud:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GenSight Biologics. F. Consulting Fees (e.g., advisory boards); GenSight Biologics. |
| 684.23 | **M. Jeong:** 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 research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by Ministry of Education (NRF-2016R1D1A1A09918427). **C. Jeon:** 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 research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by Ministry of Education (NRF-2016R1D1A1A09918427). |
| 684.24 | **C. Jeon:** 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 research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by Ministry of Education (NRF-2016R1D1A1A09918427). |

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| 687.07 | **L. McGarvie:** A. Employment/Salary (full or part-time); GN Otometrics. **G.M. Halmagyi:** A. Employment/Salary (full or part-time); GN Otometrics. |
| 688.21 | **T.G. Woynaroski:** A. Employment/Salary (full or part-time); Vanderbilt University Medical Center. **M.T. Wallace:** A. Employment/Salary (full or part-time); Vanderbilt University. |
| 690.14 | **A. Sedov:** A. Employment/Salary (full or part-time); Semenov Institute of Chemical Physics Russian Academy of Sciences. 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.; Russian Foundation for Basic Research, grant RFBR 15-04-05313. |
| 691.02 | **D. R:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Cognitive science research initiative (CSRI),DST, India. **V. Skm:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Cognitive science research initiative (CSRI),DST, India. |
| 692.08 | **D. Vasiliu:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); In process to apply for intellectual property protection. **A. Jain:** A. Employment/Salary (full or part-time); SJCG. **K. Reinikka:** A. Employment/Salary (full or part-time); SJCG & NOSM. **J. Lawrence-Dewar:** A. Employment/Salary (full or part-time); TBRRI. **V.B. Johnson:** A. Employment/Salary (full or part-time); Lakehead University. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); 25,000.00 $ CDN from Thunder Bay Community Foundation, 6000.00 $ CDN from Vice-presidents Strategic Fund. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Authors Vineet B K Johnson and Daniel Vasiliu are in the process of applying for intellectual property protection. |
| 694.06 | **B.M. t'Hart:** 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.; DFG HA 6861/2-1. **D.Y. Henriques:** 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.; NSERC. |
| 694.07 | **B. 't Hart:** 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.; DFG HA 6861/2-1. **D. Henriques:** 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.; NSERC. |
| 694.08 | **B.M. 't Hart:** 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.; DFG HA 6861/2-1. **D.Y. Henriques:** 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.; NSERC. |
| 695.16 | **D. Wah:** A. Employment/Salary (full or part-time); University of Western Ontario. 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 Sciences and Engineering Research Council. **M. Kavaliers:** A. Employment/Salary (full or part-time); University of Western Ontario. 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 Sciences and Engineering Research Council. **K. Ossenkopp:** A. Employment/Salary (full or part-time); University of Western Ontario. 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 Sciences and Engineering Research Council. |
| 696.09 | **C. Taccola:** 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 thesis project is funded by Sanofi. **S. Cartot-Cotton:** 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 thesis project is funded by Sanofi. **D. Valente:** 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 thesis project is funded by Sanofi. **P. Barneoud:** 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 thesis project is funded by Sanofi. **M. Lochus:** 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 thesis project is funded by Sanofi. **X. Declèves:** 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 thesis project is funded by Sanofi. **F. Bourasset:** 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 thesis project is funded by Sanofi. |
| 696.17 | **R.P. Carmen:** A. Employment/Salary (full or part-time); Infectious Diseases Laboratory Research-LID, Faculty of Science and Philosophy, Universidad Peruana Cayetano Heredia. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Department of International Health, Bloomberg School of Hygiene and Public Health, Johns Hopkins University. |
| 696.20 | **A. Alahmad:** A. Employment/Salary (full or part-time); Texas Tech University Health Sciences Center. |
| 698.01 | **M. Schnitzer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inscopix. |
| 699.08 | **W.R. McGarry:** A. Employment/Salary (full or part-time); SPARK Neuro full-time. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Equipment from SPARK Neuro. |
| 699.22 | **N.M. Wlodarski:** A. Employment/Salary (full or part-time); None/Undergrad student, University of Wiscosnin. 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 |

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| | come to an institution.; None. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); None. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); None. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); None. F. Consulting Fees (e.g., advisory boards); None. **A.M. Mitzey:** A. Employment/Salary (full or part-time); Research Specialist$40K, University of Wiscossin. 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.; None. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); None. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); none. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); None. F. Consulting Fees (e.g., advisory boards); None. **M.S. Brownfield:** A. Employment/Salary (full or part-time); Unv Wisconsin!emeritus!4). 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.; None. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Immunostar Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); None. F. Consulting Fees (e.g., advisory boards); Consultant. |
| 701.02 | **J. Amat:** A. Employment/Salary (full or part-time); University of Colorado Boulder. **L. Watkins:** A. Employment/Salary (full or part-time); University of Colorado Boulder. **S.F. Maier:** A. Employment/Salary (full or part-time); University of Colorado Boulder. |
| 701.10 | **R.W. Gereau:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurolux Inc. |
| 702.12 | **K. Borgmann-Winter:** A. Employment/Salary (full or part-time); University of Pennsylvania, Children's Hospital of Philadelphia. **A. Banerjee:** A. Employment/Salary (full or part-time); University of Pennsylvania. **W. Bilker:** A. Employment/Salary (full or part-time); University of Pennsylvania. **S.J. Siegel:** A. Employment/Salary (full or part-time); University of Southern California. **C. Hahn:** A. Employment/Salary (full or part-time); University of Pennsylvania. |
| 705.05 | **M.C. Lewis:** A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. **J. Dai:** A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. **J. Kennedy:** A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. **A. Robichaud:** A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. **J. Doherty:** A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. **M. Quirk:** A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. |
| 705.06 | **M.A. Ackley:** A. Employment/Salary (full or part-time); SAGE Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); SAGE Therapeutics. **A. Althaus:** A. Employment/Salary (full or part-time); SAGE Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SAGE Therapeutics. **M.C. Quirk:** A. Employment/Salary (full or part-time); SAGE Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SAGE Therapeutics. **G. Martinez-Botella:** A. Employment/Salary (full or part-time); SAGE Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SAGE Therapeutics. **F.G. Salituro:** A. Employment/Salary (full or part-time); SAGE Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SAGE Therapeutics. **A.J. Robichaud:** A. Employment/Salary (full or part-time); SAGE Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); SAGE Therapeutics. **J.J. Doherty:** A. Employment/Salary (full or part-time); SAGE Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SAGE Therapeutics. |
| 705.07 | **A.L. Althaus:** A. Employment/Salary (full or part-time); Sage Therapeutics. **M. Ackley:** A. Employment/Salary (full or part-time); Sage Therapeutics. **M. Quirk:** A. Employment/Salary (full or part-time); Sage Therapeutics. **G. Martinez Botella:** A. Employment/Salary (full or part-time); Sage Therapeutics. **F. Salituro:** A. Employment/ Salary (full or part-time); Sage Therapeutics. **A. Robichaud:** A. Employment/Salary (full or part-time); Sage Therapeutics. **J. Doherty:** A. Employment/Salary (full or part-time); Sage Therapeutics. |
| 706.21 | **B. Koo:** 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 the National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIP) (No. 2014R1A2A2A01007289) to Bon-Nyeo Koo. |
| 707.12 | **S. Tafazoli:** A. Employment/Salary (full or part-time); Princeton University. **T. Buschman:** A. Employment/Salary (full or part-time); Princeton University. |
| 709.22 | **S. Saumitra:** A. Employment/Salary (full or part-time); PhD Student, Indian Institute of Science. |
| 711.06 | **F.E. Randall:** A. Employment/Salary (full or part-time); Eisai Inc. **P.J. Atkinson:** A. Employment/Salary (full or part-time); Eisai Ltd. |
| 711.07 | **F.E. Randall:** A. Employment/Salary (full or part-time); Eisai Inc. **P.J. Atkinson:** A. Employment/Salary (full or part-time); Eisai Ltd. |
| 712.26 | **B. Koopmans:** A. Employment/Salary (full or part-time); Full-time employee of Sylics. |
| 717.01 | **A.M. Stamatakis:** A. Employment/Salary (full or part-time); Inscopix. **M.J. Schachter:** A. Employment/Salary (full or part-time); Inscopix. **S. Gulati:** A. Employment/Salary (full or part-time); Inscopix. **S. Malanowski:** A. Employment/ Salary (full or part-time); Inscopix. **M. Trulson:** A. Employment/Salary (full or part-time); Inscopix. **S. Otte:** A. Employment/Salary (full or part-time); Inscopix. |
| 717.13 | **F. Shiu:** A. Employment/Salary (full or part-time); Emory University. **K. Berglund:** A. Employment/Salary (full or part-time); Emory University. **A.M. Fernandez:** A. Employment/Salary (full or part-time); Emory University. **C.N. Gutekunst:** A. Employment/Salary (full or part-time); Emory University. **R.E. Gross:** A. Employment/Salary (full or part-time); Emory University. |

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| 717.15 | **D.A. Johnson:** A. Employment/Salary (full or part-time); Pinnacle Technology, Inc. **E. Naylor:** A. Employment/Salary (full or part-time); Pinnacle Technology, Inc. **S. Gabbert:** A. Employment/Salary (full or part-time); Pinnacle Technology, Inc. **D.V. Aillon:** A. Employment/Salary (full or part-time); Pinnacle Technology, Inc. **D.A. Johnson:** A. Employment/Salary (full or part-time); Pinnacle Technology, Inc. |
| 718.03 | **W. Spooren:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd. **J. Buitelaar:** 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.; Roche and Vifor. F. Consulting Fees (e.g., advisory boards); Janssen Cilag BV, Eli Lilly, Lundbeck, Shire, Roche, Medice, Novartis, and Servier. **T. Banaschewski:** 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.; Shire & Viforpharma. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Hogrefe, Kohlhammer, CIP Medien, Oxford University Press. F. Consulting Fees (e.g., advisory boards); Actelion, Hexal Pharma, Lilly, Medice, Novartis, Oxford outcomes, PCM scientific, Shire and Viforpharma. Other; Medice, Novartis and Shire. **A.S. Meyer-Lindenberg:** F. Consulting Fees (e.g., advisory boards); AstraZeneca, Elsevier, F. Hoffmann-La Roche, Gerson Lehrman Group, Lundbeck, Outcome Europe Sárl, Outcome Sciences, Roche Pharma, Servier International and Thieme Verlag. Other; Abbott, AstraZeneca, Aula Médica Congresos, BASF, Boehringer Ingelheim, Groupo Ferrer International, Janssen-Cilag, Lilly Deutschland, LVR Klinikum Düsseldorf, Otsuka Pharmaceuticals and Servier Deuts. |
| 718.11 | **P.L. Purdon:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Masimo has licensed our algorithms for EEG monitoring. **E.N. Brown:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Masimo has licensed our algorithms for EEG monitoring. |
| 720.03 | **N.O. Dalby:** A. Employment/Salary (full or part-time); Technical University of Denmark. **A. Thielscher:** A. Employment/Salary (full or part-time); Danish Research Center for Magnetic Resonance. |
| 721.07 | **J.L. Gauthier:** A. Employment/Salary (full or part-time); Princeton University. **A.S. Charles:** A. Employment/Salary (full or part-time); Princeton University. **J.W. Pillow:** A. Employment/Salary (full or part-time); Princeton University. **D.W. Tank:** A. Employment/Salary (full or part-time); Princeton University. |
| 721.13 | **N.J. O'Connor:** A. Employment/Salary (full or part-time); MBF Bioscience. **B.S. Eastwood:** A. Employment/Salary (full or part-time); MBF Bioscience. **S.J. Tappan:** A. Employment/Salary (full or part-time); MBF Bioscience. **M.J. Fay:** A. Employment/Salary (full or part-time); MBF Bioscience. **S. Gerfen:** A. Employment/Salary (full or part-time); MBF Bioscience. **P.J. Angstman:** A. Employment/Salary (full or part-time); MBF Bioscience. **J.R. Glaser:** A. Employment/Salary (full or part-time); MBF Bioscience. |
| 721.14 | **A.J. Worth:** A. Employment/Salary (full or part-time); Neuromorphometrics, Inc. **J.A. Tourville:** F. Consulting Fees (e.g., advisory boards); Neuromorphometrics, Inc. |
| 721.16 | **R. Gurinovich:** A. Employment/Salary (full or part-time); sci.AI. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Xpansa. **Y. Petrovkiy:** A. Employment/Salary (full or part-time); sci.AI, Odessa National Medical University. |
| 723 | **J. Lee:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); LVIS Corporation. F. Consulting Fees (e.g., advisory boards); LVIS Corporation. |
| 723.03 | **A.C. Singer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cognito Therapeutics. |
| 723.04 | **J. Lee:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); LVIS Corporation. F. Consulting Fees (e.g., advisory boards); LVIS Corporation. |
| 723.05 | **N. Schiff:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on patent owned by CornelII University covering deep brain stimulation systems. F. Consulting Fees (e.g., advisory boards); Scientific Advisory Board EnspireDBS, Inc. |
| 728.04 | **J. Buitelaar:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Roche, Vifor. F. Consulting Fees (e.g., advisory boards); Janssen Cilag BV, Eli Lilly, Lundbeck, Shire, Roche, Medice, Novartis, Servier. **T. Banaschewski:** 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.; Shire, Viforpharma. F. Consulting Fees (e.g., advisory boards); Actelion, Hexal Pharma, Lilly, Medice, Novartis, Oxford outcomes, PCM scientific, Shire and Viforpharma, Hogrefe, Kohlhammer, CIP Medien, Oxford University Press. **A.S. Meyer-Lindenberg:** F. Consulting Fees (e.g., advisory boards); AstraZeneca, Elsevier, F. Hoffmann-La Roche, Gerson Lehrman Group, Lundbeck, Outcome Europe Sárl, Outcome Sciences, Roche Pharma, Servier International, Thieme Verlag, Abbott, Aula Médica Congresos, BASF, Boehringer Ingelheim, Groupo Ferrer International, Janssen-Cilag, Lilly Deutschland, LVR Klinikum Düsseldorf, Otsuka Pharmaceuticals, Servier Deutschland. |
| 729.03 | **S.A. Small:** Other; Memebr Scientific advisory board of Denali Therapeutics, Memebr Scientific advisory board of Janssen Pharmaceuticals. |
| 730.07 | **R.E. Tanzi:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Holder of patent and patent applications assigned to UCSD and Harvard University, Intellectual property rights to other GSM compounds being examined in clinical trials by Neurogenetic Pharmaceuticals, Inc. **S. Wagner:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Holder of patent and patent applications assigned to UCSD and Harvard University, Intellectual property rights to other GSM compounds being examined in clinical trials by Neurogenetic Pharmaceuticals, Inc. **W.C. Mobley:** 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.; LuMind RDS Foundation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Holder of patent and patent applications under UCSD and Harvard. |
| 730.09 | **S.L. Macauley:** F. Consulting Fees (e.g., advisory boards); Denali Therapeutics. |
| 730.12 | **F. Tamagnini:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Eli Lilly. |
| 735.10 | **M.J. Schnitzer:** Other; MJS is a scientific co-founder of and consults for Inscopix Inc., which makes the miniature microscope used in this work. |
| 737.03 | **A.S. Meyer-Lindenberg:** F. Consulting Fees (e.g., advisory boards); received consultant fees from AstraZeneca, Elsevier, F. Hoffmann-La Roche, Gerson Lehrman Group, |

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| | Lundbeck, Outcome Europe Sárl, Outcome Sciences, Roche Pharma, Servier International and Thieme Verlag. Other; received lecture fees including travel expenses from Abbott, AstraZeneca, Aula Médica Congresos, BASF, Boehringer Ingelheim, Groupo Ferrer International, Janssen-Cilag, Lilly Deutschland, LVR Klinikum. |
| 738.02 | **C.S. Weickert:** F. Consulting Fees (e.g., advisory boards); Lundbeck Australia Pty Ltd. Other; Astellas Pharma Inc. Japan. |
| 738.03 | **C.S. Weickert:** F. Consulting Fees (e.g., advisory boards); Lundbeck, Astellas. |
| 738.06 | **C.S. Weickert:** F. Consulting Fees (e.g., advisory boards); Lundbeck. |
| 738.08 | **C. Shannon Weickert:** F. Consulting Fees (e.g., advisory boards); Lundbeck Australia PTY Ltd. Other; Astellas Pharma Inc. Japan. |
| 738.09 | **J.C. Felger:** Other; Talk for Pfizer, Consult for P&G. |
| 739.03 | **T. Bäumer:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Tobias Bäumer has been supported by the Possehl-Stiftung, Lübeck. He received honaria form Merz Pharmaceuticals, Ipsen Pharma, and Allergan. F. Consulting Fees (e.g., advisory boards); Served on the scientific advisory board for Merz Pharmaceuticals. **A. Münchau:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Commercial research support by Pharm Allergan, Ipsen, Merz Pharmaceuticals, Actelion; Honoraria for lectures from Pharm Allergan, Ipsen, Merz Pharmaceuticals, Actelion; GlaxoSmithKline, Desitin and. **R. Chen:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Research Grants from Merz and Medtronic Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Honoraria from Allergan and Merz. |
| 739.07 | **H.R. Siebner:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Research Grant from Biogen-Idec. Other; Honoraria as editor from Elsevier Publishers, Amsterdam, The Netherlands and Springer Publishing, Stuttgart, Germany. |
| 739.09 | **S.N. Baker:** A. Employment/Salary (full or part-time); Newcastle 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.; Wellcome Trust, Medical Research Council. **W. Xu:** A. Employment/Salary (full or part-time); Newcastle University. |
| 740.12 | **D.K. Cullen:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Axonova. |
| 740.14 | **M. Isoda:** A. Employment/Salary (full or part-time); Sumitomo Dainippon Pharma Co., Ltd. **T. Sanosaka:** A. Employment/Salary (full or part-time); Keio University. **K. Sugai:** A. Employment/Salary (full or part-time); Keio University. **T. Andoh-Noda:** A. Employment/Salary (full or part-time); Keio University. **I. Koya:** A. Employment/Salary (full or part-time); Keio University. **S. Banno:** A. Employment/Salary (full or part-time); Keio University. **R. Yamaguchi:** A. Employment/Salary (full or part-time); Sumitomo Dainippon Pharma Co., Ltd. **T. Ito:** A. Employment/Salary (full or part-time); RIKEN Institute. **H. Okano:** A. Employment/Salary (full or part-time); Keio University. **J. Kohyama:** A. Employment/Salary (full or part-time); Keio University. **M. Nakamura:** A. Employment/Salary (full or part-time); Keio University. |
| 743.14 | **R. Raghav:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Nalbuphine drug was gifted by RUSAN PHARMA Ltd. |
| 744.04 | **C.F. Zorumski:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. F. Consulting Fees (e.g., advisory boards); Sage Therapeutics. |
| 744.07 | **K.P. Mangan:** A. Employment/Salary (full or part-time); Cellular Dynamics International. |
| 746.12 | **A. Vuyyuru:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Kallepalli:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Yathavakilla:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **J. Fernandes:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **J. Tadiparthi:** A. Employment/Salary (full or part-time); jayaprakash@suven.com. **S. Irappanavar:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **V. Kamuju:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Gandipudi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **J. Thentu:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **D. Sisodaya:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Eeda:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Pandey:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Petlu:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **P. Nissankararao Mary:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Edula:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **T. Bandyala:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **V. Bhatta:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **P. Achanta:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **A. Shinde:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **K. Mudigonda:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Nirogi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. |
| 746.15 | **W. Li:** A. Employment/Salary (full or part-time); University of Illinois at Chicago. **Z. Jiang:** A. Employment/Salary (full or part-time); University of Illinois at Chicago. **L. Gong:** A. Employment/Salary (full or part-time); University of Illinois at Chicago. |
| 749.17 | **L. Wong:** A. Employment/Salary (full or part-time); National University of Singapore. **C. Ibanez:** A. Employment/Salary (full or part-time); National University of Singapore. **S. Sajikumar:** A. Employment/Salary (full or part-time); National University of Singapore. |
| 750.01 | **D.A. Lewis:** 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.; investigator-initiated research support from Pfizer. |
| 750.10 | **D.A. Lewis:** 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.; Currently receives investigator-initiated research support from Pfizer. |
| 751.13 | **E.N. Brown:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Masimo has licensed our algorithms for EEG recording. |
| 752.09 | **E.N. Brown:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Masimo has licensed our algorithms for EEG monitoring. **P.L. Purdon:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Masimo has licensed our algorithms for EEG monitoring. |
| 752.12 | **A. Anticevic:** 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. **J.D. Murray:** F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. |

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| 752.16 | **C.S. Herrmann:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); filed a patent application on brain stimulation. |
| 753.09 | **B. Voloh:** A. Employment/Salary (full or part-time); York University. **T. Womelsdorf:** A. Employment/Salary (full or part-time); York University. |
| 754.11 | **M. Grossman:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Research support from BMS. |
| 754.16 | **M. Castro:** A. Employment/Salary (full or part-time); Alkahest Inc. **R. Alcantara-Lee:** A. Employment/Salary (full or part-time); Alkahest Inc. **S. Braithwaite:** A. Employment/Salary (full or part-time); Alkahest Inc. **I.D. Gallager:** A. Employment/Salary (full or part-time); Alkahest Inc. |
| 754.17 | **A.T. Liu:** A. Employment/Salary (full or part-time); Alkahest, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest, Inc. **C. Tun:** A. Employment/Salary (full or part-time); Alkahest, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest, Inc. **S. Minami:** A. Employment/Salary (full or part-time); Alkahest, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest, Inc. **S.P. Braithwaite:** A. Employment/Salary (full or part-time); Alkahest, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest, Inc. **E. Czirr:** A. Employment/Salary (full or part-time); Alkahest, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest, Inc. |
| 754.18 | **C. Tun:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **A.T. Liu:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **S.P. Braithwaite:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **E. Czirr:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. |
| 754.19 | **R.R. Alcantara-Lee:** A. Employment/Salary (full or part-time); Alkahest, Inc. |
| 756.13 | **C.A. Mathis:** Other; co-inventors of PiB and have financial interest in a license agreement between University of Pittsburgh and GE Healthcare based on the PiB technology. **W.E. Klunk:** Other; co-inventors of PiB and have financial interest in a license agreement between University of Pittsburgh and GE Healthcare based on the PiB technology. |
| 757.18 | **W. Meissner:** 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.; Partial funding via France Parkinson grant. |
| 757.21 | **A.D. Lee:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuroinitiative. **D.A. Dodds:** A. Employment/Salary (full or part-time); Neuroinitiative. **J.W. Ryan:** A. Employment/Salary (full or part-time); Neuroinitiative. **B. Behrouz:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuroinitiative. |
| 758.18 | **T.E. Hughes:** A. Employment/Salary (full or part-time); Montana Molecular. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Montana Molecular. **K. Harlen:** A. Employment/Salary (full or part-time); Montana Molecular. |
| 759.03 | **P. Thompson:** A. Employment/Salary (full or part-time); Mission Therapeutics. **R. McMenamin:** A. Employment/Salary (full or part-time); Mission Therapeutics. **C. Stead:** A. Employment/Salary (full or part-time); Mission Therapeutics. **L. Igelmann:** A. Employment/Salary (full or part-time); Mission Therapeutics. **M. Ousset:** A. Employment/Salary (full or part-time); Mission Therapeutics. **M. Koslowski:** A. Employment/Salary (full or part-time); Mission Therapeutics. |
| 759.04 | **M. Cherubini:** 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.; Mission Therapeutics. |
| 759.15 | **S.R. Kennedy:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); TwinStrand Biotechnologies. |
| 760.15 | **Z. McEachin:** 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 & Beyond, LLC. **N.M. Boulis:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Above & Beyond, LLC. **R. Bowser:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Iron Horse Diagnostics, Inc. F. Consulting Fees (e.g., advisory boards); Above & Beyond, LLC. |
| 761.07 | **S. Kannan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Orpheris, Ashvattha. **R.M. Kannan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Orpheris, Ashvattha. |
| 765.06 | **Y. Nakamura:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); ART-123 (Recomodulin), was provided by Asahi Kasei Pharma (Tokyo, Japan). |
| 767.11 | **B. Fitzsimmons:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. **A. Mohan:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. **H. Kordasiewicz:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. **E. Swayze:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. |
| 767.12 | **C. Mazur:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals, Inc. **B. Fitzsimmons:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals, Inc. **A. Mohan:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals, Inc. **H. Kordasiewicz:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals, Inc. **E. Swayze:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals, Inc. |
| 767.19 | **B. Fitzsimmons:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. **A. Mohan:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. **H. Kordasiewicz:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. |
| 767.25 | **N.D. Titus:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Stryker Corporation. |

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|---|---|
| | **N.D. Crosby:** 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.; Stryker Corporation. **W.M. Grill:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Stryker Corporation. |
| 767.26 | **Y.Y. Lai:** A. Employment/Salary (full or part-time); Anagin LLC. |
| 767.28 | **M. Karlsson:** A. Employment/Salary (full or part-time); Cellectricon AB. **S. Lardell:** A. Employment/Salary (full or part-time); Cellectricon AB. **C. Nodin:** A. Employment/Salary (full or part-time); Cellectricon AB. **A. Karlsson:** A. Employment/Salary (full or part-time); Cellectricon AB. **J. Pihl:** A. Employment/Salary (full or part-time); Cellectricon AB. **P. Karila:** A. Employment/Salary (full or part-time); Cellectricon AB. |
| 768.09 | **B. Feng:** 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.; Supported by Allergan Inc. |
| 769.04 | **C.K. Overstreet:** F. Consulting Fees (e.g., advisory boards); Nerves Incorporated. **J. Cheng:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nerves Incorporated. **E.W. Keefer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nerves Incorporated. |
| 769.05 | **J.C. Tanner:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nerves Incorporated. **E. Keefer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nerves Incorporated. **J. Cheng:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nerves Incorporated. |
| 771.03 | **B. Rozsa:** F. Consulting Fees (e.g., advisory boards); Femtonics (scientific advisory board). Other; Author founded a company (Femtonics) that produces a product or service related to the work being reported. |
| 772.09 | **C.G. Assisi:** A. Employment/Salary (full or part-time); Indian Institute of Science Education and Research. |
| 775.15 | **H. Yamakawa:** A. Employment/Salary (full or part-time); Hiroshi Yamakawa, Whole Brain Architecture Initiative. Other; Whole Brain Architecture Initiative. |
| 776.04 | **N. Yamawaki:** A. Employment/Salary (full or part-time); Kindai University, full. 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.; Grant-in-Aid for Scientific Research (C) 15K01488. |
| 776.10 | **M. McBrearty:** A. Employment/Salary (full or part-time); DCS Corp. 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.; ARL H70-HR51, ARL-CTA W911NF-10-2-0022. **M. Nonte:** A. Employment/Salary (full or part-time); DCS Corp. 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.; ARL H70-HR51, ARL-CTA W911NF-10-2-0022. **W. Hairston:** A. Employment/Salary (full or part-time); US Army Research Lab. 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.; ARL H70-HR51, ARL-CTA W911NF-10-2-0022. |
| 776.14 | **M.M. Islam:** A. Employment/Salary (full or part-time); UMBC. **Q. Meng:** A. Employment/Salary (full or part-time); umbc. **K. Demmerle:** A. Employment/Salary (full or part-time); UMBC. **X. Du:** A. Employment/Salary (full or part-time); MPRC. **E. Hong:** A. Employment/Salary (full or part-time); mprc. **F. Choa:** A. Employment/Salary (full or part-time); UMBC. |
| 781.02 | **B. Gray:** A. Employment/Salary (full or part-time); Ipsen. **G. Hackett:** A. Employment/Salary (full or part-time); Ipsen. **K. Moore:** A. Employment/Salary (full or part-time); Ipsen. **D. Burgin:** A. Employment/Salary (full or part-time); Ipsen. **F. Hornby:** A. Employment/Salary (full or part-time); Ipsen. **M. Elliott:** A. Employment/Salary (full or part-time); Ipsen. **C. Perier:** A. Employment/Salary (full or part-time); Ipsen. **M. Beard:** A. Employment/Salary (full or part-time); Ipsen. **J.J. Krupp:** A. Employment/Salary (full or part-time); Ipsen. |
| 781.03 | **M.S. Elliott:** A. Employment/Salary (full or part-time); Ipsen. **J. Maignel-Ludop:** A. Employment/Salary (full or part-time); Ipsen. **C. Favre-Guilmard:** A. Employment/Salary (full or part-time); Ipsen. **M. Beard:** A. Employment/Salary (full or part-time); Ipsen. **S. Palan:** A. Employment/Salary (full or part-time); Ipsen. **S.M. Liu:** A. Employment/Salary (full or part-time); Ipsen. **P. Stenmark:** 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.; Ipsen. **M. Dong:** 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.; Ipsen. **J.J. Krupp:** A. Employment/Salary (full or part-time); Ipsen Innovation. |
| 781.06 | **T. Ito:** 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.; AMED 17ek0109243h0001. |
| 784.01 | **M.E. Gilbert:** A. Employment/Salary (full or part-time); U.S. Environmental Protection Agency. |
| 784.17 | **J. Tadiparthi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **V. Grandhi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd., Hyderabad, India. **N. Ganuga:** 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. **R. Abraham:** 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. **V. Benade:** 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. |
| 787.14 | **H. Nakajima:** A. Employment/Salary (full or part-time); full-time job as an associate professor. 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.; JSPS KAKENHI Grant 16H05029. **M. Itakura:** A. Employment/Salary (full or part-time); full-time job as an assitant professor. **M. Kuwamura:** A. Employment/Salary (full or part-time); full-time job as an associate professor. **T. Hikida:** A. Employment/Salary (full or part-time); full-time job as a professor. **Y. Azuma:** A. Employment/Salary (full or part-time); full-time job as an associate professor. **T. Takeuchi:** A. Employment/Salary (full or part-time); full-time job as a professor. |

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|---|---|
| 787.25 | **P.C. Barcellos-Filho:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); CAPES, CNPq and FAPESP agencies from Brazil. |
| 788.02 | **J.D. Salamone:** 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, Inc. **R. Kozak:** A. Employment/Salary (full or part-time); Pfizer, Inc. **P. Gray:** 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, Inc. |
| 790.15 | **B. O'Flaherty:** A. Employment/Salary (full or part-time); Emory University. **D.G. Rainnie:** A. Employment/Salary (full or part-time); Emory University. |
| 790.20 | **M. Lo:** A. Employment/Salary (full or part-time); Massachusetts General Hospital. |
| 793.10 | **H.I. Risca:** 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 research was funded by the National Institutes of Health. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); The National Institute on Drug Abuse Drug Control Supply Program provided the 3,4-Methylenedioxypyrovalerone used in this study. **L.E. Baker:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Research was funded by the National Institutes of Health (R15DA038295). C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); National Institute on Drug Abuse Control Supply Program provided the 3,4-Methylenedioxypyrovalerone used in this study. |
| 793.20 | **M.A. Nitsche:** F. Consulting Fees (e.g., advisory boards); Neuroelectrics. |
| 800.06 | **A. Esteban Fernandez:** 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.; Altschul foundation, FPI-MICINN. |
| 801.06 | **C.A. Boettiger:** F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. |
| 801.24 | **C.A. Zarate:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Zarate is listed as co-inventor on a patent for the use of ketamine and its metabolites in the treatment of depression, anxiety, anhedonia, suicidal ideation and post-traumatic stress disorders. **W.C. Drevets:** 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.; Janssen Pharmaceuticals, LLC of Johnson and Johnson, Inc., Titusville, NJ, USA. |
| 801.25 | **S. Eom:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); This research was supported by a grant of the Korea Health Technology R&D Project through the KHIDI, funded by the Ministry of Health & Welfare, Republic of Korea (grant number:HI16C0673). |
| 802.01 | **V.D. Bohbot:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The NeuroNautilus software lead to the submission of a patent application and the creation of the NeuroNautilus company to allow dissemination to other researchers and to the public. |
| 802.06 | **V.D. Bohbot:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The NeuroNautilus software lead to the submission of a patent application and the creation of the NeuroNautilus company to allow dissemination to other researchers and to the public. |
| 803.11 | **M. Bluestone:** A. Employment/Salary (full or part-time); Boston College. **M. Ritchey:** A. Employment/Salary (full or part-time); Boston College. |
| 805.01 | **M.E. Levin:** A. Employment/Salary (full or part-time); Galenea. **K.A. Richardson:** A. Employment/Salary (full or part-time); Galenea. **B. Buran:** A. Employment/Salary (full or part-time); Galenea. **B. Eschle:** A. Employment/Salary (full or part-time); Galenea. **D.J. Gerber:** A. Employment/ Salary (full or part-time); Galenea. |
| 805.06 | **S. Meisenhelter:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NeuroPace, Inc. **N.R. Hasulak:** A. Employment/Salary (full or part-time); NeuroPace, Inc. **T.K. Tcheng:** A. Employment/Salary (full or part-time); NeuroPace, Inc. |
| 805.10 | **I. Mohammad-Rezazadeh:** A. Employment/Salary (full or part-time); Submission is under TICR 17-159 received final TIO approval on 05-03-17. It is a part of HRL internal grant HR.16.2DF.12 and Invention Disclosure 170503. |
| 805.12 | **A. Chaire:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; CONACYT. |
| 805.17 | **P.H. Falcone:** 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.; Kemin. **A.C. Tribby:** 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.; Kemin. **J.A. Lasrado:** A. Employment/ Salary (full or part-time); Kemin Foods, L.C. **B.A. Fonseca:** A. Employment/Salary (full or part-time); Kemin Foods, L.C. **B.J. Lewis:** A. Employment/Salary (full or part-time); Kemin Foods, L.C. **K.A. Herrlinger:** A. Employment/Salary (full or part-time); Kemin Foods, L.C. |
| 806.12 | **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. **A. Kaluszka:** 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. Schwartz:** 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. **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. **K. Kerlan:** 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. **R.J. Schafer:** A. Employment/Salary (full or part-time); Lumos Labs. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs. |
| 806.13 | **N. Schwartz:** A. Employment/Salary (full or part-time); Lumos Labs, Inc. |
| 806.14 | **R.J. Schafer:** A. Employment/Salary (full or part-time); Lumos Labs, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs, Inc. **C. Liu:** A. Employment/Salary (full or part-time); Lumos |

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| | Labs, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs, Inc. **E. Cordell:** A. Employment/Salary (full or part-time); Lumos Labs, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs, Inc. **K. Kerlan:** A. Employment/Salary (full or part-time); Lumos Labs, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs, Inc. **N. Ng:** A. Employment/Salary (full or part-time); Lumos Labs, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs, Inc. |
| 807.04 | **C.S. Weickert:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); CSW is a panel member of Lundbeck Australia Advisory Board and is in collaboration with Astellas Pharma Inc., Japan. |
| 807.15 | **C. Shannon Weickert:** F. Consulting Fees (e.g., advisory boards); Lundbeck Australia., Pty Ltd. Other; Astellas Pharma Inc., Japan. |
| 807.17 | **C. Shannon Weickert:** F. Consulting Fees (e.g., advisory boards); Lundbeck, Australia Pty Ltd. Other; Astellas Pharma Inc., Japan. |
| 807.18 | **C. Shannon Weickert:** F. Consulting Fees (e.g., advisory boards); Lundbeck. Other; Astellas. |
| 808.04 | **S.A. Helekar:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Intellectual property rights. |
| 808.07 | **A. Pascual-Leone:** F. Consulting Fees (e.g., advisory boards); Nexstim, Neuronix, Starlab Neuroscience, Neuroelectrics, Axilum Robotics, Magstim Inc., Neosync. |
| 808.16 | **A.D. Snyder:** A. Employment/Salary (full or part-time); Virginia Commonwealth University Health System. |
| 809.19 | **H. Xie:** A. Employment/Salary (full or part-time); Synatom Research LLC. |
| 809.25 | **F. St-Pierre:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder. **M.Z. Lin:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder. |
| 810.02 | **S. Mohanty:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nanoscope Technologies LLC. |
| 810.05 | **H. Eda:** Other; Photonics Innoations Co. Ltd. |
| 810.12 | **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. **D.M. Appledorn:** A. Employment/Salary (full or part-time); Essen Bioscience. |
| 810.13 | **S. Du:** A. Employment/Salary (full or part-time); Hamamatsu Corporation. **S. Hisada:** A. Employment/Salary (full or part-time); Hamamatsu Photonics K.K. |
| 811.10 | **Z. Liu:** A. Employment/Salary (full or part-time); Horizon Discovery. **G. Zhao:** A. Employment/Salary (full or part-time); Horizon Discovery. |
| 814.01 | **A.E. Bandrowski:** A. Employment/Salary (full or part-time); SciCrunch Inc. **M.E. Martone:** A. Employment/Salary (full or part-time); Hypothes.is. **G. Pine:** A. Employment/Salary (full or part-time); SciCrunch Inc. |

# NEUROSCIENCE 2017 — EXHIBITS AND POSTER SESSIONS

## Walter E. Washington Convention Center: Halls A–C

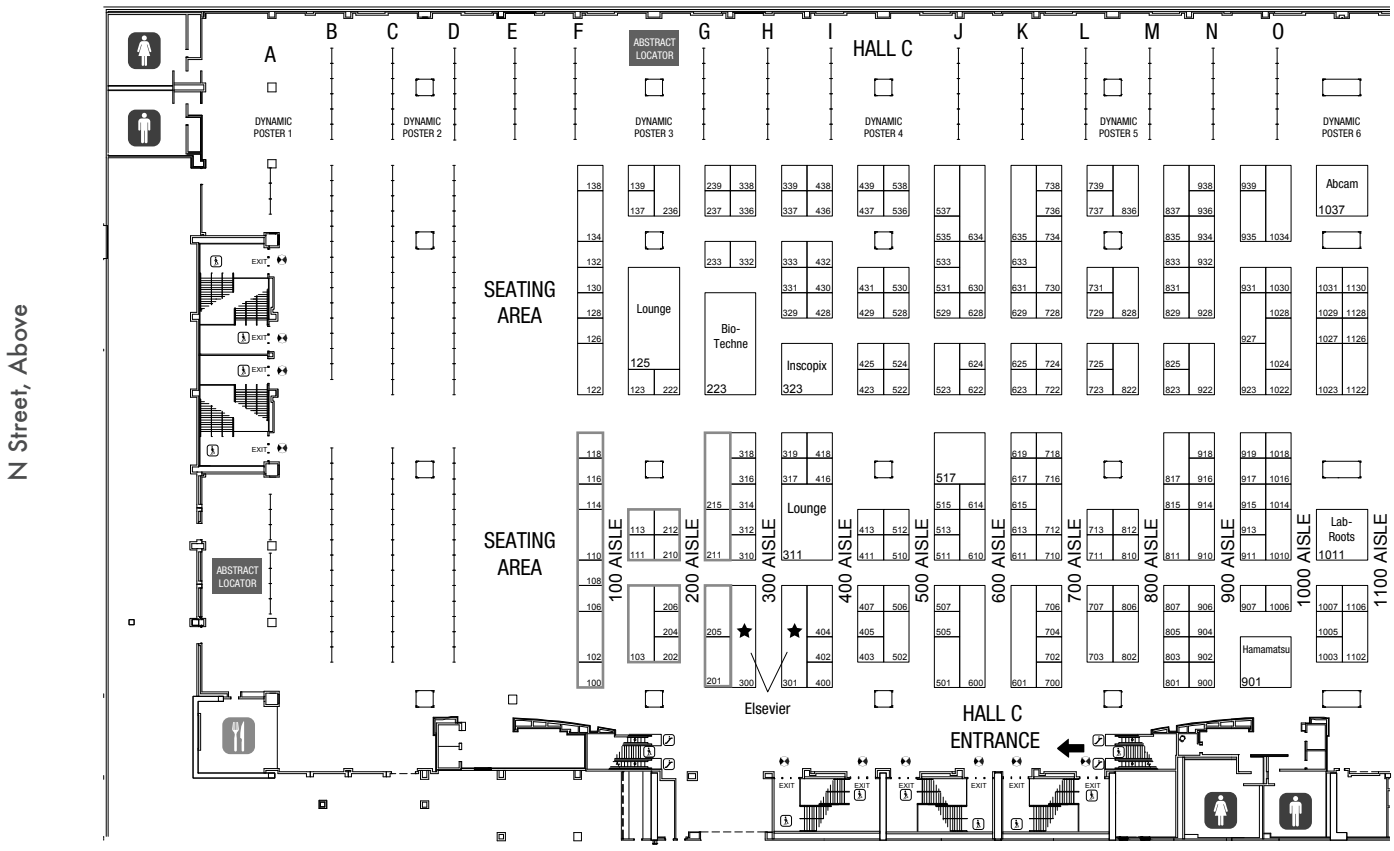
Meeting Dates: Nov. 11–15
Exhibit Dates: Nov. 12–15

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.

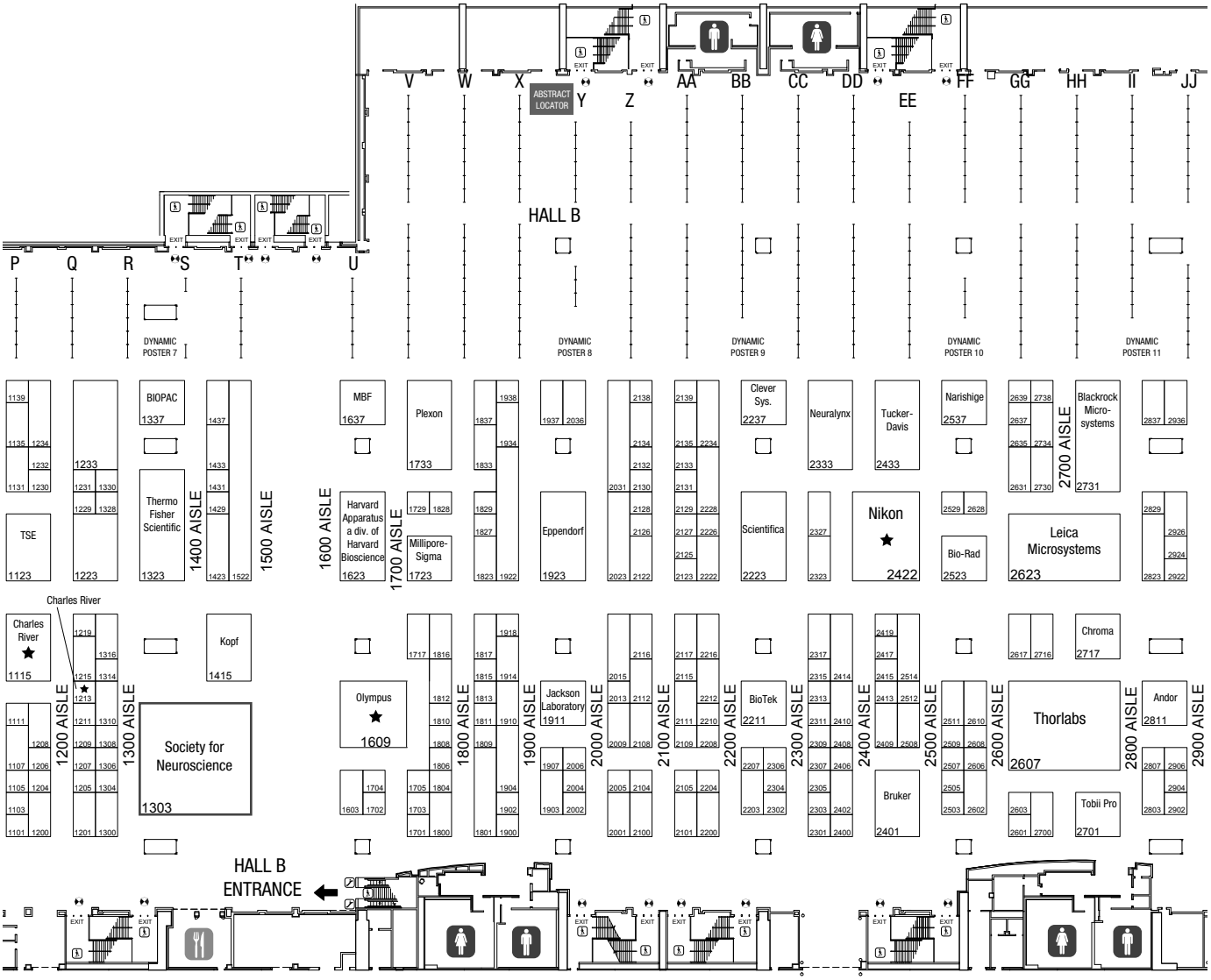
Floor plans subject to change. For current floor plan, visit **SfN.org/exhibits.**

**KEY**

- ☐ Institutions / Nonprofits
- ■ Abstract Locators
- ■ Concession Areas
- ☐ Publishers Row
- ☐ SfN Booth
- ■ Restrooms
- ★ Sustaining Associate Members
- \+ First Aid Station
- Emergency Exit



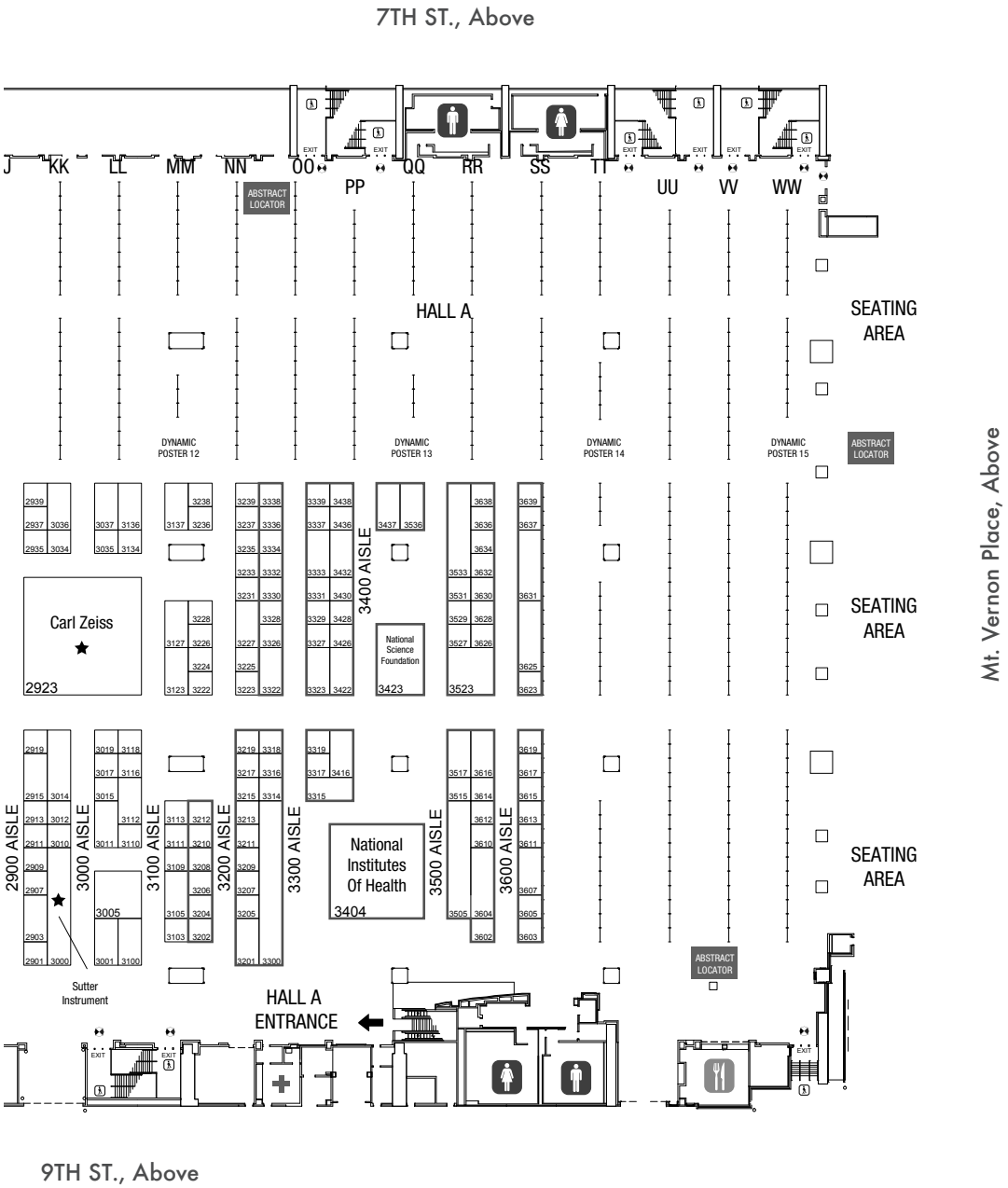
7TH ST., Above




9TH ST., Above

**KEY**

- ☐ Institutions / Nonprofits
- ☐ Publishers Row
- ★ Sustaining Associate Members
- ■ Abstract Locators
- ☐ SfN Booth
- \+ First Aid Station
- ■ Concession Areas
- ■ Restrooms
- Emergency Exit



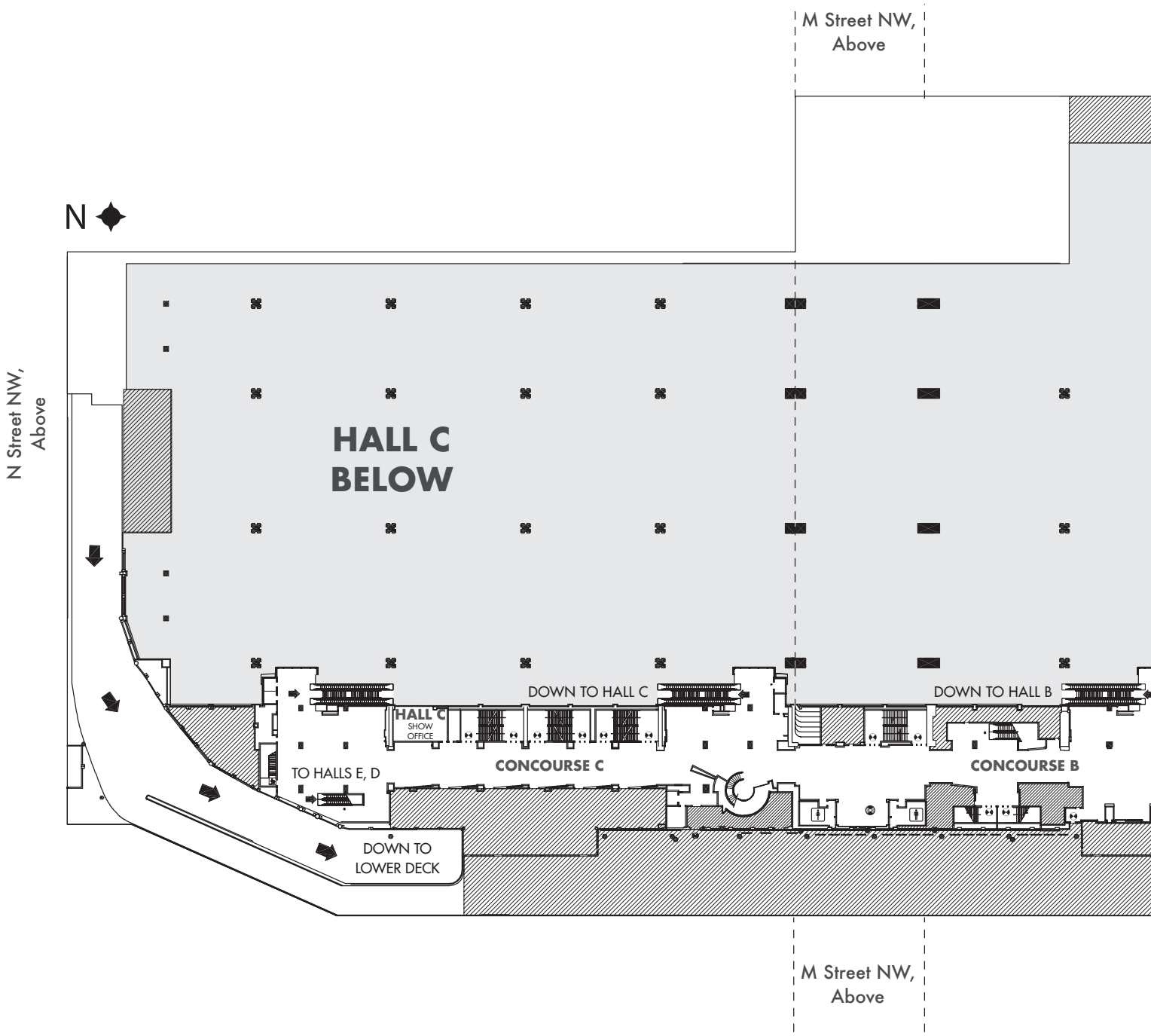

NOTE: Floor plans subject to change. For current floor plan, visit SfN.org/exhibits

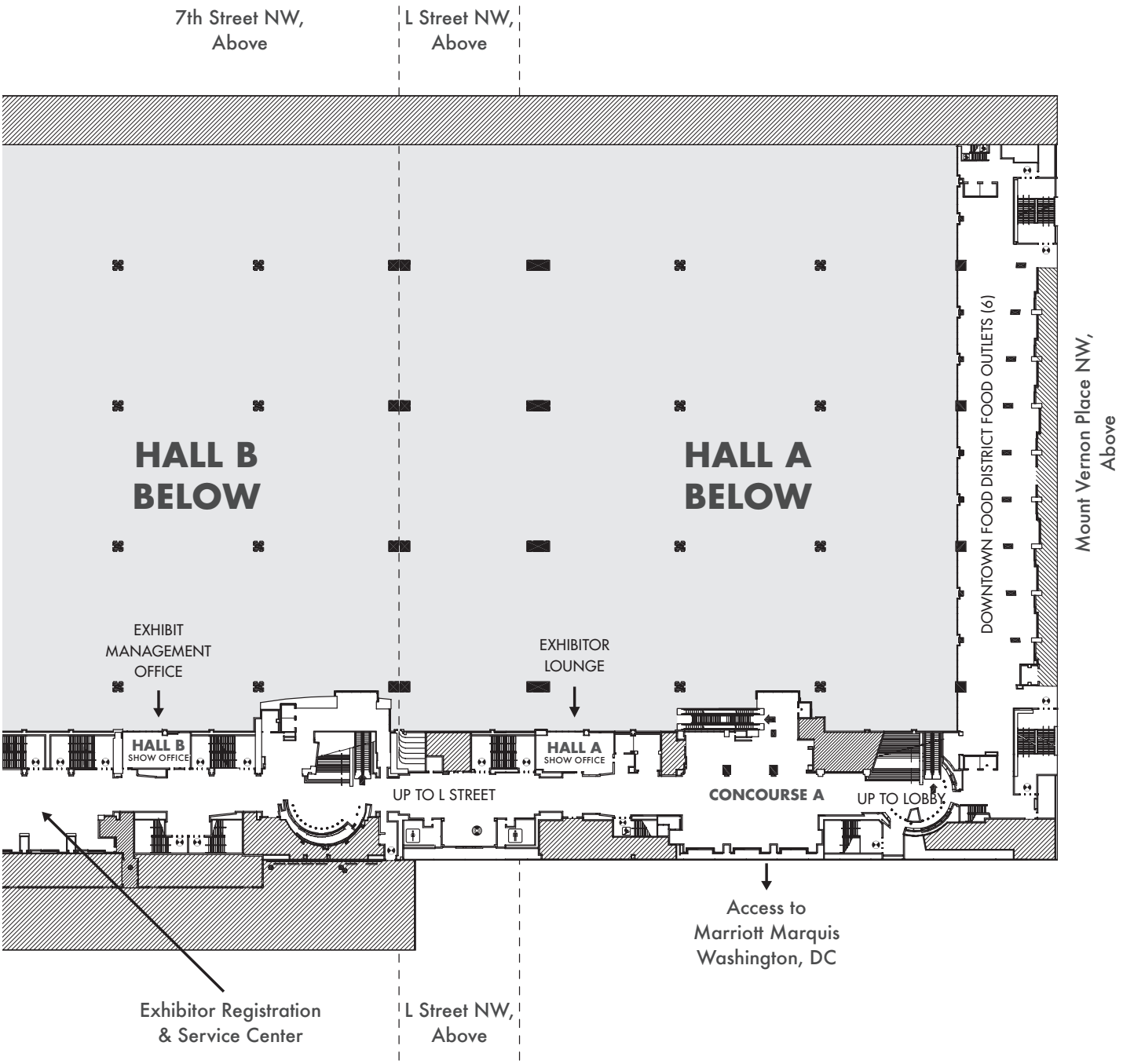
# CONVENTION CENTER FLOOR PLANS

**Concourse Level**

Access to Exhibit Halls A–C

Show Offices A–C

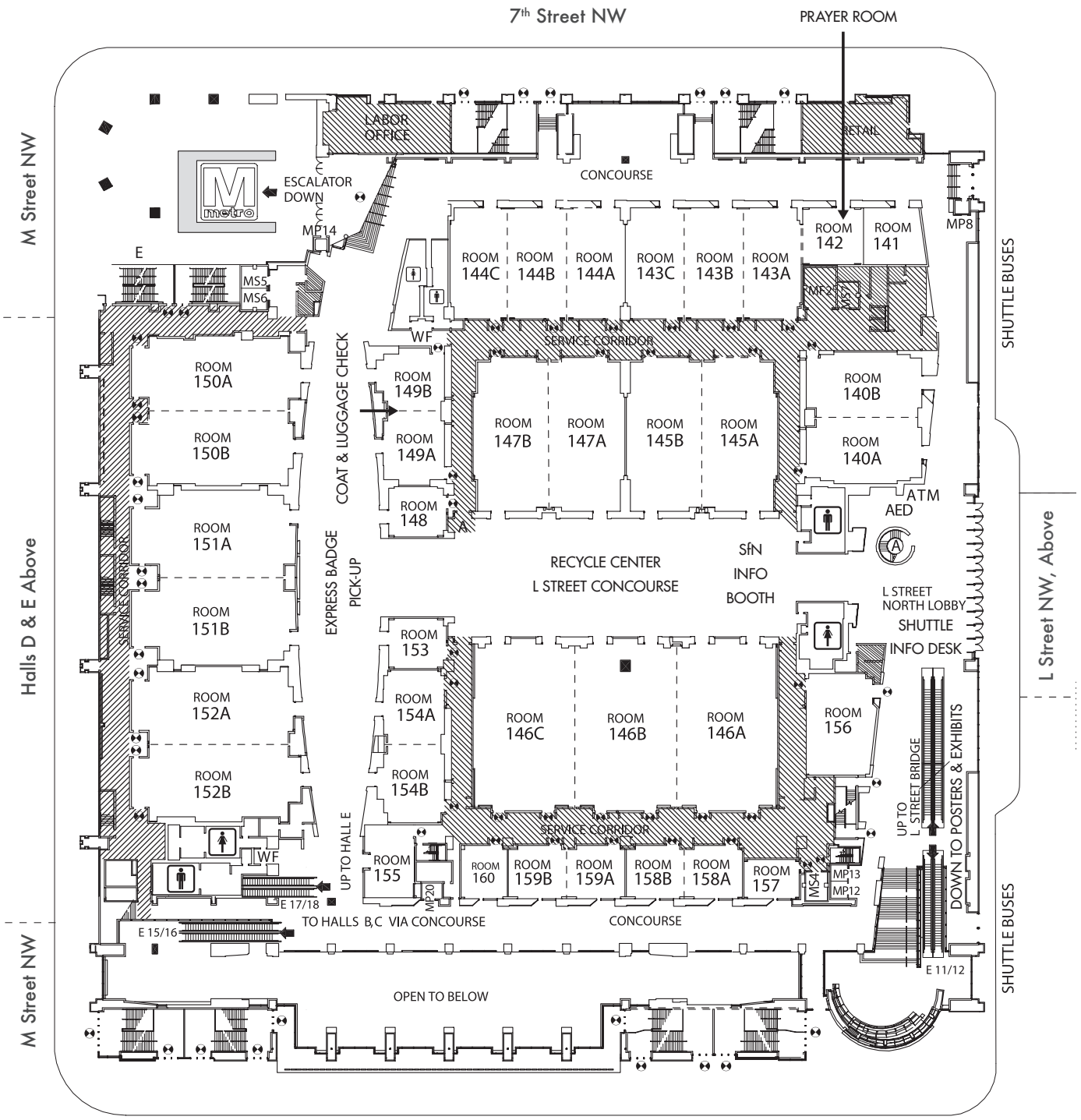


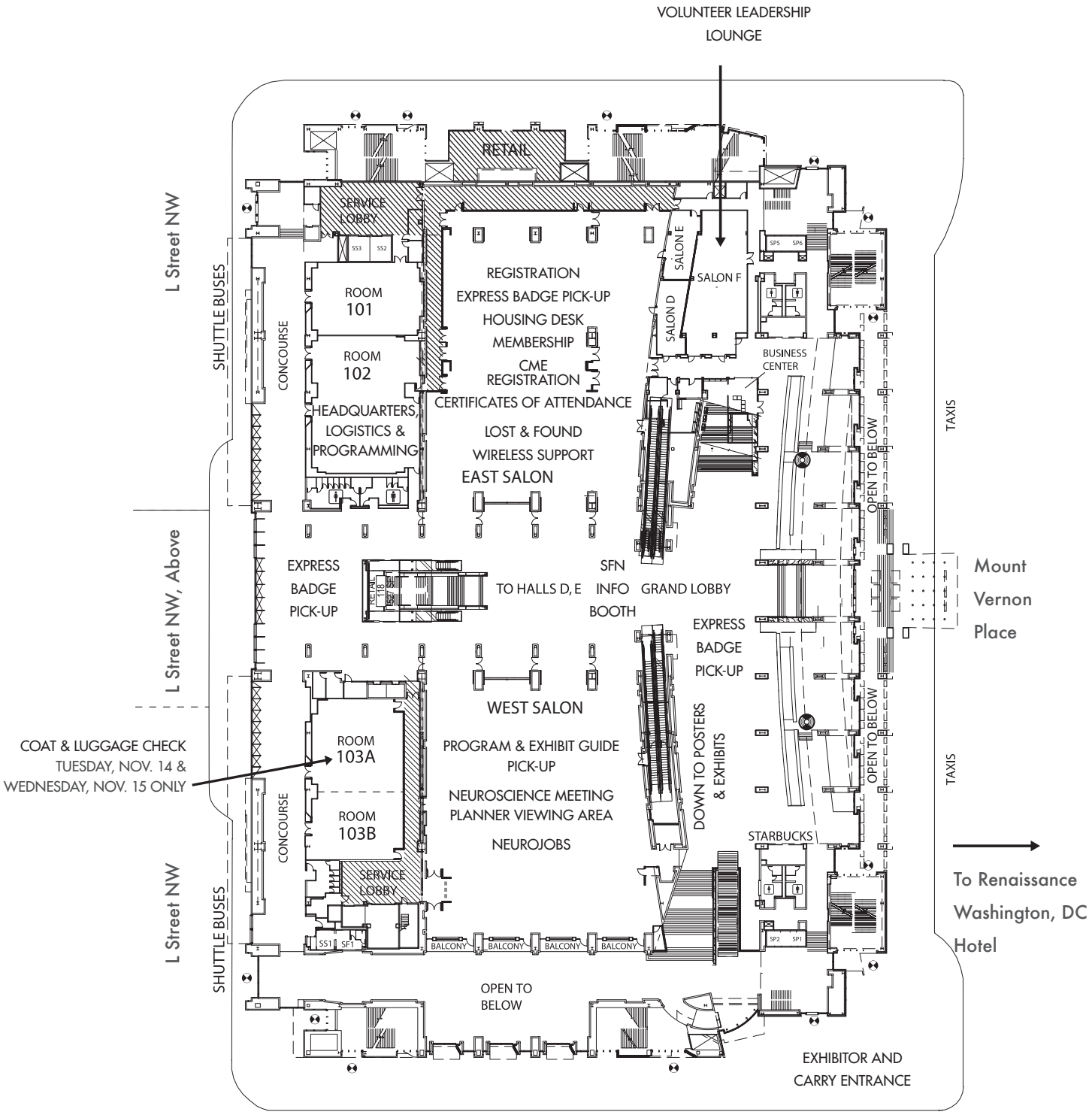

7th Street NW,
Above
L Street NW,
Above
HALL B
BELOW
HALL A
BELOW
DOWNTOWN FOOD DISTRICT FOOD OUTLETS (6)
Mount Vernon Place NW,
Above
EXHIBIT
MANAGEMENT
OFFICE
EXHIBITOR
LOUNGE
HALL B
SHOW OFFICE
HALL A
SHOW OFFICE
UP TO L STREET
CONCOURSE A
UP TO LOBBY
Access to
Marriott Marquis
Washington, DC
Exhibitor Registration
& Service Center
L Street NW,
Above

# CONVENTION CENTER FLOOR PLANS

## Lobby Level/Level 1

Meeting Rooms 101–103 & 140–160



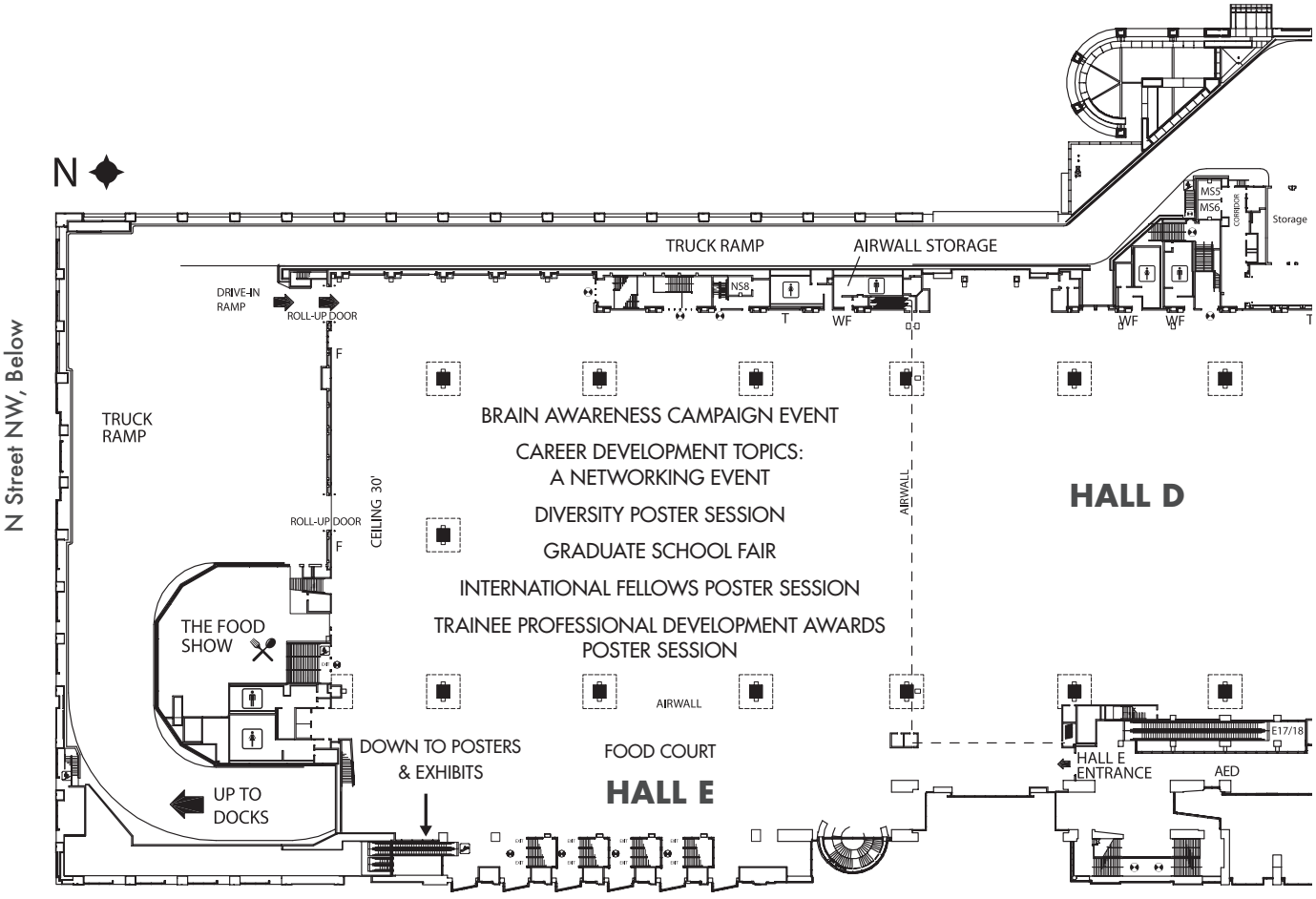

VOLUNTEER LEADERSHIP LOUNGE
RETAIL
SERVICE LOBBY
SS3
SS2
ROOM 101
ROOM 102
HEADQUARTERS, LOGISTICS & PROGRAMMING
REGISTRATION
EXPRESS BADGE PICK-UP
HOUSING DESK
MEMBERSHIP
CME REGISTRATION
CERTIFICATES OF ATTENDANCE
LOST & FOUND
WIRELESS SUPPORT
EAST SALON
SALON E
SALON F
SALON D
SP5
SP6
BUSINESS CENTER
L Street NW
SHUTTLE BUSES
CONCOURSE
L Street NW, Above
EXPRESS BADGE PICK-UP
RETAIL
T18
T17
TO HALLS D, E
SFN INFO BOOTH
GRAND LOBBY
OPEN TO BELOW
TAXIS
Mount Vernon Place
WEST SALON
EXPRESS BADGE PICK-UP
COAT & LUGGAGE CHECK
TUESDAY, NOV. 14 &
WEDNESDAY, NOV. 15 ONLY
ROOM 103A
ROOM 103B
PROGRAM & EXHIBIT GUIDE PICK-UP
NEUROSCIENCE MEETING PLANNER VIEWING AREA
NEUROJOBS
DOWN TO POSTERS & EXHIBITS
STARBUCKS
SERVICE LOBBY
SS1
SF1
BALCONY
BALCONY
BALCONY
BALCONY
SP2
SP1
OPEN TO BELOW
To Renaissance Washington, DC Hotel
EXHIBITOR AND CARRY ENTRANCE

# CONVENTION CENTER FLOOR PLANS

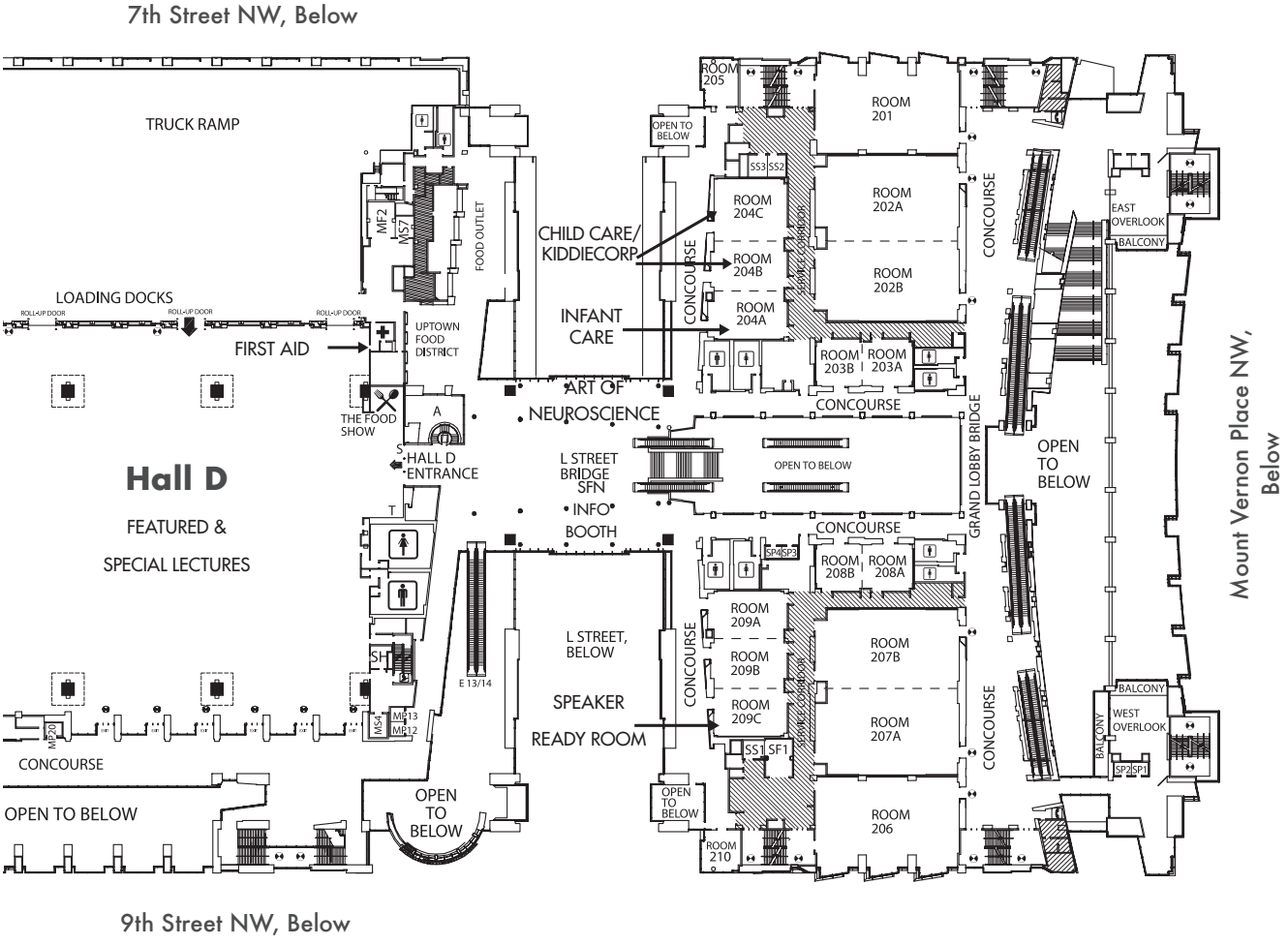
**Level 2**

Halls D & E

Meeting Rooms 201–210




NORTH BUILDING

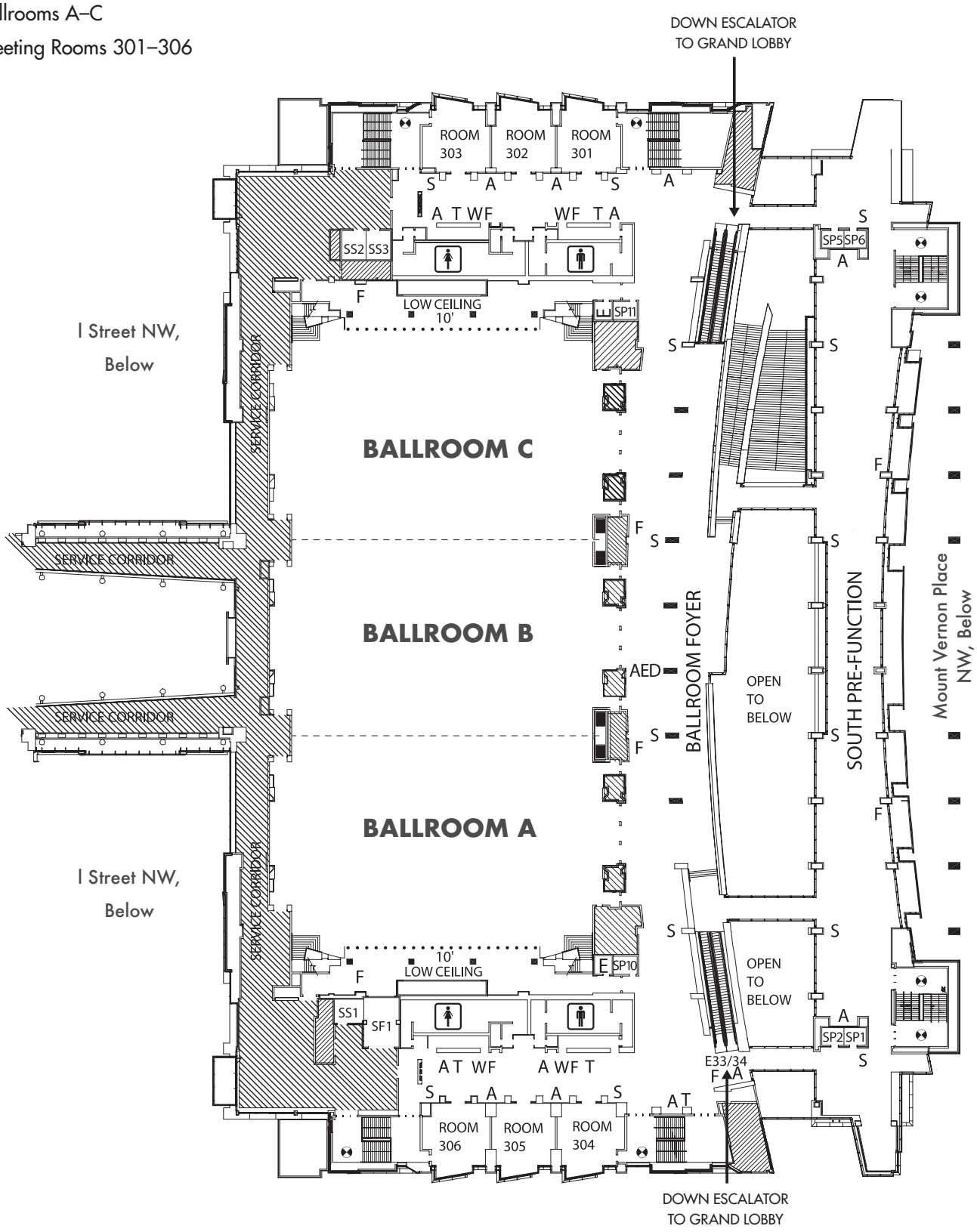

7th Street NW, Below
TRUCK RAMP
LOADING DOCKS
ROLL-UP DOOR
ROLL-UP DOOR
ROLL-UP DOOR
FIRST AID
UPTOWN FOOD DISTRICT
FOOD OUTLET
MF2
MS7
THE FOOD SHOW
A
S
HALL D ENTRANCE
Hall D
FEATURED & SPECIAL LECTURES
T
SH
MP20
MS4
MP13
MP12
E 13/14
CONCOURSE
OPEN TO BELOW
OPEN TO BELOW
CHILD CARE/ KIDDIECORP
INFANT 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
CONCOURSE
SERVICE CORRIDOR
ROOM 202A
ROOM 202B
CONCOURSE
EAST OVERLOOK
BALCONY
ROOM 203B
ROOM 203A
CONCOURSE
GRAND LOBBY BRIDGE
OPEN TO BELOW
OPEN TO BELOW
SP4
SP3
ROOM 208B
ROOM 208A
CONCOURSE
ROOM 209A
ROOM 209B
ROOM 209C
SERVICE CORRIDOR
ROOM 207B
ROOM 207A
CONCOURSE
BALCONY
WEST OVERLOOK
BALCONY
SP2
SP1
SS1
SF1
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**

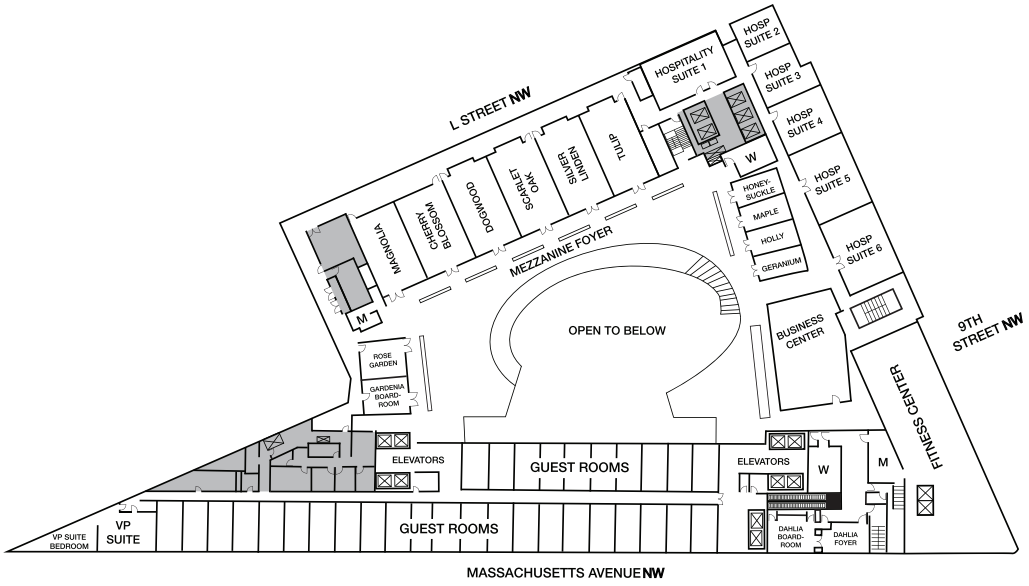
Ballrooms A–C

Meeting Rooms 301–306

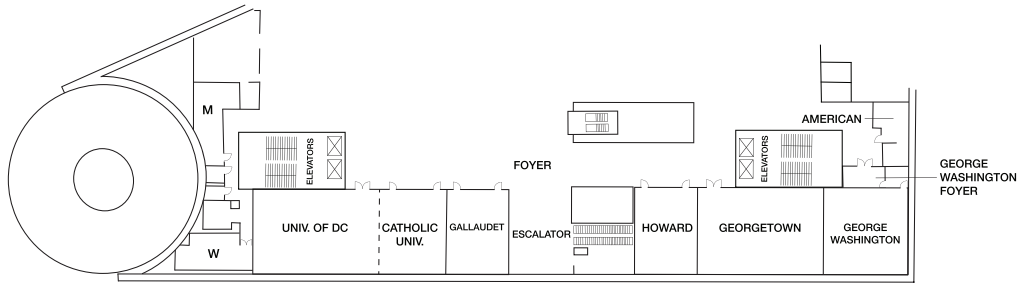


# HOTEL FLOOR PLANS

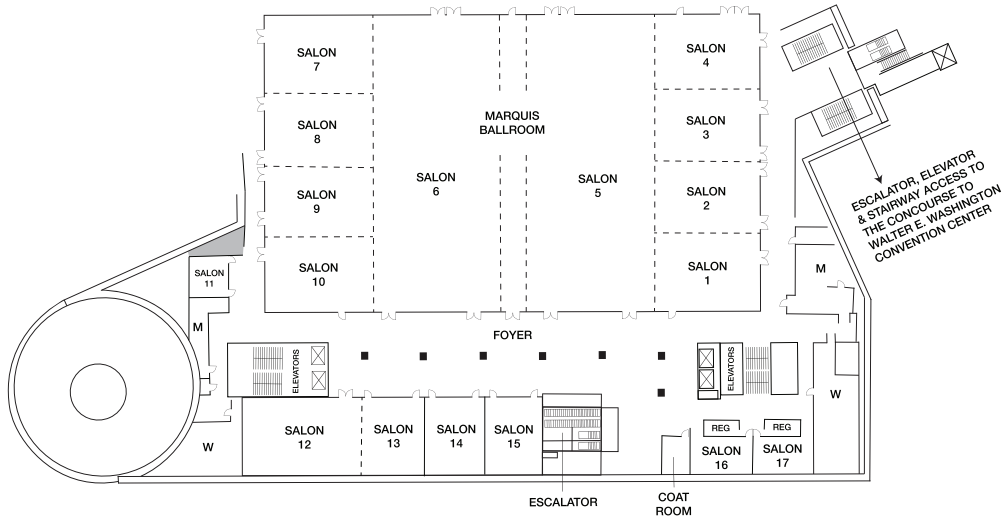
## Marriott Marquis Washington, DC



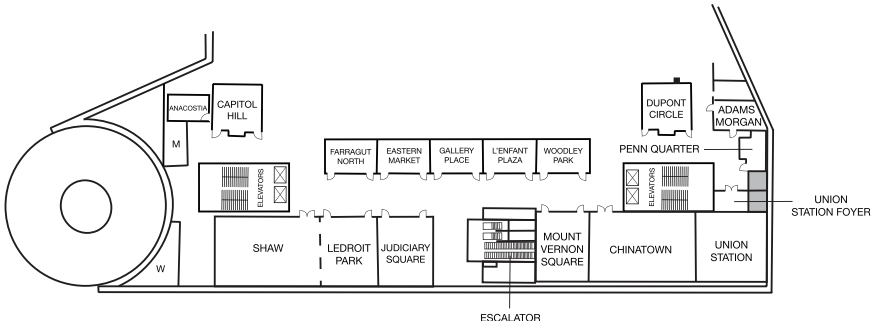

MEZZANINE LEVEL



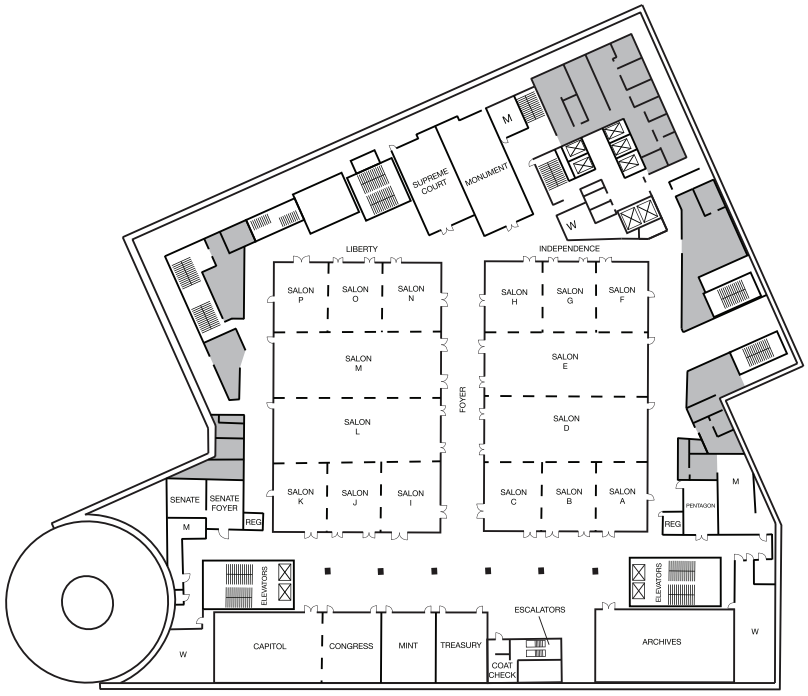

MEETING LEVEL 1




MEETING LEVEL 2




MEETING LEVEL 3




MEETING LEVEL 4

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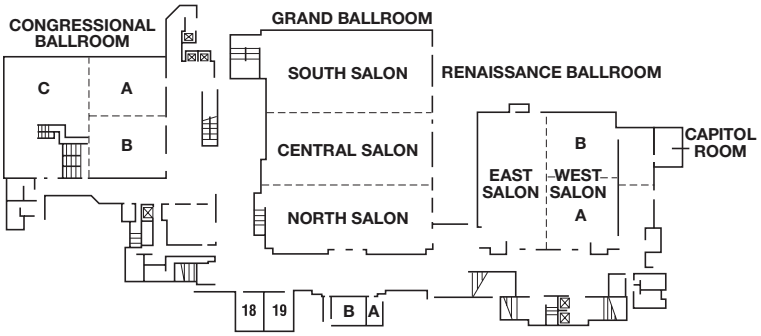
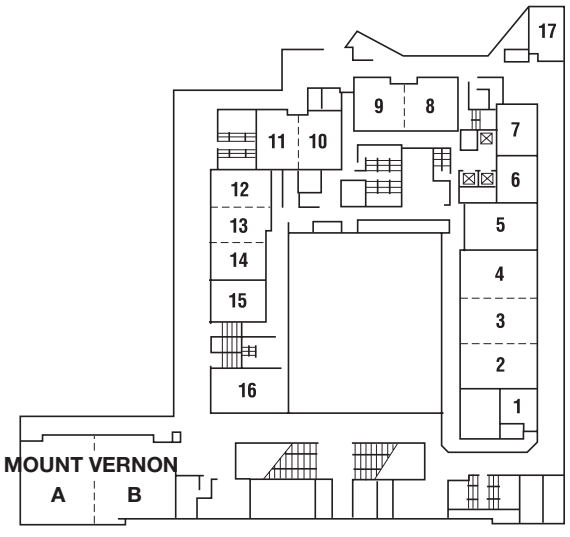
## Renaissance Washington, DC Downtown




BALLROOM LEVEL



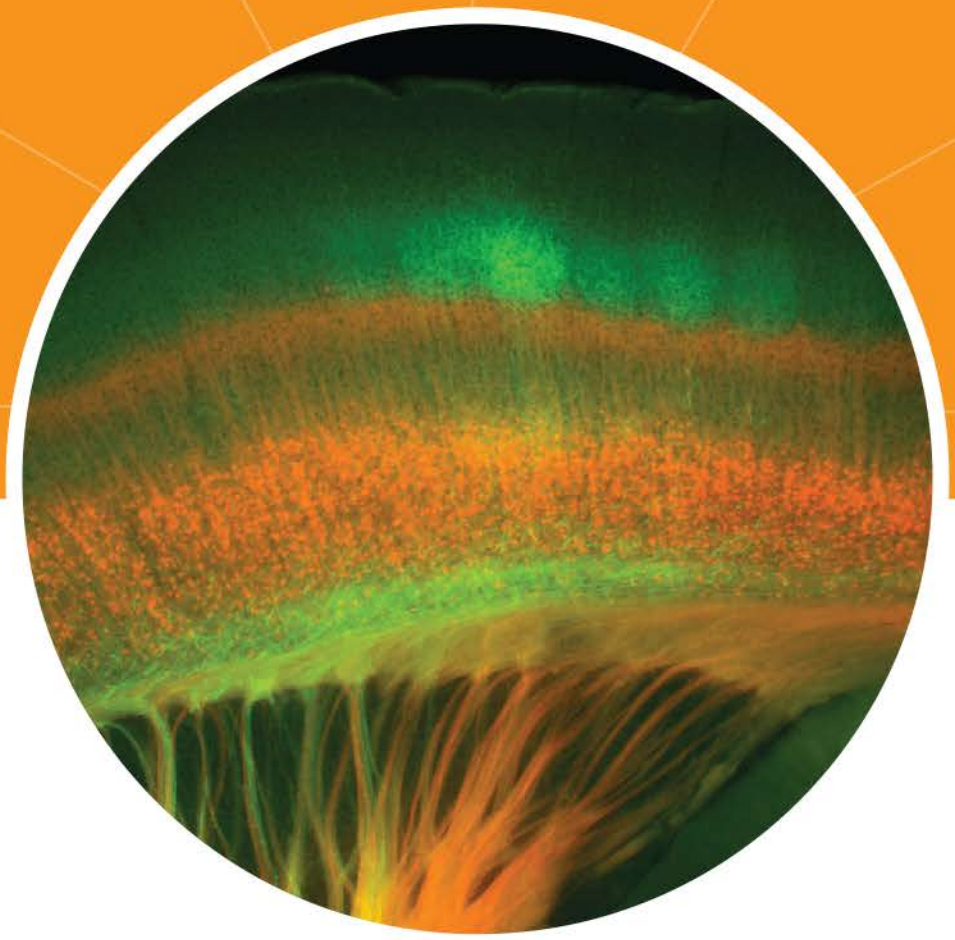

MEETING ROOM LEVEL

NEUROSCIENCE 2018

# SEE YOU IN SAN DIEGO

## NOVEMBER 3–7

SfN Society for Neuroscience



SOCIETY *for* NEUROSCIENCE

1121 14th Street NW, Suite 1010
Washington, DC 20005