Neuroscience 2015

Chicago | October 17-21

# Sunday

Scientific Session Listings 96–268

Society for Neuroscience



# Information at a Glance

## Important Phone Numbers

**Annual Meeting Headquarters Office**
Logistics and Programming
Logistics
McCormick Place: Hall A, (312) 791-6700

Programming
McCormick Place: Hall A, (312) 791-6705

Volunteer Leadership Lounge
McCormick Place: S505A, (312) 791-6735

**General Information Booths**
McCormick Place:
Gate 3 Lobby, (312) 791-6724
Hall A (312) 791-6725

**Press Offices**
Press Room
McCormick Place: Room S501ABC
(312) 791-6730

**Exhibit Management**
McCormick Place: Hall A, (312) 791-6740

**First Aid and Hospital Numbers**
First Aid Station
McCormick Place: Level 2.5S, (312) 791-6060

Mercy Hospital
2525 S Michigan Avenue
Chicago, IL 60616
(312) 567-2000

Physicians Immediate Care
811 S. State Street
Chicago, IL 60605
(312) 566-9510

Walgreens Pharmacy
(closest to McCormick Place)
3405 S. Martin Luther King Drive
Chicago, IL 60616
(312) 326-4064

**Venues**
McCormick Place
2301 S. Martin Luther King Drive
Chicago, IL 60616

Fairmont Chicago, Millennium Park Hotel
200 N. Columbus Drive
Chicago, IL 60601
(312) 565-8000

Hyatt Regency Chicago Downtown Hotel
(not connected to McCormick Place)
151 E. Wacker Drive
Chicago, IL 60601
(312) 565-1234

**Key to Poster Floor by Themes**
The poster floor begins with Theme A and ends with Theme H. Refer to the poster floor map at the end of this booklet.

**Theme**

- **A** Development
- **B** Neural Excitability, Synapses, and Glia: Cellular Mechanisms
- **C** Disorders of the Nervous System
- **D** Sensory and Motor Systems
- **E** Integrative Systems: Neuroendocrinology, Neuroimmunology and Homeostatic Challenge
- **F** Cognition and Behavior
- **G** Novel Methods and Technology Development
- **H** History, Teaching, Public Awareness, and Societal Impacts in Neuroscience

**Note:** Theme H Posters will be located in Hall A beginning at 1 p.m. on Saturday, Oct. 17, and will remain posted until 5 p.m., Sunday, Oct. 18.

**Cover Image:** Coronal head section of an E16.5 Cxcr4-eGFP transgenic mouse, stained for GFP (green) and peripherin (red). Chemokine receptor CXCR4 is expressed in the olfactory epithelium, olfactory bulb, and peripherin-positive olfactory axons.

Fani Memi, Philipp Abe, Anna Cariboni, Fabienne MacKay, John G. Parnavelas, and Ralf Stumm, 2013, *The Journal of Neuroscience*, 33(44): 17527-17537.

# Complete Session Listing

## Sunday AM



**SPECIAL LECTURE** *McCormick Place*

**096. Genetic Dissection of Neocortical Circuits** — CME

Sun. 8:30 AM - 9:40 AM — Hall B1

*Speaker:* Z. JOSH HUANG*, Cold Spring Harbor Lab.*

The computational power of the neocortex emerges from a basic neural architectural plan rooted in the genome and conserved across species. Whereas a set of glutamatergic projection neurons constitute inter-areal processing streams and cortical output channels, diverse GABAergic interneuorns regulate the spatiotemporal configuration of neural ensembles. Systematic cell targeting and cell fate mapping provide entry points for integrating multiple approaches toward understanding the assembly and organization of cortical circuits. This lecture will discuss the progress and prospect on genetic targeting of glutamatergic and GABAergic neurons in the mouse, focusing on the construction and function of a chandelier cell-pyramidal cell module.

**SYMPOSIUM** *McCormick Place*

**097. Identifying and Manipulating the Synapses, Cells, and Circuits of Memory Engrams: Implications for Memory and Memory Disorders** — CME

Sun. 8:30 AM - 11:00 AM — S100A

*Chair:* A. JOSE SILVA

Ground-breaking technological developments in neuroscience have transformed efforts to identify, understand, and manipulate the engram at a synaptic, cellular and circuit level. This symposium will review these advances and discuss their implications for the understanding of memory as well as memory disorders.

8:30 **97.01** Introduction.

8:35 **97.02** Deactivating hippocampal fear memories: Implications for psychiatric and memory disorders. C. A. DENNY. *Columbia Univ.*

9:10 **97.03** Genetic control of memory circuits. M. MAYFORD. *The Scripps Res. Inst, Inst. Childhood & Neglected Dis.*

9:45 **97.04** Synaptic, cellular and circuit mechanisms that link contextual memories across time. A. J. SILVA. *Univ. of California-Los Angeles Med. Ctr.*

10:20 **97.05** Identification and engineering of memory engram cells. S. TONEGAWA. *Massachusetts Inst. Technol.*

10:55 **97.06** Closing Remarks.

**SYMPOSIUM** *McCormick Place*

**098. Cellular and Circuit Mechanisms of Multisensory Integration and Plasticity** — CME

Sun. 8:30 AM - 11:00 AM — S406A

*Chair:* H. LEE
*Co-Chair:* P. O. KANOLD

Multisensory integration occurs even at the early stages of sensory processing across diverse organisms. Such interactions also serve as substrates for cross-modal plasticity in the event of losing a sensory modality. This session will present recent evidence demonstrating synaptic and circuit mechanisms of multisensory interactions and cross-modal plasticity. Mechanisms underlying the development of multisensory circuits and their adaptive plasticity in adults will be highlighted.

8:30 **98.01** Introduction.

8:35 **98.02** Cellular mechanisms underlying temporal tuning of multisensory integration. C. D. AIZENMAN. *Brown Univ.*

9:10 **98.03** Cross-modal synaptic plasticity in adult cortex. H. LEE. *Johns Hopkins Univ.*

9:45 **98.04** Crossmodal induced refinement of intracortical circuits. P. O. KANOLD. *Univ. of Maryland.*

10:20 **98.05** Multisensory processing within cortico-cortical and thalamocortical networks: Mechanisms, ontogeny and behavioral correlates. I. HANGANU-OPATZ. *Univ. Med. Ctr. Hamburg-Eppendorf.*

10:55 **98.06** Closing Remarks.

**MINISYMPOSIUM** *McCormick Place*

**099. Transcriptomic Approaches to Neural Regeneration** — CME

Sun. 8:30 AM - 11:00 AM — S105

*Chair:* M. H. TUSZYNSKI

Understanding why injured adult central nervous system axons fail to regenerate remains a central challenge of neuroscience research. Recently, the use of high-throughput genetic screening has greatly illuminated the molecular mechanisms governing neuronal regeneration programs. This minisymposium will highlight how transcriptomics approaches have led to the identification of novel regulatory networks and molecular targets that can be successfully manipulated to promote axon regeneration.

8:30 **99.01** Introduction.

8:35 **99.02** A systems-level analysis of the peripheral nerve intrinsic axonal growth program. V. CHANDRAN. *Univ. of California - Los Angeles.*

8:55 **99.03** Transcriptome and high content analysis reveal coding and non-coding RNAs in sensory neuron plasticity and axon regeneration. J. K. LERCH. *The Ohio State Univ. Col. of Med.*

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

9:15 **99.04** Genome-wide transcriptional changes elicited by peripheral nerve injury. A. ANTUNES-MARTINS. *King's Col. London.*

9:35 **99.05** cAMP-induced CREB sufficient/AP1-dependent transcriptional programs in axon regeneration. D. E. WILLIS. *Burke Med. Res. Inst.*

9:55 **99.06** The role of the activin cascade in CNS axonal growth. M. COSTIGAN. *Children's Hosp. Boston, Harvard Med. Sch.*

10:15 **99.07** "Omics" insights into corticospinal tract regeneration. J. N. DULIN. *Univ. of California - San Diego.*

10:35 **99.08** Closing Remarks.

**MINISYMPOSIUM** *McCormick Place*

**100. Sex-Specific Mechanisms of Stress Susceptibility** — CME

Sun. 8:30 AM - 11:00 AM — S103

*Chair:* D. BANGASSER
*Co-Chair:* M. R. FARRELL

Stress-related mental illnesses are twice as prevalent in women as in men. Because many factors that contribute to pathology are likely sex-dependent, the development of improved treatments for both men and women relies on preclinical studies that include both male and female animals. This minisymposium will highlight recent advances in rodent models that dissect the genes, hormones, and circuits that underpin sex differences in the brain's response to stress.

8:30 **100.01** Introduction.

8:35 **100.02** Sex differences in receptors: "Micro" differences with "macro" implications for the treatment of stress-related psychiatric disorders. D. BANGASSER. *Temple Univ.*

8:55 **100.03** Sex-specific activation of the Nucleus Accumbens transcriptome regulates resilience and susceptibility to variable stress. G. HODES. *Mount Sinai Sch. of Med.*

9:15 **100.04** Sex differences in susceptibility to an acute or persistent inflammatory challenge. N. TRONSON. *Univ. of Michigan.*

9:35 **100.05** Sex differences in the Melanocortin-5 receptor control of emotional behaviors in mice. C. MORGAN. *Texas A&M Univ.*

9:55 **100.06** Kappa opioid receptors and social stress in males and females. B. TRAINOR. *Univ. of California at Davis.*

10:15 **100.07** A sex-dependent role for the mesocortical dopamine pathway in learned fear expression and suppression. M. R. FARRELL. *Northeastern Univ.*

10:35 **100.08** Closing Remarks.

**MINISYMPOSIUM** *McCormick Place*

**101. Learning to Generalize: Neural, Behavioral, and Computational Basis of Categorization** — CME

Sun. 8:30 AM - 11:00 AM — S406B

*Chair:* M. V. CHAFEE
*Co-Chair:* H. MERCHANT

The ability to group objects and events into flexible categories depending on their behavioral utility is fundamental to many forms of intelligent behavior shared between human and nonhuman primates. This minisymposium will synthesize alternative views of how the brain implements categorization based on studies of statistical learning in humans, lesions in monkeys, the activity of single neurons and dynamics of cortical networks in monkeys, as well as the properties of computational models.

8:30 **101.01** Introduction.

8:35 **101.02** Relative and absolute representation of temporal and spatial categories in the primate pre-SMA. H. MERCHANT. *Inst. de Neurobiologia UNAM.*

8:55 **101.03** Executive control of categorization in the prefrontal-parietal network. M. V. CHAFEE. *Univ. Minnesota.*

9:15 **101.04** Categorization: The roles of prefrontal and temporal. M. A. ELDRIDGE. *NIMH.*

9:35 **101.05** Neural circuit basis of category learning in the prefrontal cortex and striatum. E. K. MILLER. *Massachusetts Inst. Technol.*

9:55 **101.06** Incidental auditory category learning. L. L. HOLT. *Carnegie Mellon Univ.*

10:15 **101.07** Neural mechanisms of category learning: A tale of two approaches. X. WANG. *New York Univ.*

10:35 **101.08** Closing Remarks.

**SPECIAL LECTURE** *McCormick Place*

**102. From Spontaneous Neurotransmitter Release to Rapid Antidepressant Action** — CME

Sun. 10:00 AM - 11:10 AM — Hall B1

*Speaker:* E. T. KAVALALI*, Univ. of Texas Southwestern Med. Ctr.*

Recent studies report a key role for spontaneous neurotransmission in regulation of synaptic plasticity, homeostasis, and behavior such as rapid antidepressant responses. There is also increasing evidence that the presynaptic basis of spontaneous neurotransmitter release events and their postsynaptic targets are segregated from those of evoked release, suggesting an autonomous role for spontaneous neurotransmission in neuronal signaling. This presentation will discuss these recent studies on the mechanisms and functions of spontaneous neurotransmitter release.



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**SPECIAL LECTURE** *McCormick Place*

**103. ● Clinical Neuroscience Lecture: Neurotrophin Signaling and Epileptogenesis: Mechanistic and Therapeutic Insights** — CME

Sun. 11:30 AM - 12:40 PM — Hall B1

*Speaker:* J. O. MCNAMARA*, Duke Univ. Med. Ctr.*

The lack of preventive treatments for common diseases of the nervous system is a glaring unmet medical need. Temporal lobe epilepsy is a common and devastating disease. An episode of prolonged seizures in an otherwise healthy individual is thought to cause severe temporal lobe epilepsy emerging years later. Recent discoveries have identified targets and therapies to prevent this disease in experimental animals. This presentation will review these discoveries and focus on the causal role of excessive neurotrophin signaling in development of temporal lobe epilepsy.

**NANOSYMPOSIUM**

**104. Synaptogenesis and Activity-Dependent Development**

***Theme A: Development***

Sun. 8:00 AM – *McCormick Place*, N426A

8:00 **104.01** Dynamic regulation of excitatory synapse development by a rac1-specific gef/gap complex. K. R. TOLIAS*; J. DUMAN; K. UM; J. CHENG; Y. TU. *Baylor Col. of Med.*

8:15 **104.02** Angiomotin (AMOT) is an important mediator of actin-dependent dendritic spine growth. J. P. FAWCETT*; M. WIGERIUS; D. QUINN; A. DIAB; A. KOLAR; S. KRUEGER. *Montreal Neurol Inst., Dalhousie, Dalhousie.*

8:30 **104.03** Rho regulators in synapse development and disease. L. VAN AELST*; Y. TAI; M. WANG; A. NAKANO-KOBAYASHI; N. NADIF KASRI. *Cold Spring Harbor Lab., Kyoto Univ., Radboud Univ. Med. Ctr.*

8:45 **104.04** From molecular recognition to synaptic connectivity: IgSF cell surface proteins controlling neural wiring in *Drosophila*. E. OZKAN*; Y. J. PARK; R. A. CARRILLO; K. P. MENON; K. C. GARCIA; K. ZINN. *Univ. of Chicago, Caltech, Stanford Univ.*

9:00 **104.05** ● ▲ Microglial colonization and interactions with synapses in the developing reward circuitry. I. A. HAWES*; L. DEBIASE; A. BONCI. *Natl. Inst. On Drug Abuse.*

9:15 **104.06** Lack of Mecp2 in the developing embryonic cortex delays the acquirement of mature neuronal identity. F. BEDOGNI*; C. COBOLLI GIGLI; L. SCARAMUZZA; R. ROSSI; C. KILSTRUP-NIELSEN; N. LANDSBERGER. *San Raffaele Res. Inst., Inst. Nazionale Genetica Molecolare, Univ. of Insubria.*

9:30 **104.07** Activity dependent corticostriatal development and its implication in Autism spectrum disorders. R. PEIXOTO*; W. WANG; D. CRONEY; Y. KOZOROVITSKIY; B. SABATINI. *Harvard Med. Sch.*

9:45 **104.08** Par polarity proteins in dendritic spine morphogenesis and plasticity. H. ZHANG*; Q. WU; V. L. DIBONA; L. P. BERNARD. *Robert Wood Johnson Med. School, Rutgers Univ.*

10:00 **104.09** Activity-dependent localization of monomeric G-actin to spines during synapse formation and plasticity. W. LEI*; E. VITRIOL; Y. RUI; K. MYERS; J. ZHENG. *Emory Univ. Sch. of Med.*

10:15 **104.10** Development of Glutamatergic and GABAergic synapses on principal neurons in the rat neocortex. S. NASKAR*; E. BALZANI; V. TUCCI; L. CANCEDDA. *Inst. Italiano Di Tecnologia (IIT), Inst. Italiano Di Tecnologia (IIT).*

10:30 **104.11** Activation of Rac by the guanine nucleotide exchange factor (GEF) Asef2 regulates dendritic spine formation through a spinophilin-dependent targeting mechanism. C. M. ROBINSON; J. C. EVANS; M. SHI; D. J. WEBB*. *Vanderbilt Univ.*

10:45 **104.12** The kinesin motor unc-104/KIF1A promotes synaptogenesis by restraining the Wallenda/DLK MAP kinase signaling cascade. J. LI*; Y. ZHANG; P. SOPPINA; R. HUME; T. RASSE; C. COLLINS. *Univ. of Michigan, Univ. of Tübingen.*

11:00 **104.13** Molecular mechanisms of electrical synapse formation. A. MILLER*; A. WHITEBIRCH; A. SHAH; C. MOENS. *Fred Hutchinson Cancer Res. Ctr.*

**NANOSYMPOSIUM**

**105. Role of Immune System Molecules in Synaptic Plasticity**

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

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

8:00 **105.01** Microglia contribute to autism-related functional connectivity and behavioral deficits. C. T. GROSS*. *EMBL.*

8:15 **105.02** A pathogenic interaction between complement and microglia drives early loss of synapses in Huntington's disease. D. WILTON; M. HELLER; A. FROUIN; A. DAGGETT; W. YANG; B. A. STEVENS*. *Boston Children's Hosp., UCLA, Childrens Hosp.*

8:30 **105.03** Norepinephrine mediates changes in microglial dynamics during sleep and wake states. G. O. SIPE*; A. K. MAJEWSKA. *Univ. of Rochester Med. Ctr.*

8:45 **105.04** Obesity promotes synaptic stripping by increasing microglial sensitivity to neuronal chemoattractants. A. M. STRANAHAN*. *Med. Col. of Georgia.*

9:00 **105.05** Innate immune molecules protect synapses from excess microglia-mediated pruning during CNS development. E. K. LEHRMAN*; D. K. WILTON; S. T. CHANG; A. FROUIN; C. A. WELSH; H. UMEMORI; B. STEVENS. *Boston Children's Hosp., Harvard Med. Sch.*

9:15 **105.06** Interleukin-1β alters cortical connectivity through dynamic changes in IL-1β receptor localization and MHCI signaling. A. MCALLISTER*; M. ESTES. *UC Davis.*

9:30 **105.07** MHCI promotes developmental synapse elimination and aging-related synapse loss at the vertebrate neuromuscular junction. L. M. BOULANGER*; M. M. TETRUASHVILY; M. MCDONALD. *Princeton Univ., Princeton Univ., UCSD.*

9:45 **105.08** The innate-immune receptor PGRP-LC controls presynaptic homeostatic plasticity. N. HARRIS*; D. BRASIER; D. K. DICKMAN; G. W. DAVIS. *UCSF, Carnegie Mellon Univ., USC.*

10:00 **105.09** Alterations in adolescent stress cascades in genetic and environmental mouse models of major mental illness and the implications on adult behavioral deficits. L. N. HAYES*; K. AN; S. BARODIA; J. MOORE; S. KIM; H. JAARO-PELED; D. FUKUDOME; T. FAUST; M. NIWA; A. SAWA. *Johns Hopkins Univ.*





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

10:15 **105.10** Shared and distinct functions for bloc-1 subunits in the modulation of presynaptic vesicle pools and homeostatic plasticity. D. K. DICKMAN*; W. MA; J. PALUCH; W. GUO; S. TREVIDI. *USC.*

10:30 **105.11** ● The role of nuclear factor-κB in cortical immune activation in schizophrenia. D. W. VOLK*; J. R. EDELSON; K. M. ROMAN; A. E. MOROCO; D. A. LEWIS. *Univ. of Pittsburgh.*

10:45 **105.12** Anti-microbial immune mediators promote social behavior by maintaining proper neuronal connectivity. A. J. FILIANO*; Y. XU; N. J. TUSTISON; R. MARSH; I. SMIRNOV; S. P. GADANI; V. LITVAK; J. KIPNIS. *Univ. of Virginia, Univ. of Massachusetts, Univ. of Virginia.*

11:00 **105.13** Enhancing learning and memory via the presynaptic action of PirB receptor. M. DJURISIC*; M. SHAMLOO; C. SHATZ. *Bio-X, Stanford Univ., Stanford Univ.*

**NANOSYMPOSIUM**

**106. Tauopathy and Dementia**

***Theme C: Disorders of the Nervous System***

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

8:00 **106.01** ● The effect of pathogenic transgene suppression on synapse dynamics during tauopathy. J. S. JACKSON*; J. D. JOHNSON; Z. AHMED; S. MEFTAH; M. L. HUTTON; J. T. ISAAC; M. C. ASHBY; M. J. O'NEILL. *Lilly UK, Univ. of Bristol.*

8:15 **106.02** Functional and biochemical characterization of the link between the aggregation of Tau and its toxicity in a novel gene transfer-based rat model of tauopathy. M. D'ORANGE*; A. BEMELMANS; G. AUREGAN; C. JOSÉPHINE; M. GUILLERMIER; N. DUFOUR; M. GAILLARD; M. GUERIF; D. CHERAMY*; E. DIGUET; M. COLIN; L. BUÉE; E. BROUILLET; P. HANTRAYE; K. CAMBON. *CEA, MIRCen, UMR9199 CEA/CNRS/Université Paris Sud, Inst. de Recherches Servier, DRD-RDNPS, Inserm, UMR-S 1172, Univ. Lille 2, Faculté de Médecine, IMPRT, JPARC, CMRR, CHR.*

8:30 **106.03** ● Specific and epitope-dependent detection of tau aggregates in transgenic tauopathy mice *in vivo*. S. KRISHNASWAMY*; Y. LIN; W. J. RAJAMOHAMEDSAIT; H. B. RAJAMOHAMEDSAIT; E. M. SIGURDSSON. *New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

8:45 **106.04** AAV-delivered human tau propagation and pathology in wild-type and tau knock-out mice. S. WEGMANN*; M. J. KIRK; R. E. BENNETT; S. NICHOLLS; K. TORO; A. C. S. AMARAL; Z. FAN; L. SAQRAN; S. L. DEVOS; S. TAKEDA; E. HUDRY; B. T. HYMAN. *Mass Gen. Hosp. / Harvard Med. Sch.*

9:00 **106.05** Stability of neuronal network function in tauopathy-associated dementia. J. WITTON*; A. D. RANDALL; M. C. ASHBY. *Univ. of Bristol, Univ. of Exeter.*

9:15 **106.06** Quality loss of FUS and SFPQ alters the ratio of Tau isoforms, which recapitulates FTLD accompanied with aberrant adult neurogenesis. S. ISHIGAKI*; Y. FUJIOKA; D. HONDA; S. YOKOI; H. OKADO; H. WATANABE; M. KATSUNO; G. SOBUE. *Nagoya Univ. Grad. Sch. of Med., Tokyo Metropolitan Inst. of Med. Sci.*

9:30 **106.07** Cognitive dysfunction correlates with Tau pathology and neuronal loss in the entorhinal cortex-hippocampal circuit in aged EC-Tau mice. H. FU*; S. A. HUSSAINI; M. HERMAN; S. EMRANI; L. LIU; C. PROFACI; H. FIGEROA; K. DUFF. *Columbia Univ. Med. Ctr.*

9:45 **106.08** ROCK inhibitors for modulation of tau phosphorylation: An opportunity to target Alzheimer's disease pathology and enhance memory. M. TURK*; A. SINIARD; M. DEBOTH; T. WANG; T. DUNCKLEY; P. PIRROTTE; S. ODDO; M. HUENTELMAN. *Arizona State Univ., Translational Genomics Res. Inst., Arizona Alzheimer's Consortium, Evelyn F McKnight Brain Inst. at the Univ. of Arizona.*

**NANOSYMPOSIUM**

**107. Cell Dysfunction and Degeneration in Parkinson's Disease**

***Theme C: Disorders of the Nervous System***

Sun. 8:00 AM – *McCormick Place*, N230

8:00 **107.01** The role of activating transcription factor 4 (ATF4) in nigral degeneration induced by human alpha-synuclein cytotoxicity. O. S. GORBATYUK*; V. G. SERGEYEV; J. C. GULLY; M. S. GORBATYUK; S. ZOLOTUKHIN; H. MENDEZ-GOMEZ. *Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham, Udmurt State Univ., Univ. of Florida, Univ. of Florida.*

8:15 **107.02** Early cognitive and neuronal dysfunction preceding neurodegeneration in a mouse model of alpha-synucleinopathy. A. IEMOLO*; N. GIORDANO; A. BJÖRKLUND; P. CALABRESI; B. PICCONI; E. DE LEONIBUS. *Inst. of Genet. and Biophysics, Telethon Inst. of Genet. and Med., Wallenberg Neurosci. Ctr., Univ. degli Studi di Perugia, Fondazione Santa Lucia, IRCSS.*

8:30 **107.03** Impairment of PARK14-dependent calcium signaling is a novel determinant of idiopathic Parkinson's disease. V. M. BOLOTINA*; Q. ZHOU; A. YEN; G. RYMARCZYK; H. ASAI; C. TRENGROVE; N. AZIZ; M. T. KIRBER; T. IKEZU; B. L. WOLOZIN. *Boston Univ. Sch. of Med., Boston Univ. Sch. of Med.*

8:45 **107.04** Aging-dependent SIRT1-mediated deacetylation of Foxa2 regulates mitochondrial oxidative stress and dopaminergic neuron degeneration. H. SHI*; S. H. PARK; R. HOOD; N. MILLER; Z. XIE; C. K. MESHUL; D. J. SURMEIER; Y. C. MA. *Northwestern Univ. Feinberg Sch. of Med., Oregon Hlth. Sci. Univ., Northwestern Univ. Feinberg Sch. of Med.*

9:00 **107.05** Neuronal and glial implications of LRRK2 dysfunction. M. J. LAVOIE*; J. SCHAPANSKY; H. MELROSE; J. NARDOZZI. *Brigham & Women's Hosp. & Harvard Med. Sch., Mayo Clin.*

9:15 **107.06** The PARK10 gene USP24 is a negative regulator of autophagy. M. M. LIPINSKI*; J. PETER; C. SARKAR; O. AWAD; R. A. FELDMAN. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

9:30 **107.07** Enhancing GTPase activity attenuates the neurodegenerative effects of G2019S LRRK2 in a rat model of Parkinson's disease. E. TSIKA*; D. J. MOORE. *EPFL, Van Andel Res. Inst., EPFL.*

9:45 **107.08** Cell Culture Model to understand the mechanism of association between Parkinson's disease and Melanoma. A. BOSE*; G. PETSKO. *Weill Cornell Med. Col., Weill Cornell Med. Col.*

10:00 **107.09** Membrane stress-associated aldehyde triggers exosome-mediated transcellular α-Synuclein pathology by impairing lysosomal function. S. ZHANG*; E. EITAN; M. P. MATTSON. *NIH, NIH.*





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10:15 **107.10** Striatal mitochondria DNA quantity tips the balance between mitochondrial fission and fusion: Implications for L-DOPA Induced Dyskinesia. E. B. WARREN*; C. KONRADI. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ.*

10:30 **107.11** Microrna regulation by dj-1 in Parkinson's disease. S. E. OH*; H. J. PARK; E. S. PARK; E. JUNN; M. M. MOURADIAN. *Rutgers-Robert Wood Johnson Med. Sch.*

**NANOSYMPOSIUM**

**108. Molecular Mechanisms Associated with Ischemia**

***Theme C: Disorders of the Nervous System***

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

8:00 **108.01** Region specific expression of ASIC subunits in the brain determines differential contribution of ASIC2 to neuronal injury. J. WU; N. JIANG; T. YANG; Y. JIANG; Y. ZHOU; B. WANG; Y. HU; Y. JI; R. SIMON; Z. XIONG; X. ZHA*. *Univ. of South Alabama, Shanghai Inst. of Pharmaceut. Industry, Shanghai Univ., Morehouse Sch. of Med., The Third Hosp. of Hebei Med. Univ., Univ. of South Alabama.*

8:15 **108.02** Molecular mechanisms of T cell damage following stroke. A. RAYASAM*; B. CLARKSON; T. KIM; A. LINDSTEDT; J. KIJAK; R. VEMUGANTI; M. SANDOR; Z. FABRY. *Univ. of Wisconsin - Madison, The Mayo Clin., Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

8:30 **108.03** Effect of hypoxia on lactate dehydrogenase (ldh) gene expression in human glioblastoma cells. G. CHAVIANO; T. N. FERRARO; R. J. BUONO*. *Cooper Med. Sch. of Rowan Univ.*

8:45 **108.04** Rab7 regulates endothelial tight junction protein trafficking and paracellular permeability of the blood-brain barrier after ischemic stroke. D. AGALLIU*; M. HSU; A. ARAC; D. KNOWLAND; A. EDINGER. *Columbia Univ. Med. Ctr., Univ. of California, Irvine, UCLA, UCSD.*

9:00 **108.05** Differential effects of erythropoietin on brain endothelial cells and astrocytes in primary culture during anoxia. Z. REDZIC*; H. AL-SARRAF; S. MALATIALI; M. AL-AWADI. *Fac. of Med.*

9:15 **108.06** Zinc critically contributes to cerebral ischemia-induced blood-brain barrier disruption by activating MMPs and inducing loss of tight junction proteins in cerebral microvessels. Z. QI; J. LIANG; R. PAN; W. DONG; W. SHI; K. J. LIU*. *Col. of Pharmacy, Univ. of New Mexico, Cerebrovascular Dis. Res. Institute, Xuanwu hospital of Capital Med. Univ.*

9:30 **108.07** Brain region specific regulation of mechano-growth factor (MGF) expression after hypoxia brain injury. M. M. SZYMANSKA*; T. M. RACKOHN; W. W. ASHLEY, Jr. *Loyola Univ. Med. Ctr.*

9:45 **108.08** Mitochondrial dynamics during global cerebral ischemia/reperfusion injury. T. H. SANDERSON*; M. BUKOWSKI; R. KUMAR; L. CALO. *Wayne State Univ., Wayne State Univ.*

**NANOSYMPOSIUM**

**109. Stress and Anxiety**

***Theme C: Disorders of the Nervous System***

Sun. 8:00 AM – *McCormick Place*, S102

8:00 **109.01** Learning about object value through social cues in Disruptive Behavior Disorder. H. MEFFERT*; M. R. VANTIEGHEM; S. F. WHITE; J. R. BLAIR. *Natl. Inst. of Mental Health, NIH, Columbia Univ.*

8:15 **109.02** Epigenetic regulation of oxytocinergic during social fear conditioning. R. MENON*; I. D. NEUMANN. *Univ. of Regensburg.*

8:30 **109.03** Athletic anxiety is associated with impaired pattern separation. M. D. MCCRADY*; P. I. ROSEBUSH; M. F. MAZUREK. *McMaster Univ., St. Joe's Hosp., McMaster Univ.*

8:45 **109.04** Hippocampal-dependent effects of environmental enrichment versus exercise in a serotonin 1A receptor knock-out mouse model of anxiety disorder. J. ROGERS; U. VO; T. PANG; L. BURET; H. MEIKLEJOHN; A. ZELEZNIKOW-JOHNSTON; L. CHURILOV; M. VAN DEN BUUSE; A. J. HANNAN*; T. RENOIR. *Florey Inst. of Neurosci. and Mental Hlth., The Univ. of Melbourne, La Trobe Univ.*

9:00 **109.05** Social fear learning emerges early in life. J. DEBIEC*; D. CHANG; S. NUMBERS. *Univ. of Michigan, Univ. of Michigan.*

9:15 **109.06** Methylphenidate reduces anxiety effects on a working memory task in healthy subjects. M. ERNST*; A. DAVIS; C. GRILLON. *NIMH-NIH.*

9:30 **109.07** Effect of Agmatine in chronic stress-induced anxiety and oxidative stress in mice. M. GURSAHANI*; N. GAWALI; A. CHOWDHURY; P. KOTHAVADE; V. BULANI; A. JUVEKAR. *Inst. of Chem. Technol.*

9:45 **109.08** Striking results from deep brain stimulation for depression/obsessive-compulsive disorder. R. MURROW*. *Univ. of North Carolina at Chapel Hill.*

10:00 **109.09** The effect of threat on within-network functional connectivity across the entire human brain. N. L. BALDERSTON*; E. HALE; S. TORRISI; A. HSIUNG; K. O'CONNELL; M. ERNST; C. GRILLON. *NIH.*

10:15 **109.10** Post-traumatic stress disorder-like behaviors in FABP3 null mice. K. FUKUNAGA; Y. YABUKI; I. TAKAHATA; Y. OWADA; N. SHIODA*. *Tohoku Univ. Grad Sch. Pharm Sci., Tohoku Univ.*

10:30 **109.11** ● Reversal of increased consolidation/expression of fear after chronic social defeat by TRPC4/5 inhibition. B. HENGERER; H. SIGRIST; M. M. MORAN*; B. L. CHENARD; R. J. GALLASCHUN; T. STRASSMAIER; C. EICKMEIER; A. SAUER; J. NICHOLSON; E. SEIFRITZ; S. JUST; C. PRYCE. *Boehringer Ingelheim, Univ. of Zurich, Hydra Biosci., Hydra Biosci., Boehringer Ingelheim, Boehringer Ingelheim.*

10:45 **109.12** Effect of musical environment on emotional disorders associated with neuropathic pain. K. SANG; S. HU; X. GAO; Y. XING; Z. X. DONG*. *East China Normal Univ.*

11:00 **109.13** The effect of experimental pain on hemodynamic responses measured by functional near infrared spectroscopy. D. O. OMIRE-MAYOR*; A. POURSHOGHI; A. WONG; K. POURREZAEI. *Drexel Univ.*

11:15 **109.14** Signaled active avoidance learning recruits a prefrontal-hippocampal pathway for the suppression of innate defensive reactions. J. M. MOSCARELLO*; J. LEDOUX. *New York Univ., NYU, Nathan Klein Inst.*



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

**NANOSYMPOSIUM**

**110. Eye Movements: Visual-Motor Transformations and Updating**

***Theme D: Sensory and Motor Systems***

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

8:00 **110.01** Different mechanisms for pursuing a spot target versus a feature on a large object. S. N. WATAMANIUK*; E. POTAPCHUK; S. J. HEINEN. *Wright State Univ., The Smith-Kettlewell Eye Res. Inst.*

8:15 **110.02** Mapping eye movement circuits across the entire hindbrain. A. D. RAMIREZ*; E. AKSAY. *Weill Cornell Med. Col.*

8:30 **110.03** Comparison of visual, motor, and combined SC burst codes during reactive and delayed gaze shifts to visual stimuli. M. SADEH*; A. SAJAD; H. WANG; X. YAN; J. CRAWFORD. *Ctr. For Vision Res.*

8:45 **110.04** Microstimulation of the superior colliculus produces coordinated saccade and pupil responses. C. WANG*; D. P. MUNOZ. *Queens Univ.*

9:00 **110.05** Transient pupil dilation after subsaccadic microstimulation of primate FEF. S. J. LEHMANN*; B. D. CORNEIL. *Robarts Res. Inst. / Univ. of Western, Western Univ.*

9:15 **110.06** Spatiotemporal dynamics of MT receptive fields during eye movements. A. AKBARIAN AGHDAM*; M. PARSA; B. NOUDOOST; N. NATEGH. *Montana State Univ., Montana State Univ.*

9:30 **110.07** Longitudinal analysis of pro- and antisaccade development in retinopathy-confirmed cerebral malaria. P. C. KNOX*; I. J. C. MACCORMICK; E. MBALE; M. MALLEWA; S. P. HARDING. *Univ. Liverpool, Univ. Liverpool, Malawi-Liverpool-Wellcome Trust Clin. Res. Programme, Univ. of Malawi.*

**NANOSYMPOSIUM**

**111. Decoding Brain Machine Interfaces**

***Theme D: Sensory and Motor Systems***

Sun. 8:00 AM – *McCormick Place*, S100B

8:00 **111.01** Improving single-trial classification of intuitive right hand motor imagery tasks using EEG source imaging. B. J. EDELMAN*; B. BAXTER; B. HE. *Univ. of Minnesota, Univ. of Minnesota.*

8:15 **111.02** Decoding attempted hand movements from motor cortex in amputees using 7 tesla functional MRI. L. C. M. BRUURMIJN*; M. A. H. RAEMAEKERS; M. J. VANSTEENSEL; N. F. RAMSEY. *Univ. Med. Ctr. Utrecht.*

8:30 **111.03** ● Silent Speech BCI: Extension to recognition of consonant-vowel sequences in Japanese. H. YAMAGUCHI*; T. YAMAZAKI; T. ITO; S. HIROSE; S. FUKUZUMI. *NEC Corp., Kyushu Inst. of Technol.*

8:45 **111.04** ● Tactile hand and foot imagery for fMRI Brain Computer Interface applications: Offline and online classification accuracy. A. KAAS*; R. GOEBEL; T. KADUK; C. VAN DE WAUW; B. SORGER. *Maastricht Univ., Maastricht Univ., The Netherlands Inst. for Neuroscience, an Inst. of the Royal Netherlands Acad. of Arts and Sci. (KNAW), Maastricht Univ., Univ. of Social Sci. and Humanities.*

9:00 **111.05** ● Enhanced modulation of mirror neuron networks to improve brain computer interface performance, via motor imagery training. A. RASTOGI*; R. ACHEY; R. BRENNAN; D. LOBEL; A. B. AJIBOYE. *Case Western Reserve Univ., Cleveland Clin. Foundation, Lerner Res. Inst., Louis Stokes Cleveland Dept. of Veterans Affairs Med. Ctr.*

9:15 **111.06** A probabilistic graphical model for word-level language modeling in P300 spellers. J. F. DELGADO SAA*; A. DEPESTERS; M. CETIN; D. MCFARLAND. *Univ. Del Norte, Wadsworth Ctr., Sabanci Univ.*

9:30 **111.07** Emergence of task-relevant shared inputs coordinates population activity underlying neuroprosthetic skill learning. V. R. ATHALYE*; K. GANGULY; R. M. COSTA; J. M. CARMENA. *Champalimaud Ctr. For the Unknown, UC Berkeley, UC San Francisco.*

9:45 **111.08** Neural ensemble dynamics during brain-machine interface controlled motor-like task. M. ARMENTA SALAS*; S. I. HELMS TILLERY. *Arizona State Univ.*

10:00 **111.09** Emergence of effective connectivity networks in deafferented motor cortex after exposure to a brain machine interface. K. BALASUBRAMANIAN*; M. VAIDYA; K. TAKAHASHI; N. G. HATSOPOULOS. *Univ. of Chicago.*

10:15 **111.10** Experimental paradigm for exploring the dynamical properties of a bidirectional brain-machine interface based on force fields. M. SEMPRINI; F. BOI; F. A. MUSSA IVALDI; S. PANZERI; A. VATO*. *Inst. Italiano di Tecnologia, Northwestern Univ., Rehabil. Inst. of Chicago.*

10:30 **111.11** Multimodal microelectrode failure analysis reveals complexity biotic and abiotic recording failure. T. D. KOZAI*; X. CUI. *Univ. of Pittsburgh.*

10:45 **111.12** Operant control of primary visual cortex activity using a neuroprosthetic task in rodents. R. NEELY*; A. C. KORALEK; R. M. COSTA; J. M. CARMENA. *UC Berkeley, Champalimaud Ctr. for the Unknown, UC Berkeley.*

11:00 **111.13** Neural dynamics underlying emergent coordinated reach-to-grasp in a long-term bmi study. M. VAIDYA*; K. BALASUBRAMANIAN; J. SOUTHERLAND; A. ELERYAN; I. BADRELDIN; K. OWEISS; A. FAGG; N. HATSOPOULOS. *Univ. of Chicago, Univ. of Chicago, Univ. of Oklahoma, Michigan State Univ., Univ. of Florida.*

**NANOSYMPOSIUM**

**112. Food Intake and Energy Regulation Nano**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

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

8:00 **112.01** The neuropeptide processing enzyme EP24.15 is a regulator of xenin signaling. K. D. PHILIBERT; M. WUNGJIRANIRUN; P. LEW; T. M. MIZUNO; M. J. GLUCKSMAN*. *RFUMS/Chicago Med. Sch., Beth Israel Deaconess Med. Ctr., Univ. of Manitoba, Rosalind Franklin Univ. of Med. & Science/Chicago Med. Sch.*

8:15 **112.02** Adrenal glands are required for insulin-induced changes in the expression of hypothalamic neuropeptides. E. T. UCHOA*; P. B. MARANGON; R. C. RORATO; J. ANTUNES-RODRIGUES; L. L. K. ELIAS. *State Univ. of Londrina (UEL), Sch. of Med. of Ribeirao Preto, Univ. of Sao Paulo.*





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

8:30 **112.03** Predisposition to obesity is determined by nutrient-induced modulation of POMC but not steady-state gut microbiota. D. S. RAZOLLI; L. A. VELLOSO*. *State Univ. of Campinas, Unicamp.*

8:45 **112.04** Prenatal exposure to a fat-rich diet alters embryonic neuronal responses to the chemokine, CCL2. K. POON*; H. T. HO; J. R. BARSON; S. F. LEIBOWITZ. *The Rockefeller Univ.*

9:00 **112.05** Inhibition of leukocyte inhibitory factor (LIF) in the hypothalamus transforms mice that are obesity resistant in obesity prone. M. FIORAVANTE*; J. MORARI; R. F. MOURA; A. F. S. RAMALHO; L. A. VELLOSO. *Univ. of Campinas.*

9:15 **112.06** Differences in body-size, body-mass and fat composition of NK1R-/ mice and wildtype mice are consistent with an increased risk of comorbid obesity in ADHD patients. C. STANFORD*; K. PILLIDGE; D. J. HEAL. *UCL, UCL, RenaSci.*

9:30 **112.07** Short-term effects of a western diet on the number of brain-derived neurotrophic factor immunoreactive neurons in the hypothalamic arcuate, ventromedial and paraventricular nuclei. K. GILLAND*; E. A. FOX. *Purdue Univ.*

9:45 **112.08** Exploring the relation between oxytocin receptor gene polymorphisms and eating behaviour. B. C. Y. LOW*; K. M. VIJAYAKUMAR; N. KARNANI; Y. S. LEE; F. YAP; M. F. F. CHONG; B. BROEKMAN; A. RIFKIN-GRABOI; M. MEANEY; P. GLUCKMAN; K. KWEK; Y. S. CHONG; J. C. J. LIU. *Yale-Nus Col., Singapore Inst. for Clin. Sci., Natl. Univ. of Singapore, KK Hosp.*

10:00 **112.09** Activation of MCH neurons with palatable high fat diet. V. LINEHAN*; M. HIRASAWA. *Mem. Univ. of Newfoundland.*

10:15 **112.10** Temporal dynamics of the arcuate feeding circuit. Y. CHEN*; Y. LIN; Z. A. KNIGHT. *Univ. of California, San Francisco.*

10:30 **112.11** Eliminating Vglut2 in the VMH increases metabolic rate in females and reduces anxiety-like and aggressive behaviors in both sexes. W. C. KRAUSE*; C. C. CHEUNG; R. H. EDWARDS; C. F. YANG; N. M. SHAH; T. S. HNASKO; H. A. INGRAHAM. *Univ. of California, San Francisco, Univ. of California, San Francisco, Univ. of California, San Francisco, Univ. of California, San Francisco, Univ. of California, San Francisco.*

**NANOSYMPOSIUM**

**113. Influence of Memory on Perception**

***Theme F: Cognition and Behavior***

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

8:00 **113.01** Human brain circuits for learning predictive hierarchical structures. Z. KOURTZI*; R. WANG; V. KARLAFTIS; Y. SHEN; P. TINO. *Univ. of Cambridge, Univ. of Birmingham.*

8:15 **113.02** Temporal memories modulate the dynamic response properties of neurons in mouse V1. J. P. GAVORNIK*; M. F. BEAR. *Boston Univ., MIT.*

8:30 **113.03** Object-based competition during long-term memory encoding. J. HUTCHINSON*; N. B. TURK-BROWNE. *Princeton Univ.*

8:45 **113.04** Prior contextual associations are weakened based on competition from new contexts. G. KIM*; K. A. NORMAN; N. B. TURK-BROWNE. *Princeton Univ., Princeton Univ.*

9:00 **113.05** Memory guided attention: Independent contributions of the hippocampus and striatum. E. V. GOLDFARB*; M. M. CHUN; E. A. PHELPS. *New York Univ., Yale Univ.*

9:15 **113.06** Dynamic mapping of spatial and temporal networks during memory-guided attention deployment using meg and fmri. E. PATAI*; M. WOOLRICH; K. WATKINS; A. NOBRE. *Oxford Ctr. For Human Brain Activity, Univ. of Oxford.*

9:30 **113.07** Cognitive control network contributions to long-term memory-guided attention in the human cerebral cortex, cerebellum, striatum, and thalamus. D. C. SOMERS*; C. E. STERN; K. J. DEVANEY; M. L. ROSEN. *Boston Univ.*

9:45 **113.08** The influence of perceptual boundaries on the formation and organization of events in episodic memory. A. C. HEUSSER*; Y. EZZYAT; D. POEPPEL; L. DAVACHI. *New York Univ., Univ. of Pennsylvania.*

10:00 **113.09** Exploration vs. exploitation in the proactive brain. M. BAR*; S. BAROR; A. TAL. *Gonda Multidisciplinary Brain Res. Center, Bar-Ilan Univ.*

**NANOSYMPOSIUM**

**114. Reward Processing and Reinforcement Learning in the Human Brain**

***Theme F: Cognition and Behavior***

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

8:00 **114.01** The role of dynamic network flexibility in probabilistic reinforcement learning. R. T. GERRATY*; J. Y. DAVIDOW; K. FOERDE; A. GALVÁN; D. S. BASSETT; D. SHOHAMY. *Columbia Univ., Harvard Univ., New York Univ., UCLA, Univ. of Pennsylvania.*

8:15 **114.02** Incidental learning: Covert neurofeedback can shape cortical network activations and spontaneous connectivity. M. RAMOT*; S. GROSSMAN; D. FRIEDMAN; R. MALACH. *NIH/NIMH, Weizmann Inst. of Sci., Interdisciplinary Ctr.*

8:30 **114.03** Probabilistic classification learning with and without corrective feedback is improved by inhibition of DLPFC. L. WILKINSON*; P. KOSHY; A. STEEL; D. BAGEAC; E. WASSERMANN. *NIH.*

8:45 **114.04** A nap to recap or how reward regulates hippocampal-prefrontal memory networks during daytime sleep in humans. K. IGLOI*; G. A. GAGGIONI; V. STERPENICH; S. SCHWARTZ. *Univ. of Geneva, Swiss Ctr. for Affective Sci., Ctr. de recherches du cyclotron, Geneva Neurosci. Ctr.*

9:00 **114.05** Individual differences in avoidance learning correlate with dopamine-dependent function and neuro-circuitry. V. PARIYADATH*; M. ZHOU; T. J. ROSS; B. SALMERON; M. J. FRANK; E. A. STEIN. *Natl. Inst. On Drug Abuse, NIH, Intramural Res. Program, Natl. Inst. on Drug Abuse, Natl. Inst. of Hlth., Brown Univ.*

9:15 **114.06** Effects of early life stress on the development of ventral striatal resting-state connectivity in humans. D. S. FARERI*; L. GABARD-DURNAM; B. GOFF; J. FLANNERY; D. GEE; D. LUMIAN; C. CALDERA; N. TOTTENHAM. *Columbia Univ., Adelphi Univ., UCLA, Univ. of Oregon, Weill Cornell Med. Col., Univ. of Denver.*





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* Indicates abstract's submitting author

9:30 **114.07** Neural signatures of reinforcement learning in unmedicated depressed patients predict response to computerised Cognitive Behavioural Therapy. F. QUEIRAZZA*; E. FOURAGNAN; J. CAVANAGH; D. STEELE; M. PHILIASTIDES. *Univ. of Glasgow, Univ. of Dundee.*

9:45 **114.08** Sub-second dopamine fluctuations in human striatum encode superposed error signals about actual and counterfactual reward. K. KISHIDA*; I. SAEZ; T. LOHRENZ; M. R. WITCHER; A. W. LAXTON; S. B. TATTER; J. P. WHITE; T. L. ELLIS; P. E. M. PHILLIPS; P. R. MONTAGUE. *VTC Res. Inst., Univ. of California, Wake Forest Hlth. Sci., Univ. of Washington, Virginia Tech., Univ. Col. London.*

10:00 **114.09** Human choice strategy varies with anatomical projections from ventromedial prefrontal cortex to medial striatum. P. PIRAY*; I. TONI; R. COOLS. *Radboud Univ. Nijmegen.*

10:15 **114.10** Music and video gaming during breaks: Influence on habitual versus goal-directed decision making. S. LIU*; D. J. SCHAD; M. S. KUSCHPEL; M. A. RAPP; A. HEINZ. *Charité – Universitätsmedizin Berlin, Univ. Potsdam.*

10:30 **114.11** Food odors reinforce human behavior in a value-based choice task. J. D. HOWARD*; T. KAHNT. *Northwestern Univ.*

10:45 **114.12** Independent clustering and generalization of action-outcome and outcome-values in goal-directed learning. N. T. FRANKLIN*; M. J. FRANK. *Brown Univ.*

11:00 **114.13** Reactivation of reward value-related patterns from single episodes and memory-based decision making. G. WIMMER*; C. BÜCHEL. *Univ. Med. Ctr. Hamburg-Eppendorf.*

11:15 **114.14** Human reinforcement learning over latent sensory features. I. C. BALLARD*; S. M. MCCLURE. *Stanford Univ., Arizona State Univ.*

## NANOSYMPOSIUM

### 115. Individual Differences

***Theme F: Cognition and Behavior***

Sun. 8:00 AM – *McCormick Place*, N226

8:00 **115.01** Spontaneous mimicry of dynamic facial expressions: Effect of autistic traits and self-face priming. A. CHAKRABORTY; B. CHAKRABARTI*. *Univ. of Reading.*

8:15 **115.02** Reduced ventral striatal response to mimicry in individuals with autism. C. HSU*; J. NEUFELD; B. CHAKRABARTI. *Univ. of Reading, Karolinska Institutet.*

8:30 **115.03** Development and reliability of reward and self-regulatory systems at rest. J. F. HUCKINS*; R. S. COALSON; B. ADEYEMO; F. M. MIEZIN; T. F. HEATHERTON; S. E. PETERSEN; W. M. KELLEY. *Dartmouth Col., Washington Univ. in St. Louis.*

8:45 **115.04** Psychopathy disrupts prefrontal regulation of striatal subjective value signals. J. G. HOSKING*; E. KASTMAN; H. DORFMAN; A. BASKIN-SOMMERS; K. KIEHL; J. NEWMAN; J. W. BUCKHOLTZ. *Harvard Univ., Yale Univ., MIND Institute, Univ. of New Mexico, Univ. of Wisconsin-Madison.*

9:00 **115.05** Structural morphometry and connectivity in the human reward system predict obesity metrics. K. M. RAPUANO*; R. S. CHAVEZ; M. E. DECKER; D. GILBERT-DIAMOND; J. D. SARGENT; T. F. HEATHERTON; W. M. KELLEY. *Dartmouth Col., Dartmouth Hitchcock Med. Ctr.*

9:15 **115.06** Sucrose preference in humans: Effects of bidirectional opioid receptor manipulation and sweet liking phenotype. M. EIKEMO*; J. GJERSTAD; F. WILLOCH; S. LEKNES. *Univ. of Oslo, Univ. of Oslo, Oslo Univ. Hosp., The Natl. Inst. of Occup. Hlth. (STAMI), Univ. of Oslo, Oslo Univ. Hosp.*

9:30 **115.07** μ-opioid effects on emotion recognition. G. E. LØSETH*; S. Ø. LIE; M. EIKEMO; B. LAENG; V. VINDENES; S. LEKNES. *Univ. of Oslo, Univ. of Oslo, Oslo Univ. Hosp., Univ. of Oslo, Norwegian Inst. of Publ. Hlth., Oslo Univ. Hosp.*

9:45 **115.08** Dopaminergic modulation of resting functional connectivity depends on individual differences in dopamine system function. D. FURMAN*; M. D'ESPOSITO. *Univ. of California - Berkeley.*

10:00 **115.09** Associations between intrinsic neural activities and reactions to stressful events, narrative centrality, and negative affectivity. D. LI*; A. R. HARIRI; D. C. RUBIN. *Duke Univ., Aarhus Univ.*

10:15 **115.10** The structural integrity of white matter fiber pathways between the amygdala and the lateral orbitofrontal cortex inversely predicts trait anxiety. M. KIM*; A. C. BROWN; A. M. MATTEK; S. N. JACOBS; J. M. TAYLOR; A. L. PALMER; P. J. WHALEN. *Dartmouth Col.*

10:30 **115.11** ● Highly accurate predictions of intelligence and personality traits from brain structure. R. KANAI*; H. MIZUTANI; H. TAKAGISHI; T. YAMAGISHI. *Araya Brain Imaging, Tamagawa Univ., Hitotsubashi Univ.*

## DYNAMIC POSTERS

### DP02. Dynamic Posters–Sunday Morning

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

*All dynamic poster presentations will take place during the full four-hour session time. The theme of the dynamic poster being presented is indicated by the letter in the leftmost column.*

A DP01 **DP02.01** Earliest neurons in human retina. *I. BYSTRON; B. JOYCE; P. RAKIC; C. BLAKEMORE. *Univ. of Oxford, Dept. of Mol. Biol., Princeton Univ., Yale Univ. Sch. of Med., Sch. of Advanced Study, Univ. of London.*

B DP02 **DP02.02** Quantitative evaluation of optogenetically-induced calcium signaling in astrocytes. *L. BALACHANDAR; A. RAYMOND; A. OROZCO; J. RIERA DIAZ. *Biomed. Engin., Immunol., Florida Intl. Univ.*

C DP03 **DP02.03** Clarifying the brain: Bridging the gap between MRI and histology. *H. B. STOLP; G. BALL; P.-W. SO; D. EDWARDS; C. THORNTON. *King's Col. London.*

D DP04 **DP02.04** Prey detection by a subset of retinal ganglion cells in zebrafish larvae. *J. L. SEMMELHACK; J. C. DONOVAN; T. R. THIELE; E. KUEHN; E. LAURELL; H. BAIER. *Max Planck Inst. of Neurobio.*

E DP05 **DP02.05** Mapping projections of melanopsin retinal ganglion cells to brain. *K.-Y. KIM; C. LIU; L. RIOS; A. J. PEREZ; S. PHAN; G. C. GARCIA; E. A. BUSHONG; M. ELLISMAN; T. J. DEERINCK; A. THOR; M. HATORI; S. PANDA; M. H. ELLISMAN. *Natl. Ctr. Microscopy & Imaging, UCSD, The Salk Inst.*





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* Indicates abstract's submitting author

F DP06 **DP02.06** Cognitive and physical traits of klinefelter syndrome: A study of two mouse models. *S. M. WILLIAMS-BURRIS; J. D. MARTINEZ; H. E. HRNCIR; G. BEROUKHIM; D. C. YU; Y. ZHANG; R. MACKIE; M. L. RUIZ-SUNDSTROM; E. VILAIN; S. A. WHITE; A. P. ARNOLD; J. D. JENTSCH. *Neurosci. Interdepartmental Program, Lab. of Neuroendocrinology, Integrative Biol. and Physiol., Human Genet., Psychiatry and Bio-behavioral Sci., Psychology, UCLA.*

F DP07 **DP02.07** Visualizing global changes in synaptic strength during a learning paradigm in zebrafish. *W. DEMPSEY; T. V. TRUONG; G. G. GROSS; K. CZAJKOWSKI; C. KESSELMAN; S. E. FRASER; D. B. ARNOLD. *Mol. and Computat. Biol., Translational Imaging Ctr., Informatics Div., USC.*

G DP08 **DP02.08** Brain computer interface for communication in completely locked-in patient using near infrared spectroscopy. *U. CHAUDHARY; B. XIA; N. BIRBAUMER. *Univ. of Tubingen.*

H DP09 **DP02.09** Animating Hebb's three postulates. S. BARSEN; *S. J. BARNES. *Univ. of British Columbia.*

H DP10 **DP02.10** MAPPED repository: A comparative database of biologically inspired cognitive architectures (BICA). *A. V. SAMSONOVICH; C. LEBIERE; F. E. RITTER. *Krasnow Inst. Adv Study, George Mason Univ., Psychology Dept., Carnegie Mellon Univ., Col. of IST, Pennsylvania State Univ.*

**THEME H POSTER** *McCormick Place*

**021. History of Neuroscience**

*Theme H posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occuring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—McCormick Place, Hall A*

1:00 CC15 **21.01SA** Beritashvili and Tolman: Pioneers of animal spatial behavior. M. G. TSAGARELI. *Ivane Beritashvili Exptl. Biomedicine Ctr.*

2:00 CC16 **21.02SA** Mirrors in old master and modern art and contemporary clinical and basic cognitive neuroscience. E. L. ALTSCHULER; V. RAMACHANDRAN. *Temple Univ. Sch. of Med., UCSD.*

3:00 CC17 **21.03SA** The history of myelin. A. I. BOULLERNE. *Univ. of Illinois at Chicago.*

4:00 CC18 **21.04SA** Albert von Kölliker: Founder of systematic histology and comparative embryology. N. E. KINNEY. *Southeast Missouri State Univ.*

1:00 CC19 **21.05SA** Escaping the tyranny of Yerkes-Dodson: Creating and sustaining new complex behaviors - the 'Frontopolar Cortex exception' and human ascendance and survival. S. CURTIS. *True North, LLC.*

2:00 CC20 **21.06SA** The interventricular foramen - an example of a scientific argument carried out in public. B. W. BAKKUM. *Illinois Coll Optometry.*

3:00 CC21 **21.07SA** Is the cortical column an organizational unit of the cortex? A historical reconstruction (1955-2015). P. HAUEIS. *Berlin Sch. of Mind & Brain, Max Planck Inst. for Human Cognitive and Brain Sci.*

4:00 CC22 **21.08SA** Translating Morris water maze results across species and environments. N. ATANASOVA. *The Univ. of Toledo.*

1:00 CC23 **21.09SA** The historical brain specimens of C.F. Gauss and C.H.Fuchs, their mix-up and its implications. R. SCHWEIZER; G. HELMS; J. FRAHM. *Biomed NMR Forschungs GmbH, MPI biophys Chem., Univ. Med. Ctr.*

2:00 CC24 **21.10SA** Hieronymus Fabricius and the lateral fissure of Sylvius. A. PARENT. *Psychiat. & Neurosci. Dept, Univ. Laval.*

**THEME H POSTER** *McCormick Place*

**022. Teaching Neuroscience in K-12**

*Theme H posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occuring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—McCormick Place, Hall A*

8:00 CC25 **22.01SU** Worm School: A collaborative research project engages high school students in authentic research. E. M. WATERS; S. WALLACE; S. SHAHAM. *Rockefeller Univ., Rockefeller Univ.*

9:00 CC26 **22.02SU** Engaging high school students in neuroinformatics projects. A. DELPRATO; W. E. CRUSIO. *Univ. Bordeaux and CNRS, BioScience Project.*

10:00 CC27 **22.03SU** Neuroscience education, making a difference at Magruder high school in Montgomery County, Maryland. A. J. FOBBS; D. A. TWOMBLY; T. CRUZ; R. SORENSEN; P. WILLIAMS; M. BACHMAN; L. C. EVANS. *Dept. of Def., Eunice Kennedy Shriver Natl. Inst. of Child Hlth. and Human Develop., Natl. Inst. of Drug Abuse, Paul Williams and Associates, Univ. of Maryland, Col. Zadok Magruder High Sch.*

11:00 CC28 **22.04SU** Evaluation of five learning activities associated with live-cell imaging microscopy in a high school neuroscience curriculum for scientifically gifted students. K. SUEN; W. TANG; W. CHAN; C. CHANG. *Po Leung Kuk Laws Fndn. Col., The Univ. of Hong Kong.*

8:00 CC29 **22.05SU** Promoting neuroscience awareness in Central Pennsylvania. K. VENKITESWARAN; Q. VO; Z. NASSRALLAH; S. RAVI; A. BARBER; T. SUBRAMANIAN. *Penn St Hershey Med. Ctr. & Col. Med., Penn State Col. of Med.*

9:00 CC30 **22.06SU** UCLA neuroscience outreach: Growth of an effective community resource. C. YAEGER; N. HARDY; D. ALEXANDER; R. ROMERO; C. EVANS; W. GE; E. M. CARPENTER. *UCLA, UCLA, UCLA Sch. Med.*

10:00 CC31 **22.07SU** NeuroCamp: A UCLA Brain Research Institute outreach effort encouraging STEM education pathways for high schoolers. W. GRISHAM; W. WALWYN; E. CARPENTER; J. B. WATSON; S. KU; M. NELSON; A. CARLSON; D. SAXON; I. DAHILIG; J. CHANG; S. LE; N. ASKARINAM; N. SCHOTTLER. *UCLA, David Geffen Sch. Med. UCLA, UCLA, Claremont McKenna Col., Trinity Col.*

11:00 CC32 **22.08SU** From participants to researchers: An interactive neuroscience program for high school students. I. DAVIDESCO; L. KAGGEN; J. MCCLINTOCK; M. WESTERLUND; M. OOSTRIK; L. WAN; M. DING; D. POEPPEL; S. DIKKER. *New York Univ., Trevor Day Sch., Magdatt, Univ. of Florida, Max-Planck-Institute, Utrecht Univ.*

8:00 CC33 **22.09SU** Firing on all synapses: A brain awareness program that inspires kids and enriches mentors. K. J. THIEL; C. B. BANKS; F. BOLS; C. CROMBEZ; A. MILLER; A. SACKA; K. E. TAYLOR; K. J. VOGEL; S. ZAVEDYUK. *Madonna Univ.*



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

9:00 CC34 **22.10SU** NYC public education outreach in the brain sciences: A blueprint for developing new outreach programs. F. D. UQUILLAS; K. BACHI; P. MALAKER; A. ZILVERSTAND; N. ALIA-KLEIN; R. Z. GOLDSTEIN. *Icahn Sch. of Med. At Mount Sinai.*

10:00 CC35 **22.11SU** ▲ Have brains, will travel: An interactive brain-drug workshop for tweens. S. C. PAGE; S. ROBINSON. *Oberlin Col.*

11:00 CC36 **22.12SU** Bloomin' Brains: A summer neuroscience camp for middle school students. E. H. CHUDLER; K. M. STRAUS. *Cnt Sensorimotor Neural Engin., Univ. of Washington.*

8:00 CC37 **22.13SU** Effects of teacher professional development and instructional practices on student knowledge of neuroscience. J. M. DUBINSKY; K. EDWARDS; M. HOELSCHER; M. MICHLIN; G. ROEHRIG. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

9:00 CC38 **22.14SU** Developing education and research at Macaiba ELS-IIN Brazil. E. MORYA; F. BRASIL; R. MOIOLI; M. F. P. ARAÚJO; H. SIMPLÍCIO; M. A. FREIRE; M. NICOLELIS. *Inst. Santos Dumont, Duke Univ.*

10:00 CC39 **22.15SU** Stereology in a biological context with the integration of mathematics, design and modeling: Synaptic structures and organelles to tissue tumors. R. L. COOPER; M. SANDEN; A. S. COOPER; R. M. KRALL. *Univ. Kentucky, Univ. Kentucky, Univ. of Ky.*

11:00 CC40 **22.16SU** Expectancy of Joint and Divided attention during prediction errors between teachers and students. J. F. GOMEZ-MOLINA; A. L. GOMEZ-MOLINA; C. A. PALADINI. *Intl. Group of Neurosci., Univ. of Texas at San Antonio, UTSA.*

8:00 CC41 **22.17SU** ▲ Hands on activities that help teach brain awareness. L. TOWNLEY; B. S. M. OBAYOMI; I. SINAKEVITCH; D. P. BALUCH. *Arizona State Univ.*

9:00 CC42 **22.18SU** Brain Awareness Week and limbic learning. N. R. MYSLINSKI; J. RO. *Univ. Maryland Sch. Dent. DNPS 8th Floor.*

10:00 CC43 **22.19SU** ▲ Building neuroscience at Lake Forest College: Integration of curriculum with public education, k-5 outreach, and peer learning. S. G. CHIREN; K. A. HUBER; S. BELLO-ROJAS; S. K. DEBBURMAN. *Lake Forest Col.*

11:00 CC44 **22.20SU** Science after school--way cool! K. S. CURTIS. *Oklahoma State Univ. Ctr. For Hlth. Sci.*

8:00 CC45 **22.21SU** Withdrawn.

9:00 CC46 **22.22SU** SOS: The brain in the park at the Brain Awareness Week: Communicating and teaching neuroscience in Ribeirão Preto - Brazil. L. D. GODOY; E. H. L. UMEOKA; N. GARCIA-CAIRASCO. *Univ. of Sao Paulo, Univ. of São Paulo, Univ. of Sao Paulo.*

10:00 CC47 **22.23SU** BrainSTEM: A neuroscience outreach program for high school students. A. H. BRADY; Z. FORRESTER-FRONSTIN; S. HIRSH; S. E. JARRIN; A. KARIMI; B. M. ROBERTS; N. K. SMITH. *St. Mary's Col. of Maryland.*

11:00 CC48 **22.24SU** Bridge to Neuroscience Workshop: Taking neuroscience to high school and undergraduate students in Puerto Rico. A. COLON-RODRIGUEZ; E. S. RODRÍGUEZ-TAPIA; C. T. TIERNAN; W. D. ATCHISON. *Michigan State Univ., Michigan State Univ., Michigan State Univ., Michigan State Univ.*

**THEME H POSTER** *McCormick Place*

**023. Teaching Neuroscience to Undergraduates: Simulations and Social Media**

*Theme H posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occuring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—McCormick Place, Hall A*

1:00 CC49 **23.01SA** The 27th northeast under/graduate research organization for neuroscience (NEURON) conference held at Quinnipiac University in Hamden, CT. A. J. BETZ; T. AHERN; C. FRYE; S. RASKIN. *Quinnipiac Univ., State Univ. of New York at Albany, Trinity Col.*

2:00 CC50 **23.02SA** Faculty for Undergraduate Neuroscience (FUN): Multiple mechanisms for supporting the development of undergraduate students and faculty in the neurosciences. L. A. GABEL; A. J. STAVNEZER; J. S. SMITH. *Lafayette Col., Col. of Wooster, Saginaw Valley State Univ.*

3:00 CC51 **23.03SA** Nu rho psi, the national honor society in neuroscience. G. A. MICKLEY; L. A. BECKER; G. A. COUSENS; E. P. WIERTELAK. *Nu Rho Psi, Univ. of Evansville, Drew Univ., Macalester Col.*

4:00 CC52 **23.04SA** Peer-reviewed and pubmed-listed innovative ideas for neuroscience education: The journal of undergraduate neuroscience education. E. P. WIERTELAK; B. R. JOHNSON; G. DUNBAR. *Macalester Col., Cornell Univ., Central Michigan Univ.*

1:00 CC53 **23.05SA** ▲ Grey Matters Journal: A unique approach to neuroscience outreach and education. A. BOSMA-MOODY; L. SELBY. *Univ. of Washington.*

2:00 CC54 **23.06SA** Students teaching students: Brain Awareness Week as a co-curricular addition to an undergraduate neuroscience program. K. M. BARTLOW; H. R. LERNER; B. MECHLIN. *Earlham Col., Earlham Col.*

3:00 CC55 **23.07SA** Simulations of neuronal functioning using MATLAB in 1.5 hour undergraduate labs. D. NICHOLS; A. F. GRANT; S. M. SHIELDS. *Roanoke Col.*

4:00 CC56 **23.08SA** Web based simulator (Neuromembnrane) for teaching neuroscience. D. W. ALI; G. FUNK; K. JONES. *Univ. Alberta, Univ. Alberta, Univ. Alberta.*

1:00 CC57 **23.09SA** Global learning in neuroscience: Scientific research, student career development and intercultural experiences. M. G. RUSCIO; C. KOREY. *Col. of Charleston.*

2:00 CC58 **23.10SA** ▲ The potential contribution of IMPULSE to international medical undergraduate education. K. SASSER; R. SLEDGE; E. ARTZ; H. JOHNSON; E. MOORE; Z. KAPLAN; C. QUICK; S. SNOUSE; A. VORSTER; L. JONES. *Appalachian State Univ., Univ. of the Free State.*

3:00 CC59 **23.11SA** FraidyRat: A realistic simulation allowing student experiments on the neuroscience of fear conditioning. F. B. KRASNE; W. E. GRISHAM. *UCLA.*

4:00 CC60 **23.12SA** Teaching introductory neurobiology online: New approaches to mastering the fundamentals. S. DIETZ. *Cornell Univ.*

1:00 CC61 **23.13SA** Mobile app for interactive demonstration of efficient visual and auditory neural codes. G. H. MOE; M. V. ALBERT; K. LÄUFER; G. K. THIRUVATHUKAL; M. MAKARIOUS. *Loyola Univ. Chicago, Loyola Univ. Chicago.*

2:00 CC62 **23.14SA** Computational neuroscience course projects - a high-impact teaching and learning approach. S. OPRISAN. *Col. of Charleston.*



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

3:00 CC63 **23.15SA** ▲ Pencil-and-paper neural networks: An undergraduate laboratory exercise in computational neuroscience. J. A. WESTERBERG; E. N. SUTTER; K. M. CRISP. *St. Olaf Col., St. Olaf Col.*

4:00 CC64 **23.16SA** Science Case Network: Creating a working group for case studies in neuroscience. L. A. ROESCH; K. FRENZEL. *Emory Univ.*

1:00 CC65 **23.17SA** Social Media: Creating a community online to enhance learning neuroscience in the classroom. M. H. RAY. *Alverno Col.*

2:00 CC66 **23.18SA** Encountering the "crisis of replicability" with undergraduates. J. WONG; W. GRISHAM; A. ELIAZ; S. JIANG; S. KU; M. NELSON; C. TSAI; M. GEARY; K. J. SCHAFF. *UCLA, UCLA, UCLA, UCLA, UCLA.*

3:00 CC67 **23.19SA** NeuWriteSD: Using the group blog format to approach science communication in novel ways. C. P. PROFACI; M. SAPIURKA; A. L. JUAVINETT. *UCSD.*

4:00 CC68 **23.20SA** ▲ Using social media as a neuroscience outreach and recruiting tool. A. DAGNER; A. J. GRIPPO. *Northern Illinois Univ.*

1:00 CC69 **23.21SA** MAPPED repository: A comparative database of biologically inspired cognitive architectures (BICA). A. V. SAMSONOVICH; C. LEBIERE; F. E. RITTER. *George Mason Univ., Carnegie Mellon Univ., Pennsylvania State Univ.*

2:00 CC70 **23.22SA** Application of intelligent mobile terminal in cancer-pain management. F. JIANG; G. DING. *Xinhua Hosp. Affiliated To Shanghai Jiao Tong U, Xinhua Hosp. Affiliated To Shanghai Jiao Tong Univ. Sch. of Med.*

**THEME H POSTER** *McCormick Place*

**024. Teaching Neuroscience to Undergraduates: Courses and Programs**

*Theme H posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occuring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—McCormick Place, Hall A*

1:00 CC71 **24.01SA** Providing an ecologically balanced environment for maintaining the marine mollusc *Aplysia* californica, a model system for teaching electrophysiology. C. E. KEHL; D. LYTTLE; H. CHIEL. *Case Western Reserve Univ., Case Western Reserve Univ.*

2:00 CC72 **24.02SA** An inexpensive and easily constructed running wheel for earthworms. W. J. WILSON; B. A. JOHNSON; M. M. WICKENS. *Albion Coll.*

3:00 CC73 **24.03SA** From slices to loaf: Teaching neuroanatomical spatial relations by assembling structures within student segmented brain slices into 3D printed models. R. W. SIKES; A. M. MARKOWSKI. *Northeastern Univ.*

4:00 CC74 **24.04SA** ▲ SoLoArc: A free-field, multisensory localization tool for scientific inquiry in undergraduate education. J. A. WESTERBERG; A. R. BALHORN; R. S. TYSHYNSKY; J. L. LOEBACH. *St. Olaf Col., St. Olaf Col., St. Olaf Col.*

1:00 CC75 **24.05SA** Mechatronic engineering working for neuroscience. Olfactory event-related potentials. M. J. ROJAS; F. LEON. *Univ. Nacional Colombia, Univ. Nacional Colombia.*

2:00 CC76 **24.06SA** Student dissociation of data in articles from those in textbooks. S. WOOD. *Univ. of Toronto.*

3:00 CC77 **24.07SA** Teaching undergraduate students how to "think like a neuroscientist" using a flipped classroom approach. M. R. PENNER; K. S. GIOVANELLO. *Univ. of North Carolina.*

4:00 CC78 **24.08SA** Applying the "flipped classroom" approach to teaching hybrid neuroscience courses. L. L. MCGREW. *Belmont Univ.*

1:00 DD1 **24.09SA** Active-learning through the incorporation of research into an introductory course: Strategies and challenges. J. M. OMELIAN; S. I. SOLLARS. *Univ. of Nebraska at Omaha.*

2:00 DD2 **24.10SA** Incorporating active learning strategies in an undergraduate Neurobiology course. M. W. CHU. *UCSD.*

3:00 DD3 **24.11SA** Using active learning strategies to enhance student's cognitive skill in science education. R. BARBOZA; R. S. MOREIRA; M. FERRARI. *Federal Univ. of Sao Paulo, Inst. De Biociencias - Univ. De Sao Paulo.*

4:00 DD4 **24.12SA** ▲ Teaching behavioral neuroscience and research methods using zebrafish. N. E. WREN; C. M. VELEZ; R. RYDER; J. L. PIPERNO; M. E. HARRINGTON. *Smith Col., Smith Col.*

1:00 DD5 **24.13SA** Learning principles of scientific experimental design through student-centric journal club. B. S. CARTER; D. E. HAMILTON; R. C. THOMPSON. *Oberlin Col., Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

2:00 DD6 **24.14SA** Freshman research immersion: Transforming freshman into researchers. C. Y. OSTOCK; C. BISHOP; M. M. E. FEGLEY; N. E. STAMP. *Binghamton Univ., Binghamton Univ., Binghamton Univ., Binghamton Univ.*

3:00 DD7 **24.15SA** A summer seminar series with five regional neuroscience programs. J. R. YATES; A. STAVNEZER. *Ohio Wesleyan Univ., Col. of Wooster.*

4:00 DD8 **24.16SA** ▲ A undergraduate education module based on a research question: The effects of muscle injury on synaptic transmission, axon conduction and muscle physiology in relation to deep tissue injury. A. THENAPPAN; E. BURNS; M. VAUGHN; E. DUPONT-VERSTEEGDEN; R. L. COOPER. *Univ. of KY., Univ. of Ky, Univ. of Ky, Univ. of Ky.*

1:00 DD9 **24.17SA** Introducing neuroscience-based clinical cases to large science undergraduate classes by using tutor-less problem-based learning method: Effects on generic problem-solving skills. A. KLEGERIS; S. BARCLAY MCKEOWN; H. HURREN; M. J. STUART; L. J. SPIELMAN. *Univ. of British Columbia Okanagan Campus, Univ. of British Columbia Okanagan Campus.*

2:00 DD10 **24.18SA** Searching for an index of states (sleep/alert-like), projections (Inward/Outward) and forms (Joint/Separated) of Attention in humans, ants and bacteria. J. F. GOMEZ-MOLINA; M. CORREDOR-RODRÍGUEZ; U. M. RICOY; A. GOMEZ-MOLINA; F. LOPERA; A. A. RESTREPO-VELÁSQUEZ. *Intl. Group of Neurosci., Univ. of Antioquia, Northern New Mexico Col., Intl. Group of Neurosci. (Col, USA member), Intl. Group of Neurosci. (Col, USA member), EAFIT Univ.*

3:00 DD11 **24.19SA** The crayfish caudal photoreceptor: A non-visual photoreceptor embedded in a central nervous system. B. R. JOHNSON; R. A. WYTTENBACH; R. R. HOY. *Cornell Univ., Emory Univ.*



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* Indicates abstract's submitting author

4:00 DD12 **24.20SA** Optogenetics in chick embryos as a platform for classroom-based, authentic research experiences for underserved undergraduate students. A. A. SHARP; S. FROMHERZ; J. R. WHITAKER; K. S. RENZAGLIA. *SIU Sch. Med., SIU.*

1:00 DD13 **24.21SA** Enhancing the teaching of respiratory neurobiology using student based research that delivers enhanced carbon dioxide to participants while observing avoidance behavior and anxiety vulnerability. P. F. MARTINO; D. P. MILLER; J. MILLER; T. K. MULLARNEY-REGETZ. *Carthage Col., Carthage Col., VA Med. Ctr.*

2:00 DD14 **24.22SA** Investigating the behavioral and molecular mechanisms behind alcohol sensitivity and tolerance in *Drosophila* melanogaster in upper-level genetics and neurobiology courses. J. A. SEGGIO; M. J. CARSON; J. A. ROLING; J. A. HICKS. *Bridgewater State Univ.*

3:00 DD15 **24.23SA** Integrating nervous system morphophysiology to neurological practices for undergraduate students. D. PARIZOTTO; H. C. MARCUSSO; R. R. RAMOS; R. N. ISAYAMA. *UNICASTELO, UNICASTELO.*

4:00 DD16 **24.24SA** Transforming connections for success in neuroscience and STEM: A new program for underrepresented and at-risk students. N. G. SIMON; V. C. WARE. *Lehigh Univ., Lehigh Univ.*

1:00 DD17 **24.25SA** ▲ Heart rate conditioning in an undergraduate lab using an Iphone. J. SINGH; N. ZACCONE; J. MA; N. DESOUKY; K. BLYVERKET; J. C. NEILL. *Long Island Univ., Long Island Univ. - Post.*

2:00 DD18 **24.26SA** Incorporating an ERP project into undergraduate instruction. E. NYHUS; N. CURTIS. *Bowdoin Col.*

3:00 DD19 **24.27SA** Hispanic-serving institution: Taking neuropsychology students from the classroom to the community. H. L. YOUNG. *Notre Dame De Namur Univ.*

4:00 DD20 **24.28SA** Increased confidence in using primary literature is related to term paper length in an undergraduate group of Occupational Therapy students. A. K. PACK. *Utica Col.*

1:00 DD21 **24.29SA** A truly hands-on laboratory experience: Multisensory adaptations to teach introductory neuroscience to a visually impaired undergraduate student. A. N. FRICKS-GLEASON; J. S. LAW. *Regis Univ.*

**THEME H POSTER** *McCormick Place*

**025. Teaching Neuroscience to Graduate Students**

*Theme H posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occuring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—McCormick Place, Hall A*

1:00 DD22 **25.01SA** A student-led graduate seminar familiarizes students with neuroscientific techniques and improves oral presentation skills. D. J. DITULLIO; C. X. HE; A. M. ANDREWS. *UCLA, David Geffen Sch. of Med., David Geffen Sch. of Med.*

2:00 DD23 **25.02SA** Dementia in 3D: A case-based instructional module exploring the impact of cerebral vascular anatomy in subcortical pathology leading to dementia. J. BERGDEN; J. H. CALDWELL; M. PASCOE; W. F. HUGHES. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus, Emeritus Rush Univ. Med. Ctr.*

3:00 DD24 **25.03SA** Removing the barriers to managing both medical and illicit substance use in community practice settings: A thought experiment and educational tool development. M. A. BEAZELY. *Univ. of Waterloo, Sch. of Pharm.*

4:00 DD25 **25.04SA** Preparing a workforce to meet the challenges of large-scale data in neuroscience: The iNeuro Project. W. E. GRISHAM; B. LOM; L. MCCAULEY. *UCLA, Davidson Col., Wind River Data Services.*

1:00 DD26 **25.05SA** Data, tools and models of neuroscience on J-Node neuroinformatics platforms. Y. YAMAGUCHI; H. KASHIOKA; T. MIYAKAWA; K. TAKAO; R. KANZAKI; H. IKENO; T. FURUICHI; Y. OKAMURA-OHO; S. SATOH; T. IIJIMA; S. KAKEI; H. WAGATSUMA; Y. HAYASHI; T. NOMURA; Y. ISONO; Y. OKUMURA; S. SUENAGA; I. ISHII; A. HONDA; S. USUI. *NIJC, RIKEN BSI, NICT CiNet, Fujita Hlth. Univ., NIPS, Tokyo Univ., Univ. of Hyogo, Tokyo Univ. of Sci., RIKEN BReNt, Univ. of Electro-Communications, Tohoku Univ., Tokyo Metropolitan Inst. of Med. and Sci., Kyusyu Inst. of Technol., RIKEN BSI, Osaka Univ., Toyohashi Univ. of Technol.*

2:00 DD27 **25.06SA** Interactive training software for designing, conducting and documenting rigorous preclinical experiments on drug dependence. D. H. MALIN; C. P. WARD; S. A. HETHERINGTON; J. J. IZYGON; D. M. NGHIEM; N. KELLING; W. R. BURAS. *Univ. Houston-Clear Lake Mail Code 265, Univ. of Houston-Clear Lake, Tietronix Software, Inc.*

3:00 DD28 **25.07SA** Bringing neuroscience from classroom to the community. R. XIA. *Univ. of St. Mary.*

4:00 DD29 **25.08SA** An analysis about the necessities of knowledge integration in neuroscience in a population of university students and professors. D. B. PAZ-TREJO; P. TORRES-CARRILLO; J. VAZQUEZ-RAMIREZ; P. ZARATE-GONZALEZ; H. SANCHEZ-CASTILLO. *Univ. Nacional Autonoma de Mexico, Sociedad Iberoamericana de Neurociencia Aplicada.*

1:00 DD30 **25.09SA** Transdisciplinary education in the human brain project. E. WINTERSTELLER; C. RIEDL; A. SARIA. *Med. Univ. Innsbruck.*

**THEME H POSTER** *McCormick Place*

**026. Teaching Neuroscience: Community Outreach**

*Theme H posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occuring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—McCormick Place, Hall A*

8:00 DD31 **26.01SU** Neuroscience programs at IARPA. R. VOGELSTEIN; A. H. RUSSELL; B. S. MINNERY. *Office of the Director of Natl. Intelligence.*



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

9:00 DD32 **26.02SU** Society for neuroscience Ottawa chapter - continued growth and success. K. FARMER; N. RUSTOM; S. SANTONI; S. KING; M. BEDARD; N. PROWSE; C. CRUMP; Z. DWYER; S. COATES; S. CHIN; S. BELLEVUE; J. HOWELL; E. ALI; K. DIXON; M. WELLMAN; R. WOODS; J. K. SZYSZKOWICZ; A. ABIZAID. *Carleton Univ., Carleton Univ.*

10:00 DD33 **26.03SU** ▲ Promoting child brain development and health through classroom neuroscience education. J. AYERS; A. VERBURG; D. GRIESAN; L. MCWHIRTER; E. HOBBS; J. TORRES; C. KRAFT; B. NICKOLOFF; V. WILLIAMS; E. METZGER; D. FARRANT; B. ORTIZ TORRES; J. ROUTH; M. T. BANICH; M. K. LEBOURGEOIS; N. K. SPEER. *Univ. of Colorado Boulder, Univ. of Colorado Boulder, Univ. of Colorado Boulder, Univ. of Colorado Boulder.*

11:00 DD34 **26.04SU** Retrospective study of mother-child attachment during the first year of life and its relation with development in preschool. J. J. LARA-AVELLA; J. CAICEDO-MERA; Z. DUENAS. *Univ. Nacional De Colombia, Univ. Nacional De Colombia.*

8:00 DD35 **26.05SU** NIH contributions to the BRAIN Initiative. A. ADAMS; G. FARBER; T. INSEL; W. KOROSHETZ; M. MOTT; K. RAMOS; N. TALLEY; S. L. WHITE; A. WILLARD. *NIH, NIH.*

9:00 DD36 **26.06SU** Beware of food commercials on television, and TV programs without commercials are not trust worthy either: They can bias our attention to food and make us fat. K. R. VIACAVA; G. WEYDMANN; A. TIETZE; M. DUARTE; R. SANTOLIM; B. FELIZARDO; L. BIZARRO. *UFRGS and Georgetown Univ., Univ. do Vale do Rio dos Sinos, Univ. Federal do Rio Grande do Sul, Inst. Porto Alegre - IPA.*

10:00 DD37 **26.07SU** Brain Tricks - Sensation and Perception: An interactive exhibit for Brain Awareness Week and beyond. D. L. ROBINSON; J. BESHEER; T. H. MCKIM. *Univ. of North Carolina.*

11:00 DD38 **26.08SU** Sleep as the forgotten piece of athletic performance and recovery: Public outreach to competitive fitness communities. A. J. BRAGER. *Morehouse Sch. of Med.*

8:00 DD39 **26.09SU** Northwestern University Brain Awareness Outreach cultivates excitement for neuroscience within the Chicago community. L. K. SHANAHAN; N. M. FREDERICK; N. E. BUSH; E. B. RYAN; S. R. MCIVER. *Northwestern Univ.*

9:00 DD40 **26.10SU** NW Noggin: Collaborative brain/art educational outreach in the Pacific Northwest - students, scientists and artists teach and learn about neuroscience through art. W. S. GRIESAR; J. LEAKE. *Washington State Univ. Vancouver.*

10:00 DD41 **26.11SU** Two levels of consciousness to understand own life and brain systems - education program of “gnothi seauton - knowing yourself through your body”. Y. ATOMI; M. SHIMIZU; E. FUJITA; T. ATOMI; N. HIROSE; K. HASEGAWA. *Tokyo Univ. of Agr. and Technol., Grad. Sch. of Tokyo Metropolitan Univ., Teikyo Univ. of Sci., Japan Aerospace Exploration Agency.*

11:00 DD42 **26.12SU** Withdrawn.

8:00 DD43 **26.13SU** Bloomsburg University’s 5th annual Brain Awareness Week: Outreach to preschool, elementary, middle, and high school by undergraduates in central Pennsylvania. J. A. JOHNSON; K. A. BYRNE; C. M. DUNN; F. L. ELEZOVIC. *Bloomsburg Univ.*

9:00 DD44 **26.14SU** Florianópolis’ Brain Awareness Week 2015: Outreach children to elderly in south of Brazil. A. GUERRA DE SOUZA; E. PAVESI; M. GIACHERO; C. H. DE PIERI; T. C. M. DE LIMA. *Univ. Federal De Santa Catarina.*

10:00 DD45 **26.15SU** 2015 regional brain awareness program in eastern Kentucky. I. M. WHITE; J. HUFF; K. CRISP; W. WHITE. *Morehead State Univ.*

11:00 DD46 **26.16SU** Expanding Brain Awareness Week. L. GOLDEN; A. ROLLER; P. DAVIS; M. A. LEA; J. DUNCAN; N. BOOKER; M. SCHMIDT. *Univ. of Mississippi Med. Ctr., Millsaps Col.*

8:00 DD47 **26.17SU** Increasing neuroscience awareness in the capital across generations: BAW 2015. E. BRIGNONI-PEREZ; S. M. ASHBURN; C. E. LEONARD. *Georgetown Univ.*

9:00 DD48 **26.18SU** Break out your inner Neuroscientist! Educational outreach by FSU Neuroscience. M. A. GREENWOOD; S. B. OGDEN; L. L. ELVIR; M. J. BUTLER; C. B. MASKE; K. L. FERGUSON; A. B. PAEDAE; A. DENOBREGA; P. S. EASTHAM. *Florida State Univ., Florida State Univ.*

10:00 DD49 **26.19SU** The 2015 United States regional brain bee championship and limbic learning. J. D. GREENSPAN; S. C. TRYON; N. MYSLINSKI. *Univ. Maryland Dent. Sch., Univ. South Carolina.*

11:00 DD50 **26.20SU** The 2015 International Brain Bee championship. D. SEMINOWICZ; N. R. MYSLINSKI; L. J. RICHARDS. *Univ. of Maryland, Baltimore, The Univ. of Queensland, St Lucia Campus.*

8:00 DD51 **26.21SU** Braintells: A teaching model for educating students and families on cognitive deficits. S. O. AHMAD; C. BRASIC-ROYEEN; C. PROVAZNIK. *St. Louis Univ., St. Louis Univ.*

9:00 DD52 **26.22SU** Assessment of “Get to Know Your Brain!”: A neuroscience educational outreach event. B. A. PUDER. *Samuel Merritt Univ.*

10:00 DD53 **26.23SU** The paradox of arsenic: Anticancer drug or toxicant? A. M. FLOREA; D. BÜSSELBERG. *Heinrich Heine Univ. Düsseldorf, Uniklinikum, Weill Cornell Med. Col. in Qatar.*

11:00 DD54 **26.24SU** Introducing the multinational neurocysticercosis awareness campaign. M. BORZELLO; S. CLARK; S. S. CASH; F. MATEEN. *Massachusetts Gen. Hospital, Harvard Med. Sc.*

8:00 DD55 **26.25SU** The AIRInforma experiment: Peer-reviewed public dissemination of science in Italy. I. CRISTOFORI; F. FORNERIS; L. CASSETTA; G. GRASSELLI; C. SALVI; T. GRAVINA. *Brain Injury Research, Rehabil. Inst. of Chicago, and Dept. of Physical Med. and Rehabilitation, Northwestern Univ., AIRI (International Assn. of Italian Researchers), The Armenise-Harvard Lab. of Structural Biol. Dept. of Biol. and Biotech. Univ. of Pavia, MRC Ctr. for Reproductive Health, Queen’s Med. Res. Institute, Univ. of Edinburgh, Univ. of Chicago, Dept. of Psychology, Univ. of Milano-Bicocca, Dept. of Mechanical Systems and Infrastructures, Guglielmo Marconi Univ.*

9:00 DD56 **26.26SU** New to science policy? The “Whys” and “Hows” of delving into the world of advocacy. R. D. HENDRIX. *Univ. of Arkansas For Med. Sci.*

10:00 DD57 **26.27SU** Creating a unified voice to advocate for science. M. W. MCNERNEY; S. FARRIS. *Society for Neurosci.*



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

**THEME H POSTER** *McCormick Place*

**027. Ethical and Policy Issues in Neuroscience**

*Theme H posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occuring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—McCormick Place, Hall A*

1:00 DD58 **27.01SA** Supporting neurological difference on college campuses: The neurodiversity initiative at the College of William & Mary. J. A. BURK; J. L. ZEMAN; K. A. WULF; J. E. ROBISON; C. L. DICKTER. *Col. of William & Mary.*

2:00 DD59 **27.02SA** Research Integrity and misconduct. E. RUNKO; R. AMBALAVANAR; B. MOZER; A. P. RUNKO. *Natl. Sci. Fndn., Office of Res. Integrity, U.S. Dept. of Hlth. and Human Services.*

3:00 DD60 **27.03SA** Cognitive testing and mental health policies: Translation concerns with mobile technology. K. RUGGERI; J. L. ANDREWS; S. MENON; E. MARTIN; Á. MAGUIRE. *Univ. of Cambridge, Univ. of Cambridge, Univ. of Cambridge.*

4:00 DD61 **27.04SA** Ethical considerations in autism research. T. B. FRANKLIN. *Psychology and Neurosci.*

1:00 DD62 **27.05SA** Integrating neuroscience and health psychology to improve the effectiveness of behaviour change interventions. J. MARTIN; T. L. WEBB; L. LEVITA; E. KIRKHAM; F. R. ELAHI; P. NORMAN; C. J. MARTIN. *The Univ. of Sheffield, The Univ. of Sheffield.*

2:00 DD63 **27.06SA** Broadening participation in neuroscience STEM professions: Impact of disparities in federal funding for neuroscience training. E. E. SERRANO. *New Mexico State Univ.*

3:00 DD64 **27.07SA** Creating a connection: Science advocacy amongst legislators. R. A. MAKINSON. *Univ. of Cincinnati.*

4:00 DD65 **27.08SA** Assessing the impact of team, multidisciplinarity, and collaboration in neuroscience research publications. N. G. AZOULAY; G. WEBER. *Elsevier Inc., Harvard Extension Sch., Harvard Univ.*

**POSTER**

**116. Embryonic Neurogenesis**

***Theme A: Development***

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

8:00 A1 **116.01** P27kip1 activation by reelin induces preplate splitting during corticogenesis. J. KIM; H. SUH-KIM; Y. LEE*. *Sch. of Medicine, Ajou Univ., Dept. of Biomed. Sci., Ctr. for Cell Death Regulating Bio-drug.*

9:00 A2 **116.02** Compound screen on the proliferation and differentiation of neural progenitor cells. X. XIA; S. T. WONG*; D. GAO; X. XU; T. ZHOU. *Houston Methodist Res. Institute, Weill Cornell Med. Col.*

10:00 A3 **116.03** Signaling through gp130 and Jak/Stat regulates the proliferation and neurogenic capacity of Müller glia-derived progenitor cells in the avian retina. L. J. TODD*; A. J. FISCHER. *The Ohio State Univ.*

11:00 A4 **116.04** Transcriptome analysis of neural progenitor cells and immature neurons in optic tectum of Xenopus laevis. L. HUANG*; J. CORNELIUS; A. YERI; K. KUSUMI; K. VAN KEUREN-JENSEN; H. T. CLINE. *The Scripps Reearch Inst., Arizona State Univ., Translational Genomics Res. Inst.*

8:00 A5 **116.05** DLX transcriptional regulation of neural progenitor cell fate in the developing forebrain. S. JAPONI*; M. CASEY; J. ZAGOZEWSKI; D. D. EISENSTAT. *Univ. of Alberta, Univ. of Alberta.*

9:00 A6 **116.06** Positive feedback between RNA binding protein HuD and transcription factor SATB1 promotes neurogenesis. F. WANG; J. J. TIDEI; E. D. POLICH; Y. GAO; N. PERRONE-BIZZOZERO; W. GUO; X. ZHAO*. *Univ. of Wisconsin-Madison, Univ. of New Mexico, Chinese Acad. of Sci.*

10:00 A7 **116.07** Maternal high-fat diet alters neurogenesis in the embryonic mouse forebrain. M. NAMIHIRA*; M. YAMANO; K. HIRANO; M. I. OTSUKA; K. IGARASHI. *Biomed. Res. Institute, AIST, Osaka Prefecture Univ., Hoshi Univ. Sch. of Pharm. and Pharmaceut. Sci.*

11:00 A8 **116.08** Perturbations of the albino mouse retinal pigment epithelium during retinal ganglion cell genesis. L. IWAI*; A. RAMOS; A. SCHALER; S. WEINREB; K. ROBINSON; R. BLAZESKI; C. A. MASON. *Columbia Univ.*

8:00 A9 **116.09** Role of GDNF/GFRα1 on neural stem cells development. A. BONAFINA*; P. FONTANET; D. IRALA; G. PARATCHA; M. LEDDA. *Inst. of Celular Biol. and Neurosciences.*

9:00 A10 **116.10** CLASP2 regulates symmetric divisions of neural progenitor cells in early brain development. G. M. DILLON*; W. TYLER; K. OMURO; T. F. HAYDAR; U. BEFFERT; A. HO. *Boston Univ., Boston Univ.*

10:00 A11 **116.11** Different effects of bone morphogenetic receptor type 1 subunits in neural stem and progenitor cells. J. CHEN; H. NORTH; C. PENG*; J. A. KESSLER. *Northwestern Univ.*

11:00 A12 **116.12** Retinal ganglion cell genesis and subtype determination in the binocular circuit. F. MARCUCCI*; Q. WANG; T. KUWAJIMA; C. SOARES; S. KHALID; M. ROSS; C. MASON. *Columbia Univ., Weill Med. Col. of Cornell Univ.*

8:00 A13 **116.13** Anoctamin 1 regulates radial glia-like neural stem cells in mouse developing brain. G. HONG; J. JUNG; H. CHO; J. LEE; J. CHA; U. OH*. *Sensory Res. Center, Creative Res. Initiatives, Col. of Pharmacy, Seoul Natl. Univ., Seoul Natl. Univ. Col. Pharm, Dept. of Mol. Med. and Biopharmaceutical Sciences, Grad. Sch. of Convergence Sci. and Technology, Seoul Natl. Univ.*

9:00 A14 **116.14** Comparative analysis of cerebral cortical progenitor transcriptional heterogeneity at single-cell resolution. M. B. JOHNSON*; P. P. WANG; C. A. WALSH. *Boston Children's Hosp., Boston Children's Hosp.*

10:00 A15 **116.15** Embryonic ablation of HCN/h current impedes development of the cerebral cortex by affecting stem cell proliferation and differentiation. A. SCHLUSCHE*; S. VAY; I. JAKOVCEVSKI; M. SCHROETER; A. RUEGER; D. ISBRANDT. *DZNE & UzK Res. Team, Dept. of Neurology, Univ. Hosp. of Cologne.*



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

11:00 A16 **116.16** The GFAP gene involvement in neural stem cell differentiation. S. GARCIA-LOPEZ; A. GUTIERREZ-SEIJO; A. NELKE; M. P. PEREIRA; A. MARTINEZ-SERRANO*. *Ctr. Mol. Biol. - S.O., Univ. Autonoma de Madrid, Univ. de Strasbourg.*

8:00 A17 **116.17** Histone demethylase LSD1 controls Notch signaling and GABAergic neuronal differentiation in human neural stem cell. K. HIRANO*; M. NAMIHIRA. *AIST.*

9:00 A18 **116.18** Becoming a new neuron in the cerebral cortex. S. GOVINDAN*; L. TELLEY; K. DEVARAJU; D. JABAUDON. *Univ. of Geneve.*

10:00 A19 **116.19** Rod-enriched miRNAs and their expression during Müller glia-derived progenitors acquisition of photoreceptor phenotype. H. QUINTERO*; A. I. GOMEZ-MONTALVO; M. LAMAS. *CINVESTAV, CINVESTAV.*

11:00 A20 **116.20** Genetic disruption of O-GlcNAcase results in impaired neurogenesis in the developing mouse brain. C. LEE*; Y. YANG; J. HUR; E. KIM; P. SUH. *UNIST.*

8:00 A21 **116.21** The exon junction complex controls embryonic neurogenesis through post-transcriptional gene regulation. H. MAO*; J. MCMAHON; E. MILLER; L. PILAZ; D. SILVER. *Duke Univ., Duke Univ.*

**POSTER**

**117. Molecular Mechanisms of Neural Differentiation**

***Theme A: Development***

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

8:00 A22 **117.01** Newly identified developmental controls direct corticospinal motor neuron segmental targeting. V. V. SAHNI*; S. SHNIDER; J. SONG; J. MACKLIS. *Harvard Univ., Harvard Univ.*

9:00 A23 **117.02** D-serine accelerates neural stem cell differentiation and NMDA receptor expression. S. BARBATI*; L. LEONE; M. D'ASCENZO; A. MASTRODONATO; C. GRASSI. *Univ. Cattolica, Med. Sch.*

10:00 A24 **117.03** Role of glial cell remodeling during peripheral nerve reorganization in *Drosophila*. A. SUBRAMANIAN; J. J. FERNANDES*. *Miami Univ., Miami Univ.*

11:00 A25 **117.04** Cholinergic neuron systems indirectly impact the growth of young mice. H. ZHU*; Y. LU. *Huazhong Univ. of Sci. and Technol., Tongji Med. Col.*

8:00 A26 **117.05** Shh and Wnt signaling in human fetal brain development. F. MEMI*; J. ORTEGA; N. ZECEVIC. *Uconn Hlth. Ctr.*

9:00 A27 **117.06** Hyaluronic acid-based hydrogels designed to direct oligodendrocyte differentiation. S. K. SEIDLITS*; J. LIANG; A. EHSANIPOUR; C. M. WALTHERS. *UCLA.*

10:00 A28 **117.07** Single-cell analysis reveals that endogenous retrotransposons generate somatic mosaicism in the neurons and non-neuronal cells. J. A. ERWIN*; A. C. M. PAQUOLA; T. SINGER; M. NOVOTNY; I. GALLINA; C. BUTCHER; J. R. HERDY; R. LASKEN; A. R. MUOTRI; F. GAGE. *The Salk Inst. For Biol. Studies, J. Craig Venter Inst., Univ. of California San Diego.*

11:00 A29 **117.08** Long non-coding RNA transcriptional mechanisms in GABAergic interneuron precursors. I. CAJIGAS; D. LEIB; J. COCHRANE; H. LUO; K. SWYTER; S. CHEN; J. YATES; R. KINGSTON; J. D. KOHTZ*. *Northwestern University/Stanley Manne Children's R, Harvard Univ., Scripps.*

8:00 A30 **117.09** Dopaminergic neuronal differentiation modifies PrPC expression. M. H. LUZ*; M. A. P. DA SILVA; A. M. XAVIER; I. GLEZER; K. S. LEE. *Univ. Federal De São Paulo - UNIFESP.*

9:00 A31 **117.10** A neuron-specific carbonic anhydrase, CA VII, binds to filamentous actin and affects neuronal morphology. E. M. RUUSUVUORI*; E. BERTLING; E. KREMNEVA; M. VIRTANEN; L. VUTSKITS; P. LAPPALAINEN; P. BLAESSE; P. HOTULAINEN; K. KAILA. *Univ. Helsinki, Neurosci. Ctr., Inst. of Biotech., Univ. of Geneva Med. Sch., Inst. of Physiol.*

10:00 A32 **117.11** Sumoylation of sigma-1 receptor chaperones at the nuclear pore complex may relate to a potential role of sigma-1 receptors in the nucleo-cytoplasmic transport of macromoleculars. P. LEE*; T. SU. *IRP/NIDA/NIH.*

11:00 A33 **117.12** DNA polymerase β activity in neural progenitors is required for postmitotic neuronal survival in the developing cortex. K. ONISHI; N. SUGO; S. TOYODA; T. HIRAYAMA; T. YAGI; N. YAMAMOTO*. *Osaka Univ, Grad Sch. Frontier Biosci.*

8:00 A34 **117.13** Overexpression of human gata-1 and gata-2 interferes with spine formation and produces depressive behavior in rats. S. KO*, ESQ; M. CHOI; S. WANG; S. LEE; R. S. DUMAN; H. SON. *Hanyang Univ., Col. of Medicine, Hanyang Univ., Yale Univ. Sch. of Med.*

9:00 A35 **117.14** The Erk5 signaling cascade and its possible role in modulating nurr1 transcriptional activity in the mouse developing midbrain. P. SACCHETTI*; E. KARHAN; G. DOWNING; C. CONNELLY; Q. LI. *Univ. of Hartford, Univ. of Hartford, Mount Holyoke Col.*

10:00 A36 **117.15** Role of reactive oxygen species and NADPH oxidases in the action of NMDA and high potassium in developing cerebellar granule neurons. J. MORAN*; M. OLGUIN-ALBUERNE; F. GOMEZ-FERNANDEZ; R. IBARRA-GARCIA PADILLA; S. GONZALEZ-MARTINEZ. *Natl. Univ. of Mexico.*

11:00 A37 **117.16** Isoform specific regulation of GABAergic motor neuron development in *C. elegans*. R. CAMPBELL*; W. W. WALTHALL. *Georgia State Univ., Georgia State Univ.*

8:00 A38 **117.17** Rainbow enhancer family for restrictive gene expression in the zebrafish green, red and blue cone photoreceptors. X. WEI*. *Univ. Pittsburgh.*

9:00 A39 **117.18** Ketamine alters the expression of cytochrome p450 (cyp) genes in zebrafish larvae. J. KANUNGO*; B. L. ROBINSON; S. F. ALI; M. G. PAULE; M. DUMAS. *Natl. Ctr. For Toxicological Research/Food and Drug Admin.*

10:00 A40 **117.19** Role of CLN6 in neurite outgrowth and vesicle trafficking. S. KOH*; J. CAIN; H. MAGEE; K. WHITE; D. TIMM; K. HENSLEY; J. WEIMER. *Sanford Hlth., The Univ. of TOLEDO.*



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

11:00 A41 **117.20** ● Functional Maturation of neuronal networks *in vitro* is accelerated by combination of bioactive whey protein, natural bovine complex lipids and DHA. B. M. BADER; C. KUANG; C. EHNERT; K. JUEGELT; A. GRAMOWSKI-VOSS; Y. XIAO; R. MCMAHON; O. H. SCHROEDER*; D. HONDMANN. *NeuroProof GmbH, Mead Johnson Pediatric Nutr. Inst., Mead Johnson Pediatric Nutr. Inst.*

8:00 A42 **117.21** Dmrt genes differentially participate in Cajal-Retzius cell development of the cerebral cortex. T. KIKKAWA*; N. SAKAYORI; H. YUUKI; Y. KATSUYAMA; N. OSUMI. *Tohoku Univ. Sch. of Med., Inst. of Biomed. Sciences, Fukushima Med. Univ., Tohoku Univ. Sch. of Med.*

9:00 A43 **117.22** Studying the function of human hippocampal neurons in a dish. A. SARKAR*; H. J. KIM; C. BARDY; A. MEI; R. JAPPELLI; F. H. GAGE. *The Salk Inst. For Biol. Studies.*

10:00 A44 **117.23** Akirin2: A novel regulator of cortical development. P. J. BOSCH; L. C. FULLER; J. A. WEINER*. *The Univ. of Iowa.*

11:00 A45 **117.24** Imidazole-based small molecules that promote neurogenesis in pluripotent cells. D. HALDER*. *Ctr. For Biofunctional Molecules Res.*

8:00 A46 **117.25** Pten regulates amacrine cell number by reducing responsiveness to Tgfb negative feedback signaling. N. TACHIBANA*; R. CANTRUP; R. DIXIT; D. ZINYK; S. MCFARLANE; C. SCHUURMANS. *Univ. of Calgary.*

9:00 A47 **117.26** Comparative analysis of DNA methylation in saliva and brain of children with and without autism spectrum disorder (ASD). J. MARTINEZ*; A. DELORA; F. MENNEN; J. A. STEPHEN; E. L. BEARER. *Univ. of New Mexico, USC, The Mind Res. Network.*

10:00 A48 **117.27** Absence of the serine protease inhibitor neuroserpin alters neurogenesis, neuronal morphology and leads to behavioural abnormalities. G. GALLICIOTTI*; M. NEUMANN; R. REUMANN; B. SZALAY; M. SCHWEIZER; F. MORELLINI; M. GLATZEL. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Med. Ctr. Hamburg-Eppendorf.*

11:00 A49 **117.28** Magnetic nanoparticles for manipulating neuronal growth and differentiation. M. MARCUS*; K. BARANES; M. KARNI; N. ALON; I. LEVY; S. MARGEL; A. SHARONI; O. SHEFI. *Bar Ilan Univ.*

8:00 A50 **117.29** FGF2-mediated signal transduction in human SH-SY5Y neuroblastoma cells involves cross-talk between the ERK1/2 pathway and protein kinase C. L. A. DOKAS*; S. J. WATSON; H. AKIL. *Univ. of Michigan.*

9:00 A51 **117.30** A shared molecular mechanism regulates transcription of tyrosine hydroxylase and glutamate decarboxylase 1 in the olfactory bulb. M. WANG*; E. CAI; N. FUJIWARA; H. BAKER; J. W. CAVE. *Burke Med. Res. Inst., Weill Cornell Med. Col.*

**POSTER**

## 118. Brain Cholinergic Mechanisms

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

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

8:00 A52 **118.01** Cholinergic regulation of the hippocampal output to entorhinal cortex. J. HAAM*; J. L. YAKEL. *NIH/NIEHS.*

9:00 A53 **118.02** Therapeutic hypothermia in neonatal hypoxia-ischemia: Neuroprotection through alteration in acetylated metabolites. T. TAKENOUCHI; Y. SUGIURA; T. MORIKAWA; T. NAKANISHI; Y. NAGAHATA; T. SUGIOKA; K. HONDA; A. KUBO*; T. HISHIKI; T. MATSUURA; T. HOSHINO; T. TAKAHASHI; M. SUEMATSU; M. KAJIMURA. *Keio Univ., Shimadzu Corp.*

10:00 A54 **118.03** Insulin increases striatal cholinergic interneuron excitability and enhances dopamine release via nAChRs. J. C. PATEL*; C. R. LEE; M. A. STOUFFER; P. WITKOVSKY; R. P. MACHOLD; M. E. RICE. *NYU Sch. of Med., NYU Sch. of Med., NYU Sch. of Med.*

11:00 A55 **118.04** Point mutations in the vesicular acetylcholine transporter uncover key roles for central acetylcholine release in organismal survival and behavior. S. BOPPANA*; A. C. BLAKE, Jr.; O. AKINRINSOLA; H. LAWAL. *Delaware State Univ.*

8:00 A56 **118.05** ▲ The distribution within the mouse striatum and specificity of transgenic expression of opsins in cholinergic interneurons. A. SIENA; N. CHUHMA; S. RAYPORT*; S. MINGOTE. *Columbia Univ.*

9:00 A57 **118.06** Negative modulation of choline transporter (CHT) function reveals superior cholinergic capacity of CHT-overexpressors. P. VALUSKOVA*; A. KOSHY CHERIAN; K. PITCHERS; Y. KIM; C. W. LINDSLEY; E. A. ENNIS; R. D. BLAKELY; M. SARTER. *Univ. of Michigan, First Fac. of Medicine, Charles University, Prague, Vanderbilt Univ. Med. Ctr.*

10:00 A58 **118.07** ▲ Cholinergic system regulation of behavior in *Drosophila* melanogaster larvae. C. ENGLISH*; C. MALLOY; R. L. COOPER. *Univ. of Kentucky.*

11:00 A59 **118.08** Intra-accumbal infusion of endomorphin-1 and endomorphin-2 decreases accumbal acetylcholine efflux via mu2 receptors in the nucleus accumbens of freely moving rats. T. SAIGUSA*; Y. AONO. *Nihon Univ. Sch. of Dent. at Matsudo.*

8:00 A60 **118.09** Raman spectroscopy for observe acetylcholine activity during normal sleep and REM sleep deprivation in Balb/C mice. R. BELTRAN-RAMIREZ*; J. CHAVEZ-GARCIA; I. FLORES-MUNGUIA; J. ESPINOZA, Jr; C. VENTURA-MEJIA; F. DIAZ-HURTADO; L. STOKES; C. GONZALEZ-SANDOVAL; C. GONZALEZ-SANDOVAL; C. GONZALEZ-SANDOVAL; C. GONZALEZ-SANDOVAL; G. LOPEZ-ARMAS. *Univ. De Guadalajara, Centro De Enseñanza Tecnico Industrial, Centro De Enseñanza Tecnico Industrial.*

9:00 A61 **118.10** ▲ Deficits in central acetylcholine release impairs induced locomotion in *Drosophila*. A. C. BLAKE, Jr; M. HEREDIA; H. O. LAWAL*. *Delaware State Univ., Delaware State Univ.*



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

10:00 A62 **118.11** An essential role of acetylcholine-glutamate synergy at habenular synapses in nicotine dependence. A. GORLICH*; S. FRAHM; B. ANTOLIN-FONTES; J. ZANDER; J. SANTOS-TORRES; G. AHNERT-HILGER; I. IBAÑEZ-TALLON. *Rockefeller Univ., Charité - Universitätsmedizin Berlin, Max Delbrück Ctr. for Mol. Med.*

11:00 A63 **118.12** ● Vagus nerve stimulation drives neural activity in the locus coeruleus and nucleus basalis. D. HULSEY*; J. RILEY; M. IYENGAR; R. RENNAKER; S. HAYS; M. KILGARD. *The Univ. of Texas At Dallas.*

8:00 A64 **118.13** Analysis of calcium signaling after activation of muscarinic acetylcholine receptors in sympathetic neurons by measurements and mathematical modeling. M. KRUSE*; O. VIVAS; B. HILLE. *Univ. of Washington.*

9:00 A65 **118.14** Calcium regulation of sustained cholinergic excitation of prefrontal executive circuitry in the TgCRND8 mouse model of Alzheimer's disease. E. PROULX*; L. KANG; P. FRASER; J. MCLAURIN; E. K. LAMBE. *Univ. Toronto, Univ. of Toronto, Univ. of Toronto.*

10:00 A66 **118.15** PET imaging with [18F]FEOBV following lesion of cholinergic pedunculopontine tegmental neurons in rat. M. CYR*; M. J. PARENT; N. MECHAWAR; P. ROSA-NETO; J. SOUCY; S. CLARK; M. BÉDARD. *Univ. Du Québec À Montréal, Douglas Mental Hlth. Univ. Inst., Montreal Neurolog. Inst. (MNI), Univ. at Buffalo.*

11:00 A67 **118.16** Receptor pharmacology of gamma oscillations induced in the avian hippocampal formation *in vitro*. P. DHEERENDRA*; N. M. LYNCH; M. O. CUNNINGHAM; T. V. SMULDERS. *Newcastle Univ., Univ. of Louisville.*

8:00 A68 **118.17** A comparative study of the cholinergic innervation of the basal ganglia among human and nonhuman primate species. A. STEPHENSON*; M. K. EDLER; L. J. WILSON; J. M. ERWIN; W. D. HOPKINS; B. JACOBS; P. R. HOF; C. C. SHERWOOD; M. A. RAGHANTI. *Kent State Univ., The George Washington Univ., Emory Univ., Colorado Col., Icahn Sch. of Med. at Mount Sinai.*

9:00 A69 **118.18** Acetylcholine, dopamine and exploration of uncertain outcomes. J. NAUDE*; S. TOLU; M. DONGELMANS; N. TORQUET; U. MASKOS; P. FAURE. *CNRS, Univ. Pierre et Marie Curie / CNRS, Paris, France, Inst. Pasteur.*

10:00 A70 **118.19** ● Donepezil-induced c-Fos expression in the rat prefrontal cortex and nucleus accumbens is modulated by acute scopolamine pre-treatment. F. WICHERN*; F. ESCLASSAN; G. GILMOUR; J. D. MIKKELSEN. *Rigshospitalet, Copenhagen Univ. Hosp., Lilly Res. Labs.*

11:00 A71 **118.20** Sensitive analysis of acetylcholine in brain microdialysates using the ALEXYS (U)HPLC-ECD system. M. EYSBERG*; L. M. VAN HEERWAARDEN; H. BROUWER; N. J. REINHOUD. *Antec BV.*

**POSTER**

**119. GPCR I**

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

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

8:00 A72 **119.01** Post-synaptic interaction of D1R and M4 mAChR signaling pathways in striatonigral spiny projection neurons. T. PANCANI*; D. GUIMARAES; M. EHRLICH; P. CONN. *Vanderbilt Univ. Med. Ctr., Federaal Univ. of Minas Gerais, Icahn Sch. of Med. at Mount Sinai.*

9:00 A73 **119.02** ● Role of GABAA receptors and mGlu5 signaling in M1-dependent long-term depression in prefrontal cortex. A. GHOSHAL*; S. P. MORAN; J. M. ROOK; J. W. DICKERSON; Z. XIANG; C. W. LINDSLEY; P. J. CONN. *Vanderbilt Univ. Med. Ctr.*

10:00 A74 **119.03** ● M4-muscarinic receptors attenuate striatal dopamine release via production of a local messenger in direct pathway medium spiny neurons. D. J. FOSTER*; J. WILSON; T. PANCANI; J. WESS; C. K. JONES; Z. XIANG; P. J. CONN. *Vanderbilt Ctr. For Neurosci. Drug Discovery, NIDDK.*

11:00 A75 **119.04** Functional interaction between histamine $H_3$ and adenosine $A_{2A}$ receptors in rat striato-pallidal nerve terminals. G. E. MORALES FIGUEROA*; R. GONZÁLEZ-PANTOJA; J. ESCAMILLA-SÁNCHEZ; J. ARIAS-MONTAÑO. *CINVESTAV.*

8:00 A76 **119.05** Adenosine A2A and histamine H3 receptors gather to modulate intra-striatal GABAergic transmission. R. MÁRQUEZ GÓMEZ*; C. GUTIERREZ-RODELO; J. OLIVARES-REYES; J. ARIAS-MONTAÑO. *Cinvestav.*

9:00 A77 **119.06** Differential homologous desensitization of the human histamine H3 receptors of 445 and 365 amino acids. A. GARCÍA-GÁLVEZ*; C. FLORES-CLEMENTE; R. GONZÁLEZ-PANTOJA; J. ESCAMILLA-SÁNCHEZ; J. ARIAS-MONTAÑO. *Cinvestav.*

10:00 A78 **119.07** Functional cross-talk between α1-adrenergic receptors and mGlu7 metabotropic glutamate receptors in heterologous expression systems and brain tissue: Possible relevance in stress-relates psychiatric disorders. L. IACOVELLI; L. DI MENNA; N. USCHOLD-SCHMIDT; D. PETERLIK; C. STANGL; G. MOLINARO; R. ORLANDO; P. J. FLOR; A. DE BLASI; G. BATTAGLIA*; V. BRUNO; F. NICOLETTI. *Univ. "Sapienza", I.R.C.C.S. Neuromed, Univ. of Regensburg.*

11:00 A79 **119.08** Metabotropic glutamate receptor 5 upregulates surface NMDA receptor expression in striatal neurons via CaMKII. D. JIN*; B. XUE; L. MAO; J. WANG. *Dept. of Anesthesiology, Sch. of Medicine,, Dept. of Basic Med. Science, Sch. of Medicine, Univ. of Missouri-Kansas City, Dept. of Basic Med. Science, Dept. of Anesthesiology, Sch. of Medicine, Univ. of Missouri-Kansas City.*

8:00 A80 **119.09** Colocalization of mu-opioid receptors and metabotropic glutamate receptors in rat spinal cord and in dorsal root ganglia. A. E. KALYUZHNY*; M. GRAHEK; A. PTAK; R. ZIMMERMAN; J. HAGEN; J. HOUCHINS; S. STOESZ; K. REAGAN. *R&D Systems, Inc.*



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

9:00 A81 **119.10** Functional cross-talk between group-I and group-II metabotropic glutamate receptors in heterologous expression systems and brain tissue. L. DI MENNA; L. IACOVELLI; V. BRUNO; G. BATTAGLIA; F. NICOLETTI*. *I.R.C.C.S. Neuromed, Univ. Sapienza.*

10:00 A82 **119.11** Bidirectional interaction between adenosine A1 receptor and type-1 metabotropic glutamate receptor. Y. KAMIKUBO*; T. TABATA; T. SAKURAI. *Juntendo Univ., Univ. of Toyama.*

11:00 A83 **119.12** Cannabinoid control of GABAergic transmission in the globus pallidus is switched during dopamine D2 receptor (D2Rs) activation. R. N. CABALLERO*; I. CONDE ROJAS; R. SÁNCHEZ-ZAVALETA; F. PAZ-BERMÚDEZ; B. FLORÁN; D. ERLIJ. *CINVESTAV, CINVESTAV, State Univ. of New York.*

**POSTER**

**120. Metabotropic Glutamate Receptors and GABAB Receptors**

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

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

8:00 A84 **120.01** Group I mGluR-β-arrestin signaling in hippocampal synaptic plasticity. A. G. ENG*; D. A. KELVER; T. P. HEDRICK; G. T. SWANSON. *Northwestern Univ., Northwestern Univ.*

9:00 A85 **120.02** Group I metabotropic glutamate receptors (mGluRs) regulation in the central nervous system. P. K. MAHATO*; S. PANDEY; S. BHATTACHARYYA. *Indian Inst. of Sci. Educ. & Res.*

10:00 A86 **120.03** Regulation of cerebrocortical neuron spontaneous $Ca^{2+}$ oscillations by metabotropic glutamate receptors. S. MEHROTRA*; T. F. MURRAY. *Creighton Univ.*

11:00 A87 **120.04** Cellular and molecular mechanisms of group I mGluR trafficking in the central nervous system. S. PANDEY*; P. K. MAHATO; S. BHATTACHARYYA. *Indian Inst. of Sci. Educ. and Res.*

8:00 A88 **120.05** Regulation of KCC2 expression by group-I metabotropic glutamate receptors in the cerebellum. S. NOTARTOMASO*; G. MASCIO; P. SCARSELLI; K. MARTINELLO; S. FUCILE; G. BATTAGLIA; F. NICOLETTI. *I.R.C.C.S. Neuromed, Univ. "Sapienza".*

9:00 A89 **120.06** DHPG-stimulated polyphosphoinositide hydrolysis is entirely mediated by mGlu1 receptors in the retina. M. ROMANO; G. MASCIO; L. DI MENNA; P. SCARSELLI; F. BIAGIONI; M. MADONNA; R. GRADINI; G. BATTAGLIA; V. BRUNO*; F. NICOLETTI. *I.R.C.C.S. Neuromed, Univ. Sapienza.*

10:00 A90 **120.07** Regulation of mGluR7 trafficking by SUMOylation in neurons. Y. SUH*; J. CHOI; J. PARK; S. PARK. *Seoul Natl. Univ. Col. of Med., Neurosci. Res. Institute, Seoul Natl. Univ. Col. of Med., Dept. of Pharmacology, Ajou Univ. Sch. of Med.*

11:00 A91 **120.08** Group I metabotropic glutamate receptors regulate the excitability of rat retinal ganglion cells. Q. LI*; P. CUI; X. LI; F. LI; F. GAO; L. LI; X. YANG; Z. WANG. *Fudan Univ.*

8:00 A92 **120.09** Intercellular GPCR interaction is involved in the neutrophil-neuron contact and nerve recovery. Y. LIU; S. DAI*; T. YANG; L. ZHAO. *The Third Military Med. Univ.*

9:00 A93 **120.10** Metabotropic glutamate receptor 2 modulates thalamostriatal neurotransmission. K. A. JOHNSON*; D. M. LOVINGER. *NIAAA/NIH, NIAAA/NIH.*

10:00 A94 **120.11** Modulatory role of Neuregulin 1 signalling on mGluR1 function in DAergic neurons: Effects on neurotransmission and synaptic plasticity. A. LEDONNE; A. NOBILI; E. C. LATAGLIATA; V. CAVALLUCCI; E. GUATTEO; S. PUGLISI-ALLEGRA; M. D'AMELIO; N. B. MERCURI*. *IRCCS -SANTA LUCIA FOUNDATION, Univ. of Rome "La Sapienza", Univ. Campus-Biomedico, Univ. of Rome "Tor Vergata".*

11:00 A95 **120.12** Glutamatergic inhibition of limbic neural circuits. C. C. LEE*. *LSU Sch. of Vet. Med.*

8:00 A96 **120.13** Evidence that the $GABA_B$ positive allosteric modulator CGP7930 activates MAPK cascade independently of $GABA_B$ receptor. P. ONALI*; S. DEDONI; M. C. OLIANAS. *Univ. of Cagliari.*

9:00 A97 **120.14** ● mGlu7 is critical for hippocampal plasticity and is a potential therapeutic target for the treatment of Rett Syndrome. R. KLAR*; R. G. GOGLIOTTI; A. G. WALKER; R. ZAMORANO; D. W. ENGERS; D. GHOSE; B. A. GRUETER; C. R. HOPKINS; C. W. LINDSLEY; Z. XIANG; P. J. CONN; C. M. NISWENDER. *Vanderbilt Univ., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr.*

10:00 A98 **120.15** ● Role of phospholipase D in mGluR-dependent hippocampal and muscarinic-dependent cortical long-term depression. S. P. MORAN*; M. ALTMAN; A. GHOSHAL; J. T. MAKSYMETZ; J. I. AGUILAR; C. W. LINDSLEY; P. J. CONN. *Vanderbilt Univ.*

11:00 A99 **120.16** ● Characterization of a novel mGlu2 radioligand. D. E. O'BRIEN*; A. J. CROSS; S. WESOLOWSKI; C. S. ELMORE; P. J. CONN. *Vanderbilt Univ., AstraZeneca Neurosci. Innovative Medicines, AstraZeneca Drug Safety & Metabolism.*

8:00 A100 **120.17** ● Stimulus bias by mGlu5 positive allosteric modulators affects long term potentiation in the hippocampus through involvement of endocannabinoids and GABAergic disinhibition. J. T. MAKSYMETZ*; A. GHOSHAL; X. LV; J. M. ROOK; C. W. LINDSLEY; Z. XIANG; P. J. CONN. *Vanderbilt Univ. Med. Ctr.*

9:00 A101 **120.18** Co-treatment with anthocyanins and vitamin c ameliorates ethanol-induced neurodegeneration via modulation of gaba b receptor signaling in the adult rat brain. H. BADSHAH*; T. KIM; H. LEE; T. ALI; M. KIM. *Gyeongsang Natl. Univ.*

10:00 A102 **120.19** CaMKII-dependent K63-linked ubiquitination of GABAB1 drives lysosomal degradation of GABAB receptors. K. ZEMOURA*; C. TRÜMPLER; D. BENKE. *Inst. of Pharmacol. and Toxicology, Inst. of Pharmacol. and Toxicology, Univ. of Zurich.*

11:00 A103 **120.20** GABAb-receptor neurotransmission changes in the ventral-pallidum are associated to depressive-like behaviors. R. E. CONTRERAS*; M. SKIRZEWSKI; S. SALMEN; L. BETANCOURT; L. HERNÁNDEZ; P. RADA. *Fisiologia De La Conducta. Univ. De Los Andes, Inst. de Inmunología Clínica, Univ. de Los Andes., NIH.*



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* Indicates abstract's submitting author

8:00 A104 **120.21** Aversive experiences depress GABAB signaling in the lateral habenula. S. LECCA*; R. LUJAN; M. MAMELI. *Inst. Du Fer A Moulin, INSERM / UMR-S 839, Univ. Pierre et Marie Curie, Inst. de Investigación en Discapacidades Neurológicas, Facultad de Medicina, Univ. Castilla-La Mancha.*

9:00 A105 **120.22** GABA-B receptor signaling is regulated by assembly of KCTD proteins with matching G-protein subunits. T. FRITZIUS; R. TURECEK; V. BESSEYRIAS; M. GASSMANN; B. BETTLER*. *Univ. Basel, Univ. Basel.*

10:00 A106 **120.23** GABAB receptor-mediated network function is disrupted by loss of KCTD auxiliary subunits. M. T. CRAIG*; X. YUAN; G. A. VARGISH; M. GASSMANN; B. BETTLER; C. J. MCBAIN. *NIH, Univ. of Basel.*

**POSTER**

**121. Potassium Channels I**

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

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

8:00 A107 **121.01** Development of fast and reliable intrinsic excitability in auditory brainstem neurons. H. HONG*; L. ROLLMAN; J. SANCHEZ. *Northwestern Univ.*

9:00 A108 **121.02** M-current impact on the *in vitro* neuronal network activity during development. F. ROSA*; H. LÖFFLER; S. THEISS; M. DIHNE; H. LERCHE; S. MALJEVIC. *Hertie Inst. For Clin. Brain Res., Med. Fac. Heinrich Heine Univ., RESULT Med., St. Lukas Klinik.*

10:00 B1 **121.03** Human gain-of-function Slack (KCNT1) K+ channel mutations increase positive cooperativity between individual Slack channels through C-terminal domain interactions. J. KRONENGOLD*; G. E. KIM; V. R. GAZULA; B. YANG; I. QURAISHI; H. C. MARTIN; G. BARCIA; J. TAYLOR; L. R. COLLEAUX; R. NABBOUT; L. K. KACZMAREK. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Univ. of Oxford, Ctr. de Reference Epilepsies Rares, Hôpital Necker Enfants Malades.*

11:00 B2 **121.04** The Slack Na+-activated K+ channel contributes to serotonin-sensitive currents of *Aplysia* sensory neurons. Y. ZHANG; A. B. KOHN; L. L. MOROZ; L. K. KACZMAREK*. *Yale Univ. Sch. Med., Univ. of Florida.*

8:00 B3 **121.05** Differential $Ca^{2+}$-dependent signaling of the neuronal $Ca^{2+}$ sensor proteins, Neurocalcin δ and Hippocalcin, in cultured hippocampal neurons. N. I. KONONENKO; J. VIVIANO; A. V. DOVGAN; V. P. CHERKAS; J. ZHANG; V. VENKATARAMAN; P. V. BELAN*. *Bogomoletz Inst. of Physiol., Rowan Univ. Sch. of Osteo. Med., Bogomoletz Inst. of Physiol.*

9:00 B4 **121.06** The potassium channel Kv4.2 is regulated by miRNA-induced silencing during seizures. C. GROSS*; X. YAO; T. ENGEL; L. XING; S. W. DANIELSON; K. T. THOMAS; E. JIMENEZ-MATEOS; D. HENSHALL; G. BASSELL. *CCHMC, Emory Univ., RCSI.*

10:00 B5 **121.07** ● KChIP-like auxiliary subunits of Kv4 channels regulate excitability of muscle cells and control male turning behavior during mating in Caenorhabditis elegans. X. CHEN*; M. RUAN; S. CAI. *Inst. of Neurosci.*

11:00 B6 **121.08** Intrastriatal administration of retigabine, a pan-Kv7 (KCNQ) channel opener, inhibits post-synaptic neuronal activation. H. B. HANSEN*; M. D. MIKKELSEN; P. WEIKOP; J. D. MIKKELSEN. *Copenhagen Univ. Hosp., NeuroSearch A/S, Copenhagen Univ. Hosp.*

8:00 B7 **121.09** DPP6 domains responsible for its localization and function. L. LIN*; L. K. LONG; M. M. HATCH; D. A. HOFFMAN. *NICHD-NIH.*

9:00 B8 **121.10** Novel KCNJ10 SNPs affect Kir4.1 biophysical properties and their modulation by spermine. M. MENDEZ*; Y. KUCHERYAVYKH; A. ZAYAS-SANTIAGO; W. VELEZ-CARRASCO; L. CUBANO; S. SKATCHKOV; M. EATON*. *Univ. Central Del Caribe, Univ. Central Del Caribe, Univ. Central Del Caribe.*

10:00 B9 **121.11** The roles of ion channel antibodies on neuron survival. N. AYSIT*; E. TUZUN; G. ÖZTÜRK. *ISTANBUL Medipol UNIVERSITY -ISTANBUL MEDIPOL UNIV, Istanbul Universitesi, Istanbul Medipol Univ.*

11:00 B10 **121.12** TWIK-1 /TASK-3 heterodimer contributes to the intrinsic excitability of dentate granule cells in mouse hippocampus. J. CHOI; O. YARISHIKIN; E. KIM; J. PARK; E. HWANG*. *Korea Inst. of Sci. and Technol., The university of Utah, Korea university.*

8:00 B11 **121.13** $Ca^{2+}$-dependent modulation of Kv4.2-mediated currents. J. J. GUTZMANN*; A. M. CHAREST; D. A. HOFFMAN. *NIH.*

9:00 B12 **121.14** Ketogenic diet promotes the upregulation of $K_{ATP}$ channels expression by mediating ketone activity. H. OH; T. J. METTLER; D. KIM*. *Barrow Neurolog. Institute, St. Joseph's Hosp. & Med. Ctr.*

10:00 B13 **121.15** The regulation of Slack K(Na) channel trafficking by p38 MAP Kinase. S. GURURAJ; A. BHATTACHARJEE*. *SUNY at Buffalo, SUNY, Buffalo.*

11:00 B14 **121.16** An ALS-associated mutant SOD1 alters sodium-activated potassium currents and neuronal excitability in *Aplysia* neurons. Y. ZHANG*; W. NI; A. HORWICH; L. L. KACZMAREK. *Yale Univ. Sch. Med.*

8:00 B15 **121.17** Phosphatidylinositol 4,5-bisphosphate (PIP2) differentially modulates afterhyperpolarizations in oxytocin and vasopressin magnocellular supraoptic neurons. M. KIRCHNER*; R. FOEHRING; W. E. ARMSTRONG. *Univ. of Tennessee Hlth. Sci. Ctr.*

9:00 B16 **121.18** The relative contribution of Kir4.1, two-pore domain K+ channels and KCNN2 to the passive conductance of mature hippocampal astrocytes. C. M. KIYOSHI*; Y. DU; Q. WANG; C. C. ALFORD; B. MA; S. ZHONG; M. ZHOU. *The Ohio State Univ. Wexner Med. Ctr.*

10:00 B17 **121.19** ● Kv3 channel subunit localisation and co-expression with phenotypic markers in the murine spinal cord. P. MULLEN*; C. LARGE; J. DEUCHARS; S. DEUCHARS. *Univ. of Leeds, Autifony Therapeut. Ltd.*

11:00 B18 **121.20** Novel physiological modulators of Kv3 channels regulate firing rate and temporal accuracy of auditory brainstem neurons in a mouse model of Fragile X syndrome. L. EL-HASSAR*; M. R. BROWN; L. SONG; C. H. LARGE; G. ALVARO; L. K. KACZMAREK. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Autifony Therapeut. Limited.*



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

8:00 B19 **121.21** Differential expression of voltage-gated potassium conductances in genetically-defined layer 5 neocortical pyramidal neurons. D. GUAN*; R. C. FOEHRING. *Univ. Tennessee, Univ. Tennessee.*

9:00 B20 **121.22** Expression and function of ATP-sensitive potassium channels in the stellate neurons of the mouse ventral cochlear nucleus. A. HIM*; R. BAL; G. OZTURK; E. ONALAN ETEM; N. CENGIZ; T. KULOGLU; M. TUZCU. *Ondokuz Mayis Univ., Gaziantep Univ., Istanbul Medipol Univ., Firat Univ., Sakarya Univ.*

10:00 B21 **121.23** Roles of Kv potassium channels in action potential repolarization in neocortical pyramidal neurons from mouse somatosensory cortex. D. PATHAK; R. C. FOEHRING*. *Univ. Tennessee Hlth. Sci.*

11:00 B22 **121.24** Assembly and regulation of functional domains in myelinated axons. C. GU*. *Ohio State Univ.*

8:00 B23 **121.25** Cell depolarization induced by low pHo causes a switch from tonic to burst firing supported by a marked inhibition of BK channels in mouse chromaffin cells. L. GUARINA; D. H. F. VANDAEL; E. CARBONE*. *Univ. of Turin, Univ. of Turin.*

9:00 B24 **121.26** Expression and contributions of the Kir2.1 inward-rectifier K+ channel to proliferation, migration and chemotaxis of microglia in unstimulated and anti-inflammatory states. D. LAM*; L. C. SCHLICHTER. *Krembil Discovery Tower/ Toronto Western Hosp.*

10:00 B25 **121.27** NMDAR-induced plasticity of A-type Kv4 current contributes to long-term potentiation of mossy fiber input in granule cells of posterior cerebellum. A. RIZWAN*; G. W. ZAMPONI; R. W. TURNER. *Univ. of Calgary.*

11:00 B26 **121.28** Modulation of Kir4.1 protein and mRNA by activation of mGluR I in rat retinal Müller cells. F. GAO*; F. LI; Y. MIAO; L. DONG; S. ZHANG; J. WU; X. SUN; Z. WANG. *Dept. of Ophthalmology at Eye &ENT Hosp., Inst. of Brain Sci.*

8:00 B27 **121.29** ▲ Structural basis for the positive modulation of SK2 channel by Riluzole. T. N. ALEXANDER; S. A. ALI; S. C. CHIANG; M. ZHANG*. *Chapman Univ. Sch. of Pharm.*

**POSTER**

**122. Monoamine Transporter**

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

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

8:00 B28 **122.01** Conserved role of the atypical MAP kinase SWIP-13/ERK8 in the regulation of presynaptic dopamine transporters. D. BERMINGHAM*; J. A. HARDAWAY; S. L. SNIDER; S. M. WHITAKER; R. D. BLAKELY. *Vanderbilt Univ.*

9:00 B29 **122.02** The sigma-1 receptor modulates methamphetamine regulation of dopamine transporter activity. D. O. SAMBO*; M. LIN; H. KHOSHBOUEI. *Univ. of Florida, Univ. of Florida.*

10:00 B30 **122.03** Impact of S2 disruption on dopamine transporter function. J. ZHEN*; M. E. REITH. *New York Univ. Lagone Med. Ctr.*

11:00 B31 **122.04** Vesicular monoamine transporter-2: Interaction with parkin and mechanism of degradation. E. K. STACHOWSKI*; T. B. BAUST; G. E. TORRES. *Univ. of Pittsburgh.*

8:00 B32 **122.05** Locating the binding site of the benztropine photoaffinity ligand,[125I]GA II 34, on the dopamine transporter. M. J. TOMLINSON*; D. KROUT; A. PRAMOD; J. R. LEVER; A. H. NEWMAN; L. K. HENRY; R. A. VAUGHAN. *Uni. of North Dakota, Sch. of Med. and Hlth. Sci., Univ. of Missouri, Truman Veterans Hosp., Natl. Inst. on Drug Abuse-Intramural Res. Program.*

9:00 B33 **122.06** Palmitoylation of the Dopamine Transporter on Cysteine 6. D. J. STANISLOWSKI*; R. VAUGHAN; J. FOSTER. *Univ. of North Dakota Sch. of Med. and.*

10:00 B34 **122.07** Regulation of the Dopamine Transporter by heterotrimeric G-proteins depends on N-terminal phosphorylation. J. A. BORIS; J. GARCIA-OLIVARES*; S. G. AMARA. *Natl. Inst. of Mental Health/NIH, Natl. Inst. of Mental Hlth.*

11:00 B35 **122.08** The molecular mechanism of action of mephedrone. F. P. MAYER; J. S. PARTILLA; L. WIMMER; A. SEDDIK; N. BURCHARDT; D. SCHMID; S. BULLING; M. H. BAUMANN; G. F. ECKER; M. D. MIHOVILOVIC; H. H. SITTE*. *Med. Univ. Vienna, Designer Drug Res. Unit, Inst. of Applied Synthetic Chem., Univ. of Vienna.*

8:00 B36 **122.09** Interplay between the serotonin transporter (SERT) and $5HT_{1A}$ receptors to modulate quantal catecholamine release events in adrenal chromaffin cells. R. L. BRINDLEY*; M. B. BAUER; R. D. BLAKELY; K. P. M. CURRIE. *Vanderbilt Univ. Sch. of Med., Vanderbilt Univ. Sch. of Med., Vanderbilt Univ. Sch. of Med.*

9:00 B37 **122.10** Interaction of neurokinin signaling and catecholamine transport in amphetamine behavior. P. MANNANGATTI*; S. RAMAMOORTHY; M. S. BOWERS; L. D. JAYANTHI. *Virginia Commonwealth Univ.*

10:00 B38 **122.11** Tyrosine 470 and 88 of human dopamine transporter are critical for Tat-mediated allosteric modulation on human dopamine transporter. W. SUN*; A. SUBRAMANIAM; P. M. QUIZON; C. ZHAN; J. ZHU. *Univ. of South Carolina, Southern Res. Inst., Univ. of Kentucky.*

11:00 B39 **122.12** Membrane properties of attention-deficit hyperactivity disorder associated dopamine transporter coding variant (A559V) linked with altered palmitoylation and phosphorylation. M. J. SHETTY*; J. MORRELL; M. HOVLAND; B. GROVE; R. A. VAUGHAN; J. D. FOSTER. *Univ. of North Dakota Sch. of Med. & He.*

8:00 B40 **122.13** Effects of diet and insulin on DAT activity and expression in rat CPu, NAc and midbrain. K. T. JONES*; C. WOODS; T. ANTONIO; J. ZHEN; K. D. CARR; M. E. A. REITH. *New York Univ., New York Univ., NYU.*

9:00 B41 **122.14** Enhanced vesicular monoamine transporter level modifies synaptic L-DOPA-derived dopamine handling. K. M. LOHR*; G. W. MILLER. *Emory Univ.*

10:00 B42 **122.15** Amphetamine increases NMDA-GluN2B synaptic currents in substantia nigra dopamine neurons. S. L. INGRAM*; M. LI; T. J. PHILLIPS; S. G. AMARA; S. M. UNDERHILL. *OHSU, OHSU and Veterans Affairs Portland Hlth. Care Syst., Intramural Res. Program of the Natl. Inst. of Mental Hlth.*



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* Indicates abstract's submitting author

11:00 B43 **122.16** Prolonged METH exposure suppresses BK channel activity in the dopamine neurons. M. LIN; D. SAMBO; H. KHOSHBOUEI*. *Univ. of Florida, Univ. of Florida.*

8:00 B44 **122.17** Dopamine transporter expression, transport capacity, and membrane lateral mobility is regulated by palmitoylation. D. E. RASTEDT*; J. D. FOSTER; R. A. VAUGHAN. *Univ. of North Dakota, Sch. of Med. and Hlth. Sci.*

9:00 B45 **122.18** Rare autism associated variants implicate syntaxin 1 (STX1 R26Q) phosphorylation and the dopamine transporter (hDAT R51W) in dopamine neurotransmission and behaviors. A. N. BELOVICH*; E. CARTIER; P. J. HAMILTON; A. SHEKAR; N. G. CAMPBELL; C. SAUNDERS; T. F. ANDREASSEN; U. GETHER; J. VEENSTRA-VANDERWEELE; J. S. SUTCLIFFE; P. ULERY-REYNOLDS; K. ERREGER; H. J. G. MATTHIES; A. GALLI. *Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Fac. of Hlth. and Med. Sciences, Univ. of Copenhagen, Columbia Univ., Vanderbilt Univ. Med. Ctr., UT Southwestern Med. Ctr., Vanderbilt Univ. Med. Ctr.*

10:00 B46 **122.19** G beta-gamma subunits of heterotrimeric G-proteins interact with the dopamine transporter to evoke DA efflux. T. B. BAUST*; J. GARCIA-OLIVARES; K. SALERNO; E. STACHOWSKI; E. THIELS; S. G. AMARA; G. E. TORRES. *Univ. of Pittsburgh, Natl. Inst. of Hlth., Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Florida.*

11:00 B47 **122.20** Brain region-specific trafficking of the dopamine transporter. A. SORKIN*; E. BLOCK; J. J. BALCITA-PEDICINO; J. NUTTLE; S. SESACK. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

8:00 B48 **122.21** HIV-1 Tat protein augments methamphetamine-induced impairment of dopamine transporter activity. R. STEGER*; K. SAHA; D. SAMBO; T. ALONGE; B. BUTLER; C. APPADOO; J. GOODWIN; S. BUCH; H. KHOSHBOUEI. *Univ. of Florida, Univ. of Texas Med. Br., Univ. of Nebraska Med. Ctr.*

9:00 B49 **122.22** Role of interaction between the Dopamine Transporter and G protein βγ subunits in amphetamine-induced hyperlocomotion. J. C. MAUNA*; M. R. MARKS; N. ARIAS; T. B. BAUST; S. HARRIS; G. E. TORRES; E. THIELS. *Univ. Pittsburgh, Univ. of Florida, Univ. of Pittsburgh, Univ. of Pittsburgh.*

10:00 B50 **122.23** State-dependent protein interactions with the presynaptic serotonin transporter. M. A. QUINLAN*; R. YE; Q. HAN; S. RAMAMOORTHY; R. D. BLAKELY. *Vanderbilt, Vanderbilt, Virginia Commonwealth Univ., Vanderbilt.*

11:00 B51 **122.24** The betaine-GABA transporter (BGT1; slc6a12) may play its main roles in the liver rather than in the brain by help preserving choline levels in hepatocytes. Y. ZHOU*; K. CORBIN; Y. XIANG; W. ESKILD; S. ZEISEL; N. DANBOLT. *Inst. of Basic Med. Science, Univ. of Oslo, UNC Nutr. Res. Inst., Inst. of Mol. Biosci.*

8:00 B52 **122.25** Differential effects of maternal and fetal genetic disruption of the serotonin transporter on placental and fetal brain biogenic amine function and thalamocortical axon pathway formation. J. C. VELASQUEZ*; E. HUGHES; K. FISH; E. EMERY; A. BONNIN; S. HEROD. *Keck Sch. of Med. of USC, Azusa Pacific Univ.*

9:00 B53 **122.26** Organic cation transporter 3 (OCT3) and plasma membrane monoamine transporter (PMAT) are increased in parietal cortex following chronic administration of citalopram. J. C. MOLINARO*; J. S. TALBOOM; M. ORCHINIK. *Arizona State Univ., Banner Sun Hlth. Res. Inst., Arizona Alzheimer's Consortium.*

**POSTER**

**123. Other Transporters**

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

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

8:00 B54 **123.01** Transgenic mouse model to selectively identify alpha$_3$ Na,K-ATPase expressing cells in the nervous system. M. DOBRETSOV*; D. D. PIERCE; K. E. LIGHT; N. T. KOCKARA; M. KOZHEMYAKIN; P. A. WIGHT. *Univ. Arkansas Med. Sci., Univ. Arkansas Med. Sci., Univ. Arkansas Med. Sci., Univ. Arkansas Med. Sci., Univ. Arkansas Med. Sci.*

9:00 B55 **123.02** Generation and characterization of BAC transgenic GABA transporter 2 (GAT2; slc6a13) tdTomato reporter mice. N. C. DANBOLT*; Y. ZHOU; J. XU; B. S. KHAKH. *Univ. of Oslo, UCLA.*

10:00 B56 **123.03** GABAA receptor activation in newborn male rats modifies the developmental profile of NKCC1, KCC2 and alpha1 and gamma2 GABAA receptor subunits in entorhinal cortex. J. MURGUIA CASTILLO*; M. E. UREÑA-GUERRERO; S. A. OROZCO-SUAREZ; C. BEAS-ZÁRATE; A. I. FERIA-VELASCO. *Univ. De Guadalajara (CUCBA), Hosp. de Especialidades, CMN Siglo XXI, IMSS.*

11:00 B57 **123.04** An allosteric mechanism for lipid inhibition of glycine transporter 2. R. J. VANDENBERG*; S. MOSTYN; J. E. CARLAND; R. M. RYAN. *Univ. Sydney, Univ. Sydney.*

8:00 B58 **123.05** Regulation of cation-chloride cotransporters by N-methyl-D-aspartate receptors. J. CHEVRIER*; V. MAHADEVAN; M. WOODIN. *Univ. of Toronto.*

9:00 B59 **123.06** Pharmacological characterization of a BGT1-selective compound with a biphasic inhibition profile and anticonvulsive properties in mice. M. E. LIE*; J. SKOVGAARD-PETERSEN; S. B. VOGENSEN; R. P. CLAUSEN; B. FRØLUND; A. SCHOUSBOE; S. WHITE; P. WELLENDORPH. *Univ. of Copenhagen, Univ. of Utah.*

10:00 B60 **123.07** Suprachiasmatic nucleus chloride cotransporter (nkcc1) regulation of behavioral circadian rhythms. J. K. MCNEILL*, IV; J. C. WALTON; H. E. ALBERS. *Georgia State Univ., Georgia State Univ.*

11:00 B61 **123.08** Functional consequences of a loss-of-function mutation in the SLC39A8 (ZIP8) gene in NMDA receptor signaling. M. L. WEBER*; P. O'DONNELL; T. A. LANZ; V. REINHART; D. L. BUHL; D. BERTRAND; C. R. SCHUBERT. *Pfizer Worldwide Res. & Dev, Pfizer, HiQscreen, Pfizer.*

8:00 B62 **123.09** Developmental expression patterns of KCC2 and functionally-associated molecules in the human brain. M. PUSKARJOV; G. SEDMAK; N. JOVANOV-MILOŠEVIC; M. ULAMEC; B. KRUŠLIN; K. KAILA*; M. JUDAŠ. *Univ. Helsinki, Univ. of Zagreb Sch. of Medicine, Croatian Inst. for Brain Res., Univ. of Zagreb Sch. of Medicine, Clin. Hosp. Ctr. Sisters of Mercy.*

9:00 B63 **123.10** ● Deciphering ZIP8 activity using an electrophysiology reporter assay. C. R. SCHUBERT*; T. D. HELTON; J. A. ALLEN; J. R. WENDLAND; P. O'DONNELL; D. BERTRAND. *Pfizer, Brown Univ., Pfizer, HiQScreen.*

10:00 B64 **123.11** SorLA trafficking in physiological barriers. M. S. NIELSEN*; S. C. KLINGER; A. HØJLAND; P. MADSEN; J. BONIFACINO. *Univ. of AARHUS, NIH.*

**POSTER**

**124. Presynaptic Structure and Neurotransmitter Release II**

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

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

8:00 B65 **124.01** Calcium dynamics in boutons of layer V pyramidal neurons in the rat somatosensory cortex. L. TRAN*; C. STRICKER. *The Australian Natl. Univ., ANU Med. Sch.*

9:00 B66 **124.02** Acute inhibition of the ubiquitin signaling system induces changes in the synaptic ubiquitome and alters synaptic transmission in mammalian neurons. A. CAPUTO*; K. M. MYERS; A. A. VASHISHT; Y. WU; J. WOHLSCHLEGEL; F. E. SCHWEIZER. *David Geffen Sch. of Med. at UCLA, David Geffen Sch. of Med. at UCLA, David Geffen Sch. of Med. at UCLA.*

10:00 B67 **124.03** G-protein beta-gamma subunits regulate synaptic vesicle exocytosis by cone photoreceptors. M. VAN HOOK*; Z. ZURAWSKI; H. E. HAMM; W. B. THORESON. *Univ. of Nebraska Med. Ctr., Vanderbilt Univ. Med. Sch.*

11:00 B68 **124.04** Modulation of synaptic transmission by Gbetagamma: Specificity of Gbeta and Ggamma to inhibitory adrenergic A2a receptor and SNARE. Y. YIM*; K. BETKE; H. MCDONALD; R. GILSBACH; Y. CHEN; K. HYDE; Q. WANG; L. HEIN; K. SCHEY; H. HAMM. *Vanderbilt Univ., Vanderbilt Univ., Univ. of Freiburg, Univ. of Alabama at Birmingham Sch. of Med.*

8:00 B69 **124.05** A usage-dependent mechanism measures synaptic vesicle age and prevents the use of old vesicles in synaptic transmission. S. TRUCKENBRODT*; S. O. RIZZOLI; A. VIPLAV; E. F. FORNASIERO; A. DENKER. *Univ. of Göttingen Med. Ctr., Univ. of Göttingen Med. Ctr.*

9:00 B70 **124.06** Intersectin1 is required for developmental enhancement of $Ca^{2+}$-dependent replenishment of the readily-releasable synaptic vesicles. Y. YANG*; A. SENGAR; J. AITOUBAH; S. EGAN; M. SALTER; L. WANG. *The Hosp. For Sick Children.*

10:00 B71 **124.07** The role of synaptotagmin-1 C2B domain in synaptic vesicle docking in hippocampal neuron. S. CHANG*; T. TRIMBUCH; C. ROSENMUND. *Charité - Universitätsmedizin Berlin.*

11:00 B72 **124.08** The role of SNAP-25 in presynaptic mechanisms of long-term plasticity of vesicular release at glutamatergic synapses in the hippocampus. K. R. GOPAUL*; M. IRFAN; X. ZHANG; C. BARK; P. K. STANTON. *New York Med. Col., Karolinska Inst.*

8:00 B73 **124.09** Mechanisms of calcium independent but voltage dependent secretion (CiVDS) in somata of mammalian primary sensory neurons. Z. ZHOU*; Z. CHAI; X. ZHANG; R. HUANG; Y. WANG; R. ZHOU; Q. WU; M. HU; X. WU; H. LIU; T. LIU; Y. WANG; W. GUO; H. ZHENG; W. XIONG; C. ZHANG; J. DING; C. WANG. *Inst. Mol. Med, Peking Univ., Inst. of Biophysics and Biochemistry, Sch. of Life Sciences, Huazhong Univ. of Sci. and Technol.*

9:00 B74 **124.10** Facilitation of vesicle endocytosis by rho kinase at immature calyx of held synapses. H. YUE; L. LI; A. SATHYAMURTHY; L. MEI; J. XU*. *Georgia Regents Univ.*

10:00 B75 **124.11** Unique role of complexin in shaping the biphasic response at a mammalian ribbon synapses in the rod pathway. L. S. MORTENSEN*; J. KE; K. REIM; C. IMIG; B. H. COOPER; E. KALOGERAKI; S. LÖWEL; N. BROSE; J. H. SINGER; J. RHEE. *Max-Planck-Institute of Exptl. Med., Universtiy of Maryland, Georg-August-University Göttingen.*

11:00 B76 **124.12** Complexin increases the coupling of presynaptic calcium influx and quantal release. E. A. QUIROZ; R. A. JORQUERA*. *Univ. Central Del Caribe, Sch. of Med., Univ. de Chile, Sch. of Medicine, Inst. of Biomed. Sci.*

8:00 B77 **124.13** Local nanometer organization and the function of PI(4,5)P2 during vesicle exocytosis. C. JI*; Y. ZHANG; T. XU; X. LOU. *Univ. of Wisconsin-Madison, Natl. Lab. of Biomacromolecules, Inst. of Biophysics, Chinese Acad. of Sci.*

9:00 B78 **124.14** Spontaneous and evoked recycling pools of synaptic vesicles in cultured striatal neurons of a DYT1 dystonia mouse model. N. C. HARATA*; S. IWABUCHI. *Univ. Iowa Col. Med.*

10:00 B79 **124.15** Measuring glutamate transients in the cleft of individual Schaffer collateral synapses. C. D. DÜRST*; J. S. WIEGERT; C. SCHULZE; T. G. OERTNER. *Ctr. For Mol. Neurobio. Hamburg (ZMNH).*

11:00 B80 **124.16** Synaptotagmin-1 and synaptotagmin-7 differ in their stimulus and $Ca^{2+}$-dependence of activation. T. RAO*; A. R. PELEMAN; D. R. GIOVANNUCCI; A. ANANTHARAM. *Wayne State Univ., The Univ. of Toledo.*

8:00 B81 **124.17** A chimeric approach to studying the Syntaxin Habc domain uncovers roles in exocytosis and Syntaxin trafficking. L. A. PARRA*; M. PALFREYMAN; E. JORGENSEN. *Univ. of Utah.*

9:00 B82 **124.18** Quantitation and simulation of presynaptic evoked calcium signals. E. Y. HAMID*; E. CHURCH; S. ALFORD. *NIH, Univ. of Illinois at Chicago.*

10:00 B83 **124.19** Calcium-dependent activator protein for secretion function in murine dorsal root ganglion neurons. A. H. SHAIB*; M. KLOSE; R. MOHRMANN; J. RETTIG; U. BECHERER. *Universty of Saarland, Physiol. Inst., Univ. of Saarland.*

11:00 B84 **124.20** The role of vti1a- and VAMP7-driven spontaneous vesicle fusion in synaptic plasticity. D. C. CRAWFORD*; D. M. O. RAMIREZ; B. TRAUTERMAN; L. M. MONTEGGIA; E. T. KAVALALI. *UT Southwestern Med. Ctr.*



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

8:00 B85 **124.21** Quantitative analysis of vesicle recycling at the calyx of Held synapse. Q. ZHU; X. QIU*; J. SUN. *Inst. of Biophysics, Chinese Acad. of Sci.*

9:00 B86 **124.22** Synapse-specific determinants of single-vesicle recycling kinetics in central presynaptic terminals. M. WAGNER*; K. STARAS. *Univ. of Sussex.*

10:00 B87 **124.23** CAPS1 stabilizes docking state of SVs in hippocampal CA3-CA1 synapses. Y. SHINODA*; C. ISHII; Y. FUKAZAWA; T. SADAKATA; T. IWASATO; S. ITOHARA; T. FURUICHI. *Tokyo Univ. of Sci., Univ. of Fukui, Gunma Univ., Natl. Inst. of Genet., RIKEN BSI.*

11:00 B88 **124.24** Dynamin-1 is required for short-term synaptic plasticity and transmission fidelity independent of vesicle re-availability at a mature central synapse. S. MAHAPATRA*; F. FAN; X. LOU. *Univ. of Wisconsin, Madison.*

8:00 B89 **124.25** The role of synaptotagmin 1 in single synaptic vesicle endocytosis. Y. LI*; B. TRAUTERMAN; E. T. KAVALALI. *UT Southwestern.*

9:00 B90 **124.26** Evidence for PKA dependent regulation of tomosyn. S. J. ZINN*; D. FEATHERSTONE; J. RICHMOND. *Univ. of Illinois, Chicago, Univ. of Illinois, Chicago.*

10:00 B91 **124.27** Quantification *in vivo* of protein SV2A in hippocampus of rats with temporal lobe epilepsy. L. PICHARDO-MACIAS*; V. U. DÍAZ; G. GÓMEZ LIRA; I. J. CONTRERAS; S. R. ZAMUDIO HERNÁNDEZ; S. GUZMÁN; S. M. NAVARRETE; J. G. MENDOZA. *Inst. Politecnico Nacional, Inst. Nacional de Pediatría, CINVESTAV.*

11:00 B92 **124.28** Localization of $Ca^{2+}$ channels and their connections to specific 'Active Zone Material' macromolecules at frog neuromuscular junctions. J. SZULE*; J. JUNG; U. MCMAHAN. *Texas A&M Univ.*

8:00 B93 **124.29** Multiple functions of PKG at the *Drosophila* larval neuromuscular junction. J. S. DASON*; A. M. ALLEN; M. B. SOKOLOWSKI. *Univ. of Toronto.*

**POSTER**

**125. Synaptic Modulation**

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

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

8:00 B94 **125.01** Effects of Neuropeptide Y on temporoammonic synapses in hippocampal CA1. K. M. CORDER*; Q. LI; A. F. BARTLEY; L. E. DOBRUNZ. *Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham.*

9:00 B95 **125.02** Rapid dynamic changes of dendritic inhibition in the dentate gyrus by presynaptic activity patterns. Y. LIU*; C. LIEN. *Inst. of Neurosci. & Brain Res. Ctr., Natl. Yang-Ming Univ.*

10:00 B96 **125.03** Specific types of interneurons regulate input pattern-dependent recruitment of dentate granule cells. C. LEE*; M. KAO; C. LIEN. *Inst. of Neuroscience, Natl. Yang-Ming Univ.*

11:00 B97 **125.04** Mapping serotonin modulation of excitatory and inhibitory synapses in the limbic mouse brain. A. BELMER*; O. PATKAR; S. E. BARTLETT. *QUT-IHBI-TRI.*

8:00 B98 **125.05** How activation of 5-HT2 receptors increases spontaneous but depresses evoked transmitter release in layer 2/3 pyramidal cells of rat somatosensory cortex. F. AGAHARI*; C. STRICKER. *The Australian Natl. Univ., ANU Med. School, The Australian Natl. Univ.*

9:00 B99 **125.06** Spontaneous somatostatin cell activity and the regulation of disynaptic, Martinotti inhibition in neocortical networks. J. URBAN CIECKO*; A. P. GOSWAMI; J. PILLI; A. L. BARTH. *Carnegie Mellon Univ.*

10:00 B100 **125.07** GABA-B receptor regulation of extracellular glutamate in the prefrontal cortex of adolescent and adult C57Bl/6J mice. R. I. MELENDEZ*; R. A. J. BROOKS; L. M. MELECIO. *Univ. Puerto Rico.*

11:00 B101 **125.08** Analgesic synergy between alpha2A-adrenergic and delta-opioid receptors occurs presynaptically on nociceptive afferent terminals in spinal cord. D. J. BRUCE; J. J. WAATAJA; C. A. FAIRBANKS; G. L. WILCOX*. *Univ. Minnesota Med. Sch., Univ. Minnesota Med. Sch., Univ. Minnesota Med. Sch., Univ. Minnesota Med. Sch.*

8:00 B102 **125.09** ▲ Effect of CB1 receptor antagonist on habituation and prepulse inhibition of the acoustic startle response. A. G. LOUTTIT*; C. DE OLIVEIRA; S. SCHMID. *Univ. of Western Ontario.*

9:00 B103 **125.10** Medial pre-frontal cortex CB1 receptors modulate the conditioned emotional response: Involvement of the glutamatergic and nitrergic neurotransmissions. D. L. ULIANA*; L. S. ANTERO; S. F. LISBOA; L. B. M. RESSTEL. *Univ. of São Paulo, Univ. of São Paulo.*

10:00 B104 **125.11** Neuromodulatory control of intercalated cell-associated synapses within the amygdala: Implications for anxiety disorders. B. L. WINTERS*; E. E. BAGLEY. *Univ. of Sydney.*

11:00 B105 **125.12** Acid Sensing Ion Channels can follow high frequency 'synaptic' stimuli. D. M. MACLEAN*; V. JAYARAMAN. *UT- Houston.*

8:00 B106 **125.13** The role of kainate receptors in modulating hilar network excitability. T. HEDRICK*; W. P. NOBIS; G. T. SWANSON. *Northwestern University, Feinberg Sch. of Medici, Northwestern University, Feinberg Sch. of Med.*

9:00 B107 **125.14** Propofol facilitates pyramidal cells firing synchrony in rat cerebral cortex. Y. KOYANAGI*; Y. OI; N. KOSHIKAWA; M. KOBAYASHI. *Nihon Univ. Sch. Dent., Nihon Univ. Sch. Dent.*

10:00 B108 **125.15** Cyclic-AMP transients in CA1 neurons are greatest in intermediate and distal dendrites during β-adrenergic receptor activation. V. LUCZAK*; T. ABEL; J. GIRAULT; N. GERVASI. *Univ. of Pennsylvania, Inst. Du Fer À Moulin INSERM U839, INSERM UMRs 839.*

11:00 B109 **125.16** ▲ Investigation of hippocampal pathways in a mouse model of lead exposure relevant to the El Paso region. A. TENA; E. PERU; L. E. MARTINETTI*; K. FENELON. *Univ. of Texas At El Paso.*



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

**POSTER**

**126. Cholinergic Modulation**

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

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

8:00 B110 **126.01** Selective cholinergic modulation of layer 5 projection neurons in the mouse prefrontal cortex. A. L. BAKER*; R. J. O'TOOLE; A. T. GULLEDGE. *Geisel Sch. of Med. at Dartmouth, Dartmouth Col., Geisel Sch. of Med. at Dartmouth.*

9:00 B111 **126.02** The role of acetylcholine in neural circuit modulation, behavior and development in *Drosophila* melanogaster. C. MALLOY*; C. ENGLISH; R. L. COOPER. *Univ. of Kentucky.*

10:00 B112 **126.03** Removal of D2 receptors on striatal cholinergic interneurons impairs sequence learning. J. H. CHANCEY*; D. M. LOVINGER. *NIH-NIAAA, NIH-NIAAA.*

11:00 C1 **126.04** The role of the cholinergic midbrain in sensory filtering and sensorimotor gating. E. C. AZZOPARDI*; S. SCHMID. *Univ. of Western Ontario, Univ. of Western Ontario.*

8:00 C2 **126.05** Optogenetic activation of medial septum cholinergic neurons improves contextual fear learning and alters choline levels in hippocampus. S. J. HERSMAN*; J. CUSHMAN; K. WASSUM; M. S. FANSELOW; S. LOTFIPOUR. *UCLA.*

9:00 C3 **126.06** Cholinergic modulation of the gain of hippocampal CA1 pyramidal neuron is synaptic input layer-dependent. K. PARK*; J. KWAG. *Korea Univ.*

10:00 C4 **126.07** ● Dissecting the roles of M1 and M4 receptors in CA1 excitatory transmission. C. A. THORN*; J. EDGERTON. *Pfizer Inc.*

11:00 C5 **126.08** ● Effects of M1 and M4 muscarinic receptor activators on rat hippocampal neuron activity. E. UYKAL; S. J. NEAL; S. GRIMWOOD; J. R. EDGERTON*. *Pfizer, Inc, Novartis, Inc.*

8:00 C6 **126.09** ● Characterization of a novel M1 mAChR positive allosteric modulator radioligand, [$^{3}$H]PF-1284. D. L. SMITH*; J. E. DAVOREN; J. T. LAZZARO; L. ZHANG; S. GRIMWOOD. *Pfizer Inc, Pfizer Inc, Pfizer Inc.*

9:00 C7 **126.10** Interplay between cholinergic and galaninergic modulation of GABA release in the basal forebrain. J. C. DAMBORSKY*; J. L. YAKEL. *NIEHS.*

**POSTER**

**127. Signal Propagation**

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

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

8:00 C8 **127.01** Firing statistics of parvalbumin neurons are selectively altered under isoflurane anesthesia. A. E. HUDSON*; J. T. TRACHTENBERG. *David Geffen Sch. of Medicine, UCLA, David Geffen Sch. of Medicine, UCLA.*

9:00 C9 **127.02** Coordinated activation of neuronal patterns in synchrony of dissociated cortical neurons. Y. YADA*; R. KANZAKI; H. TAKAHASHI. *The Univ. of Tokyo, The Univ. of Tokyo, JSPS Res. Fellow.*

10:00 C10 **127.03** The dependence of the structural and functional changes of inhibitory neurons and glial cells of the human neocortex during chronic ischemia. V. AKULININ*; S. S. STEPANOV; A. SERGEEV; A. MYTSIK. *Omsk State Med. Acad., Omsk State Med. Univ.*

11:00 C11 **127.04** A long-range disinhibitory circuit between the hippocampal area CA1 and the subiculum. R. FRANCAVILLA; E. P. MUNOZ; S. CHAMBERLAND; X. LUO; O. CAMIRE; K. WAGNER; P. SOMOGYI; L. TOPOLNIK*. *CRIUSMQ, Laval Univ., Oxford Univ.*

8:00 C12 **127.05** Investigation of theta-gamma coupled cortical traveling waves based on electrocorticography. Y. PARK; T. KIM; J. KIM; J. PARK; J. KANG; I. KIM; D. JANG*. *Hanyang Univ., Asan Meidcal Ctr.*

9:00 C13 **127.06** Abnormal cell-intrinsic excitability and cortical network activity in serotonin-deficient mice. R. FERNANDEZ GALAN*; P. A. PUZEREY; N. X. KODAMA. *Case Western Reserve Univ., Case Western Reserve Univ.*

10:00 C14 **127.07** ▲ Imaging neuronal network activity with 2D electrode arrays. N. KODAMA*; P. PUZEREY; R. FERNANDEZ GALAN. *Case Western Reserve Univ., Cornell Univ., Case Western Reserve Univ.*

11:00 C15 **127.08** Disinhibitory control of CA1 signal propagation through 5HT3a+ interneurons. B. SUUTARI*; R. W. TSIEN. *NYU Neurosci. Inst.*

8:00 C16 **127.09** Neuronal avalanches during motor and cognitive tasks in macaque monkeys. S. YU*; T. LINS RIBEIRO; S. CHOU; A. MITZ; R. SAUNDERS; D. PLENZ. *Natl. Inst. of Mental Hlth., Inst. of Automation, Natl. Inst. of Mental Hlth.*

9:00 C17 **127.10** Dynamic activation of feedforward and feedback inhibition enables reliable propagation of sparse *in vivo* spike patterns in feedforward network. H. JANG*; J. KWAG. *Korea Univ., Korea Univ.*

10:00 C18 **127.11** Exactly solved models of neuronal spike statistics with absolute refractory period. S. CHANDRA*; B. RICHMOND. *NIH.*

11:00 C19 **127.12** A novel Carbon Nanofibers-based 3D nanoscaffold to promote regrowth and bridging between cultured spinal explants. S. USMANI*; E. AURAND; D. SCAINI; S. BOSI; M. MEDELIN; M. PRATO; L. BALLERINI. *SISSA, Univ. of Trieste, SISSA.*

8:00 C20 **127.13** Recurrent neuronal microcircuits of the medial septum control locomotor activity. L. SOSULINA*; H. KANEKO; F. FUHRMANN; D. JUSTUS; T. BEUTEL; D. FRIEDRICHS; S. SCHOCH; M. K. SCHWARZ; M. FUHRMANN; S. REMY. *German Ctr. for Neurodegenerative Dis., Dept. of Epileptology, Univ. of Bonn Med. Ctr., Section of Translational Epilepsy Research, Dept. of Neuropathology, Univ. of Bonn Med. Ctr., Functional Neuroconnectomics Group, Dept. of Epileptology, Life & Brain Center, Univ. of Bonn, Med. Sch., Neuroimmunology and Imaging Group, German Ctr. for Neurodegenerative Dis.*

9:00 C21 **127.14** Emergent frequency components by non-linear dynamics of pyramidal cells in visual cortex. N. KOGO*. *Univ. of Leuven.*



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

10:00 C22 **127.15** 3-D appealing: Novel nanostructured CNT scaffolds induce three-dimensional neuronal network reconstruction and potentiated signalling. D. SCAINI*; R. RAUTI; S. BOSI; M. PRATO; L. BALLERINI. *Univ. of Trieste, S.I.S.S.A.*

11:00 C23 **127.16** Spatial motifs in a living engineered hippocampal circuit. G. J. BREWER*; A. BHATTACHARYA; T. B. DEMARSE; B. C. WHEELER; H. DESAI. *UC Irvine, Univ. of Florida.*

8:00 C24 **127.17** Ensemble methods enhance the identification of synaptic connections from multineuronal activity patterns. D. Y. LITTLE*; B. CHAMBERS; J. DECHERY; J. N. MACLEAN. *Univ. of Chicago.*

9:00 C25 **127.18** A small world of synaptic integration. B. CHAMBERS*; J. N. MACLEAN. *Univ. of Chicago, MacLean Lab.*

10:00 C26 **127.19** Optical adapter for two photon deep brain imaging. G. JUHASZ*; L. JUDAK; G. KATONA; B. ROZSA. *Pazmany Peter Catholic Univ., Inst. of Exptl. Medicine, Hungarian Acad. of Sci.*

11:00 C27 **127.20** Intrastriatal inhibition by somatostatin expressing neurons. M. C. DORST*; M. ZHOU; I. LAZARIDIS; S. KIAN TAI; K. MELETIS; G. SILBERBERG. *Karolinska Institutet, Karolinska Institutet.*

8:00 C28 **127.21** Non-parabolic unfolding of neuronal avalanches recorded in the awake monkey. S. R. MILLER*; D. PLENZ; S. YU. *UMCP, Natl. Inst. of Mental Hlth.*

9:00 C29 **127.22** Neural correlations mediate feature invariant responses. M. G. METZEN*; M. J. CHACRON. *McGill Univ., McGill Univ.*

10:00 C30 **127.23** An activity dependent feedback inhibitory loop in mouse presubiculum. J. SIMONNET*; M. NASSAR; B. MATHON; I. COHEN; C. N. BOCCARA; R. MILES; D. FRICKER. *Humboldt Univ. zu Berlin, INSERM U1127 / CNRS UMR7225, Inst. du Cerveau et de la Moelle Epinière, CNRS UMR 8246 / INSERM U1130, Neurosci. Paris Seine, IST Austria, Am Campus 1.*

11:00 C31 **127.24** Spike frequency adaptation regulates network sensitivity to synaptic heterogeneities in a cortical model of cholinergic modulation. J. P. ROACH*; L. M. SANDER; E. BEN-JACOB; M. ZOCHOWSKI. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Tel-Aviv Univ., Rice Univ., Univ. of Michigan.*

8:00 C32 **127.25** Optical flow platform for analyzing voltage sensitive dye imaging of evoked and spontaneous activity to quantify velocity and direction, source and sink points, and tracking activity trajectory. N. AFRASHTEH*; M. KYWERIGA; M. HEIDARI MOHAJERANI. *Univ. of Lethbridge, Univ. of Lethbridge.*

9:00 C33 **127.26** Mechanosensitivity of isolated enteric neuronal networks. G. MAZZUOLI*; E. M. KUGLER; K. MICHEL; F. ZELLER; M. SCHEMANN. *Technische Univ. München, Dept. of Surgery, Klinikum Freising.*

10:00 C34 **127.27** Neural network properties can be inferred from electrophysiological power spectral geometry. T. J. NOTO*; R. GAO; E. PETERSON; B. VOYTEK. *UC San Diego.*

11:00 C35 **127.28** Dynamic shifts in large-scale functional connectivity predict transitions in brain state. I. M. STITT*; K. HOLLENSTEINER; E. GALINDO-LEON; F. PIEPER; E. FIEDLER; T. STIEGLITZ; G. ENGLER; A. K. ENGEL. *Dept. of Neurophysiol. and Pathophysiology, Dept. of Microsystems Engineering, Univ. of Freiburg.*

**POSTER**

**128. Astrocytes: Profiling and Modulation**

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

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

8:00 C36 **128.01** Protein arginine methyltransferase1 regulates astrocyte differentiation of neural stem cells through the modification of STAT3. M. HONDA*; S. KATADA; K. NAKASHIMA. *Grad. Sch. of Med. Science, Kyushu Univers.*

9:00 C37 **128.02** ▲ Neuroprotective effect of 7,8-dihydroxyflavone on serum deprived C8D1A astrocyte cells. V. J. SHUKLA*; D. PATEL; A. TRIPATHI; S. MAKAR; P. GUDA; J. BHUJU; C. BEVER; D. TRISLER; S. JUDGE; S. RAY. *Univ. of Maryland, VA Maryland Hlth. care system.*

10:00 C38 **128.03** Effects of hypotonicity on primary rat astrocytes. S. B. RAO; H. B. BOLDT; D. S. Y. LEUNG; R. TORP*; M. R. AMIRY-MOGHADDAM. *Inst. of Basic Med. Sci. Univ. of Oslo.*

11:00 C39 **128.04** Microfluidic platform for the study of water transport in astrocytes. J. M. LECHOWICZ*; J. XU; S. T. ALFORD; A. A. LINNINGER. *Univ. of Illinois At Chicago, Univ. of Illinois At Chicago, Univ. of Illinois At Chicago.*

8:00 C40 **128.05** Mechanisms responsible for limited astrocytic glutamate release during pathological cell swelling. A. L. SCHOBER; A. A. MONGIN*. *Albany Med. Col., Albany Med. Col.*

9:00 C41 **128.06** Attenuation of astrocyte swelling by adrenergic activation: A new strategy for rescuing cells in neural edema. N. VARDJAN*; A. HORVAT; J. E. ANDERSON; D. YU; D. CROOM; X. ZENG; Z. LUŽNIK; M. KREFT; Y. D. TENG; S. A. KIROV; R. ZOREC. *Fac Med, Univ. Ljubljana, Celica BIOMEDICAL, Harvard Med. Sch., Brain and Behavior Discovery Institute, Georgia Regents Univ., Med. Col. of Georgia, Georgia Regents Univ., Biotechnical Faculty, Univ. Ljubljana, Div. of SCI Research, VA Boston Healthcare Syst.*

10:00 C42 **128.07** Quantitative evaluation of optogenetically-induced calcium signaling in astrocytes. L. BALACHANDAR*; A. RAYMOND; A. OROZCO; J. RIERA DIAZ. *Florida Intl. Univ., Florida Intl. Univ., Florida Intl. Univ.*

11:00 C43 **128.08** Calcium signaling in astrocytes quantified through experimental measurements and mathematical modeling. M. TAHERI*; G. HANDY; A. BORISYUK; J. A. WHITE. *Univ. of Utah, Univ. of Utah, Univ. of Utah, Boston Univ.*

8:00 C44 **128.09** Calcium regulates mitochondrial mobility and mitochondria regulate calcium signaling in astrocyte processes. J. G. JACKSON*; D. A. COULTER; M. B. ROBINSON. *Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia, Univ. of Pennsylvania, Children's Hosp. of Philadelphia, Univ. of Pennsylvania.*



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

9:00 C45 **128.10** Astrocyte calcium dynamics during early and late juvenile periods in the mouse hippocampus. R. NAKAYAMA*; T. SASAKI; Y. IKEGAYA. *The Univ. of Tokyo.*

10:00 C46 **128.11** Astrocyte microdomain $Ca^{2+}$ channels transients arise from transient opening of the mitochondrial permeability transition pore. A. AGARWAL*; P. WU; E. G. HUGHES; M. FUKAYA; M. A. TISCHFIELD; J. NATHANS; D. WIRTZ; D. E. BERGLES. *Johns Hopkins Univ., Johns Hopkins Univ., Kitasato University, Sch. of Med., Johns Hopkins Univ.*

11:00 C47 **128.12** Specific patterns of synaptic activity alter astrocyte resting calcium. E. MEHINA*; G. GORDON. *Univ. of Calgary.*

8:00 C48 **128.13** LPA-LPAR1 signaling modulates astrocyte reactivation in neurodegeneration. L. TSAI; Y. LEE; C. WANG*; J. LIANG; P. HSU; F. SHIE. *Natl. Hlth. Res. Inst., Natl. Yang-Ming Univ., Chang Gung Univ.*

9:00 C49 **128.14** Neural microcircuit specific astrocyte transcriptomes and proteomes. B. DÍAZ CASTRO*; H. CHAI; F. GAO; E. MONTE; G. COPPOLA; J. WHITELEGGE; T. M. VONDRISKA; B. S. KHAKH. *UCLA.*

10:00 C50 **128.15** Morphologic, phenotypic, and transcriptomic analyses of post-stroke reactive astrocyte heterogeneity: Bridging structure and function. A. J. GLEICHMAN*; R. KAWAGUCHI; M. V. SOFRONIEW; G. COPPOLA; S. CARMICHAEL. *UCLA, UCLA.*

11:00 C51 **128.16** Acute purification and transcriptome profiling of human astrocytes. Y. ZHANG*; S. A. SLOAN; L. E. CLARKE; C. CANEDA; M. HAYDEN-GEPHART; G. A. GRANT; S. H. CHESHIER; M. S. EDWARDS; G. LI; G. K. STEINBERG; H. VOGEL; P. BLUMENTHAL; B. A. BARRES. *Stanford Univ.*

8:00 C52 **128.17** Diurnal influences on regional astrocyte morphological functional plasticity. S. IRVING*; M. GILLETTE; J. MITCHELL. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign.*

9:00 C53 **128.18** Impact of thyroid hormone on glial function and morphology. M. NODA*; J. LIU; Y. YOSHII; Y. YOSHIOKA. *Kyushu Univ.*

10:00 C54 **128.19** Molecular heterogeneous atlas of adult mouse and fly astroglia. Y. YANG*; L. MOREL; Y. HUANG; S. NG; M. TOLMAN; F. NG; N. BOWENS; S. SENGUPTA; L. IYER; R. JACKSON. *Tufts Univ. Sch. of Med.*

11:00 C55 **128.20** Molecularly defined astrocyte subpopulations in adult CNS and their response to neurodegenerative disease injury. S. J. MILLER*; T. PHILIPS; M. ROBINSON; R. SATTLER; J. D. ROTHSTEIN. *Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Univ. of Pennsylvania.*

8:00 C56 **128.21** ● Locally translated proteins in peripheral astrocyte processes. K. SAKERS*; J. D. DOUGHERTY. *Washington Univ. Sch. of Med. in St Lou.*

9:00 C57 **128.22** Novel applications of magnetic sorting to analyze cell-type specific gene and protein expression in a mouse model of Rett Syndrome. L. HOLT*; N. PACHECO; M. OLSEN. *Univ. of Alabama At Birmingham.*

10:00 C58 **128.23** Defining gene expression and protein secretion signatures in murine primary glia. Y. HE*; N. TAYLOR; X. YAO; T. LOVENBERG; A. BHATTACHARYA. *Janssen Res. & Develop. LLC., Janssen Res. & Develop. LLC.*

11:00 C59 **128.24** ▲ The significance and mechanism of differential expression of GDNF splice variants in glioma cells. H. LI; D. GAO*. *Xuzhou Med. Col., Affiliated Hosp. of Xuzhou Med. Col.*

8:00 C60 **128.25** Tridimensional culture induces neuronal differentiation in a commercial normal human astrocyte cell line (NHA). V. B. KNIGHT*; E. E. SERRANO. *New Mexico State Univ.*

9:00 C61 **128.26** TAMRA-conjugated spermine is selectively taken up by glial cells in the rodent brain and retina. J. BENEDIKT*; A. ZAYAS-SANTIAGO; Y. RIVERA; Y. KUCHERYAVYKH; L. KUCHERYAVYKH; L. CUBANO; M. EATON; R. VEH; C. NICHOLS; S. SKATCHKOV. *Univ. Central Del Caribe, Univ. Central Del Caribe, Charite, Inst. of Integrative Anat., Washington Univ. Sch. of Med.*

**POSTER**

**129. Brain Wellness**

***Theme C: Disorders of the Nervous System***

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

8:00 C62 **129.01** Differences in resting state functional connectivity between aerobic athletes and sedentary young adults. D. RAICHLEN*; P. K. BHARADWAJ; M. C. FITZHUGH; K. A. HAWS; G. A. TORRE; T. P. TROUARD; G. A. ALEXANDER. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

9:00 C63 **129.02** The role of pericytes in cerebrovascular metabolism. A. RAMANATHAN*; K. KISLER; A. M. NIKOLAKOPOULOU; A. P. SAGARE; B. V. ZLOKOVIC. *USC.*

10:00 C64 **129.03** Effects of high-sucrose diet on cognitive function in a rat model of metabolic syndrome. S. HERNANDEZ RAMIREZ*; K. R. GUZMÁN-RAMOS; M. VELASCO; D. OSORIO-GÓMEZ; L. F. RODRÍGUEZ-DURÁN; M. L. ESCOBAR; F. BERMUDEZ-RATTONI; M. HIRIART. *Inst. De Fisiología Celular, UNAM, Univ. Autónoma Metropolitana-Lerma, Inst. De Fisiología Celular, UNAM, Facultad de Psicología, UNAM.*

11:00 C65 **129.04** Transcriptional profiling of deep brain stimulation in an animal model of antidepressant treatment resistance. S. MACHLOVI*; N. KONSTANTOPOULOS; S. L. SUTOR; K. O'CONNOR; A. J. WALKER; A. SANIGORSKI; Y. KIM; M. FRYE; S. TYE. *Mayo Clin., Deakin Univ., Mayo Clin., Deakin Univ., Deakin Univ.*

8:00 C66 **129.05** Anesthesia-induced changes in mouse brain glucose uptake are region-dependent. P. BASCUÑANA*; J. T. THACKERAY; F. M. BENGEL; J. P. BANKSTAHL. *Hannover Med. Sch.*

9:00 C67 **129.06** The combination of alcohol and energy drinks contributes to metabolic and neurodegenerative impairment in rats. B. VENEGAS MENESES*; S. TREVIÑO; A. HANDAL; J. MORAN; P. AGUILAR-ALONSO; G. FLORES; J. GUEVARA; A. DÍAZ. *Benemerita Univ. Autónoma De Puebla, Facultad de Medicina, UNAM.*



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

10:00 C68 **129.07** Strain-related modulation of Cu(I)-ATPase in prion protein-deficient mice. J. A. NOVAES*; R. R. H. F. VALVERDE; A. VIEYRA; J. LOWE; R. LINDEN. *Univ. Federal do Rio de Janeiro, Univ. Federal do Rio de Janeiro.*

11:00 C69 **129.08** Regulatory aspects of exercise in mitochondrial remodeling in t2d diabetes. A. KALANI; P. K. KAMAT; P. CHATURVEDI; L. W. WINCHESTER; S. C. TYAGI; N. TYAGI*. *Univ. of Louisville, Univ. of Louisville, Univ. Of Louisville.*

8:00 C70 **129.09** Chocolate and the brain: Cocoa modulates various levels of sensory awareness and increases power spectral density (μV2) of EEG gamma wave band frequency 31-40Hz associated with brain, mental and physiological benefits. L. S. BERK*; E. LOHMAN; G. BAINS; N. DESAI; B. MADANE; D. MALI; J. BRADBURN; S. SHAH; S. IYER; S. JUNEJA; R. MOHITE; J. LEE. *Schl Allied Hlth. Prof, Loma Linda Univ., Sch. of Medicine, Loma Linda Univ., Loma Linda Univ.*

9:00 C71 **129.10** A high calorie diet causes metabolic syndrome and oxidative stress into hippocampus and temporal cortex of rats with impairment memory. A. D. DIAZ*; P. AGUILAR-ALONSO; J. FLORES-HERNANDEZ; V. TOXQUI; J. GUEVARA; G. FLORES; G. LOPEZ-LOPEZ; G. MUÑOZ-ARENAS; E. BRAMBILA; S. TREVIÑO. *Facultad De Ciencias Quimicas, BUAP, Facultad de Ciencias Químicas, BUAP, Facultad de Medicina, UNAM, Inst. de Fisiologia, BUAP.*

10:00 C72 **129.11** Examining the effects of kale, arugula, and dandelion greens on memory in obese pre-diabetic C57BL/6 mice. B. TENG*; D. FOSTER; L. BANNER. *California State Univ. Northridge.*

11:00 C73 **129.12** Physical fitness in early adulthood: A modifiable risk factor for neurological and psychiatric disorders. G. KUHN*; J. NYBERG; N. D. ABERG; M. WAERN; A. WALLIN; K. TORÉN; M. NILSSON; M. A. I. ABERG. *Univ. of Gothenburg, Univ. of Gothenburg, Univ. of Gothenburg, Univ. of Newcastle.*

8:00 C74 **129.13** The role of epigenetic on mediating the action of diet on brain and body metabolism. Z. YING*; E. TYAGI; F. GOMEZ-PINILLA. *UCLA, UCLA.*

9:00 C75 **129.14** Energetic cost of a running wheel: Implications for exercise-based weight loss interventions. T. J. O'NEAL*; D. M. FRIEND; A. V. KRAVITZ. *NIDDK/NIH.*

10:00 C76 **129.15** The Wnt signaling pathways modulates mitochondrial fusion in hippocampal neurons. C. SILVA-ALVAREZ*; V. EISNER; N. C. INESTROSA. *Pontifical Catholic Univ. of Chile, Ctr. of Aging and Regeneration (CARE), Ctr. of Excellence in Biomedicine of Magallanes (CEBIMA), Univ. of Magallanes.*

11:00 C77 **129.16** ▲ Bilingualism prevents cortical surface area reduction during brain aging. L. LI*; J. ABUTALEBI; G. GONG; L. ZOU; X. YAN; G. DING. *Beijing Normal Univ., Univ. Vita Salute San Raffaele, Zaozhuang Univ.*

8:00 C78 **129.17** ● A personalized, molecular diagnosis of Lafora disease patient mutations via structural insights. M. S. GENTRY*; M. RATHTHAGALA; M. K. BREWER; C. W. VANDER KOOI. *Univ. of Kentucky, Univ. of Kentucky.*

9:00 C79 **129.18** Saving Football: Using the repulsive force of magnets to reduce impact forces during helmet collisions. R. J. COLELLO*. *Virginia Commonwealth Univ.*

10:00 C80 **129.19** Appetitive resistance training protocol has an anxiolytic effect on male, Long-Evans rats. R. A. COUNTRYMAN*; R. C. CROUCH; N. O. V. CUNNINGHAM. *Austin Col.*

11:00 C81 **129.20** Different types of exercise induce distinct changes in the expression of synaptic proteins in the motor cortex and prefrontal cortex of adult and aged rats. R. M. S. GUTIERREZ; C. R. SCARANSI; C. C. REAL; S. R. M. ORTIZ; L. R. G. BRITTO; R. S. PIRES*. *Univ. Cidade de São Paulo, Univ. Cidade de São Paulo, Univ. of São Paulo, Univ. Cidade de São Paulo, Univ. Cidade De São Paulo.*

8:00 C82 **129.21** Reward experience determines the selection of behavioral strategies to maximize foraging efficiency. A. STOLYAROVA*; A. B. THOMPSON; A. IZQUIERDO. *UCLA.*

9:00 C83 **129.22** Maternal obesity alters fetal brain development. N. MERABOVA*; N. DARBINIAN; G. TATEVOSIAN; R. A. SIMMONS; L. GOETZL. *Temple Univ. Sch. of Med., Univ. of Pennsylvania, Temple Univ. Sch. of Med.*

**POSTER**

**130. Alzheimer's Disease: *In Vivo* Experimental Therapeutics**

***Theme C: Disorders of the Nervous System***

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

8:00 C84 **130.01** Exploring the biological and behavioral effects of methylene blue on a triple transgenic mouse model of Alzheimer's disease. D. A. MITRANO*; K. JACKSON; S. FINK; Q. PACE; B. GENOVESE; N. KHAN; H. GRAU; L. SMITH WEBB. *Christopher Newport Univ., Christopher Newport Univ.*

9:00 C85 **130.02** Soy flavonoids prevent beta-amyloid-induced degenerative changes of the enteric nervous system of the mouse: Relevance to the treatment of Alzheimer's disease. Y. LIU*; G. LIN; M. FANG; J. A. RUDD. *Chinese Univ. of Hong Kong, Chinese Univ. of Hong Kong, Zhejiang Univ. Sch. of Med., Brain and Mind Inst.*

10:00 C86 **130.03** Short term fish oil dietary supplementation reduces plaque load in 5xFAD female mice. M. BRKIC*; D. MILANOVIC; M. PEROVIC; V. TESIC; S. RUZDIJIC; S. IVKOVIC; S. KANAZIR. *Inst. For Biol. Res.*

11:00 C87 **130.04** A western diet exacerbates plaque load and plaque-associated TREM2+ cells in a mouse model of Alzheimer's disease. L. C. GRAHAM*; J. M. HARDER; I. SOTO; W. N. DE VRIES; S. W. M. JOHN; G. R. HOWELL. *The Jackson Lab.*

8:00 C88 **130.05** Near infrared light treatment reduces amyloid beta oligomer binding to synapses in a transgenic mouse model of Alzheimer's disease. M. M. COMEROTA*; G. TAGLIALATELA. *Univ. of Texas Med. Br., Univ. of Texas Med. Br.*

9:00 C89 **130.06** Neuro-EPO, an intranasally deliverable low sialic acid formulation of erythropoietin, is neuroprotective in the APPSwe mouse model of Alzheimer's disease. T. MAURICE*; Y. RODRIGUEZ CRUZ; M. STREHAIANO; J. C. GARCIA RODRIGUEZ. *INSERM U 1198, Preclinical and Basic Sci. Institute; Havana Med. Univ., Havan Med. School, Fac. Victoria de Giron.*

10:00 C90 **130.07** Inhibition of Amyloid beta accumulation by SAK3 as an Alzheimer's disease drug candidate. H. IZUMI*; Y. SHINODA; Y. YABUKI; K. FUKUNAGA. *Tohoku Univ. Grad Sch. Pharm Sci.*

11:00 C91 **130.08** Neuroprotection of medial septal cholinergic neurons by memantine after intralateral septal injection of aβ1-40. M. T. CASTANEDA*; E. LOPEZ; H. RODRIGUEZ; A. TOUHAMI; J. RODRIGUEZ; M. ORTEGA; R. TOVAR. *Univ. of Tamaulipas, Univ. of Texas at Brownsville, Univ. of Texas at Brownsville.*

8:00 C92 **130.09** Inhibition of phosphodiesterase 2 reverses β-amyloid-induced memory impairment: Involvement of anti-inflammatory and anti-apoptotic responses. Y. XU*; J. PAN; Y. YU; X. XU; Z. CHEN; W. HUANG; L. LIAN; H. ZHANG; J. M. O'DONNELL. *State Univ. of New York at Buffalo, Brain Institute, Wenzhou Med. Univ., Wenzhou Third People's Hospital, Wenzhou Med. Univ., Nanjing Med. Univ. Affiliated Changzhou Second People's Hosp., West Virginia Univ.*

9:00 C93 **130.10** Sodium butyrate ameliorates memory deficit,increases neurogenesis and reduces inflammation in presenilins-deficient mice. C. LI*; X. ZHOU; T. CAO; Y. CUI; H. WANG. *Inst. of Cognitive Neurosci., Sch. of Psychology and Cognitive Neurosicence, East China Normal Univ.*

10:00 C94 **130.11** ● Treatment with the diabetic medication, glibenclamide, improves disease pathology in the APPswe/PSEN1dE9 mouse model of Alzheimer's disease. E. E. CAESAR; S. L. MACAULEY*; M. STANLEY; T. E. MAHAN; D. M. HOLTZMAN. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*

11:00 C95 **130.12** C-terminal fragment of tetanus toxin protects against cholinotoxicity by intraseptal injection of β-amyloid peptide (25-35) in rats. A. PATRICIO*; L. MENDIETA; I. MARTÍNEZ; O. REYES CASTRO; V. ALEMÁN ALEMÁN; J. AGUILERA; I. LIMÓN. *Benemérita Univ. Autónoma De Puebla, Consejo Superior de Investigaciones Científicas (CSIC), Benemerita Univ. Autonoma De Puebla, Ctr. de Investigación y Estudios Avanzados del Inst. Politécnico Nacional (CINVESTAV), Univ. Autònoma de Barcelona (UAB).*

8:00 C96 **130.13** Amyloid beta toxicity induces autophagic flux via sequestosome-1 mediated alpha-7 nicotinic acetylcholine receptor activation; Role of resveratrol as homeostatic regulator. C. KARTHICK*; S. PERIYASAMY; K. JAYACHANDRAN; M. ANUSUYADEVI. *Bharathidasan Univ., Bharathidasan Univ., Bharathidasan Univ., Bharathidasan Univ.*

9:00 D1 **130.14** Reducing S6K1 levels improves cognitive and synaptic deficits in a mouse model of Alzheimer's disease. A. CACCAMO*; C. BRANCA; J. TALBOOM; D. SHAW; D. TURNER; L. MA; A. MESSINA; Z. HUANG; J. WU; S. ODDO. *Banner Sun Hlth. Res. Inst., Dept. of Biological, Geological and Envrn. Sciences, Univ. of Catania, Italy, Dept. of Basic Med. Sciences, Univ. of Arizona Col. of Medicine-Phoenix, Divisions of Neurol. and Neurobiology, Barrow Neurolog. Institute, St. Joseph's Hosp. and Med. Ctr.*

10:00 D2 **130.15** PRAS40 as a novel therapeutic target for Alzheimer's disease. R. VELAZQUEZ*; D. M. SHAW; J. S. TALBOOM; S. ODDO. *Banner Sun Hlth. Res. Inst., Univ. of Arizona Col. of Medicine-Phoenix.*

11:00 D3 **130.16** ● Effects of NPT088, a novel fusion protein bivalent for a General Amyloid Interaction Motif (GAIM), on behavior, neuropathology and CSF biomarkers in transgenic mice. J. C. CARROLL*; J. M. LEVENSON; S. SCHROETER; E. ASP; M. PROSCHITSKY; V. CULLEN; C. CHUNG; H. TSUBERY; R. KRISHNAN; B. SOLOMON; R. FISHER; K. GANNON. *NeuroPhage Pharmaceuticals, Tel Aviv Univ.*

8:00 D4 **130.17** Docosahexaenoic acid intake improve visual memory and decreases the lipolysis-lipoprotein stimulated receptor (LSR) in mice knock-in for human APOE. A. G. PINÇON*; J. COULOMBE; R. CHOUINARD-WATKINS; M. PLOURDE. *Univ. De Sherbrooke, Univ. de Sherbrooke.*

9:00 D5 **130.18** Combined secretase modulation therapy provides cognitive benefit and ameliorates cerebral amyloid pathology in transgenic mice. T. MORI*; N. KOYAMA; J. TAN; T. TOWN. *Saitama Med. Ctr./Univ., Silver Child Develop. Ctr., Zilkha Neurogenetic Inst.*

10:00 D6 **130.19** ● Repeated intravenous administration of human adult ischemia-tolerant mesenchymal stem cells reduces Abeta amyloid pathology in a mouse model of Alzheimer's disease. T. BOLMONT*; T. HARACH; T. LASSER; A. LUKASHEV. *EPFL STI IMT LOB, Stemedica Intl.*

11:00 D7 **130.20** APPSweDI mice have severe olfactory deficits and olfactory bulb pathology, treatment with Dpeptide improves outcome. T. VAN GROEN*; I. KADISH; A. KUMAR; D. WILLBOLD. *Univ. Alabama-Birmingham, Forschungszentrum Juelich.*

8:00 D8 **130.21** ● Potential memory restorative effects of a neurotrophic factor mimetic in an aged, transgenic mouse model of Alzheimer's disease. L. S. HONICAN*; J. BURRILL; A. E. CASLER; J. E. GEORGAKAS; D. S. ADAMS; M. D. SPRITZER. *Middlebury Col., Worcester Polytechnic Inst.*

**POSTER**

**131. Alzheimer's Disease: Synaptic and Neuronal Dysfunction**

***Theme C: Disorders of the Nervous System***

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

8:00 D9 **131.01** Increased APP intracellular domain (AICD) production perturbs synaptic signal integration via increased NMDAR function. P. A. POUSINHA*; E. RAYMOND; X. MOUSKA; M. WILLEM; H. MARIE. *CNRS IPMC UMR 7275, Ludwig-Maximilians-University Munich.*

9:00 D10 **131.02** CREB is a target for the physiological signaling pathway activated by beta-amyloid monomers. M. GIUFFRIDA; G. PANDINI; A. G. COPANI*; E. RIZZARELLI. *CNR-IBB, Univ. of Catania, CNR-IBB.*

10:00 D11 **131.03** The effect of the mitochondria-targeted antioxidant MitoQ on memory retention and neuropathology in aged 3xTg-AD mice. M. L. YOUNG; M. PATEL; J. L. FRANKLIN*. *Univ. Georgia, Univ. Georgia.*

11:00 D12 **131.04** Mitochondrial dysfunction and cellular toxicity by mitochondria-targeted amyloid β. D. KIM*; M. CHA; H. SONG; I. MOOK-JUNG. *Seoul Natl. University, Grad. Sch.*



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

8:00 D13 **131.05** O-GlcNAcylation of amyloid-b precursor protein at T576 regulates trafficking and processing. O. KWON*; Y. CHUN; Y. PARK; H. OH; S. CHUNG. *Sungkyunkwan Univ. Sch. of Med.*

9:00 D14 **131.06** Direct *in vivo* assessment of glutamate dysfunction in APPPS1 transgenic mice. J. K. HEFENDEHL*; J. LEDUE; R. KO; T. MURPHY; B. A. MACVICAR. *Djavad Mowafaghian Ctr. For Brain Health, UBC, UBC.*

10:00 D15 **131.07** Neuronal activity enhances APP processing in cultured neurons. K. SAITO; K. KASUGA; T. IKEUCHI*. *Niigata University, Brain Res. Inst.*

11:00 D16 **131.08** The analysis of endosomal proteins, which specifically interact with APP-βCTF. N. TAKASUGI*; T. SAKURAI. *Juntendo Univ. Sch. of Med.*

8:00 D17 **131.09** Reduced dynamin-related protein 1 protects against phosphorylated tau, mitochondrial dysfunction and synaptic damage in Alzheimer's disease. R. KANDIMALLA*; M. MANCZAK; A. PANDEY; C. KURUVA; D. FRY; X. YIN; C. OSBORN; S. YEGUVAPALLI; P. REDDY. *Texas Tech. Univ., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*

9:00 D18 **131.10** Synaptic gene expression analysis of autopsy brains from garrison institute on aging brain bank: Eva-green biochemistry based real-time rt-pcr detects mrna levels better than sybr-green. A. K. PANDEY*; M. MANCZAK; R. KANDIMALLA; X. YIN; C. KURUVA; P. REDDY. *Texas Tech University Health Sciences Center, Texas Tech University Health Sciences Center, Texas Tech University Health Sciences Center, Texas Tech University Health Sciences Center.*

10:00 D19 **131.11** ● *in vivo* electrophysiological profile of tg-2576 mice. H. ROBB*; P. VESELCIC; K. WICKE; L. RUETER; K. KOHLHAAS. *AbbVie, Inc, Abbvie Germany Gmbh & Co KG.*

11:00 D20 **131.12** Synaptic hyperactivity and BDNF induction are early neuronal responses to sub-lethal beta-amyloid concentrations in organotypic hippocampal cultures. S. MERLO; S. F. SPAMPINATO; M. SORTINO*. *Univ. of Catania, Univ. of Catania.*

8:00 D21 **131.13** Reduced dynamin-related protein 1 protects against amyloid beta, mitochondrial toxicities and synaptic damage in Alzheimer's disease. M. MANCZAK*; R. KANDIMALLA; A. PANDEY; X. YIN; C. KURUVA; S. YEGUVAPALLI; D. FRY; C. OSBORN; P. REDDY. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*

9:00 D22 **131.14** Induction of phosphorylated tau in synapse from AD model mice. T. KAWARABAYASHI*; T. NAKAMURA; T. NAKATA; Y. WAKASAYA; N. NAKAHATA; M. SHOJI. *Hirosaki Univ. Grad. Sch. of Med., Hirosaki Univ. Grad. Sch. of Med.*

10:00 D23 **131.15** NMDA receptor regulation by endogenous ceramide in the hippocampus. S. ATTIORI ESSIS*; M. LAURIER-LAURIN; M. CYR; G. MASSICOTTE. *Univ. Du Québec À Trois-Rivières, Univ. Du Quebec a Trois-Rivieres.*

11:00 D24 **131.16** Mitochondrial dysfunction in 3xTg mouse brain is accompanied by deficits in Complex I. J. DJORDJEVIC*; S. ROY CHOWDHURY; W. M. SNOW; D. MCALLISTER; C. CADONIC; E. THOMSON; P. FERNYHOUGH; B. C. ALBENSI. *St. Boniface Hosp. Res., St. Boniface Hosp. Res., Univ. of Manitoba, Univ. of Manitoba.*

8:00 D25 **131.17** CRTC1 activates a memory-related transcriptional program deregulated at early Alzheimer's disease pathological stages. A. J. PARRA-DAMAS*; J. VALERO; M. CHEN; J. ESPAÑA; E. MARTIN; J. RODRÍGUEZ-ALVAREZ; C. A. SAURA. *Inst. De Neurociències.*

9:00 D26 **131.18** Visual system dysfunction in a murine model of Alzheimer's disease. L. DOMENICI*; C. CRISCUOLO; S. CAPSONI; E. CERRI; A. CATTANEO. *CNR, Univ. of L'Aquila, Scuola Normale Superiore, EBRI.*

10:00 D27 **131.19** Aberrant dynamics of hippocampal neural stem cells in Alzheimer's disease transgenic mice. C. H. FU*; D. IASCONE; A. HAZRA; M. PYFER; X. ZHANG; J. CHIN. *Thomas Jefferson Univ.*

11:00 D28 **131.20** GLUT1 reductions exacerbate Alzheimer's disease vasculo-neuronal dysfunction and degeneration. A. P. SAGARE*; E. A. WINKLER; Y. NISHIDA; S. V. REGE; R. D. BELL; D. PERLMUTTER; P. KONG; A. R. NELSON; Z. ZHAO; J. SOTO; E. DALE ABEL; J. MAKSHANOFF; D. C. DE VIVO; B. V. ZLOKOVIC. *USC, Univ. of California San Francisco, Univ. of Rochester Sch. of Med. & Dent., Zilkha Neurogenetic Institute, Keck Sch. of Medicine, Univ. of Southern California, Fraternal Order of Eagles Diabetes Res. Ctr. and Div. of Endrocrinol. and Metabolism, Carver Col. of Med., Colleen Giblin Labs. for Pediatric Neurol. Research, Columbia Univ.*

8:00 D29 **131.21** P2X2R-FE65 interaction induces synaptic failure and neuronal dyshomeostasis after treatments with soluble oligomers of amyloid beta peptide. J. FUENTEALBA*; P. A. GODOY; T. SILVA-GRECCHI; K. M. BARRA; T. CELIS; J. D. PANES. *Univ. de Concepcion, Ctr. for Advanced Res. on Biomedicine (CIAB-UdeC), Univ. de Concepcion.*

9:00 D30 **131.22** Amyloid β-protein from aqueous extracts of Alzheimer's disease brain disrupts excitatory-inhibitory tone and impairs synaptic plasticity. Z. WANG*; T. T. O'MALLEY; W. HONG; W. LIU; S. LI; D. M. WALSH. *Brigham and Women's Hosp., Ann Romney Ctr. for Neurologic Diseases, Harvard Inst. of Med.*

10:00 D31 **131.23** An anatomical correlate of the mouse default mode network. J. D. WHITESELL*; P. BOHN; M. T. MORTRUD; K. E. HIROKAWA; S. W. OH; S. MIHALAS; H. ZENG; J. A. HARRIS. *Allen Inst. for Brain Sci.*

**POSTER**

**132. Parkinson's Models**

***Theme C: Disorders of the Nervous System***

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

8:00 D32 **132.01** Effects of minocycline treatment in a neurotoxin rat model of Parkinson's disease. S. N. CASSELLA*; D. SEXTON; A. M. HEMMERLE; T. L. KYSER; K. B. SEROOGY. *Univ. of Cincinnati, Univ. of Cincinnati, Univ. of Cincinnati.*



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

9:00 D33 **132.02** ▲ Analysis of sumoylation mutants of alpha-synuclein in yeast models. A. N. ROMAN*; G. LIPKIN; S. BELLO-ROJAS; R. THOMAS; S. K. DEBBURMAN. *Lake Forest Col.*

10:00 D34 **132.03** Withdrawn.

11:00 D35 **132.04** The lipase activity of phospholipase D2 is responsible for nigral neurodegeneration in a rat model of Parkinson's disease. H. MENDEZ-GOMEZ; J. SINGH; O. GORBATYUK; C. MEYERS; W. CHEN; N. MUZYCZKA*. *Powell Gene Therapy Ctr., Univ. of Florida, Univ. of Alabama.*

8:00 D36 **132.05** Attempts to measure cognitive function of the common marmoset for the purpose of detecting its impairment in Parkinson's disease model. K. ANDO*; R. INOUE; C. NISHIME; E. NISHINAKA; H. TSUTSUMI. *Central Inst. for Exptl. Animals.*

9:00 D37 **132.06** The effect of sodium metabisulfite on locomotor activity in experimental Parkinson model: The role of cyclooxygenase and nuclear factor kappa B. A. AGAR*; A. OZKAN; H. PARLAK; O. OZSOY. *Akdeniz Univ., Akdeniz Üniversitesi.*

10:00 D38 **132.07** ● Differential cortical oscillation activities in hemiparkinsonian rats under apomorphine and L-DOPA treatments. B. POUYATOS*; R. MAURY; C. BOUYSSIÈRES; C. ROUCARD; Y. ROCHE; V. DUVEAU. *Synapcell.*

11:00 D39 **132.08** Behavioral and histological effects of adeno-associated viral vectors (AAV2 and AAV5) for alpha-synuclein overexpression in rats. K. B. COSTA*; J. NUNES; M. FREIRE; M. ARAÚJO. *Santos Dumont Inst.*

8:00 D40 **132.09** Intracranial chronic administration of prolyl oligopeptidase inhibitor, KYP-2047, counters the behavioural effects and alpha-synuclein overexpression after nigral AAV-alpha-synuclein injection. R. SVARCBAHS*; U. JULKU; T. MYÖHÄNEN. *Univ. of Helsinki.*

9:00 D41 **132.10** A non-human primate model of Parkinson's disease based on viral vector mediated overexpression of alpha-synuclein. J. B. KOPRICH*; T. H. JOHNSTON; J. SEIBYL; K. MAREK; Y. MA; D. EIDELBERG; C. ZUO; Y. GUAN; J. H. KORDOWER; S. H. FOX; J. M. BROTCHIE. *Atuka Inc., Mol. Neuroimaging, Feinstein Inst. for Med. Res., Huashan Hospital, Fudan Univ., Rush Univ. Med. Ctr., Toronto Western Hosp.*

10:00 D42 **132.11** Kinetics of MPTP elimination in non-human primate's urine intoxicated by MPTP: Study by a new nano-interface based Matrix-Assisted Laser Desorption / Ionization Mass Spectrometry approach. F. DARLOT*; C. YEROMONAHOS; A. MOMBRUN; F. REINHART; D. AGAY; N. TORRES-MARTINEZ; V. JOUSSEAUME; C. MORO; F. BERGER; A. BENABID; A. BOUAMRANI. *CEA, Clinatec - CEA, Univ. Grenoble Alpes, CEA, LETI, MINATEC Campus.*

11:00 D43 **132.12** Chronic variable stress increases the neuroimmune response in an experimental Parkinson's model. A. M. HEMMERLE*; S. N. CASSELLA; K. H. LUNDGREN; J. P. HERMAN; K. B. SEROOGY. *Univ. Cincinnati, Univ. Cincinnati, Univ. Cincinnati.*

8:00 D44 **132.13** Neuroinflammatory profile associated with intrastriatal injection of pre-formed alpha-synuclein fibrils in a new rat model of Parkinson's disease. M. F. DUFFY*; K. L. PAUMIER; K. C. LUK; L. FISCHER; N. K. POLINSKI; T. J. COLLIER; C. J. KEMP; J. Q. TROJANOWSKI; V. M. LEE; C. E. SORTWELL. *Michigan State Univ., Univ. of Pennsylvania.*

9:00 D45 **132.14** The light at the end of the axon - a fast, quantitative assay to track *in vivo* alpha-synuclein oligomerization. M. DELENCLOS*; T. TRENDAFILOVA; D. R. JONES; S. MOUSSAUD; A. BAINE; M. YUE; W. D. HIRST; P. J. MCLEAN. *Mayo Clin., Pfizer, Mayo Grad. School, Mayo Clin.*

10:00 D46 **132.15** Identification of PP2A as a novel modulator of LRRK2 G2019S-mediated toxicity. J. P. SIM*; S. LIN; C. NG; K. LIM. *Natl. Neurosci. Inst., Duke-NUS Grad. Med. Sch., Natl. Univ. of Singapore.*

11:00 D47 **132.16** Octodon degus: A model for the study of age-associated synucleinopathy? S. DOVERO*; M. BOURDENX; E. BEZARD; B. DEHAY. *Inst. of Neurodegenerative Dis.*

8:00 D48 **132.17** ▲ Alpha-Synuclein splice variant and C-terminal truncation analysis in yeast: Implications for sporadic and familial PD. S. BELLO ROJAS*; K. HAMID; N. KUKULKA; K. CAMPBELL; P. SCHRAG; L. GRAHAM; M. MUNOZ; C. ALVARADO; S. CHIREN; J. JAMES; A. ROMAN; S. K. DEBBURMAN. *Lake Forest Col., Lake Forest Col.*

9:00 E1 **132.18** Effects of α-synuclein on behavioral dysfunction in the Parkinson's disease model *Drosophila* melanogaster. D. HWANG*. *California State University, Fresno.*

10:00 E2 **132.19** ▲ Evaluation of alpha-synuclein nitration in yeast models. M. N. MARSHALL*; C. ALVARADO; K. SOLVANG; Y. ZAYATS; S. K. DEBBURMAN. *Lake Forest Col.*

11:00 E3 **132.20** GDNF gene containing cells and sleep-wake cycle in a mouse model of Parkinson's disease. V. M. KOVALZON*; G. V. PAVLOVA; A. V. REVISHCHIN; Y. V. UKRAINTSEVA; V. B. DOROKHOV; L. S. MOISEENKO. *Severtsov Inst. Ecology/Evolution, Inst. Gene Biology, Acad. Sci., Inst. Higher Nervous Activity Neurophysiology, Acad. Sci., Severtsov Inst. Ecology/Evolution, Acad. Sci.*

8:00 E4 **132.21** traumatic brain injury leads to development of Parkinson's disease in mice. E. ESPOSITO*; D. IMPELLIZZERI; M. CORDARO; G. BRUSCHETTA; R. CRUPI; S. CUZZOCREA. *Univ. of Messina.*

9:00 E5 **132.22** The antioxidant N-acetyl-L-cysteine exerts strong neuroprotective effects in both *in vitro* and *in vivo* models of Parkinson's disease. E. ANDRIAMBELOSON*; C. NEVEU; N. KADOUCI; F. LAUGA; E. POIRAUD; B. HUYARD; S. WAGNER. *NEUROFIT.*

10:00 E6 **132.23** Knockdown of ESCRT-0 disrupts protein quality control and promotes ER stress-mediated neuronal cell death. T. HASEGAWA*; R. OSHIMA; N. SUGENO; K. TAMAI; S. YOSHIDA; J. KOBAYASHI; A. KIKUCHI; A. TAKEDA; N. TANAKA; M. AOKI. *Tohoku Univ., Miyagi Cancer Ctr. Res. Inst., Sendai-Nishitaga Hosp.*

11:00 E7 **132.24** Mechanisms of nigral neuron loss in PINK1 knockout rat models of Parkinson's disease. S. K. BARODIA*; J. WATSON; R. B. CREED; V. M. TAPIAS; M. S. GOLDBERG. *Univ. of Alabama at Birmingham.*

8:00 E8 **132.25** Partial neurorestorative action of DHA after a lesion of the mouse dopaminergic system. K. COULOMBE*; M. SAINT-PIERRE; G. CISBANI; I. ST-AMOUR; C. GIBRAT; A. GIGUÈRE-RANCOURT; F. CALON; F. CICCHETTI. *Ctr. De Recherche Du CHU De Québec, Univ. Laval, Univ. Laval.*



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

9:00 E9 **132.26** ● Mutant alpha-synuclein causes age-dependent neuropathology in monkey brain. W. YANG*; G. WANG; C. WANG; X. GUO; P. YIN; J. GAO; Z. TU; Z. WANG; J. WU; X. HU; S. LI; X. LI. *IGDB, Chinese Acad. of Sci., Emory Univ. Sch. of Med., Kunming Inst. of Zoology, the Chinese Acad. of Sci.*

10:00 E10 **132.27** Non invasive imaging of retinal morphology and mitochondrial dysfunction by optical coherence tomography during progression of Parkinsonism in a nonhuman primate model. D. W. ANDERSON*; M. E. AULT; J. S. SCHNEIDER. *Thomas Jefferson Univ.*

11:00 E11 **132.28** *In utero* delivery of scAAV9 mediates widespread brain transduction in rats and monkeys : Towards new models of Parkinson's disease. B. DEHAY*; M. BOURDENX; L. CHANSEL-DEBORDEAUX; S. DOVERO; V. GROUTHIER; J. URANGA; N. DUTHEIL; S. BRUN; A. ESPAGNA; L. GROC; Q. LI; C. JIMENEZ; E. BEZARD. *Inst. of Neurodegenerative Dis., Inst. Interdisciplinaire de Neurosciences, Motac Neurosci.*

8:00 E12 **132.29** Deficits in motivation, increased anxiety, and increased daytime sleepiness in a nonhuman primate MPTP model of Parkinson's disease. K. GANAPATHY SUBRAMANIAN*; C. ADAM; A. M. DETTMER; A. DOYLE; T. LIU; S. CULVER; S. BENJI; M. RAGOZA; C. BRANDON; J. MORGAN; D. PYRDEK; N. ROCKCASTLE; N. D. RYAN; Z. ZHANG; R. PENN; M. SAARMA; J. L. CAMERON. *Hussman Inst. for Autism, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Kentucky, NTF Therapeutics, Inc., Univ. of Helsinki.*

9:00 E13 **132.30** ▲ Manganese Acetate and Manganese chloride specifically damage SNc dopaminergic neurons. A. TRUJILLO MARTÍNEZ; V. ANAYA-MARTÍNEZ; A. GUTIÉRREZ-VALDEZ; E. MONTIEL-FLORES; L. REYNOSO-ERAZO; L. REYNOSO-ERAZO; F. HUERTA-OLIVAREZ; F. HUERTA-OLIVAREZ; M. IBARRA; C. LOZANO-VILLALOBOS; J. SÁNCHEZ-BETANCOURT; P. ALEY-MEDINA; J. ESPINOSA-VILLANUEVA; M. AVILA-COSTA*. *UNAM, UNAM, UNAM, Neuromorphology Lab.*

**POSTER**

**133. Gait Disturbances and Freezing**

***Theme C: Disorders of the Nervous System***

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

8:00 E14 **133.01** Nigral stimulation desynchronizes cortical theta activity in gait freezers with Parkinson's disease. M. A. SCHOLTEN*; R. B. GOVINDAN; C. BRAUN; C. PLEWNIA; A. GHARABAGHI; R. KRUEGER; D. WEISS. *Hertie Institute, Neurodegeneration, German Ctr. of Neurodegenerative Dis. (DZNE), Ctr. for Intgrative Neurosci. (CIN), Grad. Sch. of Neural and Behavioural Sciences, Intl. Max Planck Res. Sch., Div. of Fetal and Translational Medicine, Children's Natl. Med. Ctr., Inst. of Med. Psychology and Behavioral Neurobiology, MEG Ctr., Dept. of Psychiatrie, Neurophysiology, and Interventional Psychiatry, Univ. of Tuebingen, Div. of Functional and Restorative Neurosurgery, Dept. of Neurosurg., Clin. and Exptl. Neuroscience, Luxembourg Ctr. for Systems Biomedicine (LCSB).*

9:00 E15 **133.02** Investigation of neuronal circuit responsible for gait. N. FARHANI*; R. RAJAKUMAR; M. S. JOG. *Univ. of Western Ontario, Univ. of Western Ontario, Univ. of Western Ontario, Univ. of Western Ontario.*

10:00 E16 **133.03** Freezing of gait in Parkinson's disease: A stopping deficit? K. SMULDERS*; D. S. PETERSON; M. M. FLEMING; N. PAL; J. G. NUTT; F. B. HORAK; B. W. FLING. *Oregon Hlth. & Sci. Univ., Portland VA Med. Ctr.*

11:00 E17 **133.04** Relationship between circadian rhythm disruption and gait initiation impairment in Parkinson's disease. G. BACHMAN; J. STEWART; C. COOPER; F. BOMAN; L. LIU; S. ANCOLI-ISRAEL; L. ALIBIGLOU*. *San Diego State Univ., UCSD, Rosalind Franklin Univ. of Med. and Scien.*

8:00 E18 **133.05** Impaired postural synergies in patients with Parkinson's disease without clinical signs of postural instability. A. FALAKI; X. HUANG; M. M. LEWIS; M. L. LATASH*. *Pennsylvania State Univ., Pennsylvania State Univ. - Hershey Med. Ctr.*

9:00 E19 **133.06** Bi-hemispheric phase synchronization in subjects with Parkinson's disease during stance, gait and upper limb motor tasks. M. PLOTNIK*; Y. MIRON; S. HASSIN; O. S. COHEN; I. BLATT; E. CHERNIAK; R. INZELBERG; J. W. KANTELHARDT. *Sheba Med. Ctr., Sackler Fac. of Medicine, Tel-Aviv Univ., The Movement Disorders Institute, and the Sagol Neurosci. Center, Sheba Med. Ctr., Sheba Med. Ctr., Sheba Med. Ctr., Inst. of Physics, Martin-Luther-University Halle-Wittenberg.*

10:00 E20 **133.07** The effect of motor-cognitive combined rehabilitation on gait performance during dual task in Parkinson's disease. E. PELOSIN*; C. OGLIASTRO; G. LAGRAVINESE; A. RAVASCHIO; A. MIRELMAN; J. HAUSDORFF; G. ABBRUZZESE; L. AVANZINO. *Univ. of Genoa, The Tel-Aviv Sourasky Med. Ctr., Univ. of Genoa.*

11:00 E21 **133.08** Impact of a proprioceptive training program on reaching movement accuracy and postural stability limits in Parkinson's disease. S. BERGERON*; P. BLANCHET; D. MONGEON; M. BLANCHET; M. JEAN-DÉSILETS; J. TREMBLAY; F. PRINCE; J. MESSIER. *Univ. De Montréal, Inst. universitaire de gériatrie de Montréal (IUGM), Univ. De Montréal, Ctr. Hospitalier de l'Université de Montréal (CHUM).*

8:00 E22 **133.09** Detection of symmetry and asymmetry of gait during split-belt treadmill walking in Parkinson's disease. K. SOWALSKY*; J. A. ROPER; C. J. HASS. *Univ. of Florida.*

9:00 E23 **133.10** Effects of dual-mode non-invasive brain stimulation on freezing of gait in patients with Parkinson's disease. S. KIM*; W. CHANG; J. CHO; J. YOUN; Y. KIM; E. PARK; A. LEE; Y. KIM. *Samgsung Med. Ctr.*

10:00 E24 **133.11** ● Effects of low (60 Hz) and high (140 Hz) frequency STN DBS on gait and STN beta band power in Parkinson's disease. Z. BLUMENFELD*; T. E. PRIETO; M. H. TRAGER; E. J. QUINN; A. VELISAR; C. H. HALPERN; J. M. HENDERSON; H. BRONTE-STEWART. *Stanford Univ., Stanford Univ.*

11:00 E25 **133.12** ● Synchronized neural and kinematic recordings during freezing episodes in a stepping in place task in Parkinson's disease. M. MILLER KOOP*; M. H. TRAGER; E. J. QUINN; A. SRIVATSAN; Z. BLUMENFELD; A. VELISAR; M. MALEKMOHAMMADI; C. KILBANE; J. M. HENDERSON; C. H. HALPERN; H. M. BRONTE-STEWART. *Stanford Univ., Stanford Univ.*



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

8:00 E26 **133.13** Subthalamic nucleus activity at gait initiation in Parkinson's disease: Report of three cases. N. G. POZZI*; G. ARNULFO; F. STEIGERWALD; V. MALTESE; C. PALMISANO; J. BRUMBERG; M. M. REICH; E. PAVAN; J. VOLKMANN; I. U. ISAIAS. *Uni. Hosp. and Julius-Maximilian-University, Univ. of Genoa, DEIB-Politecnico di Milano, Uni. Hosp. and Julius-Maximilian-University.*

9:00 E27 **133.14** Deep brain stimulation: Measuring gait parameters objectively using kinematic technologies in Parkinson's disease patients. G. GILMORE*; M. DELROBAEI; S. TRAN; T. STRATTON; M. JOG. *Western Univ. Hosp., Western Univ., London Hlth. Sci. Ctr.*

10:00 E28 **133.15** ● DBS improves gait speed in Parkinson's disease: A meta-analysis. J. ROPER*; J. H. CAURAUGH; N. KANG; J. BEN; M. OKUN; C. J. HASS. *Univ. of Florida, Univ. of Florida.*

11:00 E29 **133.16** Temporal, but not spatial, gait variability is affected in persons with Essential Tremor. S. AMANO*; R. ROEMMICH; J. W. SKINNER; S. HONG; C. J. HASS. *Ohio Univ., Kennedy Krieger Inst., Univ. of Florida, Ohio Univ.*

**POSTER**

**134. Therapeutics of Parkinson's Disease: Preclinical Studies**

***Theme C: Disorders of the Nervous System***

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

8:00 E30 **134.01** Effects of potential therapeutics on the behavior of mice treated with chronic MPTP. S. A. FERGUSON*; D. LAW; S. SARKAR. *Natl. Ctr. Toxicological Res.*

9:00 E31 **134.02** Squamosamide derivative FLZ attenuates α-synuclein-induced neurotoxicity by activating heat shock protein 70 function in transgenic mouse model of Parkinson's disease. D. ZHANG*; X. BAO. *Inst. of Materia Medica.*

10:00 E32 **134.03** Pharmacological blockade of dopamine D3 receptor attenuates l-dopa-induced dyskinesia by targeting d1 receptor-mediated striatal signaling. O. SOLÍS CASTREJÓN*; J. R. GARCIA-MONTES; M. XU; R. MORATALLA. *Cajal Inst., CIBERNED, Inst. de Salud Carlos III, The Univ. of Chicago.*

11:00 E33 **134.04** ● Orally-active highly effective fast-onset long-acting dopamine D3/D2 agonists in the 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP)-treated macaque model of Parkinson's disease. G. PORRAS*; H. STARK; T. KOTTKE; E. Y. PIOLI; A. CROSSMAN; E. BEZARD. *Motac, Johann Wolfgang Goethe-Universitate, MOTAC.*

8:00 E34 **134.05** Nicotine reduces levodopa-induced dyskinesia but not striatal dopamine release in the intrastriatal 6-hydroxydopamine mouse model of Parkinson's disease. S. LEINO*; L. AALTONEN; S. PELTOLA; O. SALMINEN. *Univ. of Helsinki.*

9:00 E35 **134.06** ● ▲ Early functional changes induced by overexpression of α-synuclein in mouse dopamine and serotonin neurons: New therapeutic opportunities for antisense oligonucleotide treatment of Parkinson's disease. D. ALARCÓN-ARÍS; M. GALOFRÉ; E. RUIZ-BRONCHAL; A. FERRÉS-COY; A. MONTEFELTRO; F. ARTIGAS; I. FARIÑAS; M. VILA; A. BORTOLOZZI*. *IIBB-CSIC-IDIBAPS, IIBB-CSIC-IDIBAPS- CIBERSAM, NLIFE THERAPEUTICS, S.L., Univ. of Valencia, Vall d'Hebron Res. Inst., IDIBAPS ESQ5856414G.*

10:00 E36 **134.07** ● Dietary interventions with strong preventive and therapeutic effects on both motor and non-motor symptoms in a mouse model of Parkinson's disease. L. M. BROERSEN*; P. PEREZ PARDO; H. DOUNA; E. M. DE JONG; N. VAN WIJK; A. ATTALI; J. GARSSEN; B. OLIVIER; A. D. KRANEVELD. *Nutricia Res. Ctr., Utrecht Inst. for Pharmaceut. Sci.*

11:00 E37 **134.08** ▲ The therapeutic effects of environmental and physical enrichment on motor behavior in a 6-ohda rat model of Parkinson's disease. R. A. WORTMAN*; A. STAVNEZER. *Col. of Wooster, Col. of Wooster.*

8:00 E38 **134.09** Repeated pharmacological inhibition of the sGC-cGMP signaling pathway is equally effective as L-dopa in ameliorating motor deficits in experimental parkinsonism. V. R. JAYASINGHE*; B. PHAM; V. VERMA; R. YOGENDRAN; A. R. WEST; K. Y. TSENG. *Rosalind Franklin Univ. of Med. and Sci., Rosalind Franklin Univ. of Med. and Sci., Rosalind Franklin Univ. of Med. and Sci.*

9:00 E39 **134.10** ▲ Evaluation of the effects an implant TiO2DA inserted in the caudate in rat model hemiparkinsonism on motor behavior and its relationship to the levels of catecholamines. A. S. ROJAS*; G. VALVERDE AGUILAR; M. PALOMERO RIVAS; M. VELAZQUEZ PANIAGUA; I. SANCHEZ CERVANTES; I. LOPEZ MARTINEZ; R. MAYEN DIAZ; D. VAZQUEZ MATIAS; R. GONZALEZ TREJO; K. PINEDA ROMERO; P. VERGARA ARAGON. *Fac. of Medicine, Natl. Autonomous Universit, CICATA Legaria, IPN., Cell. Physiol. Institute, UNAM., Fac. of Medicine, Natl. Autonomous Universit.*

10:00 E40 **134.11** ● The effects of clinically used anti-parkinsonian drugs on whole-body kinematics in the MPTP-treated macaque model of Parkinson's disease: Therapeutic validation of a translational platform for movement disorder research. D. W. KO*; I. VOLLENWEIDER; L. BAUD; Q. LI; G. COURTINE; E. BEZARD. *Motac Neurosci. Ltd, Swiss Federal Inst. of Technol., Univ. of Bordeaux.*

11:00 E41 **134.12** Cannabis resin extract in Parkinson's disease: Behavioral, neurochemical, and histological evaluation. S. A. EL SHEBINEY*. *Natl. Res. Ctr.*

8:00 E42 **134.13** D-512, a novel dopamine D2 / D3 receptor agonist, demonstrates superior anti-parkinsonian efficacy over ropinirole in parkinsonian rats. D. LINDENBACH*; S. MEADOWS; Y. AVNOR; E. NUSS; M. MELKHOV-SOSIN; L. GROSS; N. VILCEUS; N. SCHUMAN; B. DAS; A. K. DUTTA; C. BISHOP. *Binghamton Univ., Wayne State Univ.*



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

9:00 E43 **134.14** ▲ Effects of a titanium dioxide dopamine loaded microimplant on Susbtantia Nigra neuron density and rotational behavior in a hemiparkinsonian rat model. R. MAYEN DÍAZ*; I. LOPEZ MARTINEZ; I. SÁNCHEZ CERVANTES; D. VÁZQUEZ MATÍAS; E. FRAGOSO ALCALÁ; R. GONZALEZ TREJO; K. PINEDA ROMERO; A. SOLANA ROJAS; M. VELAZQUEZ PANIAGUA; M. PALOMERO RIVAS; M. VALVERDE AGUILAR; P. VERGARA ARAGÓN. *Univ. Nacional Autónoma De México, UNAM, UNAM, UNAM, IPN.*

10:00 E44 **134.15** ● Drp1 inhibition amelioratesα-synuclein-mediated neurodegeneration in rats. S. BIDO*; L. ARCURI; M. HELLEY; R. FAN; K. TIEU; E. BEZARD. *Inst. des Maladies Neurodégénératives, Plymouth Univ.*

11:00 E45 **134.16** Therapeutic potential and antidyskinetic activity of the combined antagonism of adenosine A2A receptors and stimulation of 5HT1A/1B receptors in models of Parkinson's disease : Acute and chronic studies. A. PINNA*; G. COSTA; N. SIMOLA; E. TRONCI; M. CARTA; M. MORELLI. *CNR Neurosci. Inst., Univ. of Cagliari.*

8:00 E46 **134.17** ▲ Extremely low frecuency magnetic fields exposition decreases L-DOPA induced-dyskinesias in a rat model of Parkinson's disease. M. RAMIREZ LOPEZ*; D. MILLÁN ALDACO; M. PALOMERO RIVERO; M. GUERRA CRESPO; R. DRUCKER COLÍN. *Instituto De Fisiologia Celular, Instituto De Fisiología Celular.*

9:00 E47 **134.18** Comparison between chromosphere and chromaffin grafts in a 6-OHDA rat model of Parkinson's disease. A. BORONAT-GARCÍA*; M. PALOMERO-RIVERO; D. MILLÁN-ALDACO; M. GUERRA-CRESPO; M. N. ZARIÑANA-CAMACHO; R. DRUCKER-COLÍN. *Inst. de Fisiologia Celular.*

10:00 E48 **134.19** ▲ Investigation of the therapeutic effects of J-147 in two animal models of Parkinson's disease. M. KOPYNETS*. *The Salk Inst. For Biol. Studies, Univ. of California San Diego.*

11:00 F1 **134.20** Remote control of transplanted human dopamine neurons in Parkinson's disease mice. Y. CHEN*; M. XIONG; Y. DONG; S. ZHANG. *Waisman Center, Univ. of Wisconsin-Madison.*

8:00 F2 **134.21** Thiol-repletion therapy for Parkinson's disease guided by *ex vivo* assessment of neuronal anti-oxidant capacity and human CSF analyses. S. WON*; G. CITTOLIN-SANTOS; R. C. REYES; M. KATZ; A. M. BRENNAN-MINNELLA; D. P. JONES; R. A. SWANSON. *UCSF and SFVAMC - Neurol. Res., Emory Univ.*

9:00 F3 **134.22** ● Intranasal hGDNF DNA nanoparticles induce transfection and protein expression by perivascular cells throughout rat brain. A. E. ALY*; B. T. HARMON; L. PADEGIMAS; O. SESENOGLU-LAIRD; M. J. COOPER; B. L. WASZCZAK. *Northeastern Univ., Copernicus Therapeut. Inc.*

10:00 F4 **134.23** ● Role of Growth Differentiation Factor-15 in the 6-hydroxydopamine mouse model of Parkinson's disease. K. UNSICKER*; V. MACHADO; B. SPITTAU; K. KRIEGLSTEIN; S. J. P. HAAS; A. WREE. *Univ. of Freiburg, Univ. of Rostock, Spemann Grad. Sch. of Biol. and Medicine, Univ. of Freiburg, Univ. of Freiburg.*

11:00 F5 **134.24** Antiparkinsonian drug actions in the striatal microcircuit. E. LARA-GONZALEZ*; S. CRUZ; M. DUHNE; J. BARGAS. *Univ. Nacional Autónoma de México.*

8:00 F6 **134.25** Boosting of tyrosine hydroxylase activity as a treatment for Parkinson's disease. L. P. VAN DER HEIDE; J. A. VAN HOOFT*; M. P. SMIDT. *Univ. of Amsterdam.*

9:00 F7 **134.26** Anodal transcranial direct current stimulation enhances survival and integration of dopaminergic cell transplants in a rat Parkinson's disease model. B. FRITSCH*; J. REIS; N. HOFFMANN; C. MÜNKEL; A. GELLNER; H. HULSHOF; M. DÖBRÖSSY; L. FURLANETTI; J. GARCIA; C. WINKLER. *Univ. of Freiburg/ Neurocenter.*



**POSTER**

**135. Non-Huntington's Disease Ataxias and Other Repeat Diseases**

***Theme C: Disorders of the Nervous System***

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

8:00 F8 **135.01** The enhancement of protein degradation systems via autophagy in cellular models of neurodegenerative diseases. H. ADACHI*; Z. HUANG; K. OKADA; K. OHNARI; T. HASHIMOTO; T. TOYOTA; Y. IWANAKA; G. SOBUE. *Univ. of Occup. and Envrn. Hlth., Nagoya Univ. Grad. Sch. of Med.*

9:00 F9 **135.02** Loss of adult myosin heavy chain isoforms in spinal and bulbar muscular atrophy muscle. K. HALIEVSKI*; Y. XU; M. KATSUNO; H. ADACHI; G. SOBUE; S. M. BREEDLOVE; C. L. JORDAN. *Michigan State Univ., Nagoya Univ. Grad. Sch. of Med., Univ. of Occup. and Envrn. Hlth.*

10:00 F10 **135.03** MBNL1 deubiquitination results in nuclear translocation and impairs neurite outgrowth in myotonic dystrophy. G. WANG*; T. KUO; P. WANG; Y. LIN; M. TAO. *Academia Sinica.*

11:00 F11 **135.04** Analysis of nuclear export of polyglutamine-expanded androgen receptor in a cell model of spinal and bulbar muscular atrophy. F. ARNOLD*; D. MERRY. *Thomas Jefferson Univ., Thomas Jefferson Univ.*

8:00 F12 **135.05** Protein interaction networks in the pathogenicity of Spinal and Bulbar Muscular Atrophy. A. PLUCIENNIK*; T. BERGER; S. FINKBEINER; D. MERRY. *Thomas Jefferson Univ., Gladstone Inst. of Neurolog. Dis.*

9:00 F13 **135.06** ● Mass spectrometry analysis of normal and polyglutamine expanded ataxin-3 interaction partners. L. V. KRISTENSEN*; R. HARTMANN-PETERSEN; K. THIRSTRUP. *H. Lundbeck A/S, Univ. of Copenhagen.*

10:00 F14 **135.07** Impaired neuronal activity in hippocampal and neocortical slices from a mouse model of Juvenile Batten Disease. N. KARPUK; M. BURKOVETSKAYA; T. KIELIAN*. *Univ. of Nebraska Med. Ctr., Univ. of Nebraska Med. Ctr.*

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

11:00 F15 **135.08** Identifying potential peripherally accessible biomarkers in batten disease. M. LLAVERO HURTADO*; T. W. MARCHANT; S. L. EATON; H. F. FULLER; A. TAVENDALE; D. J. LAMONT; T. H. GILLINGWATER; J. D. COOPER; T. M. WISHART. *The Univ. of Edinburgh, The Roslin Institute, Univ. of Edinburgh, Wolfson Ctr. for Inherited Neuromuscular Dis., Keele University, Inst. for Sci. and Technol. in Med., FingerPrints Proteomics Facility, Col. of Life Sciences, Univ. of Dundee, Ctr. for Integrative Physiology, Univ. of Edinburgh, Euan MacDonald Ctr. for Motor Neuron Dis. Research, Univ. of Edinburgh, Inst. of Psychiatry, King's Col. London.*

8:00 F16 **135.09** An animal disease model for episodic ataxia 6. P. KOVERMANN*; V. UNTIET; C. FAHLKE. *Forschungszentrum Jülich Gmbh.*

9:00 F17 **135.10** Regulation of neuronal hemoglobin expression and potential roles in mitochondrial respiration. S. LI; N. SINGHAL; R. GEGORY; J. MCDONOUGH; E. J. FREEMAN*. *Kent State Univ.*

10:00 F18 **135.11** Involvement of specific nur77 family genes during neurite outgrowth induced by forskolin and a histone deacetylase inhibitor in PC12 cells. K. SHIMOKE*; R. YAMAZOE; T. TOMIOKA; K. TSUMURA; Y. NISHIHATA; H. MARUOKA. *Kanasai Univ., Kansai Univ., KURABO.*

11:00 F19 **135.12** Chorein /HDAC6 interaction confers resistance to nutrient deprivation in chorein-overexpressing HEK293 cells. M. NAKAMURA*; N. SASAKI; A. KODAMA; N. SHIOKAWA; A. SANO. *Kagoshima Univ, Dept of Psychiatry.*

**POSTER**

**136. Ischemia: Perinatal**

***Theme C: Disorders of the Nervous System***

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

8:00 F20 **136.01** Uridine protects against hypoxic-ischemic brain injury by reducing histone deacetylase activity in neonatal rats. T. ALKAN*; T. KOYUNCUOGLU; M. TURKYILMAZ; B. GOREN; M. CANSEV. *Uludag Univ. Med. Sch., Uludag Univ. Med. Sch.*

9:00 F21 **136.02** Long-term white matter instabilities after neonatal hypoxic-ischemic brain injury. H. JEONG*; R. KHAWAJA; J. D. ROTHSTEIN; S. H. KANG. *Shriners Hosp. Pediatric Res. Ctr., The Johns Hopkins Univ. Sch. of Med., Temple Univ. Sch. of Med.*

10:00 F22 **136.03** Nicotinamide Mononucleotide Adenylyltransferase 3 protects the mouse neonatal hippocampus from the effects of neonatal hypoxia-ischemia. R. GALINDO*; M. B. GREENBERG; T. ARAKI; D. M. HOLTZMAN. *Washington Univ. In St. Louis, Washington Univ., Natl. Inst. of Neurocience.*

11:00 F23 **136.04** Systemic administration of YC-1 prevents morphological changes and functional impairments induced by perinatal asphyxia in hippocampus of rats. E. ROJAS-MANCILLA*; T. NEIRA-PEÑA; G. LORCA; B. MORALES; P. ROJAS; P. GEBICKE-HAERTER; D. BUSTAMANTE; J. L. VALDÉS; P. MORALES; L. LEYTON; M. HERRERA-MARSCHITZ. *Univ. of Chile, Univ. Bernardo O Higgins, Univ. of Chile, Univ. de Santiago de Chile, Central Inst. of Mental Hlth. J5, Univ. of Chile, Univ. of Chile.*

8:00 F24 **136.05** Effects of normobaric oxygen treatment on brain injury after hypoxia- ischemia in newborn mice. T. KELESTEMUR*; A. B. CAGLAYAN; M. C. BEKER; U. KILIC; S. ALTUNAY; B. CAGLAYAN; E. YALCIN; R. Z. GUNDUGDU; E. KILIC. *Istanbul Medipol Univ., Istanbul Medipol Univ., Istanbul Medipol Univ.*

9:00 F25 **136.06** Intrauterine growth restriction results in lower cortical glutamine concentrations in the adult rat brain. M. ALEXANDER*; I. TKAC; G. OZ; R. RAO; A. MALISZEWSKI-HALL. *Univ. Minnesota, Univ. of Minnesota.*

10:00 F26 **136.07** Effects of metformin and enriched rehabilitation on recovery following neonatal hypoxia-ischemia. S. ANTONESCU*; M. JEFFERS; J. LIVINGSTON-THOMAS; C. MORSHEAD; D. CORBETT. *Univ. of Ottawa, Univ. of Ottawa, Univ. of Toronto, Canadian Partnership for Stroke Recovery.*

11:00 F27 **136.08** Magnetic resonance imaging and O-15 gas positron emission tomography in immature rats with hypoxic-ischemic brain injury. M. TSUJI*; J. ENMI; T. MORIGUCHI; K. KOSHINO; M. OHSHIMA; H. IIDA. *Natl. Cerebral and Cardiovasc. Ctr., Natl. Cerebral and Cardiovasc. Ctr., Natl. Cerebral and Cardiovasc. Ctr.*

8:00 F28 **136.09** Crosstalk of estrogen receptor alpha with TrkB receptors in sexed hippocampal neurons after *in vitro* ischemia. V. CHANANA; W. SUN; D. KINTNER; E. UDHO; P. FERRAZZANO; R. A. SHAPIRO; J. E. LEVINE; P. CENGIZ*. *Univ. of Wisconsin, Univ. of WIsconsin, Dept. Pediatrics and Waisman Center, Univ. of Wisconsin-Madison.*

9:00 F29 **136.10** Combination of resveratrol and docosahexanoic acid shows a synergic effect raising their neuroprotective effects in perinatal hypoxia-ischemia in rats. A. ALVAREZ*; O. ARTEAGA; E. HILARIO; L. URIGÜEN; M. REVUELTA. *Univ. of Basque Country, Univ. of Basque Country.*

**POSTER**

**137. Sensory Disorders: Auditory**

***Theme C: Disorders of the Nervous System***

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

8:00 F30 **137.01** Tinnitus profoundly modifies the dynamics of neuronal rhythms of the thalamo-cortical circuitry of a rodent experimental model of this brain disorder. P. VIANNEY*; B. AUERBACH; S. MANOHAR; G. CHEN; S. HAYES; A. SHEPPARD; R. SALVI. *Univ. of Wisconsin, State Univ. of New York.*

9:00 F31 **137.02** Effect of modulation of the frontostriatal gating system using transcranial direct current stimulation on tinnitus perception. A. J. MAUDOUX*; P. E. TURKELTAUB; J. P. RUSCHECKER. *Georgetown Univ. Med. Ctr., Cognitive Recovery Laboratory, Dep. of Neurology, Georgetown Univ., Res. Division, MedStar Natl. Rehabil. Hosp.*

10:00 F32 **137.03** Physiological characteristics of multiple auditory fields in the tinnitus animal model. E. BUELL*; M. S. BORLAND; M. P. KILGARD. *Univ. of Texas At Dallas, UT Dallas.*

11:00 F33 **137.04** Tinnitus detection in three mouse models with salicylate injections, noise exposure or optogenetic stimulation as tinnitus inducers. K. T. NAKAMOTO*; H. ZUO; D. LEI; J. BAO. *Northeast Ohio Med. Univ.*



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

8:00 F34 **137.05** Manipulating endocannabinoid signalling in a guinea pig model of tinnitus. B. COOMBER*; J. I. BERGER; S. P. H. ALEXANDER; A. R. PALMER; M. N. WALLACE. *MRC Inst. of Hearing Res., Univ. of Nottingham.*

9:00 F35 **137.06** Salicylate-induced changes in brain activity in awake guinea pigs. J. BERGER*; B. COOMBER; M. N. WALLACE; A. R. PALMER. *MRC Inst. of Hearing Res.*

10:00 F36 **137.07** Circadian influence on the salicylate-induced changes in the acoustic startle responses of rats. M. J. FERRAGAMO*; T. C. SIGAFOOS; B. K. TITUS; J. M. WOTTON. *Gustavus Adolphus Col., Gustavus Adolphus Col.*

11:00 F37 **137.08** Modulation of glucose transport by the lateral walls of cochlear OHCs. X. CHENG; N. YU*; F. YANG; C. LIU; X. WANG; R. ZHANG; S. ZHAI; S. YANG; N. WU; Q. SUN; T. CONG; C. LIU. *The Pla Gen Hosp, the first affiliated hospital of Fujiang medical university, The Armed Police Gen. Hosp.*

8:00 F38 **137.09** Progressive hearing loss in mice carrying a mutation in the inactive deubiquitinating enzyme usp53. M. SCHWANDER*; M. KAZMIERCZAK; S. HARRIS; P. KAZMIERCZAK; P. SHAH; V. STAROVOYTOV; K. OHLEMILLER. *Rutgers Univ., Inst. for Neurosciences of Montpellier, Washington Univ. Sch. of Med.*

9:00 F39 **137.10** A comparison of projections to primary (A1) and non-primary (PAF) fields of the cat auditory cortex following hearing loss. B. BUTLER*; N. CHABOT; S. LOMBER. *Univ. of Western Ontario, Univ. of Western Ontario.*

10:00 F40 **137.11** Blast-induced hearing loss and differential gene expression in the inner ear and brainstem of rat. Y. WANG*; Y. WEI; S. OGUNTAYO; Y. SU; D. WILDER; I. GIST; P. ARUN; J. B. LONG. *Walter Reed Army Inst. of Res.*

11:00 F41 **137.12** Cortical crossmodal plasticity following adult-onset noise-induced hearing loss in multisensory and auditory areas. A. L. SCHORMANS*; M. TYPLT; B. L. ALLMAN. *Western Univ.*

8:00 F42 **137.13** Differentiation of spiral ganglion-derived neural stem cells into functional synaptogenetic neurons. X. LI*; A. ALEARDI; J. WANG; Y. ZHOU; R. ANDRADE; Z. HU. *Wayne State Univ.*

9:00 F43 **137.14** Two amusic stroke patients: Behavior and imaging results. S. ROSEMANN*; P. ERHARD; M. FAHLE. *Univ. of Bremen.*

**POSTER**

**138. Sensory Disorders: Visual System**

***Theme C: Disorders of the Nervous System***

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

8:00 F44 **138.01** Three-dimensional ultrastructure of retinocollicular synapse mitochondria in early glaucoma. B. R. SCHOFIELD*; M. A. SMITH; C. Z. XIA; K. M. FENING; C. M. DENGLER-CRISH; D. M. INMAN; S. D. CRISH. *Northeast Ohio Med. Univ., Northeast Ohio Med. Univ.*

9:00 G1 **138.02** Relationship of retinal ganglion cell number and function in the glaucomatous murine eye. L. L. COUGHLIN*; D. M. INMAN. *Northeast Ohio Med. Univ., Kent State Univ.*

10:00 G2 **138.03** Electrophysiology alterations in primary visual cortex neurons in the s334ter-line3 transgenic rat. K. CHEN*; Y. WANG; L. CHAN. *Univ. of Electronic Sci. and Technol. of, City Univ. of HongKong.*

11:00 G3 **138.04** ● Crizotinib disrupt visual processing in the mouse retina. T. ISHII; S. IWASAWA; R. KURIMOTO; A. MAEDA; Y. TAKIGUCHI; M. KANEDA*. *Nippon Med. Sch., Chiba Univ., Tokyo Med. Care and Welfare Vocational Sch.*

8:00 G4 **138.05** Rapid and objective quantification of high-level visual impairment with fast periodic oddball stimulation in acquired prosopagnosia. J. LIU-SHUANG*; K. TORFS; A. NORCIA; B. ROSSION. *IPSY, Stanford Univ.*

9:00 G5 **138.06** Prevention of retinal ganglion neuron degeneration by a selective calpain-2 inhibitor in a mouse model of acute glaucoma. Y. WANG*; D. LOPEZ; K. NGUYEN; P. DAVEY; Y. LIU; E. MARQUEZ; X. BI; M. BAUDRY. *Western Univ. of Hlth. Sci.*

10:00 G6 **138.07** Brain-derived neurotrophic factor protects large retinal ganglion cells following acute optic nerve crush injury. L. FENG*; Z. PUYANG; H. CHEN; P. LIANG; J. B. TROY; X. LIU. *Northwestern Univ., Shanghai Jiao Tong Univ., Northwestern Univ., Northwestern Univ.*

11:00 G7 **138.08** ● A potent, long-lasting photoswitch for restoring visual function to the blind retina. I. TOCHITSKY*; M. KIENZLER; V. MESEGUER; N. GALLERANI; J. TRAUTMAN; R. KRAMER. *Harvard Med. Sch., Univ. of California, Berkeley, Photoswitch Biosciences, Inc.*

8:00 G8 **138.09** ● Cell-type-specific mechanism employed by photoswitch compounds to re-animate the blind retina. R. H. KRAMER*; I. TOCHITSKY; V. MESEGUER; Z. HELFT; N. GALLERANI. *Univ. California Berkeley.*

9:00 G9 **138.10** MEG reveals early activation of the occipital cortex by tactile stimulation in congenitally blind subjects. R. C. KUPERS*; F. MÜLLER; A. IOANNIDES; S. BAILLET; M. PTITO. *Inst. of Neurosci. & Pharmacol. (INF), AAI Scientific Cultural Services Ltd, McGill Univ., Univ. of Montreal.*

**POSTER**

**139. Major Mental Disorders: Imaging**

***Theme C: Disorders of the Nervous System***

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

8:00 G10 **139.01** White matter microstructural differences in bipolar disorder detected using ENIGMA-DTI protocols for data harmonization. S. M. KELLY*; N. JAHANSHAD; J. FASKOWITZ; C. CHING; D. P. HIBAR; G. ZUNTA-SOARES; B. MWANGI; J. C. SOARES; P. M. THOMPSON. *USC, Univ. of Texas.*

9:00 G11 **139.02** Cortico-striatal and amygdala-striatal structural connectivity uniquely relates to risk for bipolar disorder. K. DAMME*; C. YOUNG; R. NUSSLOCK. *Northwestern Univ., Northwestern Univ.*

10:00 G12 **139.03** ● The dopaminergic response to acute stress in health and psychopathology: A systematic review. T. VAESSEN*; D. HERNAUS; I. MYIN-GERMEYS; T. VAN AMELSVOORT. *Maastricht Univ.*



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

11:00 G13 **139.04** ▲ Resting state oscillatory activation associated with schizophrenia and high and low cognitive control. R. V. HART*; A. M. BOBILEV; W. T. OLIVER; M. E. HUDGENS-HANEY; L. K. HAYRYNEN; D. A. PARKER; P. BUCKLEY; J. E. MCDOWELL; B. A. CLEMENTZ. *Univ. of Georgia, Univ. of Georgia, Georgia Regents Univ.*

8:00 G14 **139.05** Cognitive impairments and brain morphological alterations in schizophrenia. N. MATSUKAWA; J. MIYATA*; H. SASAKI; J. FUJINO; H. TAKAHASHI; T. ASO; S. URAYAMA; H. FUKUYAMA; T. MURAI. *Kyoto Univ.*

9:00 G15 **139.06** Variability of structurally constrained and unconstrained functional connectivity in schizophrenia. Y. YAO*; L. PALANIYAPPAN; P. LIDDLE; J. ZHANG; S. FRANCIS; J. FENG. *Warwick Univ., Ctr. for Translational Neuroimaging in Mental Health, Inst. of Mental Hlth., Fudan Univ., Sir Peter Mansfield Magnetic Resonance Centre, Sch. of Physics and Astronomy, Univ. of Nottingham.*

10:00 G16 **139.07** Distinction of brain morphometric abnormalities in bipolar and unipolar depression: A voxel-based multi-center study. K. MATSUO*; K. HARADA; Y. OKAMOTO; M. OHTA; H. NARITA; Y. FUJITA; G. OKADA; M. TAKAMURA; H. YAMAGATA; I. KUSUMI; T. INOUE; H. KUNUGI; S. YAMAWAKI; Y. WATANABE. *Yamaguchi Univ. Grad. Sch. of Med., Yamaguchi Univ. Grad. Sch. of Med., Hiroshima Univ., Natl. Inst. of Neuroscience, Natl. Ctr. of Neurol. and Psychiatry, Hokkaido Univ., Yamaguchi Univ. Grad. Sch. of Med., Tokyo Med. Sch.*

11:00 G17 **139.08** ● Volume reduction in insula and frontal lobe in schizophrenia patients: A confirmatory VBM study. F. MEGUMI*; H. KUGA; S. MORITA; K. KAWAKAMI; H. YAO; M. HASHIMOTO; Y. TAKASHIMA; N. ORIBE; T. ONITSUKA; S. KANBA; T. YUZURIHA; H. MIZUHARA; G. REES; R. KANAI; T. UENO. *Inst. of Cognitive Neuroscience, Univ. Col. London, Hizen Psychiatric Center, Kyushu Univ., Grad. Sch. of Informatics, Kyoto Univ., Wellcome Trust Ctr. for Neuroimaging, Univ. Col. London, ARAYA Brain Imaging, Sackler Ctr. for Consciousness Science, Univ. of Sussex.*

8:00 G18 **139.09** The relationship between glutamate, gaba, and mismatch negativity in schizophrenia. S. A. KORENIC*; A. SUMMERFELT; S. A. WIJTENBURG; X. DU; J. CHIAPPELLI; F. MUELLERKLEIN; P. KOCHUNOV; L. E. HONG; L. M. ROWLAND. *Univ. of Maryland Sch. of Med. (MPRC).*

9:00 G19 **139.10** ● Characterization of white matter integrity deficits in cocaine-dependent individuals with substance-induced psychosis compared to non-psychotic cocaine users. T. WILLI*; A. M. BARR; W. J. PANENKA; D. J. LANG; W. G. MACEWAN; W. SU; A. E. THORNTON; F. VILA-RODRIGUEZ; O. LEONOVA; V. STREHLAU; K. GICAS; W. G. HONER. *Univ. of British Columbia, Univ. of British Columbia, Simon Fraser Univ.*

10:00 G20 **139.11** Nicotine reduces hippocampal hyperactivity in schizophrenia. J. SMUCNY*; A. OLINCY; D. C. ROJAS; J. R. TREGELLAS. *Univ. of Colorado, VA Med. Ctr., Colorado State Univ.*

11:00 G21 **139.12** ● Gamma band auditory response with fMRI BOLD in schizophrenia. H. KUGA*; T. UENO; N. ORIBE; H. OKAMOTO; I. NAKAMURA; Y. HIRANO; H. MIZUHARA; T. ONITSUKA. *Natl. Hosp. Organization, Grad. Sch. of Med. Sciences, Kyushu Univ., Grad. Sch. of Informatics, Kyoto Univ.*

8:00 G22 **139.13** Psychosis chronicity and fMRI responses during basic visuo-motor function. K. RAMASESHAN*; F. BADOUI; S. TOLIA; M. BELLANI; G. RAMBALDELLI; V. A. DIWADKAR; P. BRAMBILLA. *Wayne State Univ., Univ. of Verona, Univ. of Milan.*

9:00 G23 **139.14** The contribution of cognitive-affective interactions to motivational deficits in schizophrenia: An fMRI study. N. RAMAKRISHNAN*; R. CHO; T. A. LESH; C. S. CARTER; S. URSU. *Univ. of Texas Hlth. Sci. Ctr., Univ. of California, Davis.*

10:00 G24 **139.15** ● ▲ Resting state functional connectivity of the hippocampus in psychosis. I. NWABUDIKE*; S. KEEDY. *Univ. of Chicago.*

11:00 G25 **139.16** Cerebellar dysconnectivity in schizophrenia. J. JI*; C. DIEHL; M. GLASSER; N. SANTAMAURO; C. SCHLEIFER; V. SRIHARI; G. REPOVS; J. KRYSTAL; A. ANTICEVIC. *Yale Univ., Washington Univ. in St. Louis, Univ. of Ljubljana.*

8:00 G26 **139.17** Cortical hierarchy underlies preferential connectivity disturbances in schizophrenia. G. J. YANG*; J. D. MURRAY; G. REPOVS; M. W. COLE; X. WANG; D. C. GLAHN; G. D. PEARLSON; J. H. KRYSTAL; A. ANTICEVIC. *Yale Univ., New York Univ., Univ. of Ljubljana, Rutgers Univ.*

9:00 G27 **139.18** Brain activity associated with intrinsic motivation in patients with schizophrenia. K. TAKEDA*; M. MATSUMOTO; Y. OGATA; K. MAIDA; H. MURAKAMI; K. MURAYAMA; K. SHIMOJI; T. HANAKAWA; K. MATSUMOTO; K. NAKAGOME. *Natl. Ctr. of Neurol. and Psychiatry, Dept. of Psychiatry, Univ. of Tokyo, Integrative Brain Imaging Center, Natl. Ctr. of Neurol. and Psychiatry, Dept. of Psychiatry, Natl. Ctr. Hospital, Natl. Ctr. of Neurol. and Psychiatry, Fac. of Life Sciences, Univ. of Reading, Dept. of Radiology, Tokyo Metropolitan Geriatric Hosp. and Inst. of Gerontology, Brain Sci. Institute, Tamagawa Univ., Natl. Ctr. Hospital, Natl. Ctr. of Neurol. and Psychiatry.*

10:00 G28 **139.19** Resting state connectivity in prodromal schizophrenia. A. S. POTTER*; I. SOULOS; G. SCHAUBHUT; S. DUBE`. *Dept. of Psychiatry, Mount Holyoke Col., Univ. of Vermont.*

11:00 G29 **139.20** ● Gray matter changes in major depression and bipolar disorder: Evidence from voxel-based meta-analysis. T. WISE*; J. RADUA; E. VIA; N. CARDONER; A. J. CLEARE; T. ADAMS; J. H. COLE; M. KEMPTON; S. PEZZOLI; C. H. FU; A. H. YOUNG; D. ARNONE. *Ctr. For Affective Disorders, Inst. of Psych, Dept. of Psychosis Studies, Inst. of Psychiatry, Psychology & Neuroscience, King's Col. London, Research Unit, FIDMAG Germanes Hospitalàries – CIBERSAM, Mental Health, Parc Taulí Sabadell, Univ. Hospital, Sabadell, Ctr. for Affective Disorders, Inst. of Psychiatry, Psychology & Neuroscience, King's Col. London, Computational, Cognitive and Clin. Neuroimaging Laboratory, Dept. of Medicine, Imperial Col. London, Department of Neuroimaging, Inst. of Psychiatry, Psychology & Neuroscience, King's Col. London, Sch. of Psychology, Univ. of East London.*

8:00 G30 **139.21** Auditory hallucination severity and abnormal auditory cortex connectivity in psychotic disorders. V. RAMIREZ; S. KEEDY*. *Univ. of Chicago, Univ. of Chicago.*



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

9:00 G31 **139.22** Multivariate classification algorithm effectively identifies individuals with MDD using whole brain white matter microstructure calculated from diffusion tensor MRI. D. M. SCHNYER*; P. C. CLASEN; C. GONZALEZ; C. G. BEEVERS. *Univ. of Texas, Austin, Stanford Univ., Natl. Inst. of Hlth., Univ. of Texas.*

10:00 G32 **139.23** Decreased social connectedness in women with Premenstrual Dysphoric Disorder. L. LIANG*; N. PETERSEN; D. GHAHREMANI; R. GERARDS; A. CHOUDHARY; L. GOLDMAN; A. RAPKIN; E. LONDON. *UCLA, UCLA.*

11:00 G33 **139.24** Alterations of cortical activity at local and network levels during visual working memory updating in major depressive disorder. T. M. LE*; J. KANG; D. TYSZ; D. KLEIN; H. LEUNG. *Stony Brook Univ., Stony Brook Univ.*

8:00 G34 **139.25** Effects of behavioral activation therapy on the neural correlates of subthreshold depression with a monetary incentive delay task. A. MORI; Y. OKAMOTO; M. TAKAMURA; G. OKADA*; R. JINNIN; K. TAKAGAKI; M. KOBAYAKAWA; A. MACHINO; S. YAMAWAKI. *Deparetement of Psychiatry, Hiroshima Univ.*

**POSTER**

**140. Role of the Habenula in Drug Addiction**

***Theme C: Disorders of the Nervous System***

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

8:00 G35 **140.01** Increased excitability of lateral habenula neurons via down regulation of m-type potassium channel in rats withdrawn from repeated ethanol exposure. S. KANG*; J. YE. *Rutgers, The State of Univ. of New Jersey.*

9:00 G36 **140.02** Role of afferents and efferents of the lateral habenula in ethanol-directed behaviors. C. SHETH*; T. M. FURLONG; K. A. KEEFE; S. A. TAHA. *Univ. of Utah, The Kavli Fndn.*

10:00 G37 **140.03** Excitatory activity in lateral habenula neurons during expression of ethanol-induced conditioned taste aversion. S. TANDON*; K. A. KEEFE; S. TAHA. *Univ. of Utah, The Kavli Fndn.*

11:00 G38 **140.04** The role of the rostromedial tegmental nucleus in ethanol-induced conditioned taste aversion in male and female rats. E. J. BURNETT*; T. C. JHOU; L. J. CHANDLER. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*

8:00 G39 **140.05** ● The medial habenula and interpeduncular nucleus differentially modulate nicotine sensitization. B. L. EGGAN; S. E. MCCALLUM*. *Albany Med. Col.*

9:00 G40 **140.06** Lateral habenula in nicotine addiction: An electrophysiological *in vivo* study in rats. G. DEIDDA; M. PIERUCCI; R. COLANGELI; G. DI GIOVANNI*. *Univ. of Malta, Univ. of Malta.*

10:00 G41 **140.07** Cellular and synaptic mechanisms of nicotine aversion. S. L. WOLFMAN*; F. BOGDANIC; D. F. GILL; R. AL-HASANI; J. G. MCCALL; M. R. BRUCHAS; D. S. MCGEHEE. *Univ. of Chicago, Univ. of Chicago, Washington Univ.*

11:00 G42 **140.08** Septohabenular regulation of nicotine consumption. G. VOREN*; P. J. KENNY. *Mount Sinai Sch. of Med., Mount Sinai Sch. of Med.*

8:00 G43 **140.09** Effect of DREADD-mediated transient activation of Gq-coupled signaling in lateral habenula neurons on cocaine and food self-administration in rats. S. G. NAIR*; D. SMIRNOV; J. F. NEUMAIER. *Univ. of Washington, Univ. of Washington.*

9:00 G44 **140.10** Cocaine and cue encoding in the rodent entopeduncular nucleus. H. LI*; J. L. THOMPSON; T. C. JHOU. *Med. Univ. of South Carolina.*

10:00 H1 **140.11** The projection from the entopeduncular nucleus to the lateral habenula encodes aspects of cocaine withdrawal. F. MEYE*; T. SMIT; M. MAMELI. *Inst. Du Fer A Moulin, UMR-S 839 INSERM/UPMC, Utrecht Univ.*

11:00 H2 **140.12** A role for the lateral habenula and downstream efferent pathways in repeated probabilistic reversal learning. K. S. KIDDER*; P. M. BAKER; S. J. Y. MIZUMORI. *Univ. of Washington, Univ. of Washington.*

8:00 H3 **140.13** Microarray analysis of transcripts with elevated expressions in the rat medial or lateral habenula indicate GABAergic excitation in the medial habenula and habenular involvement in the regulation of circadian rhythm and energy balance. F. WAGNER; L. FRENCH; C. DERST; R. BERNARD; R. W. VEH*. *Univ. of Jena, Rotman Res. Inst. at Baycrest, Universitaetsklinikum Charite.*

**POSTER**

**141. Alcohol: Molecular Mechanisms**

***Theme C: Disorders of the Nervous System***

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

8:00 H4 **141.01** Functional adaptations of mesolimbic dopamine neurons underlying individual alcohol drinking behaviors. B. JUAREZ*; A. K. FRIEDMAN; E. S. CALIPARI; J. T. YORGASON; M. CRUMILLER; S. M. KU; H. ZHANG; C. MOREL; D. CHAUDHURY; M. HAN. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Oregon Hlth. & Sci. Univ., Rockefeller Univ., New York University-Abu Dhabi.*

9:00 H5 **141.02** Optogenetic-induced corticostriatal synaptic plasticity in the dorsomedial striatum of adult rodents. T. MA*; C. HUANG; X. WANG; J. WANG; J. WANG. *Texas A&M Hlth. Sci. Ctr.*

10:00 H6 **141.03** D1r-msns of the dorsomedial striatum positively control excessive alcohol intake via the nmda receptor. Y. CHENG*; T. MA; C. HUANG; X. WANG; J. WANG. *Texas A&M Hlth. Sci. Ctr.*

11:00 H7 **141.04** Input-specific aberrant synaptic plasticity in the dorsomedial striatum of alcohol-drinking rats. J. WANG*; T. MA; E. HELLARD; C. HUANG; X. WANG. *Texas A&M Univ. Hlth. Sci. Ctr.*

8:00 H8 **141.05** Inhibition of D1R-MSNs in the dorsomedial striatum decreases operant alcohol consumption. E. R. HELLARD*; C. HUANG; Y. CHENG; J. WANG. *Texas A&M Hlth. Sci. Ctr.*

9:00 H9 **141.06** Ethanol decreases the spontaneous firing rate of a specific subset of Globus Pallidus neurons: Role of the Large-Conductance $Ca^{2+}$-activated potassium channel. D. M. LOVINGER*; K. P. ABRAHAO. *Natl. Inst. Alcohol Abuse & Alcohol, Natl. Inst. Alcohol Abuse & Alcohol.*



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

10:00 H10 **141.07** A role for Kv7 channels in alcohol drinking: Genetics, pharmacology, and neuroadaptations. N. M. STRAIGHT MCGUIER*; W. C. GRIFFIN, III; J. T. GASS; A. E. PADULA; E. J. CHESLER; P. J. MULHOLLAND. *Med. Univ. of South Carolina, The Jackson Lab.*

11:00 H11 **141.08** Gene regulation as a basis for investigating pharmacological therapies that target Kv7 channels to reduce drinking. J. A. RINKER; D. B. FULMER; P. J. MULHOLLAND*. *MUSC.*

8:00 H12 **141.09** KCa2 channels modulate forced swim test behavior and voluntary alcohol consumption in nondependent C57BL/6J mice. A. E. PADULA*; M. F. LOPEZ; W. C. GRIFFIN; H. C. BECKER; P. J. MULHOLLAND. *Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. of South Carolina, Ralph H. Johnson Dept. of VA Med. CenterMedical Univ. of South Carolina.*

9:00 H13 **141.10** Ethanol-associated social avoidance in male sprague-dawley rats and the involvement of the endogenous dynorphin/kappa opioid receptor system. T. L. DOREMUS-FITZWATER*; E. I. VARLINSKAYA. *Binghamton Univ.*

10:00 H14 **141.11** NMDA receptor channel blockers and alcohol-escalated aggression in mice. E. L. NEWMAN*; T. WANG; M. TERUNUMA; J. F. DEBOLD; K. A. MICZEK. *Tufts Univ., Univ. of Leicester.*

11:00 H15 **141.12** Decreased hippocampal cell proliferation following chronic ethanol exposure: Reversal by cholinergic mechanisms. S. RAHMAN*; M. RONI. *South Dakota State Univ.*

8:00 H16 **141.13** Exposure to ethanol during adolescence alters $CB_1$-dependent synaptic plasticity in hippocampal dentate gyrus of adult mice. P. GRANDES*; S. PEÑASCO; N. PUENTE; A. RAMOS; N. ROYO; A. GUTIÉRREZ; I. BONILLA; L. REGUERO; M. CANDUELA; J. MENDIZABAL-ZUBIAGA; F. RODRÍGUEZ DE FONSECA; J. SUÁREZ; I. ELEZGARAI. *Univ. of the Basque Country, Achucarro Basque Ctr. for Neurosci., Hosp. Regional Universitario de Málaga.*

9:00 H17 **141.14** Effects of alcohol preference, exposure, and withdrawal on c-Myc protein levels in the brain. T. AKINYEKE; J. RABER*. *OHSU, OHSU.*

10:00 H18 **141.15** Low concentrations of ethanol potentiates non-synaptic glycine receptors in D1 medium spiny neurons. B. MUÑOZ*; D. M. LOVINGER; L. G. AGUAYO. *Univ. of Concepcion, NIH.*

11:00 H19 **141.16** Excessive alcohol drinking in rodents induces increased mTORC1-dependent Prosapip1 translation in the nucleus accumbens. S. LAGUESSE*; F. LIU; N. MORISOT; D. RON. *Univ. of California San Francisco.*

8:00 H20 **141.17** ▲ GABAA signaling mediates the locomotor stimulant response to ethanol in *Drosophila* melanogaster. C. W. DAACK; C. L. KLIETHERMES*. *Drake Univ.*

9:00 H21 **141.18** Decreased lysine demethylase 1 (Lsd1) and increased H3K9 dimethylation in the adult amygdala after adolescent alcohol exposure. E. J. KYZAR*; H. ZHANG; A. SAKHARKAR; S. C. PANDEY. *Univ. of Illinois At Chicago, Psychiatric Ins, Ctr. for Alcohol Res. in Epigenetics, Jesse Brown VA Med. Ctr.*

10:00 H22 **141.19** Repeated cycles of chronic intermittent ethanol exposure alters BDNF signaling in the prefrontal cortex of C57BL/6J mice. H. HAUN*; W. GRIFFIN; L. LUDERMAN; K. KOCH; H. BECKER. *Med. Univ. of South Carolina, Med. Univ. of South Carolina & VAMC, Col. of Charleston.*

11:00 H23 **141.20** Ethanol activates midkine and anaplastic lymphoma kinase signaling in neuroblastoma cells and in the brain. D. HE; H. CHEN; H. MURAMATSU; A. W. LASEK*. *Univ. of Illinois At Chicago, Aichi Gakuin Univ.*

8:00 H24 **141.21** ▲ Time-dependent Wnt/β-catenin signaling in response to 25mM ethanol exposure. A. BURGOS*; R. APONTE; S. N. TREISTMAN; C. VELAZQUEZ-MARRERO. *Inst. of Neurobio. Univ. of Puerto Ric, Inst. of Neurobio. Univ. of Puerto Ric.*

9:00 H25 **141.22** Increase in apoptosis following a single binge ethanol exposure is followed by subsequent compensatory events in hippocampal CA1 in rats. Z. GURSKY*; K. J. CRISS; R. M. A. NAPPER; A. Y. KLINTSOVA. *Univ. of Delaware, Univ. of Otago.*

10:00 H26 **141.23** Regulation of α-synuclein splice variants in human alcoholic brain by miRNAs. P. JANECZEK*; J. M. LEWOHL. *Menzies Hlth. Inst. Queensland, Griffith Univ.*

11:00 H27 **141.24** ● A sphingolipid pathway into co-morbidity of depression and alcoholism. C. P. MUELLER*; T. STÖCKL; E. SPRENGER; J. TIESEL; S. E. HUBER; D. AMATO; M. WITT; J. FUCHSER; J. BECKMANN; E. GULBINS; M. REICHEL; J. KORNHUBER. *Dept. of Psychiatry and Psychotherapy, Bruker Daltonik GmbH, Univ. of Duisburg-Essen, Univ. of Erlangen-Nuremberg.*

8:00 H28 **141.25** Effect of voluntary binge drinking on microglial activation in the medial prefrontal cortex of male and female rats. A. SILVA-GOTAY*; W. VARGAS; M. K. HOLDER; H. N. RICHARDSON. *Univ. of Massachusetts Amherst, Georgia State Univ.*

9:00 H29 **141.26** Synaptic dynamics and microglial phenotype in adolescent mice with deficient activity-dependent plasticity after early postnatal high binge ethanol exposure. E. L. WONG*; G. O. SIPE; C. E. LAMANTIA; A. K. MAJEWSKA. *Univ. of Rochester Med. Ctr., Univ. of Rochester Med. Ctr.*

10:00 H30 **141.27** Impact of alcohol on human neural stem cells. L. DE FILIPPIS*; A. HALIKERE; Z. PANG. *Child Hlth. Inst. of New Jersey.*

11:00 H31 **141.28** Physicochemical determinants of alcohol binding in a model ligand-gated ion channel. R. J. HOWARD*; T. B. VOIGT; S. HEUSSER; G. KLEMENT; I. POUYA; A. R. MOLA; T. M. D. RUEL; J. R. TRUDELL; E. LINDAHL. *Skidmore Col., Kungliga Tekniska Högskolan, Stanford Univ. Sch. of Med.*

8:00 H32 **141.29** ▲ Differential diagnosis of seizures for a patient with Alcohol abuse. Z. KONE*. *Cheikh Anta Diop Univ., Univ. of Bamako.*



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

**POSTER**

**142. Nicotine: Neural Mechanisms**

***Theme C: Disorders of the Nervous System***

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

8:00 H33 **142.01** ● Chronic intermittent nicotine delivery with lung alveolar region-targeted aerosol technology to rats produces circadian blood pharmacokinetics resembling human smokers. X. M. SHAO*; S. LIU; H. PEI; J. LIANG; R. MUDGWAY; J. ZHANG; J. L. FELDMAN; S. LOUIE; X. S. XIE. *David Geffen Sch. Med. at UCLA, Sch. of Pharm. Univ. of Southern California, AfaSci Inc.*

9:00 H34 **142.02** ● Mechanisms of nicotinic modulation of glutamatergic neuroplasticity in humans. M. A. NITSCHE*; G. BATSIKADZE; M. KUO; W. PAULUS; S. FRESNOZA; J. GRUNDEY; M. LUGON; E. NAKAMURA-PALACIOS. *Leibniz Res. Ctr. For Working Envrn. An, Univ. Med. Ctr., Federal Univ. of Espírito Santo.*

10:00 H35 **142.03** Alpha6-containing nicotinic acetylcholine receptors in midbrain dopamine neurons are poised to govern dopamine-mediated behaviors and synaptic plasticity. J. N. BERRY*; S. E. ENGLE; J. M. MCINTOSH; R. M. DRENAN. *Purdue Univ., Purdue Univ., George E. Wahlen Veteran Affairs Med. Ctr., Univ. of Utah.*

11:00 H36 **142.04** NRG3 modulates long-term synaptic plasticity in orbital frontal cortex. L. ZHOU*; P. ORTINSKI; J. TURNER. *Univ. of South Carolina, Univ. of South Carolina.*

8:00 H37 **142.05** Modulation of dopaminergic neurons by endogenous acetycholine and nicotine. S. DIDIENNE*; S. TAKILLAH; J. NAUDÉ; P. FAURE. *Cnrs_upmc, Univ. Pierre Et Marie Curie, Univ. Pierre et Marie Curie.*

9:00 H38 **142.06** Does nicotine speed up subjective time or induce impulsivity? C. W. DANIELS; C. C. HERRERA; F. SANABRIA*. *Arizona State Univ., Arizona State Univ.*

10:00 H39 **142.07** Catecholamine neurons in the nucleus of the solitary tract become hypersensitive to nicotine during spontaneous nicotine withdrawal. S. PAGE*; M. ZHU; S. M. APPLEYARD. *Washington State Univ., Washington State Univ.*

11:00 H40 **142.08** The GABAB receptors modulates dysphoric manifestations induced by mecamylamine-precipitated nicotine withdrawal in mice. A. P. VARANI; V. T. PEDRÓN; A. AON; B. BETTLER; R. MALDONADO; G. N. BALERIO*. *Inst. de Investigaciones Farmacológicas (CONICET), Dept. of Biomedicine, Inst. of Physiology, Pharmazentrum, Univ. of Basel, Laboratori de Neurofarmacologia, Facultat de Ciències de la Salut i de la Vida, Univ. Pompeu Fabra, Univ. Buenos Aires Sch. Pharm & Biochem.*

8:00 H41 **142.09** Age-dependent effects of nicotine or fluoxetine on 5-HT1A receptor activity. S. J. CROSS*; M. YUAN; J. O. AFAGA; D. LARRY-SAR; M. T. PHAN; F. M. LESLIE. *Univ. of California, Irvine, Univ. of California, Irvine.*

9:00 H42 **142.10** Adolescent nicotine exposure enhances fear memory expression in ABA renewal. R. C. BARNET*; E. LUNER; A. HOGENMILLER. *Col. William & Mary.*

10:00 H43 **142.11** Sex-differential effect on midbrain dopamine receptors of smoking. M. JOHNSON*; K. OKITA; N. PETERSEN; C. L. ROBERTSON; A. C. DEAN; M. A. MANDELKERN; E. D. LONDON. *UCLA, UCLA, Univ. of California Irvine.*

11:00 H44 **142.12** Nicotine exposure causes parallel increases in prefrontal cortex gamma oscillations and visual attention. L. S. BUENO-JUNIOR*; N. W. SIMON; M. A. WEGENER; B. MOGHADDAM. *Univ. of Sao Paulo, Univ. of Pittsburgh.*

8:00 H45 **142.13** Subsecond modulation of dopamine release by the tobacco product flavorant menthol. R. WICKHAM*; E. NUNES; J. PARK; N. ADDY. *Yale Univ., Yale Univ., Univ. of Buffalo, Yale Univ.*

9:00 H46 **142.14** Age-dependent effects of nicotine on behavioral adaptations and striatal neurotransmission in Wistar rats. A. LOTFI*; J. MORUD LEKHOLM; B. SÖDERPALM; M. ERICSON; L. ADERMARK. *Univ. of Gothenburg.*

10:00 H47 **142.15** Environmental tobacco smoke (ETS) in the early postnatal period decreases the endocannabinoid related enzymes and receptors in the brainstem. T. MARCOURAKIS*; N. T. BALESTRIN; N. N. MONTEIRO; R. C. T. GARCIA; S. OLIVEIRA; T. ANDRIOLI; A. C. C. S. DURAO; L. H. L. TORRES. *Univ. of Sao Paulo.*

11:00 H48 **142.16** ▲ Repeated nicotine exposure regulates BDNF expression in the dorsal striatum via stimulation of mGluRs in glia. J. KIM; I. RYU; S. SEO; K. SHIM; E. CHOE*. *Pusan Natl. Univ.*

8:00 I1 **142.17** ▲ Nicotine challenge-induced behavioral sensitization requires glutamate releases and MAP kinase phosphorylation in the rat dorsal striatum. I. RYU*; J. KIM; S. SEO; K. SHIM; E. CHOE. *Pusan Natl. Univ.*

9:00 I2 **142.18** Functional upregulation of α4* nicotinic acetylcholine receptors in VTA GABAergic neurons increases sensitivity to nicotine reward. J. NGOLAB*; L. LIU; R. ZHAO-SHEA; G. GAO; P. D. GARDNER; A. R. TAPPER. *BNRI - Univ. of Mass Med. Sch.*

10:00 I3 **142.19** Differential nicotine responses in human dopaminergic neurons derived from iPSC carrying CHRNA5 N398 variant. E. ONI*; A. HALIKERE; A. J. TORO-RAMOS; M. R. SWERDEL; J. C. MOORE; J. A. TISCHFIELD; Z. P. PANG; R. P. HART. *Rutgers Univ., Rutgers Univ., Rutgers Robert Wood Johnson Med. Sch., Rutgers Robert Wood Johnson Med. Sch., Rutgers Univ.*

11:00 I4 **142.20** ● α5 nAChR modulation of the effects of nicotine on ventral-striatal DA release and cue-reward learning. W. M. HOWE*; P. TIERNEY; A. ROSSI; D. YOUNG; R. KOZAK. *Pfizer, INC.*

8:00 I5 **142.21** Effects of adolescent nicotine exposure on intracranial self-stimulation behavior in rats. T. SUENAGA*; S. GAO; Y. ISHIDA; D. NAKAHARA. *Tokyo Univ. and Grad. Sch. of Social Welfare, Henan Univ. of Traditional Chinese Med., Univ. of Miyazaki, Hamamatsu Univ. Sch. of Med.*

9:00 I6 **142.22** Chronic toluene exposure and nicotine administration modify adrenergic responses in isolated rat heart. N. ALVARADO-GOMEZ; M. CARREON-GARCIDUEÑAS; L. ORTEGA-VARELA; D. GODINEZ-HERNANDEZ; M. Y. GAUTHEREAU*. *Univ. Michoacana de San Nicolas de Hidalgo, Univ. Michoacana de San Nicolas de Hidalgo, Univ. Michoacana De San Nicolás De Hidalgo.*



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

10:00 I7 **142.23** Inhalation of aerosolized nicotine enhances cognitive function in aged mice using an automated aerosol delivery system. X. S. XIE*; C. A. LIEU; B. ZOU; C. PASCUAL; J. ZHANG; X. M. SHAO. *Afasci Res. Laboratories, Afasci, Inc., David Geffen Sch. of Med. at UCLA.*

**POSTER**

**143. Nicotine Seeking, Reward, and Relapse**

***Theme C: Disorders of the Nervous System***

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

8:00 I8 **143.01** The role of the dynorphin-kappa-opioid system in reinstatement of nicotine-seeking in mouse self-administration. A. M. GOMEZ*; M. R. BRUCHAS. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*

9:00 I9 **143.02** Partial inhibition of monoamine oxidase (MAO) increases nicotine self-administration in rats. T. T. SMITH; S. N. CWALINA; L. E. RUPPRECHT; M. J. OMINUS; S. E. MURPHY; E. C. DONNY; A. F. SVED*. *Univ. Pittsburgh, Univ. of Minnesota.*

10:00 I10 **143.03** Individual differences in nicotine self-administration and approach to nicotine cues. C. P. KING*; C. L. VERSAGGI; L. JACKSON; P. J. MEYER. *Univ. At Buffalo.*

11:00 I11 **143.04** Histamine and Nicotine Self-administration. E. D. LEVIN*; K. YANG; S. JUNAID; K. MURGAS; C. WELLS; S. SLADE. *Duke Univ. Med. Ctr., Duke Univ.*

8:00 I12 **143.05** Imaging CA1-hippocampal neuronal ensembles during nicotine-dependent contextual associations. L. XIA*; S. K. NYGARD; B. ACLAND; N. J. HOURGUETTES; G. SOBCZAK; M. BRUCHAS. *Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. in St Louis, Washington Univ. In St. Louis.*

9:00 I13 **143.06** Nicotine self-administration is enhanced in obesity-resistant rats. L. RUPPRECHT*; T. T. SMITH; E. C. DONNY; A. F. SVED. *Univ. of Pittsburgh.*

10:00 I14 **143.07** Activation of the kappa-opioid receptor system is both necessary and sufficient for reinstatement of nicotine place preference. S. K. NYGARD*; N. J. HOURGUETTES; R. AL-HASANI; G. SOBCZAK; M. R. BRUCHAS. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*

11:00 I15 **143.08** Trans-generational effects of paternal nicotine self-administration. J. MAURER*; D. VAN NEST; H. SCHMIDT. *Univ. of Pennsylvania.*

8:00 I16 **143.09** Azacytidine regulates socially-acquired nicotine intravenous self-administration (IVSA) in rats. W. HAN*; H. CHEN. *Univ. of Tennessee Hlth. Sci. Ctr.*

9:00 I17 **143.10** Gene expression and alternative splicing changes in infralimbic cortex (IL) underlies socially-acquired nicotine self-administration. H. CHEN*; T. WANG; W. HAN. *Univ. Tennessee Hlth. Sci. Ctr.*

10:00 I18 **143.11** Genetic factors contribute to nicotine intravenous self-administration (IVSA) with menthol cue and sensation seeking. T. WANG*; H. CHEN. *Univ. of Tennessee Hlth. Sci. Ctr.*

11:00 I19 **143.12** Hypothalamic involvement nicotine self-administration in rats. B. J. HALL*; C. WELLS; E. D. LEVIN. *Duke Univ. Med. Ctr.*

8:00 I20 **143.13** Effect of the dual orexin receptor antagonist tcs1102 on intravenous nicotine self-administration and reinstatement in the rat. S. Y. KHOO*; G. P. MCNALLY; K. J. CLEMENS. *Sch. of Psychology, Univ. of New South Wales.*

9:00 I21 **143.14** Effects of menthol on nicotine-taking and -seeking behavior in rat models of nicotine dependence: Implications for tobacco product control policy making. X. LIU*; L. BISWAS; E. HARRISON; J. LEE. *Univ. of Mississippi Med. Ctr.*

10:00 I22 **143.15** Nicotine enhances responding for a conditioned reinforcer via α4β2 nicotinic acetylcholine receptors in the ventral tegmental area. R. I. TABBARA*; P. J. FLETCHER. *Univ. of Toronto, Ctr. for Addiction and Mental Hlth., Univ. of Toronto.*

11:00 I23 **143.16** Cotinine: A critical player in nicotine addiction? Z. DING*; C. M. INGRAHAM; A. M. SENTIR; E. A. ENGLEMAN; R. A. CHAMBERS; W. J. MCBRIDE. *IPR, Neurosci. Res. Building.*

8:00 I24 **143.17** Role for Tcf7l2 in regulating nicotinic acetylcholine receptor function and nicotine intake. A. D. DUNCAN*; M. P. HEYER; A. GEURTS; H. O'NEILL; P. J. KENNY. *Mt. Sinai Sch. of Med., Med. Col. of Wisconsin, Univ. of Colorado Boulder.*

9:00 I25 **143.18** ▲ Nicotine-induced behavioral sensitization is not affected by early-life methylphenidate exposure in adolescent male and female rats. S. SENG; A. SU; A. MCELROY; A. R. ZAVALA*. *California State Univ.*

10:00 I26 **143.19** Chronic nicotine exposure alters cue-evoked reward strategy in rats. N. W. SIMON*; C. C. PATTERSON; B. MOGHADDAM. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

11:00 I27 **143.20** ▲ Time-dependent nicotine-induced condition place preference in female and male adolescent rats. K. HERNANDEZ*; B. J. SALINAS; N. SOLLENBERGER*; S. E. FOX; S. D. IÑIGUEZ; N. S. PENTKOWSKI; A. R. ZAVALA. *California State University, Long Beach, The Univ. of Texas at El Paso, Univ. of New Mexico.*

8:00 I28 **143.21** ▲ One-trial nicotine-induced locomotor sensitization in male and female adult rats. B. P. SCHUESSLER*; A. SU; R. MERCER; A. R. ZAVALA. *California State University, Long Beach.*

9:00 I29 **143.22** Effects of chronic stress on nicotine-seeking behavior and reinstatement. J. J. CORTRIGHT*; H. KLIMEK; M. ERB; A. MILLER; A. JANKE; T. HARMAN. *Univ. of Wisconsin River Falls.*

10:00 I30 **143.23** ▲ Predatory behavior predicts high motivation to self-administer nicotine in rats. A. BROWN*; E. WILLIAMS; C. A. BRADLEY; C. N. SWYMER; M. I. PALMATIER. *East Tennessee State Univ.*

11:00 I31 **143.24** ● Inhibition of aldehyde dehydrogenase-2 (ALDH-2) suppresses nicotine self-administration in rats. A. H. REZVANI*; M. P. AROLFO; M. GRAUPE; E. D. LEVIN; I. DIAMOND. *Duke Univ., Gilead Sci.*



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

8:00 I32 **143.25** Investigating risk and reward based decision making in nicotine dependent subjects. L. E. CURLEY*; R. R. KYDD; I. J. KIRK; B. R. RUSSELL; R. HESTER. *The Univ. of Auckland, The Univ. of Auckland, The Univ. of Auckland, The Univ. of Auckland, Univ. of Melbourne.*

9:00 I33 **143.26** Nicotine reinforcement and relapse are prevented by pharmacological enhancement of kynurenic acid in rats and squirrel monkeys. M. SECCI*; A. AUBER; L. V. PANLILIO; G. H. REDHI; E. B. THORNDIKE; C. W. SCHINDLER; R. SCHWARCZ; S. R. GOLDBERG; Z. JUSTINOVA. *NIDA, IRP, NIH, DHHS, MPRC Univ. of Maryland Sch. of Med.*

10:00 I34 **143.27** Effects of single and repeated N-acetylcysteine on cue-induced nicotine-seeking behavior in rats. F. MORO*; G. GIANNOTTI; C. MARZO; A. DI CLEMENTE; F. FUMAGALLI; L. CERVO. *Irccs-Mario Negri Inst. For Pharmacol. Re, Univ. of Milan.*

11:00 I35 **143.28** Effects of nicotine and minor tobacco alkaloids on intracranial-self-stimulation in rats. A. C. HARRIS*; L. TALLY; P. MUELKEN; A. BANAL; C. SCHMIDT; Q. CAO; M. LE SAGE. *Minneapolis Med. Res. Fndn., Univ. of Minnesota.*

8:00 I36 **143.29** Effect of α4β2 and α3β4 nAChR-directed compounds on nicotine and alcohol co-addiction. A. CIPPITELLI; G. BRUNORI; N. T. ZAVERI; J. WU; M. GIULIANOTTI; C. ARMISHAW; L. TOLL*. *Torrey Pines Inst. For Mol. Studies, Astraea Therapeut.*

9:00 I37 **143.30** Behavioral and neural effects of cigarette craving regulation using a proximal/distal reappraisal strategy in young-adult smokers. C. M. COX; D. G. GHAHREMANI*; P. FAULKNER; E. D. LONDON. *UCLA.*

**POSTER**

**144. Cocaine: Neural Mechanisms of Reinforcement and Relapse II**

***Theme C: Disorders of the Nervous System***

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

8:00 I38 **144.01** D1 and D2 receptors in the infralimbic and medial orbitofrontal cortices differentially mediate the reinstatement of cocaine seeking in rats. C. V. COSME*; A. L. GUTMAN; A. PEPPLES; R. T. LALUMIERE. *Univ. of Iowa.*

9:00 I39 **144.02** Optogenetic inhibition of the infralimbic cortex following unreinforced lever presses increases cocaine seeking in rats. A. L. GUTMAN*; C. V. COSME; R. VASQUEZ; R. T. LALUMIERE. *Univ. of Iowa, rachel-vasquez@uiowa.edu.*

10:00 I40 **144.03** Glucagon-like peptide-1 receptor activation in the ventral tegmental area or the nucleus accumbens attenuates cocaine seeking in rats. N. S. HERNANDEZ*; E. G. MIETLICKI-BAASE; J. J. MAURER; D. S. VAN NEST; M. R. HAYES; H. D. SCHMIDT. *Univ. of Pennsylvania.*

11:00 I41 **144.04** Hippocampal inputs to lateral septum drive context-induced, but not cue-induced cocaine seeking. E. M. MCGLINCHEY*; G. ASTON-JONES. *Med. Univ. of South Carolina, Rutgers University/Rutgers Biomed. and Hlth. Sci.*

8:00 I42 **144.05** Drug seeking during initial abstinence is driven by hippocampal β-adrenergic and serotonergic receptors in a sex-dependent manner. A. S. KOHTZ*; A. CASON; G. ASTON-JONES. *Brain Hlth. Inst., Med. Univ. of South Carolina.*

9:00 I43 **144.06** Attenuation of orexin/hypocretin signaling decreases cocaine seeking and increases cocaine taking in rats with a history of self-administering cocaine and ethanol. B. A. ZIMMER*; G. ASTON-JONES. *Rutgers Univ.*

10:00 I44 **144.07** Long access self-administration increases cocaine demand: Dependence on orexin 1 receptor signaling. C. M. STOPPER*; G. ASTON-JONES. *Rutgers Univ.*

11:00 I45 **144.08** Effects of central and peripheral oxytocin on reinstated cocaine seeking in male and female rats. L. R. FREEMAN*; K. LEONG; S. M. GHEE; C. R. BERINI; T. A. STUBBS-STROUD; B. M. BROWN; M. C. AMEY; C. M. REICHEL. *Furman Univ., Med. Univ. of South Carolina, Col. of Charleston.*

8:00 I46 **144.09** Treatment with the M1-selective muscarinic antagonist trihexyphenidyl attenuates cocaine-reinforced behavior. K. W. GRASING*; F. YANG. *Kansas City Veterans Affairs Med. Ctr.*

9:00 I47 **144.10** Pathological persistence of the brain response to “unseen” 33 msec cocaine cues as a marker of relapse vulnerability. A. R. CHILDRESS*; K. JAGANNATHAN; Z. MONGE; J. SUH; K. YOUNG; P. REGIER; T. FRANKLIN; D. LANGLEBEN; Z. WANG; Z. LI; K. KAMPMAN; R. WETHERILL; R. EHRMAN; M. GAWRYSIAK; R. SZUCS-REED; C. P. O’BRIEN. *Univ. PENN Perelman Sch. Med., Philadelphia Dept. of Veteran’s Affairs Med. Ctr.*

10:00 I48 **144.11** The group 1 metabotropic glutamate receptors regulation of cocaine seeking is receptor-selective and intake-dependent: Role of anatomical substrates. M. GHASEMZADEH*; P. HEASLIP; R. DIDOMINICIS; M. VUONCINO; C. SZEWCZYK; J. MANTSCH. *Marquette Univ.*

11:00 J1 **144.12** Orexin-A/hypocretin-1 in the paraventricular nucleus of the thalamus fails to reinstate cocaine-seeking behavior in animals with a history of cocaine dependence following a prolonged period of abstinence. A. MATZEU*; F. WEISS; R. MARTIN-FARDON. *The Scripps Res. Inst.*

8:00 J2 **144.13** Orexin-A/hypocretin-1 in the paraventricular nucleus of the thalamus induces Fos expression in the medial prefrontal cortex in animals with a history of cocaine dependence. R. MARTIN-FARDON*; F. WEISS; A. MATZEU. *The Scripps Res. Inst.*

9:00 J3 **144.14** Experience-dependent changes in calcium-permeable AMPA receptors in the mPFC following cocaine conditioned place preference versus cocaine self-administration. J. I. PEÑA BRAVO*; C. M. REICHEL; A. LAVIN. *Med. Univ. of South Carolina.*

10:00 J4 **144.15** Involvement of the dorsal hippocampus and HDAC3 in cocaine drug-seeking. L. N. HITCHCOCK*; J. D. RAYBUCK; R. G. WILLIAMS, Jr; M. A. WOOD; K. M. LATTAL. *Oregon Hlth. & Sci. Univ., Univ. of California, Irvine.*

11:00 J5 **144.16** Inhibitory influence of basolateral amygdala cannabinoid CB1 receptors in instrumental cocaine memory reconsolidation. J. A. HIGGINBOTHAM*; N. MAHAN; K. HARMON; A. ARGUELLO; R. FUCHS. *Washington State Univ.*



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

8:00 J6 **144.17** Time-dependent, opposite effects of glucocorticoid receptor antagonism in the basolateral amygdala on drug context-induced cocaine-seeking behavior. R. A. FUCHS*; S. J. STRINGFIELD; A. A. ARGUELLO; K. M. HARMON; J. A. HIGGINBOTHAM. *Washington State Univ., Univ. of North Carolina.*

9:00 J7 **144.18** Optogenetic inhibition of the dorsal hippocampus: Effect on reconsolidation of cocaine-associated contextual memories and subsequent cocaine-seeking behavior. A. A. ARGUELLO*; J. A. HIGGINBOTHAM; P. N. BUSHANA; J. L. BARNES; R. WANG; R. A. FUCHS. *Washington State Univ.*

10:00 J8 **144.19** Retrograde contextual learning induced by cocaine in a conditioned place preference paradigm. R. A. SHETTY; M. A. RUTLEDGE; M. J. FORSTER*. *Univ. North Texas Hlth. Sci. Ctr.*

11:00 J9 **144.20** Extinction of cocaine craving is associated with a shutdown of neuronal activity in the insula-prefrontal cortex circuit. P. GIRARDEAU*; S. NAVAILLES; A. DURAND; K. GUILLEM; S. H. AHMED. *Inst. of Neurodegenerative Dis., CNRS UMR5293, Univ. de Bordeaux.*

8:00 J10 **144.21** Subthalamic nucleus markers of compulsive cocaine seeking. C. BAUNEZ*; A. TIRAN-CAPPELLO; Y. PELLOUX. *INT CNRS & Aix-Marseille Univ.*

9:00 J11 **144.22** Cocaine motivational value is enhanced when co-administered with caffeine: Relevance of adulterants in reinforcement. J. P. PRIETO*; C. SCORZA; G. SERRA; V. PERRA; G. PIRAS; M. GALVALISI; A. ABÍN-CARRIQUIRY; G. DI CHIARA; V. VALENTINI. *Inst. De Investigaciones Biológicas C. Estable, Inst. de Investigaciones Biológicas Clemente Estable, Univ. of Cagliari, Inst. de Investigaciones Biológicas Clemente Estable.*

10:00 J12 **144.23** Neuronal activation in ventral hippocampus during context-induced reinstatement of cocaine self-administration in rats. P. E. OLIVEIRA*; P. C. BIANCHI; R. M. LEÃO; C. S. PLANETA; B. T. HOPE; F. C. CRUZ. *Univ. Estadual Paulista, Natl. Inst. on Drug Abuse, Univ. de São Paulo.*

**POSTER**

**145. Perinatal Brain Injury: Acute Therapy**

***Theme C: Disorders of the Nervous System***

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

8:00 J13 **145.01** Altered capacity for cellular remodeling and neurotransmission in the hippocampus underlie memory deficit in a mouse model of perinatal hyperoxia. J. ABBAH*; L. CHEW; C. VACHER; V. GALLO. *Children's Natl. Med. Ctr., NeuroPSI - Univ. Paris Sud 11 - CNRS.*

9:00 J14 **145.02** Early administration of cord blood cells reduces preterm brain injury following hypoxia-ischemia. J. LI*; T. YAWNO; A. SUTHERLAND; J. LOOSE; I. NITSOS; F. Y. WONG; G. JENKIN; S. L. MILLER. *MIMR-PHI Institute, Monash Univ.*

10:00 J15 **145.03** Perinatal tetrahydrobiopterin biosynthesis is changed in fetal brain in a chorioamnionitis animal model. Z. SHI*; K. LUO; A. DROBYSHEVSKY; J. VASQUEZ-VIVAR; S. TAN. *Northshore Univ. Hosp., Med. Col. of Wisconsin.*

11:00 J16 **145.04** Transcranial motor-evoked responses in children with perinatal stroke involved in an intensive leg training program. A. SMITH*; E. ZWEDIE; D. LIVINGSTONE; K. BRUNTON; C. HURD; A. MOIR; A. KIRTON; J. YANG; M. GORASSINI. *Univ. of Alberta, Univ. of Calgary.*

8:00 J17 **145.05** Perinatal brain injury in a chorioamnionitis model in rabbits. K. LUO*; Z. SHI; A. DROBYSHEVSKY; S. TAN. *Northshore Univ. Healthsystem, Northshore Univ. Healthsystem.*

9:00 J18 **145.06** Development of an LPS-sensitized mouse model of very preterm brain injury. A. MIKHAILOVA; S. RANASINGHE; P. S. MCQUILLEN*. *UCSF, Univ. California, San Francisco.*

10:00 J19 **145.07** Graded restoration of normocapnia blocks pathophysiological suppression of sharp waves in a rat model of birth asphyxia. E. PROKIC*; A. ALAFUZOFF; J. VOIPIO; K. KAILA. *Helsinki Univ.*

11:00 J20 **145.08** Postnatal erythropoietin modulates excess calpain activation following prenatal hypoxia-ischemia in rats. L. L. JANTZIE*; S. ROBINSON. *Dept. of Pediatrics, UNM, Boston Children's Hospital/Harvard Med. Sch.*

8:00 J21 **145.09** Decrease of white matter projections in spinal cord after antenatal hypoxia-ischemia in rabbit cerebral palsy model. A. DROBYSHEVSKY*; K. LUO; Z. SHI; S. TAN. *Northshore Univ. Hlth. Syst. Res. Inst.*

9:00 J22 **145.10** Neuroprotective effect of hypothermia in a model of neonatal encephalopathy resulting from E. coli-induced inflammation plus hypoxia-ischemia. M. CHEVIN*; C. GUIRAUT; G. SÉBIRE. *Univ. De Sherbrooke, Univ. De Sherbrooke, Mc Gill Univ.*

10:00 J23 **145.11** Using neuroimaging biomarkers to study tetrahydrobiopterin pathways critical to hypertonia in antenatal hypoxia-ischemia. S. TAN*; K. LUO; Z. SHI; A. DROBYSHEVSKY; J. VASQUEZ-VIVAR. *Northshore Univ. Healthsystem, Med. Col. of Wisconsin.*

11:00 J24 **145.12** Administration of zinc plus cyclo-(His-Pro) increases neurogenesis in the subgranular zone of the dentate gyrus in streptozotocin-induced diabetic rat. I. KIM*; B. CHOI; J. KIM; B. LEE; S. LEE; A. KHO; S. SUH; M. SOHN. *Hallym University, Col. of Med., Inha university.*

8:00 J25 **145.13** Glutamate oxaloacetate transaminase a therapeutic target against periventricular leukomalacia in neonates. N. ZAGHLOUL*; H. L. PATEL; M. N. AHMED. *Cohen's Children Med. Ctr., Feinstein Inst. for Med. Res., The Feinstein Inst. for Med. Res., cohen's Children Med. Ctr. of NY.*

9:00 J26 **145.14** Withdrawn.

10:00 J27 **145.15** Neurodevelopmental effects of caffeine on neonatal neurons. H. LI*; I. AHMED; T. ADAMS; U. ADEN. *SUNY Downstate Med. Ctr., CUNY, Medgar Evers Col., Karolinska Inst.*

11:00 J28 **145.16** Metformin promotes sensorimotor recovery and activation of endogenous neural precursor cells following a hypoxic/ischemic insult. P. DADWAL*; N. MAHMUD; L. SINAI; A. AZIMI; M. FATT; F. D. MILLER; C. MORSHEAD. *Univ. of Toronto.*



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* Indicates abstract's submitting author

**POSTER**

**146. Auditory Temporal, Frequency, and Spectral Processing: Neurophysiology**

***Theme D: Sensory and Motor Systems***

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

8:00 J29 **146.01** ● ▲ L3 auditory interneuron responses to dual-frequency calling songs in female crickets (Acheta domesticus). J. LEE*; B. NAVIA. *Andrews Univ., Andrews Univ.*

9:00 J30 **146.02** ▲ The effect of varying sound intensities on phonotactic selectivity in Female. R. GREENE; B. A. NAVIA*. *Andrews Univ.*

10:00 J31 **146.03** ▲ Spike threshold adaptation enhances temporal fluctuation coding in the avian cochlear nucleus. S. T. LUBEJKO*; B. FONTAINE; K. M. MACLEOD. *Univ. of Maryland, Univ. of Leuven, Univ. of Maryland.*

11:00 J32 **146.04** Frequency tuning in the songbird auditory cortex: Topographical distribution and relation to species-typical vocalizations. J. M. MOORE*; S. M. N. WOOLLEY. *Columbia Univ.*

8:00 J33 **146.05** Organization of auditory cortex in the Nine-banded Armadillo (Dasypus novemcinctus). B. MOFFITT; B. SKINNER; J. J. PADBERG*. *Univ. Central Arkansas.*

9:00 J34 **146.06** Acoustic features contributing to 1/f temporal modulation spectra of vocalization sequences and speech. F. KHATAMI*; M. WÖHR; H. L. READ; M. A. ESCABI. *Biomed. Engin., Univ. of Connecticut, Philipps-University of Marburg, Univ. of Connecticut.*

10:00 J35 **146.07** Auditory midbrain processing is differentially modulated by auditory and visual cortices. P. P. GAO*; J. W. ZHANG; S. FAN; D. H. SANES; E. X. WU. *The Univ. of Hong Kong, The Univ. of Hong Kong, New York Univ.*

11:00 J36 **146.08** In search of the origins of a central auditory deficit in gap-in-noise sensitivity. J. MATTLEY*; L. A. ANDERSON; J. F. LINDEN. *UCL Ear Inst., UCL Ear Inst. & UCL Dept. Neurosci., Physiol. & Pharmacol.*

8:00 J37 **146.09** Functional connectivity for spectrotemporal processing of neighboring neurons in inferior colliculus. L. SHEN*; Y. YAN; N. GUO; B. HONG. *Dept. Biomed. Engin, Sch. Med. Tsinghua Univ.*

9:00 J38 **146.10** Sound evoked afterdischarge in the auditory midbrain. M. ONO*; D. BISHOP; D. OLIVER. *Univ. of Connecticut Hlth. Ctr., Kanazawa Med. Univ.*

10:00 J39 **146.11** Thalamocortical forward suppression of field excitatory postsynaptic potentials in the auditory cortex. C. XIONG*; L. KONG; J. YAN. *Univ. of Calgary.*

11:00 J40 **146.12** Nicotine narrows receptive fields and increases gain in A1 via distinct actions at several subcortical auditory regions. C. E. ASKEW*; I. INTSKIRVELI; R. METHERATE. *Univ. of California, Irvine.*

8:00 J41 **146.13** Augmentation of A1 responses is reproduced by a recurrent circuit model combining strong excitation with synaptic depression. P. J. GONCALVES*; J. F. LINDEN; M. SAHANI. *Univ. Col. London, Univ. Col. London.*

9:00 J42 **146.14** Distinct time-scales for neural discrimination of sound envelope shape in three auditory cortical fields. A. F. OSMAN; C. M. LEE; M. A. ESCABI; H. L. READ*. *Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut.*

10:00 J43 **146.15** Contributions of synaptic inhibition to forward-masking in awake mouse auditory cortex. E. A. K. PHILLIPS; C. SCHREINER; A. R. HASENSTAUB*. *UCSF, UCSF, UCSF.*

11:00 J44 **146.16** Entrainment of neuronal oscillations by repetitive complex auditory patterns. A. BARCZAK*; M. N. O'CONNELL; T. MCGINNIS; D. ROSS; P. LAKATOS. *Nathan S. Kline Inst. For Psychiatric Res., NYU Sch. of Med.*

8:00 J45 **146.17** Sustained spiking patterns discriminate sound envelope shape in ventral non-primary auditory cortices. C. M. LEE*; A. F. OSMAN; M. A. ESCABI; H. L. READ. *Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut.*

9:00 J46 **146.18** Frequency selectivity of neurons in the ferret auditory cortex. D. MERRY*; T. WELLS; P. ADJAMIAN; A. R. PALMER; C. SUMNER. *Inst. of Hearing Res. MRC.*

10:00 J47 **146.19** Optogenetic silencing of the ferret primary auditory cortex in a behaviorally- and physiologically-relevant model of lesion-induced tinnitus. J. R. GOLD; F. R. NODAL; A. J. KING; V. M. BAJO-LORENZANA*. *Univ. of Oxford, Dept. of Physiology, Anat. and Genet.*

11:00 J48 **146.20** Single-unit responses in lateral belt auditory cortex of the behaving marmoset monkey. D. GAMBLE*; X. WANG. *Johns Hopkins Univ.*

8:00 K1 **146.21** Harmonic processing in primary auditory cortex of awake marmoset revealed by intracellular recordings. L. GAO*; X. WANG. *The Johns Hopkins Univ.*

9:00 K2 **146.22** Oscillatory mechanisms for the segregation and integration of auditory inputs. B. ZOEFEL*; M. N. O'CONNELL; A. BARCZAK; R. VANRULLEN; P. LAKATOS. *Ctr. De Recherche Cerveau Et Cognition (CerCo), Cognitive Neurosci. & Schizophrenia Program, Nathan Kline Inst., Dept. of Psychiatry, NYU Sch. of Med.*

10:00 K3 **146.23** Isolating neural indices of continuous speech processing at the phonetic level. G. M. DI LIBERTO*; E. C. LALOR. *Trinity Ctr. for Bioengineering, Trinity Col.*

11:00 K4 **146.24** Effects of sequential comparison on the lateralization of processing of different fundamental acoustic parameters. N. ANGENSTEIN*; A. BRECHMANN. *Leibniz Inst. for Neurobiol.*

8:00 K5 **146.25** Effects of speaking rhythm naturalness on the neural basis of speech perception. S. HIROYA*; K. JASMIN; S. EVANS; S. KRISHNAN; M. OSTAREK; D. BOEBINGER; S. K. SCOTT. *NTT Corp., Univ. Col. London.*

9:00 K6 **146.26** The cortical representation of sounds with speech-like modulation rates tested with multi-dimensional scaling. X. TENG*; D. POEPPEL. *New York Univ., Max Planck Inst.*

10:00 K7 **146.27** Musical experience and interaural correlation processing at various interaural delays. M. WANG*; R. NING; Y. YANG; L. KONG. *Sch. of Psychology, Beijing Normal Univ., the State Key Lab. of Cognitive Neurosci. and Learning, Dept. of Physiol. and Pharmacology, Cumming Sch. of Medicine, Univ. of Calgary.*



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* Indicates abstract's submitting author

**POSTER**

**147. Retinal Ganglion Cells: Classification and Responses**

***Theme D: Sensory and Motor Systems***

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

8:00 K8 **147.01** The endocannabinoid system exerts a paradoxical effect on visually-evoked responses of mouse retinal ganglion cells. D. A. PROTTI*; I. DARWISH; J. HUANG; C. YATES. *Univ. of Sydney, Univ. of Sydney, Univ. of Sydney.*

9:00 K9 **147.02** Ultraviolet and long-wavelength excitation combine with mid-wavelength inhibition to generate multiphasic spectral patterns in the ganglion cells of larval zebrafish retinas. R. F. NELSON*; V. P. CONNAUGHTON. *NINDS, NIH, American Univ.*

10:00 K10 **147.03** SIRT6 deficiency causes neurotransmission defects in the mouse retina. D. M. SILBERMAN*; K. ROSS; P. H. SANDE; S. KUBOTA; R. S. APTE; S. RAMASWAMY; R. MOSTOSLAVSKY. *CEFYBO-CONICET, Massachusetts Gen. Hosp., Washington Univ.*

11:00 K11 **147.04** Single cell transcriptomics of defined retinal ganglion cell types. L. LABOISSONNIERE*; J. GOETZ; A. MANI; G. SCHWARTZ; J. TRIMARCHI. *Iowa State Univ., Northwestern Univ.*

8:00 K12 **147.05** Delineating retinal ganglion cell subtypes in macaque monkey using large scale morphometric cluster analysis coupled with immunohistochemistry. D. VAN DER LIST; K. D. MURRAY*; W. M. USREY. *Univ. of California, Davis, Univ. California Davis, university of California, Davis.*

9:00 K13 **147.06** Classification and characterization of twenty functional subtypes of ganglion cells in the mouse retina. A. MANI*; G. W. SCHWARTZ. *Northwestern Univ., Northwestern Univ.*

10:00 K14 **147.07** Toward a complete functional classification of ganglion cells in the mammalian retina. S. RAVI*; D. AHN; M. GRESCHNER; A. M. LITKE; E. J. CHICHILNISKY; G. D. FIELD. *Duke Univ., Univ. of California San Diego, Univ. of California Santa Cruz, Stanford Univ.*

11:00 K15 **147.08** Genetic identification of a novel bistratified intrinsically photosensitive retinal ganglion cell. D. J. BERG*; S. SABBAH; D. BERSON. *Brown Univ.*

8:00 K16 **147.09** Intrinsically photosensitive retinal ganglion cells are required for proper dopaminergic amacrine cell development. T. MUNTEANU*; S. PAN; P. KOFUJI; T. M. SCHMIDT. *Northwestern Univ., Johns Hopkins Univ., Univ. of Minnesota.*

9:00 K17 **147.10** Optogenetic responses to low-intensity light in dystrophic retinas revealed by blockade of pathological hyperactivity. J. M. BARRETT*; G. HILGEN; E. SERNAGOR. *Newcastle Univ.*

10:00 K18 **147.11** Oscillating ON-direction selective ganglion cells induce oscillating eye movements in $Nyx^{nob}$ mice. M. KAMERMANS*; K. M. FRANSEN; W. DE GRAAFF; J. HUISMAN; Ö. ÖZYILDIRIM; B. BRAAKMAN; M. A. MCCALL; C. I. DE ZEEUW; B. H. J. WINKELMAN. *Netherlands Inst. For Neurosci., Univ. of Louisville, Netherlands Inst. for Neurosci., Netherlands Inst. for Neurosci., Univ. of Louisville, Erasmus MC.*

11:00 K19 **147.12** Directional tuning of excitatory synaptic inputs to direction selective retinal ganglion cells revealed by optical quantal analysis. V. JAIN*; G. B. AWATRAMANI. *Univ. of Victoria.*

8:00 K20 **147.13** Visual information encoded by the wave of first stimulus-evoked spikes revealed in the retinal ganglion cell layer by large-scale multielectrode array recordings. E. SERNAGOR*; J. M. BARRETT; G. PORTELLI; G. HILGEN; T. MASQUELIER; P. KORNPROBST. *Newcastle Univ., Newcastle Univ., Inria Sophia Antipolis Méditerranée, Newcastle Univ., CNRS – INSERM – Univ. Pierre&Marie Curie.*

9:00 K21 **147.14** Genetically identified Suppressed-by-Contrast retinal ganglion cells in mice reliably signal self-generated visual stimuli. N. TIEN*; J. PEARSON; C. HELLER; J. DEMAS; D. KERSCHENSTEINER. *Washington Univ. in St. Louis, St. Olaf Col., St. Olaf Col.*

10:00 K22 **147.15** ● Light adaptation changes the functional properties of direction selective retinal ganglion cells. X. YAO*; G. D. FIELD. *Duke Univ., Duke Univ.*

11:00 K23 **147.16** Spike time patterns in retinal ganglion cell responses convey information about stimulus shape. S. V. GIRMAN*; S. WANG. *Cedars Sinai Med. Ctr., OHSU.*

8:00 K24 **147.17** Position-dependent characteristics of retinal ganglion cell mosaics across the entire retina. F. FRANKE*; M. FISCELLA; R. DIGGELMANN; A. DRINNENBERG; B. ROSKA; A. HIERLEMANN. *ETH Zürich, Friedrich-Miescher-Institute.*

9:00 K25 **147.18** Circuit-based description of retinal ganglion cell computation explains the spike response at millisecond resolution. D. A. BUTTS*; Y. CUI; Y. V. WANG; J. B. DEMB. *Univ. of Maryland, Yale Univ.*

10:00 K26 **147.19** The influence of dopamine on the temporal resolution of retinal neurons. M. L. RISNER*; D. G. MCMAHON. *Vanderbilt Univ.*

**POSTER**

**148. Visual Thalamus**

***Theme D: Sensory and Motor Systems***

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

8:00 K27 **148.01** Naturalistic visual stimuli modulate neural oscillations in the rodent ventral lateral geniculate nucleus of the thalamus. U. M. CIFTCIOGLU*; K. R. DING; V. SURESH; A. S. GORIN; F. T. SOMMER; J. A. HIRSCH. *USC, USC, Univ. of California, Berkley.*

9:00 K28 **148.02** Optimizing electrical stimulation parameters in a lateral geniculate nucleus (LGN) model. S. ELDAWLATLY*; A. JAWWAD. *Ain Shams Univ.*

10:00 K29 **148.03** Early maturation of trn gabaergic feedback inhibition to dlgn. P. W. CAMPBELL*; T. A. SEABROOK; G. GOVINDAIAH; W. GUIDO. *Univ. of Louisville, Univ. of Louisville.*

11:00 K30 **148.04** Spatial changes on LGN receptive fields by corticofugal input manipulations. C. RIVADULLA*; J. AGUILA; J. CUDEIRO. *Dept Medicine-Neurocom, Univ. De Coruna and INIBIC.*



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

8:00 K31 **148.05** Negative afterimages to a flashed spot may originate as early as in the visual thalamus. H. LI*; X. LIU; Y. LU; X. LI; I. M. ANDOLINA; W. WANG. *Inst. of Neurosci.*

9:00 K32 **148.06** Pretectal modulation of retinogeniculate signal transmission. S. P. MASTERSON*; G. GOVINDAIAH; N. ZHOU; P. S. MAIRE; W. GUIDO; M. E. BICKFORD. *Univ. of Louisville.*

10:00 K33 **148.07** ● Modifications to the dorsal stream visual cortex following early-life lesions of the inferior pulvinar. J. A. BOURNE*; W. C. KWAN; I. C. MUNDINANO. *Aust. Reg. Med. Inst.*

11:00 K34 **148.08** Do oscillations in the retinogeniculate pathway encode information about the stimulus? A. S. GORIN*; U. M. CIFCIOGLU; V. SURESH; K. R. DING; F. T. SOMMER; J. A. HIRSCH. *USC, USC, USC, Redwood Ctr. for Theoretical Neuroscience, UC Berkeley, USC.*

8:00 K35 **148.09** Parallel tectothalamic pathways in the mouse lateral posterior nucleus. P. S. MAIRE; S. P. MASTERSON; N. ZHOU; M. E. BICKFORD*. *Univ. Louisville Sch. Med.*

9:00 K36 **148.10** Developmental regulation of cholinergic input to the visual thalamus. G. SOKHADZE*; G. GOVINDAIAH; W. GUIDO. *Univ. of Louisville.*

10:00 K37 **148.11** Developmental remodeling of intrinsic interneurons in the mouse dorsal lateral geniculate nucleus. N. CHARALAMBAKIS*; G. GOVINDAIAH; W. GUIDO. *Univ. of Louisville, Univ. of Louisville.*

11:00 K38 **148.12** Visual responses under naturalistic patterns of illumination in the mouse dlgn. R. STORCHI*. *Univ. of Manchester.*

8:00 K39 **148.13** Synaptic properties of the thalamocortical projections from lateral posterior nucleus to secondary visual cortex in mice. Y. LAM*; C. MO; S. SHERMAN. *Univ. of Chicago.*

9:00 K40 **148.14** ● Rapid and strong gamma oscillations in response to snakes in the monkey pulvinar. Q. V. LE*; J. MATSUMOTO; Q. V. LE; R. V. BRETAS; T. ONO; H. NISHIJO. *Univ.*

10:00 K41 **148.15** Y-cell responses to texture stimuli predicted by a nonlinear receptive field model based on bipolar cell subunits. A. GHARAT*; C. BAKER, Jr. *McGill Univ., McGill Univ.*

11:00 K42 **148.16** A comparison of the synaptic input to visual areas v1 and v2 from primate pulvinar. B. MOORE*; K. LI; J. A. MAVITY-HUDSON; V. A. CASAGRANDE. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ.*

8:00 L1 **148.17** Molecular dissection of parallel visual pathways in primate and mouse. O. S. DHANDE*; B. K. STAFFORD; R. EL-DANAF; P. L. NGUYEN; K. A. PERCIVAL; B. J. HANSEN; N. C. BRECHA; W. R. TAYLOR; E. M. CALLAWAY; A. HUBERMAN. *Dept. of Neurosciences, Univ. California San Diego, Oregon Hlth. Sci. Univ., Salk Inst., UCLA, Dept. of Ophthalmology, Univ. California, San Diego, Div. of Biol. Sciences, Univ. California, San Diego.*

9:00 L2 **148.18** Diversity and layer specificity of thalamic inputs to mouse visual cortex. K. Z. SOCHA-JANIAK*; C. AYDIN; V. BONIN. *Neuro-Electronics Res. Flanders.*

10:00 L3 **148.19** Dissecting corticothalamic feedback during active behavior in the mouse visual system. S. ERISKEN*; A. VAICELIUNAITE; L. BUSSE. *Univ. of Tuebingen, Grad. Training Ctr. of Neurosci.*

11:00 L4 **148.20** Estimating the response properties of the human lateral geniculate nucleus using a spatiotemporal population receptive field model. K. DESIMONE*; K. A. SCHNEIDER. *York Univ., York Univ.*

8:00 L5 **148.21** Corticogeniculate feedback enhances temporal precision of LGN neurons in the ferret. J. M. HASSE*; F. BRIGGS. *Geisel Sch. of Med. At Dartmouth.*

9:00 L6 **148.22** Contribution of retinal mechanisms to nonlinear receptive field properties in the lateral geniculate nucleus. T. FISHER*; H. ALITTO; D. RATHBUN; W. M. USREY. *Univ. of California at Davis, Eberhard Karls Univ.*

10:00 L7 **148.23** The influence of contrast on area summation in the lateral geniculate nucleus of the alert macaque monkey. D. ARCHER*; H. J. ALITTO; W. M. USREY. *Univ. of California, Davis.*

11:00 L8 **148.24** Behavioral modulation of visual responses and network dynamics in the lateral geniculate nucleus. H. J. ALITTO*; W. M. USREY. *Univ. of CA, Davis.*

8:00 L9 **148.25** Retinogeniculate communication during thalamic bursts. H. J. ALITTO; D. L. RATHBUN; W. USREY*. *Univ. of California, Davis, Inst. for Ophthalmic Res., Eberhard Karls Univ.*

9:00 L10 **148.26** Thalamus conveys diverse contextual information to layer 1 of visual cortex. D. R. MUIR*; M. M. ROTH; F. IMHOF; S. B. HOFER. *Univ. of Basel.*

10:00 L11 **148.27** Functional and anatomical organization of the dorsal pulvinar in humans. M. J. ARCARO*; M. A. PINSK; S. KASTNER. *Princeton Univ.*

11:00 L12 **148.28** Hour-long adaptation in the awake early visual system. C. R. STOELZEL*; J. HUFF; Y. BERESHPOLOVA; J. ZHUANG; X. HEI; J. ALONSO; H. A. SWADLOW. *Univ. of Connecticut, State Univ. of New York.*

**POSTER**

**149. Visual Processing: Representation of Faces and Bodies**

***Theme D: Sensory and Motor Systems***

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

8:00 L13 **149.01** A specialized region in dog temporal cortex for face processing. D. D. DILKS*; P. COOK; S. K. WEILLER; H. P. BERNS; M. SPIVAK; G. S. BERNS. *Emory Univ., Comprehensive Pet Therapy.*

9:00 L14 **149.02** Neural encoding of shapes in the middle superior temporal sulcus (mid-STS) body patch neurons. S. KUMAR*; R. VOGELS. *KU Leuven.*

10:00 L15 **149.03** Distinct patches for gaze following and the passive vision of faces in the macaque posterior superior temporal sulcus can be distinguished by specific local field potential fingerprints. H. RAMEZANPOUR*; I. CHONG; P. W. DICKE; P. THIER. *Hertie Institue For Clin. Brain Res.*



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

11:00 L16 **149.04** Recordings from macaque face patches ML and AM reveal a mechanism for view-invariant computation. L. CHANG*; D. TSAO. *CALIFORNIA INSTITUTE OF TECHNOLOGY.*

8:00 L17 **149.05** Multiple object representation in the middle face patch. P. BAO*; L. CHANG; D. TSAO. *Caltech.*

9:00 L18 **149.06** Functional connectivity of category-selective patches in macaque IT cortex. J. S. GUNTUPALLI*; D. Y. TSAO. *Caltech.*

10:00 L19 **149.07** Location, location, location: Face recognition critically depends on the information processing of individual face patches. S. MOELLER*; D. Y. TSAO. *Dept. Animal Physiol., Caltech.*

11:00 L20 **149.08** Dynamic relations between the left and right fusiform cortex in the spatially cued detection of faces. M. MENG*; B. GUO; J. GOOLD; H. LUO. *Dartmouth Col., Peking Univ.*

8:00 L21 **149.09** Rapid, accurate detection of faces but not houses suggests a visually coarse but context sensitive subcortical face processing mechanism. L. M. CABRAL*; B. STOJANOSKI; R. CUSACK. *Western Univ.*

9:00 L22 **149.10** Information representation in monkey area TE for global categorization of faces and for upright versus inverted face categorization. N. MATSUMOTO*; Y. SUGASE-MIYAMOTO; K. KAWANO; M. OKADA. *AIST, Kyoto Univ., Univ. Tokyo.*

10:00 L23 **149.11** ▲ The face inversion effect in rhesus macaques. O. B. TOMEO; N. LIU*; S. W. LI; L. G. UNGERLEIDER. *Natl. Inst. of Mental Health, Natl. Inst. of Hlth.*

11:00 L24 **149.12** The effects of crowding on the tuning and latency of neurons in human and monkey amygdala. J. MINXHA*; J. K. MORROW; C. P. MOSHER; A. N. MAMELAK; K. GOTHARD; R. ADOLPHS; U. RUTISHAUSER. *Caltech, Univ. of Arizona, Cedars-Sinai Med. Ctr., Caltech, Caltech.*

8:00 L25 **149.13** Parametric encoding of emotion and ambiguity in the human amygdala. S. WANG*; R. YU; M. TYSZKA; S. ZHEN; S. SUN; R. HURLEMANN; I. B. ROSS; A. N. MAMELAK; R. ADOLPHS; U. RUTISHAUSER. *Caltech, Natl. Univ. of Singapore, South China Normal Univ., Caltech, Univ. of Bonn, Huntington Mem. Hosp., Cedars-Sinai Med. Ctr.*

9:00 L26 **149.14** ▲ Following the eye gaze of others activates a patch of cortex that is not part of the “face patch” system. K. MARQUARDT*; H. RAMEZANPOUR; P. W. DICKE; P. THIER. *Hertie Inst.*

10:00 L27 **149.15** ▲ Role of dorsolateral prefrontal cortex in the cognitive control of gaze following. M. BREU*; H. RAMEZANPOUR; P. DICKE; P. THIER. *Hertie Inst. For Clin. Brain Res.*

11:00 L28 **149.16** ▲ Neural signatures of eye gaze and face identity representations in MEG data. J. LI*; M. FANG; Q. LI; R. CICHY; D. PANTAZIS. *MIT, MIT, Massachusetts Gen. Hosp., MIT, MIT.*

8:00 L29 **149.17** Task differentially modulates the spatial extent of category-selective regions across anatomical locations. L. BUGATUS*; K. WEINER; K. GRILL-SPECTOR. *Stanford Univ., Stanford Univ.*

9:00 L30 **149.18** The representation of semantic content and attentional state in medial temporal lobe during visual processing of natural scenes: An ECoG study. Z. SABRA; J. BREEDLOVE; L. BONILHA; T. NASELARIS*. *Med. Univ. of South Carolina.*

10:00 L31 **149.19** Increased distinctiveness of visual face representations during memory retrieval compared to perception. S. LEE*; B. A. LEVY; C. I. BAKER. *Korea Advanced Inst. of Sci. and Technol., Natl. Inst. of Mental Health, NIH.*

11:00 L32 **149.20** Temporal dynamics and quantification of face-selective responses to natural images. T. L. RETTER; B. ROSSION*. *Univ. of Louvain.*

8:00 L33 **149.21** Face-evoked visual field potential generators in the macaque temporal lobe. Y. KAJIKAWA*; C. E. SCHROEDER. *Nathan Kline Inst., Columbia Univ.*

9:00 L34 **149.22** Attention shifts and Microsaccades in dynamic bubbled faces. H. XU*; H. YING. *Nanyang Technological Univ.*

10:00 L35 **149.23** Word and text processing in developmental prosopagnosia. C. RUBINO*; J. C. CORROW; J. J. S. BARTON; S. L. CORROW. *Univ. of British Columbia, Univ. of British Columbia.*

11:00 L36 **149.24** Tone deafness in developmental prosopagnosia - is there a common cause? S. CORROW*; S. BUSS; H. LI; G. SCHLAUG; J. J. S. BARTON. *Univ. of British Columbia, Beth Israel Deaconess Med. Ctr. and Harvard Med. Sch., Univ. of British Columbia.*

8:00 L37 **149.25** Getting lost: Topographic skills in acquired and developmental prosopagnosia. J. CORROW*; S. L. CORROW; E. LEE; F. BURLES; R. PANCAROGLU; B. DUCHAINE; I. GIUSEPPE; J. J. S. BARTON. *Univ. of British Columbia, Univ. of British Columbia, Univ. of Calgary, Dartmouth Col.*

**POSTER**

**150. TRPA1**

***Theme D: Sensory and Motor Systems***

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

8:00 L38 **150.01** Behavioral study of trpa1 and trpv1 channels inactivation by nsaids. M. G. TSAGARELI*; I. NOZADZE; N. TSIKLAURI; G. GURTSKAIA; E. ABZIANIDZE. *Ivane Beritashvili Exptl. Biomedicine Ctr., Ivane Beritashvili Exptl. Biomedicine Ctr.*

9:00 L39 **150.02** TRPA1-protein complexes: Tuning a noxious stimuli detector. L. AVENALI*; P. NARAYANAN; T. ROUWETTE; I. CERVELLINI; M. W. SEREDA; O. ABATE FULAS; J. SONDERMANN; O. JAHN; D. GOMEZ-VARELA; M. SCHMIDT. *Max Planck Inst. For Exptl. Med.*

10:00 L40 **150.03** ● Possible contribution of TRPA1 to capsaicin-induced analgesia in deep tissue pain. D. SUGIYAMA*; S. KANG; H. GU; T. J. BRENNAN. *Univ. of Iowa Hosp. and Clinics, Univ. of Iowa Hosp. and Clinics.*

11:00 L41 **150.04** ● Hydrogen peroxide (H2O2) induces pain via TRPA1 receptors in deep tissue. S. KANG*; D. SIGIYAMA; H. GU; T. J. BRENNAN. *Universit of Iowa Hosp. and Clinics.*



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

8:00 L42 **150.05** TRPA1 in lung innervating nodose neurons. M. M. KAELBERER*; S. JORDT. *Yale Univ., Duke Univ. Med. Ctr.*

9:00 L43 **150.06** ● Transient receptor potential cation channel A1 (TRPA1) is a sensory nociceptor in a rodent model of ocular pain. A. M. SCHUMACHER*; M. GADD; J. LAO; H. CHOI; J. WATSON; D. TULLY; A. PATAPOUTIAN; M. PETRASSI. *Novartis, Alcon, Genomics Inst. of the Novartis Res. Fndn., The Scripps Res. Inst.*

10:00 L44 **150.07** Characterization of toll-like receptors and TRPA1 in human primary sensory neurons. T. BERTA*; Y. KIM; F. TANG; K. KWAK; R. JI. *Duke Univ. Med. Ctr.*

11:00 M1 **150.08** Epigenetic regulation of TRPA1 in trigeminal ganglia under inflammatory muscle pain condition. J. ASGAR*; K. LEE; Y. ZHANG; M. CHUNG; J. RO. *Univ. of Maryland Sch. of Dent.*

8:00 M2 **150.09** ● Electrophysiological characterization of internal and external ligands on human TRPA1. A. BRUGGEMANN; M. RAPEDIUS; T. GOETZE; C. HAARMANN; I. RINKE; M. VOGEL; T. STENGEL; J. STIEHLER; J. L. COSTANTIN*; R. HAEDO; J. OESTREICH; C. BOT; G. OKEYO; M. GEORGE; N. FERTIG. *Nanion Technologies, Nanion Technologies.*

9:00 M3 **150.10** Agonist-induced sensitization of the irritant receptor ion channel TRPA1. J. E. MEENTS*; M. J. M. FISCHER; P. A. MCNAUGHTON. *Uniklinik RWTH Aachen, Univ. of Cambridge, Univ. of Erlangen-Nürnberg, King's Col. London.*

**POSTER**

**151. Pain: Descending Modulation**

***Theme D: Sensory and Motor Systems***

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

8:00 M4 **151.01** Divergent PAG neuronal populations drive pain and itch processing. V. K. SAMINENI*; J. GRAJALES-REYES; B. COPITS; D. O'BRIEN; M. BRUCHAS; R. GEREAU IV. *Washington Univ., Washington Univ. in St. Louis.*

9:00 M5 **151.02** A possible neural mechanism for photosensitivity in chronic pain. M. M. HEINRICHER*; M. E. MARTENSON; N. HAMMACK. *Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*

10:00 M6 **151.03** Sex differences in glial activation and subsequent cytokine release affect morphine efficacy in the rat. H. H. DOYLE*; A. Z. MURPHY. *Georgia State Univ., Georgia State Univ.*

11:00 M7 **151.04** Investigating the role of the anterior cingulate cortex in opioid-sensitive descending pain modulatory pathways. L. GOMTSIAN*; E. NAVRATILOVA; A. OKUN; C. QU; X. YUE; D. LU; D. ROBLES; F. PORRECA; J. OYARZO. *Univ. of Arizona, Mayo Clin.*

8:00 M8 **151.05** What the young brain tells the spinal cord: The changing developmental profile of top down serotonergic modulation of dorsal horn sensory circuitry. F. SCHWALLER; M. FITZGERALD*. *Univ. Col. London.*

9:00 M9 **151.06** Dose dependent conditioned place aversion following chemogenetic activation of the locus coeruleus. S. HIRSCHBERG*; Y. LI; A. RANDALL; A. PICKERING. *Univ. of Bristol, Univ. of Exeter.*

10:00 M10 **151.07** Time-frequency EEG analysis of pain modulation by hypnosis, suggestions and distraction. B. HOUZÉ*; A. STREFF; M. PICHÉ; P. RAINVILLE. *CRIUGM, Univ. de Montréal, Univ. du Québec à Trois-Rivières.*

11:00 M11 **151.08** Extrasynaptic GABAA signaling in the ventrolateral periaqueductal gray differentially affects morphine antinociception in male and female rats during persistent inflammation. K. J. TONSFELDT*; K. L. SUCHLAND; S. L. INGRAM. *Oregon Hlth. and Sci. Univ., Oregon Hlth. & Sci. Univ.*

8:00 M12 **151.09** ▲ Sex differences in the lateral hypothalamus-induced descending noradrenergic system in nociceptive and hyperalgesic pain types. B. N. MANTHA; M. A. WAGNER; T. BANERJEE; Y. JEONG; J. E. HOLDEN*. *The Univ. of Michigan, Kyung Hee Univ.*

9:00 M13 **151.10** Relationship of activation of phenotypically-distinct neuronal populations in the extended centromedial amygdala with the expression of acute pain, conditioned fear, and fear-conditioned analgesia. R. K. BUTLER*; S. EHLING; M. BARBAR; J. M. THOMAS; M. A. HUGHES; A. E. THOMSON; S. J. WALL; V. ZARIC; B. CASE; D. KNAZOVICKY; M. E. GRUEN; W. BÄUMER; R. M. RODRIGUIZ; V. M. POGORELOV; D. K. ARYAL; W. C. WETSEL; B. D. X. LASCELLES. *North Carolina State Univ. Col. of Vet. Med., North Carolina State Univ. Col. of Vet. Med., Duke Univ. Med. Ctr.*

10:00 M14 **151.11** Negative role of PLCb4 in descending analgesia gating. J. KIM*. *Ctr. For Cognition and Sociality/ Ibs.*

11:00 M15 **151.12** Effect of long-lasting voluntary physical activity on noxious stimulus-induced antinociception in mice. I. J. BONET*; M. O. F. PAGLIUSI, Jr; C. A. PARADA; C. R. SARTORI; C. H. TAMBELI. *Inst. of Biology/University of Campinas.*

8:00 M16 **151.13** ▲ Central neuronal circuit underlying odor-induced analgesia in mice. S. ISHIKAWA; R. YAMAGUCHI; S. TASHIRO; Y. KANMURA; K. KAJIYA; T. KUWAKI; H. KASHIWADANI*. *Kagoshima Univ.*

9:00 M17 **151.14** The prediction of placebo analgesia : A bayesian approach. Y. CHAE*; W. JUNG; Y. LEE. *Kyung Hee Univ., Kyung Hee Univ.*

10:00 M18 **151.15** Descending pain modulation in irritable bowel syndrome. R. J. CHAKIATH*; P. SIDDALL; J. KELLOW; P. WRIGLEY. *Pain Mgmt. Res. Inst., The Kolling Inst., Univ. of Sydney, Dept. of Pain Management, HammondCare,Greenwich Hosp., Royal North Shore Hosp.*

11:00 M19 **151.16** The effect of cobalt chloride on lateral hypothalamic-induced pain modulation in male and female hyperalgesic rats. M. A. WAGNER*; J. E. HOLDEN. *Univ. of Michigan.*

8:00 M20 **151.17** Dissecting the mechanism of substance P release in the rat rostral ventromedial medulla during inflammatory injury. M. V. HAMITY*; U. MADUKA; D. HAMMOND. *Univ. Iowa, Univ. Iowa.*



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

9:00 M21 **151.18** Nicotinic receptor excitation of descending pain modulatory pathways. I. C. UMANA*; B. A. MILLER; V. T. WAN; C. A. DANIELE; D. S. MCGEHEE. *Univ. of Chicago MSTP, Univ. of Chicago, Univ. of Chicago, Univ. of Chicago.*

10:00 M22 **151.19** ● Anatomical plasticity in spinal terminals and functional release of oxytocin after peripheral nerve injury. A. L. SEVERINO*; C. A. ASCHENBRENNER; J. C. EISENACH. *Wake Forest Sch. of Med., Wake Forest Sch. of Med.*

11:00 M23 **151.20** Nabilone (CB1-agonist) reverses fibromyalgia (FM) symptomology. Therapeutic role of endocannabinoid system. J. I. ROMERO*; D. ROMERO-CANO. *Hosp Gen Queretaro, Hosp Gen Mexico.*

8:00 M24 **151.21** Parabrachial input to pain-modulating circuit in acute and chronic pain. Q. CHEN*; M. HEINRICHER. *Oregon Hlth. & Sci. Univ.*

9:00 M25 **151.22** Periaqueductal grey EP3 receptor activity facilitates spinal nociception in arthritic secondary hyperalgesia. R. DRAKE*; L. J. LEITH; B. M. LUMB; L. F. DONALDSON. *Univ. of Bristol, Univ. of Nottingham.*

**POSTER**

**152. Mechanisms of Neuropathic Pain I**

***Theme D: Sensory and Motor Systems***

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

8:00 M26 **152.01** Modulation of TRPV1 activity in spinal cord neurons presynaptic endings by paclitaxel is mediated by TLR4 activation. P. ADAMEK; P. MROZKOVA; J. PALECEK*. *Inst. of Physiology, Czech Acad. of Sci., Fac. of Sci., Inst. of Physiol.*

9:00 M27 **152.02** The role of proinflammatory cytokines and TRPV1 receptors in paclitaxel induced peripheral neuropathy. N. KALYNOVSKA*; M. DIALLO; J. PALECEK. *Inst. of Physiology, The Czech Acad. of Sci., Fac. of Sciences, Charles Univ.*

10:00 M28 **152.03** Modulation of TRPV1 activity in DRG neurons by paclitaxel is mediated by TLR4 activation. P. M. DOUGHERTY*; H. ZHANG; C. E. TATSUI; L. D. RHINES; Q. LI; A. K. KOSTURAKIS; H. ZHANG; R. M. CASSIDY; J. P. CATA; K. SAPIRE; D. S. HARRISON; R. M. KENNAMER-CHAPMAN; A. B. JAWAD; A. GHETTI; J. YAN; Y. LI. *Univ. of Texas MD Anderson Cancer Ctr., The Univ. of Texas Hlth. Sci. Ctr. Houston, The Univ. of Texas M.D. Anderson Cancer Ctr., The Univ. of Texas Hlth. Sci. Ctr. San Antonio, Duke Univ. Sch. of Med., Anabios, Inc.*

11:00 M29 **152.04** Increase of mast cells through TRPV1-expressing primary afferents are involved in oxaliplatin-induced mechanical allodynia in mice. T. ANDOH*; A. SAKAMOTO; Y. KURAISHI. *Univ. Toyama.*

8:00 M30 **152.05** The transcription factor Sp1 regulates the expression of the $Ca^{2+}$ channel α2δ-1 auxiliary subunit in neuropathic pain. K. GOMEZ*; M. PEREZ-RODRIGEZ; P. BARRAGAN-IGLESIAS; V. GRANADOS-SOTO; R. GONZALEZ-RAMIREZ; R. FELIX. *Cinvestav, Sede Sur, Hosp. Gen. Dr. Manuel Gea Gonzalez, Cinvestav.*

9:00 M31 **152.06** Molecular mechanisms for the upregulation of $Ca_v3.2$ T-type calcium channels in the dorsal root ganglion of rats with spinal nerve injury-induced neuropathy: Involvement of Egr-1 and USP5. S. TOMITA*; F. SEKIGUCHI; M. TSUBOTA; A. KAWABATA. *Kinki Univ. Sch. Pharm.*

10:00 M32 **152.07** Complement 3a receptor mediates dorsal horn $Ca^{2+}$ signaling evoked by the VGF peptide TLQP-21 in the setting of neuropathic pain. S. DOOLEN*; K. F. KITTO; C. A. FAIRBANKS; L. VULCHANOVA; B. K. TAYLOR. *Univ. of Kentucky, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

11:00 M33 **152.08** AFA019 differentially inhibits T-type $Ca^{2+}$ currents over Na+ and K+ currents in DRG neurons and mitigates neuropathic pain in mice. B. ZOU*; C. PASCUAL; C. LIEU; M. J. GUNARATNA; M. ZHANG; D. H. HUA; S. X. XIE. *AfaSci Res. Lab., Kansas State Univ.*

8:00 M34 **152.09** Interferon-gamma activates NMDA receptors in the dorsal horn of spinal cord. M. SONEKATSU; W. TANIGUCHI*; M. YAMANAKA; N. NISHIO; S. TSUTSUI; H. NISHI; H. HASHIZUME; T. NAKATSUKA; M. YOSHIDA. *Wakayama Med. Univ., Pain research center, Kansai Univ. of Hlth. Sci.*

9:00 M35 **152.10** Role of anion exchanger 3 in different models of chronic pain. M. J. PÉREZ RODRÍGUEZ*; K. GOMEZ; P. BARRAGAN-IGLESIAS; V. GRANADOS-SOTO. *CINVESTAV Sede-Sur.*

10:00 M36 **152.11** The role of SorLA, a sorting protein-related receptor, in neuropathic pain development. F. FRATTINI*; J. HU. *Ctr. For Integrative Neurosci., Grad. Sch. of Neural & Behavioural Sciences/International Max Planck Res. School, Eberhard Karls Univ. Tübingen.*

11:00 M37 **152.12** Nerve injury promotes loss of nociceptive neuron-specific Gαi-interacting protein (Ginip) expression in neuropathic pain rat. H. YU*; Z. LIU; F. WANG; G. FISCHER; Q. H. HOGAN. *Med. Col. of Wisconsin.*

8:00 M38 **152.13** α9-nAChR: Novel analgesic target or crucial for mental health? S. MOHAMMADI*; M. J. CHRISTIE. *The Univ. of Sydney.*

9:00 M39 **152.14** Involvement of anoctamin-1 and bestrophin-1 in the development and maintenance of neuropathic pain. J. B. PINEDA FARIAS*; P. BARRAGÁN-IGLESIAS; H. I. ROCHA-GONZÁLEZ; R. DELGADO-LEZAMA; J. G. RAYA-TAFOLLA; E. LOEZA-ALCOCER; F. PÉREZ-SEVERIANO; V. GRANADOS-SOTO. *Dept. De Farmacobiología, Cinvestav, Sede S, Sección de Estudios de Posgrado e Investigación, ESM, IPN, Unidad de Investigación en Farmacología, Inst. Nacional de Enfermedades Respiratorias "Ismael Cosio Villegas", Dept. de Fisiología, Biofísica y Neurociencias, Cinvestav, Neuroquímica, Inst. Nacional de Neurología y Neurocirugía "Manuel Velasco Suárez".*

10:00 M40 **152.15** Involvement of ROS-dependent PI3-kinase activation in leptin-induced enhancement of NMDA receptor-mediated tactile hyperalgesia in neuropathic rats. J. B. JUN; S. J. JUNG; H. A. KIM; J. W. LEEM*. *Dept. of Phyol. Yonsei Univ. Col. of Med., Brain Res. Inst.*



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

11:00 M41 **152.16** Dorsal root ganglion transcriptome analysis following peripheral nerve injury in mice. S. WU*; B. M. LUTZ; L. LIANG; K. MO; Y. CHANG; P. DU; A. Y. BEKKER; Y. TAO. *Rutgers, The State Univ. of New Jersey, Rutgers Grad. Sch. of Biomed. Sciences,New Jersey Med. School, Rutgers, The State Univ. of New Jersey, Dept. of Anesthesiology, New Jersey Med. School, Rutgers, The State Univ. of New Jersey, High Performance and Res. Computing, Office of Information Technology, New Jersey Med. School, Rutgers, The State Univ. of New Jersey.*

8:00 M42 **152.17** ● Spinal cord injury activates astrocyte sigma-1 receptors leading to astrocyte activation, increases in connexin 43 expression and the development of bilateral below-level mechanical allodynia in mice. J. LEE*; S. CHOI; D. ROH; S. YOON; S. KWON; H. CHOI; J. MOON; S. KANG; H. HAN; H. KIM; A. J. BEITZ; S. OH. *Seoul Natl. Univ., Dept. of Vet. Physiol., BK21 PLUS Program for Creative Vet. Sci. Res., Res. Inst. for Vet. Sci. and Coll. of Vet. Med., Seoul Nat'l Univ., Dept. of Maxillofacal Tissue Regeneration and Res. Ctr. for Tooth and Periodontal Tissue Regeneration, Sch. of Dentistry, Kyung Hee Univ., Pain Cognitive Function Res. Center, Dept. of Brain and Cognitive Sci., Coll. of Nat. Sci., Dent. Res. Inst. and Dept. of Neurobiol. and Physiol., Sch. of Dentistry, Seoul Nat'l Univ., Acupuncture, Moxibustion & Meridian Res. Group, Med. Res. Division, Korea Inst. of Oriental Med., Dept. of Physiol., Inst. of Brain Res., Chungnam Nat'l Univ. Med. Sch., Dept. of Vet. and Biomed. Sci., Coll. of Vet. Med., Univ. of Minnesota.*

9:00 M43 **152.18** Phosphorylation of Ser-481 stabilizes the inactivated state of the Kv3.4 channel: Hinting at a mechanism of SCI-induced neuropathic pain. B. M. ZEMEL*; M. COVARRUBIAS. *Thomas Jefferson Univ.*

10:00 M44 **152.19** Upregulation of T-type calcium channels activated by toll like receptor 4 in primary sensory neurons in paclitaxel induced peripheral pain. Y. LI*; R. M. CASSIDY; A. K. KOSTURAKIS; D. S. HARRISON; P. M. DOUGHERTY. *MD ANDERSON CANCER CENTER, The Univ. of Texas Hlth. Sci. Ctr., The Univ. of Texas Hlth. Sci. Ctr., Duke Univ. Sch. of Med.*

11:00 M45 **152.20** Roles of Acid-Sensing Ion Channels in neuropathic pain induced by experimental autoimmune encephalomyelitis. I. WANG*; C. LEE; S. LIN; C. CHUNG; F. LIAO; C. CHEN. *Dept. of Life Science, Natl. Taiwan Univ., Inst. of BioMedical Sciences, Academia Sinica, Taiwan Mouse Clinic, Natl. Comprehensive Mouse Phenotyping and Drug Testing Center, Academia Sinica, Taipei 115, Taiwan.*

8:00 M46 **152.21** Anti-nociceptive effects of botulinum toxin type A on trigeminal neuropathic pain in rats. M. KIM*; H. KIM; J. SON; J. JU; K. YANG; M. LEE; M. PARK; J. PARK; D. AHN. *Sch. of Dent. KNU, Dong-Eui university, Kyung-Woon university, Sch. of Medicine, Kyungpook Natl. Univ.*

9:00 M47 **152.22** HIV-Associated pain and peripheral sensory neuropathy: The role of Wnt5a signaling. S. YUAN*; W. RU; M. DE CABO JAUME; S. TANG. *Univ. of Texas Med. Br.*

10:00 M48 **152.23** MeCP2 regulates gene expression in dorsal root ganglia after peripheral nerve injury. M. T. MANNERS*; A. ERTEL; Y. TIAN; K. MCCORMICK; Z. ZHOU; S. AJIT. *Drexel Univ. Col. of Med., Thomas Jefferson Univ., Univ. of Pennsylvania.*

11:00 N1 **152.24** Effects of NR2B mediated signaling on neuropathic pain in a rat model of peripheral nerve injury. Y. KIM*; J. KIM; Y. YOON. *Korea Univ., Col. Med., Korea Univ., Col. Hlth. Sci.*

8:00 N2 **152.25** ● Assessing properties of small cutaneous nerve fibers. C. D. MORCH*; K. HENNINGS; S. FRAHM; L. PETRINI; M. B. JENSEN; L. ARENDT-NIELSEN; O. K. ANDERSEN. *Aalborg Univ., Nordic NeuroSTIM, Aalborg Univ.*

9:00 N3 **152.26** GABAA α2 subunit in dorsal root ganglia plays an important role in the development and maintenance of neuropathic pain post-crush injury of the sciatic nerve in female rats. A. L. OBRADOVIC*; J. SCARPA, Jr.; H. P. OSURU; J. L. WEAVER; J. PARK; S. PATHIRATHNA; A. PETERKIN; Y. LIM; M. JAGODIC; S. M. TODOROVIC; V. JEVTOVIC-TODOROVIC. *Univ. of Virginia, Icahn Inst. for Genomics and Multiscale Biol., Univ. of Virginia Hlth. Syst., Univ. of Virginia Hlth. Syst., Col. of Medicine, Korea Univ., Sanggye Paik Hospital, Col. of Medicine, Inje Univ., Univ. of Virginia Hlth. Syst.*

10:00 N4 **152.27** Role of CD4 in spinal cord chemokine responses in a murine model of neuropathic pain. L. CAO*; J. T. MALON. *Univ. New England, Univ. New England.*

11:00 N5 **152.28** VIP deficient mice exhibit reversible alterations in molecular and epigenetic determinants of cold and mechanical nociception. T. L. MADUNA*; P. JUIF; N. P. UPPARI; N. PETIT DEMOULIERE; A. LACAUD; P. POISBEAU; V. LELIEVRE. *Inst. of Cell. and Integrative Neurosci.*

8:00 N6 **152.29** Effects of alpha7 nicotinic acetylcholine receptor positive allosteric modulator on microglia BDNF expression following LPS-induced neuropathic pain in mice. M. ABBAS*; S. RAHMAN. *South Dakota State Univ.*

9:00 N7 **152.30** PAP-I activates spinal microglia and induces nociceptive response in rats. X. ZHANG*; J. LI; H. LIU. *Inst. of Neuroscience, Chinese Acad. of Sci.*

**POSTER**

**153. Diabetic Neuropathy**

***Theme D: Sensory and Motor Systems***

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

8:00 N8 **153.01** Dietary vitamin B6 differentially modulates cutaneous sensitivity, peripheral sensory axon morphology and spinal cord neurotransmitter content in diabetic and non-diabetic mice. S. E. TAGUE*; M. K. WINTER; N. ŞANLI; C. E. LUNTE; K. E. MCCARSON; P. G. SMITH. *Univ. Kansas Med. Ctr., Uşak Univ., Univ. of Kansas, Univ. Kansas Med. Ctr., Univ. Kansas Med. Ctr.*

9:00 N9 **153.02** Dorsal root ganglia proteome profile of early painful diabetic neuropathy in a rat model of type-i diabetes. C. A. PARADA*; M. C. P. ATHIE; A. S. VIEIRA; J. M. TEIXEIRA; E. V. DIAS; C. H. TAMBELI. *State Univ. of Campinas - Unicamp, State Univ. of Campinas, State Univ. of Campinas.*

10:00 N10 **153.03** Nociceptin/orphanin FQ receptor antagonist JTC-801 inhibits spinal nitric oxide production and neuropathic pain in diabetic mice. K. OHNO*; H. SAKAMOTO; T. YASUNAGA; E. OKUDA-ASHITAKA. *Osaka Inst. Of Technol.*



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

11:00 N11 **153.04** Activation of ephrinB-EphB receptor signaling in rat spinal cord contributes to diabetic neuropathic pain. X. T. DENG*; M. WU; P. MA; H. MA; B. ZHENG; P. ZHAO; X. SONG. *Neurosci. Res. Institute, Peking Univ., Peking Univ. Hlth. Sci. Ctr., Dongfang Hosp., Parker Univ.*

8:00 N12 **153.05** Development of diabetes-induced acidosis in the rat retina. A. V. DMITRIEV; D. HENDERSON; R. A. LINSENMEIER*. *Northwestern Univ.*

9:00 N13 **153.06** Neonatal streptozotocin-induced Type 2 diabetes mellitus: A model to study peripheral neuropathy. P. BARRAGAN-IGLESIAS*; V. OIDOR-CHAN; J. PINEDA-FARIAS; E. HONG; A. SANCHEZ-MENDOZA; V. GRANADOS-SOTO. *Cinvestav, Sede Sur, Inst. Nacional de Cardiología "Ignacio Chávez". Juan Badiano 1, Col. Belisario Domínguez Sección XVI. Tlalpan.*

10:00 N14 **153.07** Chemogenic silencing of Nav 1.8 nociceptors reverses neuropathic pain and hyper-excitability in Painful Diabetic Neuropathy (PDN). B. BHATTACHARYYA*; N. JAYARAJ; D. REN; A. BELMADANI; R. J. MILLER; D. M. MENICHELLA. *Northwestern Univ., Northwestern Univ.*

11:00 N15 **153.08** Tadalafil promotes recovery from peripheral neuropathy in type ii diabetic mice. L. JIA*; M. CHOPP; A. SZALAD; X. LU; Z. G. ZHANG; L. WANG. *Henry Ford Hosp., Oakland Univ.*

8:00 N16 **153.09** Selective chemokine receptor CXCR4 deletion in Nav 1.8 nociceptive neurons reverses neuropathic pain and small fiber neuropathy in diabetes. N. D. JAYARAJ*; B. J. BHATTACHARYYA; D. REN; A. BELMADANI; R. MILLER; D. M. MENICHELLA. *Northwestern Univ., Northwestern Univ.*

9:00 N17 **153.10** Possible involvement of opioid receptors in the antihyperalgesic and antiallodynic effect of celecoxib in diabetic rats. I. E. JUAREZ-ROJOP*, JR; P. E. MORALES-HERNÁNDEZ; M. ALPUIN-REYES; J. L. BLE-CASTILLO; H. AGUILAR-MARISCAL; T. RAMÓN-FRÍAS; C. TOVILLA-ZARATE; J. C. DIAZ-ZAGOYA; V. GRANADOS-SOTO. *Univ. Juárez Autonoma De Tabasco, UJAT. División Académica Multidisciplinaria de Comalcalco, Facultad de Medicina, Univ. Nacional Autónoma de México., Neurobio. of Pain Laboratory, Dept. de Farmacobiología, Cinvestav.*

10:00 N18 **153.11** Role of macrophage migration inhibitory factor in diabetic peripheral neuropathy. S. NOH*; K. YOON. *Med. Res. Institute, Kangbuk Samsung Hospit.*

**POSTER**

**154. Pain Imaging and Perception**

***Theme D: Sensory and Motor Systems***

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

8:00 N19 **154.01** PET-MRI of microglia and neuropathic pain after spinal cord injury. C. LINNMAN*. *Boston Children's Hosp.*

9:00 N20 **154.02** ● The migraine brain in transition: Girls versus boys. V. FARIA; D. BORSOOK*; N. ERPELDING; A. LEBEL; A. JOHNSON; R. WOLFF; D. FAIR; R. BURSTEIN; L. BECERRA. *Ctr. fo pain and the Brain, Boston Children's Hospital, Harvard Med. Sch., Uppsala Univ., Boston Children's Hosp., Chronic Headache Program, Boston Children's Hosp., Boston Children's Hospital, Harvard Med. Sch., Oregon Hlth. and Sci. Univ., Beth Israel Deaconess Med. Center, Harvard Med. Sch.*

10:00 N21 **154.03** Changes in pain-related brain activity following a mindfulness meditation intervention in chronic migraine are associated with reduced anxiety. V. A. MATHUR*; S. A. B. BURROWES; M. L. KEASER; S. A. KHAN; M. GOYAL; D. A. SEMINOWICZ. *Univ. of Maryland, Texas A&M Univ., Johns Hopkins Univ.*

11:00 N22 **154.04** Hypothalamic functional connectivity in ongoing pain in healthy subjects and spontaneous pain in burning mouth syndrome patients. J. S. PAYANO SOSA*; T. J. MEEKER; S. A. KHAN; T. F. MEILLER; D. SEMINOWICZ. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Dent., Univ. of Maryland Sch. of Dent., Univ. of Maryland Sch. of Dent.*

8:00 N23 **154.05** Brush allodynia susceptibility is related to baseline heat pain sensitivity, regional blood flow differences, and sensitization-induced heat allodynia and mechanical hyperalgesia. A. SCHMID; T. J. MEEKER; S. ZHU; D. A. SEMINOWICZ; S. G. DORSEY; J. D. GREENSPAN*. *Univ. Maryland Dent. Sch., Johns Hopkins Sch. of Med., Univ. of Maryland, Univ. of Maryland, Univ. of Maryland Sch. of Nursing, Univ. of Maryland Sch. of Nursing.*

9:00 N24 **154.06** Superior colliculus: A role in migraine? D. SEMINOWICZ*; H. JOHANI; S. YOO; R. MASRI; R. L. QUITON. *Univ. of Maryland, Baltimore, Univ. of Maryland, Baltimore County.*

10:00 N25 **154.07** Does anti-NGF reverse symptoms of chronic neuropathic pain? J. T. SILVA*; B. EVANGELISTA; D. SEMINOWICZ; M. CHACUR. *Univ. of Sao Paulo, Univ. of Maryland Sch. of Dent.*

11:00 N26 **154.08** Functional alterations in resting state connectivity in rat pups following postnatal morphine exposure. D. BAJIC; M. M. CRAIG; D. BORSOOK; L. BECERRA*. *Boston Children's Hosp.*

8:00 N27 **154.09** Resting state networks in the infant rat brain under light isoflurane anesthesia. D. BAJIC*; M. M. CRAIG; D. BORSOOK; L. BECERRA. *Boston Children's Hosp.*

9:00 N28 **154.10** FDG-PET imaging bone pain- and morphine analgesia- related brain changes in the mice. W. CHU*; W. LIN; W. SUN; C. YEN. *Natl. Taiwan Univ., Natl. Taiwan Univ. Hosp.*

10:00 N29 **154.11** Aberrant processing of pain in autism spectrum disorder: FMRI evidence for immediate suppression of pain networks in ASD. M. D. FAILLA*; E. J. MOANA-FILHO; G. K. ESSICK; C. J. CASCIO. *Vanderbilt Univ., Univ. of Minnesota, Univ. of North Carolina.*



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

11:00 N30 **154.12** Autonomic pain responses during an empathic and non-empathic context: A study of heart rate variability. C. FAUCHON; I. FAILLENOT; F. CHOUCHOU; C. BORG; A. PERRIN; R. PEYRON*. *NeuroPain - Central Integration of Pain in Humans Lyon Neurosci. Res. Ctr. - Inserm U1028 - CNRS UMR 5292, Univ. Lyon 2, Lab. EMC (EA3082), 69676 Bron, Pain Center, CHU, F- 42055 Saint-Etienne, France, Hosp. Nord.*

8:00 N31 **154.13** Intrinsic functional connectivity of the periaqueductal gray (PAG) is related to fibromyalgia clinical symptoms. M. COULOMBE*; K. ST. LAWRENCE; D. E. MOULIN; P. MORLEY-FORSTER; M. SHOKOUHI; W. R. NIELSON; Y. BUREAU; K. D. DAVIS. *Toronto Western Res. Inst., Lawson Hlth. Res. Inst., Western Univ., Univ. of Toronto.*

9:00 N32 **154.14** Influence of medication value on the nocebo effect and its mechanism assessed by cortico-spinal imaging. A. TINNERMANN*; S. GEUTER; C. SPRENGER; J. FINSTERBUSCH; C. BÜCHEL. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. of Colorado Boulder.*

10:00 N33 **154.15** Identifying chronic pain biomarkers using EEG informed fMRI analysis on sickle cell disease patients during wakeful rest. M. CASE*; C. H. ZHANG; Y. DATTA; S. C. NELSON; K. GUPTA; B. HE. *Univ. of Minnesota, Children's Hosp. and Clinics of Minnesota.*

11:00 N34 **154.16** ● Abnormalities in brainstem descending inhibitory structures could explain the deficient conditioned pain modulation commonly observed in fibromyalgia patients. D. E. HARPER*; E. ICHESCO; J. P. HAMPSON; D. J. CLAUW; T. SCHMIDT-WILCKE; R. E. HARRIS; S. E. HARTE. *Univ. of Michigan, Ruhr Univ. Bochum.*

8:00 N35 **154.17** Decoding pain from multimodal sensory stimuli in EEG. J. M. LANCASTER; H. MANO; D. CALLAN; B. SEYMOUR*. *Advanced Telecommunications Res. Inst. Intl. (ATR), Ctr. for Information and Neural Networks, Natl. Inst. for Information and Communications Technol. (NICT), Univ. of Cambridge.*

9:00 N36 **154.18** Fluctuations of pelvic pain intensity in men with urologic chronic pelvic pain syndrome (UCPPS) are modulated with successful treatment. M. A. FARMER*; D. DAVIS; A. J. SCHAEFFER; A. APKARIAN. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Northwestern Univ.*

10:00 N37 **154.19** ● Non-invasive exploration of neurovascular coupling following acute noxious stimulation in the human term neonate. M. VERRIOTIS*; L. FABRIZI; A. LEE; S. LEDWIDGE; J. MEEK; M. FITZGERALD. *Univ. Col. London, Univ. Col. London Hosp.*

11:00 N38 **154.20** Hippocampal volume is associated with placebo propensity in a blinded randomized clinical trial with chronic low back pain patients. S. E. BERGER*; E. VACHON-PRESSEAU; D. A. DAVIS; K. B. ZOSZAK; T. J. SCHNITZER; A. V. APKARIAN. *Northwestern Univ. Feinberg Sch. of Med.*

8:00 N39 **154.21** Functional magnetic resonance imaging of the spinal cord during thermal stimulation. K. A. WEBER*; Y. CHEN; X. WANG; T. KAHNT; T. B. PARRISH. *Northwestern Univ.*

9:00 N40 **154.22** Decreased functional brain connectivity during itch compared to pain. R. RINGLER*; M. RANK; V. VIEROW; K. DETMAR; R. LOOSE; C. FORSTER. *Univ. of Technol. Amberg-Weiden, Univ. of Erlangen-Nuremberg, Clin. Ctr. of Nuremberg.*

10:00 N41 **154.23** Individual differences in temporal summation of pain reflect pro- and anti-nociceptive brain structure and function. J. CHENG*; N. ERPELDING; A. KUCYI; D. D. DESOUZA; K. D. DAVIS. *Toronto Western Res. Inst., Univ. of Toronto, Univ. of Toronto.*

11:00 N42 **154.24** Interactions between pain and motor processing in the human brain. M. POSTORINO; E. S. MAY; M. M. NICKEL; L. TIEMANN; M. PLONER*. *TU Muenchen.*

8:00 N43 **154.25** ● A Magnetoencephalography study of multi-modal processing of pain anticipation in primary sensory cortices. R. GOPALAKRISHNAN*; R. C. BURGESS; A. G. MACHADO. *Cleveland Clin., Cleveland Clin.*

9:00 N44 **154.26** ● Detection of brain glial activation in chronic pain using [11C]PBR28 positron emission tomography imaging: Occipital cortex as a pseudo-reference region. D. S. ALBRECHT*; S. SHCHERBININ; A. J. SCHWARZ; D. B. CHONDE; O. AKEJU; C. CATANA; R. R. EDWARDS; D. IZQUIERDO-GARCIA; R. JI; A. D. WASAN; N. R. ZURCHER; B. R. ROSEN; V. NAPADOW; V. N. BARTH; J. M. HOOKER; M. L. LOGGIA. *Martinos Center, MGH, Harvard Med. Sch., Eli Lilly and Co., Brigham and Women's Hosp., Duke Univ. Med. Sch., Univ. of Pittsburgh.*

10:00 N45 **154.27** Prestimulus EEG markers of subjective pain perception. P. TAESLER*; M. ROSE. *Univ. Med. Ctr. Hamburg-Eppendorf.*

11:00 N46 **154.28** BOLD fMRI and it's predictive value for pain treatment success in inflammatory diseases. A. HESS*; J. RECH; R. ATREYA; A. DOERFLER; M. NEURATH; G. SCHETT. *I. F. Pharmacol & Toxicol, Univ. of Erlangen-Nuremberg, Univ. of Erlangen-Nuremberg, Univ. of Erlangen-Nuremberg.*

8:00 N47 **154.29** Changes in pain processing in the spinal cord and brainstem after traumatic spinal cord injury characterized by means of functional MRI. P. W. STROMAN*; H. S. KHAN; D. CADOTTE; R. L. BOSMA; A. COTOI; R. LEUNG; M. G. FEHLINGS. *Queen's Univ., Toronto Western Hosp., Toronto Western Hospital, Univ. Hlth. Network.*

**POSTER**

**155. Processing and Modulation of Pain: Neuroimaging, Psychophysiology, and Neurochemistry**

***Theme D: Sensory and Motor Systems***

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

8:00 N48 **155.01** Resting brain activity predicts placebo response in randomized clinical trials of knee osteoarthritis pain. P. TÉTREAULT*; A. MANSOUR; E. VACHON-PRESSEAU; T. SCHNITZER; A. APKARIAN; M. BALIKI. *Northwestern Univ., Northwestern Univ.*



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

9:00 O1 **155.02** Structural plasticity in primary somatosensory/motor cortex in carpal tunnel syndrome is improved following acupuncture. H. KIM*; Y. MAEDA; N. KETTNER; J. LEE; J. KIM; S. CINA; C. MALATESTA; J. GERBER; C. MCMANUS; P. MEZZACAPPA; R. ONG-SUTHERLAND; A. LIBBY; L. R. MORSE; K. PARK; J. AUDETTE; V. NAPADOW. *A.A. Martinos Ctr., Korea Inst. of Oriental Med., Dept. of Radiology, Logan Univ., Dept. of Physical Med. and Rehabilitation, Spaulding Rehabil. Hosp., Boston Alternative Hlth., Dept. of Pain Medicine, Harvard Vanguard Med. Associates.*

10:00 O2 **155.03** Evidence of alterations to cerebral-midbrain-spinal mechanisms of pain control in Fibromyalgia. R. BOSMA*; E. AMELI MOJARAD; L. LEUNG; C. PUKALL; R. STAUD; P. STROMAN. *Queen's Univ., Univ. of Florida.*

11:00 O3 **155.04** Trigeminal sensory nucleus connectivity is modulated by respiratory-gated auricular vagus nerve stimulation in migraine patients. R. G. GARCIA*; R. LIN; J. LEE; H. JUNG; J. KIM; M. LOGGIA; A. D. WASAN; R. EDWARDS; N. HADJIKHANI; V. NAPADOW. *Martinos Ctr. For Biomed. Imaging, Univ. de Santander, Massachusetts Gen. Hosp., Brigham and Women's Hosp., Univ. of Pittsburgh Med. Ctr.*

8:00 O4 **155.05** Pain specific encoding of temporal dynamics of aversive stimuli in the ventral striatum. S. GEUTER*; E. A. REYNOLDS LOSIN; T. D. WAGER. *Univ. of Colorado Boulder.*

9:00 O5 **155.06** Cognitive behavioral therapy changes pain-evoked activity and intrinsic connectivity of the default mode network. A. KUCYI; T. V. SALOMONS; K. D. DAVIS*. *Univ. Hlth. Network, Massachusetts Gen. Hosp., Univ. of Reading, Univ. of Toronto.*

10:00 O6 **155.07** Neural and behavioral correlates to pain perception in nerve growth factor beta (NGFB) mutation carriers. I. PERINI*; M. TAVAKOLI; A. MARSHALL; J. MINDE; I. MORRISON. *Dept. of Clin. and Exptl. Medicine, IKE, Ctr. for Endrocrinol. & Diabetes, Inst. of Human Development, Univ. of Manchester;, Greater Manchester Neurosci. Centre, Salford Royal Hosp. NHS Trust, Stott Lane, Salford M6 8HD, Dept. of Orthopaedics, Gällivare Hospital, Gällivare, Sweden.*

11:00 O7 **155.08** Intrinsic functional connectivity predicts task evoked responses and pain modulation in an experimental model of placebo analgesia. J. A. HASHMI*; R. YU; S. KHAN; R. L. GOLLUB; J. KONG. *Harvard Med. Sch., MGH, Harvard Med. School, MGH.*

8:00 O8 **155.09** The indirect pathway of nucleus accumbens shell amplifies tactile allodynia in rodent pain model. W. REN*; M. V. CENTENO; D. J. SURMEIER; M. MARTINA; A. V. APKARIAN. *Northwestern Univ.*

9:00 O9 **155.10** Generalized placebo improvement of both pain and pleasure evoked by specific suggestions of therapeutic benefit. D. ELLINGSEN*; S. LEKNES; C. TRISCOLI; H. OLAUSSON; J. WESSBERG. *Massachusetts Gen. Hospital, Harvard Med. Sc, Univ. of Oslo, Univ. of Gothenburg, Linköping Univ.*

10:00 O10 **155.11** Changes in pain and cold sensitivity over time after peripheral nerve injury relate to pain catastrophizing and insula gray matter. R. GOSWAMI*; D. J. ANASTAKIS; J. KATZ; K. D. DAVIS. *Toronto Western Res. Inst., Toronto Western Hosp., Univ. of Toronto, York Univ., Toronto Gen. Hosp.*

11:00 O11 **155.12** ● Glial activation in the brain and spinal cord of chronic pain patients. M. L. LOGGIA*; D. S. ALBRECHT; D. CHONDE; R. BORRA; O. AKEJU; N. KETTNER; C. CATANA; R. R. EDWARDS; D. IZQUIERDO-GARCIA; R. JI; A. WASAN; N. ZÜRCHER; B. ROSEN; V. NAPADOW; Y. ZHANG; J. HOOKER. *Massachusetts Gen. Hosp. / Harvard Med. Sch., Massachusetts Gen. Hosp. / Harvard Med. Sch., Logan Univ., Brigham and Women's Hosp. / Harvard Med. Sch., Duke Univ., Univ. of Pittsburgh Med. Ctr.*

8:00 O12 **155.13** Repeated verum but not placebo acupuncture normalizes connectivity in brain regions dysregulated in chronic pain. N. EGOROVA*; R. L. GOLLUB; J. KONG. *Massachusetts Gen. Hosp. / Harvard Med. Sch.*

**POSTER**

**156. Somatosensory Neural Coding**

***Theme D: Sensory and Motor Systems***

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

8:00 O13 **156.01** Contribution of layer 2/3 neurons to sensory adaptation in mouse somatosensory cortex. M. ADIBI*; E. KHERADPEZHOUH; L. R. FENLON; R. SUAREZ; L. J. RICHARDS; E. ARABZADEH. *Australian Natl. Univ., Queensland Brain Institute, The Univ. of Queensland, The Univ. of Queensland.*

9:00 O14 **156.02** Representation of egomotion in rat trident whisker cortex. E. CHOREV*; P. PRESTON FERRER; M. BRECHT. *BCCN.*

10:00 O15 **156.03** The somatosensory input to the brain during active sensation in awake behaving mice. D. CAMPAGNER*; M. H. EVANS; M. R. BALE; A. ERSKINE; R. S. PETERSEN. *The Univ. of Manchester, Inst. de Neurociencias de Alicante UMH-CSIC, Natl. Inst. for Med. Res. (NIMR).*

11:00 O16 **156.04** Vibrotactile intensity coding by cortical neurons from the hindpaw representation in the rat SI cortex. B. GUCLU*. *Bogazici Univ.*

8:00 O17 **156.05** Subthreshold optogenetic modulation changes the representation of sensory stimuli by layer 6 corticothalamic neurons and disrupts neocortical processing of sensory change. J. VOIGTS*; C. A. DEISTER; C. I. MOORE. *MIT, Brown Univ.*

9:00 O18 **156.06** Air-Track: A novel physical and virtual environment for sensorimotor behavior. M. N. ABDELHAMID*; H. ORABY; R. SACHDEV; Y. WINTER; M. LARKUM. *Humboldt Univ. of Berlin, Humboldt Univ. of Berlin.*

10:00 O19 **156.07** Area S1 and S2 mapping of vibrotactile stimulation using microECoG electrodes. J. C. TANNER*; T. HEARN; S. HELMS TILLERY. *Arizona State Univ., ASU, ASU.*

11:00 O20 **156.08** Whisker-based encoding of grating stimuli in head-fixed mice. B. R. ISETT*; D. E. FELDMAN. *Univ. of California Berkeley, Univ. of California Berkeley.*

8:00 O21 **156.09** Affective social touch: Electrophysiological correlates of "ticklishness" in juvenile rats. S. ISHIYAMA*; M. BRECHT. *Humbold-Universität zu Berlin.*



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

9:00 O22 **156.10** Two-photon calcium imaging depicts population encoding of vibrotactile information within excitatory and inhibitory networks of the limb associated mouse somatosensory cortex. M. V. BANDET*; I. R. WINSHIP. *Univ. of Alberta, Univ. of Alberta, Univ. of Alberta.*

10:00 O23 **156.11** Stimulus feature coding by trigeminal ganglion neurons during natural whisking against an object. K. S. SEVERSON*; D. XU; D. H. O'CONNOR. *Johns Hopkins Univ. Sch. of Med.*

11:00 O24 **156.12** Decoding acupuncture point specificity using multi-voxel pattern analysis. W. JUNG*; Y. CHAE. *AMSRC / Kyunghee Univ.*

8:00 O25 **156.13** High stimulus-related information in inhibitory fast-spiking interneurons of the adult rat barrel cortex *in vivo*. V. REYES-PUERTA*; S. KIM; J. SUN; B. IMBROSCI; W. KILB; H. J. LUHMANN. *Inst. of Physiology, Univ. Mainz.*

9:00 O26 **156.14** Functional dynamics of heterogenous interneuron and pyramidal cell subnetworks over multiple time scales. C. A. DEISTER*; K. SALEHI; A. TRIEDMAN; C. I. MOORE. *Brown Univ.*

10:00 O27 **156.15** Temperature representation in the *Drosophila* brain. M. GALLIO*; D. D. FRANK; G. C. JOUANDET; P. J. KEARNEY; L. J. MACPHERSON. *Northwestern Univ., Columbia Univ.*

11:00 O28 **156.16** Choice- and stimulus-related activity mapped across layer 2/3 of mouse s1 and s2. S. E. KWON*; H. YANG; G. MINAMISAWA; D. H. O'CONNOR. *Brain Sci. Inst. / Johns Hopkins Univ.*

8:00 O29 **156.17** ● TMS over V5/hMT+ disrupts tactile direction discrimination. T. AMEMIYA*; B. BECK; H. GOMI; P. HAGGARD. *NTT Communication Sci. Labs., Univ. Col. London.*

9:00 O30 **156.18** Locus coeruleus activity patterns modulate coding properties of the ventral posteromedial nucleus in the thalamus of the rat vibrissae pathway. C. RODENKIRCH*; Y. LIU; Q. WANG. *Columbia Univ. Dept. of Biomed. Engin.*

10:00 O31 **156.19** Context-dependent information decoding of sensory-evoked responses in the rat vibrissa pathway. H. J. ZHENG*; C. WAIBLINGER; B. J. HE; G. STANLEY. *Georgia Inst. of Technol. & Emory Univ., Natl. Inst. of Hlth.*

11:00 O32 **156.20** Altered sensory processing following cortical spreading depression in awake mice. P. D. PARKER*; J. J. THERIOT; J. M. MENDEZ; K. BRENNAN. *Univ. of Utah, Univ. of Utah.*

8:00 O33 **156.21** Establishing the link between single afferent firing and perception across the foot sole. N. STRZALKOWSKI*; R. MILDREN; L. BENT. *Univ. of Guelph.*

9:00 O34 **156.22** Mechanisms of illusory continuous force sensation induced by asymmetric vibration - A computational approach to sensory processing -. H. GOMI*; T. AMEMIYA; S. TAKAMUKU; S. ITO. *NTT Communication Sci. Labs.*

10:00 O35 **156.23** Closed-loop optogenetic stimulation reveals primary somatosensory cortex participation in whisk timing. J. B. SCHROEDER*; V. J. MARIANO; G. I. TELIAN; J. T. RITT. *Boston Univ.*

11:00 O36 **156.24** Sensory substitution in amputees: Intraneural versus transcutaneous nerve stimulation for the bidirectional control of prostheses. F. M. PETRINI*; E. D'ANNA; S. RASPOPOVIC; S. MICERA. *EPFL, Scuola Superiore Sant'Anna.*

8:00 O37 **156.25** ▲ The role of extracellular calcium concentration ($[Ca^{2+}]_e$) on methylmercury (MeHg)-induced toxicity in mouse dorsal root ganglia (DRG) primary cultures. E. FORMILLER*; H. HANNON; W. D. ATCHISON. *Michigan State Univ., Michigan State Univ., Michigan State Univ.*



**POSTER**

**157. Spinal Cord Injury: Motoneuron Excitability**

***Theme D: Sensory and Motor Systems***

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

8:00 O38 **157.01** The modulatory effects of caffeine on the intrinsic properties of spinal lateral motoneurons. M. S. RIVERA OLIVER*; Y. ALVAREZ-BAGNAROL; M. DIAZ-RIOS. *Univ. of Puerto Rico-Institute of Neurobio., Inst. of Neurobio., Inst. of neurobiology.*

9:00 O39 **157.02** Supraspinal changes following human spinal cord injury contribute to altered neural activation strategies during dynamic contractions. H. E. KIM*; L. M. ROGERS; D. M. CORCOS; T. G. HORNBY. *Univ. of Illinois At Chicago, Northwestern Univ., Northwestern Univ., Univ. of Illinois.*

10:00 O40 **157.03** Galvanic vestibular stimulation is available to induce long-term potentiation of indirect cortico-motoneuronal excitation in a relaxed arm muscle in humans. S. SUZUKI*; T. NAKAJIMA; S. IRIE; Y. MASUGI; T. KOMIYAMA; Y. OHKI. *Kyorin Univ. Sch. of Med., Univ. of Tokyo, Chiba Univ.*

11:00 O41 **157.04** Effects of sensorimotor rhythm modulation on the flexor carpi radialis H-reflex. A. K. THOMPSON*; H. CARRUTH; R. HAYWOOD; N. J. HILL; W. A. SARNACKI; D. MCFARLAND. *Med. Univ. of South Carolina, Univ. of Glasgow, Burke Med. Res. Inst., Ctr. for Adaptive Neurotechnologies, Wadsworth Ctr.*

8:00 O42 **157.05** ▲ Innocuous flexion reflex shows windup, mediated partly by L-type calcium channels. K. P. JOHNSON; S. M. TRAN; E. A. SIEGRIST; M. S. ELSON; A. BERKOWITZ*. *Univ. Oklahoma.*

9:00 O43 **157.06** Characteristics of the soleus h-reflex in middle-age people. L. MCCANE*; A. K. THOMPSON; Y. MAKIHARA; W. B. HAUG; J. R. WOLPAW. *Wadsworth Center, NYS Dep. Hlth., Med. Univ. of South Carolina, RehabCare, Stratton VA Med. Ctr.*

10:00 O44 **157.07** Effect of split-belt walking on cortical and spinal excitability. T. M. KESAR*; M. R. BORICH; M. SABATIER. *1441 Clifton Rd NE, Room 205, Emory Univ.*

11:00 O45 **157.08** ● *in vivo* intraspinal neurochemical monitoring for characterization of underlying mechanisms of stimulation-evoked motor responses following spinal cord injury. A. A. MENDEZ*; E. NICOLAI; P. J. GRAHN; J. K. TREVATHAN; K. E. BENNET; S. CHANG; J. L. LUJAN; K. H. LEE. *Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin.*

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

8:00 O46 **157.09** Preservation of reflex pathways following muscle adaptations accompanying tendon transfer. H. MAAS*; M. A. LYLE; E. KAJTAZ; T. R. NICHOLS. *VU Univ., Georgia Inst. of Technol.*

9:00 O47 **157.10** Changes in Ia EPSPs and effective synaptic currents in hindlimb motoneurons following incomplete spinal cord injury. V. V. TURKIN; D. O'NEILL; T. M. HAMM*. *Barrow Neurolog. Inst., Barrow Neurolog. Inst.*

**POSTER**

**158. Amyotrophic Lateral Sclerosis: Motor Neuron Disease**

***Theme D: Sensory and Motor Systems***

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

8:00 O48 **158.01** Expression of C9ORF72 repeat expansions in mice causes behavioral impairments mimicking c9FTD/ALS clinical features. J. CHEW*; K. JANSEN-WEST; T. GENDRON; M. PRUDENCIO; C. W. LEE; Y. ZHANG; M. CASTANEDES-CASEY; A. KURTI; M. YUE; L. ROUSSEAU; M. M. MURRAY; J. TONG; L. DAUGHRITY; E. PERKERSON; D. W. DICKSON; J. D. FRYER; L. PETRUCELLI. *Mayo Clin., Mayo Clin.*

9:00 P1 **158.02** Chronic EMG activity reveals early changes in muscle activation in treadmill running SOD1 mice. K. A. QUINLAN*; E. KAJTAZ; J. D. CIOLINO; R. D. MANUEL; M. C. TRESCH; C. J. HECKMAN; V. M. TYSSELING. *Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ., Northwestern Univ., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med.*

10:00 P2 **158.03** Connecting genes to pathways and networks in an effort to reveal the basis of selective motor neuron vulnerability. P. KURU*; P. H. OZDINLER. *Northwestern Univ. Sch. of Med.*

11:00 P3 **158.04** CHCHD10 gene mutation causes ALS with complex mechanisms. J. YAN*; K. B. AHMETI; N. A. SIDDIQUE; E. B. RYAN; T. J. LUKAS; L. M. KINSLEY; Y. SHI; Y. YANG; N. MILLER; N. J. CORBETT; D. NICHOLSON; Y. MA; H. DENG; T. SIDDIQUE. *NORTHWESTERN UNIVERSITY, Northwestern Univ. Feinberg Sch. of Med., Rush Univ. Med. Ctr.*

8:00 P4 **158.05** Mutant profilin1 toxicity in the transgenic mouse model for ALS. M. KIAEI*; A. BASNAKIAN; M. COZART. *Univ. of Arkansas for Med. Sci., Univ. of Arkansas for Med. Sci.*

9:00 P5 **158.06** New evidence for the role of dna repair defects in motor neuron diseases. M. L. HEGDE*. *Houston Methodist.*

10:00 P6 **158.07** Identification of therapeutic targets for cytoskeletal defects in ALS. A. JAVAHERIAN*; P. GOYAL; M. ANDO; E. DANIELSON; C. FALLINI; J. LANDERS; S. FINKBEINER. *Gladstone Inst., Univ. of Massachusetts Med. Sch.*

11:00 P7 **158.08** Tdp-43 suppression of non-conserved cryptic exons is compromised in amyotrophic lateral sclerosis and frontotemporal dementia. J. LING*; O. PLETNIKOVA; J. TRONCOSO; P. WONG. *Johns Hopkins Univ.*

8:00 P8 **158.09** Identification of CDC7 mediated pathways regulating TDP-43 phosphorylation in simple models of ALS and FTLD-TDP. N. LIACHKO*; J. KUSHLEIKA; T. BIRD; B. KRAEMER. *VA Puget Sound Hlth. Care Syst., Univ. of Washington.*

9:00 P9 **158.10** Chitotriosidase, a putative biomarker augments neuroinflammation in sporadic amyotrophic lateral sclerosis. T. R. RAJU*; A. M. VARGHESE; M. GHOSH; P. S. MISHRA; K. VIJAYALAKSHMI; P. A. ALLADI; T. N. SATHYAPRABHA; A. NALINI. *Natl. Inst. Mentl Hlth. Neurosci, Natl. Inst. Mentl Hlth. Neurosci, Natl. Inst. Mentl Hlth. Neurosci.*

**POSTER**

**159. Motoneuron Disease: Cellular Mechanisms II**

***Theme D: Sensory and Motor Systems***

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

8:00 P10 **159.01** Untangling the dendritic network degeneration of upper and lower motor neurons in amyotrophic lateral sclerosis. M. J. FOGARTY*; E. W. H. MU; N. A. LAVIDIS; P. G. NOAKES; M. C. BELLINGHAM. *Univ. of Queensland, Queensland Brain Inst.*

9:00 P11 **159.02** Hydrogen sulphide: A double edged glial factor endogenously overproduced in Amyotrophic Lateral Sclerosis that enhances motor neuron death. P. LONGONE*; A. SPALLONI; V. GRECO; E. GUATTEO; A. DAVOLI; G. RICCIARDO RIZZO; A. URBANI; N. B. MERCURI. *Fondazione Santa Lucia, Univ. of Tor Vergata.*

10:00 P12 **159.03** Dysfunction of Rab1-dependent ER-golgi transport is a common pathogenic mechanism in ALS. J. ATKIN*; M. HALLORAN; V. SUNDARAMOORTHY; J. SULTANA; K. SOUTHAM; A. KING; K. SOO. *Macquarie Univ., La Trobe Inst. for Mol. Sci., Univ. of Tasmania.*

11:00 P13 **159.04** Roles of osteopontin and matrix metalloproteinase-9 in the subtype-selective motor neuron vulnerability in ALS. Y. MORISAKI; A. TSUBOTA; M. WATANABE; Y. MORIWAKI; K. YAMANAKA; H. MISAWA*. *Keio Univ. Fac Pharm, Res. Inst. Env Med. Nagoya Univ.*

8:00 P14 **159.05** ● C9ORF72 knockout mice show amyotrophic lateral sclerosis-like motor abnormalities. B. IKIZ*; S. D. CROLL; V. LAI; N. STAHL; A. J. MURPHY; L. E. MACDONALD; M. L. LACROIX-FRALISH. *Regeneron Pharmaceuticals, Inc.*

9:00 P15 **159.06** Lumbar spinal cord neuroprotective microglia and fractalkine are increased with disease progression in canine degenerative myelopathy, a model for amyotrophic lateral sclerosis. C. SIBIGTROTH*; M. JONES; V. GARCIA; E. VILLALÓN; J. COATES; M. GARCIA. *Univ. of Missouri.*

10:00 P16 **159.07** Role of CDNF in SOD1-G93A mouse model of amyotrophic lateral sclerosis. F. DE LORENZO*; M. H. VOUTILAINEN; E. MONTONEN; A. SAUKKONEN; M. AIRAVAARA; R. K. TUOMINEN; D. LINDHOLM; M. SAARMA. *Univ. of Helsinki, Univ. of Helsinki, Univ. of Helsinki.*

11:00 P17 **159.08** Mature oligodendroglia is not a contributor to amyotrophic lateral sclerosis. Y. LI*; D. BERGLES; J. D. ROTHSTEIN. *The Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*



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

8:00 P18 **159.09** Understanding the basis of CSMN vulnerability and degeneration using a proteomics approach. J. KLESSNER*; P. THOMAS; S. SANCHEZ; B. GENÇ; J. JARA; R. DAVIS; P. GOTTLIEB; N. KELLEHER; P. OZDINLER. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Northwestern Univ.*

9:00 P19 **159.10** Isoform specific antibodies reveal distinct subcellular localizations of c9orf72 in amyotrophic lateral sclerosis. S. XIAO*; L. MACNAIR; P. MCGOLDRICK; P. MCKEEVER; J. MCLEAN; M. ZHANG; J. KEITH; L. ZINMAN; E. ROGAEVA; J. ROBERTSON. *Univ. of Toronto, Univ. of Toronto, Sunnybrook Hlth. Sci. Ctr.*

10:00 P20 **159.11** Phosphorylated tau at threonine 175 and its role in ALS with frontotemporal degeneration. J. GOPAUL; A. MOSZCZYNSKI; P. MCCUNN; S. SCHMID; R. BARTHA; M. J. STRONG*. *Western Univ., Western Univ., London Hlth. Sci. Ctr. - UH.*

11:00 P21 **159.12** A screen for novel G4C2 hexanucleotide repeat expansions at ALS and FTD-associated loci. F. HE*; C. FIGUEROA-ROMERO; D. ZHANG; E. L. FELDMAN; P. K. TODD. *Univ. of Michigan, NIH.*

8:00 P22 **159.13** The expression and secretion of the co-chaperone STI1 in astrocytes from SOD1G93A ALS mouse model. G. P. OLIVEIRA*; T. G. SANTOS; V. R. MARTINS. *A.C.Camargo Cancer Ctr.*

9:00 P23 **159.14** Endothelin-1 induces degeneration of motor neurons: A possible pharmacological target for amyotrophic lateral sclerosis. S. D'ANTONI; E. RANNO; M. SPATUZZA; P. LA ROCCA; M. CATANIA*. *Inst. of Neurolog. Sciences, Natl. Res. Council (CNR), Univ. of Catania, IRCSS Oasi Maria SS.*

10:00 P24 **159.15** Early dysfunction and non-cell autonomous disease mechanisms in a human iPSC- based model of ALS. A. DEVLIN; C. ZHAO; B. SELVARAJ; S. BOROOAH; E. M. CLEARY; K. BURR; C. E. SHAW; S. CHANDRAN; G. B. MILES*. *Univ. St Andrews, Euan MacDonald Ctr. for Motor Neurone Dis. Research, Ctr. for Neuroregeneration, and Med. Res. Council Ctr. for Regenerative Medicine, Univ. of Edinburgh, MRC Ctr. for Neurodegeneration Research, King's Col. London, Inst. of Psychiatry, De Crespigny Park.*

11:00 P25 **159.16** Depletion of TDP-43 induces mitochondrial fragmentation. G. ITO*; A. KOYAMA; A. SHIGA; S. HIROKAWA; Y. TOYOSHIMA; A. KAKITA; M. NISHIZAWA; O. ONODERA. *Niigata Univ. Brain Res. Inst., Ctr. for Transdisciplinary Research, Niigata Univ., Dept. of Mol. Neuroscience, Brain Res. Institute, Niigata Univ.*

8:00 P26 **159.17** Analysis of polymorphisms in cbl-c gene for association with sporadic amyotrophic lateral sclerosis in African Americans. F. L. NUNEZ SANTANA*; M. SAEED; E. A. USACHEVA; D. ELLIOT, IV; N. A. SIDDIQUE; T. SIDDIQUE. *Northwestern University, Feinberg Sch. Med., Liaquat Natl. Hosp., NorthShore Univ. HealthSystem / Univ. of Chicago.*

9:00 P27 **159.18** Building an ipsc-derived astrocyte-motor neuron co-culture model to study non-cell autonomous toxicity in cases of fused in sarcoma (fus)-linked amyotrophic lateral sclerosis. K. MCAVOY*; K. KRISHNAMURTHY; S. SHAMAMANDRI MARKANDAIAH; D. TROTTI; P. PASINELLI. *Thomas Jefferson Univ.*

10:00 P28 **159.19** Activated inflammation and glial response in the skeletal muscle of a rat model of familial amyotrophic lateral sclerosis (ALS). J. VAN DYKE; I. SMIT-OISTAD; D. KRAKORA; C. MACRANDER; M. MEYER; M. SUZUKI*. *Univ. Wisconsin-Madison.*

11:00 P29 **159.20** ● β-Sitosterol β-D-glucoside causes parkinsonism in rats but ALS-like behaviours and motor neuron pathology in mice. J. M. VAN KAMPEN*; D. G. KAY; P. A. HOWSON; J. M. BROTCHIE; D. C. BARANOWSKI; C. A. SHAW; H. A. ROBERTSON. *Neurodyn Inc., Atuka, Univ. of British Columbia.*

8:00 P30 **159.21** MTHFSD and DDX58 are novel RNA-binding proteins abnormally regulated in ALS. L. MACNAIR*; S. XIAO; D. MILETIC; M. GHANI; E. ROGAEVA; J. KEITH; L. ZINMAN; J. ROBERTSON. *Univ. of Toronto, Univ. of Toronto, Sunnybrook Hlth. Sci. Ctr.*

9:00 P31 **159.22** Dominant-negative effect mechanism in OPTNE478G-linked amyotrophic lateral sclerosis. Y. SHI; F. FECTO; T. SIDDIQUE; H. DENG*. *northwestern university, Northwestern Univ. Feinberg Sch. of Med.*

10:00 P32 **159.23** Motor neurons are impaired in Prune2 gene deficient mice. M. ITOH; E. NISHIDA; S. ISLAM; S. LI; M. OSAWA; D. LEE; H. CHEN; M. UEDA; M. WANG; M. HAYAKAWA; G. IKENO; K. ICHIHASHI; K. OKAMOTO; J. TSUTSUMI; T. NAKAGAWA*. *Gifu Univ. Grad Sch. of Med.*

11:00 P33 **159.24** ● Mechanisms of synaptic dysfunction of C9ORF72 neurons *in vitro* and *in vivo*. I. LORENZINI*; T. O'DONNELL; E. L. DALEY; X. TANG; I. VARELA; S. VIDENSKY; J. CHEW; L. PETRUCELLI; R. SATTLER. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Mayo Clin.*

8:00 P34 **159.25** TDP-43 regulates expression of Ulk1/Atg1 and autophagy. K. MATSUKAWA*; R. IHARA; T. MATSUMOTO; M. MIURA; T. CHIHARA; T. WAKABAYASHI; T. HASHIMOTO; T. IWATSUBO. *The Univ. of Tokyo.*

9:00 P35 **159.26** Amelioration of toxicity in neuronal models of amyotrophic lateral sclerosis by hUPF1. S. BARMADA*; S. JU; A. ARJUN; A. BATARSE; H. ARCHBOLD; D. PEISACH; Y. ZHANG; X. LI; E. TANK; H. QIU; E. HUANG; D. RINGE; G. PETSKO; S. FINKBEINER. *Univ. of Michigan Dept. of Neurol., Univ. of Michigan, Wright State Univ., The J. David Gladstone Inst., Univ. of California, Brandeis Univ., Weil Cornell Med. Col., Weil Cornell Med. Col., Weil Cornell Med. Col., The J. David Gladstone Inst., The J. David Gladstone Inst., Univ. of California, The J. David Gladstone Inst.*

10:00 P36 **159.27** Neuron-glial interaction in pathogenesis of sporadic amyotrophic lateral sclerosis (als): Inflammation mediated neurotoxicity. P. S. MISHRA*; D. K. DHULL; K. VIJAYALAKSHMI; T. N. SATHYAPRABHA; A. NALINI; P. A. ALLADI; T. R. RAJU. *Natl. Inst. of Mental Hlth. and Neuroscien, Panjab Univ., Natl. Inst. of Mental Hlth. and Neuroscien, Natl. Inst. of Mental Hlth. and Neuroscien.*

11:00 P37 **159.28** *In vitro* analysis of axolotl spinal cord in terms of regeneration. E. KUBAT OKTEM*; B. POLAT; C. B. AKAGUNDUZ; G. OZTURK. *Istanbul Medipol Univ.*



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

**POSTER**

**160. Motor Unit Recruitment**

***Theme D: Sensory and Motor Systems***

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

8:00 P38 **160.01** The relation between alpha motor neuron excitability and discharge rate depends on the membrane noise level. U. YAVUZ*; F. NEGRO; O. SEBIK; C. FRÖMMEL; K. S. TÜRKER; D. FARINA. *Georg-august-University of Göttingen, Univ. Med. Ctr. Göttingen, Koç Univ.*

9:00 P39 **160.02** Is the synaptic input common to the whole motor neuron pool? F. NEGRO*; S. MUCELI; M. CASTRONOVO; D. FARINA. *Univ. Med. Ctr. Göttingen.*

10:00 P40 **160.03** The motor neuron pool as a linear system. J. L. DIDERIKSEN*; F. NEGRO; D. FARINA. *Aalborg Univ., Univ. Med. Ctr. Göttingen.*

11:00 P41 **160.04** Decorrelated neural drive to muscle from highly consistent inputs of specific sensory pathways in the *in vivo* cat. C. K. THOMPSON*; F. NEGRO; M. D. JOHNSON; M. R. HOLMES; L. C. MILLER; D. FARINA; C. J. HECKMAN. *Northwestern Univ., Univ. Med. Center, Georg-August Univ.*

8:00 P42 **160.05** Mapping the discharge of motor unit populations in the human lower extremity. D. M. HURLEY*; S. A. HRUBY; I. JOSHI; H. KANG; C. K. THOMPSON; L. C. MILLER; N. SÁNCHEZ; R. K. POWERS; F. NEGRO; D. FARINA; J. P. A. DEWALD; C. J. HECKMAN. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Univ. of Washington, Univ. Med. Center, Georg-August Univ.*

9:00 Q1 **160.06** Force fluctuations and motor unit activity during a handgrip task in individuals with chronic stroke and multiple sclerosis. M. JOSHI*; J. PETERSON; A. HYNGSTROM; S. STRATH; A. SWARTZ; F. NEGRO; D. FARINA; K. KEENAN. *Univ. Of Wisconsin - Milwaukee, Marquette Univ., Georg-August Univ. of Göttingen.*

10:00 Q2 **160.07** The effect of a visuospatial memory task on measures of postural control and motor unit activity in young and older adults. J. J. PETERSON*; K. G. KEENAN. *Univ. of Wisconsin - Milwaukee.*

11:00 Q3 **160.08** ● The notion of central fatigue: Findings from a simulation study. P. CONTESSA*; A. PULEO; C. J. DE LUCA. *Delsys Inc, Politecnico di Torino.*

8:00 Q4 **160.09** ● Evidence that synchronized motor unit firings are epiphenomena of the onion skin property not common inputs. J. C. KLINE*; C. J. DE LUCA. *Delsys, Inc, Boston Univ.*

9:00 Q5 **160.10** ● Onion skin and common drive of motor units during voluntary dynamic contractions. C. J. DELUCA*; S. S. CHANG; S. H. ROY; J. C. KLINE; S. H. NAWAB. *Delsys, Inc., Boston Univ., Boston Univ.*

10:00 Q6 **160.11** Changes in motor unit recruitment threshold and firing behavior after pairing high frequency repetitive transcranial magnetic stimulation with robot-assisted movement practice following stroke: A pilot study. T. D. IVANOVA*; K. J. MILLER; A. GALLINA; N. J. SNOW; J. L. NEVA; N. M. H. LEDWELL; Z. G. XIAO; C. MENON; L. A. BOYD; S. J. GARLAND. *Univ. of British Columbia, Simon Fraser Univ., Univ. of British Columbia, Simon Fraser Univ.*

11:00 Q7 **160.12** Assessing motor unit number and motor unit action potentials in hemiparetic hand muscles from F wave responses. X. LI*; M. FISHER; W. Z. RYMER; P. ZHOU. *Univ. of Texas, the Hines VAH, Loyola Univ. Stritch Sch. of Med., Rehabil. Inst. of Chicago, Northwestern Univ., Univ. of Texas, Univ. of Sci. and Technol. of China.*

8:00 Q8 **160.13** The effect of strength training on maximal motor unit discharge properties. Z. K. POPE*; G. M. HESTER; F. M. BENIK; J. SELLERS; J. M. DEFREITAS. *Oklahoma State Univ.*

9:00 Q9 **160.14** Motor neuron studies using multielectrode arrays. A. THARANEETHARAN*; M. HARRINGTON. *Delaware State Univ.*

10:00 Q10 **160.15** Modulation of motor units during repeated contractions post-stroke. S. A. MURPHY*; R. BERRIOS; S. HUNTER; F. NEGRO; D. FARINA; A. NELSON; K. KEENAN; B. SCHMIT; A. HYNGSTROM. *Marquette Univ., Gottingen Univ., Med. Col. of Wisconsin, Univ. of Wisconsin-Milwaukee.*

**POSTER**

**161. Social Behavior: Aggression**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

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

8:00 Q11 **161.01** Anabolic steroid exposure during adolescence alters the response and the physiological parameters of neurons in the lateral anterior hypothalamus of the male hamster. T. R. MORRISON*; R. SIKES; R. H. MELLONI, Jr. *Northeastern Univerisity, Northeastern Univerisity.*

9:00 Q12 **161.02** Early postnatal blockade of corticotropin-releasing hormone 1 receptor prevents aggressive behaviors in the low MAOA activity x early stress interaction model of aggression. M. BORTOLATO*; S. C. GODAR; L. J. MOSHER; H. STRATHMAN. *Univ. of Kansas.*

10:00 Q13 **161.03** P2X7 knockout mice display less aggression which is associated with alterations in microglial number and morphology. S. TODD*; A. BOUCHER; F. WALKER; I. MCGREGOR; M. BENNETT; M. KASSIOU; J. ARNOLD. *Brain and Mind Res. Inst., Univ. of Sydney, Brain and Mind Res. Inst., The Univ. of Newcastle, Hunter Med. Res. Inst., Univ. of Sydney, Univ. of Sydney.*

11:00 Q14 **161.04** A Thai tale: Artificial selection for aggression in the siamese fighting fish Betta splendens. D. GONÇALVES*; C. HUANG; F. LAM; M. PODLESNA; L. S. W. LEI; S. M. Y. LEE. *Univ. of St. Joseph, Univ. of Macau.*

8:00 Q15 **161.05** Sex differences in the effects of dominance status on serotonin (5-HT) and vasopressin (AVP) cell activity in Syrian hamsters (Mesocricetus auratus). J. I. TERRANOVA*; Z. E. SONG; T. E. LARKIN; N. S. HARDCASTLE; A. NORVELLE; H. E. ALBERS. *Georgia State Univ., Ctr. for Behavioral Neurosci.*

9:00 Q16 **161.06** The role of sex differences and social experience in the regulation of arginine-vasopressin (AVP) V1a receptors and aggressive behavior in Syrian hamsters (Mesocricetus auratus). A. P. ROSS*; T. LARKIN; E. Z. SONG; H. E. ALBERS. *Georgia State Univ.*



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

10:00 Q17 **161.07** Social experience modulates the ability of GABAA receptor activation to induce aggression in male Syrian hamsters (Mesocricetus auratus). J. BORLAND*; T. E. LARKIN; A. NORVELLE; H. E. ALBERS. *Georgia State Univ., Ctr. for Behavioral Neurosci.*

11:00 Q18 **161.08** ● Behavioral studies of basic emotions. F. WANG*, Mr.; S. GU. *Univ. Rochester, Nanjing Univ. of Traditional Chinese Med., Nanjing Normal Univ.*

8:00 Q19 **161.09** Behavioral effects of prenatal oxytocin manipulation in mice. T. V. MILLER*; S. TAMBORSKI; H. K. CALDWELL. *Sch. of Biomed. Sci. Kent State Universit, Dept. of Biol. Sci.*

9:00 Q20 **161.10** Pre-weaning behavioral manners in prenatal bisphenol A treated rats. T. FUJIMOTO; S. HIRANO*; Y. NISHIKAWA. *Osaka Dent. Univ.*

10:00 R1 **161.11** Early period of development is critical for the effect of monosodium glutamate on decreased aggressive behavior in ADHD model rat. S. MISUMI; R. MARUMOTO; Y. YOKOYAMA; Y. SHIMIZU; R. NISHIGAKI; H. NAGAI; H. HIDA*. *Nagoya City Univ. Grad Sch. Med. Sci.*

11:00 R2 **161.12** Insights about amygdala and aggression. F. V. GOUVEIA*; C. C. OLIVEIRA; L. T. C. SANTOS; M. D. J. SENO; E. T. FONOFF; H. BRENTANI; A. MARTINS; L. C. D. AMORIM; E. ALHO; S. P. RIGONATTI; M. J. TEIXEIRA; R. C. R. MARTINEZ. *Intituto Sirio Libanes De Ensino E Pesquisa, Univ. of Sao Paulo, Med. Sch., Univ. of Sao Paulo, Med. Sch.*

8:00 R3 **161.13** Understanding adolescent aggressive behavior: Clues from the brain's response to laboratory-induced aggression. Y. LIU; N. G. MUGGLETON*; C. CHEN. *Natl. Chung Cheng Univ., Natl. Central Univ., Goldsmiths.*

9:00 R4 **161.14** Autonomic correlates of reactive and proactive aggression. D. DHAMIJA*; C. TUVBLAD; A. RAINE; L. BAKER. *USC, Örebro Univ., Univ. of Pennsylvania.*

**POSTER**

**162. Microbiota and Stress**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

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

8:00 R5 **162.01** Postnatal oxytocin reverses selective behavioural and physiological effects of birth delivery by caesarean-section in mice. L. H. MORAIS*; Y. E. BORRE; A. GOLUBEVA; A. P. R. COSTA; K. SCOTT; G. MOLONEY; A. M. PEREZ; T. DINAN; J. F. CRYAN. *Univ. Col. Cork, Alimentary Pharmabiotic Centre, Univ. Col. Cork.*

9:00 R6 **162.02** Gut microbiota depletion during adulthood in rats: Implications for brain and behavior. R. D. MOLONEY*; A. E. HOBAN; G. CLARKE; T. G. DINAN; J. F. CRYAN. *Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork.*

10:00 R7 **162.03** ● Targeting the microbiota-gut-brain axis with prebiotics in mice: A novel strategy for stress-related disorders. A. BUROKAS; R. D. MOLONEY; S. ARBOLEYA; C. STANTON; T. G. DINAN; J. CRYAN*. *Univ. Col. Cork, Teagasc.*

11:00 R8 **162.04** ● Towards psychobiotics for stress & cognition: Bifidobacterium Longum blocks stress-induced behavioural and physiology changes and modulates brain activity and neurocognitive performance in healthy human subjects. A. P. ALLEN*; W. HUTCH; Y. BORRE; P. J. KENNEDY; A. TEMKO; G. BOYLAN; B. KIELY; G. CLARKE; J. F. CRYAN; T. G. DINAN. *Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Alimentary Hlth., Univ. Col. Cork.*

8:00 R9 **162.05** ● Regulation of microRNAs in the amygdala by the gut microbiota: Implications for brain and behaviour. G. CLARKE*; A. E. HOBAN; R. M. STILLING; F. SHANAHAN; T. G. DINAN; J. F. CRYAN. *Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork.*

9:00 R10 **162.06** Social microbes - the microbiota regulates sociability behaviour through stimulus-induced RNA-based pathways in the amygdala. R. M. STILLING*; A. E. HOBAN; F. J. RYAN; G. M. MOLONEY; F. SHANAHAN; G. CLARKE; M. J. CLAESSON; T. G. DINAN; J. F. CRYAN. *Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork.*

10:00 R11 **162.07** The microbiota regulates amygdaloid volume and dendritic length. G. MOLONEY*; P. LUCZYNSKI; F. SHANAHAN; G. CLARKE; T. G. DINAN; J. F. CRYAN. *Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork.*

11:00 R12 **162.08** Regulation of myelination in the prefrontal cortex by the gut microbiota. A. E. HOBAN*; R. STILLING; F. SHANAHAN; T. DINAN; G. CLARKE; J. CRYAN. *Alimentary Pharmabiotic Ctr., Alimentary Pharmabiotic Ctr., Alimentary Pharmabiotic Ctr., Alimentary Pharmabiotic Ctr.*

8:00 R13 **162.09** ● Gut microbiome alterations in major depressive disorder: Relevance to pathophysiology. J. R. KELLY*; Y. BORRE; C. O' BRIEN; J. DEANE; P. KENNEDY; S. EL AIDY; G. MOLONEY; L. SCOTT; E. PATTERSON; P. ROSS; C. STANTON; J. CRYAN; G. CLARKE; T. DINAN. *Univ. Col. Cork, Alimentary Pharmabiotic Ctr., Teagasc Food Res. Ctr., Univ. Col. Cork.*

9:00 R14 **162.10** Disruption of the gut microbiota with oral antibiotic reduces core body temperature and disrupts diurnal rhythms of core body temperature and locomotor activity, but not sleep, in adult rats. S. J. BOWERS; R. S. THOMPSON; A. MIKA; B. N. GREENWOOD; M. R. FLESHNER*. *Northwestern Med. Sch., Univ. Colorado, Univ. of Colorado at Denver.*

10:00 R15 **162.11** Early life test diet improves NREM sleep and facilitates REM sleep rebound following an acute stressor: The potential role of the gut microbiota, metabolome, and hypothalamic orexin. R. S. THOMPSON*; A. MIKA; R. ROLLER; M. GAFFNEY; B. N. GREENWOOD; P. C. DORRESTEIN; R. KNIGHT; M. FLESHNER. *Univ. Colorado Boul, Univ. of Colorado, Univ. of Colorado, Univ. of California, Univ. of California.*

11:00 R16 **162.12** Gut microbiota and blood analyses underlying reduced sickness-like behavior in serotonin transporter knockout mice following inflammatory challenge. B. M. KILLE*; D. J. DAVIS; K. S. CROWSON; K. E. TROTT; A. C. ERICSON; C. E. WIEDMEYER; J. N. ROUDER; D. Q. BEVERSDORF; C. E. HAGAN. *Univ. of Missouri, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri.*



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

8:00 R17 **162.13** Longitudinal effects of chronic stress on the murine gut microbiota. A. SHOSKES; A. PROCTOR; K. BATTANI; M. CARDER; L. SEMKE; V. DURIC; G. PHILLIPS; L. YUAN*. *Des Moines Univ., Iowa State Univ.*

**POSTER**

**163. Social Stress**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

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

8:00 R18 **163.01** Social isolation reduces the excitability of neurons in the medial nucleus of the amygdala. J. ROSENKRANZ*. *The Chicago Med. School/RFUMS.*

9:00 R19 **163.02** Early life stress as a model for sexually dimorphic development of negative symptoms in mice. H. GOODWILL*; P. LACHANCE; S. TERAMOTO; K. G. BATH. *Brown Univ.*

10:00 R20 **163.03** Social transfer of pain in the mouse. M. L. SMITH*; M. M. HEINRICHER; A. E. RYABININ. *OHSU.*

11:00 S1 **163.04** 12 things you didn't know about high responder/low responder rats, stress coping, and the dorsal raphe. Number 5 will blow your mind! J. COHEN*; A. E. ATA; N. L. JACKSON; S. M. CLINTON. *Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham.*

8:00 S2 **163.05** Social disruption produces lasting behavioral adaptations by reducing adult neurogenesis. M. OPENDAK*; L. OFFIT; T. J. SCHOENFELD; H. CAMERON; E. GOULD. *Princeton Univ., NIH.*

9:00 S3 **163.06** Early life experience mobilizes DNA transposable elements. T. A. BEDROSIAN*; C. QUAYLE; F. H. GAGE. *Salk Inst. for Biol. Studies.*

10:00 S4 **163.07** Sphingosine-1-phosphate receptor dysregulation contributes to depressive-like behavior in stress-susceptible rats. B. CORBETT*; S. BELTRAMI; S. LUZ; N. SUTOYO; S. BHATNAGAR. *Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia.*

11:00 S5 **163.08** Measurement of markers lipid peroxidation in blood serum in response to stressful conditions. S. GONZALEZ CANO*; A. GONZÁLEZ; E. BALTAZAR; P. AGUILAR-ALONSO; G. FLORES. *Inst. De Fisiologia BUAP, Facultad de Ciencias Químicas, BUAP.*

8:00 S6 **163.09** Reminiscing about positive memories buffers acute stress responses and engages the prefrontal cortex. M. E. SPEER*; H. MANGLANI; M. R. DELGADO. *Rutgers Univ.*

9:00 S7 **163.10** Social isolation reveals a dopamine-independent rewarding motivational response to acute nicotine that is not observed in group-housed mice. T. E. GRIEDER*; D. VAN DER KOOY. *Univ. Toronto, Univ. Toronto.*

10:00 S8 **163.11** Effects of diet quality on stress-vulnerability and metabolomic profiles in chronic mild social defeat stress model of mice. T. GOTO*; S. TOMONAGA; Y. KUBOTA; A. TOYODA. *Ibaraki Univ., Ibaraki Univ. Coop between Agri and Med. Sci. (IUCAM), Kyoto Univ., Tokyo Univ. of Agr. and Technol.*

11:00 S9 **163.12** ▲ Can behavioral inhibition in fish help endure a risky social environment? S. RIISE*; M. VINDAS; G. NILSSON; Ø. ØVERLI. *Univ. of Oslo, Univ. of Oslo, Norwegian Univ. of Life Sci.*

8:00 S10 **163.13** Neuroendocrine responses to social challenges in zebrafish. M. TELES*; M. GOZDOWSKA; E. KULCZYKOWSKA; R. F. OLIVEIRA. *Inst. Gulbenkian de Ciência, Champalimaud Neurosci. Programme, Champalimaud Ctr. for the Unknown, Genet. and Marine Biotechnology, Inst. of Oceanology of the Polish Acad. of Sci.*

9:00 S11 **163.14** A new rodent model to study empathy. M. CONTRERAS*; C. MEDINA; K. CRUZ; J. FELLOUS. *Univ. of Arizona.*

10:00 S12 **163.15** Effects of social threat on attention and action-related decisions in a realistic social context. E. VILAREM*; J. L. ARMONY; J. GRÈZES. *LNC, INSERM U960, IEC, ENS, PSL Univ., McGill Univ.*

11:00 S13 **163.16** Surface deformities of right caudate nucleus are associated with verbal abuse in adolescence. D. SHIN*; B. JEONG; S. LEE; J. YOO; T. YOON. *KAIST.*

8:00 S14 **163.17** Repeated and brief social defeat stress during adolescence on behavior and MAX/MYC network. S. CHIAVEGATTO*; C. E. AMARAL; R. B. S. SOARES; A. S. ALVES; L. ALVES-DOS-SANTOS; L. R. G. BRITTO; L. S. RESENDE. *Biomed. Sci. Inst. - Univ. of Sao Paulo, Natl. Inst. for Developmental Psychiatry (INCT-CNPq), Psychiatry - Sch. of Med.*

9:00 S15 **163.18** Should I stay or should I go? Telencephalic neural correlates for individual behavioral differences in fish. M. A. VINDAS*; P. THÖRNQVIST; E. HÖGLUND; M. GORISSEN; B. DAMSGÅRD; T. O. NILSEN; S. WINBERG; G. FLIK; Ø. ØVERLI; L. O. E. EBBESSON. *Uni Res. AS, Univ. of Oslo, Uppsala Univ., Tech. Univ. of Denmark, Radboud Univ., Univ. of Tromsø, Norwegian Univ. of Life Sci.*

**POSTER**

**164. Thirst and Water Balance**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

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

8:00 S16 **164.01** Brain loci relating to the thirst reception in an amphibious teleost, mudskipper. S. HAMASAKI*; Y. FURUKAWA; K. UEMATSU; M. YOSHIDA; T. MUKUDA. *Hiroshima Univ., Tottori Univ.*

9:00 S17 **164.02** Intracerebroventricular administration of thyrotropin-releasing hormone (TRH) suppresses water intake without affecting feed consumption in the neonatal chicks. S. KAWAKAMI*; Y. HAYASHI. *Hiroshima Univ. Grad. Sch. of Biosphere Sci.*

10:00 S18 **164.03** CO (carbon monoxide) blockade has different effects on 24h and 48h dehydration-induced hormone secretion and progressive dehydration induces distinct HO-1 (hemeoxygenase type 1) and nNOS (neuronal nitric oxide synthase) transcription patterns. J. B. LIMA*; F. LUCIO-OLIVEIRA; R. COLETTI; F. M. V. VECHIATO; L. L. K. ELIAS; J. ANTUNES-RODRIGUES. *Univ. of São Paulo, Federal Inst. of Education, Sci. and Technol. of Southern Minas Gerais.*



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

11:00 S19 **164.04** Activities of hypothalamic nitric oxide synthase (NOS) and cystathionine beta-synthase/3-mercaptopyruvate sulfurtransferase (CBS/3MST) are decreased by NO and H2S in hyperosmolality *in vitro*. R. COLETTI*; J. B. M. LIMA; F. M. V. VECHIATO; G. ALMEIDA-PEREIRA; F. LUCIO-OLIVEIRA; L. L. K. ELIAS; J. ANTUNES-RODRIGUES. *Sch. of Med. of Ribeirao Preto/ Usp.*

8:00 S20 **164.05** Type-1 cannabinoid receptor agonist decreases hypothalamic and neurohypophyseal hormonal release in response to hyperosmolality *in vitro*. F. M. VECHIATO*; R. COLETTI; S. G. RUGINSK; J. B. M. LIMA; L. L. K. ELIAS; J. ANTUNES-RODRIGUES. *Univ. of São Paulo/ Sch. of Med. of Rib, Federal Univ. of Alfenas.*

9:00 T1 **164.06** TRPV channel regulation of supraoptic nucleus neuron activity in lactation. C. H. BROWN*; Z. JAQUIERY; G. T. BOUWER; R. A. AUGUSTINE. *Univ. Otago.*

10:00 T2 **164.07** Sodium intake induced by gabaergic activation in the lateral parabrachial nucleus depends on opioid mechanisms of the central nucleus of amygdala. G. M. F. ANDRADE-FRANZÉ; C. A. ANDRADE*; S. GASPARINI; L. A. DE LUCA JR.; P. M. DE PAULA; D. S. A. COLOMBARI; E. COLOMBARI; J. V. MENANI. *Sch. of Dent. - FOAr - UNESP.*

11:00 T3 **164.08** Importance of cholinergic and angiotensinergic mechanisms of the subfornical organ for water and sodium intake by hyperosmotic rats treated with moxonidine into the lateral parabrachial nucleus. C. F. RONCARI*; R. B. DAVID; P. M. DE PAULA; D. S. A. COLOMBARI; L. A. DE LUCA JR.; E. COLOMBARI; C. A. F. ANDRADE; J. V. MENANI. *Dept Physiol. and Pathol., UNESP.*

8:00 T4 **164.09** Mechanism of clock-dependent activation of thirst neurons in rat. C. GIZOWSKI*; C. W. BOURQUE. *Res. Inst. of the MUHC.*

9:00 T5 **164.10** Muscimol injected into the lateral parabrachial nucleus increases potassium chloride intake in the rat. J. C. CALLERA*; L. A. DE LUCA JR; J. V. MENANI. *Sao Paulo State Univ., Sao Paulo State Univ.*

10:00 T6 **164.11** Sodium intake induced by acute injection of aldosterone into the 4th ventricle in rats treated with moxonidine into the lateral parabrachial nucleus. S. GASPARINI*; P. A. NASCIMENTO; G. F. LEITE; M. R. MELO; J. V. MENANI; E. COLOMBARI. *Sao Paulo State University. Dep. of Physiol. and Pathology.*

11:00 T7 **164.12** Effects of selective beta 1- and beta 2-adrenergic receptor activation on salt appetite of rats. R. L. THUNHORST*; B. XUE; T. BELTZ; A. K. JOHNSON. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa, Univ. of Iowa.*

8:00 T8 **164.13** ▲ Sugar consumption by male offspring of rats that consumed sugared water during pregnancy and lactation affects the renal expression of aquaporin 2 in the adulthood. V. VELAZQUEZ*; L. NICOLÁS; I. SOTO; F. CASTELÁN; J. RODRÍGUEZ. *Univ. Autonoma De Tlaxcala, Univ. Autonoma De Tlaxcala, Univ. Veracruzana.*

9:00 T9 **164.14** Sucrose intake is increased by central angiotensin II. M. H. PAES; L. M. CARDOSO; L. B. OLIVEIRA*. *Fed. Univ. Ouro Preto - UFOP.*

10:00 T10 **164.15** Characteristics of a consciousness disturbance in water intoxication in patients with psychoses. J. NAGAI; X. CAO; M. TAJITSU; A. FUKUI; T. YAMADA; Y. YAMBE; T. MURASE; Y. SUGIMURA*. *Nagoya Med. Ctr., Nagoya Univ. Grad. Sch. of Med.*

**POSTER**

**165. Molecular Biology and Physiology of Circadian Clocks**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

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

8:00 T11 **165.01** Developing and leveraging cell-based clock models in clock gene discovery. C. RAMANATHAN*; A. C. LIU. *Univ. of Memphis.*

9:00 T12 **165.02** Relationship between circadian disruption and cancer: Interaction between clock genes and cell cycle genes. S. CÁRDENAS ROMERO*; N. SADERI; O. RAMÍREZ-PLASCENCIA; C. ESCOBAR; R. SALGADO-DELGADO. *Univ. Autónoma De San Luis Potosí, Univ. Nacional Autónoma de México.*

10:00 T13 **165.03** Trpv1 desensitization disrupts circadian rhythm of clock gene expression in the suprachiasmatic nucleus and peripheral tissues. M. O. POLETINI*; N. A. C. HORTA; F. S. M. MACHADO; T. S. R. CARDOSO; M. S. B. SILVA; C. C. COIMBRA; S. P. WANNER; A. M. L. CASTRUCCI. *Federal Univ. of Minas Gerais, Univ. of São Paulo.*

11:00 T14 **165.04** The purinergic receptor, P2X7, mediates cell-cell synchrony and clock gene expression rhythms among SCN astrocytes. A. C. CAMACHO*; D. J. EARNEST; M. J. ZORAN. *Texas A&M Univ., Texas A&M Univ.*

8:00 T15 **165.05** A role for Krüppel-like factor 9 in the synchronization of peripheral circadian clocks by adrenal steroids. J. R. KNOEDLER; R. J. DENVER*. *Univ. of Michigan, Univ. Michigan.*

9:00 T16 **165.06** The circadian modulation of physiology in the praying mantis: A novel insect model system. A. E. SCHIRMER*; F. R. PRETE; E. S. MANTES; W. BOGUE; A. F. URDIALES; S. A. PATEL; C. CARRION; G. M. PRETE; V. M. SKITAL. *Northeastern Illinois Univ.*

10:00 T17 **165.07** Knockdown of prefrontal cortex period1/ period2 gene expression impairs diurnal-dependent conditioned fear extinction learning. L. R. WOODRUFF*; L. E. CHUN; N. M. VARRA; L. R. HINDS; B. GREENWOOD; C. MCCLUNG; R. L. SPENCER. *Univ. of Colorado At Boulder, Univ. of Colorado Boulder, Univ. of Colorado Boulder, Univ. of Colorado Denver, Univ. of Pittsburgh.*

11:00 T18 **165.08** Circadian clock genes are needed for normal adult neurogenesis. A. MALIK; R. V. KONDRATOV; R. J. JAMASBI; M. E. GEUSZ*. *Bowling Green State Univ., Cleveland State Univ.*

8:00 T19 **165.09** ▲ Characterization of diurnal core clock gene expression in forebrain glucocorticoid receptor knockout mice brains. S. J. MORTON*; L. E. CHUN; L. JACOBSON; L. R. HINDS; L. R. WOODRUFF; R. L. SPENCER. *Univ. of Colorado Boulder, Albany Med. Col.*



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* Indicates abstract's submitting author

9:00 T20 **165.10** Circadian modulation of behavioral aggression. W. D. TODD*, III; H. FENSELAU; J. L. WANG; C. B. SAPER. *Harvard Med. School/Beth Israel Deaconess Med. Ctr., Harvard Med. School/Beth Israel Deaconess Med. Ctr.*

10:00 U1 **165.11** Diurnal variations in rhythmic clock gene expression across brain regions important for emotional control of male and female rats. L. E. CHUN*; L. R. WOODRUFF; S. MORTON; L. R. HINDS; R. L. SPENCER. *Univ. of Colorado Boulder.*

11:00 U2 **165.12** Clock gene rhythm disruption: Comparison of major depressive disorder (mdd), bipolar (bp), and schizophrenia. M. H. HAGENAUER*; J. Z. LI; B. BUNNEY; D. WALSH; C. TURNER; D. ABSHER; F. MENG; M. VAWTER; S. EVANS; J. D. BARCHAS; A. F. SCHATZBERG; R. M. MYERS; W. BUNNEY; S. WATSON; H. AKIL. *Univ. of Michigan, Univ. of Michigan, Univ. of California, Univ. of Michigan, HudsonAlpha Inst. for Biotech., Cornell, Stanford.*

8:00 U3 **165.13** Transcriptional regulation of Neuroligin-1 by core clock transcription factors. V. MONGRAIN*; E. BÉLANGER-NELSON; J. BEAULIEU; N. CERMAKIAN. *Ctr. for Advanced Res. in Sleep Med., Univ. de Montréal, Ctr. de Recherche de l'Institut Universitaire en Santé Mentale de Québec and Univ. Laval, Douglas Mental Hlth. Univ. Inst. and McGill Univ.*

**POSTER**

**166. Sleep: Molecular, Cellular, and Pharmacology**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

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

8:00 U4 **166.01** The characterization of sleep in mutant mice for EphA4 reveals its implication in the circadian regulation of sleep. M. FREYBURGER*; A. PIERRE; E. BÉLANGER-NELSON; V. MONGRAIN. *Hop. Sacre Coeur Montreal, Univ. de Montreal, Hop. Sacre Coeur Montreal.*

9:00 U5 **166.02** Withdrawal from chronic intermittent exposure to ethanol is associated with insomnia in a mouse model of alcohol dependence. C. A. BLANCO-CENTURION*; L. RALSTON; M. F. LOPEZ; H. BECKER; J. WOODWARD; P. SHIROMANI. *Med. Univ. of South Carolina, Med. Univ. of South Carolina, Ralph Johnson VAMC.*

10:00 U6 **166.03** Intracellular mechanisms modulating gamma band activity in the pedunculopontine nucleus. B. R. LUSTER*; F. J. URBANO; E. GARCIA-RILL. *Univ. of Arkansas For Med. Sci., Univ. of Buenos Aires.*

11:00 U7 **166.04** Sleep contributes to double-strand DNA repair in *Drosophila* melanogaster mushroom body cells. D. B. BUSHEY*; G. TONONI; C. CIRELLI. *Univ. Wisconsin-Madison, Univ. of Wisconsin Madison.*

8:00 U8 **166.05** Effects of sleep and wake on astrocytes. M. BELLESI*; L. DE VIVO; G. TONONI; C. CIRELLI. *Univ. of Wisconsin-Madison.*

9:00 U9 **166.06** Effects of ghrelin on hypothalamic tuberomammillary nucleus neurons in rats. D. SHIMA; Y. WAKABAYASHI; J. KIM*; K. NAKAJIMA. *Univ. of Toyama.*

10:00 U10 **166.07** A delimited node of lateral hypothalamic GABAergic neurons promote wakefulness. A. VENNER*; C. B. SAPER; P. M. FULLER. *Beth Israel Deaconess Med. Ctr., Harvard Med. Sch.*

11:00 U11 **166.08** The slow-wave-sleep promoting parafacial zone counteracts the wake-promoting action of both caffeine and modafinil. C. ANACLET*; P. M. FULLER. *BIDMC Harvard.*

8:00 U12 **166.09** Cholinergic mechanisms in rat prefrontal cortex promote waking and inhibit sleep states. D. PAL*; D. C. FEDRIGON, III; F. ALAM; G. A. MASHOUR. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

9:00 U13 **166.10** Nicotine promotes wakefulness via activation of wake-promoting cholinergic neurons of the basal forebrain. A. NAIR*; A. SHARMA; I. RICE; P. SAHOTA; R. SHARMA; S. MURUGESAN; M. M. THAKKAR. *Harry S Truman Mem. VA Hosp., Ross Univ. Sch. of Med., Univ. of Missouri, Univ. of Missouri.*

10:00 U14 **166.11** Nicotine administration in the wake-promoting basal forebrain attenuates sleep promoting effects of alcohol. R. SHARMA*; P. SAHOTA; M. THAKKAR. *Harry S. Truman Mem. Veterans Hosp. and Uni.*

11:00 U15 **166.12** Melatonin promotes sleep by inhibiting orexinergic neurons in the perifornical lateral hypothalamus. A. SHARMA; A. NAIR; I. RICE; S. MURUGESAN; R. SHARMA; P. SAHOTA; M. M. THAKKAR*. *HSTMV Hosp., Ross Univ., HSTMV Hospital/University of Missouri.*

8:00 U16 **166.13** Prophylactic oral administration of Melatonin in adult Balb/C mice, before and during 96 hours of REM sleep deprivation improves hippocampal neurogenesis. G. L. ARMAS*; M. FLORES-SOTO; D. ACUÑA-CASTROVIEJO; S. LUQUIN DE ANDA; O. GONZALEZ-PEREZ; V. LÓPEZ-VIRGEN; S. SOTO-RODRIGUEZ; G. CHIPRES-TINAJERO; R. RAMOS-ZUÑIGA; R. GONZALEZ-CASTAÑEDA. *Ctr. De Enseñanza Técnico Industrial, Centro Universitario De Ciencias De La Salud, Universidad De Guadalajara, Centro Universitario De Ciencias Exactas E Ingenieria De La Universidad De Guadalajara, Universidad De Granada, Lab. De Neurociencias, Escuela De Psicología, Univ. De Colima.*

9:00 U17 **166.14** Orexin receptor activation generates gamma band input to cholinergic and serotonergic arousal system neurons and drives an intrinsic $Ca^{2+}$-dependent resonance in LDT and PPT cholinergic neurons. M. ISHIBASHI*; I. GUMENCHUK; B. KANG; C. STEGER; E. LYNN; N. E. MOLINA; L. M. EISENBERG; C. S. LEONARD. *New York Med. Coll.*

10:00 U18 **166.15** Influence of SKF38393 on changes of gene profile in rat prefrontal cortex during chronic paradoxical sleep deprivation. W. MA*. *Second Military Med. Univ.*

11:00 U19 **166.16** Modafinil robustly activates phasic dopamine signaling in the striatum. M. J. BOBAK; M. W. WEBER; M. A. DOELLMAN; J. M. ATHENS; D. R. SCHUWEILER; P. A. GARRIS*. *Illinois State Univ.*

8:00 U20 **166.17** Lithium decreases the effects of neuronal calcium sensor protein 1 on pedunculopontine neurons. S. M. DONOFRIO*; F. J. URBANO; E. E. GARCIA-RILL. *Univ. of Arkansas For Med. Sci., Univ. of Buenos Aires.*



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

9:00 U21 **166.18** Optogenetic stimulation of astrocytes in the posterior hypothalamus increases sleep at night. D. PELLURU*; R. KONADHODE; N. R. BHAT; P. SHIROMANI. *Med. Univ. of South Carolina, Ralph Johnson VAMC.*

10:00 U22 **166.19** Optogenetic activation of galanin neurons in the preoptic area (MnPO, VLPO) in galanin-cre mice does not increase sleep at night. R. KONADHODE*; D. PELLURU; C. BLANCO-CENTURION; M. LIU; C. ROBERTSON; P. SHIROMANI. *Med. Univ. of South Carolina, Ralph Johnson VAMC.*

11:00 U23 **166.20** Correlation between the developmental decrease in REM sleep and N-type calcium channel expression. E. E. GARCIA-RILL*; S. MAHAFFEY; M. MACNICOL. *Ctr. for Translational Neurosci.*

8:00 U24 **166.21** Sleep deprivation induces morphological changes in the prefrontal cortex in young and old rats. F. A. GARCÍA-GARCÍA*; E. ACOSTA-PEÑA; M. MELGAREJO-GUTIERREZ; I. CAMACHO-ABREGO; G. FLORES. *Univ. Veracruzana, Univ. Veracruzana, Benemerita Univ. Autonoma de Puebla.*

9:00 U25 **166.22** Long lasting global suppressed states during slow wave sleep. H. MIYAWAKI*; K. DIBA. *Univ. of Wisconsin-Milwaukee.*

10:00 U26 **166.23** A novel assay to screen for genes involved in sleep homeostasis. N. HOFFNER; L. K. SATTERFIELD; G. A. SEIDNER; W. JOINER*. *UCSD.*

11:00 U27 **166.24** ● Altered EEG response to psychomimetic agents in a novel Han Wistar rat strain lacking metabotropic glutamate receptor 2 expression. C. M. WOOD*; D. LODGE; A. P. MCCARTHY; E. SHANKS; E. S. J. ROBINSON; K. A. WAFFORD. *Univ. of Bristol, Univ. of Bristol, Eli Lilly and Co., Eli Lilly and Co., Eli Lilly and Co.*

8:00 U28 **166.25** Modulation of hypothalamic MCH-expressing neurons by pharmacogenetic tools strongly alters the sleep-waking cycle in mice. C. VARIN*; S. JEGO; S. ARTHAUD; M. LAZARUS; T. GALLOPIN; P. LUPPI; A. ADAMANTIDIS; P. FORT. *Lyon Neurosci. Res. Center, UMR 5292 CNRS/U, Douglas Inst., Univ. of Tsukuba, ESPCI ParisTech, Inselspital Univ. Hospital, Univerity of Bern.*

9:00 U29 **166.26** Development of REM sleep homeostatic drive requires activation of BDNF TrkB receptor in the pedunculopontine tegmentum (PPT). A. BARNES*; R. KOUL TIWARI; S. DATTA. *Univ. of TN Hlth. Sci. Ctr., Univ. of Tennessee Grad. Sch. of Med., Univ. of Tennessee.*

10:00 U30 **166.27** Association between cognitive performance, sleep EEG and the BDNF Val66Met polymorphism in children and adolescents. F. PUGIN*; A. METZ; A. BAUMER; M. WOLF; A. RAUCH; P. ACKERMANN; O. JENNI; R. HUBER. *Univ. Children's Hosp. Zurich, Univ. Hosp. Zurich, Univ. of Berne, Univ. of Zurich, Univ. of Zurich.*

11:00 U31 **166.28** Glutamatergic projection from the medial Prefrontal Cortex to Basal Forebrain - a ChR2-assisted circuit mapping study. L. FERRARI*; D. PARK; E. ARRIGONI. *Beth Israel Deaconess Med. Ctr. - Harvard Med. Sch.*

8:00 U32 **166.29** The novel zfhx3 circadian clock gene influences sleep and cognitive features. E. BALZANI; V. TUCCI*; G. LASSI; S. MAGGI; S. SETHI; M. J. PARSONS; M. SIMON; P. M. NOLAN. *Inst. Italiano Di Tecnologia (IIT), The Univ. of Manchester, MRC Harwell, Harwell Sci. and Innovation Campus.*

9:00 U33 **166.30** Sleep homeostasis, adenosine and glia cells. A. V. KALINCHUK*; J. ZANT; P. HAYDON; R. W. MCCARLEY; R. BASHEER. *VA Boston Healthcare System-Harvard Med. Sch., Tufts Univ.*



**POSTER**

**167. Sleep: Behavior**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

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

8:00 U34 **167.01** Withdrawn.

9:00 U35 **167.02** A comparative study of circadian rhythms and sleep between African spiny mice (Acomys cahirinus) and house mice (Mus musculus) in single and group housing conditions. C. WANG*; T. R. GAWRILUK; M. C. KEINATH; S. K. BISWAS; J. J. SMITH; A. W. SEIFERT; B. F. O'HARA. *Univ. of Kentucky.*

10:00 U36 **167.03** Proboscis extensions during sleep: A new sleep stage in *Drosophila* that clears the brain? B. VAN ALPHEN*; A. AUGUSTIN; R. ALLADA. *Northwestern Univ.*

11:00 U37 **167.04** Effect of striatal lesions on sleep and motor activity. Y. LAI*; K. HSIEH; Y. CHENG; J. M. SIEGEL. *UCLA/VAGLAHS Sepulveda, VAGLAHS Sepulveda, UCLA/VAGLAHS Sepulveda.*

8:00 U38 **167.05** A nap but not quiet rest prevents performance deterioration induced by intensive training. A. B. NELSON*; C. MOISELLO; D. BLANCO; J. LIN; P. PANDAY; J. P. BORKOWSKI; H. H. CHEN; M. GADALLA; C. FONTANESI; G. TONONI; C. CIRELLI; M. F. GHILARDI. *CUNY Med. Sch., Univ. of Wisconsin- Madison.*

9:00 U39 **167.06** Effects of social stress on behavior are sleep-dependent. C. L. GRAY*; L. PINCKNEY; E. OLIVER; K. N. PAUL; J. C. EHLEN. *Neurosci. Institute, Morehouse Sch. of Medici, Ross Univ. Sch. of Med.*

10:00 U40 **167.07** Behavioral and wireless electrophysiological characterization of sleep in a lizard, the Argentine Tegu (Tupinambis merianae). P. LIBOUREL*; S. ARTHAUD; B. MASSOT; E. VAN REETH; A. MOREL; M. SDIKA; O. BEUF; A. HERREL; P. LUPPI. *Neurosci. Res. Ctr. of Lyon, INL, CREATIS, MNHN.*

11:00 U41 **167.08** Sex differences in sleep following footshock stress in mice: An animal model for sleep disturbances after trauma exposure. I. KOBAYASHI*; T. A. MELLMAN; E. K. POLSTON. *Howard Univ. Col. of Med., Howard Univ. Col. of Med.*

8:00 U42 **167.09** ▲ Sleep plasticity due to social interactions and mating in *Drosophila* melanogaster. A. E. DOVE; C. G. VECSEY*. *Swarthmore Col.*

9:00 V1 **167.10** Sleep and recreational psychostimulant use. M. M. SCHADE*; M. KRAYNOK; H. E. MONTGOMERY-DOWNS. *West Virginia Univ., Ohio Northern Univ.*

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

10:00 V2 **167.11** ● ▲ Effects of acute sleep debt on decision-making in mice. E. PITTARAS*; M. CHENNAOUI; S. GRANON; A. RABAT. *Inst. de Recherche Biomédicales des Armées (IRBA), Inst. des Neurosciences Paris-Saclay (Neuro-PSI), Equipe d'accueil Vigilance Fatigue Sommeil (VIFASOM).*

11:00 V3 **167.12** Time-related changes of jaw-opening reflex excitability in quiet sleep in rats during post-surgical recovery. R. ODAI*; K. ADACHI; S. HINO; T. SIMOYAMA; H. SAKAGAMI; S. WATANABE; G. J. LAVIGNE; B. J. SESSLE. *Meikai Univ. Sch. of Dent., Meikai Univ. Sch. of Dent., Saitama Med. Univ., Univ. de Montréal, Facuty of Dentistry, Univ. of Toronto.*

8:00 V4 **167.13** Quantitative control of arousal via the midline thalamic nuclei. G. KOMLOSI; C. PORRERO; P. BARTHO; A. BABICZKY; C. DAVID; B. BARSY; F. CLASCA; L. ACSADY; F. MATYAS*. *Inst. of Exptl. Med. of the Hungarian Acad. of Sci., Dept. of Anat. and Neuroscience, Sch. of Medicine, Autonoma Univ., MTA-TTK NAP B Sleep Oscillation Res. Group, MTA-TTK NAP B Neronal Network and Behaviour Res. Group.*

9:00 V5 **167.14** Sleep spindles and memory: Optogenetic manipulation of parvalbumin containing GABAergic neurons in mouse thalamic reticular nucleus. F. KATSUKI*; J. M. MCNALLY; S. THANKACHAN; R. E. BROWN; J. T. MCKENNA; R. E. STRECKER; R. W. MCCARLEY. *VA Boston Healthcare System/Harvard Med. Sch.*

10:00 V6 **167.15** Cortical hyperarousal state in patients with insomnia comorbid with sleep apnea syndrome. A. M. PARAMO-BRANDO*; P. DURAN; I. Y. DEL RIO-PORTILLA; M. MIRANDA-ANAYA; R. HARO. *UNAM, Facultad de Ciencias UNAM, Fac. de Psicologia, UNAM.*

11:00 V7 **167.16** Estradiol modulates sleep, thermoregulation, and cognition in ovariectomized female marmosets. N. GERVAIS*; S. S. VIECHWEG; J. A. MONG; A. LACREUSE. *Univ. of Massachusetts Amherst, Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

8:00 V8 **167.17** Effects of ethanol consumption and withdrawal on the sleep/wake cycle of high alcohol preferring (cHAP) mice. S. HUITRON-RESENDIZ*; N. J. GRAHAME; A. J. ROBERTS. *The Scripps Res. Inst., Grad. Studies IUPUI, The Scripps Res. Inst.*

9:00 V9 **167.18** Analysis of electrophysiological cortical activity during sleep in turtles and lizards. J. M. ONDRACEK*; A. KOTOWICZ; M. SHEIN-IDELSON; G. LAURENT. *Max Planck Inst. For Brain Res.*

10:00 V10 **167.19** ▲ Relation between sleep time duration and increase body mass index in a Mexican population. Á. PAVÓN ROSADO*; J. E. MOLINA-ALFONSO; E. AGUILAR-SÁNCHEZ; M. SAAVEDRA-VÉLEZ; C. ESCOBAR-BRIONES; M. A. MELGAREJO. *Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana, Univ. Nacional Autónoma de México.*

11:00 V11 **167.20** An unsupervised brain machine interface to study the maintenance of wakefulness in rodents. H. W. STEENLAND*. *Univ. of Lethbridge, NeuroTek.*

8:00 V12 **167.21** ▲ Does circadian rhythm contribute towards sleep inertia: A meta - analysis. S. NAIR*; P. SAHOTA; M. THAKKAR. *Univ. of Missouri-Kansas City Med. Sch., HSTMV Hospital/University of Missouri-Columbia.*

9:00 V13 **167.22** Ultradian dynamics of electrical brain activity in a zebra finch during sleep. A. L. VYSSOTSKI*; A. STEPIEN; R. H. R. HAHNLOSER. *Inst. of Neuroinformatics, Univ. of Zurich and ETH Zurich.*

10:00 V14 **167.23** ▲ Misalignment time of sleep affect the glucose levels and Body Mass Index in a young Mexican population. E. AGUILAR*; J. E. MOLINA-ALFONSO; Á. PAVÓN-ROSADO; M. SAAVEDRA-VÉLEZ; C. ESCOBAR-BRIONES; M. A. MELGAREJO. *Univ. Veracruzana, Univ. Veracruzana, Univ. Veracrazana, Univ. Nacional Autónoma de México.*

11:00 V15 **167.24** Intermediate decrease of CSF orexin (hypocretin) and significant obesity in Prader-Willi syndrome patients compared with narcolepsy and idiopathic hypersomnia. T. KANBAYASHI*; M. OMOKAWA; T. AYABE; T. NAGAI; A. IMANISHI; Y. OHMORI; K. TSUTSUI; J. TAKAHASHI; Y. KIKUCHI; Y. TAKAHASHI; E. NARITA; S. SATO; K. TSUKAMOTO; S. UEMURA; Y. SAGAWA; T. SHIMIZU. *Akita Univ. Sch. Med., Intl. Inst. for Integrative Sleep Med. (WPI-IIIS), Univ. of Tsukuba, Dept of Ped, Dokkyo Med. Univ. Koshigaya Hosp., Akita Kaiseikai Hosp., Akita Univ. Grad. Sch. of Hlth. Sci.*

8:00 V16 **167.25** The effects of short- and long-term sleep loss on biological and psychological measures of health. J. L. TARTAR*; A. I. FINS; L. D. HILL; M. R. LORENZETTI; T. J. A. CRADDOCK. *Nova Southeastern Univ., Nova Southeastern Univ.*

9:00 V17 **167.26** The effects of citalopram on masseter and neck muscle activities in mice. Y. NOGAWA; A. MOCHIZUKI*; K. KATAYAMA; M. IKEDA; Y. ABE; S. NAKAMURA; K. NAKAYAMA; M. KIYOMOTO; T. KATO; K. BABA; N. WAKABAYASHI; T. INOUE. *Showa Univ., Tokyo Med. and Dent. Univ., Showa Univ., Osaka Univ.*

10:00 V18 **167.27** Can sleeping birds preen? Dissociation between sleep-related EEG activity and behavior in pigeons. N. C. RATTENBORG*; D. MARTINEZ-GONZALEZ; J. VAN DER MEIJ; G. J. L. BECKERS; A. L. VYSSOTSKI; M. POMPEIANO; E. BALABAN. *Max Planck Inst. for Ornithology, Utrecht Univ., Univ. of Zürich / ETH Zürich, McGill Univ.*

11:00 V19 **167.28** The relationship of sleep-wake and anxiety phenotypes analyzed using genetic mouse models and mice of different ages. K. M. HAMRE*; S. LATTIMER; S. S. JOSHI; K. D. DONOHUE; B. F. O'HARA. *Univ. Tennessee Hlth. Sci. Ctr., Univ. Tennessee Hlth. Sci. Ctr., Univ. of Kentucky.*

8:00 V20 **167.29** Caffeine prevents the development of pain hypersensitivity after acute and chronic sleep restriction in mice. C. ALEXANDRE*; A. LATREMOLIERE; G. MIRACCA; T. E. SCAMMELL; C. J. WOOLF. *Beth Israel Deaconess Med. Ctr., Harvard Med. Sch., Boston Children's Hosp.*

9:00 V21 **167.30** Circadian and sleep-related gene polymorphisms are associated with chronotypes and road accident history in professional bus drivers. V. DOROKHOV*; A. N. PUCHKOVA; A. O. TARANOV; T. V. TUPITSYNA; P. A. SLOMINSKY; V. V. DEMENTIENKO. *IHNA RAS, IMG RAS, Neurocom.*



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

**POSTER**

**168. Suprachiasmatic Nucleus Anatomy, Physiology, and Neurochemistry**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

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

8:00 V22 **168.01** Analysis of splicing factor Rbfox2 isoforms in the rat cortex and hypothalamus. D. A. CARTER*; L. M. M. PARTRIDGE. *Cardiff Univ.*

9:00 V23 **168.02** The suprachiasmatic nuclei, asymmetries and the involvement on non-proestrous events in the regulation of ovulation. C. C. SILVA; D. P. BENITEZ; J. C. MUÑOZ; G. D. CORTÉS; M. CRUZ; A. FLORES; R. DOMINGUEZ*. *FES Zaragoza UNAM, FES Zaragoza UNAM.*

10:00 V24 **168.03** Functional properties of intergeniculate leaflet inputs to the suprachiasmatic nucleus in a novel *in vitro* slice preparation. L. HANNA*; M. HOWARTH; T. M. BROWN. *Univ. of Manchester.*

11:00 V25 **168.04** Photic responses of suprachiasmatic nucleus neurons in the Rhesus monkey. K. Q. CHANG*; P. D. GAMLIN. *Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham.*

8:00 V26 **168.05** CK1 Inhibitor, Longdaysin, has mild effect on behaviors under normal lighting conditions. P. FENG*; A. AKLADIOUS; Y. HU; P. J. SMITH. *Case Western Reserve Univ/Cleveland VA Med. Ctr., Louis Stokes Cleveland DVA Med. Ctr., Case Western Reserve Univ., Louis Stokes Cleveland DVA Med. Ctr.*

9:00 V27 **168.07** The expression of muscarinic receptor m1AChR of the suprachiasmatic nucleus varies throughout the day. E. VIEYRA; L. MENDOZA-GARCÉS; R. DOMINGUEZ; M. B. CRUZ*. *Univ. Autonoma De México, Natl. Inst. of Geriatrics.*

10:00 V28 **168.08** Localization and circadian expression of GABA transporters in the suprachiasmatic nucleus. M. MOLDAVAN; O. CRAVETCHI; M. WILLIAMS; R. P. IRWIN; S. A. AICHER; C. N. ALLEN*. *Oregon Hlth. Sci. Univ., Oregon Hlth. Sci. Univ.*

11:00 V29 **168.09** The influence of light on GABAA receptor expression in the suprachiasmatic nucleus of male Syrian hamsters. J. C. WALTON*; J. K. MCNEILL, IV; H. E. ALBERS. *Georgia State Univ.*

8:00 V30 **168.10** eIF4E phosphorylation regulates mammalian circadian behavior via translational control of Period 1 and Period 2. R. CAO*; C. G. GKOGKAS; N. DE ZAVALIA; I. D. BLUM; K. STORCH; S. AMIR; N. SONENBERG. *McGill Univ., Univ. of Edinburgh, Concordia Univ., McGill Univ.*

9:00 V31 **168.11** β2-mediated inactivation drives the diurnal difference in BK current levels in suprachiasmatic nucleus and regulates circadian rhythmicity. J. P. WHITT*; J. R. MONTGOMERY; A. L. MEREDITH. *Univ. of Maryland Baltimore, Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

10:00 V32 **168.12** Diurnal regulation of BK-$Ca^{2+}$ channel coupling in the mouse suprachiasmatic nucleus. A. MEREDITH*; J. WHITT. *Univ. of Maryland Sch. of Med., Univ. of Maryland Baltimore.*

11:00 V33 **168.13** Identification of firing patterns in SCN VIP neurons that promote VIP release. C. MAZUSKI*; E. D. HERZOG. *Washington Univ. In St. Louis, Washington Univ. in St. Louis.*

8:00 V34 **168.14** The Q175 mouse model of Huntington's disease shows decline in circadian rhythms of SCN electrical activity. T. KUDO*; C. COLWELL. *UCLA.*

**POSTER**

**169. Perception and Imagery**

***Theme F: Cognition and Behavior***

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

8:00 V35 **169.01** Auditory function in humans with heterozygous FOXP2 mutation. D. BAMIOU; L. M. LUXON; I. YASIN; T. BALDEWEG; S. BOYD; M. MISHKIN; F. VARGHA-KHADEM*. *UCL Ear Inst. and Natl. Hosp. for Neurol. & Neurosurg., UCL Ear Inst. and Natl. Hosp. for Neurol. and Neurosurg., UCL Ear Inst., UCL Inst. of Child Hlth., UCL Inst. of Child Hlth., Natl. Inst. of Mental Hlth., UCL Inst. of Child Hlth.*

9:00 V36 **169.02** The role of intrinsic coupling modes for cognitive processing and cortical communication. R. F. HELFRICH*; H. KNEPPER; G. NOLTE; C. S. HERRMANN; T. R. SCHNEIDER; A. K. ENGEL. *Univ. Med. Ctr. Hamburg, Univ. of Oldenburg.*

10:00 V37 **169.03** A role for the occipital place area in navigating the local visual environment. F. S. KAMPS*; V. LALL; D. D. DILKS. *Emory Univ.*

11:00 V38 **169.04** Correlation of gamma-band brain activities with subjective confidence in the 3-D object perception from motion. S. IWAKI*. *Natl. Inst. Adv Indust Sci. & Tech.*

8:00 V39 **169.05** Magnetoencephalographic correlates of perceptual state during auditory bistability. R. D. SANDERS*; J. WINSTON; G. BARNES; G. REES. *Dept of Anesthesiol., Univ. Col. London.*

9:00 V40 **169.06** 10 Hz perceptual echoes propagate as travelling waves in the human brain. D. LOZANO-SOLDEVILLA*; R. VANRULLEN. *Ctr. de Recherche Cerveau et Cognition (CerCo).*

10:00 V41 **169.07** The role of the perirhinal cortex in tactile perception and memory in the blind. L. CACCIAMANI*; L. T. LIKOVA. *Smith-Kettlewell Eye Res. Inst.*

11:00 V42 **169.08** Neural fusion of sensation and expectation. M. F. PANICHELLO*; N. B. TURK-BROWNE. *Princeton Neurosci. Inst., Princeton Univ.*

8:00 V43 **169.09** Evidence for genetic regulation of the human parieto-occipital 10 Hz rhythmic activity. H. M. RENVALL*; E. SALMELA; J. KUJALA; O. HAKOSALO; J. KERE; R. SALMELIN. *Aalto Univ., Univ. of Helsinki, Karolinska Institutet.*

9:00 V44 **169.10** Insula mediates suppression of synchronous cardio-visual stimuli from awareness- a high resolution fMRI study. R. SALOMON*; R. RONCHI; J. DÖNZ; J. BELLO-RUIZ; B. HERBELIN; R. MARTET; N. FAIVRE; K. SCHALLER; O. BLANKE. *EPFL, HUG.*



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

10:00 V45 **169.11** Human perception of statistical significance and effect size. B. R. SHETH*; J. S. PATEL. *Univ. Houston, Univ. Houston.*

11:00 V46 **169.12** ▲ Synesthetes are more sensitive to cross-modal correspondences than non-synesthetes. M. MARTINEZ; S. A. LACEY*; K. MCCORMICK; K. SATHIAN. *Emory Univ.*

8:00 V47 **169.13** Stimulating Associations. E. M. AMINOFF*; Y. LI; J. A. PYLES; M. J. WARD; G. GHEARING; R. M. RICHARDSON; A. S. GHUMAN. *Carnegie Mellon Univ., Carnegie Mellon Univ. and Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh Sch. of Med.*

9:00 V48 **169.14** Early responses discriminate global differences revealed by ecog. R. WU*. *Inst. of Biophysics.*

10:00 W1 **169.15** What does functional brain imaging reveal? C. C. LEITH*; L. ROBBINS; L. SIEGEL; S. OUYANG; H. SUN. *Neurodynamics Res. Inst., Robbins Headache Clin., Illinois Bone & Joint Inst., Univ. of California.*

11:00 W2 **169.16** Pre-attentive change detection of sound intensity is affected in first episode depression but not in recurrent depression. E. RUOHONEN*; J. L. O. KURKELA; P. ASTIKAINEN. *Univ. of Jyväskylä.*

8:00 W3 **169.17** Effect of tDCS on rubber hand illusion in relation to schizotypal parsonality. N. YODA*; T. IGARASHI; S. SHIMADA. *Meiji Univ.*

9:00 W4 **169.18** Repetition probability effects on neural repetition suppression are dependent on context predictability. A. PAJANI*; V. DE GARDELLE; S. KOUIDER. *Ecole Normale Supérieure, CNRS, Ctr. d'Economie de la Sorbonne, CNRS & Univ. Paris 1, Paris Sch. of Econ., LSCP (ENS, CNRS).*

10:00 W5 **169.19** Decoding perceived duration in various sensory modalities from MEG-EEG data. T. W. KONONOWICZ*; V. VAN WASSENHOVE. *CEA, NeuroSpin Center, INSERM, Univ. Paris-Sud.*

11:00 W6 **169.20** Gist perception in the presence of information overflow. K. MOGI*. *Sony Comp Sci. Lab.*

8:00 W7 **169.21** Applications of transcranial direct current stimulation for the military: An overview. A. MCKINLEY*; L. K. MCINTIRE; J. NELSON. *Air Force Res. Lab., Infoscitex.*

9:00 W8 **169.22** fMRI time-course analysis of the immediate post-orgasmic phase in men. K. ALLEN*; W. BIRBANO; N. WISE; E. FRANGOS; B. KOMISARUK. *Princeton Univ., Rutgers Univ.*

10:00 W9 **169.23** Manipulating gamma oscillations in the human visual cortex with MEG based neurofeedback. N. MERKEL; G. BLAND; W. SINGER*; M. WIBRAL. *Max Planck Inst. For Brain Res., Univ. of Frankfurt.*

11:00 W10 **169.24** Neural systems selectively involved in navigation and categorization of scenes. A. PERSICHETTI*; D. D. DILKS. *Emory Univ., emory university.*

8:00 W11 **169.25** Correlation between illusory bistable perception and motion perception under noisy condition. W. CHOI*; M. HWANG; S. PAIK. *KAIST.*

9:00 W12 **169.26** What type of stimulus location information is represented in human hippocampus? A. SHAFER-SKELTON*; J. D. GOLOMB. *The Ohio State Univ.*

10:00 W13 **169.27** An attempt to physiologically measure human magnetoreception. A. MATANI*; S. SHIMOJO; J. L. KIRSCHVINK. *Grad. Sch. of Information Sci. and Technology, the Univ. of Tokyo, Caltech.*

11:00 W14 **169.28** The speed of posterior alpha-band oscillations predicts the speed of visual perception. J. SAMAHA*; K. MARISKA; S. CIMAROLI; B. R. POSTLE. *UW Madison.*

8:00 W15 **169.29** Repetition enhances the distinctiveness of neural activation patterns. J. H. POH*; M. W. L. CHEE. *Duke-NUS Grad. Med. Sch., Natl. Univ. of Singapore, Duke-NUS Grad. Med. Sch.*

**POSTER**

**170. Face, Body, and Action**

***Theme F: Cognition and Behavior***

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

8:00 W16 **170.01** Emotional face processing evokes physiological high frequency oscillations (80-500 Hz) in localized regions of the human brain. W. CALIBOSO; J. J. LIN; B. A. LOPOUR*. *Univ. of California, Univ. of California.*

9:00 W17 **170.02** Emotional interference of baby vs adult faces on the automatic attention in parenthood. V. OLIVEIRA*; M. GOULART; M. K. LUCION; P. P. SILVEIRA; L. BIZARRO. *Univ. Federal do Rio Grande do Sul, Univ. Federal do Rio Grande do Sul, Univ. Federal do Rio Grande do Sul, Univ. Federal do Rio Grande do Sul.*

10:00 W18 **170.03** Right hemispheric superiority in the conscious face processing: A high-density ERP study with hemifield stimulation. N. TAKAMIYA*; T. MAEKAWA; K. OGATA; T. YAMASAKI; E. YAMADA; M. TANAKA; S. TOBIMATSU. *Prefectural Univ. of Hiroshima, Kyushu Univ.*

11:00 W19 **170.04** vATL contributes to biographical knowledge of faces via feedback to FFA. Z. SHEHZAD; J. TAYLOR; G. MCCARTHY*. *Yale Univ., Yale Univ.*

8:00 W20 **170.05** Face and body recognition in dancers and non-dancers. L. VINGILIS-JAREMKO; V. GUIDA; S. E. MAGUIRE; J. F. DESOUZA*. *York Univ., Ctr. for Vision Res., Univ. of Toronto, York Ctr. For Vision Res.*

9:00 W21 **170.06** Neural correlates of dance imagery induced by music. M. BRESJANAC*; V. POLITAKIS; B. PANTIĆ; A. VOVK; G. REPOVŠ. *Univ. Ljubljana Med. faculty, Univ. of Ljubljana Fac. of Arts, Gibor.*

10:00 W22 **170.07** Do mental rotation and manual tracking share an underlying mechanism? U. B. NUNES*; R. RUSSELL; M. SCHLESINGER. *Southern Illinois Univ. Carbondale, Souther Illinois Univ. Carbondale.*

11:00 W23 **170.08** The neural signature of self: Recognition of self-generated handwriting within the action observation network. R. GILRON*; R. MUKAMEL. *Tel Aviv Univ.*

8:00 W24 **170.09** Defying the laws of gravity: Motor Imagery of rotation along body axes. M. KALICINSKI*; O. BOCK; N. SCHOTT. *German Sport Univ. Cologne, Univ. of Stuttgart.*



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* Indicates abstract's submitting author

9:00 W25 **170.10** Brain mechanisms of exteroceptive and interoceptive integration in bodily self-consciousness. F. BERNASCONI*; R. RONCHI; J. BELLO-RUIZ; C. PFEIFFER; O. BLANKE. *EPFL, Lab. of Cognitive Neurosci., Ctr. for Neuroprosthetics.*

10:00 W26 **170.11** The integration of gravity in implicit and explicit motor representations. F. LEBON*; E. TRAVERSE; L. FADIGA; T. POZZO; C. PAPAXANTHIS. *INSERM U1093, Univ. of Burgundy, Inst. Italiano di Tecnologia, Univ. of Ferrara.*

11:00 W27 **170.12** Evidence for predictive coding in the human motor system during action observation. M. HANSEL-LESMY*; A. GOLDSTEIN; J. M. KILNER. *Bar Ilan Univ., Univ. Col. London.*

8:00 W28 **170.13** The spatial extent of action sensitive perceptual channels decrease with visual eccentricity. L. FADEMRECHT*; I. BÜLTHOFF; N. E. BARRACLOUGH; S. DE LA ROSA. *Max Planck Intitute for Biol. Cybernetics, Univ. of York.*

9:00 W29 **170.14** Perception through action: Where and When. Differentiation of mirror regions using intracranial recordings. A. PERRY*; J. STISO; E. F. CHANG; J. J. LIN; J. PARVIZI; R. T. KNIGHT. *Univ. of California, Berkeley, Univ. of California, Berkeley, Univ. of California, San Francisco, Univ. of California, Irvine, Stanford Univ. Med. Ctr., Stanford Univ. Med. Ctr.*

10:00 W30 **170.15** The role of action context on the neural substrates underlying gesture recognition. N. NATRAJ*; S. BASUNIA; J. MIZELLE; L. WHEATON. *GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta Veteran Affairs.*

11:00 W31 **170.16** Motor imagery beyond the motor repertoire: V1 activity predicts capability of kinesthetic motor imagery of complex whole body movements. N. MIZUGUCHI*; H. NAKATA; K. KANOSUE. *Waseda Univ., Nara Women's Univ.*

8:00 W32 **170.17** Overestimation of body size is not exclusively related to one's own body. M. F. LAUS*; B. M. ALVES; R. C. M. MOREIRA; S. S. ALMEIDA; T. BRAGA COSTA. *FFCLRP/USP, Univ. of Ribeirão Preto.*

9:00 W33 **170.18** Influence of attention and stance on postural control stochastic dynamics. G. CHAPARRO*; Y. MOON; D. WAJDA; J. SOSNOFF; M. HERNANDEZ. *Univ. of Illinois at Urbana Champaign, Univ. of Illinois at Urbana Champaign.*

**POSTER**

**171. Human Memory Encoding Processes**

***Theme F: Cognition and Behavior***

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

8:00 W34 **171.01** The effects of semantic relatedness on long term survival memory processing. S. MATTINGLY*; J. PAYNE. *Univ. of Notre Dame.*

9:00 W35 **171.02** Spatiotemporal pattern similarity during the encoding of context boundaries supports memory for sequential order of events. I. SOLS; L. DAVACHI; L. FUENTEMILLA*. *Inst. of Biomedicine Res. of Bellvitge (IDIBELL), Univ. of Barcelona, New York Univ.*

10:00 W36 **171.03** The neural dynamics of updating and accumulating linguistic conceptual knowledge. R. BERKERS*; M. VAN DER LINDEN; D. NEVILLE; M. VAN KESTEREN; R. MORRIS; J. MURRE; G. FERNANDEZ. *Donders Institute. Radboud Univ. Med. Cent, Stanford Univ., Univ. of Edinburgh, Univ. of Amsterdam.*

11:00 W37 **171.04** Durable memory through coherent activation patterns and hippocampal-neocortical interactions. I. WAGNER*; M. VAN BUUREN; L. BOVY; G. FERNÁNDEZ. *Donders Inst. for Brain, Cognition and Behaviour.*

8:00 W38 **171.05** Morris water maze as a translational paradigm for investigating spatial memory. N. C. MÜLLER*; L. GENZEL; S. CAMPBELL; M. NONAKA; B. KONRAD; M. CZISCH; G. FERNÁNDEZ; M. DRESLER; R. MORRIS. *Donders Inst., Radboud Med. Ctr., Univ. of Edinburgh, Max-Planck-Institut für Psychiatrie.*

9:00 W39 **171.06** Competing against a familiar friend: Interactive mechanism of the temporo-parietal junction with the reward-related regions during successful encoding. H. SUGIMOTO*; Y. SHIGEMUNE; T. TSUKIURA. *Kyoto Univ.*

10:00 W40 **171.07** Individual differences in the motivational modulation of memory are reflected in neural representations of reward context. B. D. GELMAN*; D. ZEITHAMOVA; A. R. PRESTON. *Univ. of Texas At Austin, Univ. of Oregon.*

11:00 W41 **171.08** Increases in arousal influence encoding processes in valence-specific ways. S. M. KARK*; E. KENSINGER. *Boston Col.*

8:00 W42 **171.09** Both rewards and losses retroactively enhance memory for preceding neutral events. E. K. BRAUN*; B. VAIL; G. E. WIMMER; D. SHOHAMY. *Columbia Univ., NeuroImage Nord Univ. Clin. Hamburg-Eppendorf.*

9:00 W43 **171.10** Validity of cues predicting reward delivery influences eyegaze behavior and recognition memory for associated novel scenes. N. J. CLEMENT*; R. ADCOCK. *Duke Univ.*

10:00 W44 **171.11** Victory triggers memory reactivation during sleep. V. STERPENICH*; H. YANG; M. CATSIYANNIS; A. RAMYEAD; M. VAN SCHIE; S. PERRIG; D. VAN DE VILLE; S. SCHWARTZ. *Lab. Nic, Univ. of Geneva, Chosun Univ., Geneva Univ. Hosp., Univ. of Geneva, Ecole Polytechnique Fédérale de Lausanne.*

11:00 W45 **171.12** Human hippocampus forms abstract, pattern separated representations of motivational context during encoding. D. ZEITHAMOVA*; B. D. GELMAN; A. R. PRESTON. *Univ. of Oregon, Univ. of Texas.*

8:00 W46 **171.13** Single-trial learning of novel visual stimuli by individual neurons in the human substantia nigra. J. KAMINSKI*; A. MAMELAK; K. BIRCH; M. TAGLIATI; U. RUTISHAUSER. *Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr.*

9:00 W47 **171.14** Knowledge accumulation improves memory and reorganizes hippocampal - neocortical interactions. G. BROD*; Y. SHING. *Max Planck Inst. For Human Develop.*

10:00 W48 **171.15** Nonlinear dynamical model of human hippocampal CA3-CA1 spike transformation as the computational basis of memory prostheses. D. SONG*; R. E. HAMPSON; B. S. ROBINSON; V. Z. MARMARELIS; S. A. DEADWYLER; T. W. BERGER. *Univ. of Southern California, Wake Forest Sch. of Med.*



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

11:00 X1 **171.16** Nonlinear dynamical identification of a functional spike-timing-dependent plasticity rule from ensemble hippocampal spiking activities in rats learning a delayed nonmatch-to-sample task. B. S. ROBINSON*; D. SONG; R. E. HAMPSON; S. A. DEADWYLER; T. W. BERGER. *USC, Wake Forest Sch. of Med.*

8:00 X2 **171.17** Restoring active memory via CA3/CA1 recording and MIMO model-derived CA1 stimulation in human hippocampus. R. E. HAMPSON*; D. SONG; B. S. ROBINSON; M. R. WITCHER; D. E. COUTURE; A. M. LAXTON; G. POPLI; M. J. SOLLMAN; D. FETTERHOFF; C. A. SEXTON; V. Z. MARMARELIS; T. W. BERGER; S. A. DEADWYLER. *Wake Forest Sch. of Med., USC, Wake Forest Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med.*

9:00 X3 **171.18** Inter-subject correlation in theta and gamma spectral power predicts memory for details of scientific talks. E. R. WEICHART; D. M. NIELSON; P. B. SEDERBERG*. *The Ohio State Univ.*

10:00 X4 **171.19** A time-dependent effect of post-trial intervention on consolidation of pair association memory. K. LIANG*; F. CHENG; P. CHEN; T. CHOU. *Natl. Taiwan Univ., Natl. Taiwan Univ.*

11:00 X5 **171.20** Dynamic phase-amplitude coupling in episodic memory. A. VAZ; R. YAFFE; S. K. INATI; K. A. ZAGHLOUL*. *Natl. Inst. of Neurolog. Disorders and Stroke, NIH, Natl. Inst. of Neurolog. Disorders and Stroke, NIH.*

8:00 X6 **171.21** Iron accumulation and loss of myelin relates to memory performance in the aging brain. T. K. STEIGER*; C. ECKART; N. BUNZECK. *Univ. of Luebeck, Univ. Med. Ctr. Hamburg-Eppendorf.*

9:00 X7 **171.22** Spatial-temporal dynamics of memory formation in children: An electrocorticography (ECoG) investigation. A. T. SHAFER*; R. SCHWARZLOSE; E. ASANO; N. OFEN. *Wayne State Univ.*

10:00 X8 **171.23** Predictability of subsequent retrieval after natural reading of literature: A scalp electroencephalogram study. N. SATO*. *Future Univ. Hakodate.*

11:00 X9 **171.24** Can auditory oscillations enhance memory performance by entraining neural oscillations of the same frequency? J. D. CREERY*; K. A. PALLER. *Northwestern Univ.*

8:00 X10 **171.25** ● Macular lutein is associated with cognitive performance in preadolescent children. K. M. HASSEVOORT*; S. E. ZOLA; S. M. MCCORKLE; L. B. RAINE; N. A. KAHN; A. F. KRAMER; C. H. HILLMAN; N. J. COHEN. *The Beckman Inst. of Sci. and Technol., The Univ. of Illinois at Urbana-Champaign, The Univ. of Illinois at Urbana-Champaign, The Univ. of Illinois at Urbana-Champaign, The Univ. of Illinois at Urbana-Champaign.*

**POSTER**

## 172. Functional Mechanisms of Attention and Disorders of Attention

***Theme F: Cognition and Behavior***

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

8:00 X11 **172.01** Time course of attentional selection. A. DREW; J. E. KOCH*; Q. M. CHROBAK; A. T. KARST. *Univ. of WI Oshkosh, Univ. Wisconsin, Oshkosh.*

9:00 X12 **172.02** Target detection, following central cues of different reliabilities, is associated with modulations of the P300 and N400 components. D. VALAKOS; D. MYLONAS; G. D' AVOSSA; N. P. SMYRNIS*. *Univ. Mental Hlth. Res. Inst., Univ. of Bangor, Natl. Univ. of Athens Med. Sch.*

10:00 X13 **172.03** The behavioural and cortical dynamics of reward-driven attentional capture. L. TANKELEVITCH*; M. F. RUSHWORTH; M. G. STOKES. *Univ. of Oxford.*

11:00 X14 **172.04** An electrophysiological dissociation of craving and stimulus-dependent attentional capture in smokers. S. E. DONOHUE*; M. G. WOLDORFF; J. A. HARRIS; J. HOPF; H. HEINZE; M. A. SCHOENFELD. *Otto-von-Guericke Univ. Magdeburg, Leibniz Inst. for Neurobio., Duke Univ., Duke Univ.*

8:00 X15 **172.05** Smoking-related images capture the attention of heavy smokers outside of awareness: EEG and MEG evidence. J. A. HARRIS*; S. E. DONOHUE; A. ILSE; M. A. SCHOENFELD; H. HEINZE; M. G. WOLDORFF. *Otto-von-guericke-Universität Magdeburg, Otto-von-guericke-Universität Magdeburg, Duke Univ., Duke Univ., Duke Univ.*

9:00 X16 **172.06** The control of attention is altered in the absence of subjective awareness. T. WEBB*; M. S. A. GRAZIANO. *Princeton Univ.*

10:00 X17 **172.07** Transcranial direct current stimulation modulates the attentional blink. L. C. RETEIG*; R. E. LONDON; H. A. SLAGTER. *Univ. of Amsterdam, Ghent Univ.*

11:00 X18 **172.08** Task-irrelevant novel sounds activate the orienting network of attention and improve performance in children and adolescents with and without ADHD. J. TEGELBECKERS*; A. BRECHMANN; C. BREITLING; B. BONATH; H. FLECHTNER; K. KRAUEL. *Otto Von Guericke Univ., Leibniz Inst. for Neurobio., Ctr. for Behavioral Brain Sci.*

8:00 X19 **172.09** ● ERP Indices of proactive and reactive attentional control in adult ADHD. V. A. GRANE*; J. F. BRUNNER; T. ENDESTAD; Y. KROPOTOV; R. T. KNIGHT; A. SOLBAKK. *Helgeland Hosp., St. Olav Hospital, Trondheim Univ. Hosp., Univ. of Oslo, NTNU, Russian Acad. of Sci., Univ. of California Berkeley, Oslo Univ. Hosp.*

9:00 X20 **172.10** Abnormalities in the direction of attention in space in ADHD are underpinned by weaker right-hemisphere orienting responses- an electrophysiological analysis. M. A. BELLGROVE*; D. P. NEWMAN; G. LOUGHNANE; S. P. KELLY; R. G. O'CONNELL. *Monash Univ., Trinity Col. Dublin, Univ. Col. Dublin.*

10:00 X21 **172.11** ● Alpha desynchronization and fronto-parietal connectivity during spatial working memory deficits in ADHD: A simultaneous EEG-fMRI Study. A. LENARTOWICZ*; S. LU; E. LAU; J. T. MCCRACKEN; M. S. COHEN; S. K. LOO. *Univ. of California Los Angeles.*



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

11:00 X22 **172.12** Methylphenidate regulates electrophysiological signals that reduce lapses of attention. P. M. DOCKREE*; M. BELLGROVE; R. ABE; J. BARNES; N. MATTHEWS; R. O'CONNELL. *Trinity Col. Dublin, Monash Univ., Queensland Brain Inst., Trinity Col. Inst. of Neurosci.*

8:00 X23 **172.13** Effect of ADHD candidate risk SNPs on cortical thickness in typical children and young adults. A. J. KRAFNICK*; D. A. RINKER; T. T. BROWN; A. W. TOGA; P. M. THOMPSON; K. A. CLARK. *USC, USC, Univ. of California--San Diego.*

9:00 X24 **172.14** ▲ The "good" choline transporter gene variant? Resilience against distractibility and depression. Y. ISAACS; Z. LIN; P. J. DELDIN; R. D. BLAKELY; M. SARTER*; C. LUSTIG. *Univ. Michigan, Vanderbilt Univ.*

10:00 X25 **172.15** The effect of alertness on the detection of semantic incongruities and generation of the N400 event related potential. E. A. SILVA*, JR; S. MENESES ORTEGA. *Inst. De Neurociencias, Inst. de Neurociencias, Univ. de Guadalajara.*

11:00 X26 **172.16** Influence of gender role on brain lateralization and error detection during a semantic reasoning task. J. QUILLIEN; R. L. LLOYD*. *Univ. of Minnesota, Univ. Minnesota.*

8:00 X27 **172.17** ▲ Event-related potentials analysis of mental arithmetic processing caused by numerical versus symbolic stimulation. M. J. FRONDORF; A. W. CHIU*; M. THAKKER; W. JEONG. *Rose-Hulman Inst. of Technol.*

9:00 X28 **172.18** The role of visuospatial attentional mechanisms during retention of information in visual short-term memory. M. E. VISSERS*; R. GULBINAITE; B. P. BRAMSON; T. VAN DEN BOS; H. A. SLAGTER. *Univ. of Amsterdam, Ctr. de Recherche Cerveau et Cognition.*

10:00 X29 **172.19** Working memory allocation reflects task demands during prospective remembering. A. MUKERJI*; J. A. LEWIS-PEACOCK. *Univ. of Texas at Austin, Univ. of Texas at Austin.*

11:00 X30 **172.20** EEG spectral changes during involuntary eyelid closures in resting-state fMRI studies. J. L. ONG*; C. WANG; K. NG; J. ZHOU; M. W. L. CHEE. *Duke-NUS Grad. Med. Sch.*

8:00 X31 **172.21** ▲ Examination of the effect of light environment on brain activity during visual search task by fNIRS. H. TANAKA*; T. HIROYASU. *Doshisha Univ.*

9:00 X32 **172.22** Transcranial direct current stimulation (tDCS) affects cognitive performance in only a subset of individuals - inter-individual differences in tDCS responsiveness during complex cognitive training. M. R. SCHELDRUP*; P. DWIVEDY; R. MCKINLEY; P. GREENWOOD. *George Mason Univ., 711 Human Performance Wing.*

10:00 X33 **172.23** Only random alarm?! Situation and perspectives on civil aviation security. J. K. KRÜGER*; B. SUCHAN. *Ruhr-Universität Bochum.*

11:00 X34 **172.24** A real-time objective assessment of cognitive workload during ambulation. E. P. SHAW*; J. C. RIETSCHEL; C. G. MCDONALD; M. W. MILLER; R. J. GENTILI; B. D. HATFIELD. *Walter Reed Natl. Military Med. Ctr., Ctr. for Rehabil. Sci. Research, Uniformed Services Univ. of the Hlth. Sci., Veteran's Hlth. Admin., George Mason Univ., Auburn Univ., Univ. of Maryland, Sch. of Publ. Hlth., Neurosci. and Cognitive Sci. Grad. Program, Univ. of Maryland, Maryland Robotics Center, Univ. of Maryland.*

8:00 X35 **172.25** Time pressure on brain inhibition for emergency driving. J. KING*; C. CHUANG; C. LIN. *Brain Res. Center, Natl. Chiao Tung Univers, Brain Res. Center, Natl. Chiao Tung Univ.*

9:00 X36 **172.26** Impaired memory and the cocktail party. S. KAMOURIEH*; R. LEECH; R. WISE. *Imperial Col. London.*

10:00 X37 **172.27** ● Near-Infrared Spectroscopy (NIRS) measurement for evaluating mild delirium in hepatic disease. A. YOSHIMURA*; M. M. TOWE; L. K. MAX; A. LAFLAM; J. JOHNS; D. H. EDWIN; M. LINDQUIST; C. W. HOGUE; A. GURAKAR; K. J. NEUFELD; A. KAMIYA. *Johns Hopkins Univ. Sch. of Med., Shiga Univ. Med. Sci., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Publ. Hlth., Johns Hopkins Univ. Sch. of Med.*

11:00 X38 **172.28** Disturbance of fast frontoparietal oscillatory activity and hemispheric dysbalance in delirium: Evidence for a common pathophysiological framework from a large retrospective quantitative EEG study. R. FLEISCHMANN*; S. TRÄNKNER; M. RÖNNEFARTH; S. SCHMIDT; S. J. SCHREIBER; S. A. BRANDT. *Charité - Universitätsmedizin Berlin.*

8:00 X39 **172.29** Transient left spatial neglect as unique clinical expression of status epilepticus. L. VERONELLI*; S. BOVO; P. DE GIAMPAULIS; I. PASSARO; M. CORBO. *Casa Di Cura Del Policlinico.*

9:00 X40 **172.30** Detection of subtle cognitive changes in mTBI using a novel tablet-based task. T. D. FISCHER*; S. D. RED; A. Z. CHUANG; E. B. JONES; J. J. MCCARTHY; A. B. SERENO. *Univ. of Texas Med. Sch. Houston, Univ. of Texas Med. Sch. Houston, Univ. of Texas Med. Sch. Houston.*

**POSTER**

**173. Language I**

***Theme F: Cognition and Behavior***

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

8:00 X41 **173.01** Effects of glottal source modulation on speech perception and production. T. SALAZAR*; J. BRUMBERG. *Univ. of Kansas.*

9:00 X42 **173.02** First-pass neocortical processing of language takes only 30 msec: Optimising eletrophysiological techniques for capturing transient early brain responses to words. Y. Y. SHTYROV*; M. LENZEN. *Aarhus Univ.*

10:00 X43 **173.03** Using principle component analysis to investigate lesion correlates of naming errors post-stroke. A. HALAI*; A. WOOLLAMS; M. LAMBON RALPH. *Univ. of Manchester, Univ. of Manchester.*



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

11:00 X44 **173.04** Behavioral and neural indices predict different aspects of language learning ability. A. S. FINN*; J. MINAS; S. S. GHOSH; M. LUESSI; C. GOETZ; J. D. E. GABRIELI. *MIT.*

8:00 X45 **173.05** Interaction of working memory, modality & sentence comprehension in Broca's area: An fMRI study. Y. YI*; A. DIAZ; C. HOULIHAN; L. C. BAXTER; G. HICKOK; C. ROGALSKY. *Arizona State Univ., Barrow Neurolog. Inst. & St. Joseph's Hosp. and Med. Ctr., Univ. of California, Irvine.*

9:00 X46 **173.06** Frontal lobe language pathways. A. A. BOHSALI*; J. GULLETT; T. MARECI; D. FITZGERALD; B. CROSSON; K. WHITE; S. NADEAU. *Veterans Affairs Res. Rehabil. & Develop., Univ. of Florida, Emory Univ., Univ. of Florida.*

10:00 X47 **173.07** The influence of age of acquisition in bilingual reading. M. OLIVER*; M. CARREIRAS; P. PAZ-ALONSO. *Basque Ctr. On Cognition, Brain and Language, IKERBASQUE, Basque Fndn. for Sci.*

11:00 X48 **173.08** Bilingual cortical control of between- and within- language competition. J. BARTOLOTTI*; S. CHABAL; V. MARIAN. *Northwestern Univ.*

8:00 Y1 **173.09** Dynamics of brain networks during word reading. M. WHALEY*; C. KADIPASAOGLU; S. COX; N. TANDON. *Rice Univ., UT Med. Sch.*

9:00 Y2 **173.10** How language shapes the brain: Cross-linguistic differences in structural connectivity. T. GOUCHA*; A. ANWANDER; J. D. GRIFFITHS; L. K. TYLER; A. D. FRIEDERICI. *Max Planck Inst. For Human Cognitive and Brain Sci., Berlin Sch. of Mind and Brain, Rotman Res. Inst., Univ. of Cambridge.*

10:00 Y3 **173.11** Longitudinal decline in speech in primary progressive aphasia. S. ASH*; C. YORK; T. BISBING; K. COHEN; F. MIN; E. MORAN; R. WILLIAMS; M. GROSSMAN. *Univ. Pennsylvania Sch. Med.*

11:00 Y4 **173.12** Microstructural white matter differences between 6-year old readers and pre-readers. J. N. ADAMS; V. N. KOVACHY; K. E. TRAVIS; M. BEN-SHACHAR; H. M. FELDMAN*. *Stanford Univ., Bar-Ilan Univ., Stanford Univ.*

8:00 Y5 **173.13** Atypical visuospatial attentional orienting in dysfluent readers during classifying nonword stimuli. O. H. LOBERG*; J. HAUTALA; J. HAMALAINEN; P. H. T. LEPPANEN. *Univ. of Jyvaskyla, Univ. of Jyvaskyla.*

**POSTER**

**174. Language II**

***Theme F: Cognition and Behavior***

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

8:00 Y6 **174.01** Auditory-motor mapping and phonological processing in the left dorsal speech stream. T. MURAKAMI*; C. KELL; J. RESTLE; Y. UGAWA; U. ZIEMANN. *Fukushima Med. Univ., Goethe-University, Eberhard-Karls-University.*

9:00 Y7 **174.02** Expectation effects in syntactic processing - evidence from ambiguous sentence structures. L. KROCZEK*; T. C. GUNTER. *Max Planck Inst. CBS.*

10:00 Y8 **174.03** ▲ Processing meaningful and meaningless verbal material in different languages. N. PLAKHOTNYK*; S. TUKAIEV; I. ZYMA. *Natl. Taras Shevchenko Univ. of Kyiv.*

11:00 Y9 **174.04** Testing for transfer: Does lexical training improve performance in a related but non-linguistic task? S. VAN HEES; P. M. PEXMAN; I. S. HARGREAVES; L. ZDRAZILOVA; K. MYERS-STEWART; F. CORTESE; A. B. PROTZNER*. *Univ. of Calgary.*

8:00 Y10 **174.05** Can you see what I mean? Perceptual and conceptual semantics during words reading. V. BORGHESANI*; E. EGER; M. BUIATTI; M. PIAZZA. *INSERM-CEA Cognitive Neuroimaging Unit, Univ. Pierre et Marie Curie - Paris 6, Univ. of Trento.*

9:00 Y11 **174.06** ● Electrophysiological investigation of cross-language translation and morphological priming in different scripts. W. CHUNG*; S. KIM; M. PARK. *Dongguk Univ., Nanyang Technological Univ.*

10:00 Y12 **174.07** Cognitive and anatomic double dissociation in the representation of concrete and abstract words. K. A. COUSINS*; M. GROSSMAN. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

11:00 Y13 **174.08** ▲ Functional network dynamics of the language system. L. CHAI*; M. MATTAR; I. BLANK; E. FEDORENKO; D. S. BASSETT. *Univ. of Pennsylvania, Univ. of Pennsylvania, MIT, Massachusetts Gen. Hosp.*

8:00 Y14 **174.09** Information-based connectivity - IBC: A functional connectivity approach using multivariate classification. J. M. CORREIA*; M. BONTE; L. HAUSFELD; B. M. JANSMA; G. VALENTE. *Maastricht Univ.*

9:00 Y15 **174.10** Cross-language associative priming in the bilingual brain. T. R. SCHNEIDER*; F. ISEL; A. K. ENGEL. *Univ. Med. Ctr. Hamburg-Eppendorf, Sorbonne Paris Cité - Paris Descartes Univ.*

10:00 Y16 **174.11** Disparity between Language preference among different types of bilinguals and auditory attentional behavior toward languages with Event Related Potential (ERP). C. KAMEYAMA*; R. SAJI; T. OMORI. *Tamagawa Univ., Tamagawa Univ. Brain Sci. Inst.*

11:00 Y17 **174.12** A flexible, adaptive bilateral neural system for semantic cognition: A combined cTBS/fMRI study. J. JUNG*; M. LAMBON RALPH. *NARU (neuroscience and Aphasia Res. Unit).*

8:00 Y18 **174.13** School-aged children consolidate foreign language regularities overnight: Behavioral evidence and cortical substrates. A. NORA*; L. KARVONEN; T. PARVIAINEN; H. RENVALL; E. SERVICE; R. SALMELIN. *Aalto Univ., Aalto Univ., Univ. of Jyväskylä, McMaster Univ.*

9:00 Y19 **174.14** The timing of semantic coding in the anterior temporal lobe: Temporal representational similarity analysis of electrocorticogram data. Y. CHEN*; A. SHIMOTAKE; R. MATSUMOTO; T. KUNIEDA; T. KIKUCHI; S. MIYAMOTO; H. FUKUYAMA; R. TAKAHASHI; A. IKEDA; M. A. LAMBON RALPH. *Univ. of Manchester, Dept. of Neurology, Grad. Sch. of Medicine, Kyoto Univ., Dept. of Epilepsy, Movement Disorders and Physiology, Grad. Sch. of Medicine, Kyoto Univ., Dept. of Neurosurgery, Grad. Sch. of Medicine, Kyoto Univ., Human Brain Res. Center, Grad. Sch. of Medicine, Kyoto Univ.*



• Indicated a real or perceived conflict of interest, see page 152 for details.
▲ Indicates a high school or undergraduate student presenter.
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10:00 Y20 **174.15** The enhanced consolidation of foreign word learning by overt pronunciation. N. AOKI*; S. K. SUGAWARA; M. HIROTANI; S. OKAZAKI; H. YAMAZAKI-KINDAICHI; T. YOSHIMOTO; H. YOKOKAWA; H. YOSHIDA; N. SADATO. *Natl. Inst. of Physiological Sciences, Japa, SOKENDAI (The Grad. Univ. for Advanced Studies), Carleton Univ., Kobe Univ., Osaka Kyoiku Univ.*

11:00 Y21 **174.16** An electroencephalographic investigation on linguistic tense and psychological distance to past, present, and future. S. TOKIMOTO*; N. TOKIMOTO. *Mejiro Univ., Shobi Univ.*

8:00 Y22 **174.17** Neural correlates of implicit language learning in 9-month-old infants. J. LIU*; C. PONTING; T. TSANG; R. MCCARRON; M. DAPRETTO. *UCLA.*

9:00 Y23 **174.18** ▲ Cerebellar dysfunction in dyslexia. X. FENG*; W. XIE; X. MENG; M. TIAN; G. DING. *Beijing Normal Univ., Beijing Univ.*

10:00 Y24 **174.19** N400 evidence for embodied processing of concrete words after a picture context. D. SCHMIDTKE; E. SERVICE; R. MAH; J. F. CONNOLLY*. *McMaster Univ.*

11:00 Y25 **174.20** Comparison of electrocorticography and electrocortical stimulation in mapping classical language areas: A region of interest approach. Y. WANG*; M. S. FIFER; A. FLINKER; A. KORZENIEWSKA; M. C. CERVENKA; D. BOATMAN-REICH; W. S. ANDERSON; N. E. CRONE. *Johns Hopkins Univ., Johns Hopkins Univ., New York Univ., Johns Hopkins Univ.*

8:00 Y26 **174.21** Stammering and synchronised speech. S. MEEKINGS*; K. JASMIN; S. K. SCOTT. *UCL, Univ. Col. London.*

9:00 Y27 **174.22** Influence of transcranial direct current stimulation on semantic processing. S. BRÜCKNER; M. SPITZER*; T. KAMMER. *Dept. of Psychiatry, Univ. of Ulm.*

10:00 Y28 **174.23** Establishing task- and modality-dependent dissociations between the semantic and default mode networks. G. HUMPHREYS*; M. LAMBON RALPH. *Univ. of Manchester.*

11:00 Y29 **174.24** Dissociable intrinsic functional networks support noun and verb processing. H. YANG*; Z. HAN; L. SONG; H. LI; Q. LIN; Y. HE; Y. BI. *State Key Lab. of Cognitive Neurosci. and, State Key Lab. of Cognitive Neurosci. and Learning, Beijing Normal Univ., Rehabil. Col. of Capital Med. University, China Rehabil. Res. Ctr.*

**POSTER**

**175. Modulating Fear, Learning, and Memory**

***Theme F: Cognition and Behavior***

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

8:00 Y30 **175.01** Fluoxetine facilitates consolidation of fear memory extinction through increased DH BDNF and through VH TrkB transactivation. C. A. DINIZ*; L. S. ANTERO; L. B. M. RESSTEL; S. R. L. JOCA. *Sch. of Med. of Ribeirão Preto - Univ., Sch. of Med. of Ribeirão Preto, Sch. of Pharmaceut. Sci. of Ribeirão Preto.*

9:00 Y31 **175.02** ▲ Effect of DREADD-induced activation of the nigrostriatal dopamine pathway during auditory fear extinction on renewal of fear. T. M. NICASTRO*; N. M. GRAY; C. A. BOUCHET; E. C. LOETZ; B. N. GREENWOOD. *Univ. of Colorado Denver.*

10:00 Y32 **175.03** Activation of dopamine 1 receptors in the dorsal striatum during fear extinction reduces fear renewal. C. A. BOUCHET*; T. M. NICASTRO; N. M. GRAY; E. C. LOETZ; F. EYAYOU; B. N. GREENWOOD. *Univ. of Colorado.*

11:00 Y33 **175.04** ▲ The effect of voluntary exercise during consolidation of auditory fear extinction on renewal of fear. F. B. EYAYOU*; C. A. BOUCHET; S. HOLMES; T. M. NICASTRO; E. C. LOETZ; N. M. GRAY; B. GREENWOOD. *Univ. of Colorado at Denver, CU Denver.*

8:00 Y34 **175.05** A neural circuit mechanism for calculating prediction errors in amygdala neurons to set adaptive level of fear memory. T. OZAWA*; E. A. YCU; T. AHMED; A. KUMAR; L. YEH; J. KOIVUMAA; J. P. JOHANSEN. *RIKEN Brain Sci. Inst. - Wako, Natl. Univ. of Sci. and Technology, Atta-ur-Rahman Sch. of Applied Biosci., SLIET Univ., Univ. of Tokyo.*

9:00 Y35 **175.06** The functional role of locus coeruleus noradrenaline neurons in fear learning and extinction. A. UEMATSU*; E. YCU; J. JOHANSEN. *RIKEN BSI, Univ. of Tokyo.*

10:00 Y36 **175.07** Differential effects of allopregnanolone in the basolateral amygdala and bed nucleus of the stria terminalis on Pavlovian fear conditioning in rats. G. M. ACCA*; B. TSAO; J. JIN; C. FU; S. MAREN; N. NAGAYA. *Texas A&M Univ., Texas A&M Univ.*

11:00 Y37 **175.08** GABAA receptors in the infralimbic cortex regulate both the expression of extinction and renewal of fear in rats. Q. WANG*; G. M. ACCA; D. J. NINAN; S. MAREN. *Texas A&M Univ., Texas A&M Univ., Texas A&M Univ.*

8:00 Y38 **175.09** Reversible inactivation of the nucleus reuniens of the midline thalamus disrupts fear suppression after extinction. J. JIN*; Q. WANG; S. MAREN. *Texas A&M Univ., Psychology Dept., Biol. Dept.*

9:00 Y39 **175.10** Propranolol modulates medial prefrontal cortical activity and enhances extinction after recent fear. T. F. GIUSTINO*; P. J. FITZGERALD; S. MAREN. *Texas A&M Inst. for Neurosci., Texas A&M Univ.*

10:00 Y40 **175.11** Nonassociative inhibition of conditional fear engages the medial prefrontal cortex in rats. P. J. FITZGERALD*; T. GIUSTINO; S. MAREN. *Texas A&M Univ., Texas A&M Inst. For Neurosci.*

11:00 Y41 **175.12** Combinatorial DREADD silencing of ventral hippocampal neurons projecting to infralimbic cortex prevents fear renewal. T. D. GOODE*; J. JIN; R. HOLEHONNUR; J. E. PLOSKI; S. MAREN. *Texas A&M Univ., Texas A&M Univ., Univ. of Texas.*

8:00 Y42 **175.13** Differential control mechanisms mediating the acquisition and consolidation of cued fear extinction. T. N. HUYNH*; E. SANTINI; E. KLANN. *Ctr. for Neural Science, New York Univ.*



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

9:00 Y43 **175.14** Subcellular localization of HDAC4 affects amygdala-dependent fear memory. S. A. MADDOX*; R. D. PENROD; C. W. COWAN; K. J. RESSLER. *McLean Hosp., McLean Hospital; Harvard Med. Sch., Emory Univ. Sch. of Med., Howard Hughes Med. Inst.*

10:00 Y44 **175.15** Neuronal activation underlying recent and remote fear extinction memory. W. A. SZADZINSKA*; J. BUKOWCZAN; M. MIKOSZ; K. ROKOSZ; E. KNAPSKA. *Nencki Inst. of Exptl. Biol.*

11:00 Z1 **175.16** Distinct roles of the basolateral amygdala and infralimbic cortex in the extinction of restored fear. N. LINGAWI*; V. LAURENT; R. WESTBROOK. *Univ. of New South Wales, Univ. of Sydney.*

8:00 Z2 **175.17** Small conductance calcium-activated K+ channels in the prelimbic cortex modulate extinction of fear memory in male C57BL/6J mice. J. C. LORA*; L. SHARVIT; R. W. STACKMAN, Jr. *Florida Atlantic Univ.*

9:00 Z3 **175.18** High-affinity α4β2 nicotinic receptors are required for the impairing effects of acute nicotine on contextual fear extinction. M. G. KUTLU*; E. HOLLIDAY; T. J. GOULD. *Temple Univ.*

10:00 Z4 **175.19** Rescuing impaired fear extinction is associated with the regulation of miRNAs in the amygdala. C. MURPHY*; V. MAURER; R. GSTIR; S. SCHAFFERER; N. WHITTLE; A. HÜTTENHOFER; N. SINGEWALD. *Univ. of Innsbruck, Innsbruck medical Univ., Friedrich Miescher Inst. for Biomed. Res.*

11:00 Z5 **175.20** Using measures of transcriptional activity to determine mnemonic processes through which SPS exposure leads to extinction retention deficits. D. K. KNOX*; B. R. STANFIELD; J. M. STAIB; S. M. KELLER; S. P. ALBANESE. *Univ. of Delaware, Univ. of Delaware.*

8:00 Z6 **175.21** Altered fear extinction in a rodent model of mild traumatic brain injury and posttraumatic stress disorder. J. A. GRECO*; I. LIBERZON. *Univ. of Michigan, VA Ann Arbor Healthcare Syst.*

9:00 Z7 **175.22** Reconsolidation promotes the strengthening of extinction memory. J. HAUBRICH*; A. MACHADO; F. ZACOUTEGUY BOOS; A. P. CRESTANI; F. SANTANA; R. ORDONEZ SIERRA; L. DE OLIVEIRA ALVARES; J. A. QUILLFELDT. *Federal Univ. of Rio Grande Do Sul.*

10:00 Z8 **175.23** Dnmt3a2 is required for fear memory extinction. H. BADING*; T. J. HEMSTEDT; A. M. M. OLIVEIRA; H. E. FREITAG. *IZN At the Univ. of Heidelberg.*

11:00 Z9 **175.24** Preventing recovery of learned fear: A novel extinction procedure. A. M. SCHNEIDER*; P. E. SIMSON; M. LICHTEN; J. WALSH; D. KALAMARIDES; C. EVERBACH; L. G. KIRBY. *Swarthmore Col., Miami Univ., Temple Univ. Sch. of Med., Swarthmore Col.*

8:00 Z10 **175.25** Sub-region specific prefrontal-amygdala interactions during rapid eye movement (REM) sleep underlies consolidation of extinction memory. S. DUVARCI*; D. POPA; T. SIGURDSSON; D. PARE. *Goethe-University Frankfurt, IBENS, Rutgers, The State Univ. of New Jersey.*

9:00 Z11 **175.26** Medial prefrontal cortex NMDA and CB1 receptors interaction modulating reconsolidation and extinction contextual fear conditioning memory. D. G. REIS*; A. FASSINI; D. C. LAGATTA; S. F. LISBOA; L. B. M. RESSTEL. *Univ. Sao Paulo.*

10:00 Z12 **175.27** Pharmacologically-induced grooming behavior: Grooming patterning and its relation with fear extinction. A. E. REIMER*; A. R. DE OLIVEIRA; J. B. DINIZ; M. Q. HOEXTER; S. CHIAVEGATTO; R. G. SHAVITT; E. C. MIGUEL; M. L. BRANDÃO. *Univ. de São Paulo, INeC, Univ. Federal de São Carlos, Univ. de São Paulo, Univ. de São Paulo.*

11:00 Z13 **175.28** Early adversity disrupts the adult use of aversive prediction errors to reduce fear in uncertainty. K. M. WRIGHT*; A. DILEO; M. MCDANNALD. *Boston Col.*

8:00 Z14 **175.29** Fear extinction combined with chronic treatment of fluoxetine in pyramidal neuron- and interneuron-specific TrkB heterozygous knockout mice. J. UMEMORI*; F. WINKEL; C. BUJ; E. CASTRÉN. *Univ. of Helsinki, Maastricht Univ., Aix Marseille Univ.*

9:00 Z15 **175.30** Fear extinction modulates AMPA receptor expression in the nucleus accumbens. A. MCGRATH*; S. S. CORREIA; K. A. GOOSENS. *MIT, MIT.*

**POSTER**

**176. Decision Making: Primates**

***Theme F: Cognition and Behavior***

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

8:00 Z16 **176.01** Performance of formal economic coordination and cooperation games by macaques. C. R. VAN COEVERDEN*; W. SCHULTZ. *Univ. of Cambridge, Univ. of Cambridge.*

9:00 Z17 **176.02** Role of primate amygdala neurons in decision-making. F. GRABENHORST*; W. SCHULTZ. *Univ. of Cambridge.*

10:00 Z18 **176.03** Utility functions predict skewness preferences in monkeys. W. GENEST; W. R. STAUFFER*; W. SCHULTZ. *Univ. of Cambridge, Univ. of Cambridge.*

11:00 Z19 **176.04** Evaluating the neurobiology of strategic coordination in non-human primates. W. S. ONG*; M. L. PLATT. *Duke Univ.*

8:00 Z20 **176.05** Pharmacological manipulation of the serotonergic system modulates the value-based decision making in non-human primate. G. DRUI*; Y. SAGA; A. RICHARD; P. N. TOBLER; V. SGAMBATO-FAURE; L. TREMBLAY. *CNRS UMR5229 - Ctr. of Cognitive Neurosci., Lab. for Social and Neural Systems Res.*

9:00 Z21 **176.06** Facilitation negative decisions in the non-human primate by stimulating a ventral striato-pallidal pathway linked to the anterior insula. Y. SAGA*; G. DRUI; V. SGAMBATO-FAURE; C. RUFF; L. TREMBLAY. *Ctr. de Neurosci. Cognitive, Japan Society for Promotion of Sci., Lab. for Social and Neural Systems Res.*

10:00 Z22 **176.07** Conflict between different task rules influences the prefrontal neuronal activities during behavioral choice. M. NEJIME; M. INOUE; M. SARUWATARI; A. MIKAMI; S. MIYACHI*. *Primate Res. Institute, Kyoto Univ., Natl. Inst. of Information and Communications Technol., Osaka Univ., Chubu Gakuin Univ.*



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* Indicates abstract's submitting author

11:00 Z23 **176.08** Hierarchical hidden Markov modeling of real time changes in strategic behavior in a game theoretic context. D. L. XIE*; J. BECK; J. GARIEPY; M. L. PLATT. *Duke Univ., Duke Inst. for Brain Sci., Duke Ctr. for Cognitive Neurosci., Duke Univ., Duke Univ. Dept. of Neurobio.*

8:00 Z24 **176.09** Dissociating the functions of the macaque ventrolateral and orbitofrontal cortex. P. H. RUDEBECK*; R. C. SAUNDERS; D. LUNDGREN; E. A. MURRAY. *Icahn Sch. of Med. at Mount Sinai, Natl. Inst. of Mental Hlth.*

9:00 Z25 **176.10** Spatial selectivity of neurons in the primate prefrontal and parietal cortices. P. VISWANATHAN*; A. NIEDER. *Univ. of Tübingen, IMPRS for Cognitive and Systems Neurosci.*

10:00 Z26 **176.11** The neural representation of empty sets in macaque posterior parietal cortex. A. RAMIREZ-CARDENAS*; A. NIEDER. *Univ. of Tübingen, Inst. of Neurobio.*

11:00 Z27 **176.12** Preference judgment of visual items and contribution of the orbitofrontal cortex in monkeys. S. FUNAHASHI*; W. NAKAMOTO. *Kyoto Univ. Kokoro Res. Ctr.*

8:00 Z28 **176.13** Predictive coding in macaque area IT. A. H. BELL*; C. SUMMERFIELD; E. L. MORIN; N. J. MALECEK; L. G. UNGERLEIDER. *MRC Cognition and Brain Sci. Unit, Natl. Inst. of Mental Hlth., Univ. of Oxford.*

9:00 Z29 **176.14** Representation of reward value by single unit in the monkey orbitofrontal cortex during decision-making. T. SETOGAWA*; T. MIZUHIKI; F. AKIZAWA; R. KUBOKI; B. J. RICHMOND; N. MATSUMOTO; M. SHIDARA. *Fac. of Medicine, Univ. of Tsukuba, Grad. Sch. of Comprehensive Human Sciences, Univ. of Tsukuba, JSPS Res. Fellow, Lab. Neuropsychol., NIMH/NIH, Human Informa. Res. Inst, AIST.*

10:00 Z30 **176.15** Dopamine D2 receptor stimulation enhances working memory coding in primate prefrontal cortex neurons. T. OTT*; A. NIEDER. *Inst. of Neurobiology, Univ. of Tübingen.*

11:00 Z31 **176.16** Not quite noisy, suboptimal, or wrong: Rational process models and strategic decision making. D. L. BARACK*; Y. LI; M. R. NASSAR; J. I. GOLD. *Univ. of Pennsylvania, Brown Univ.*

8:00 Z32 **176.17** Structural and functional changes in brain circuits associated with learning rules in macaques. J. SALLET*; M. P. NOONAN; A. THOMAS; F. NEUBERT; B. AHMED; J. SMITH; A. H. BELL; M. J. BUCKLEY; K. KRUG; R. B. MARS; M. F. S. RUSHWORTH. *Univ. of Oxford, NIH, MRC Cognitive and Brain Sci. Unit, Donders Inst. for Brain.*

9:00 Z33 **176.18** Irrational decisions? blame your vmpfc. G. K. PAPAGEORGIOU*; J. SALLET; M. J. BUCKLEY; M. F. S. RUSHWORTH. *Univ. of Oxford, FMRIB Centre, Univ. of Oxford, John Radcliffe Hosp.*

10:00 Z34 **176.19** Neuronal responses of macaque caudate nucleus and frontal eye field during visual perceptual learning. T. DOI*; J. I. GOLD. *Univ. of Pennsylvania.*

11:00 Z35 **176.20** Observations from a successful DREADD silencing experiment in non-human primate orbitofrontal cortex. W. LERCHNER*; M. A. G. ELDRIGE; R. C. SAUNDERS; V. DER MINASSIAN; S. BHAYANA; B. J. RICHMOND. *NIH.*

8:00 Z36 **176.21** Adaptive value coding: Temporal influences on choice mediated by divisive normalization in rhesus monkey. J. ZIMMERMANN*; T. LOFARO; P. W. GLIMCHER; K. LOUIE. *New York Univ., New York Univ., Gustavus Adolphus Col.*

9:00 Z37 **176.22** The dynamics of neural population activity during decision-making. P. E. CISEK*; J. CABANA; D. THURA; A. FEGHALY. *Univ. of Montreal.*

10:00 Z38 **176.23** Rhesus monkeys make probabilistic evaluations of the individual features in compound visual stimuli. H. RAO*; M. RYOO; A. TOADER; J. BECK; S. FERRARI; H. OH; T. EGNER; M. A. SOMMER. *Duke Univ., Duke Univ., Duke Univ., Duke Univ., Duke Univ., Duke Univ., Duke Univ.*

11:00 Z39 **176.24** The neuronal basis of oxytocin's effect on interactive social behavior. K. HAROUSH*; Z. WILLIAMS. *Harvard Med. Sch., Harvard Med. Sch.*

8:00 Z40 **176.25** Effects of choice errors versus response inhibition on response times. P. MIDDLEBROOKS*; J. D. SCHALL. *Vanderbilt Univ., Vanderbilt Univ.*

9:00 Z41 **176.26** Ventral tegmental dopaminergic stimulation causes preference reversals. D. FREESTONE*; L. GRATTAN; R. B. RUTLEDGE; K. LOUIE; P. W. GLIMCHER. *New York Univ., Army Inst. of Publ. Hlth., Univ. Col. London.*

10:00 Z42 **176.27** Are search strategies a result of adaptation to, or emergence due to, resource distributions? S. SHAH*; B. HAYDEN. *Univ. of Rochester, UNIVERSITY OF ROCHESTER.*

11:00 Z43 **176.28** Habitual saccades aiming at valuable objects - a role of basal ganglia. H. AMITA*; O. HIKOSAKA. *NIH.*

**POSTER**

**177. Learning and Memory: Physiology**

***Theme F: Cognition and Behavior***

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

8:00 Z44 **177.01** Effects of whole-brain-irradiation (WBI) on primate brain and related cognitive function. S. A. DEADWYLER*; A. PEIFFER; C. A. SEXTON; J. B. DAUNAIS; D. B. HANBURY; E. L. MITCHELL; K. T. WHEELER; J. D. BOURLAND; J. M. CLINE; R. E. HAMPSON. *Wake Forest Sch. of Med.*

9:00 AA1 **177.02** The modulating effects of stress, sex and age on early neurogenesis in mouse dentate gyrus. H. WU.*; L. YU. *Inst. of Behavioral Med. of NCKU, Tainan, Taiwan, Inst. of Behavioral Med. of NCKU.*

10:00 AA2 **177.03** Sex difference in conformity behavior. C. WANG*; L. YU. *Natl. Cheng Kung Univ., Inst. of Behavioral Med. of NCKU.*

11:00 AA3 **177.04** Social buffering effects prevent the stressor-decreased dendritic length, branching in dentate granule cell and -decreased memory performance. W. TZENG*; L. YU. *Inst. of Basic Med. Sci. of NCKU, Inst. of Behavioral Med. of NCKU.*



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

8:00 AA4 **177.05** Effect of anxiety on learning and memory in mice. T. PARETKAR*; E. DIMITROV. *Rosalind Franklin Univ. of Med. and Scien, Rosalind Franklin Univ. of Med. and Scien.*

9:00 AA5 **177.06** Optogenetic manipulation of theta rhythm reveals sleep-dependent cognitive processing. R. BOYCE*; S. GLASGOW; S. WILLIAMS; A. ADAMANTIDIS. *Douglas Mental Hlth. Univ. Inst., McGill Univ., Univ. of Bern.*

10:00 AA6 **177.07** Deep-brain stimulation of central lateral nucleus of thalamus strengthens striatal-thalamic connectivity and enhances cognitive behavior. E. T. SHEN*; Y. TSAI; H. PAN; J. CHEN; H. LIN; Y. CHEN; F. JAW. *Natl. Taiwan Univ., Natl. Yang-Ming Univ., Inst. of Neurosci., Natl. Yang-Ming Univ.*

11:00 AA7 **177.08** Reverberating cell assemblies formed by axo-axonic GABA neurons in the rodent basal amygdala. M. BHAGAVATHI PERUMAL*; R. SULLIVAN; P. STRATTON; P. SAH. *Queensland Brain Insititute.*

8:00 AA8 **177.09** LMO4 regulates the excitability of pyramidal neurons in the basolateral amygdala of mice. R. A. MANGIERI*; R. MAIYA; R. O. MESSING; U. HEBERLEIN; R. A. MORRISETT. *Univ. of Texas at Austin, HHMI, Janelia Res. Campus.*

9:00 AA9 **177.10** Effect of chronic stress and streptozotocin treatment on choline acetyltransferase and neuronal plasticity in adolescent rats. K. HERNÁNDEZ-MERCADO; L. REYES-CASTRO; E. ORTA-SALAZAR; C. PEREZ-CRUZ*. *CINVESTAV, Natl. Inst. of Nutr. Salvador Zubirán, Neurbiology Inst.*

10:00 AA10 **177.11** Non-RGD ß1 integrins regulate cytoskeletal reorganization underlying long-term potentiation in the dentate gyrus. W. WANG*; S. KANTOROVICH; C. M. GALL; G. LYNCH. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine.*

11:00 AA11 **177.12** Excitatory and inhibitory disabled-1 knockdown reveals cell-specific role of reelin signaling in adult synaptic plasticity. A. L. LUSSIER*; H. L. MAHONEY; J. H. TROTTER; A. DODGE; B. CAPRARO; B. CAPRARO; H. SOUEIDAN; G. D'ARCANGELO; E. J. WEEBER. *Univ. of South Florida, Univ. of South Florida, Stanford Univ., Rutgers Univ.*

8:00 AA12 **177.13** Simultaneous and persistent CaMKII, PKC and PKA activation is required for maintaining learning-induced enhancement of AMPAR-mediated synaptic excitation. S. GHOSH*; E. BARKAI; R. LAMPRECHT. *Univ. of Haifa.*

9:00 AA13 **177.14** Changes in brain structure volume following training depend on long term memory formation and CREB. D. A. VOUSDEN*; M. VAN EEDE; A. YIU; L. SPENCER NOAKES; B. J. NIEMAN; M. HENKELMAN; S. A. JOSSELYN; P. W. FRANKLAND; J. P. LERCH. *Hosp. For Sick Children, Univ. of Toronto, Hosp. For Sick Children, Univ. of Toronto.*

10:00 AA14 **177.15** Role of voltage-gated potassium channel Kv1.5 in CNS-based behavior. S. BHATTA*; C. PATEL; H. MCGEE; W. CHILIAN; G. CASADESUS SMITH. *Kent State Univ., Kent State Univ., Northeast Ohio Med. Univ.*

11:00 AA15 **177.16** Circadian levels of serotonin in plasma following a mild traumatic brain injury in rats. C. C. TENN*; N. CADDY; M. GARRETT. *DRDC Suffield Res. Ctr.*

8:00 AA16 **177.17** The cognitive and neural impact of recurrent hypoglycemia is mediated by glucocorticoids in the hippocampus. E. C. MCNAY*; D. M. OSBORNE. *Univ. At Albany.*

9:00 AA17 **177.18** Defective brain insulin signaling and long-term cognitive impairment in a mouse model of sepsis. F. CAMPOS RIBEIRO*; F. S. NEVES; P. T. MARQUES; R. L. FROZZA; C. BENJAMIM; J. DE OLIVEIRA; D. F. ENGEL; A. F. DE BEM; F. G. DE FELICE; S. T. FERREIRA; J. R. CLARKE; C. P. FIGUEIREDO. *Federal Univ. of Rio De Janeiro, Federal Univ. of Rio De Janeiro, Federal Univ. of Rio De Janeiro, Federal Univ. of Rio De Janeiro, Federal Univ. of Rio De Janeiro, Federal Univ. of Santa Catarina.*

**POSTER**

**178. Learning and memory: Pharmacology**

***Theme F: Cognition and Behavior***

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

8:00 AA18 **178.01** ▲ Paracetamol and object recognition memory in mice. R. A. ANTONAWICH*; R. S. GORE; I. L. KENT; J. T. CANNON; P. T. ORR. *Neurosci. Program, Univ. of Scranton, Univ. of Scranton, Univ. of Scranton.*

9:00 AA19 **178.02** Chronic nicotine treatment normalizes hypothyriodism induced suppression of camkii pathway during learning and memory processes. K. H. ALZOUBI*; K. ALKADHI. *Jordan Univ. of Sci. & Technol., Univ. of Houston.*

10:00 AA20 **178.03** Protective effects of choline alfoscerate (L-alpha-glycerylphosphorylcholine, α-GPC) on seizure-induced neuron death and cognitive impairment. S. LEE*; J. KIM; M. SOHN; H. SONG; H. CHOI; S. SUH. *Hallym Univ., Hallym University, Col. of Medicine, Dept. of Physiol., Inha University, Dept. of Nursing, Hallym Univ. Dept. of Neurology, Col. of Med.*

11:00 AA21 **178.04** Doxorubicin and cyclophosphamide treatment causes anxiety-like behavior and spatial cognition impairment in rats. Y. KITAMURA*; S. WATANABE; S. YONEDA; M. SUGIMOTO; E. KANEMOTO; H. KANZAKI; A. MACHIDA; I. MIYAZAKI; M. ASANUMA; T. SENDO. *Okayama Univ. Hosp., Okayama Univ. Grad. Sch. of Medicine, Dent. and Pharmaceut. Sci., Okayama Univ. Grad. Sch. of Medicine, Dent. and Pharmaceut. Sci.*

8:00 AA22 **178.05** Effects of nicotine on doxorubicin and cyclophosphamide-induced spatial cognition and anxiety in rats. M. SUGIMOTO*; E. KANEMOTO; S. WATANABE; I. MIYAZAKI; M. ASANUMA; Y. KITAMURA; T. SENDO. *Okayama Univ., Okayama Univ., Okayama Univ. Hosp.*

9:00 AA23 **178.06** Evaluation of chronic treatment with quetiapine on executive function and prefrontal cortex volume, perfusion and ERK/MAPK signaling in rats. I. PODDAR*; C. M. HERNANDEZ; P. M. CALLAHAN; L. VANDENHUERK; M. G. BARTLETT; X. YANG; A. V. TERRY, Jr. *Georgia Regents Univ., Georgia Regents Univ., Col. of Pharmacy, The Univ. of Georgia.*

10:00 AA24 **178.07** Comparison of chronic treatment with quetiapine to risperidone on hippocampal-dependent memory function, volume and ERK/MAPK signaling in rats. C. M. HERNANDEZ*; I. PODDAR; P. CALLAHAN; S. SINHA; X. YANG; M. BARTLETT; A. V. TERRY, Jr. *Georgia Regents Univ., Univ. of Georgia.*



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

11:00 AA25 **178.08** Regulation of a cerebellar voltage-gated potassium channels and cerebellum-dependent learning and memory. J. R. FUCHS*; A. D. MORIELLI; J. T. GREEN. *Univ. of Vermont, Univ. of Vermont, Univ. of Vermont.*

8:00 AA26 **178.09** Cerebellar mGluR1 modulates cerebellar-dependent learning. M. SHIPMAN*; S. C. MADASU; A. D. MORIELLI; J. T. GREEN. *Univ. of Vermont, Univ. of Vermont, Univ. of Vermont, Univ. of Vermont.*

9:00 AA27 **178.10** PKM-ζ is involved in cerebellar-dependent learning and memory. K. CHIHABI*; J. T. GREEN; A. D. MORIELLI. *Univ. of Vermont, Univ. of Vermont, Univ. of Vermont.*

10:00 AA28 **178.11** Sleep deprivation and voluntary alcohol consumption: The neuroplasticity of chronic behaviors. J. DYCHE*; K. PONDER. *James Madison Univ., James Madison Univ.*

11:00 AA29 **178.12** ▲ Sex specific developmental effects of caffeine and taurine on cognitive function. S. L. PEREZ*; K. CHAUHAN; K. URIBE; D. WOO; M. EVELYN; M. GUZMAN; U. AKPARA; F. JACQUES; S. SINGH; M. MURITALA; S. AYO; S. SOYEMI; A. COLE; P. DUVALSAINT; A. ELZANIE; D. HARRIS; S. MARACHERIL; D. PETERS; A. ALEXANDER-STREET; K. Y. SALAS-RAMIREZ. *Lehman College, CUNY, Sophie Davis Sch. of Biomed. Educ., The City Col. of New York, CUNY, Leman College, CUNY, Sophie Davis Sch. of Biomed. Educ.*

8:00 AA30 **178.13** Self-administration of caffeine in rats. C. A. BRADLEY*; A. M. BROWN; E. A. WILLIAMS; C. N. SWYMER; M. I. PALMATIER. *East Tennessee State Univ.*

9:00 AA31 **178.14** Aspartame consumption affects hippocampus, memory and anxiety in mice. P. U. NWOHA*; A. Y. ONAOLAPO. *Obafemi Awolowo Univ., Ladoke Akintola Univ. of Technol.*

10:00 AA32 **178.15** Involvement of endogenous opioid system in sucrose-induced analgesia during infancy and long-term effects on learning and memory during adulthood in rats. K. NUSEIR*; K. ALZOUBI; A. BAWAANE. *Jordan Univ. of Sci. and Technol.*

11:00 AA33 **178.16** Effect of Local Kappa Opioid modulation on forebrain dependent trace associative learning: An eyeblink conditioning analysis. R. LOH*; S. SHAH; R. GALVEZ. *Univ. of Illinois: Urbana-Champaign.*

8:00 AA34 **178.17** Grape powder supplementation prevents cognitive, behavioral and biochemical impairments in rat model of social defeat. N. SOLANKI*; G. PATKI; F. ATROOZ; S. SALIM. *, Col. of Pharm. Univ. of Houston, Univ. of Houston.*

9:00 AA35 **178.18** ▲ Glucocorticoids enhance emotional memory consolidation via recruitment of striatal endocannabinoids. C. SILLER PÉREZ; E. SOTELO BARRERA; N. SERAFÍN; R. PRADO-ALCALÁ; P. CAMPOLONGO; B. ROOZENDAAL; G. L. QUIRARTE*. *Inst. de Neurobiologia, UNAM, Sapienza Univ. of Rome, Radboud Univ. Med. Ctr. and Donders Inst. for Brain, Cognition and Behaviour.*

10:00 AA36 **178.19** ▲ Basolateral amygdala-striatal interactions regulating glucocorticoid effects on memory retrieval of a cued water-maze task. J. PARGA-MARTÍNEZ*; S. N; A. P; P. RA; R. B; Q. GL. *Inst. de Neurobiología, UNAM Juriquilla, Radboud Univ. Med. Centre, and Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ. Nijmegen.*

11:00 AA37 **178.20** ▲ Chronic resveratrol treatment ameliorates cognitive deficits associated with a high fat diet. K. O'LEARY*; R. ANKAWA; E. C. MCNAY. *Univ. At Albany.*

8:00 AA38 **178.21** Do estrogen and progesterone act synergistically to accentuate the cognitive effects of a serotonergic antagonist in female rats? S. S. MASWOOD*; J. HASSELL. *Millersville Univ.*

9:00 AA39 **178.22** Oxytocin (OT) and arginine-vasopressin (AVP) act on OT receptors (OTRs) to influence social but not non-social recognition in Syrian hamsters (mesocricetus auratus). Z. E. SONG*; T. E. LARKIN; M. O'MALLEY; H. ALBERS. *Georgia State Univ.*

10:00 AA40 **178.23** Melatonin prevents memory impairment induced by chronic sleep deprivation. O. F. KHABOUR*; K. ALZOUBI; F. MAYYAS; F. BANI SALAMEH; N. MHAIDAT. *Jordan Univ. of Sci. and Technol.*

11:00 AA41 **178.24** Validation of PSD95-nNOS inhibitors as pharmacotherapies with limited cognitive side effects. A. E. SMITH*; Y. Y. LAI; P. M. KULKARNI; G. A. THAKUR; A. G. HOHMANN; J. D. CRYSTAL. *Indiana Univ., Northeastern Univ., Gill Ctr. for Biomolecular Science, Indiana Univ.*

8:00 AA42 **178.25** Enhanced object recognition memory following inhibition of cyclic nucleotide phosphodiesterase 2 (PDE2): Role of NOS/cGMP pathway. L. M. LUEPTOW*; Y. XU; J. M. O'DONNELL. *West Virginia Univ., The State Univ. of New York at Buffalo.*

9:00 AA43 **178.26** ▲ A mechanistic study of the effects of nitrous oxide on spatial working memory in mice. E. KLEIN*; D. EMMANOUIL; Y. ZHANG; D. Y. SHIRACHI; R. M. QUOCK. *Washington State Univ., Univ. of Athens, Washington State Univ., Univ. of the Pacific.*

**POSTER**

**179. Learning and Memory: Aging II**

***Theme F: Cognition and Behavior***

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

8:00 AA44 **179.01** Understanding behavioral networks: A novel, scalable microscope designed to enable whole brain imaging of behavior-driven circuits with subcellular resolution. R. LIANG; C. WANG; S. PACHECO; B. K. BAGGETT; M. K. CHAWLA; D. T. GRAY; U. UTZINGER; C. A. BARNES*. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

9:00 AA45 **179.02** Is Arc mRNA expression regulated by the threshold for dendritic Ca++ plateau potentials generated from integration of entorhinal cortical inputs to granule cells? M. K. CHAWLA*; D. T. GRAY; M. J. HUENTELMAN; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Translational Genomics Res. Inst., Univ. of Arizona.*

10:00 AA46 **179.03** Enhanced single unit firing to unexpected large rewards in aged amygdala neurons. R. D. SAMSON*; L. DUARTE; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

11:00 AA47 **179.04** ▲ Enhanced beta band activity in the aged amygdala during probabilistic decision making. L. DUARTE*; R. D. SAMSON; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*



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

8:00 AA48 **179.05** Age-related changes in external cue-based navigation in the medial entorhinal-hippocampal network. A. W. LESTER*; A. J. KOUTIA; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

9:00 BB1 **179.06** Time-dependent decrease in the peak frequency and power of hippocampal sharp-wave ripples and high-gamma events during post-behavior sleep in aged and young rats. J. WIEGAND*; D. T. GRAY; L. A. SCHIMANSKI; P. LIPA; C. A. BARNES; S. L. COWEN. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

10:00 BB2 **179.07** Behavioral evidence for enhanced interference during working memory and associative learning tasks in aged macaques. D. T. GRAY*; S. L. ASHFORD; W. PYON; S. N. BURKE; A. C. SMITH; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Florida, Univ. of Arizona.*

11:00 BB3 **179.08** ▲ Species- and age-related differences in learning and performance on working memory tasks in two species of macaque monkeys. A. COMRIE*; D. T. GRAY; S. N. BURKE; A. C. SMITH; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Florida, Univ. of Arizona.*

8:00 BB4 **179.09** Behavioral impact of long-term chronic implantation of neural recording devices in the rhesus macaque. C. KYLE*; M. R. PERMENTER; J. A. VOGT; C. A. BARNES. *Univ. of Arizona, California Natl. Primate Res. Ctr., Univ. of Arizona, Univ. of Arizona.*

9:00 BB5 **179.10** Age-associated regional network pattern of MRI gray matter in the bonnet macaque. P. K. BHARADWAJ*; S. N. BURKE; T. P. TROUARD; K. CHEN; J. R. MOELLER; C. A. BARNES; G. E. ALEXANDER. *Univ. of Arizona, Univ. of Florida, Univ. of Arizona, Univ. of Arizona, Banner Alzheimer's Inst., Columbia Univ., Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

10:00 BB6 **179.11** Synaptic GPER1 distribution in the monkey prefrontal cortex is altered with aging, modulated by estrogen, and correlated with working memory. J. L. CRIMINS*; A. C. WANG; F. YUK; R. PURI; W. G. JANSSEN; Y. HARA; P. R. RAPP; J. H. MORRISON. *Mount Sinai Sch. of Med., Univ. of Colorado Sch. of Med., Natl. Inst. on Aging.*

11:00 BB7 **179.12** Differential expression of phosphorylated LIM kinase in non-human primate prefrontal cortex correlates with working memory. F. J. YUK; E. BLOSS; R. PURI; J. L. CRIMINS; W. G. JANSSEN*; Y. HARA; P. R. RAPP; J. H. MORRISON. *Icahn Sch. of Med. at Mount Sinai, Natl. Inst. on Aging.*

8:00 BB8 **179.13** Effect of androgen supplementation on cognitive performance in old male rhesus macaques. H. F. URBANSKI*; K. G. SORWELL; A. MARQUEZ LOZA; D. I. BROWN; L. RENNER; M. NEURINGER; S. G. KOHAMA. *Oregon Natl. Prim Res. Ctr., Univ. de Valparaíso.*

9:00 BB9 **179.14** Intrahippocampal blockade of L-type calcium channels increases unit activity in dorsal CA1 of aged rats. D. M. CURLIK, II*; X. YU; M. M. OH; J. F. DISTERHOFT. *Northwestern Univ.*

10:00 BB10 **179.15** Assessment of neuronal function during normal aging in male sprague dawley rats. A. J. IDOWU*; I. I. OLATUNJI-BELLO. *Lagos State Univ. Col. of Med., Lagos State Univ. Col. of Med.*

11:00 BB11 **179.16** Increased basal levels of NFκBp65 in the nucleus of hippocampal cells is related to maintenance of hippocampus-dependent spatial memory in aged rats. A. F. JONES*; N. R. PILGERAM; P. J. COLOMBO. *Tulane Univ., Tulane Univ., Tulane Univ.*

8:00 BB12 **179.17** Effects of prior distracter exposure on learning in aged rats. C. T. KOZIKOWSKI; A. TAPP; C. LEONG; J. A. BURK*. *Col. of William & Mary.*

9:00 BB13 **179.18** Ghrelin agonist as an aging modifying peptide. I. KADISH*; M. SHARPE; T. VAN GROEN; K. L. GAMBLE; M. E. YOUNG; D. B. ALLISON. *Univ. Alabama Birmingham, Univ. Alabama Birmingham, Univ. Alabama Birmingham, Univ. Alabama Birmingham.*

10:00 BB14 **179.19** ▲ Morris Water Maze execution on senile rats exposed to stress at early stages of life. Y. BENITEZ*; G. YAÑEZ-DELGADILLO; P. HERNANDEZ-CARRILLO; J. GARCÍA-ESTRADA; F. JAUREGUI-HUERTA; S. LUQUIN. *Univ. De Guadalajara, Univ. De Guadalajara, Ctr. de Investigación Biomédica de Occidente. IMSS, Univ. de Guadalajara.*

11:00 BB15 **179.20** Effects of testosterone and age on spatial memory and BDNF in male rats. M. D. SPRITZER*; C. E. SUPER. *Middlebury Col., Middlebury Col.*

8:00 BB16 **179.21** Aging in rats leads to task-dependent impairments and improvements in learning that are accompanied by changes in markers of brain energetics. L. A. NEWMAN*; R. S. GARDNER; B. V. HAMLING; D. L. KOROL; P. E. GOLD. *Syracuse Univ.*

9:00 BB17 **179.22** Influence of chronic restraint (psychosocial stress) on young and aged rats. K. STAGGS*; J. POPOVIC; S. QUTUBUDDIN; E. M. BLALOCK. *Univ. of Kentucky.*

10:00 BB18 **179.23** Effects of the calcium-binding protein apoaequorin on acquisition of trace fear conditioning in adult and aging rats. V. L. EHLERS*; K. L. FELDMANN; J. R. MOYER, Jr. *Univ. of Wisconsin-Milwaukee, Univ. of Wisconsin-Milwaukee.*

**POSTER**

**180. Reward: Dopamine**

***Theme F: Cognition and Behavior***

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

8:00 BB19 **180.01** Nucleus accumbens core muscarinic and nicotinic acetylcholine receptors differentially modulate phasic dopamine release and mediate cue-induced incentive motivation. A. L. COLLINS*; V. GREENFIELD; I. XU; S. OSTLUND; K. WASSUM. *UCLA, Univ. of California, Irvine.*

9:00 BB20 **180.02** Arithmetic and local circuitry underlying dopamine prediction errors. N. ESHEL*; M. BUKWICH; V. RAO; V. HEMMELDER; J. TIAN; N. UCHIDA. *MD-PhD Program, Harvard Med. Sch., Harvard Univ., Massachusetts Gen. Hosp.*

10:00 BB21 **180.03** Habenula lesions reveal that multiple mechanisms underlie dopamine prediction errors. J. TIAN*; N. UCHIDA. *Harvard Univ., Harvard Univ.*



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

11:00 BB22 **180.04** Electrophysiological activity mapping of neurons presynaptic to dopamine neurons. M. WATABE-UCHIDA*; J. TIAN; J. Y. COHEN; F. OSAKADA; E. M. CALLAWAY; N. UCHIDA. *Harvard Univ., Johns Hopkins Univ., Nagoya Univ., Salk Inst.*

8:00 BB23 **180.05** A set of projection-specific circuit maps for midbrain dopamine neurons. W. MENEGAS*; J. BERGAN; S. K. OGAWA; Y. ISOGAI; N. UCHIDA; M. WATABE-UCHIDA. *Harvard Univ., Univ. of Massachusetts, MIT.*

9:00 BB24 **180.06** Dopamine neurons code reward and aversion in a context-dependent manner. H. MATSUMOTO*; J. TIAN; N. UCHIDA; M. WATABE-UCHIDA. *Harvard Univ.*

10:00 BB25 **180.07** Sex-specific lateralization of mesocorticolimbic dopamine receptor mRNAs in adolescent mice. R. L. MURPHY; K. J. FRYXELL*. *George Mason Univ.*

11:00 BB26 **180.08** Individual variability in dopamine transporter regulation of neurotransmission and incentive motivation. B. F. SINGER*; B. GUPTAROY; C. J. AUSTIN; M. E. GNEGY; T. E. ROBINSON; B. J. ARAGONA. *Univ. of Michigan, Univ. of Michigan.*

8:00 BB27 **180.09** *In vivo* optogenetic manipulation of dopamine neurons in a novel behavioral economics based food-seeking task. S. SCHELP*; G. KRZYSTYNIAK; J. GAGE; D. RAKOWSKI; R. DAS; E. OLESON. *Univ. of Colorado, Denver.*

9:00 BB28 **180.10** The role of NMDA receptor-dependent burst activity of dopamine neurons in reinforcement-learning and depressive-like behaviors. K. LOPATA*; M. WALCZAK; P. E. CIESLAK; &. SZUMIEC; M. TURBASA; T. BLASIAK; J. RODRIGUEZ PARKITNA. *Inst. of Pharmacol. of the PAS, Jagiellonian Univ.*

10:00 BB29 **180.11** ▲ Investigating contributions of dopamine D2 and D3 receptors to Pavlovian conditioned approach behaviors. K. M. FRASER*; J. L. HAIGHT; E. L. GARDNER; S. B. FLAGEL. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Natl. Inst. on Drug Abuse, Univ. of Michigan.*

11:00 BB30 **180.12** Chemogenetic inhibition of mesolimbic dopamine reveals excitability-dependent amphetamine action for behavior. S. M. CONWAY*; M. S. MCMURRAY; P. A. GARRIS; E. H. CHARTOFF; R. A. WHEELER; J. D. ROITMAN; M. F. ROITMAN. *Univ. of Illinois At Chicago, Illinois State Univ., Harvard Med. Sch., Marquette Univ.*

8:00 BB31 **180.13** Contrasting effects of rewarding electrical and optical stimulation. M. COSSETTE*; P. SHIZGAL. *Concordia Univ.*

9:00 BB32 **180.14** Repetitive tms of the insula modulates dopaminergic activity: A phno-pet study in healthy subjects. S. MALIK*; M. JACOBS; S. CHO; I. BOILEAU; D. BLUMBERGER; A. WILSON; Z. J. DASKALAKIS; A. STRAFELLA; A. ZANGEN; B. LE FOLL. *Ctr. for Addiction and Mental Hlth., Ben Gurion Univ.*

10:00 BB33 **180.15** Past exposure to L-dopa accelerates habitual responding in rats. T. M. FURLONG*; A. M. GIBSON; K. A. KEEFE. *The Univ. of Utah, The Univ. of Utah.*

11:00 BB34 **180.16** Different routes of cocaine administration resolve multiple mechanisms of action to increase phasic dopamine release in the nucleus accumbens. A. I. GERTH*; A. ALHADEFF; S. FORTIN; H. GRILL; M. ROITMAN. *Univ. of Illinois At Chicago Dept of Psych, Univ. of Pennsylvania, Univ. of Illinois at Chicago.*

8:00 BB35 **180.17** Collective activity of ventral tegmental area neurons encodes information about ongoing actions. J. WOOD*; N. W. SIMON; S. KOERNER; R. E. KASS; B. MOGHADDAM. *Univ. of Pittsburgh, Carnegie Mellon Univ.*

9:00 BB36 **180.18** Striatal response during reward and punishment reversal learning in depressed and non-depressed patients with Parkinson's disease. M. TIMMER*; R. ESSELINK; G. SESCOUSSE; R. COOLS. *Donders Inst. For Brain, Cognition and Behavio, Radboud Univ. Med. Ctr., Donders Inst. For Brain, Cognition and Behavio, Radboud Univ. Med. Ctr.*

10:00 BB37 **180.19** Midbrain dopamine neurons signal whether planned eye movements are successfully cancelled during a saccadic stop-signal task. T. OGASAWARA; M. TAKADA; M. MATSUMOTO*. *Primate research institute, Kyoto Univ., Univ. of Tsukuba, Univ. of Tsukuba.*

11:00 BB38 **180.20** Real-time dopamine release during discrimination and reversal learning in mice. A. K. RADKE*; Y. MATEO; A. KOCHARIAN; D. M. LOVINGER; A. HOLMES. *Natl. Inst. on Alcohol Abuse and Alcoholism, Natl. Inst. on Alcohol Abuse and Alcoholism.*

8:00 BB39 **180.21** Repeated exposure to uncertain rewards induces sensitization and increases risky decision-making: Implications for modelling gambling disorder in rats. F. D. ZEEB*; Z. LI; D. C. FISHER; M. H. ZACK; P. J. FLETCHER. *CAMH, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto.*

9:00 BB40 **180.22** Fast dopamine transients in the medial prefrontal cortex enhance stimulus discrimination. A. T. POPESCU*; M. POO. *UC Berkeley.*

10:00 BB41 **180.23** Neurochemistry of pair bonding. N. NEVÁREZ*; I. K. WOHL; C. W. CARTER; C. J. AUSTIN; S. L. RESENDEZ; B. J. ARAGONA. *The Univ. of Michigan, The Univ. of Michigan.*

11:00 BB42 **180.24** Sexual experience results in morphological changes in ventral tegmental area dopamine neurons that project to nucleus accumbens and not medial prefrontal cortex. L. N. BELOATE*; L. M. COOLEN. *Univ. of Mississippi Med. Center, Program In Neurosci., Univ. of Mississippi Med. Ctr.*

8:00 BB43 **180.25** ▲ Correlation of conditioned place preference to high fat/sugar food with nucleus accumbens c-Fos and p-DARPP-32 protein expression. G. C. LOPEZ*; L. PEREZ; T. SONGTACHALERT; L. MININBERG; S. PIERCE; J. SCHROEDER. *Connecticut Col.*

9:00 BB44 **180.26** Cannabinoid type 1 receptors facilitate conditioned reinforcement evoked by optogenetic stimulation of dopamine release. J. F. CHEER*; D. P. COVEY. *Univ. of Maryland Sch. of Med., Univ. of Maryland.*

10:00 BB45 **180.27** ▲ Enhanced extinction of cocaine conditioned place preference via glutamate transporter activation is associated with reduced nucleus accumbens c-Fos expression. J. W. PICKEL*; V. SVYSTUN; T. HAVICAN; L. MININBERG; L. PEREZ; S. PIERCE; A. DILISIO; M. REILLY; J. A. SCHROEDER; S. M. RAWLS. *Connecticut Col., Temple Univ. Sch. of Med.*



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* Indicates abstract's submitting author

**POSTER**

**181. Song Circuit and Motor Control**

***Theme F: Cognition and Behavior***

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

8:00 BB46 **181.01** Analyzing the population dynamics underlying a complex motor act. M. A. PICARDO*; K. A. KATLOWITZ; D. E. OKOBI; S. E. BENEZRA; R. C. CLARY; J. MEREL; L. PANINSKI; M. A. LONG. *New York Univ. Sch. of Medecine, New York Univ., Columbia Univ., Columbia Univ.*

9:00 BB47 **181.02** Connectomic analysis of local HVC circuitry in the zebra finch. S. BENEZRA*; J. KORNFELD; R. T. NARAYANAN; M. OBERLAENDER; W. DENK; M. LONG. *NYU Sch. of Medicine, Dept. of Physiol. and Neurosci., Max Planck Inst. for Neurobio., Max Planck Inst. for Biol. Cybernetics, NYU Sch. of Med.*

10:00 BB48 **181.03** Stability and drift of motor sequencing in the songbird HVC. W. A. LIBERTI*, III; D. C. LIBERTI; J. E. MARKOWITZ; T. GARDNER. *Boston Univ., Boston Univ.*

11:00 BB49 **181.04** ● Left and right HVC independently control song respiratory amplitude. C. M. URBANO*; B. G. COOPER. *Texas Christian Univ., Texas Christian Univ.*

8:00 BB50 **181.05** A computational model that can reproduce the effects of partial HVC ablation on the zebra finch song. D. GALVIS*; D. FLORES; M. BASISTA; W. WU; R. HYSON; F. JOHNSON; R. BERTRAM. *Florida State Univ., Florida State Univ., Florida State Univ., Florida State Univ.*

9:00 BB51 **181.06** Using dynamic clamp to explore the current properties of HVC neurons in the zebra finch. D. FLORES*; M. T. ROSS; J. TABAK; R. L. HYSON; F. JOHNSON; R. BERTRAM. *Florida State Univ.*

10:00 BB52 **181.07** ● Chronical electrophysiological recordings using carbon fiber microarrays in a songbird premotor brain region. S. MOORMAN*; T. J. GARDNER. *Boston Univ.*

11:00 BB53 **181.08** A role for the Ih current in the production of song in zebra finches. M. T. ROSS*; D. FLORES; R. BERTRAM; F. JOHNSON; R. L. HYSON. *Florida State Univ.*

8:00 BB54 **181.09** Encoding and integration of birdsong syllable repertoire and sequencing. M. J. BASISTA*; M. T. ROSS; W. WU; R. BERTRAM; R. L. HYSON; F. JOHNSON. *Florida State Univ., Florida State Univ., Florida State Univ.*

9:00 BB55 **181.10** Zebra finch song phonology and structure across populations and continents - a computational comparison. S. M. TER HAAR*; R. LACHLAN; C. A. A. VAN HEIJNINGEN; C. TEN CATE, senior. *Utrecht Univ., Leiden Univ., Leiden Univ., Leiden Univ., Queen Mary Univ. of London.*

10:00 BB56 **181.11** Factors determining the degeneracy of the relationship between the parameters and dynamics of conductance model neurons. P. MALONIS*; A. DAOU; N. KADAKIA; U. MORONE; H. ABARBANEL; D. MARGOLIASH. *Univ. of Chicago, Univ. of California at San Diego, Scripps Inst. of Oceanography.*

11:00 BB57 **181.12** Premotor population dynamics predict muscle activity in zebra finch song. K. J. BROWN*; D. MARGOLIASH. *Univ. of Chicago, Univ. of Chicago.*

8:00 BB58 **181.13** ● A comparison of vocal organ morphology between Bengalese finches and white-rumped munias. C. M. URBANO; K. OKANOYA; B. G. COOPER*. *Texas Christian Univ., Univ. of Tokyo.*

9:00 BB59 **181.14** Modulation Dynamics of the Syringeal Skeleton *in vitro* and *ex vivo*. D. N. DÜRING; C. P. ELEMANS*. *Univ. of Southern Denmark, Univ. of Southern Denmark.*

10:00 BB60 **181.15** Small perturbation of subglottal pressure affect call types differently. T. RIEDE*. *Midwestern Univ.*

**POSTER**

**182. Genetic Techniques**

***Theme G: Novel Methods and Technology Development***

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

8:00 BB61 **182.01** ● Creation of a neuroscience toolbox: Neuron-specific Cre and conditional fluorescent protein and opsin rat lines. Z. LIU*; G. ZHAO; X. CUI. *Horizon Discovery.*

9:00 BB62 **182.02** Neuroprotective efficacy of a calpain-dependent gene regulation system expressing X-linked Inhibitor of Apoptosis Protein in a model of Parkinson's disease. J. NAIDOO*; D. FONG; A. MURAVLEV; D. YOUNG. *Univ. of Auckland.*

10:00 BB63 **182.03** Step-function luminopsin for prolonged activation of neurons by bioluminescence. K. BERGLUND*; C. GUTEKUNST; J. TUNG; U. HOCHGESCHWENDER; R. E. GROSS. *Emory Univ., Emory Univ., Central Michigan Univ.*

11:00 BB64 **182.04** Luminopsins allow neuronal activation over a range of spatial and temporal scales. L. WEN; S. PARK; K. A. CLISSOLD; K. BERGLUND; H. H. YIN; G. J. AUGUSTINE; U. HOCHGESCHWENDER*. *Nanyang Technological Univ., Duke Univ., Emory Univ., Central Michigan Univ.*

8:00 BB65 **182.05** Inhibitory luminopsins: Genetically encoded bioluminescent opsins for versatile, scalable, and hardware independent optogenetic inhibition. J. K. TUNG*; C. GUTEKUNST; K. BERGLUND; R. E. GROSS. *Georgia Inst. of Technol., Emory Univ.*

9:00 BB66 **182.06** Multi-timescale *in vivo* regulation of the thalamic reticular nucleus using bioluminescent optogenetics (BL-OG). B. HIGASHIKUBO*; E. MCDONNELL; U. HOCHGESCHWENDER; C. MOORE. *Moore Lab, Brown Univ., Brown Univ., Central Michigan Univ.*

10:00 BB67 **182.07** PV inhibitory neuron subtype specificity in cortex from low titer adeno-associated virus (AAV) containing a Fugu parvalbumin promoter. Y. LIU; H. SHAO; R. JAPPELLI; D. C. LYON*. *Univ. of California, Salk Inst. for Biol. Studies.*

11:00 BB68 **182.08** Development of CRISPR toolkit for knock-in transgene targeting to the rat rosa26 locus. B. K. HARVEY*; L. FORTUNO; Y. ZHANG; J. PICKEL; C. RICHIE. *NIDA - NIH, NIMH - NIH.*

8:00 BB69 **182.09** Nanowire transgene injector arrays. Y. KUBOTA*; A. GORYU; R. NUMANO; M. ISHIDA; T. KAWANO. *Toyohashi Univ. of Technol.*



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9:00 BB70 **182.10** New nsc-derived motor neuron model for als generated using crispr/cas9 reveals involvement of dna damage response. J. MITRA*; V. M. VASQUEZ; M. L. HEGDE. *The Houston Methodist Hosp., Houston Methodist Res. Inst.*

10:00 BB71 **182.11** Dried blood spot RNA sequencing (DBS-RNA-Seq): A novel approach for the identification of circulating biomarkers. A. WOLFE*; A. SINIARD; R. RICHHOLT; I. SCHRAUWEN; M. HUENTELMAN. *Tgen, TGen.*

11:00 BB72 **182.12** Rational design of ultrafast, high-affinity red calcium indicator for monitoring neuronal activity. M. INOUE*; A. TAKEUCHI; S. HORIGANE; H. FUJII; S. KAMIJO; S. TAKEMOTO-KIMURA; M. OHKURA; K. GENGYO-ANDO; M. KANO; J. NAKAI; K. KITAMURA; H. BITO. *Dept. of Neurochemistry, The Univ. of Tokyo, CREST-JST, Dept. of Neurophysiology, The Univ. of Tokyo, PRESTO-JST, Brain Sci. Institute, Saitama Univ., Dept. of Neurophysiology, Univ. of Yamanashi.*

8:00 BB73 **182.13** A novel plasmid, NASTIE, for distinguishing neurons and astrocytes during calcium imaging experiments in rat hippocampus. M. GIBBONS*; S. W. A. TITEN; P. TVRDIK; M. R. CAPECCHI; J. A. WHITE; K. S. WILCOX. *Univ. of Utah, Univ. of Utah, Univ. of Utah, Boston Univ., Univ. of Utah.*

9:00 BB74 **182.14** Establishing the genetic background of marmosets for transgenic production. A. DALLSTREAM; B. GOLD; B. KOLACHANA; J. PICKEL*. *NIH, Univ. of Pennsylvania, Natl. Inst. of Hlth. - Natl. Cancer Inst., Natl. Inst. of Hlth. - Natl. Inst. of Mental Hlth.*

10:00 BB75 **182.15** Survival of corticostriatal neurons by rho gtpase signaling pathway. K. KOBAYASHI*; H. SANO; S. KATO; K. KAIBUCHI; K. KOBAYASHI. *Natl. Inst. For Physiological Sci., Natl. Inst. For Physiological Sci., Fukushima Med. Univ., Nagoya Univ.*

11:00 BB76 **182.16** RNA-lipid nanoparticles: A robust and potent tool for gene knockdown and expression in primary neurons. A. S. ANSARI; D. ZWAENEPOEL; A. K. WHITE; C. L. WALSH; A. THOMAS; T. LEAVER; A. WILD; Y. LI; Y. WANG; J. R. TAYLOR; E. RAMSAY*; C. HANSEN; P. CULLIS. *Precision Nanosystems Inc., Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia.*

8:00 BB77 **182.17** Generation of region-specific induced neural precursors following SOX2/PAX6 transfection of adult human fibroblasts. R. LIU*; E. FIRMIN; K. JONES; B. CONNOR. *Univ. of Auckland.*

9:00 BB78 **182.18** Rapid block of unaltered endogenous receptors *in vivo* with a genetically-targeted drug. P. F. APOSTOLIDES; C. KIM; B. C. SHIELDS; J. BROWN; E. KAHUNO; S. VAIDYA; J. T. DUDMAN; J. C. MAGEE; L. D. LAVIS; M. R. TADROSS*. *HHMI Janelia Farm.*

10:00 BB79 **182.19** Highly restricted mouse driver strains via transposon-based enhancer trapping. Y. SHIMA*; C. HEMPEL; K. SUGINO; P. TANEJA; J. BULLIS; C. LOIS; S. NELSON. *Brandeis Univ., Caltech.*

11:00 BB80 **182.20** Generation of transgenic marmosets expressing genetically encoded calcium indicator GCaMP. J. PARK*; X. ZHANG; S. CHOI; J. PICKEL; J. OKAHARA; E. SASAKI; A. C. SILVA. *CMS, LFMI, NINDS, NIH, NIH, Central Inst. for Exptl. Animals.*

8:00 BB81 **182.21** MicroRNA-guided neuron tags (mAGNETs) exploit a novel framework for genetically targeting neural subtypes in the mammalian brain. M. K. SAYEG*; B. H. WEINBERG; S. S. CHA; M. GOODLOE; S. SHAIKH; W. W. WONG; X. HAN. *Boston Univ.*

**POSTER**

**183. Optical Methods I**

***Theme G: Novel Methods and Technology Development***

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

8:00 BB82 **183.01** ● *In vivo* photoacoustic imaging of cerebrospinal fluid spaces in mice. E. MATHIEU*; M. FIRAS; C. HUPPLE; Y. YUCEL. *Univ. of Toronto, Univ. of Toronto, Keenan Res. Ctr. for Biomed. Science, St Michael's Hosp., Ryerson Univ., iThera Med. GmbH.*

9:00 BB83 **183.02** Cell-specific optical perturbation of electrical activity *in vivo*. A. FORLI; C. MORETTI; S. BOVETTI; T. FELLIN*. *Inst. Italiano di Tecnologia.*

10:00 BB84 **183.03** A calcium transient detection algorithm optimized for GCaMP6 kinetics, tested in Layer 2/3 of mouse somatosensory cortex. C. S. COPELAND*; S. REYNOLDS; J. OÑATIVIA; L. A. ANNECCHINO; P. L. DRAGOTTI; S. R. SCHULTZ. *Imperial Col., Imperial Col., Imperial Col.*

11:00 BB85 **183.04** Toward voltage imaging in the live mouse brain with enhanced Rhodopsin based voltage sensors. Y. ADAM*; Y. ZHAO; M. A. MOSTAJO-RADJI; P. ARLOTTA; R. E. CAMPBEL; A. E. COHEN. *Harvard Univ., Univ. of Alberta.*

8:00 BB86 **183.05** *In vivo* chronic macroimaging of sensory representation in marmosets. Y. MATSUMOTO*; Y. YAMADA; K. MIKOSHIBA. *Brain Sci. Institute(bsi), RIKEN, Central institute for Exptl. Animal.*

9:00 BB87 **183.06** Visualizing neuronal activities of the deep brain in a freely-moving mouse by using implantable micro imaging devices. Y. OHTA*; M. MOTOYAMA; M. HARUTA; H. TAKEHARA; T. NODA; K. SASAGAWA; T. TOKUDA; J. OHTA. *Nara Institue of Sci. and Technol.*

10:00 BB88 **183.07** Temperature changes in the brain slice by NIR optical stimulation. S. MIN*; M. YOO; S. KIM. *Gwangju Inst. of Sci. and Technol. (GIST).*

11:00 BB89 **183.08** Two-photon calcium imaging using genetically-encoded calcium indicator in primate neocortex. O. SADAKANE*; Y. MASAMIZU; A. WATAKABE; S. TERADA; M. OHTSUKA; M. TAKAJI; H. MIZUKAMI; K. OZAWA; H. KAWASAKI; M. MATSUZAKI; T. YAMAMORI. *RIKEN Brain Sci. Inst., Natl. Inst. for Basic Biol., Natl. Inst. for Basic Biol., Grad. school of Biostudies, Kyoto Univ., Ctr. for Mol. Medicine, Jichi Med. Univ., The Inst. of Med. Science, The Univ. of Tokyo, Grad. Sch. of Medicine, Kanazawa Univ.*

8:00 BB90 **183.09** Light-controlled activation of neurons via a graphene-based biocompatible optoelectronic interface. E. MOLOKANOVA; G. B. BRAUN; A. ALMENAR-QUERALT; A. ZARETSKI; L. S. B. GOLDSTEIN; M. MERCOLA; A. SAVTCHENKO*. *NTBS, Sanford Burnham Med. Res. Inst., Univ. of California - San Diego, Univ. of California - San Diego, Univ. of California - San Diego.*

9:00 BB91 **183.10** A compact multifunctional laser scanning imaging system developed on open source hardware. X. LI*; K. BORGES; G. M. G. SHEPHERD. *Northwestern Univ.*



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

10:00 BB92 **183.11** *In vivo* three-photon excited fluorescence imaging of neural activity in the spinal cord of awake mice. Y. CHENG*; I. M. BASTILLE; J. CRUZ HERNANDEZ; D. G. OUZOUNOV; T. WANG; X. LI; N. NISHIMURA; J. R. FETCHO; C. XU; C. B. SCHAFFER. *Cornell Univ., Cornell Univ., Cornell Univ.*

11:00 BB93 **183.12** Mapping large-scale functional connections with chr2-evoked hemodynamic signals. A. Q. BAUER*; G. BAXTER; A. KRAFT; M. BRUCHAS; J. LEE; J. CULVER. *Washington Univ. In St. Louis, Washington Univ. in St. Louis, Washington Univ. in St. Louis, Washington Univ. in St. Louis.*

8:00 CC1 **183.13** High-resolution recording of neural activity by transforming intrinsic optical signals. M. J. WALL*; M. J. E. RICHARDSON; M. G. THOMAS; J. A. COVINGTON; M. S. TURNER. *Univ. of Warwick.*

9:00 CC2 **183.14** Non-invasive functional neuroimaging in the mouse using diffuse optical tomography. M. REISMAN*; A. BAUER; Z. MARKOW; G. BAXTER; J. CULVER. *Washington Univ. In St. Louis.*

10:00 CC3 **183.15** Sparse MAP inference of cell shapes and spike trains from calcium imaging data with non-negative constraints. T. TAKEKAWA*; M. SATO; N. OHKAWA; K. INOKUCHI; Y. HAYASHI; T. FUKAI. *Kogakuin Univ., RIKEN BSI, Univ. of Toyama.*

11:00 CC4 **183.16** Basic principle of Near Infrared Spectroscopy: Application in monitoring cerebral oxygenation and neuronal energy metabolism. K. SANNAGOWDARA; M. RANJI; H. T. WHELAN*. *Med. Col. of Wisconsin, Univ. of Wisconsin- Milwaukee, Med. Col. of Wisconsin.*

8:00 CC5 **183.17** Simultaneous high speed, sensitive, sodium and calcium imaging from dendrites. W. N. ROSS*; K. MIYAZAKI. *New York Med. Col.*

9:00 CC6 **183.18** Open-source miniaturized fluorescence microscope for imaging large-scale neural activity in freely behaving animals. D. AHARONI*; T. SHUMAN; D. J. CAI; J. LOU; M. SONG; B. WEI; I. KIM; B. S. KHAKH; A. J. SILVA; P. GOLSHANI. *UCLA, UCLA, UCLA, UCLA, UCLA, UCLA.*

10:00 CC7 **183.19** ● Optical imaging of baseline and stimulus-induced changes in facial perfusion. M. CORTEZ*; N. REA; L. HUNTER; J. PETERSON; J. THERIOT; K. BRENNAN. *Univ. of Utah Neurol., Univ. of Utah.*

11:00 CC8 **183.20** Double-sided voltage sensitive dye imaging of the nervous system of the leech. Y. TOMINA*; D. A. WAGENAAR. *Univ. of Cincinnati, Univ. of Cincinnati.*

8:00 CC9 **183.21** Two photon imaging with genetically -encoded calcium indicators in new world primates. J. SHARMA*; R. LANDMAN; F. YOSHIDA; H. SUGIHARA; M. SUR. *MIT & MGH, McGovern Inst. of Brain Res., Picower Inst. for Learning and Memory, Picower Inst. for Learning and Memory and Simons Ctr. for Social Brain.*

9:00 CC10 **183.22** Nucleic acid probes for neurochemicals optical tracking. J. L. CHAVEZ*; T. O'NEIL; R. CLARK; S. HARBAUGH; M. KADAKIA; J. A. HAGEN; N. KELLEY-LOUGHNANE. *US Air Force Res. Lab., Case Western Reserve Univ., Wright State Univ.*

10:00 CC11 **183.23** A multi-scale brain imaging strategy for small animals *in vivo*. H. HUI*; D. DONG; X. MA; X. YANG; J. TIAN. *Inst. of Automation, Inst. of Automation, Chinese Acad. of Sci.*

11:00 CC12 **183.24** Image processing technique for an implantable image sensor with self-resetting function. K. SASAGAWA*; T. YAMAGUCHI; M. HARUTA; Y. SUNAGA; H. TAKEHARA; M. MOTOYAMA; Y. OHTA; H. TAKEHARA; T. NODA; T. TOKUDA; J. OHTA. *Nara Inst. of Sci. and Technol.*



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**SPECIAL LECTURE** *McCormick Place*

**184. ● Nanoscopy with Focused Light: Principles and Applications** — CME

Sun. 1:00 PM - 2:10 PM — Hall B1

*Speaker:* S. W. HELL*, Max Planck Inst. for Biophysical Chem.*

Throughout the 20th century it was well accepted that lens-based light microscopy cannot discern details that are finer than half the wavelength of light (>200 nm). However, in the 1990s, it was discovered that this barrier can be effectively overcome such that fluorescent features can be resolved virtually down to molecular dimensions. This lecture will discuss the simple yet powerful physical principles that allowed researchers to overcome the diffraction limit with a special emphasis on STED and RESOLFT microscopy relating these "nanoscopy" techniques to the neurosciences.

**SYMPOSIUM** *McCormick Place*

**185. Human iPSC Derived Cells for Modeling Neurodegenerative Disease and Drug Discovery** — CME

Sun. 1:30 PM - 4:00 PM — S100A

*Chair:* E. M. JONES
*Co-Chair:* E. CHIAO

Human induced pluripotent stem cells (iPSCs) provide unprecedented access to neurons and glia to study neurodegenerative disorders. For the first time, researchers have sufficient human material, derived from specific patient populations, to perform studies in the cell types of interest. This symposium will highlight research that demonstrates the broad utility of iPSC technology in developing better tools, models, and biomarkers for innate, induced, and infectious neurodegenerative disorders.

1:30 **185.01** Introduction.

1:35 **185.02** ● Human iPSC derived cells for modeling neurodegenerative disease and drug discovery. E. CHIAO. *Biogen IDEC.*

2:10 **185.03** Generating patient-specific iPSCs-derived neurons to explore formation and inhibition of human prions. W. ZOU. *Case Western Reserve Univ.*

2:45 **185.04** Promise and challenges of iPSC modeling in Parkinson's disease. B. SCHUELE. *Parkinson's Inst. and Clin. Ctr.*

3:20 **185.05** ● Use of stem cell derived neurons in studies of chemotherapy induced neuropathy. E. DOLAN. *Univ. of Chicago.*

3:55 **185.06** Closing Remarks.

**SYMPOSIUM** *McCormick Place*

**186. Hidden Variables of Behavior: Neuronal Parameters Underlying Brain States** — CME

Sun. 1:30 PM - 4:00 PM — S100B

*Chair:* M. J. SCHNITZER

Technologies for observing and influencing large-scale neural circuit dynamics have illuminated how time-varying brain states shape vertebrate cognition and behavior. Highlighting recent work on spatial, emotional, and social forms of cognition, speakers will discuss factors acting over time scales of seconds to years – including neurophysiological dynamics, life experience, and epigenetics – to sculpt the internal dynamics and interactions of brain systems underlying brain and behavioral states.

1:30 **186.01** Introduction.

1:35 **186.02** Neural control of parental behaviors. C. G. DULAC. *Harvard Univ.*

2:10 **186.03** Large-scale neural dynamics in states of environmental exploration versus those of learned exploitation. M. J. SCHNITZER. *Stanford Univ. / HHMI.*

2:45 **186.04** Fast modulation of visual perception by basal forebrain cholinergic neurons. Y. DAN. *UC Berkeley.*

3:20 **186.05** Coordination of entorhinal-hippocampal ensemble activity during navigation behaviors. L. M. FRANK. *UC San Francisco.*

3:55 **186.06** Closing Remarks.

**SYMPOSIUM** *McCormick Place*

**187. New Frontiers in Understanding Glia** — CME

Sun. 1:30 PM - 4:00 PM — S105

*Chair:* B. A. BARRES

More than half of the cells in the mammalian nervous system are glia. Long thought to play a largely supportive role to neurons, exciting work in the past few years has overwhelmingly overturned this notion. This symposium will provide a cutting-edge view of our rapidly expanding understanding of the development and functions of glia: how they myelinate axons, control synapse formation and elimination, respond to neuronal injury, and their contribution to neurodegenerative disease.

1:30 **187.01** Introduction.

1:35 **187.02** Elucidation of the mechanism of myelin wrapping by oligodendrocytes. B. A. BARRES. *Stanford Univ.*

2:10 **187.03** *Drosophila* as a genetic model system for understanding astrocyte development and function. M. R. FREEMAN. *Univ. of Massachusetts Med. School/HHMI.*

2:45 **187.04** Control of PNS regeneration by Schwann cells. A. C. LLOYD. *Univ. Col. London.*

3:20 **187.05** ● A novel role for microglia in brain wiring and unwiring. D. SCHAFER. *Univ. of Massachusetts Med. Sch.*

3:55 **187.06** Closing Remarks.



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**MINISYMPOSIUM** *McCormick Place*

**188. Behavior Diversity in Individuals: Genetic and Circuit Mechanisms** — CME

Sun. 1:30 PM - 4:00 PM — S406A

*Chair:* B. GRONE
*Co-Chair:* C. J. PANTOJA

Consistent differences in sensorimotor behavior are found among individuals. These differences likely contribute to fitness in varied environmental conditions. However, the proximal causes that generate and control behavior variability have only recently begun to be unraveled. This minisymposium will examine mechanisms of behavior variability in vertebrates and invertebrates. Presentations will include the latest findings from genetic, molecular, and circuit-based studies.

1:30 **188.01** Introduction.

1:35 **188.02** Neurobiological and genetic regulation of locomotor individuality. B. DE BIVORT. *Harvard Univ.*

1:55 **188.03** Neuromodulatory control of inter-individual variation in vertebrate startle behavior. C. PANTOJA. *Univ. of California, Berkeley.*

2:15 **188.04** Multigenic natural variation underlies olfactory behavior in Caenorhabditis elegans. E. GLATER. *Pomona Col.*

2:35 **188.05** The genetic basis of parental behavior evolution in Peromyscus mice. A. BENDESKY. *Harvard Univ.*

2:55 **188.06** Fathering as a source of individual variation in sensory and motor systems in sticklebacks. A. BELL. *The Univ. of Illinois, Urbana-Champaign.*

3:15 **188.07** Evolution of sensory systems following whole-genome duplications. B. GRONE. *Univ. of California, San Francisco.*

3:35 **188.08** Closing Remarks.

**MINISYMPOSIUM** *McCormick Place*

**189. Genomic Views of Transcriptional Enhancers: Essential Determinants of Cellular Identity and Activity-Dependent Responses in Neurons** — CME

Sun. 1:30 PM - 4:00 PM — S103

*Chair:* J. M. GRAY
*Co-Chair:* T. KIM

Animal genomes endow nervous systems with an incredible diversity of cell types. Each cell type is defined by a unique gene expression profile that is specified by regulatory sequences sprinkled throughout the genome. It is now possible to identify thousands of these regulatory sequences, called enhancers, in a single experiment and address their neurobiological functions via genome editing. This session will address the scientific opportunities that enhancers now represent for neuroscience.

1:30 **189.01** Introduction.

1:35 **189.02** Stimulus-specific functionality of neuronal enhancers. T. KIM. *Univ. of Texas Southwestern Med. Ctr.*

1:55 **189.03** Chromatin regulation of neuronal differentiation in the developing cerebellum. A. E. WEST. *Duke Univ. Med. Ctr.*

2:15 **189.04** Genomic wiring of transcription regulation in the developing basal ganglia. A. NORD. *UC Davis.*

2:35 **189.05** Cortical enhancers and autism. E. MARKENSCOFF-PAPADIMITRIOU. *UCSF.*

2:55 **189.06** Enhancer interaction networks as regulators of neuronal diversity. S. LOMVARDAS. *Columbia Univ.*

3:15 **189.07** Strong promoter activity is encoded independently of enhancer activity by GC/CpG-rich nucleotide sequences. J. GRAY. *Harvard Med. Sch.*

3:35 **189.08** Closing Remarks.

**MINISYMPOSIUM** *McCormick Place*

**190. Corticotropin Releasing Factor: Novel Molecular, Cellular, and System Roles** — CME

Sun. 1:30 PM - 4:00 PM — S406B

*Chair:* D. G. WINDER
*Co-Chair:* N. W. GILPIN

Corticotropin releasing factor (CRF) is a neuropeptide that has classically been studied in the context of neuroendocrine regulation of the stress response. This minisymposium will capitalize on recent data generated by using transgenic, live imaging, electrophysiology, optogenetic, molecular, and behavioral approaches. It will highlight newly appreciated roles of CRF in modulating functions of specific neuronal populations and circuits, influencing memory, anxiety, alcohol intake, and pain.

1:30 **190.01** Introduction.

1:35 **190.02** CRH neurons as multimodal controllers of the stress response. J. S. BAINS. *Hotchkiss Brain Institute, Univ. of Calgary.*

1:55 **190.03** CRH interacts with the endocannabinoid system to regulate anxiety. J. GRAY. *Hotchkiss Brain Institute, Univ. Calgary.*

2:15 **190.04** Amygdalar CRF mediates stress effects on nociception and alcohol drinking. N. W. GILPIN. *Louisiana State Univ.*

2:35 **190.05** Stress and alcohol recruit a CRF receptor signaling system within the extended amygdala. D. G. WINDER. *Vanderbilt Univ. Sch. Med.*

2:55 **190.06** The dark side within: VTA CRF neurons mediate the negative reinforcing effects of relief from nicotine abstinence. O. GEORGE. *Scripps Resch Inst.*

3:15 **190.07** Elucidating the actions of corticotropin releasing hormone in the nucleus accumbens. J. C. LEMOS. *NIAAA/NIH.*

3:35 **190.08** Closing Remarks.



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**PETER AND PATRICIA GRUBER LECTURE** *McCormick Place*

**191. Nature and Nurture in Synapse Development, Maturation, and Disease**

Sun. 2:30 PM - 3:40 PM — Hall B1

*Support contributed by: The Gruber Foundation*

Signaling Networks That Regulate Synapse Development and Cognitive Function

*Speaker:* Michael E. Greenberg, *Harvard Medical School*

This lecture will discuss how sensory experience controls gene expression to regulate critical steps in synapse and neural circuit development. It will also describe how mutations in components of the signaling networks that mediate sensory experience-dependent gene transcription can lead to neurological disorders such as Rett syndrome.

Saving the Synapse: From Developmental Critical Periods to Alzheimer's Disease

*Speaker:* Carla J. Shatz, *Stanford University*

Neural activity is needed to fine tune brain circuits. MHC Class I molecules and the PirB receptor, thought to function only in immunity, act at neuronal synapses to regulate synapse pruning and plasticity. Changes in expression could contribute to autism and schizophrenia, and possibly to synapse loss in Alzheimer's disease.

**PRESIDENTIAL SPECIAL LECTURE** *McCormick Place*

**192. ● The Molecular Logic of Neural Circuits: Implications for Autism and Schizophrenia** — CME

Sun. 5:15 PM - 6:25 PM — Hall B1

*Speaker:* T. CHRISTIAN SÜDHOF*, Howard Hughes Med. Institute, Stanford Univ. Sch. of Med.*

*Support contributed by: Janssen Research & Development, LLC*

Neural circuits process information by transmitting and computing signals at synapses. The hypothesis is that interactions between trans-synaptic cell-surface molecules, such as neurexins, determine the molecular logic of neural circuits, and that some autism and schizophrenia syndromes are produced by impairments in this molecular logic, as evidenced by neurexin mutations in autism and schizophrenia. With these hypotheses, the lecturer will provide a conceptual framework for understanding neural circuits in health and disease.

**NANOSYMPOSIUM**

**193. Neuronal Lineage Reprogramming**

***Theme A: Development***

Sun. 1:00 PM – *McCormick Place*, N426A

1:00 **193.01** *In vivo* reprogramming of reactive astrocytes to neural progenitors. C. ZHANG*. *UT Southwestern Med. Ctr.*

1:15 **193.02** Direct *in vivo* glia-to-neuron conversion in the postnatal mouse cerebral cortex. S. PERON*; M. KAROW; B. BERNINGER. *Inst. of Physiological Chem., Focus Program Translational Neurosci., Ludwig Maximilian Univ. Munich.*

1:30 **193.03** Sox2-induced conversion of NG2 glia into neurons in the adult cerebral cortex following acute invasive injury. C. HEINRICH; M. BERGAMI; S. GASCÓN; F. VIGANÒ; I. GUILLEMAIN*; L. DIMOU; B. SUTOR; B. BERNINGER; M. GÖTZ. *Grenoble- Inst. of Neurosciences, Inst. of Physiol., Inst. of Physiological Chem.*

1:45 **193.04** The molecular mechanism of fibroblast-to-neuron reprogramming. D. K. SMITH*; C. ZHANG. *Univ. of Texas Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr.*

2:00 **193.05** Neurogenin2-mediated direct *in vivo* reprogramming in adult rat cortex of cortical oligodendrocyte progenitor cells into cytoarchitecturally mature cortical neurons with subtype specification and synaptic contacts in the absence of injury. D. A. PETERSON*; S. BAZAREK; A. MHETA; R. PATEL; C. BRIGGS; S. CHAKROBORTY; E. REISENBIGLER; G. E. STUTZMANN; R. A. MARR. *Rosalind Franklin Univ. Med. Sci.*

2:15 **193.06** *In vivo* reprogramming reactive glia into iPSCs to produce new neurons in the cortex following traumatic brain injury. J. CHEN*; X. GAO. *Indiana Univ.*

2:30 **193.07** ● Rebuilding mouse cortex after ischemic stroke by *in situ* reprogramming reactive astrocytes into functional neurons. Y. CHEN*; G. CHEN. *The Pennsylvania State Univ., The Pennsylvania State Univ.*

2:45 **193.08** Modeling Huntington's disease with striatal neurons directly converted from patient fibroblasts. M. B. VICTOR*; M. RICHNER; A. S. YOO. *Washington Univ. Sch. of Med.*

**NANOSYMPOSIUM**

**194. Synaptic Plasticity: Mechanisms and Modulation**

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

Sun. 1:00 PM – *McCormick Place*, N226

1:00 **194.01** Spatiotemporal activity of PKC isozymes during single spine structural plasticity. L. A. COLGAN*; M. HU; P. PARRA BUENO; R. YASUDA. *Max Planck Florida Inst.*

1:15 **194.02** Heterogeneity of intracellular pH in dendritic spines; potential impact on synaptic signalling and plasticity. T. J. JINADASA*; T. WIESNER; P. DE KONINCK. *Laval Univ.*

1:30 **194.03** Post-synaptic calcium dynamics associated with burst-timing dependent plasticity in the hippocampal CA3 area. K. ALVINA*; S. LUTZU; P. E. CASTILLO. *Albert Einstein Col. of Med., Albert Einstein Col. Medici.*

1:45 **194.04** Direct and indirect CaMKII-mediated activation of LIMK1 in hippocampal synaptic plasticity at glutamatergic synapses. C. RIPOLI*; T. SANEYOSHI; S. FUSCO; C. GRASSI; Y. HAYASHI. *Univ. Cattolica Sch. of Med., RIKEN Brain Sci. Inst., Saitama Univ. Brain Sci. Inst.*

2:00 **194.05** Calpain-mediated formation of protein kinase M during synaptic plasticity in *Aplysia*. M. H. HASTINGS*; C. ABI FARAH; T. W. DUNN; A. FREIBAUER; K. GONG; X. FAN; J. K. BOUGIE; D. BAKER-ANDRESEN; W. S. SOSSIN. *McGill University/Montreal Neurolog. Inst., McGill Univ., McGill Univ.*

2:15 **194.06** ▲ Molecular mechanism of long-term plasticity at synapses between dentate gyrus granule cells and fast-spiking interneurons. T. HAINMÜLLER*; A. KULIK; M. BARTOS. *Univ. of Freiburg, Inst. of Physiol. II.*





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

2:30 **194.07** Electrical stimulation accelerates the rate and capacity of synaptic learning. A. RAHMAN*; M. BIKSON. *The City Col. of The City Univ. of New York, The City Col. of the City Univ. of New York.*

2:45 **194.08** Theta burst firing recruits BDNF release and signaling in postsynaptic CA1 neurons in spike timing-dependent LTP. E. EDELMANN*; E. CEPEDA-PRADO; M. FRANCK; P. LICHTENECKER; T. BRIGADSKI; V. LESSMANN. *Otto-von-Guericke Univ., Ctr. for Behavioral Brain Sci.*

3:00 **194.09** Differences in theta-pulse stimulation induced LTP between dorsal and ventral hippocampus may rely on network properties. W. E. BABIEC*; S. A. JAMI; R. GUGLIETTA; T. J. O'DELL. *UCLA, UCLA, UCLA, UCLA.*

3:15 **194.10** Regulator of G protein signaling 14 (RGS14) interactions with CaM/CaMKII: New insights into synaptic plasticity restriction in hippocampal area CA2. P. R. EVANS*; N. T. SEYFRIED; P. R. GRIFFIN; M. ZHAO; S. M. DUDEK; J. R. HEPLER. *Emory Univ., Emory Univ., The Scripps Res. Inst., Natl. Inst. of Envrn. Hlth. Sci.*

3:30 **194.11** Perineuronal nets in hippocampal area CA2: A role in restricting synaptic plasticity? K. E. CARSTENS; R. J. WEINBERG; S. M. DUDEK*. *Natl. Inst. of Env. Hlth. Sci., NIH, Univ. of North Carolina, Chapel Hill, Univ. of North Carolina, Chapel Hill, Natl. Inst. of Envrn. Hlth. Sci.*

**NANOSYMPOSIUM**

**195. Alzheimer's Disease: Synaptic and Neuronal Dysfunction**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, S401

1:00 **195.01** Grafted bone marrow-derived monocytes and glatiramer acetate maintain cognitive function associated with synaptic preservation in a murine model of AD. M. KORONYO-HAMAOUI*; S. LI; E. Y. HAYDEN; D. DALEY; L. ZUROFF; T. TORBATI; D. FUCHS; J. SHEYN; A. RENTSENDORJ; Y. KORONYO; D. B. TEPLOW; K. L. BLACK. *Cedars-Sinai Med. Ctr., David Geffen Sch. of Med. at UCLA.*

1:15 **195.02** Voltage-gated $Ca^{2+}$ influx plays a role in Aβ1-42-induced depolarization of hypothalamic arcuate NPY neurons. G. WANG*; M. ISHII; M. MCGUIRE; M. PENSACK; J. ANRATHER; C. IADECOLA. *Weill Cornell Med. Col.*

1:30 **195.03** Early alteration of hippocampal neuronal firing induced by Abeta42 oligomers in Alzheimer's disease. A. MARCANTONI; A. ALLIO; C. CALORIO; D. GAVELLO; P. MONTAROLO*; H. MARIE; E. CARBONE. *Torino Univ., Univ. Turin, Inst. de Pharmacologie Moléculaire et Cellulaire (IPMC), CNRS (UMR7275).*

1:45 **195.04** Exercise prevents amyloid-β-induced hippocampal network disruption by inhibiting gsk3β activation. A. GONZÁLEZ ISLA*; F. PEÑA-ORTEGA; F. VAZQUEZ-CUEVAS. *Univ. Nacional Autónoma De México.*

2:00 **195.05** Synaptic function alterations induced by Herpes Simplex Virus type-1 infection *in vitro* depend on Glycogen Synthase Kinase 3 activation and intraneuronal accumulation of amyloid-β protein. R. PIACENTINI*; D. D. LI PUMA; C. RIPOLI; M. E. MARCOCCI; G. DE CHIARA; A. T. PALAMARA; C. GRASSI. *Univ. Cattolica, Med. Sch., Sapienza Univ. of Rome, Natl. Res. Council, Sapienza Univ. of Rome, IRCCS San Raffaele Pisana.*

2:15 **195.06** Expression of micro-RNA-34a in late-onset Alzheimer's disease (LOAD) brain mechanistically links synaptic plasticity and energy metabolism dysfunction via simultaneous repression of target genes. S. N. SARKAR*; S. JUN; S. RELLICK; D. D. QUINTANA; J. W. SIMPKINS. *WEST VIRGINIA UNIVERSITY.*

2:30 **195.07** Presenilin function in the hippocampal schaffer collateral and mossy fiber synapses. S. LEE*; J. GRAW; M. FROTSCHER; J. SHEN. *Brigham & Women's Hospital, Harvard Med. Sch., Ctr. for Mol. Neurobio. Hamburg (ZMNH), Univ. Med. Ctr. Hamburg-Eppendorf.*

2:45 **195.08** Narrowing down a common neurophysiological hallmark of pre-clinical models of dementia. T. L. KERRIGAN*; J. T. BROWN; A. D. RANDALL. *Univ. of Exeter, Inst. of Biomed. and Clin. Services, Sch. of Physiol. and Pharmacol.*

3:00 **195.09** 82-kDa choline acetyltransferase and SATB1 co-locate at synapse and cell-stress related genes after amyloid beta exposure. W. WINICK-NG*; F. A. CAETANO; B. HEIT; J. WINICK-NG; R. RYLETT. *Western Univ., Western Univ., Western Univ., Western Univ.*

3:15 **195.10** p38 MAP kinase-mediated NMDA receptor-dependent suppression of hypersynchronicity in a mouse model of Alzheimer's disease. A. A. ITTNER*; A. GLADBACH; J. BERTZ; L. M. ITTNER. *UNSW Australia.*

3:30 **195.11** Dysregulation of neuronal protein synthesis and mTOR by the amyloid peptide. F. DARCHEN*; Z. JAFFAL; D. KHAMSING; A. SOLTANI; S. LEBRUN; I. FANGET; D. CARREL; C. DESNOS. *Paris Descartes Univ.*

3:45 **195.12** Reduced expression of Phospholipase D (PLD) isoforms in the synaptosomal fractions of the frontal cortex from Alzheimer's disease (AD) patients. B. KRISHNAN*; W. ZHANG; G. TAGLIALATELA. *Univ. of Texas Med. Br. At Galveston.*

**NANOSYMPOSIUM**

**196. Cortical Visual Representations of Scenes**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, S102

1:00 **196.01** Neural dynamics in the cortical representation of scenes. R. M. CICHY*; A. KHOSLA; D. PANTAZIS; A. OLIVA. *MIT, MIT.*

1:15 **196.02** Emergence of scene structure in the human brain: 2d cues to 3d shape are essential for neural representations of scene categories. H. CHOO*; D. B. WALTHER. *Univ. of Toronto.*

1:30 **196.03** Neural and behavioral sensitivity to boundary cues in Williams syndrome. K. FERRARA*; B. LANDAU; S. PARK. *Johns Hopkins Univ.*

1:45 **196.04** The good, the bad and the early: Top-down influence on scene categorization. M. KUMAR*; Y. ZHANG; D. M. BECK; K. D. FEDERMEIER. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*

2:00 **196.05** Multiple landmark codes in the human brain. S. A. MARCHETTE*; L. K. VASS; J. RYAN; R. A. EPSTEIN. *Univ. of Pennsylvania, Univ. of California, Davis.*

2:15 **196.06** Are scene-shape and scene-texture processing mediated by shared or distinct neuronal mechanisms in the parahippocampal place area? J. S. CANT*; M. X. LOWE; J. RAJSIC; J. P. GALLIVAN. *Univ. of Toronto Scarborough, Univ. of Toronto, Queen's Univ.*





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

2:30 **196.07** Semantics, distance, and spatial frequency all describe the same representation in scene-selective areas of the human brain. M. D. LESCROART*; D. E. STANSBURY; J. L. GALLANT. *UC Berkeley, Univ. of California, Berkeley.*

2:45 **196.08** Mapping of scene category, exemplar, and image format representations across the visual system. J. G. KIM*; N. KRIEGESKORTE; S. KASTNER. *Princeton Univ., Med. Res. Council, Princeton Univ.*

3:00 **196.09** Comparing conceptual and cortical visual representations of multidimensional naturalistic images. M. L. KING; D. J. KRAVITZ; C. I. BAKER*. *NIH, The George Washington Univ.*

3:15 **196.10** Conceptual representations of scene categories in prefrontal cortex transcend sensory modalities. Y. JUNG*; B. LARSEN; D. B. WALTHER. *Dept. of Psychology, Univ. of Toronto, Univ. of Pittsburgh.*

3:30 **196.11** Two distinct scene processing networks connecting vision and memory. C. BALDASSANO*; A. ESTEVA; D. M. BECK; L. FEI-FEI. *Princeton Univ., Stanford Univ., Univ. of Illinois at Urbana-Champaign, Stanford Univ.*

**NANOSYMPOSIUM**

**197. Advances in Spinal Cord Injury Research**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, S403

1:00 **197.01** Striking functional characteristics of the lumbar and sacral neuronal circuitries for stepping in the *in vivo* adult spinal rat. P. SHAH*; C. PRESTON; H. ZHONG; R. R. ROY; V. R. EDGERTON; Y. P. GERASIMENKO. *Stony Brook Univ., Univ. of California Los Angeles, Pavlov Inst. of Physiol.*

1:15 **197.02** Enhancing cortical representational plasticity with non-invasive direct current stimulation to accelerate upper limb recovery in quadriplegia. K. A. POTTER-BAKER*; D. P. JANINI; N. M. VARNERIN; D. A. CUNNINGHAM; V. SANKARASUBRAMANIAN; K. E. SAKAIE; F. S. FROST; E. B. PLOW. *Cleveland Clin. Fndn., Cleveland Clin. Fndn., Cleveland Clin. Fndn., Cleveland Clin. Fndn.*

1:30 **197.03** ● A novel method for recording long term EMG activity in the laboratory and at home in individuals with cervical SCI. P. HAAKANA*; D. SAYENKO; A. J. PESOLA; T. FINNI; V. R. EDGERTON; D. C. LU. *UCLA Neurosurg., UCLA, Univ. of Jyvaskyla, UCLA.*

1:45 **197.04** The relationship between gait function and reflex-mediated hypertonia in people with incomplete spinal cord injury. L. D. DUFFELL*; M. M. MIRBAGHERI. *Univ. Col. London, Rehabil. Inst. Chicago.*

2:00 **197.05** ▲ Analysis of cortical plasticity after spinal cord injury using resting state-fMRI. K. MATSUBAYASHI*; A. IWANAMI; J. KOHYAMA; Y. KOMAKI; M. MATSUMOTO; H. OKANO; M. NAKAMURA. *Keio Univ. Sch. of Med., Keio Univ. Sch. of Med., Central Inst. for Exptl. Animals.*

2:15 **197.06** Spinal cord epidural stimulation and climb training enhance axon regeneration in rats transplanted with olfactory ensheathing cells after a complete spinal cord transection. A. K. YEUNG; G. GARCIA-ALIAS; K. G. GRIFFIS; R. R. KHANKAN; H. ZHONG; R. R. ROY*; P. E. PHELPS; V. EDGERTON. *UCLA.*

2:30 **197.07** ● Non-invasive approaches of neural locomotor network activation in non-injured subjects placed in vertical suspended position. P. GAD*; D. SAYENKO; Z. MCKINNNEY; R. GORODNICHEV; T. MOSHONKINA; I. KOZLOVSKAYA; V. EDGERTON; Y. GERASIMENKO. *Univ. Of California Los Angeles, Univ. Of California Los Angeles, Vehlie Lukie Sports Inst., Pavlov Inst. of Physiol., Inst. of Biomed. Problems.*

2:45 **197.08** ● Buspirone treatment promotes forelimb functional recovery in cervical spinal cord injured rats. B. JIN; M. ALAM; G. GARCIA-ALIAS; Y. GERASIMENKO; H. ZHONG; R. ROY; D. LU; V. EDGERTON*. *UCLA, UCLA.*

3:00 **197.09** ● Epidural spinal cord stimulation improves forelimb reaching and grasping in cervical spinal cord injured rats. M. ALAM*; B. JIN; G. GARCIA-ALIAS; Y. GERASIMENKO; H. ZHONG; R. ROY; D. LU; R. EDGERTON. *Univ. of California Los Angeles, Univ. of California Los Angeles.*

3:15 **197.10** Ankle Foot Orthosis: Effects on the gait of children with myelomeningocele under a dual task paradigm. N. PIROUZ; T. KARAKOSTAS*; B. MALAS. *Lurie Children's Hosp. of Chicago, Rehabil. Inst. of Chicago, Lurie Children's Hosp. of Chicago, Northwestern Univ.*

3:30 **197.11** Effects of varying bone marrow-derived MSC concentrations and transplant locations for reducing motor and morphological deficits in a rat model of spinal cord injury. J. J. MATYAS*; A. STEWART; A. GOLDSMITH; S. ZEILER; Z. NAN; J. ROSSIGNOL; G. DUNBAR. *Field Neurosciences Inst. Lab. for Resto, Field Neurosciences Inst. for Restorative Neuroscence, Field Neurosciences Inst. for Restorative Neuroscence, Field Neurosciences Inst. for Restorative Neuroscence.*

**NANOSYMPOSIUM**

**198. Neuroinflammation and Diseases**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

Sun. 1:00 PM – *McCormick Place*, S404

1:00 **198.01** Hypertension and peripheral inflammation during pregnancy is associated with postpartum depression and anxiety-like behavior in rats. K. L. WALLACE*; T. BOWLES; S. SPENCER; C. BEAN. *Univ. MS Med. Ctr.*

1:15 **198.02** Activation of the brain's reward system attenuates tumor growth in mice. F. HAKIM*; T. BEN SHANNAN; M. SCHILLER; H. AZULAY-DEBBY; J. SHAKYA; M. RAHAT; A. ROLLS. *Rambam Hlth. Care Campus, Tecnion, Israel Inst. of Technol., Tecnion, Israel Inst. of Technol.*

1:30 **198.03** Ganciclovir modulates microglia using the innate immune adaptor STING. V. MATHUR*; D. DO; J. SHEN; R. BURAI; H. LASHUEL; T. WYSS-CORAY. *Stanford Univ., Palo Alto Veterans Inst. for Res., Ecole Polytechnique Fédérale de Lausanne.*

1:45 **198.04** Prenatal exposure to ethanol increases ethanol intake in pubertal offspring: Possible role of CCL2/CCR2 chemokine system in stimulating neurogenesis of orexigenic peptide-expressing neurons. G. CHANG; O. KARATAYEV; S. F. LEIBOWITZ*. *Rockefeller Univ.*





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

2:00 **198.05** Effect of maternal AQP4-IgG antibody transfer in Neuromyelitis optica pregnancies. S. MADER*; L. BRIMBERG; J. M. CRAWFORD; A. BONNIN; J. L. BENNETT; P. HUERTA; B. T. VOLPE; B. DIAMOND. *The Feinstein Inst. For Med. Res., Hofstra North Shore–LIJ Sch. of Med., Keck Sch. of Med. of the Univ. of Southern California, Los Angeles, Univ. of Colorado Sch. of Med.*

2:15 **198.06** Breaking immune tolerance by targeting Foxp3+CD4+ regulatory T cells mitigates Alzheimer's disease pathology. K. BARUCH*; N. ROSENZWEIG; A. KERTSER; A. DECZKOWSKA; M. SCHWARTZ. *Weizmann Inst. of Sci.*

2:30 **198.07** Modulation of soluble TNF signaling alters CNS immune cell populations and rescues impaired synaptic plasticity in 5xFAD mice. K. P. MACPHERSON*; P. SOMPOL; G. T. KANNARKAT; J. CHANG; C. NORRIS; M. G. TANSEY. *Emory Univ., Univ. of Kentucky Col. of Med.*

2:45 **198.08** Elucidating adaptive roles of microglia in chronically stressed mice. M. L. LEHMANN*; H. A. COOPER; M. A. HERKENHAM. *NIH.*

3:00 **198.09** Acute and long-term neurological consequences of non-cerebral mild murine malarial infection. S. K. GUHA*; R. TILLU; I. SARKAR; A. SOOD; M. PATGAONKAR; A. SENGUPTA; I. NANAVATY; S. SHARMA; V. A. VAIDYA; S. PATHAK. *Tata Inst. of Fundamental Res.*

3:15 **198.10** Anoctamin 2 as an autoimmune target in multiple sclerosis. P. NILSSON*; B. AYOGLU; N. MITSIOS; M. KHADEMI; I. KOCKUM; M. UHLEN; J. MULDER; J. SCHWENK; T. OLSSON. *KTH - Royal Inst. of Technol., KTH - Royal Inst. of Technol., Karolinska Institutet, Karolinska Institutet.*

3:30 **198.11** Lupus antibodies to the NMDA receptor cause structural and functional neuronal changes. B. T. VOLPE*; E. CHANG; M. MACKAY; C. KOWAL; C. ARANOW; P. WATSON; J. STORBECK; P. MATTIS; P. HUERTA; B. DIAMOND. *Feinstein Inst. For Med. Res., Zucker Hillside Hosp., Queens Col.*

3:45 **198.12** The astrocyte circadian clock regulates neuroinflammation and neuronal injury. B. V. LANANNA*; D. D. XIONG; M. IZUMO; A. CAMMACK; J. S. TAKAHASHI; E. H. HERZOG; E. S. MUSIEK. *Washington Univ. in St Louis, UT Southwestern.*

4:00 **198.13** MyD88 signaling regulates ethanol-induced immune response in the CNS of adult mice. P. D. DREW*; K. D. PHELAN; J. C. DOUGLAS; J. JOHNSON; C. J. M. KANE. *Univ. Arkansas Med. Sci.*

4:15 **198.14** Neuronal SH-SY5Y cells display different innate immune response to ethanol and TLR3/4 stimulation compared to microglial BV2 cells. C. J. LONERGAN*; F. T. CREWS. *UNC Chapel Hill.*

**NANOSYMPOSIUM**

**199. Sleep System and Regulation**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

Sun. 1:00 PM – *McCormick Place*, S405

1:00 **199.01** Generation of homeostatic sleep signals in segregated synaptic microcircuits of the *Drosophila* mushroom body. D. SITARAMAN*; Y. ASO; N. CHEN; G. RUBIN; M. NITABACH. *Univ. of San Diego, Janelia Res. Campus, HHMI, Yale Univ.*

1:15 **199.02** Inducible knockout of Bmal1 in skeletal muscle alters both circadian and sleep homeostatic processes. A. J. BRAGER*; E. OLIVER; J. EHLEN; K. ESSER; K. PAUL. *Morehouse Sch. of Med., Univ. of Kentucky Col. of Med.*

1:30 **199.03** ▲ Is there enough information in the electrocardiogram (ECG) to determine sleep stage? A. M. JONES*; B. R. SHETH. *Univ. of Houston, Univ. of Houston.*

1:45 **199.04** Sleep Wave Analysis: A toolbox for the detection and analysis of the waves in sleep. A. MENSEN*; B. RIEDNER; G. TONONI. *Ctr. For Sleep and Consciousness, Ctr. for Sleep and Consciousness.*

2:00 **199.05** A beta-theta frontal network during REM sleep in humans. S. VIJAYAN*; K. LEPAGE; N. KOPELL; S. S. CASH. *Boston Univ., Harvard Med. Sch.*

2:15 **199.06** Sleep spindle sources in relation to memory consolidation deficits in schizophrenia: Insights from high-density EEG sleep recordings in humans. C. DEMANUELE*; M. HAMALAINEN; B. BARAN; I. F. KARAHANOGLU; M. LUESSI; T. C. VUPER; R. A. FOWLER; D. CORRELL; B. SEICOL; C. CALLAHAN; E. PARR; S. KHAN; N. DEHGHANI; R. STICKGOLD; D. S. MANOACH. *Athinoula A. Martinos Ctr. For Biomed. Imagin, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Beth Israel Deaconess Med. Ctr., Wyss Inst. for Biologically-Inspired Engin. at Harvard Univ.*

2:30 **199.07** Single neuron activity and eye movements during human REM sleep and awake vision. Y. NIR*; T. ANDRILLON; C. CIRELLI; G. TONONI; I. FRIED. *Tel Aviv Univ., Ecole Normale Superieure, Univ. of Wisconsin-Madison, David Geffen Sch. of Med. and Semel Inst. For Neurosci. and Human Behavior, UCLA, Tel Aviv Med. Ctr. and Sackler Sch. of Medicine, Tel Aviv Univ.*

2:45 **199.08** Neural mechanisms of perceptual learning and suppression of novel information during sleep. T. ANDRILLON*; D. PRESSNITZER; D. LÉGER; S. KOUIDER. *Ecole Normale Superieure, Ecole Normale Superieure, Univ. Paris-Descartes.*

3:00 **199.09** A causal role of VTA-dopaminergic neurons in sleep-wake regulation. A. EBAN-ROTHSCHILD*; W. J. GIARDINO; L. DE LECEA. *Stanford Univ.*

3:15 **199.10** The F-actin severing protein cofilin is the critical mediator of memory deficits, LTP impairments, and spine loss associated with sleep deprivation. R. HAVEKES*; A. J. PARK; S. L. FERRI; V. M. BRUINENBERG; J. C. TUDOR; J. P. DAY; S. G. POPLAWSKI; S. ATON; K. RADWANSKA; P. MEERLO; M. D. HOUSLAY; G. BAILLIE; T. ABEL. *Univ. of Pennsylvania, Univ. of Groningen, Univ. of Glasgow, Univ. of Michigan, Head Nincki Inst. of experimental Biol., Kings Col. London.*

3:30 **199.11** The differential effects of emotional salience on direct associative and relational memory during a nap. S. E. ALGER*; J. D. PAYNE. *Univ. of Notre Dame.*

3:45 **199.12** Sleep in preindustrial societies: Human sleep under evolutionarily relevant conditions. J. M. SIEGEL*; G. YETISH; H. KAPLAN; M. GURVEN; B. WOOD; H. PONTZER; P. MANGER; C. WILSON; R. MCGREGOR. *Univ. California Los Angeles, Univ. of New Mexico, Univ. of New Mexico, Univ. of California, Santa Barbara, Yale Univ., Hunter Col., Univ. of the Witwatersrand, Univ. of California at Los Angeles, Univ. of California at Los Angeles.*

4:00 **199.13** ● Cell-type specific translational profiling during sleep-dependent memory consolidation. T. KARIHARAN*; S. J. ATON. *Univ. of Michigan.*





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

4:15 **199.14** Motor schemas enhance procedural learning speed and sleep-related memory consolidation. M. DRESLER*; N. C. J. MÜLLER; L. GENZEL; B. KONRAD; M. PAWLOWSKI; D. NEVILLE; G. FERNÁNDEZ; A. STEIGER. *Max Planck Inst. of Psychiatry, Donders Inst., Univ. of Edinburgh.*

**NANOSYMPOSIUM**

**200. Assessment and Modulation of Human Working Memory**

***Theme F: Cognition and Behavior***

Sun. 1:00 PM – *McCormick Place*, N227

1:00 **200.01** Multivariate assessment of biased competition in human visual attention. E. SAAD*; M. STARRETT; J. LAROCQUE; N. ROSE; B. POSTLE. *Dept. of Psychiatry, Univ. of Wisconsin, Univ. of Wisconsin Madison.*

1:15 **200.02** Neural correlates of dynamic updating in visual working memory in parietal and frontal cortices. Q. YU*; W. SHIM. *Dartmouth Col.*

1:30 **200.03** Decoding reveals superior IPS VSTM representation tracks the behaviorally perceived contents of VSTM. Y. XU*; K. C. BETTENCOURT. *Harvard Univ.*

1:45 **200.04** Blood and brain correlates of cognitive deficits in HIV infection. N. M. ZAHR*; R. FAMA; T. ROHLFING; E. V. SULLIVAN; A. PFEFFERBAUM. *Stanford Univ. Sch. of Med., SRI Intl.*

2:00 **200.05** Performance of discrete versus continuous neural coding protocols. J. TEE*; L. T. MALONEY. *New York Univ., New York Univ., New York Univ.*

2:15 **200.06** Image size has significant and widespread effects on human single neuron firing rates. P. N. STEINMETZ*; J. KINNISON; L. PESSOA. *Nakamoto Brain Res. Inst., Univ. of Maryland, Col. Park.*

2:30 **200.07** Testosterone moderates cognitive performance after a 10 week exercise program in primary school. H. BUDDE*; F. KOUTSANDRÉOU; M. WEGNER. *Med. Sch. Hamburg, Reykjavik Univ., Univ. of Bern.*

2:45 **200.08** Gating of feature specific activity during a working memory task. M. LESZCZYNSKI*; A. JAHANBEKAM; J. FELL; O. JENSEN; N. AXMACHER. *Univ. of Bonn, Ruhr Univ. Bochum, Radboud Univ.*

3:00 **200.09** Distinct oscillatory effects of load on working memory for spatial relations vs. locations. K. J. BLACKER*; A. VERGARA; J. B. EWEN; S. M. COURTNEY. *Johns Hopkins Univ., Kennedy Krieger Inst., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Kennedy Krieger Inst.*

3:15 **200.10** Contribution of phase amplitude theta-gamma coupling to visual working memory maintenance of non-serially presented items. N. POLIZZOTTO*; N. RAMAKRISHNAN; C. WALKER; K. FISSEL; E. BELCHER; R. CHO. *UTHSC-H, Univ. of Pittsburgh, Univ. of Rochester.*

3:30 **200.11** Working memory and crossmodal plasticity in congenitally deaf individuals. V. CARDIN*; M. RUDNER; R. F. DE OLIVEIRA; J. ANDIN; L. BEESE; B. WOLL; J. RONNBERG. *Univ. Col. London, Linkoping Univ., London South Bank Univ.*

3:45 **200.12** Navigated transcranial magnetic stimulation of prefrontal cortex modulates tactile working memory. J. GOGULSKI; R. ZETTER; A. PERTOVAARA*; S. CARLSON. *Fac Med. Univ. Helsinki, Aalto Univ. Sch. of Sci., Aalto Univ. Sch. of Sci.*

4:00 **200.13** Regulation of working memory activity through fMRI neurofeedback. M. VAN DEN BOOM*; M. JANSMA; N. F. RAMSEY. *Univ. Med. Ctr. Utrecht.*

4:15 **200.14** ● Preparatory oscillatory activity to encode spatial, temporal and item information during a working memory task. Y. YICK*; F. TAYA; J. LIM; J. DE SOUZA; Y. SUN; A. BEZERIANOS; A. CHEN. *Nanyang Technological Univ., Natl. Univ. of Singapore.*

**NANOSYMPOSIUM**

**201. Executive Function: Learning and Memory**

***Theme F: Cognition and Behavior***

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

1:00 **201.01** Network constraints dictate the timescale of learning new brain-computer interfaces. E. R. OBY*; A. DEGENHART; E. TYLER-KABARA; B. YU; A. BATISTA. *Univ. of Pittsburgh, Carnegie Mellon Univ.*

1:15 **201.02** Working memory related neuronal activity in early auditory cortex. M. BROSCH*; Y. HUANG. *Leibniz Inst. für Neurobiologie.*

1:30 **201.03** Distinct timescales of cortical reorganization in a long-term learning task. X. ZHOU*; R. TIEN; S. M. CHASE. *Carnegie Mellon Univ., Ctr. for the Neural Basis of Cognition, Univ. of Pittsburgh.*

1:45 **201.04** ▲ Early postnatal nociceptive stimulation results in deficits of spatial memory in male rats. L. COVOLAN*; C. T. AMARAL; B. ANTONIO; M. G. M. OLIVEIRA; R. GUINSBURG. *Univ. Federal Sao Paulo.*

2:00 **201.05** A comparison of reward prediction error and value encoding during new associative learning in the primate hippocampus and striatum. S. KU*; E. L. HARGREAVES; W. A. SUZUKI. *New York Univ., Robert Wood Johnson Med. Sch.*

2:15 **201.06** Cognitive emotion regulation affects prediction error-related activity and connectivity in a VST-centered network of motivated behavior. S. MULEJ BRATEC*; X. XIE; Y. WANG; G. SCHMID; C. ZIMMER; A. WOHLSCHLAEGER; V. RIEDL; C. SORG. *Klinikum Rechts Der Isar Der TU Muenchen, Ludwig-Maximilian-Universitaet Muenchen, Ludwig-Maximilian-Universitaet Muenchen, Duke-NUS Grad. Med. Sch. Singapore, Klinikum Rechts Der Isar Der TU Muenchen.*

2:30 **201.07** Correlated variability and the fidelity of prefrontal working memory representations. M. LEAVITT*; A. J. SACHS; J. C. MARTINEZ-TRUJILLO. *McGill Univ., Ottawa Hosp. Res. Institute, Univ. of Ottawa, Robarts Res. Institute, Univ. of Western Ontario, McGill Univ.*

2:45 **201.08** Neural mechanisms of Social comparison on cooperative decision-making. X. GONG*; A. G. SANFEY. *Donders Institute, Radboud Univ. Nijmegen.*





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

**NANOSYMPOSIUM**

**202. Genomic and Systems Level Analyses of Neurologic Disease**

***Theme G: Novel Methods and Technology Development***

Sun. 1:00 PM – *McCormick Place*, N230

1:00 **202.01** Defining global histone H3 lysine 4 trimethylation (H3K4Me3) changes in the postmortem brain of alcoholics using ChIP-seq. K. MARBALLI*; S. P. FARRIS; R. D. MAYFIELD; A. WEBER-HALL; A. BATTENHOUSE; V. IYER; R. A. HARRIS; I. PONOMAREV. *Univ. of Texas At Austin, Univ. of Texas At Austin.*

1:15 **202.02** Identifying subpopulations in iPSC-derived cortical neurons using single-cell analysis of gene expression. M. N. SHELTON*; R. BARGAJE; K. TRACHANA; C. CHADICK; A. FOUQUIER D'HEROUEL; S. HUANG; L. HOOD. *Inst. For Systems Biol., Univ. of Luxembourg.*

1:30 **202.03** Dysregulation of the coding and noncoding transcriptome in autism. V. SWARUP*; N. N. PARIKSHAK; T. G. BELGARD; S. HORVATH; D. H. GESCHWIND. *Univ. of California At Los Angeles, Univ. of California At Los Angeles.*

1:45 **202.04** Genome-scale transcriptional regulatory network analysis reveals transcription factors involved in the progression of Huntington's disease. J. R. PEARL*; S. A. AMENT; C. L. PLAISIER; R. BRAGG; P. J. SKENE; A. GRINDELAND; G. CARLSON; N. GOODMAN; V. WHEELER; M. E. MACDONALD; J. CARROLL; N. S. BALIGA; L. E. HOOD; N. D. PRICE. *Univ. of Washington, Inst. for Systems Biol., Western Washington Univ., Fred Hutchinson Cancer Res. Ctr., McLaughlin Res. Inst., Ctr. for Human Genet. Res. Massachusetts Gen. Hosp.*

2:00 **202.05** Brain-specific DNA methylation signatures of escape from X chromosome inactivation in the mouse frontal cortex. C. L. KEOWN*; J. B. BERLETCH; C. M. DISTECHE; J. R. ECKER; E. A. MUKAMEL. *UCSD, Computat. Neural Data and Dynamics Lab., Univ. of Washington, Univ. of Washington, The Salk Inst. for Biol. Studies, UCSD.*

2:15 **202.06** The C677T variant in MTHFR modulates associations between cognitive functioning and mood scores in old age: Implications for vascular risk factors as treatment targets for both age-related cognitive decline and geriatric depression. F. F. ROUSSOTTE*; K. L. NARR; P. M. THOMPSON. *UCLA, USC.*

2:30 **202.07** Gene network dynamics in the transition from wellness to neurodegenerative disease. S. A. AMENT*; J. R. PEARL; S. HUANG; N. GOODMAN; L. E. HOOD; N. D. PRICE. *Inst. For Systems Biol., Univ. of Washington, Inst. For Systems Biol.*

2:45 **202.08** ● Circuit-specific drug target identification by single-cell transcriptomics in adult rodent brain. T. PORTMANN*; H. HO; I. GALLAGER; D. ZWILLING; H. LEE; E. ZHAO; V. GONTCHAROVA; K. R. THOMPSON; S. P. BRAITHWAITE. *Circuit Therapeutics, Inc.*

3:00 **202.09** Proteome-wide effects of down syndrome explored with human induced pluripotent stem cell-derived cerebral organoids. T. D. MCCLURE-BEGLEY*; M. KLYMKOWSKY; C. E. EBMEIER; K. BALL; W. OLD. *Univ. of Colorado.*

3:15 **202.10** Proteomic maps of the excitatory and inhibitory synaptic clefts via peroxidase-mediated biotinylation in living neurons. K. LOH*; P. A. STAWSKI; N. D. UDESHI; T. SVINKINA; T. J. DEERINCK; M. ELLISMAN; S. A. CARR; A. Y. TING. *MIT, Broad Inst., UC San Diego.*

3:30 **202.11** Cell-type specific transcriptome profiling in the adult mouse striatum. N. DEGLON*; C. MEUNIER; A. ROCHER; L. PELLERIN; J. CHATTON; N. MERIENNE. *Lausanne Univ. Hosp. (CHUV), Univ. of Lausanne, Univ. of Lausanne.*

3:45 **202.12** The coding and noncoding landscape of nuclear transcription in neurons and glia. J. D. DOUGHERTY*; D. O'BRIEN; N. PISAT; J. DALAL; A. REDDY. *Washington Univ. Sch. of Med.*

4:00 **202.13** ● Identification of proteins enriched in axons of cultured rat cortical neurons by stable isotopic dimethyl labeling. C. CHUANG*. *Natl. Tsing Hua University/Molecular Med.*

**DYNAMIC POSTERS**

**DP03. Dynamic Posters–Sunday Afternoon**

Sun. 1:00 PM – *McCormick Place*, Hall A

*All dynamic poster presentations will take place during the full four-hour session time. The theme of the dynamic poster being presented is indicated by the letter in the leftmost column.*

A DP01 **DP03.01** Exploring the role of SRGAP2A and its human-specific paralog SRGAP2C during synaptic development of cortical circuits. *E. SCHMIDT; J. KUPFERMAN; D. IASCONE; C. CHARRIER; F. POLLEUX. *Dept. of Neurosci., Columbia Univ., Inst. de Biologie de l'ENS (IBENS).*

C DP02 **DP03.02** Dynamics of focal damage and repair of human myelin in chimeric mice assessed by longitudinal quantitative MRI. *A. ARNOLD; Q. LI; J. ZHANG; W. LI; G. LIU; M. JANOWSKI; P. WALCZAK. *Dept. of Radiology, Inst. For Cell Engineering, The Johns Hopkins Univ., Kirby Res. Ctr. for Functional Brain Imaging, Kennedy Krieger Inst., NeuroRepair Dept., Dept. of Neurosurg., Mossakowski Med. Res. Centre, Polish Acad. of Sci., Dept. of Radiology, Fac. of Med. Sciences, Univ. of Warmia and Mazury.*

D DP03 **DP03.03** Population-wide odor representations in olfactory cortex are state-dependent. *S. PASHKOVSKI; S. R. DATTA. *Harvard Med. Sch.*

D DP04 **DP03.04** Predictive information in cortical MT neurons and gaze behavior in monkeys and humans. *S. LEE; S. E. PALMER; L. C. OSBORNE. *Dept. of Neurobio., Dept. of Organismal Biol. and Anat., Univ. of Chicago.*

D DP05 **DP03.05** Different population dynamics in primary motor cortex and the supplementary motor area. *M. M. CHURCHLAND; A. H. LARA; J. P. CUNNINGHAM. *Columbia Univ.*

E DP06 **DP03.06** Two-photon imaging of cerebral blood flow dynamics, blood clot formation and leukocyte adhesion after experimental stroke. *Y. NISHIJIMA; Y. AKAMATSU; Y. FU; N. NISHIMURA; C. B. SCHAFFER; M. P. STRYKER; J. LIU. *Dept. of Neurolog. Surgery, UCSF and SFVAM, Ctr. for Integrative Neuroscience, Dept. of Physiol., UCSF, Dept. of Biomed. Engin., Cornell Univ.*

G DP07 **DP03.07** Rapid, multiplexed generation of biallelic, gene-deleted human pluripotent stem cells using CRISPR/Cas9. *K. SAHA; J. CARLSON-STEVERMER; M. GOEDLAND; R. PRESTIL; B. STEYER; N. ANGENENT-MARI. *Univ. of Wisconsin-Madison.*



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* Indicates abstract's submitting author

G DP08 **DP03.08** Label-free imaging of action potentials in mammalian neurons by stimulated raman scattering microscopy. H. LEE; D. ZHANG; P.-Y. SHIH; B. LIU; C.-S. LIAO; X. WU; X.-M. XU; R. M. DRENAN; *E. L. BARTLETT; J.-X. CHENG. *Weldon Sch. of Biomed. Engin., Dept. of Medicinal Chem. and Mol. Pharmacol., Purdue Univ., Dept. of Anat. and Cell Biol., Indiana University-Purdue Univ. Indianapolis.*

G DP09 **DP03.09** Large-scale mapping of activity and structure in a simplified three-layered cortex. M. SHEIN-IDELSON; M. HEMBERGER; L. PAMMER; *G. J. LAURENT. *Max-Planck Inst. For Brain Res.*

H DP10 **DP03.10** How to teach fMRI and Retintotopic mapping? Introducing stimBOLD: A simple to use but scientifically sound simulation of fMRI in early visual cortex. *M. M. SCHIRA; K. M. AQUINO. *Univ. of Wollongong, Neurosci. Res. Australia, Sch. of Physics, Univ. of Sydney.*

**POSTER**

**203. Oligodendrocyte Differentiation**

***Theme A: Development***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 A1 **203.01** Investigating the role of MAPK and AKT pathways downstream of Shp2 signaling in oligodendrocyte progenitor cell generation in the telencephalon. R. R. WACLAW*; V. KOHLI; D. NARDINI; B. DASGUPTA; L. EHRMAN. *Cincinnati Children's Hosp. Med. Ctr., Cincinnati Children's Hosp. Med. Ctr.*

2:00 A2 **203.02** Stage-dependent functions of the wnt effector tcf7l2 mediated by interaction with distinct partners control oligodendrocyte lineage progression. C. ZHAO*; Y. DENG; W. LIU; Q. LU. *Cincinnati Children's Hosp. Med. Ctr., State Key Lab. of Biotherapy Collaborative Innovation Ctr. for Biotherapy, West China Second Hosp. Sichuan Univ., Cincinnati Children's Hosp. Med. Ctr.*

3:00 A3 **203.03** Topographical organisation of oligodendrocytes in the mouse corpus callosum - establishment, regeneration and modulation by electrical activity. P. T. RÖTH; S. MITEW; Y. L. XING; J. S. STRATTON; B. H. CHUANG; R. B. TRIPATHI; I. GOBIUS; W. D. RICHARDSON; L. J. RICHARDS; B. EMERY; T. J. KILPATRICK; T. D. MERSON*. *Florey Inst. of Neurosci. and Mental Hlth., Univ. of Melbourne, Wolfson Inst. for Biomed. Res., Queensland Brain Inst., Jungers Ctr. for Neurosciences Res.*

4:00 A4 **203.04** Oligodendrocyte differentiation deficits induced by oxidative stress are not rescued by monomethyl fumarate (mmf), the active metabolite of an ms therapeutic. B. K. JENSEN*; K. L. JORDAN-SCIUTTO; J. B. GRINSPAN. *Univ. of Pennsylvania, Univ. of Pennsylvania, Children's Hosp. of Philadelphia.*

1:00 A5 **203.05** Phosphorylation state of ZFP191 regulates maturation of late-stage oligodendrocytes. B. ELBAZ*; J. D. AAKER; B. POPKO. *Univ. of Chicago.*

2:00 A6 **203.06** FGF-2 signal promotes the proliferation of cerebellar progenitor cells and their oligodendrocytic differentiation at early postnatal stage. M. NARUSE*; K. SHIBASAKI; Y. ISHIZAKI. *Gunma Univ. Grad. Sch. of Med.*

3:00 A7 **203.07** *In vivo* role of p38alpha mitogen activated protein kinase in oligodendrocyte development and myelination. S. CHUNG*; S. BISWAS; J. SOHN; P. JIANG; C. CHEN; F. CHMILEWSKY; W. AYAZ; H. MARZBAN; W. DENG. *Univ. of Illinois At Chicago, Univ. of California, Davis, Inst. for Pediatric Regenerative Medicine, Shriners Hosp. for Children, Univ. of Manitoba.*

4:00 A8 **203.08** The role of histone methyltransferase Ezh2 in oligodendrocyte progenitor cell proliferation and differentiation. K. PATEL*; J. LIU; S. MOYON; P. CASACCIA; A. NISHIYAMA. *Univ. of Connecticut, Icahn Sch. of Med. at Mount Sinai.*

1:00 A9 **203.09** Signaling pathways underlying Neurobasal-A medium-promoted oligodendrocyte differentiation from human neural stem cells. P. WU*; L. WANG; J. GAO; Y. HAO; T. DUNN; E. MCGRATH; J. ALLENDE LABASTIDA; S. FENG; S. LIU. *UTMB, Sun Yat-sen Univ., Tianjin Med. Univ. Gen. Hosp.*

2:00 A10 **203.10** Mir-212 regulates glial differentiation and maturation. S. TZENG*. *Natl. Cheng Kung Univ.*

3:00 A11 **203.11** Ampa receptor inhibition promotes myelination in preterm rabbits with intraventricular hemorrhage. P. BALLABH*; P. DOHARE; G. VINUKONDA. *New York Med. Coll.*

4:00 A12 **203.12** Sox17-mediated oligodendrocyte regeneration and protection involves coordinated stage-specific alterations in Hedgehog and Wnt signaling. L. CHEW*; X. MING; J. DUPREE; V. GALLO. *Children's Res. Inst., Virginia Commonwealth Univ.*

1:00 A13 **203.13** Distinctions between fetal and adult human OPCs in miRNA-regulated gene expression. N. J. KUYPERS*; M. OSIPOVITCH; A. CORNWELL; D. CHANDLER-MILITELLO; S. SCHANZ; S. WANG; S. A. GOLDMAN. *Univ. of Rochester Med. Ctr., Univ. of Copenhagen.*

2:00 A14 **203.14** Dnmt3a regulates expression of myelin related genes during the differentiation of OPCs. X. CHEN; Y. WANG; L. XIAO*. *Dept. of Histology and Embryology, Third Military Med. Univ.*

3:00 A15 **203.15** $S1P_1$ deficiency in oligodendroglial lineage cells: Effect on differentiation and myelination. D. DUKALA; S. QUAN; B. SOLIVEN*. *Univ. of Chicago.*

4:00 A16 **203.16** ● Endocannabinoid signaling in oligodendrocyte maturation and myelination. S. M. O'NEILL*; J. R. PIRO; K. MOU; T. A. SAMAD. *Pfizer Neurosci. & Pain Res. Unit.*

1:00 A17 **203.17** White matter degeneration and aberrant oligodendrocyte differentiation during the progress of Alzheimer's disease. K. TSE*; A. CHENG; H. CHOW; K. HERRUP. *The Hong Kong Univ. of Sci. and Technol.*

2:00 A18 **203.18** Histone deacetylase 3 activates olig2 and suppresses jak-stat signaling to establish and maintain oligodendrocyte lineage progression. Z. LIGUO*; X. HE; L. LIU; M. JIANG; R. LU. *Cincinnati Children's Hosp. Med. Ctr.*

3:00 A19 **203.19** The RNA binding protein QKI stabilizes SIRT2 transcripts and promotes SIRT2 expression during oligodendrogenesis. M. P. THANGARAJ*; J. R. DOUCETTE; S. JI; A. J. NAZARALI. *Univ. of Saskatchewan, Anat. and Cell Biology., Univ. of Saskatchewan, Cameco Multiple Sclerosis Neurosci. Res. Ctr., Biochemistry, Univ. of Henan.*



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* Indicates abstract's submitting author

4:00 A20 **203.20** Identifying genes implicated in oligodendrocyte progenitor cell differentiation after white matter stroke using complementary *in vitro* screening systems. D. J. DITULLIO*; S. T. CARMICHAEL. *UCLA, David Geffen Sch. of Medicine, Univ. of California, Los Angeles, David Geffen Sch. of Medicine, Univ. of California, Los Angeles.*

1:00 A21 **203.21** Withdrawn.

2:00 A22 **203.22** Oligodendrocyte generation dynamics in multiple sclerosis. M. YEUNG*; S. ZDUNEK; S. BERNARD; M. SALEHPOUR; K. ALKASS; G. POSSNERT; H. DRUID; L. BRUNDIN; J. FRISÉN. *Karolinska Institutet, Dept. of Cell and Mol. Biol., Inst. Camille Jordan, Univ. of Lyon, Uppsala University, Dep. of Physics and Astronomy, Ion Physics, Karolinska Institutet, Dept. of Forensic Med., Karolinska Institutet, Karolinska Univ. Hosp.*

**POSTER**

**204. Molecular Mechanisms of Synapse Formation**

***Theme A: Development***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 A23 **204.01** Developmental deficits in auditory cortex of a fragile x syndrome mouse model. I. M. ETHELL*; T. WEN; S. REINHARD; H. SIDHU; K. TAPIA; D. BINDER; K. RAZAK. *Univ. California Riverside, Univ. of California Riverside, Univ. of California Riverside.*

2:00 A24 **204.02** Auditory fear extinction learning in fmr1 and mmp-9 knockout mice. S. AFROZ*; S. REINHARD; I. ETHELL; K. RAZAK. *Univ. of California Riverside, Univ. of California Riverside.*

3:00 A25 **204.03** Linking sensory experience to abnormal synaptic development in the Fmr1 knockout mouse model of Fragile X Syndrome. E. ARROYO*; D. FIOLE; C. HUANG; C. PORTERA-CAILLIAU. *UCLA.*

4:00 A26 **204.04** Autism-associated mutation inhibits protein kinase C mediated neuroligin-4X enhancement of excitatory synapses. M. A. BEMBEN*; Q. NGUYEN; T. WANG; Y. LI; R. A. NICOLL; K. W. ROCHE. *NIH, Univ. of California, San Francisco, NIH.*

1:00 A27 **204.06** Transcriptional regulation of the rim1 promoter by neurod1. T. LEE; I. CHO; S. LEE; J. CHOI; Y. LEE; S. KIM; H. K. SUH-KIM*. *Ajou Univ, Sch. Med., Dept. of Biomed. Sci.*

2:00 A28 **204.07** Taurine increases neurite outgrowth and promotes synapse development in the central nervous system. F. XU*; K. MA; M. QAZZAZ; N. I. SYED. *Univ. of Calgary, St. Louis Univ.*

3:00 A29 **204.08** The adaptor protein complex AP-1 modulates synaptogenesis in hippocampal neurons through sorting of neuroligin 1. L. E. CUITINO*; S. JAIN; G. FARIAS; J. S. BONIFACINO. *NIH.*

4:00 A30 **204.09** S-nitrosylation-dependent proteasomal degradation restricts Cdk5 activity to regulate hippocampal synaptic strength. A. FU*; P. ZHANG; W. FU; N. Y. IP. *The Hong Kong Univ. of Sci. and Technol., The Hong Kong Univ. of Sci. and Technol., The Hong Kong Univ. of Sci. and Technol.*

1:00 A31 **204.10** Identification of the genetic factors underlying cell-type specific synaptic organization of developing visual cortex. J. TOMORSKY*; C. DOE; C. NIELL. *Univ. of Oregon.*

2:00 A32 **204.11** Regulation of Neuroligin-2 Phosphorylation. N. F. SHANKS*; M. A. BEMBEN; Y. LI; K. W. ROCHE. *NIH, Johns Hopkins Univ.*

3:00 A33 **204.12** Activity-dependent regulation of liprinα1 phosphorylation during synapse development. H. HUANG*; K. LAI; A. FU; N. IP. *Div. of Life Science,HKUST, Mol. Neurosci. Center, State Key Lab. of Mol. Neuroscience, HKUST.*

4:00 A34 **204.13** Cdk5-dependent phosphorylation of p70 ribosomal S6 Kinase (S6K) is required for dendritic spine morphogenesis. Z. LIANG*; K. LAI; E. FEI; H. HUANG; N. Y. IP. *Hong Kong Univ. of Sci. and Technol.*

1:00 A35 **204.14** Generation and analysis of cnr1 and cnr2 zebrafish mutants. A. ACEVEDO-CANABAL*; L. COLON; M. BEHRA; G. YUDOWSKI. *Univ. of Puerto Rico - RCM, Univ. of Puerto Rico - Inst. of Neurobio.*

2:00 A36 **204.15** GluN2B-containing NMDA receptor antagonist ifenprodil produces long-lasting increases in dendritic spine density: Within-subject longitudinal multiphoton imaging. J. D. RAYBUCK*; S. A. THAYER. *UMN, Univ. of Minnesota.*

3:00 A37 **204.16** Matrix metalloproteinase 9 inhibition may counteract neurodevelopmental abnormalities in a Xenopus tadpole model for VPA-induced neurodevelopmental disorders. E. J. JAMES*; C. AIZENMAN. *Brown Univ.*

4:00 A38 **204.17** Opposing roles of actin signaling during the developmental stage of spine formation and maturation. E. SPENCE*; S. SODERLING. *Duke Univ.*

1:00 A39 **204.18** Pointed-end capping of actin filaments by tropomodulin regulates dendritic spine development. O. OMOTADE*; V. FOWLER; J. Q. ZHENG. *Emory Univ. Sch. of Med., The Scripps Res. Inst.*

2:00 A40 **204.19** nArgBP2 regulates dendritic spine formation and spine-synapse formation at glutamatergic synapses. S. LEE*; Y. KIM; J. HAN; G. CESTRA; S. CHANG. *Seoul Natl. Univ. Col. of Med., IBPM, Consiglio Nazionale delle Ricerche c/o Univ. of Rome La Sapienza.*

3:00 A41 **204.20** HIP1r required for the formation of functional excitatory synapses in cultured hippocampal neurons of rats. L. PENG*; X. XU; Y. DU; L. ZHU; J. LUO. *Zhejiang Univ.*

4:00 A42 **204.21** Structural and functional insights into the latrophilin3 - FLRT3 complex that mediates glutamatergic synapse development. F. RANAIVOSON*; F. MARTINI; F. BERGAMI; S. VON DAAKE; D. COMOLETTI. *Child Hlth. Inst. of New Jersey, Rwjms/Rutger.*

1:00 A43 **204.22** Structural and functional studies of adhesion G-protein coupled receptors. Y. C. LU*; O. NAZARKO; R. SANDO; G. SALZMAN; T. C. SÜDHOF; D. ARAÇ. *Univ. of Chicago, Stanford Univ.*

2:00 A44 **204.23** Small G- protein regulation of Neurexin localization in *C. elegans* neurons. S. K. VALAPPIL*; K. SENAGBE; D. HYNDS; T. L. GUMIENNY. *Texas Woman's Univ., Texas Woman's Univ.*



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* Indicates abstract's submitting author

3:00 A45 **204.24** Tyrosine phosphorylation of neuroligin-1 regulates synaptic specification. C. SAPHY; M. LETELLIER; K. CZONDOR; I. PAPASIDERI; I. CHAMMA; B. TESSIER; M. SAINLOS; O. THOUMINE*. *Interdisciplinary Inst. for Neurosci., Interdisciplinary Inst. for Neurosci.*

4:00 A46 **204.25** Imaging Rab GTPase activities in single dendritic spines during structural plasticity. J. WANG*; J. NISHIYAMA; R. YASUDA. *Max Planck Florida Inst., Duke Univ.*

1:00 A47 **204.26** A novel tool for active zone protein orientation: Dually tagged full length mRFP-Bassoon-mGFP protein. T. GHELANI; F. GÖTTFERT; R. EBRECHT; F. WOUTERS; N. WITTENMAYER; T. DRESBACH*. *Univ. of Goettingen Med. Sch., Max Planck Inst. for Biophysical Chem., Univ. Med. Göttingen.*

2:00 A48 **204.27** Axin regulates dendritic spine development via Cdc42 signaling. Y. CHEN*; Z. LIANG; E. FEI; X. ZHOU; W. FANG; W. FU; A. FU; N. IP. *The Hong Kong Univ. of Sci. and Technol., The Hong Kong Univ. of Sci. and Technol., The Hong Kong Univ. of Sci. and Technol., HKUST Shenzhen Res. Inst.*

3:00 A49 **204.28** Foxp2 regulates dendritic spine formation in medium-sized spiny neurons during postnatal maturation of the mouse striatum. Y. CHEN; H. KUO; K. LU; S. CHEN; W. ENARD; S. PÄÄBO; F. LIU*. *Natl. Yang-Ming Univ., Ludwig Maximilians Univ. Munich, Max Planck Inst. for Evolutionary Anthrop.*

4:00 A50 **204.29** Nitric oxide in the retina and its role in synaptogenesis processes. L. T. WALTER*; C. SCHMELTZER; G. S. V. HIGA; E. R. KINJO; G. CERCHIARO; A. H. KIHARA. *Univ. Federal Do ABC, Humboldt Univ., Univ. de São Paulo.*

1:00 A51 **204.30** The X-linked intellectual disability gene, DHHC9, regulates neurite outgrowth and synapse formation. J. J. SHIMELL*; D. B. JOVELLAR; G. S. BRIGIDI; I. TATARNIKOV; D. BECCANO-KELLY; A. J. MILNERWOOD; S. X. BAMJI. *Univ. of British Columbia, Univ. of British Columbia.*

**POSTER**

**205. Invertebrate Transmitter Signaling**

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

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 A52 **205.01** Effect of parasitism on the distribution of serotonin-like immunoreactivity in the central nervous system of Biomphalaria alexandrina. S. ROLÓN-MARTÍNEZ*; M. R. HABIB; L. O. VAASJO; R. P. CROLL; M. W. MILLER. *Inst. of Neurobio., Univ. of Puerto Rico- Med. Sci. Campus, Theodor Bilharz Res. Inst., Dalhousie Univ.*

2:00 A53 **205.02** Direct measurement of histamine release evoked by light in the eye of the fly Calliphora. J. BORYCZ*; J. A. BORYCZ; S. R. SHAW; I. A. MEINERTZHAGEN. *Dalhousie Univ., Dalhousie Univ.*

3:00 A54 **205.03** Effect of a phytochemical on failure by oxidative damage of GABAergic neurotransmission visualized through motor behavior in the nematode Caenorhabditis elegans. G. CAMARGO HERNÁNDEZ*; M. A. RAMIREZ HERRERA; M. L. MENDOZA MAGAÑA; G. DIAZ VEGA; L. HERNANDEZ. *CUCBA UNIVERSIDAD DE GUADALAJARA, CUCS - UNIVERSIDAD DE GUADALAJARA.*

4:00 A55 **205.04** Tyrosine hydroxylase in the central nervous system of a disease-vector insect. B. P. SETTEMBRINI*; M. DE BENEDICTIS; S. NOWICKI; L. E. CANAVOSO. *Museo Argentino De Ciencias Naturales. PIPCONICET0312/2011, Univ. Austral, Ctr. de Investigaciones Endocrinológicas "Dr. César Bergadá" (CEDIE)-CONICET– FEI – División de Endocrinología, Hosp. de Niños "Ricardo Gutiérrez", Univ. Nacional de Córdoba, CIBICI-CONICET.*

1:00 A56 **205.05** ▲ Fulicin neuropeptides in the central nervous system of Biomphalaria glabrata, the intermediate host for intestinal schistosomiasis. M. B. RODRIGUEZ; S. ROLÓN-MARTÍNEZ; L. O. VAASJO; M. W. MILLER*. *Inst. Neurobio.*

2:00 A57 **205.06** ● ▲ Histamine immunoreactivity in nervous system of crayfish Cambarellus montezumae of F0 and F1 generations. M. RODRÍGUEZ-MUÑOZ; E. OÑA-CÓRDOVA; E. G. ESCAMILLA-CHIMAL*. *Univ. Nacional Autonoma De Mexico.*

3:00 A58 **205.07** Cephalopod neural transcriptomes reveal unique strategies for memory centers. G. C. WINTERS*; A. B. KOHN; N. STERN; B. HOCHNER; E. T. WALTERS; R. J. CROOK; L. L. MOROZ. *Univ. of Florida- Whitney Lab. for Marine Biosci., Univ. of Florida, Hebrew Univ. of Jerusalem, Univ. of Texas Hlth. Sci. Ctr. at Houston.*

4:00 A59 **205.08** Single cell genome-wide analysis of ion channel expression in simpler neural circuits. A. B. KOHN*; E. C. DABE; C. BOSTWICK; L. L. MOROZ. *Universtiy of Florida Whitney Lab., Univ. of Florida, Dept of Neurosci.*

1:00 A60 **205.09** Capture of nascent RNAs during classical conditioning in *Aplysia californica*. C. BOSTWICK*; Q. YANG; A. B. KOHN; R. D. HAWKINS; L. L. MOROZ. *Univ. of Florida, Whitney Marine Lab., Univ. of Florida, Columbia Univ., New York State Psychiatric Inst.*

2:00 A61 **205.10** High-level mRNA expression of orthologous secreted proteins is a feature of the sea slug brain. A. SENATORE; J. W. BOYKIN*; P. GANUPURU; P. S. KATZ. *Georgia State Univ., Univ. of Toronto.*

3:00 A62 **205.11** Spider, Cupiennius salei, mechanosensory neurons have multiple biogenic amine receptor types, including constitutively active receptors. P. H. TORKKELI*; V. SUKUMAR; S. MEISNER; I. PANEK; A. S. FRENCH. *Dalhousie Univ., Dalhousie Univ.*



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

**POSTER**

**206. NMDA Receptors I**

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

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 A63 **206.01** ● A key role for GluN2D NMDA receptor subunits in ketamine's stimulation of brain activity; implications for schizophrenia and depression. K. SAPKOTA*; Z. MAO; V. GAUTAM; D. MONAGHAN. *Univ. of Nebraska Med. Ctr., Harvard Med. Sch.*

2:00 A64 **206.02** The tyrosine kinase Abl2/Arg regulates GluN2B-containing NMDA receptors. A. D. LEVY*; X. XIAO; M. JEDRYCHOWSKI; S. GYGI; A. J. KOLESKE. *Yale Univ., Yale Univ., Harvard Med. Sch., Yale Univ.*

3:00 A65 **206.03** Differential splicing of GluN1 C-terminus controls NMDA receptor unitary conductance and pore architecture. A. NIGAM*; G. IACOBUCCI; B. GEORGE; G. POPESCU. *Univ. of Buffalo, Univ. of Buffalo.*

4:00 A66 **206.04** Characterization of the Grin2adeltaPKC Mouse. D. BALU*; J. R. LARSON; J. V. SCHMIDT; J. P. LEONARD. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois - Chicago.*

1:00 A67 **206.05** Non-canonical signaling by NMDA receptors couples Src-family kinases to pannexin-1 during excitotoxicity. N. L. WEILINGER*; B. D. RAKAI; A. W. LOHMAN; E. M. M. MA; J. BIALECKI; V. MASLIEIEVA; T. RILEA; M. V. BANDET; N. T. IKUTA; L. SCOTT; M. A. COLICOS; G. C. TESKEY; I. R. WINSHIP; R. J. THOMPSON. *Hotchkiss Brain Inst., Univ. of Alberta.*

2:00 A68 **206.06** ● Impact of human anti-GluN1 antibodies on synaptic and extrasynaptic NMDA receptors. J. A. PANZER*; A. RATTELLE; D. LYNCH. *Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia.*

3:00 A69 **206.07** Evidence for a GluN2D NMDA receptor subunit contribution to ketamine and MK-801 stimulation of gamma oscillations; a potential role for GluN2D in schizophrenia. Z. MAO*; P. SYNOWICKI; D. LIEBER; K. SAPKOTA; V. GAUTAM; D. MONAGHAN. *Univ. of Nebraska Med. Ctr., Univ. of Nebraska at Omaha, Harvard Med. Sch.*

4:00 A70 **206.08** Interactions of ketamine administration and mtor signaling on parvalbumin positive neurons. M. M. BOLTON*; C. F. HEANEY; A. S. MURTISHAW; M. A. LANGHARDT; J. W. KINNEY. *Univ. of Nevada, Las Vegas.*

1:00 A71 **206.09** Critical role for NMDA receptor subunit in layer 5 prefrontal cortex dopamine modulation. J. IAFRATI*; S. ROBINSON; K. SAKIMURA; V. SOHAL. *Univ. of California San Francisco - UCSF, Niigata Univ.*

2:00 A72 **206.10** Modulation of hippocampal extrasynaptic NMDA receptor function by stress. Y. C. TSE; J. LOPEZ; A. S. WONG; T. WONG*. *Douglas Inst., Douglas Inst.*

3:00 A73 **206.11** Memantine and ketamine differentially alter desensitization kinetics of NMDA receptors. N. G. GLASGOW*; A. AZOFEIFA; J. W. JOHNSON. *Univ. of Pittsburgh, Univ. of Pttsburgh.*

4:00 A74 **206.12** ● The mechanism underlying NMDA receptor blockage-induced fast-acting antidepressant effect. K. ZHANG; T. XU; V. NAGAI YAMAKI; M. HUANG; X. CAI*. *Southern Illinois Univ., Guangzhou Med. Univ.*

1:00 A75 **206.13** Assessment of memantine on long-term potentiation in the Ts65Dn, a mouse model of Down syndrome. J. J. SCOTT-MCKEAN*; A. L. ROQUE; A. C. S. COSTA. *Case Western Reserve Univ.*

2:00 A76 **206.14** ▲ Effect of dapsone on NMDA receptor subunits: GluN2A and GluN2B in pyramidal neurons from rat primary motor cortex. A. JUÁREZ NÁJERA*; C. RÍOS CASTAÑEDA; A. DÍAZ RUIZ; E. ARROYO RÍOS; A. VILLEGAS RONQUILLO; J. FLORES HERNÁNDEZ. *Lab. de Neuromodulación. Inst. de Fisiología. Benemérita Univ. Autónoma de Puebla, Dept. de Neuroquímica, Inst. Nacional de Neurología y Neurocirugía.*

**POSTER**

**207. Non-NMDA Receptors**

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

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 A77 **207.01** Regulation of AMPA receptor acetylation by SIRT2: Implications in synaptic plasticity and learning. G. WANG*; S. LI; J. GILBERT; H. GRITTON; X. HAN; D. SELKOE; H. MAN. *Boston Univ., Brigham and Women's Hosp. and Harvard Med. Sch., Boston Univ.*

2:00 A78 **207.02** Behavioral analysis of GluD1 deficient mice with the pure genetic background. C. NAKAMOTO*; R. NATSUME; E. NAKATSUKASA; M. ABE; M. WATANABE; K. SAKIMURA. *Niigata Univ., Hokkaido Univ., CREST,JST.*

3:00 A79 **207.03** Molecular pathophysiology of human anti-glutamate receptor 2 autoantibodies on AMPA-receptor mediated synaptic transmission. C. GEIS*; H. HASELMANN; B. GRÜNEWALD; C. WERNER. *Jena Univ. Hosp.*

4:00 A80 **207.04** Dissecting the role of AMPARs in development and function of hippocampal CGE-derived interneurons. G. AKGUL*; L. BARKSDALE; K. A. PELKEY; C. J. MCBAIN. *Natl. Inst. of Hlth., Federtion of American Societies for Exptl. Biol.*

1:00 A81 **207.05** Structure-function analysis of stargazin-dependent ampa receptor autoinactivation. K. P. KEINANEN*; T. MÖYKKYNEN; S. K. COLEMAN. *Dept Biosciences, Univ. of Helsinki.*

2:00 A82 **207.06** Subtype-specific effects of auxiliary subunit GSG1L on AMPA receptor function. T. P. MCGEE*; C. BATS; M. FARRANT; S. G. CULL-CANDY. *UCL.*

3:00 A83 **207.07** Desensitized ligluk2 receptors are immobilized at glutamatergic synapses. A. I. POLENGHI*; E. M. PETRINI; P. GOROSTIZA; A. BARBERIS. *Fondazione Inst. Italiano Di Tecnologia, Inst. of Bioengeneering of Catalonia.*

4:00 A84 **207.08** Extending the influence of the cerebellar climbing fiber through non-synaptic signaling. A. K. NIETZ*; L. CODDINGTON; L. OVERSTREET-WADICHE; J. I. WADICHE. *Univ. of Alabama, Birmingham (UAB), Univ. of Alabama, Birmingham (UAB).*

1:00 A85 **207.09** TARPs affect the gating of AMPARs by sub-saturating glutamate concentrations. I. D. COOMBS*; D. M. MACLEAN; V. JAYARAMAN; M. FARRANT; S. G. CULL-CANDY. *UCL, Biochem. and Mol. Biol.*



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

2:00 A86 **207.10** Lk6 regulates synaptic levels of the glutamate receptor subunit, GluRIIA, at the *Drosophila* neuromuscular junction. F. L. WYGLE-LIEBL*; T. DELANEY; N. HUSSEIN. *Southern IL Univ. Edwardsville.*

3:00 A87 **207.11** The role of GSG1L in the regulation of AMPA receptor-mediated synaptic transmission. X. GU; X. MAO; M. LUSSIER; M. HUTCHISON; L. ZHOU; K. HAMRA; K. W. ROCHE; W. LU*. *NINDS/NIH, Univ. of Texas Southwestern.*

4:00 A88 **207.12** ● Molecular determinants underlying heterogeneity in AMPAR content across CA1 Schaffer collateral synapses. M. YAMASAKI*; M. FUKAYA; M. YAMAZAKI; M. ABE; K. SAKIMURA; M. WATANABE. *Hokkaido Univ., Kitasato Univ., Niigata Univ.*

1:00 A89 **207.13** Modulation of AMPA receptor tetramerization by auxiliary subunits. Q. GAN*; L. P. WOLLMUTH. *Stony Brook Univ.*

2:00 A90 **207.14** ● Anticonvulsant and improved side-effect potential of ly3130481: The first γ−8-selective transmembrane ampa receptor regulatory protein (tarp) antagonist. J. M. WITKIN*; A. KATO; S. GLEASON; D. GERNERT; P. ORNSTEIN; W. PORTER; J. REEL; K. GARDINIER. *Lilly Corp Ctr., Lilly Res. Labs.*

3:00 A91 **207.15** ● An assay system for the detection of transmembrane AMPA receptor regulatory protein (TARP) γ-8-selective antagonists: *In vitro* characterization of LY3130481. C. DING; B. HEINZ; A. S. KATO; H. YU; K. M. GARDINIER; D. L. GERNERT; D. S. BREDT; J. M. WITKIN; K. D. BURRIS*. *Lilly Res. Labs.*

4:00 A92 **207.16** ● Discovery of a selective TARP-g8 dependent AMPA receptor antagonist (TDAA). D. GERNERT*; K. M. GARDINIER; J. WITKIN; W. PORTER; J. REEL; K. BURRIS; C. DING; V. BARTH; F. STEVENS; P. HAHN; P. SPINAZZE; S. HOLLINSHEAD; D. MAYHUGH; J. SCHKERYANTZ; A. KHILEVICH; D. BREDT; H. YU; P. ORNSTEIN. *Eli Lilly.*

1:00 A93 **207.17** ● Discovery of a forebrain-specific AMPA receptor antagonist: Electrophysiological characterization of a TARP gamma-8-dependent AMPA receptor antagonist. A. KATO*; C. DING; K. M. GARDINIER; D. L. GERNERT; H. YU; R. ZWART; H. WANG; Y. QIAN; F. PASQUI; E. SHER; K. BURRIS; J. T. R. ISAAC; J. M. WITKIN; D. S. BREDT; E. S. NISENBAUM. *Lilly Res. Lab., Lilly Res. Lab.*

2:00 A94 **207.18** ● Tarp gamma-8 dependent ampa receptor antagonists as a novel therapeutic approach for chronic pain. K. L. KNOPP; R. M. A. SIMMONS; W. GUO; B. L. ADAMS; J. M. WITKIN; K. M. GARDINIER; D. L. GERNERT; W. PORTER; P. ORNSTEIN; J. REEL; C. DING; H. WANG; Y. QIAN; K. BURRIS; A. NEED; V. BARTH; F. PASQUI; R. ZWART; E. SHER; K. CHOONG; A. S. KATO; T. M. WALL; E. S. NISENBAUM*. *Eli Lilly & Co.*

3:00 A95 **207.19** Sap97 and cask block the rxr er retention signal of grik5. S. H. STANDLEY*; X. HONG; M. RONILO; M. AVETISYAN. *Western Univ. of Hlth. Sci.*

4:00 A96 **207.20** N-linked glycans modulate AMPA and kainate receptor functional properties. C. VERNON*; J. YAN; B. A. COPITS; Y. F. GUZMÁN; G. T. SWANSON. *Northwestern Univ.*

1:00 A97 **207.21** Kainate receptors mediate endocannabinoid mobilization in the striatum. J. MARSHALL*; A. CONTRACTOR. *Northwestern Univ. - Dept. Of Physiol.*

2:00 A98 **207.22** Identification of novel Neto2-interacting proteins in the central nervous system. Y. F. GUZMAN*; J. N. SAVAS; G. T. SWANSON. *Northwestern Univ. Dept. of Pharmacol., Northwestern Univ.*

3:00 A99 **207.23** Retromer-dependent trafficking of the kainate receptor auxiliary proteins Neto1 and Neto2. K. WILKINSON*; D. L. ROCCA; J. M. HENLEY. *Univ. of Bristol.*

4:00 A100 **207.24** Kainate and AMPA receptors are required for error correction during taxis behaviors. P. J. BROCKIE*; P. MALDONADO; J. E. MELLEM; D. M. MADSEN; A. V. MARICQ. *Univ. of Utah.*

1:00 A101 **207.25** The role of the embryonic form of the GluK2 kainate receptor subunit in regulating neuronal excitability. T. NOMURA*; J. CATCHES; H. FERNANDES; A. CONTRACTOR. *Northwestern Univ.*

2:00 A102 **207.26** Glutamate receptor-like channels in plants: Putative agonist profile and intersubunit interactions. T. LU*; D. TAPKEN; M. HOLLMANN. *Ruhr-University Bochum, Ruhr Univ. Bochum, Ruhr Univ. Bochum.*

3:00 A103 **207.27** ● LARGE, an intellectual disability-associated protein, regulates AMPA receptor trafficking and memory. M. KANG*; T. CHO; D. Z. LEE; S. KANG; B. Y. LEE; S. KIM; K. A. CUNNINGHAM; K. T. DINELEY; T. A. GREEN; J. BÉÏQUE; R. L. HUGANIR; H. SHIN. *Inst. For Basic Sci. (IBS), KAIST, Korea Advanced Inst. of Sci. and Technol. (KAIST), Univ. of Texas Med. Br. (UTMB), Univ. of Ottawa, Johns Hopkins Univ.*

**POSTER**

**208. Potassium Channels II**

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

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 A104 **208.01** The WNK signaling pathway as a link to altered intracellular chloride and trafficking of voltage-gated ion channels following stimulation of GABA receptors in cerebellar neurons. E. M. CILENTO*; B. BALLIF; J. FUCHS; J. GREEN; M. WILLIAMS; A. MORIELLI. *Univ. of Vermont, Univ. of Vermont, Univ. of Vermont, Dartmouth Col., Univ. of Vermont.*

2:00 A105 **208.02** Hyperglycemia reduces astrocytic potassium channels and function. D. E. RIVERA-APONTE*; M. P. D. MENDEZ-GONZALEZ; A. RIVERA-PAGAN; Y. KUCHERYAVYHK; L. KUCHERYAVYHK; S. N. SKATCHKOV; M. J. EATON. *Univ. Central Del Caribe, Univ. Central Del Caribe.*

3:00 A106 **208.03** Dephosphorylation of N-terminal serines promotes biogenesis of the sodium-activated potassium channel Slack-B. G. E. KIM*; M. R. FLEMING; J. KRONENGOLD; L. K. KACZMAREK. *Yale Univ., Yale Univ.*

4:00 A107 **208.04** Slick (Kcnt2) sodium-activated potassium channels expressed in peptidergic CGRP neurons regulate nociception and peptide release. D. L. TOMASELLO*; A. BHATTACHARJEE. *SUNY at Buffalo, SUNY at Buffalo.*



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

1:00 A108 **208.05** Non-invasive control of cellular excitability using focused ultrasound: Effects on ion channels. J. KUBANEK*; J. SHI; J. CUI. *Washington University, Sch. of Med., Washington Univ.*

2:00 B1 **208.06** Pituitary adenylate cyclase-activating peptide modulates neuronal Kv4.2 channel via convergent phosphorylation by PKA and ERK1/2. R. GUPTE*; R. MERRILL; A. J. SHEPHERD; S. STRACK; D. P. MOHAPATRA. *Washington Univ. In St. Louis Sch. of Medic, The Univ. of Iowa, Washington Univ. Sch. of Med. in St. Louis.*

3:00 B2 **208.07** Functional consequences of amino acid variation in pain-pathway kv1 channels in a wild rodent (Onychomys) exhibiting reduced pain sensitivity. K. SHERER*; R. BARAJAS; A. ROWE. *Michigan State Univ., Michigan State Univ.*

4:00 B3 **208.08** Cell-type specific channel phenotypes in the prefrontal cortex of the fmr1-/y mouse model of Fragile X syndrome. B. E. KALMBACH; D. JOHNSTON; D. H. BRAGER*. *Univ. Texas at Austin.*

1:00 B4 **208.09** Kir2 leak conductance dampens the excitability of lamina I projection neurons in the neonatal rat. N. C. FORD*; M. L. BACCEI. *Univ. of Cincinnati.*

2:00 B5 **208.10** Kv3 channels in the auditory brainstem are composed of Kv3.1 and Kv3.3 subunits. D. M. LINLEY; S. ROBINSON; J. R. STEINERT; C. KOPP-SCHEINPFLUG; I. D. FORSYTHE*. *Univ. of Leicester, MRC Toxicology Unit, Ludwig-Maximilians-University Munich.*

3:00 B6 **208.11** L-type voltage gated calcium channels activate IKCa channels to generate the slow afterhyperpolarization in CA1 pyramidal cells. G. SAHU*; J. MICLAT; G. W. ZAMPONI; R. W. TURNER. *Univ. of Calgary.*

4:00 B7 **208.12** The role of neuronal Kv2.1 potassium channels under physiological conditions. J. L. SMALLEY*; B. PIGOTT; I. D. FORSYTHE. *Univ. of Leicester.*

1:00 B8 **208.13** Effects of cold temperatures on trigeminal neuron excitability and KCNQ channel activity. H. KANDA*; R. IKEDA; J. G. GU. *Univ. of Alabama at Birmingham, Jikei Univ. Sch. of Med.*

2:00 B9 **208.14** Inhibition of hERG Channel by Acepromazine. Y. JOO; K. SUNG*. *The Catholic Univ. of Korea, Sch. of Medicine, Dept. of Pharmacol.*

3:00 B10 **208.15** Coupling of distinct ion channel types in neurons mediated by AKAP79/150. J. ZHANG*; M. S. SHAPIRO. *Univ. of Texas Hlth. Sci. Ctr. At San Antonio.*

4:00 B11 **208.16** Scaling of pyramidal neuron excitability in auditory cortex by nitric oxide-mediated inhibition of $K_v2$ currents during postnatal development. B. PIGOTT*; J. L. SMALLEY; M. HAMMETT; I. D. FORSYTHE. *Univ. of Leicester.*

**POSTER**

**209. Synaptic Transmission: Pharmacology**

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

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 B12 **209.01** The role of glutamate release in the nucleus accumbens core during cocaine reinstatement in rats with a history of both alcohol and cocaine self-administration. B. STENNETT*; L. KNACKSTEDT. *Univ. of Florida.*

2:00 B13 **209.02** Inhibition of eEF2K enhances hippocampal synaptic transmission by presynaptic p38 MAPKα in rat. W. WENG*; T. BEHNISCH. *Fudan Univ.*

3:00 B14 **209.03** Proper statistical analyses of electrophysiological data. E. C. CHURCH*; S. ALFORD. *Univ. of Illinois At Chicago, Univ. of Illinois at Chicago.*

4:00 B15 **209.04** Functional characterization of the genomic imprinting of the Bcl-xL gene in mouse cortex. M. D. CAIATI*; L. NEEDLEMAN; C. DULAC; T. K. HENSCH. *Harvard Univ.*

1:00 B16 **209.05** Prolonged ketamine exposure induces increase in the expression and activity of GluN2B-containing NMDARs in the neurons of neonatal rat brain. S. KOKANE*; R. STEVENS; X. ZOU; Q. LIN. *Univ. of Texas At Arlington.*

2:00 B17 **209.06** Glucose modulation of inputs and outputs in the ventral tegmental area dopamine neurons. S. LIU*; J. HUANG; S. BORGLAND. *Univ. of Calgary, Univ. of British Columbia.*

3:00 B18 **209.07** Alterations in dopamine system regulation of inhibition in an animal model of transcriptional dysregulation and hippocampal circuit dysfunction. L. BRADY*; A. F. BARTLEY; Q. LI; L. E. DOBRUNZ. *Univ. of Alabama At Birmingham.*

4:00 B19 **209.08** Differential effects of anesthetics on network activity versus monosynaptic responses in auditory cortex. B. M. KRAUSE*; H. HENTSCHKE; A. RAZ; M. I. BANKS. *Univ. of Wisconsin-Madison, Univ. Hosp. of Tübingen, Univ. of Wisconsin-Madison.*

1:00 B20 **209.09** Discovery of novel compounds that restore synaptic communication in synapses intoxicated with botulinum neurotoxin. P. H. BESKE*; K. M. HOFFMAN; A. B. BRADFORD; P. M. MCNUTT. *US Army Med. Res. Inst. of Chem. Def.*

2:00 B21 **209.10** ● Development of a moderate thoughput assay to detect novel modulators of synaptic efficacy in neuronal cultures. R. NEFF*; C. LINDWALL-BLOM; Å. JÄGERVALL; B. BALANA; M. KARLSSON; P. KARILA; T. LOVENBERG. *Janssen Res. and Develop., Cellectricon AB.*

3:00 B22 **209.11** Ionic current dynamics through the ultrastructure of dendritic spines. D. PATIRNICHE*; M. BREIT; T. WEINKAUF; M. STEMMLER; S. PHAN; E. BUSHONG; M. H. ELLISMAN; G. QUEISSER; A. V. M. HERZ. *BCCN Munich, GCSC Frankfurt, KTH, UCSD.*

4:00 B23 **209.12** Beta-neurexin proteins at the synapse: Functional link with the endocannabinoid signaling system. G. R. ANDERSON*; J. AOTO; K. TABUCHI; C. FÖLDY; J. COVY; A. YEE; D. WU; S. LEE; L. CHEN; R. C. MALENKA; T. C. SÜDHOF. *Stanford Univ., Shinshu Univ.*



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

1:00 B24 **209.13** Possible involvement of Dopamine D1-D2 receptor heteromers in enhancement of excitatory synaptic transmission by SKF38393 in CA1 of the hippocampus. N. RIZVI; A. C. ARAI*. *Southern Illinois Univ. Sch. Med.*

2:00 B25 **209.14** Role of OculoCerebroRenal Lowe syndrome protein (OCRL) in synaptic function. N. E. MOHAMMED*; M. FERNÁNDEZ-MONREAL. *Inst. De Investigación Hosp. Universitario.*

3:00 B26 **209.15** Dopamine release in the prefrontal cortex: Implications for the stimulant emission tomography paradigm. D. HERNAUS*; M. MEHTA. *Maastricht Univ., C.*

4:00 B27 **209.16** Quantifying the number of presynaptic voltage-gated calcium channels that are activated at different times during the action potential. M. SCARNATI; S. CLARKE; K. G. PARADISO*. *Rutgers Univ.*

1:00 B28 **209.17** MHCI regulates NMDAR-mediated synaptic transmission through cell-autonomous postsynaptic signaling mechanisms. K. K. FRIETZE*; C. M. TYLER; L. M. BOULANGER. *Princeton Univ., Princeton Univ.*

2:00 B29 **209.18** TLR3 activation inhibits synaptic activity in primary hippocampal cultures via multiple mechanisms. L. RITCHIE; T. J. BUSHELL*. *Univ. of Strathclyde, Univ. of Strathclyde.*

3:00 B30 **209.19** Optogenetic stimulation reveals distinct modulatory properties of thalamostriatal vs corticostriatal glutamatergic inputs to striatal fast-spiking interneurons. G. SCIAMANNA*; G. MANDOLESI; G. PONTERIO; P. BONSI; A. PISANI. *Univ. of Rome TorVergata, Fondazione Santa Lucia.*

4:00 B31 **209.20** Investigating the role of the Gαs pathway in neurotransmission. L. MANNING*; A. MARTIN; O. BHETUWAL; J. RICHMOND. *Unviersity of Illinois At Chicago.*

1:00 B32 **209.21** Alpha3 glycine receptors in glycinergic transmission to hypoglossal motoneurons. S. HÜLSMANN*; Y. KONO. *Georg August Univ. Goettingen, The Jikei Univ. Sch. of Med.*

2:00 B33 **209.22** Sigma-1 receptor stimulation improves depressive-like behaviors and adult hippocampal neurogenesis in CaMKIV null mice. S. MORIGUCHI*; H. SAKAGAMI; K. FUKUNAGA. *Tohoku Univ. Grad Sch. Pharm Scis, Kitasato Univ. Sch. Med.*

**POSTER**

**210. Synaptic transmission: Modulation**

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

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 B34 **210.01** ▲ Acute and chronic effects of inhibiting mTOR by rapamycin on development, behvaior, and physiology in *Drosophila*. S. J. POTTER*; R. S. POTTER; S. L. E. BLÜMICH; R. L. COOPER. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Leipzig.*

2:00 B35 **210.02** Functional and morphological analysis of Neuronal $Ca^{2+}$-binding protein 2 (NECAB2). A. METHNER*; T. SCHACHT; K. FRAUENKNECHT; V. WUELLNER; S. RITZ; L. MAJEWSKI; L. GREMER; J. KUZNICKI. *Johannes Gutenberg Univ. Mainz, Univ. Med., Univ. Med., IMB, The Intl. Inst. of Mol. and Cell Biol., Heinrich Heine Univ.*

3:00 B36 **210.03** Connexin 36 in hippocampus of rats submitted to neonatal anoxia. S. H. TAKADA*; J. M. IKEBARA; D. S. CARDOSO; E. SOUSA; G. S. V. HIGA; A. H. KIHARA. *Univ. Federal Do ABC, Inst. de Ciências Biomédicas, Univ. de São Paulo.*

4:00 B37 **210.04** Synchronizing cortical dynamics via gap junctions between excitatory neurons. J. KILE*; G. KOVACIC; D. CAI. *Rensselaer Polytechnic Inst., Rensselaer Polytechnic Inst., Courant Inst. of Mathematical Sciences, New York Univ.*

1:00 B38 **210.05** Sensitivity of presynaptic pH on synaptic transmission: Differences in evoked and spontaneous release. W. P. PIEDADE*; F. KOCH; Z. MAJEED; E. BRAILOIU; S. L. E. BLÜMICH; R. PUTMAN; R. L. COOPER. *UNESP, Univ. of Kentucky, Univ. Leipzig, Univ. of Salahaddin, Temple Univ., Univ. of Leipzig,, Wright State Univ.*

2:00 B39 **210.06** Functional interaction between presynaptic nicotinic and NMDA receptors on dopaminergic and noradrenergic nerve terminals of the rat central nervous system. M. GRILLI; G. OLIVERO; C. PADOLECCHIA; J. CHEN; A. PITTALUGA; M. MARCHI*. *Univ. of Genova, Univ. of Genova.*

3:00 B40 **210.07** Maternal deprivation induces hyperexcitablity and synaptic abnormalities of lateral habenula glutamatergic neurons. M. E. AUTHEMENT*; F. NUGENT. *Uniformed Services Univ.*

4:00 B41 **210.08** Connexin36 expression in major centers of the auditory system in mouse and rat: Evidence for neurons forming purely electrical synapses and morphologically mixed synapses. M. E. RUBIO*; J. I. NAGY. *Univ. of Pittsburgh Med. Sch., Univ. of Manitoba.*

1:00 B42 **210.09** Interaction between Aβ and membrane cholesterol underscores presynaptic transmission. R. M. LAZARENKO*; A. KAMALOVA; Q. ZHANG. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ.*

2:00 B43 **210.10** Simulation of synchronization and reverberation of excitation in a network of neurons interconnected through a 16-state gating model of gap junction channels. F. BUKAUSKAS*; K. MACIUNAS; M. SNIPAS. *Albert Einstein Col. of Med., Lithuanian Univ. of Hlth. Sci., Kaunas Univ. of Technol.*

3:00 B44 **210.11** Effect of endogenous estradiol on the lateral amygdala synapses. A. MANGANARO*; I. NINAN. *NYU Dep. Psychiatry, New York Univ. Langone Med. Ctr.*

4:00 B45 **210.12** Magnetic nanoparticles induce hyperalgesia in rats. L. MANZO*; H. CERAGIOLI; I. J. M. BONET; C. A. PARADA. *UNICAMP, UNICAMP, UNICAMP.*

1:00 B46 **210.13** Exploring the roles of electrical and chemical synapses in a *C. elegans* chemotaxis circuit. M. DOBOSIEWICZ*; J. LARSCH; C. BARGMANN. *The Rockefeller Univ., Max Planck Inst. of Neurobio.*



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

2:00 B47 **210.14** Synaptic mechanisms underlying suppression of neuronal activity induced by Cortical spreading depression (CSD). P. S. SURYAVANSHI*; P. M. SAWANT-POKAM; K. C. BRENNAN. *Univ. of Utah.*

3:00 B48 **210.15** Activating transcription factor 4 (ATF4) gates gabaergic neurotransmission by regulating GABABRs levels. C. CORONA*; S. PASINI; J. LIU; L. GREENE; M. SHELANSI. *Columbia Univ.*

4:00 B49 **210.16** Genetic deletion of selenoprotein M alters gender specific hippocampal synaptic plasticity. E. D. NGUYEN-WU*; M. A. REEVES; M. J. ROBLES; A. C. HASHIMOTO; M. W. PITTS; F. P. BELLINGER; M. J. BERRY. *Univ. of Hawaii At Manoa, John A. Burns Sch. of Med., Biologic Inst.*

1:00 B50 **210.17** ▲ The role of cAMP in presynaptic synaptic vesicle recruitment at high and low output neuromuscular junctions. R. S. POTTER*; S. POTTER; W. WU; R. L. COOPER. *Univ. of Kentucky, The Univ. of Texas MD Anderson Cancer Ctr.*

2:00 B51 **210.18** Intrinsic circuitry of the lateral central amygdala. S. HUNT*; P. SAH. *Queensland Brain Inst.*

3:00 B52 **210.19** Mechanisms of serotonergic 2A-receptor-mediated excitation in callosal projection neurons in the mouse prefrontal cortex. E. K. STEPHENS*; A. T. GULLEDGE. *Geisel Sch. of Med. At Dartmouth.*

4:00 B53 **210.20** Peripheral nerve injury promotes emergence of acute, neuron-type-specific depressant actions of gabapentin in substantia gelatinosa and primary somatosensory cortex. S. ALLES*; N. BUKHANOVA; M. BANDET; I. WINSHIP; P. A. SMITH. *Univ. of Alberta.*

1:00 B54 **210.21** Mechanisms of long-term depression at electrical synapses in the thalamic reticular nucleus. J. SEVETSON; J. S. HAAS*. *Lehigh Univ.*

2:00 B55 **210.22** ▲ Underlying mechanisms of intravenous administration of lidocaine on synaptic transmission in spinal dorsal horn neurons: An *in vivo* patch-clamp recording. M. KURABE; H. FURUE; H. BABA*; T. KOHNO. *Niigata Univ, Sch. Med., Natl. Inst. for Physiological Sci.*

3:00 B56 **210.23** Parkin is necessary for excitatory synaptic transmission in hippocampus. G. P. CORTESE; C. VOLLMER; C. WAITES*. *Columbia Univ.*

4:00 B57 **210.24** Regulation of GABA release by a synapsin IIIa phospho-switch. S. SONG*; G. J. AUGUSTINE. *Lee Kong Chian Sch. of Med., KIST.*

1:00 B58 **210.25** ▲ Investigating homeostatic plasticity at electrical synapses. E. L. HECKMAN*; S. FITTRO; Y. SONG; Y. BERDICHEVSKY; J. S. HAAS. *Lehigh Univ., Lehigh Univ., Lehigh Univ.*

**POSTER**

**211. Long-Term Depression (LTD)**

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

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 B59 **211.01** Kv1.2 potassium channel role in Cerebellar learning and memory. S. C. MADASU*; M. L. SHIPMAN; J. T. GREEN; A. D. MORIELLI. *Univ. of Vermont, Univ. of Vermont, Univ. of Vermont.*

2:00 B60 **211.02** Postsynaptic mechanism for progression of cerebellar long-term depression. T. KIM*; Y. YAMAMOTO; K. TANAKA-YAMAMOTO. *KIST.*

3:00 B61 **211.03** Cerebellar LTD induced in mice having mutated GluA2 C-terminus resolves discrepancy between motor learning and synaptic plasticity. K. YAMAGUCHI*; S. ITOHARA; M. ITO. *RIKEN BSI, RIKEN BSI.*

4:00 B62 **211.04** Role of the temporal pattern of conditioning stimulation on induction of synaptic plasticity in visual cortex after mild traumatic brain injury (mTBI). D. KALIKULOV*; Q. S. FISCHER; M. J. FRIEDLANDER. *Virginia Tech. Carilion Res. Inst.*

1:00 B63 **211.05** Effect of interstimulus interval regularity and mild traumatic brain injury (mTBI) on synaptic plasticity induced by 1Hz stimulation in visual cortex. Q. S. FISCHER*; D. KALIKULOV; M. J. FRIEDLANDER. *Virginia Tech. Carilion Res. Inst.*

2:00 B64 **211.06** Layer-specific involvement of endocannabinoid signaling in cholinergic-induced long-term depression of layer 2/3 pyramidal neurons in rat visual cortex. K. JOO; K. CHO; H. JANG; D. RHIE*. *Coll Med. Catholic Univ. Korea, Catholic Neurosci. Inst.*

3:00 B65 **211.07** Abnormal Retina -Specific Segregation at the dLGN of the Flailer - a myosin 5a mutant mice. S. PANDIAN*; M. CONSTANTINE-PATON. *MIT.*

4:00 B66 **211.08** Gating of synaptic plasticity in the rodent primary auditory cortex by 17βestradiol. C. N. SOUTAR*; S. G. RODIER; S. A. CHEE; N. PUN; H. C. DRINGENBERG. *Queen's Univ., Queen's Univ.*

1:00 B67 **211.09** Hippocampal stratum radiatum interneuron plasticity type corresponds with cell subtype and mGluR5 expression. T. M. NUFER*; C. B. MERRILL; L. N. FRIEND; Z. H. HOPKINS; J. G. EDWARDS. *Brigham Young Univ., Univ. of California, Irvine, Brigham Young Univ., Univ. of Utah Sch. of Med.*

2:00 B68 **211.10** Nanometer resolution imaging of Arc-mediated AMPA receptor endocytosis. A. TAIBI*; R. HOBSON; E. HUJBER; M. GUDHETI; E. JORGENSEN; J. SHEPHERD. *Univ. of Utah, Univ. of Utah, Vutara Inc., Howard Hughes Med. Inst.*

3:00 B69 **211.11** Dynamic nanoscale organization of ampa receptors during atp-mediated long term depression. B. COMPANS*; E. TOULMÉ; D. CHOQUET; E. HOSY. *Interdisciplinary Inst. For Neurosci. CNRS.*

4:00 B70 **211.12** Pin1 binding to PSD-95 regulates excitatory synapses. J. Y. DELGADO*; G. G. TURRIGIANO; D. CHOQUET. *Brandeis Univ., CNRS.*



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

1:00 B71 **211.13** Neuronal network dynamics of n-methyl-d-aspartate-induced chemical long term depression in cultured rat hippocampal neurons. S. DJEMIL*; X. CHEN; R. DZAKPASU. *Georgetown Univ., Georgetown Univ.*

2:00 B72 **211.14** Actomyosin contraction mediates presynaptic long-term synaptic plasticity. M. H. MCFADDEN; H. XU; Y. CUI; R. A. PISKOROWSKI; V. CHEVALEYRE; L. VENANCE; Z. LENKEI*. *ESPCI-ParisTech, Col. de France, Univ. Paris Descartes Sorbonne Paris Cité.*

3:00 B73 **211.15** Convergence of synaptic pathophysiology in the hippocampus of Fmr1 knockout and Syngap1 heterozygous mice. S. BARNES*; A. D. JACKSON; E. K. OSTERWEIL; P. C. KIND; D. J. A. WYLLIE. *Univ. of Edinburgh, inStem.*

4:00 B74 **211.16** G9a governs metabotropic glutamate receptor dependent LTD (mGluR-LTD) by regulating N-ethylmaleimide-sensitive factor/GluR2 (NSF-GluR2) dependent trafficking of postsynaptic AMPA receptors. M. SHARMA*; S. GOPINADHAN; S. SAJIKUMAR. *Natl. Univ. of Singapore.*

1:00 B75 **211.17** Endocannabinoid-dependent plasticity in excitatory and inhibitory spinal dorsal horn neurons. C. VON SCHOULTZ*; S. G. WOODHAMS; I. KATONA; H. U. ZEILHOFER. *Univ. of Zurich, Swiss Federal Inst. of Technol. (ETH) Zurich, Inst. of Exptl. Med.*

2:00 B76 **211.18** Operant ethanol self-administration affects the magnitude of LTD in D1 Medium spiny neurons in nucleus accumbens shell but not core. T. A. MEYERS*; R. A. MANGIERI; R. MORRISETT. *Univ. of Texas At Austin.*

3:00 B77 **211.19** Dopamine D2 receptors located on indirect pathway MSNs are not needed for high frequency stimulation-induced striatal long-term synaptic depression. S. M. AUGUSTIN*; M. I. DAVIS; D. M. LOVINGER. *NIAAA/ Laboratory For Integrative Neurosci.*

**POSTER**

**212. Spike Timing-Dependent Plasticity (STDP)**

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

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 B78 **212.01** Normalization of excitatory-inhibitory balance by cortical spike-timing-dependent plasticity. J. A. D'AMOUR*; R. C. FROEMKE. *New York University, Sch. of Med., NYU Sch. of Med.*

2:00 B79 **212.02** Modulation of homosynaptic and heterosynaptic plasticity by adenosine receptors in rat visual cortex *in vitro*. N. M. BANNON*; M. CHISTIAKOVA; M. VOLGUSHEV. *Univ. of Connecticut.*

3:00 B80 **212.03** ▲ History dependence of calcium dynamics at the larval fruit fly neuromuscular junction. M. CURRAN*; J. KRANS. *Western New England Univ.*

4:00 B81 **212.04** Astrocytic glutamate uptake gates spike-timing-dependent plasticity and counteracts spurious plasticity. S. VALTCHEVA; L. VENANCE*. *Ctr. for Interdisciplinary Res. In Biol. (INSERM 1050/CNRS 7241).*

1:00 B82 **212.05** ● Optimization of deep brain stimulation parameters using computational models of the basal ganglia with spike-time dependent plasticity. L. GRADO*; M. JOHNSON; T. NETOFF. *Univ. of Minnesota.*

2:00 B83 **212.06** The encoding of episodic memory via spike-timing-dependent plasticity: A computational model. P. THEODONI*; A. ROXIN. *Ctr. De Recerca Matemàtica.*

3:00 B84 **212.07** Potentiation of synaptic connections among cortical neuronal groups via coactivation - an *in vivo* test of Hebb's cell. D. ZHANG*; X. YAN; M. POO. *Inst. of Neuroscience,Shangai Inst. For Bi, CAS center for excllence in brain science, Shanghai institutes for biological sciences,CAS.*

4:00 B85 **212.08** An interplay between homosynaptic and heterosynaptic plasticity enforces synaptic competition and allows re-learning. M. A. VOLGUSHEV*; M. CHISTIAKOVA; V. ILIN; R. GOZ; J. CHEN; M. BAZHENOV. *Univ. Connecticut, Univ. Connecticut, Univ. of California.*

1:00 B86 **212.09** Presynaptic induction and expression of spike timing-dependent long-term depression in the CA1 region of the hippocampus. A. RODRIGUEZ-MORENO*; Y. ANDRADE-TALAVERA; P. DUQUE-FERIA; O. PAULSEN. *Univ. Pablo de Olavide, Univ. of Cambridge.*

2:00 B87 **212.10** $A\beta_{1-42}$ impairs metabotropic glutamate receptor-gated spike-timing dependent long-term potentiation of hippocampal CA3-CA1 synapse. J. LEE*; J. KWAG. *Korea Univ.*

3:00 B88 **212.11** Retroactive effect of dopamine on spike timing-dependent plasticity. Z. BRZOSKO*; W. SCHULTZ; O. PAULSEN. *Univ. of Cambridge.*

4:00 B89 **212.12** Stable assembly training and reinforcement through spike timing. G. K. OCKER*; B. DOIRON. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

1:00 B90 **212.13** Toward a unifying plasticity model in extended dendrites. C. EBNER*; C. CLOPATH; P. JEDLICKA; H. CUNTZ. *Ernst Strüngmann Inst. (ESI) for Neurosci., Frankfurt Inst. for Advanced Studies, Imperial Col. London, Goethe Univ. Frankfurt am Main.*

2:00 B91 **212.14** GABA driven circuit formation through heterosynaptic spike-timing-dependent plasticity. N. HIRATANI*; T. FUKAI. *RIKEN Brain Sci. Inst., The Univ. of Tokyo.*

3:00 B92 **212.15** The NMDA-spike as a fundamental mechanism in timing-dependent plasticity at hippocampal CA3 recurrent synapses. F. BRANDALISE*; S. CARTA; F. HELMCHEN; U. GERBER. *Univerity of Zurich, Brain Res. Inst., Univ. of Zurich.*

4:00 B93 **212.16** Optogenetic control of stimulus and background activity in spike-triplet and theta-burst plasticity in acute hippocampal slices. A. BHATIA*; U. S. BHALLA. *Natl. Ctr. For Biol. Sci. (NCBS).*

1:00 B94 **212.17** Long-term plasticity expressed in neuronal ensemble. H. KWON*; T. KIM. *Max Planck Florida Inst., Max Planck Inst. of Neurobio., MIT.*

2:00 B95 **212.18** Examining the region-specific changes in plasticity and excitability in medial prefrontal cortex. B. OWEN; M. BENVENISTE*. *Morehouse Sch. of Med.*



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* Indicates abstract's submitting author

3:00 B96 **212.19** Cooperative coincidence detectors control mixed pre- and postsynaptic expression of spike-timing dependent plasticity at the cerebellar input stage. F. PRESTORI*; M. SGRITTA; E. D'ANGELO. *Univ. of Pavia, EBRI, IRCCS C.Mondino.*

**POSTER**

**213. Oligodendrocytes: Myelination and Remyelination**

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

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 B97 **213.01** The interplay between exercise and dietary fat modulates myelinogenesis in the adult spinal cord. I. A. SCARISBRICK*; H. YOON; A. KLEVEN; P. STARSKI; A. PAULSEN; J. WU; L. KLEPPE; Z. YING; F. GOMEZ-PINILLA. *Mayo Clin., UCLA.*

2:00 B98 **213.02** Lactate, a possible metabolite for remyelination by oligodendrocyte progenitor cells. Y. ICHIHARA*; T. DOI; Y. RYU; M. NAGAO; Y. SAWADA; T. OGATA. *Natl. Rehabil. Ctr. For Persons With Disabilities.*

3:00 B99 **213.03** Cathepsin D deficiency delays CNS myelination by inhibiting Proteolipid Protein trafficking from late endosome / lysosome to plasma membrane. D. GUO*; Y. LIU; L. XIAO; C. HE; S. DUAN. *Navy Gen. Hosp., institute of neuroscience, zhejiang university, department of neurobiology, second military medical university.*

4:00 B100 **213.04** Oligodendroglial expression of the inward-rectifying potassium channel Kir4.1 is not required for oligodendrocyte generation, survival, or myelination. V. A. LARSON*; A. AGARWAL; J. E. RASH; D. E. BERGLES. *Johns Hopkins Univ., Colorado State Univ.*

1:00 B101 **213.05** ▲ Dynamic and local remodeling of axon caliber during initial myelin ensheathment. A. J. TREICHEL; M. M. MARTELL; A. J. KAISER; A. G. TRUDEL; B. B. DUXBURY; J. H. HINES*. *Winona State Univ.*

2:00 B102 **213.06** Promotion of remyelination by Vitamin B12 in model with global demyelination, and the cell/s responsible. I. D. DUNCAN*; A. B. RADCLIFF; A. S. FIELD; G. MCLELLAN; J. N. VER HOEVE. *Univ. Wisconsin Sch. Vet Med., Univ. Wisconsin Sch. Med. Pub Hlth., Univ. Wisconsin Sch. Vet Med., Univ. Wisconsin Sch. Med. Pub Hlth.*

3:00 B103 **213.07** Therapeutic use of microRNA mimics to promote remyelination. A. L. MOYANO*; A. HEBERT; H. LIPTON; E. R. BONGARZONE. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*

4:00 B104 **213.08** ● Neuroanatomically distinct vulnerability and response to remyelinating factors in the mouse forebrain of the cuprizone-induced demyelination model: New insights into the progression patterns of demyelination and responses to remyelinating therapy. E. PAVLOPOULOS*; Y. WANG; C. CUI; E. TROY; T. J. PARRY; A. O. CAGGIANO; R. W. COLBURN. *Acorda Therapeut.*

1:00 B105 **213.09** Physical exercise promotes remyelination and alters the composition of the lesion extracellular matrix. S. K. JENSEN*; M. B. KEOUGH; C. BRIDEAU; V. YONG. *Univ. of Calgary.*

2:00 B106 **213.10** ● NESTORONE treatment after chronic cuprizone intoxication stimulates the production of transcription factors involved in remyelination in the corpus callosum. M. EL-ETR*; M. RAME; A. M. GHOUMARI; M. SCHUMACHER; R. SITRUK-WARE. *INSERM UMR 1195 (ex U 788), Population Council and Adjunct Fac. at Rockefeller Univ.*

3:00 B107 **213.11** The neuronal mitochondrial metabolite NAA supports myelination. N. K. SINGHAL*; H. HUANG; S. LI; R. CLEMENTS; J. GADD; A. DANIELS; E. E. KOOIJMAN; F. GUO; D. PLEASURE; L. SHRIVER; E. FREEMAN; J. MCDONOUGH. *Kent State Univ., Univ. of Akron, Inst. for Pediatric Regenerative Medicine, UC Davis Sch. of Med. and Shriners Hosp. for Children Northern California.*

4:00 B108 **213.12** Regulatory role of the thrombin receptor in spinal cord myelination. H. YOON*; M. RADULOVIC; K. L. DRUCKER; J. WU; I. A. SCARISBRICK. *Mayo Clin.*

1:00 B109 **213.13** Low density lipoprotein receptor-related protein 1 (LRP1) is a positive regulator of cns myelin development and repair. J. LIN*; R. GIGER; Y. MIRONOVA; P. SHRAGER. *Univ. of Michigan, Univ. of Rochester Med. Ctr.*

2:00 B110 **213.14** Regulation of central nervous system myelination by the ATRX chromatin remodeling protein. M. W. EDWARDS; N. G. BERUBE*. *Univ. of Western Ontario, Univ. Western Ontario.*

3:00 B111 **213.15** Myelin remodeling in the adult brain. E. G. HUGHES*; J. L. ORTHMANN-MURPHY; D. E. BERGLES. *Johns Hopkins Sch. of Med.*

4:00 B112 **213.16** Functional consequences of cortical de- and remyelination. M. CERINA*; V. NARAYANAN; K. GÖBEL; S. BITTNER; T. RUCK; A. GORJI; N. GHAFFARIAN; P. MEUTH; A. HERRMANN; S. GRAEBENITZ; M. STANGEL; T. SKRIPULETZ; T. DALDRUP; T. SEIDENBECHER; H. WIENDL; E. J. SPECKMANN; H. C. PAPE; T. BUDDE; S. G. MEUTH. *Inst. of Neuropathophysiology, Univ. Hosp. - Dept. of Neurol., Muenster Univ. - Inst. of Physiol. I, Hannover Med. Sch. - Dept. of Neurol., Muenster Univ. - Inst. of Neuropathophysiology.*

1:00 C1 **213.17** Promoting oligodendrocyte survival with creatine: Implications for multiple sclerosis. K. A. CHAMBERLAIN*; K. S. CHAPEY; J. K. HUANG. *Georgetown Univ.*

**POSTER**

**214. Amyloid Precursor Protein Processing and Abeta Toxicity**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 C2 **214.03** Decoupling the effects of the amyloid precursor protein and plaque on neuronal transport in the mouse brain. E. L. BEARER*; C. S. MEDINA; F. L. CHAVES; X. W. ZHANG; R. E. JACOBS. *UNM Sch. of Med., Univ. of New Mexico Hlth. Sci. Ctr., Beckman Institute, California Inst. of Technol.*



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

2:00 C3 **214.04** Cell-specific function of amyloid precursor protein during neural development. R. K. BANOTE*; M. EDLING; F. ELIASSEN; P. KETTUNEN; H. ZETTERBERG; A. ABRAMSSON. *Univ. of Gothenburg, Dept. of Chem. and Mol. biology, Univ. of Gothenburg, UCL Inst. of Neurology, Queen Square, WC1N3BG.*

3:00 C4 **214.05** Contactins as regulators of Amyloid Precursor Protein-dependent neuronal guidance. P. F. COPENHAVER*; J. A. ZWEIG; T. L. SWANSON; J. M. RAMAKER. *Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*

4:00 C5 **214.06** ▲ Opposite dysregulation of fragile-x mental retardation protein and heteronuclear ribonucleoprotein c protein associates with enhanced app translation in Alzheimer's disease. A. BORRECA*; K. GIRONI; G. AMADORO; M. AMMASSARI-TEULE. *CNR-IBCN, Univ. of Rome- Sapienza, Inst. of Translational Pharmacol. (IFT) -National Res. Council (CNR), Inst. of Cell. Biol. and Neurobio. (IBCN), Consiglio Nazionale delle Ricerche.*

1:00 C6 **214.07** Increased accumulation of APP-C99 in mitochondria-associated ER membranes triggers early events in the pathogenesis of Alzheimer's disease. E. AREA*; M. PERA; D. LARREA; R. B. CHAN; G. DI PAOLO; M. F. MEHLER; E. A. SCHON. *Columbia Univ., Albert Einstein Col. of Med.*

2:00 C7 **214.08** Atxn1, spinocerebellar ataxia type-1 protein, regulates bace1 expression and beta-amyloid pathology in the cerebrum. J. SUH*; D. M. ROMANO; J. D. SCHMAHMANN; R. E. TANZI. *Massachusetts Gen. Hosp. and Harvard Med. Sch., Massachusetts Gen. Hosp., Massachusetts Gen. and Harvard Med. Sch., Massachusetts Gen. and Harvard Med. Sch.*

3:00 C8 **214.09** Transcription factor Specificity Protein 1 (Sp1) modulation of the amyloid-β precursor protein (APP) and β-site APP Cleaving Enzyme (BACE1) activity as a drug target in Alzheimer's disease (AD). B. L. BAYON*; K. NHO; N. CHOPRA; B. MALONEY; D. K. LAHIRI. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*

4:00 C9 **214.10** Understanding the neurobiology of Alzheimer's disease (AD) by correlating specific AD-associated miRNAs and the MMSE cognitive scale. D. K. LAHIRI*; B. MALONEY; J. M. LONG; N. CHOPRA; K. SAMBAMURTI; B. L. BAYON. *Indiana Univ. Sch. of Med., Med. Univ. of South Carolina.*

1:00 C10 **214.11** Loss of BACE1 polarization in GGA3 null hippocampal neurons. S. LOMOIO*; G. TESCO. *Tufts Univ. Sch. of Med.*

2:00 C11 **214.12** The role of elevated calcium and microtubule destabilization in BACE1 and Aβ accumulation around amyloid plaques in Alzheimer's disease. K. R. SADLEIR*; A. SOMASUNDARAM; V. BUGGIA-PREVOT; P. KANDALEPAS; G. THINAKARAN; M. PRAKRIYA; R. VASSAR. *Northwestern Univ., Northwestern Univ., Univ. of Chicago.*

3:00 C12 **214.13** Presenilin-1 knockin mice reveal loss-of-function mechanism for familial Alzheimer's disease. D. XIA*; H. WATANABE; B. WU; S. LEE; Y. LI; E. TSVETKOV; V. Y. BOLSHAKOV; J. SHEN; R. J. KELLEHER, III. *Harvard Med. Sch., Dept. of Psychiatry, McLean Hospital, Harvard Med. Sch., Harvard Med. Sch.*

4:00 C13 **214.14** Identification of γ-secretase substrate-binding sites suggests altered substrate positioning as a core mechanism of pathogenic Aβ generation. A. FUKUMORI*; H. STEINER. *German Ctr. for Neurodegenerative Dis., Ludwig-Maximilians-University Munich and German Ctr. for Neurodegenerative Dis.*

1:00 C14 **214.15** Single-cell detection of Aß and sAPPα secreted from human iPSC-derived neurons and glia. M. LIAO*; T. YOUNG-PEARSE; J. C. LOVE. *Harvard Med. School/Brigham and Women's Hosp., MIT.*

2:00 C15 **214.18** Glycelaldehyde-3-phosphate dehydrogenase (GAPDH) aggregates contribute to the pathogenesis of Alzheimer's disease via the acceleration of Aβ amyloidogenesis. M. ITAKURA*; H. NAKAJIMA; T. KUBO; Y. SEMI; S. KUME; S. HIGASHIDA; A. KANESHIGE; A. KITA; K. SATO; Y. AZUMA; T. INUI; T. TAKEUCHI. *Osaka Prefecture Univ.*

3:00 C16 **214.19** Partial purification of amyloid-beta oligomers from human Alzheimer's disease brain lysates. D. L. BRODY*; H. JIANG; T. J. ESPARZA. *Washington Univ.*

4:00 C17 **214.20** CLAC alters the plaque morphology and dynamics of amyloid-β peptides in the brain. T. HASHIMOTO*; Y. NAKA; D. FUJII; M. KASHIWAGI; T. WAKABAYASHI; T. IWATSUBO. *The Univ. of Tokyo.*

1:00 C18 **214.21** Endothelin-converting enzyme-2 is expressed by somatostatin GABAergic interneurons and modulates intraneuronal Aβ. J. PACHECO-QUINTO*; E. ECKMAN. *Biomed. Res. Inst. of New Jersey.*

2:00 C19 **214.22** Aβ(1-42) fibril structure illuminates self-recognition and replication of amyloid in Alzheimer's disease. Y. ISHII*; Y. XIAO. *Univ. Illinois At Chicago, Dept of Chem., Univ. Illinois At Chicago.*

3:00 C20 **214.23** ● Hyperinsulinemia modulates extracellular amyloid-beta *in vivo*. M. STANLEY*; S. L. MACAULEY; E. E. CAESAR; G. ROBINSON; D. M. HOLTZMAN. *Washington Univ. In St. Louis, Washington Univ. In St. Louis.*

4:00 C21 **214.24** Site-specific effect of amyloid-beta phosphorylation on oligomerization and deposition. S. H. KUMAR*; O. WIRTHS; N. REZAEI-GHALEH; K. STÜBER; P. KOCH; S. THEIL; M. ZWECKSTETTER; T. A. BAYER; O. BRÜSTLE; D. R. THAL; J. WALTER. *Univ. of Bonn, Div. of Mol. Psychiatry, Univ. Med. Ctr. (UMG), German Ctr. for Neurodegenerative Dis. (DZNE), Inst. of Reconstructive Neurobio., Univ. of Bonn, Max Planck Inst. for Biophysical Chem., Inst. of Pathology, Univ. of Ulm.*

1:00 C22 **214.25** Nominal amyloid-beta (Aβ) levels, and reduction of Aβ by exogenous neprilysin, in mouse eye tissues. R. PARTHASARATHY*; M. K. CHOW; Z. DERAFSHI; M. P. FAUTSCH; J. R. HETLING; D. W. RODGERS; L. B. HERSH; D. R. PEPPERBERG. *Univ. of Illinois At Chicago, Univ. of Illinois at Chicago, Univ. of Kentucky, Mayo Clin.*

2:00 C23 **214.26** Altered vascular morphology and tight junction proteins in presence of oligomeric amyloid-beta in the hippocampus. M. VARGHESE*; T. WARDA; A. MANDENGUE SOSSO; A. SOWA; D. DICKSTEIN; M. EHRLICH; D. L. DICKSTEIN. *Mount Sinai Sch. of Med., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*

Sun. PM

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

3:00 C24 **214.27** Amyloid degradation and Alzheimer's disease. K. SAMBAMURTI*; R. J. BARANELLO; N. H. GREIG; J. PACHEKO-QUINTO; E. ECKMAN; D. K. LAHIRI; V. PADMARAJU. *MUSC, Med. Univ. of South Carolina, Natl. Inst. of aging, Mid Atlantic Neonatology Associates and Atlantic Hlth. Syst., Indiana Univ.*

4:00 C25 **214.28** Role of ESCRT dependent mutivesicular bodies in intracellular beta-amyloid accumulation and exosomal secretion in Alzheimer's disease. K. WILLÉN*; G. K. GOURAS. *Lund Univ.*

**POSTER**

**215. Alzheimer's Disease: Amyloid Precursor Protein Function and Processing**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 C26 **215.01** Function and regulation of APP and Alcadeinα cargoes transported by kinesin-1 in neuron. Y. SHIRAKI*; K. CHIBA; S. HATA; T. SUZUKI. *Lab. of Neuroscience, Grad. Sch. of Pharmaceut. Sci.*

2:00 C27 **215.02** Elucidation of the amyloid precursor protein intracellular domain interactome. E. M. NORSTROM*; M. KASPARIAN; A. MILLER; K. PHILIBERT; X. SHAO; R. MARR; M. GLUCKSMAN. *Depaul Univ., Rosalind Franklin Univ., Rosalind Franklin Univ.*

3:00 C28 **215.03** Translational control of the amyloid precursor protein by a guanine quadruplex. E. M. CRENSHAW*; B. LEUNG; C. K. KWOK; P. C. BEVILACQUA; M. R. AKINS; A. J. SAUNDERS. *Drexel Univ., USC, Univ. of Cambridge, Penn State Univ.*

4:00 C29 **215.04** Cathepsin L mediates the degradation of novel APP fragments. H. WANG*; N. SANG; C. ZHANG; R. RAGHUPATHI; R. TANZI; A. SAUNDERS. *Drexel Univ., Drexel Univ., Harvard Univ. Massachusetts Gen. Hosp., Drexel Univerisity Col. of medicine, Harvard Univ. Massachusetts Gen. Hosp.*

1:00 C30 **215.05** Modeling CD74 directed APP trafficking for Alzheimer's disease. T. KIYOTA*; C. M. MORRISON; Y. LU; W. DONG; B. DYAVARSHETTY; H. E. GENDELMAN. *Univ. of Nebraska Med. Ctr., Fujian Univ. of Traditional Chinese Med., Univ. of Nebraska Med. Ctr.*

2:00 C31 **215.06** A novel role for amyloid precursor protein in the endocrine pancreas. J. KULAS*; K. L. PUIG; C. K. COMBS. *Univ. of North Dakota.*

3:00 C32 **215.07** The role of FE65 phosphorylation in regulating Alzheimer's disease amyloid precursor protein processing. K. LAU*; W. LI; J. C. NGO; H. E. CHAN; W. V. CHOW. *The Chinese Univ. of Hong Kong.*

4:00 C33 **215.08** Homeostatic coupling between surface trafficking and cleavage of amyloid precursor protein. C. DELBOVE*; C. E. STROTHMAN; K. E. KITKO; R. M. LAZARENKO; Q. ZHANG. *Vanderbilt Univ., Vanderbilt Univ.*

1:00 C34 **215.09** ● Amyloid precursor protein affects energy utilization parameters manifest at the cellular and organismal levels. R. D. HENDRIX*; A. K. ODLE; S. ROSE; R. E. FRYE; G. V. CHILDS; S. W. BARGER. *Univ. of Arkansas For Med. Sci., Univ. Arkansas Med. Sci., Univ. of Arkansas for Med. Sci., Central Arkansas Veterans Healthcare Syst.*

2:00 C35 **215.10** Alternative processing of APP through the rhomboid protease RHBDL4. S. PASCHKOWSKY*; M. HAMZÉ; F. OESTEREICH; B. MICHALSKI; M. FAHNESTOCK; L. M. MUNTER. *McGill Univ., McGill Univ., McMaster Univ.*

3:00 C36 **215.11** APP regulates the Glial cell line-Derived Neurotrophic Factor (GDNF) gene expression driving functional neuromuscular junctions formation. S. STANGA*; N. ZANOU; E. AUDOUARD; B. TASIAUX; S. CONTINO; F. CLOTMAN; P. GAILLY; I. DEWACHTER; J. OCTAVE; P. KIENLEN-CAMPARD. *Univ. Catholique De Louvain (UCL), Inst. of Neurosci. (IoNS), Univ. catholique de Louvain (UCL).*

4:00 C37 **215.12** Changes in APP processing in response to inhibition of endocytosis. L. T. AGHOLME*; T. SATIR; P. BERGSTRÖM; E. PORTELIUS; K. BLENNOW; H. ZETTERBERG. *Univ. of Gothenburg, Inst. of Neurology, Univ. Col. London.*

1:00 C38 **215.13** Memory deficits in rats using a model of Alzheimer's disease with an overexpression of APP21 and the presenilin 1 transgene. D. KLAKOTSKAIA; R. A. RICHARDSON; T. A. LARSON; E. WOODALL; K. PATEL; M. K. BURRUS; K. M. CLARK; C. AGCA; T. SCHACHTMAN*; Y. AGCA. *Univ. of Missouri, Univ. of Missouri, Univ. of Missouri.*

2:00 C39 **215.14** Characterization of amyloid precursor protein-dependent brain changes in a murine model of high fat diet-dependent obesity. K. L. PUIG*; S. A. BROSE; M. Y. GOLOVKO; C. K. COMBS. *Univ. of North Dakota.*

3:00 C40 **215.15** ● Phospholipid transfer protein (PLTP) deficiency accelerates memory dysfunction through altering amyloid precursor protein (APP) processing in a mouse model of Alzheimer's disease. D. CHUI*. *Peking Univ.*

4:00 C41 **215.16** Using an unnatural amino acid to fluorescently label amyloid beta generated de novo from amyloid precursor protein expressed within cells. L. R. CZERNIEWSKI*; S. L. CRICK; J. LEE. *Washington Univ. In St. Louis.*

1:00 C42 **215.17** The effect of oligomeric aβ42 on app processing and aβ40 generation in cultured u373 astrocytes. D. I. OURDEV*; B. V. FOROUTANPAY; Y. WANG; S. KAR. *Univ. of Alberta, Univ. of Alberta, Univ. of Alberta.*

2:00 C43 **215.18** Effects of Aβ1-42 on APP processing in cultured N2a cells. B. V. FOROUTANPAY*; T. J. REVETT; D. VERGOTE; D. WESTAWAY; S. KAR. *Univ. of Alberta, Univ. of Alberta.*

**POSTER**

**216. Alzheimer's Disease: *In Vitro* and *In Vivo* Experimental Therapeutics**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 C44 **216.01** Scanning ultrasound opening of the blood-brain-barrier reduces amyloid pathology and improves memory in APP23 transgenic mice. G. LEINENGA*; J. GOETZ. *Queensland Brain Inst., The Univ. of Queensland.*

2:00 C45 **216.02** Annexin A1 restores Aβ1-42- induced blood brain barrier disruption. J. PARK*; H. CHO; S. BAIK; S. HAN; A. KIM; I. MOOK-JUNG. *Seoul Natl. Univ.*



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

3:00 C46 **216.03** Effects of MRK-016 on amyloid-beta induced learning deficits in mice in a contextual conditioning paradigm. S. L. HODGES*; M. J. EIMERBRINK; J. D. WILES; J. D. WHITE; M. J. CHUMLEY; G. W. BOEHM. *Baylor Univ., Texas Christian Univ.*

4:00 C47 **216.04** ● Chronic low level beta1-adrenergic receptor activation decreases amyloid beta, modulates the neuroimmune response and improves neurocognitive function in two models of Alzheimer's disease. A. K. EVANS*; P. M. ARDESTANI; B. YI; M. SHAMLOO. *Stanford.*

1:00 C48 **216.05** Azelnidipine attenuates amyloid-β altered cerebral endothelial functions. T. TENG*; D. M. RIDGLEY; A. TSOY; Y. NI; G. Y. SUN; S. ASKAROVA; J. C. M. LEE. *Univ. of Missouri, Nazarbayev, Univ. of Missouri, Nazarbayev.*

2:00 C49 **216.06** Trigonelline is effective in scopolamine induced memory deficits in mice due to its anti-acetylcholinesterase and anti-oxidative properties. A. JUVEKAR*; A. CHOWDHURY; N. GAWALI; P. KOTHAVADE; P. DESHPANDE. *Inst. of Chem. Technol.*

3:00 C50 **216.07** Cerebrospinal fluid and plasma ceramides are modified by dietary intervention in adults with mild cognitive impairment and healthy controls. B. J. NETH*; J. L. BAYER-CARTER; A. HANSON; L. D. BAKER; K. S. NAIR; S. CRAFT. *Wake Forest Sch. of Med., Univ. of Washington Sch. of Med., Univ. of Washington Sch. of Med., Mayo Clin.*

4:00 C51 **216.08** Effects of high fat diet on cognition and neurodegeneration in APOE3 and APOE4 mice. V. L. REEVES*; A. Y. CARTER; N. F. FITZ; I. LEFTEROV; R. KOLDAMOVA. *Univ. of Pittsburgh.*

1:00 C52 **216.09** ● Insulin and Insulin-Like Growth Factors (IGFs) may protect against susceptibility to brain atrophy and dementia in Late-Onset Alzheimer's disease (LOAD) and diabetes. D. N. ISHII*. *Colorado State Univ.*

2:00 C53 **216.10** 3-iodothyronamine rescues β-Amyloid-dependent inhibition of long-term potentiation in the entorhinal cortex. A. ACCORRONI*; C. CRISCUOLO; M. SABATINI; R. DONZELLI; A. SABA; R. ZUCCHI; N. ORIGLIA. *Scuola Superiore Sant'Anna - CNR, Consiglio Nazionale delle Ricerche, Univ. of Pisa.*

3:00 C54 **216.11** Protective effects of Anthocyanins against Amyloid beta-induced neurotoxicity *in vivo* and *in vitro*. T. KIM*; H. BADSHAH; M. KIM. *Gyeongsang Natl. Univ.*

4:00 C55 **216.12** The neuroprotective action of a hexapeptide core sequence within beta amyloid. K. FOREST*; J. LAWRENCE; N. ALFULAIJ; R. NICHOLS. *Univ. of Hawaii, Manoa.*

1:00 C56 **216.13** Neuroprotection by a n-terminal fragment of beta amyloid. N. ALFULAIJ*; G. YOSHIKAWA; J. CHENG; K. ARORA; R. NICHOLS. *Univ. of Hawaii At Manoa.*

2:00 C57 **216.14** Cyanidin-3-glucoside protects against amyloid beta (25-35)-induced neuronal cell death in cultured rat hippocampal neurons. J. YANG; K. YOON; S. YOON*. *Catholic Univ. of Korea, Catholic Univ. of Korea, Catholic Univ. of Korea.*

3:00 C58 **216.15** LMTX reduces tau-pathology in transgenic mice and restores microtubule stabilisation and synaptic transmission. K. SCHWAB*; S. FRAHM; V. MELIS; M. MAGBAGBEOLU; G. RIEDEL; C. M. WISCHIK; C. R. HARRINGTON; F. THEURING. *Charite Berlin, TauRx Therapeut. Ltd., Univ. of Aberdeen.*

4:00 C59 **216.16** Effects of U18666A on APP metabolism in cultured N2a cells. J. CHUNG*; A. MOHAMED; M. MAULIK; G. THINAKARAN; E. POSSE DE CHAVES; S. KAR. *Univ. of Alberta, Univ. of Alberta, Univ. of Alberta, The Univ. of Chicago, The Univ. of Chicago, The Univ. of Chicago.*

1:00 C60 **216.17** Characterization of novel Src family kinase inhibitors to attenuate microgliosis. G. D. MANOCHA; K. L. PUIG; S. A. AUSTIN; K. SEYB; M. A. GLICKSMAN; C. K. COMBS*. *Univ. of ND, Mayo Clin., Harvard NeuroDiscovery Ctr.*



**POSTER**

**217. Therapeutics of Parkinson's Disease: Target Validation**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 C61 **217.01** ▲ Unexpected receptors interactions in striatal neurons during a rodent model of Parkinson´s disease. E. RENDON-OCHOA*; T. HERNANDEZ-FLORES; O. HERNANDEZ-GONZALEZ; M. PEREZ-RAMIREZ; M. PALOMERO-RIVERO; R. DRUKER-COLÍN; E. GALARRAGA; J. BARGAS. *Univ. Nacional Autónoma De México.*

2:00 C62 **217.02** ▲ An in silico analysis of α-synuclein interactions using seed. J. J. MORRISON*, III; J. W. RYAN; K. MCLAUCHLAN; A. M. GREEN; L. SCHAPPELL; K. S. INMAN; A. D. LEE; B. BEHROUZ. *Neuroinitiative.*

3:00 C63 **217.03** ▲ In silico visualization of the endosomal pathway in Parkinson's disease using SEED. J. W. RYAN*; J. J. MORRISON; A. M. GREEN; L. SCHAPPELL; K. S. INMAN; A. D. LEE; B. BEHROUZ. *Neuroinitiative.*

4:00 C64 **217.04** Structural plasticity of the GABAergic pallidothalamic system in MPTP-treated parkinsonian monkeys. A. J. SULLIVAN*; A. SHIBATA; C. KATONA; T. WICHMANN; Y. SMITH. *Yerkes Natl. Primate Res. Center, Emory Uni, Sch. of Med.*

1:00 C65 **217.05** Glutamatergic denervation of striatal cholinergic interneurons in MPTP-treated parkinsonian monkeys. R. M. VILLALBA*; S. LEE; J. PARE; Y. SMITH. *Yerkes Resch Ctr. and Udall Ctr. of Excelence For Parkinson's Disease, Emory Un, Sch. of Med.*

2:00 C66 **217.06** Direct impact of dopaminergic and noradrenergic systems on adult-hippocampal neurogenesis in adult rats and the relevance to dementia in Parkinson's disease. C. ERMINE*; J. L. WRIGHT; C. L. PARISH; L. H. THOMPSON. *The Florey, Univ. of Melbourne.*

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

3:00 C67 **217.07** Loss of VGLUT3 produces hyperdopaminergia and ameliorates motor dysfunction and L-dopa mediated dyskinesias in a model of Parkinson's disease. C. B. DIVITO*; S. G. WILLIAMS; J. A. STANCATI; E. C. HOLMSTRAND; D. T. CASE; L. ZHI; C. YUAN; N. E. CAGLE; T. SUN; M. E. RUBIO; C. E. SORTWELL; T. J. COLLIER; D. SULZER; R. H. EDWARDS; K. STEECE-COLLIER; H. ZHANG; R. P. SEAL. *Univ. of Pittsburgh, Michagan State Univ., Thomas Jefferson Univ., Univ. of Pittsburgh, Columbia Univ., Univ. of California, San Francisco.*

4:00 C68 **217.08** ▲ Combined D1-D3 dopamine receptor stimulation synergistically exacerbates dyskinesia in L-DOPA-primed hemi-parkinsonian rats. S. M. MEADOWS*; L. GROSS; E. NUSS; N. CHAMBERS; C. BISHOP. *Binghamton Univ.*

1:00 C69 **217.09** Early repetitive transcranial magnetic stimulation intervention exerts neuroprotective effects and ameliorates motor deficits on Parkinson's disease model of rats. T. HSIEH*; Y. HUANG; A. ROTENBERG; Y. CHIANG; J. CHEN. *Chang Gung Univ., Taipei Med. Univ., Chang Gung Mem. Hosp. and Chang Gung Univ. Col. of Med., Boston Children's Hosp. and Harvard Med. Sch., Taipei Med. Univ., Natl. Cheng Kung Univ.*

2:00 C70 **217.10** Pharmacological blockade of mTORC1 or genetic deletion of Rhes inhibit levodopa-induced dyskinesia along with GABA and glutamate release in mice substantia nigra reticulata. A. BRUGNOLI*; A. USIELLO; M. MORARI. *Univ. of Ferrara, CEINGE Biotecnologie Avanzate, Second Univ. of Naples (SUN).*

3:00 C71 **217.11** Increased striatal acetylcholine and dopamine efflux is associated with L-DOPA-induced dyskinesia in hemi-parkinsonian rats. M. CONTI*; N. PALUMBO; J. A. GEORGE; N. CHAMBERS; C. BISHOP. *Binghamton Univ.*

4:00 C72 **217.12** Contribution of muscarinic acetylcholine receptors to L-DOPA-induced dyskinesia. N. E. CHAMBERS*; M. CONTI; C. NAMBA; N. PALUMBO; C. FELDER; D. MCKINZIE; C. BISHOP. *Binghamton Univ., Eli Lilly & Co.*

1:00 C73 **217.13** Involvement of phospholipase C in the dopaminergic treatment of Parkinson's disease: Effects on dyskinetic behaviors and ERK1/2 signaling activation. I. SEBASTIANUTTO*; N. MASLAVA; M. A. CENCI. *Lund Univ.*

2:00 C74 **217.14** ● A small molecule ligand for TrkB/TrkC neurotrophin receptors improves motor dysfunction and pathology in cellular and mouse MPTP-induced Parkinson's models. F. M. LONGO*; T. YANG; K. C. TRAN; N. PHELPS; C. J. CONDON; D. A. SIMMONS; S. M. MASSA. *Stanford Univ. Med. Ctr., San Francisco Veterans Affairs Med.Ctr., Univ. of California.*

3:00 C75 **217.15** ● A small molecule mediates co-activation of TrkB/TrkC neurotrophin receptors, and promotes novel signaling patterns and bioactivities including neurite outgrowth on inhibitory surfaces. T. YANG*; S. M. MASSA; K. C. TRAN; D. A. SIMMONS; J. RAJADAS; T. JANG; S. CARSANARO; F. M. LONGO. *Stanford Univ., San Francisco Veterans Affairs Med.Ctr., Univ. of California.*

4:00 C76 **217.16** ● Lasting spontaneous negative motor effect of dopamine synthesis blocker alpha-methyl-para-tyrosine (AMPT) in common marmosets. H. S. PEREIRA*; K. COSTA; M. F. P. ARAÚJO. *Inst. Santos Dumont, State Univ. of Rio Grande do Norte.*

1:00 C77 **217.17** ● Characterization of D3 receptor agonists with atypical signaling and receptor trafficking properties. S. KORTAGERE*; W. XU. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*

2:00 C78 **217.18** Pharmacological rescue of defective mitophagy in PINK1 deficiency. J. KIM; S. YANG*; J. HAN; M. KANG; J. H. SON. *Ewha Womans Univ.*

3:00 C79 **217.19** Oxi-alpha and Oxi-beta as potential therapeutic targets in autophagic dysregulation caused by oxidative stress in a dopaminergic neuron model. J. KIM*; Y. JANG; J. H. SON. *Ewha Womans Univ.*

4:00 C80 **217.20** ● Photobiomodulation in aged nonhuman primates. J. H. KORDOWER*; S. MULLER; K. MAREK; G. TAMAGNAN; R. HARKER; B. HILLER; K. OH; B. LOVISA; A. PITZSCHKE; G. WAGNIERES. *Rush Univ. Med. Ctr., Rush Univ. Med. Ctr., Inst. or Neurodegenerative Disorders, Rush Univ. Med. Ctr., École polytechnique fédérale de Lausanne.*

1:00 C81 **217.21** Effects of mesenchymal stem cell differentation to DA induced by linear micro and nano-topology for Parkinson's disease. L. QI*; X. ZHANG. *Xi'An Jiaotong Univ. Suzhou Acad.*

2:00 C82 **217.22** Reducing C-terminal truncation mitigates synucleinopathy and neurodegeneration in a transgenic model of multiple system atrophy. W. MEISSNER*; F. BASSIL; P. FERNAGUT; E. BEZARD; Q. HOANG; D. RINGE; G. PETSKO. *Inst. Des Maladies Neurodégénératives, Indiana Univ., Brandeis Univ., Weill Cornell Med. Col.*

3:00 C83 **217.23** Acquisition of a complete dopaminergic a9-subtype electrophysiological phenotype and synaptic integration. of human ventral mesencephalic neural stem cells in a rodent hemiparkinsonian model. T. RAMOS-MORENO*; M. P. PEREIRA; N. AVALIANI; A. NELKE; M. KOKAIA; A. MARTINEZ-SERRANO. *Wallenberg Neurosci. Center/Experimental Epilepsy Ctr., Ctr. de Biologia Mol. Severo Ochoa, Autonomous Univ.*

**POSTER**

**218. Mitochondrial and Other Neuronal-Glial Mechanisms in Parkinson's Disease**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 C84 **218.01** Elevated mitochondrial bioenergetics and axonal arborization size are key contributors to vulnerability of dopamine neurons in Parkinson's disease. N. GIGUERE*; C. PACELLI; M. BOURQUE; M. LÉVESQUE; R. S. SLACK; L. TRUDEAU. *Univ. De Montreal, Ctr. de Recherche de l'Institut Universitaire en Santé Mentale de Québec, Faculté de Médecine, Univ. Laval, Fac. of Medicine, Univ. of Ottawa.*

2:00 C85 **218.02** A role for Nlrp3 in mediating rotenone-induced neuroinflammation. M. C. HAVRDA*; J. SULLIVAN; L. WANG; Y. PATANKAR; B. BERWIN; S. LEE; M. FELDMAN; A. YOUNG. *Geisel Sch. of Med. at Dartmouth, Geisel Sch. of Med. at Dartmouth, Med. Col. of Wisconsin.*



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

3:00 C86 **218.03** Impaired mitochondria trafficking and autophagy in hiPSC-derived dopaminergic neurons harboring three copies of SNCA gene. M. FERRARI*; T. Q. MELO; K. C. VAN ZOMEREN; S. C. V. M. COPRAY; E. W. G. M. BODDEKE. *Inst. De Biociencias - Univ. De Sao Paulo, Univ. Med. Ctr. Groningen.*

4:00 C87 **218.04** Loss of mitochondrial chaperone protein mortalin in a *Drosophila* model of Parkinson's disease causes functional defects which are rescued by downregulation of Autophagy. S. B. HANNAN*; J. Y. ZHU; T. M. RASSE. *Hertie Inst. of Clin. Brain Res., Hertie Inst. of Clin. Brain Res., German Cancer Res. Inst.*

1:00 C88 **218.05** Mitochondrial impairment-induced Ser129-phosphorylation of alpha-synuclein through intracellular calcium concentration change. A. SASAKI; H. SATO; T. KATO; S. ARAWAKA*. *Yamagata Univ. Fac. of Med., Yamagata Univ. Fac. of Med.*

2:00 C89 **218.06** Mitochondrial dysfunction and ER stress response in human iPSC-derived neurons carrying LRRK2 G2019S mutation. J. A. KORECKA*; S. LEVY; M. L. TERPSTRA; D. C. DINESH; D. P. CHRISTENSEN; T. M. OSBORN; P. J. HALLETT; F. M. JODELKA; M. L. HASTINGS; O. ISACSON. *McLean Hospital/Harvard Med. Sch., Chicago Med. School, Rosalind Franklin Univ. of Med. and Sci.*

3:00 C90 **218.07** S-Nitrosylation of divalent metal transporter 1 increases Iron deposition and contributes to loss of dopaminergic neurons after LPS-induced inflammation. C. LIU*; C. ZHANG; K. C. CHEW; B. TAN; A. SUPPERMPOOL; K. LIM; T. SOONG. *Natl. Universtity of Singapore, Natl. neuroscience Inst.*

4:00 C91 **218.08** MicroRNA-7 inhibits mitochondrial permeability pore function and confers neuroprotection. A. DATTA CHAUDHURI*; D. CHOI; S. KABARIA; E. JUNN. *Rutgers Biomed. and Hlth. Sci.*

1:00 C92 **218.09** Effects of acute neurotoxicant administration on ubiquitin carboxy-terminal hydrolase L1 (UCH-L1) activity in MN9D cell line and mouse striatal synaptosomes. B. M. WINNER*; K. J. LOOKINGLAND; J. L. GOUDREAU. *Michigan State Univ., Michigan State Univ.*

2:00 C93 **218.10** Investigation of PINK1/Parkin-dependent mitophagy and its relation to mitochondrial biogenesis and mt-UPR in neurons. M. JACOUPY*; F. MOUTON-LIGER; S. AZEGGAGH; G. BERTOLIN; F. BONELLO; C. GAUTIER; A. BRICE; O. CORTI. *ICM, Brain and Spine Inst., Sorbonne Université, UPMC Univ. Paris 06, UMR S 1127, Inserm U1127, CNRS 7225, IPSEN.*

3:00 C94 **218.11** Genome-wide epigenomic alterations in Parkinson's disease. A. I. BERNSTEIN*; M. GEARING; J. MULLE. *Emory Univ.*

4:00 C95 **218.12** Mitochondrial accumulation of α-synuclein in Parkinson's disease causes impaired protein import via tom40 release/degradation. V. VASQUEZ*; J. MITRA; P. M. HEGDE; K. S. RAO; M. L. HEGDE. *INDICASAT-AIP, Acharya Nagarjuna Univ., Houston Methodist Res. Inst., Weil Med. Col. of Cornell Univ.*

1:00 C96 **218.13** Sensitivity of complex I to rotenone is activity-dependent in neurons. C. J. CHIANG*; L. SANDERS; J. CALLIO; E. HOWLETT; C. T. CHU. *UPMC Neuropathology, Pittsburgh Inst. for Neurodegenerative Dis., Univ. of Pittsburgh Sch. of Med. Dept. of Pathology.*

2:00 D1 **218.14** Evaluation of the role of CD163+ macrophages in the neurodegeneration of Parkinson's disease. N. TENTILLIER*; A. ETZERODT; K. SHRIVASTAVA; S. K. MOESTRUP; G. HALLIDAY; M. ROMERO-RAMOS. *Dept. Biomed., Neurosci. Res. Australia and the Univ. of New South Wales.*

3:00 D2 **218.15** Chronic L-DOPA administration induces astrogliosis in rats with intra-nigral 6-OHDA-lesion. G. RAMÍREZ GARCÍA*; V. PALAFOX SÁNCHEZ; I. LIMON PEREZ DE LEON. *Univ. Nacional Autónoma de México, Benemérita Univ. Autónoma de México.*

4:00 D3 **218.16** Behavioral characterization of mice lacking of PKR-like endoplasmic reticulum kinase (PERK) in dopaminergic neurons. F. LONGO*; E. SANTINI; E. KLANN. *New York Univ.*

1:00 D4 **218.17** Fipronil-induces apoptosis via modulation of mitochondrial function and alteration in protein degradation machinery in SH-SY5Y cells. S. KANURI; H. JIN; A. VELLAREDDY; A. KANTHASAMY; A. KANTHASAMY*. *IOWA STATE UNIVERSITY, Iowa State Univ.*

2:00 D5 **218.18** Real-time measurements of oxidative stress during chronic L-DOPA treatment for Parkinson's disease. L. R. WILSON*; C. A. LEE; N. D. RHODES; C. F. MASON; S. PANDA; L. A. SOMBERS. *North Carolina State Univ., North Carolina State Univ., North Carolina State Univ., North Carolina State Univ.*

3:00 D6 **218.19** Characterization of the mitochondrial enzymes activity and the lipidomic profile of parkinsonian monkeys using cell membranes microarrays. G. BARREDA-GÓMEZ*; A. PÉREZ-VALLE; M. GARCÍA-FERNÁNDEZ; J. GARATE; R. FERNÁNDEZ; T. TOLENTINO-CORTEZ; J. A. FERNÁNDEZ; E. ASTIGARRAGA. *IMG Pharma Biotech, UPV/EHU, Fac. of Med. and Dent., UPV/EHU, Fac. of Sci. and Technol.*

4:00 D7 **218.20** Mitochondrial quality control in microglial cells and astrocytes and their regulation by the Parkin-dependent pathway. F. MOUTON-LIGER*; M. JACOUPY; J. SEPULVEDA; F. BONELLO; S. HASSOUN; A. PRIVAT; Z. ERPAPAZOGLOU; P. MICHEL; A. BRICE; J. CORVOL; O. CORTI. *ICM Brain & Spine Inst.*

1:00 D8 **218.21** Lysosomal glycolipid changes in Parkinson's disease are mirrored by normal aging of the human and mouse brain. P. HALLETT*; E. N. ROCHA; M. HUEBECKER; G. A. SMITH; D. A. PRIESTMAN; F. M. PLATT; O. ISACSON. *McLean Hospital/Harvard Med. Sc, Univ. of Oxford.*

2:00 D9 **218.22** Mito-function of DJ1 in Parkinson's disease. R. CHEN*; J. WU; P. MIRANDA; K. N. ALAVIAN; E. A. JONAS. *Yale Sch. of Med.*



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

**POSTER**

## 219. Motor Neuron Disease

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 D10 **219.01** Rescue of neuromuscular junction integrity in two SOD1 mice models by chronic *in vivo* blockade of glial muscarinic receptors. D. ARBOUR*; É. MARTINEAU; E. TREMBLAY; R. ROBITAILLE. *Univ. De Montréal.*

2:00 D11 **219.02** Morpholino antisense oligomer against SOD1 for amyotrophic lateral sclerosis therapy. C. SIMONE; M. NIZZARDO; F. RIZZO; G. ULZI; A. RAMIREZ; M. BUCCHIA; A. BORDONI; G. COMI; S. CORTI*. *Univ. of Milan.*

3:00 D12 **219.03** Specific transduction of corticospinal motor neurons by AAV2 upon direct motor cortex injection. J. H. JARA*; M. J. STANFORD; Y. ZHU; C. G. BROOKS; W. W. HAUSWIRTH; M. C. BOHN; S. H. DEVRIES; P. OZDINLER. *Northwestern University, Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med., Univ. of Florida, Northwestern University, Children's Mem. Res. Ctr., Northwestern University, Robert H. Lurie Cancer Ctr., Northwestern University, Cognitive Neurol. and Alzheimer's Dis. Ctr.*

4:00 D13 **219.04** Expression of glial cell line-derived neurotrophic factor (GDNF) in the muscle using AAV does not slow disease progression the G93A SOD1 rat model of ALS. V. J. GARCIA*; G. GOWING; M. GODOY; P. SUEZAKI; P. AVALOS; D. RUSHTON; O. SHELEST; L. GARCIA; C. CHIU; I. ORELLANA; C. N. SVENDSEN. *Cedars-Sinai.*

1:00 D14 **219.05** Minimally invasive stereotactic surgical device for spinal cord injection of therapeutics. S. K. SUCKOW*; P. AVALOS; M. J. BAKER; B. EDIN; D. DRAZIN; M. DRLIK; J. GROVE; C. N. SVENDSEN. *Due North Innovation, Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr., StarFish Med.*

2:00 D15 **219.06** Environmental enrichment after transplantation of mesenchymal stem cells enhance angiogenic effect in chronic hypoxic-ischemic brain injury. S. WI*; J. SEO; J. YU; Y. SHIN; S. CHO. *Yonsei Univ. Col. of Med., Yonsei Univ. Col. of Med., Yonsei Univ. Col. of Med., Avison Biomed. Res. Ctr.*

3:00 D16 **219.07** Genotype specific impact of nuclear factor E2-related factor 2 (Nrf2) treatment in animal models of amyotrophic lateral sclerosis. W. NANDAR*; E. B. NEELY; Z. SIMMONS; J. R. CONNOR. *The Pennsylvania State University, M. S. Hershey Med. Ctr., The Pennsylvania State University, M. S. Hershey Med. Ctr.*

4:00 D17 **219.08** ● The role of nuclear export in TDP43-mediated neurodegeneration. H. ARCHBOLD*; X. LI; S. TAMIR; S. BARMADA. *Univ. of Michigan, Karyopharm Therapuetics, Univ. of Michigan, Univ. of Michigan.*

1:00 D18 **219.09** Effect of the tyrosine kinase inhibitor masitinib in transgenic rats expressing SOD1G93A mutation. E. TRIAS*; S. IBARBURU; R. BARRETO-NÚÑEZ; T. MACIEL; P. DÍAZ-AMARILLA; P. CASSINA; L. MARTÍNEZ-PALMA; J. BABDOR; C. MANSFIELD; A. MOUSSY; I. MOURA; J. S. BECKMAN; O. HERMINE; L. BARBEITO. *Inst. Pasteur De Montevideo, Imagine Institute, Hôpital Necker, Inst. de Investigaciones Biológicas Clemente Estable, Facultad de Medicina, Univ. de la República, AB Sci., Linus Pauling Institute, Oregon State Univ., Ctr. national de référence des mastocytoses (CEREMAST).*

2:00 D19 **219.10** Pur alpha: A potential therapy for ALS due to the C9ORF72 expanded repeat. E. W. GODFREY*; J. W. ORIANS; T. E. CRIST; E. M. JOHNSON; D. C. DANIEL. *Eastern Virginia Med. Sch., Eastern Virginia Med. Sch., Eastern Virginia Med. Sch.*

3:00 D20 **219.11** ● Protective effects of heat shock protein 27 on anti-ganglioside antibody-mediated neuropathy in a mouse model of Guillain-Barré syndrome. P. ASTHANA*; G. KUMAR; R. C. C. CHANG; G. ZHANG; K. A. SHEIKH; C. H. E. MA. *Dept. of Biomed. Sci., Lab. of Neurodegenerative Diseases, Dept. of Anatomy, LKS Fac. of Med., State Key Lab. of Brain and Cognitive Sci., Dept. of Neurology, Univ. of Texas Med. Sch. at Houston, Ctr. for Biosystems, Neurosci. and Nanotechnology.*

4:00 D21 **219.12** Neural progenitor cells secreting glial cell line-derived neurotrophic factor (GDNF) for the treatment of amyotrophic lateral sclerosis. G. M. GOWING*; B. SHELLEY; P. AVALOS; J. LATTER; A. HURLEY; L. GARCIA; K. STAGGENBORG; M. CHEN; M. GODOY; P. SUEZAKI; D. RUSHTON; R. PARADIS; J. ZELAYA; A. LIN; L. SHUE; C. CHANG; C. CHIU; K. NISHIMORI; J. VIT; C. N. SVENDSEN. *Cedars-Sinai.*

1:00 D22 **219.13** Tempol treatment reduces microglial reaction in late stages of disease in SOD1 mutant mice. G. CHIAROTTO*; A. B. SPEJO; A. L. R. OLIVEIRA. *Univ. of Campinas.*

2:00 D23 **219.14** ● Identification of novel inducers of SMN2 expression using the Privileged Structure Platform. M. E. R. BUTCHBACH*; A. W. HARRIS; A. PESYAN. *Nemours Biomed. Research/A. I. duPont Hosp. For Children, Thomas Jefferson Univ., Univ. of Delaware, AurimMed Pharma, Inc.*

3:00 D24 **219.15** ● Monoacylglycerol lipase inhibiton is therapeutically effective in chronic mouse models of amyotrophic lateral sclerosis and Parkinson's disease. N. PASQUARELLI; C. PORAZIK; J. HANSELMANN; P. WEYDT; B. FERGER; A. WITTING*. *Univ. Ulm, Boehringer Ingelheim Pharma GmbH & Co. KG.*

4:00 D25 **219.16** Use of a new minimally invasive intraparenchymal spinal delivery system for the injection of stem cells into the spinal cord. P. AVALOS*; G. GOWING; B. C. SHELLEY; D. DRAZIN; L. GARCIA; M. J. BAKER; S. SUCKOW; B. EDIN; C. N. SVENDSEN. *Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr., Due North Innovation.*

1:00 D26 **219.17** CSF1R signalling has a pivotal role in amyotrophic lateral sclerosis. A. MARTÍNEZ-MURIANA*; R. MANCUSO; I. FRANCOS-QUIJORNA; A. OLMOS-ALONSO; R. OSTA; V. PERRY; X. NAVARRO; D. GOMEZ-NICOLA; R. LÓPEZ-VALES. *Univ. Autònoma de Barcelona, Ctr. for Biol. Sciences, Univ. of Southampton, Univ. de Zaragoza.*



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

2:00 D27 **219.18** Assessing the neuroprotective effects of MicroNeurotrophins in the SOD1 mouse model of Amyotrophic Lateral Sclerosis. K. E. GLAJCH*; K. MUELLER; L. RYCYNA; C. VANDERBURG; A. GRAVANIS; G. SADRI-VAKILI. *Massachusetts Gen. Hosp., Univ. of Crete.*

3:00 D28 **219.19** Intra spinal delivery of human neural progenitors releasing ciliary neurotrophic factor (CNTF) ameliorate functional decline in the G93A rat model of amyotrophic lateral sclerosis. M. GODOY*; G. GOWING; P. SUEZAKI; D. RUSHTON; K. STAGGENBORG; P. AVALOS; L. GARCIA; O. SHELEST; R. PARADIS; C. CHIU; C. CHANG; C. SVENDSEN. *Cedars-Sinai Med. Ctr.*

4:00 D29 **219.20** ● Alternative anaplerotic fuel in the hSOD1G93A mouse model of Amyotrophic Lateral Sclerosis. K. BORGES*; T. TEFERA; Y. WONG; K. TAN; T. MCDONALD; S. NGO. *Univ. of Queensland.*

1:00 D30 **219.21** Atypical electropherogram patterns are observed among C9orf72 (G4C2) expansion carriers in a familial and sporadic ALS and ALS/FTD North American cohort study. J. L. LOWRY*; J. YAN; L. KINSLEY; N. SIDDIQUE; H. DENG; T. SIDDIQUE. *Northwestern Univ.*

2:00 D31 **219.22** Identification of modifiers of C9orf72-associated dipeptide toxicity in a new *C. elegans* model. S. T. LAMITINA*; J. MONAGHAN; U. PANDEY; K. MARSHALL; C. SNOZNIK. *Childrens Hosp. of Pittsburgh of UPMC, Childrens Hosp. of Pittsburgh of UPMC.*

3:00 D32 **219.23** iPS astrocytes derived from amyotrophic lateral sclerosis patients up regulate efflux transporters in endothelial cells. H. QOSA*; S. MARKANDAIAH; J. LICHTER; P. PASINELLI; D. TROTTI. *Thomas Jefferson Univ.*

4:00 D33 **219.24** Establishing the molecular signatures of motor neuron cultures derived from ALS, SMA and control induced pluripotent stem cells. C. N. SVENDSEN*; L. ORNELAS; D. SAREEN; B. SHELLEY; M. BARCH; J. OSTERLOH; S. SAMSI; P. MILANI; N. L. PATEL-MURRAY; E. MENDEZ; R. SATTLER; E. CROWGEY; A. MATLOCK; M. CASALE; R. LIM; J. WU; S. FINKBEINER; E. FRAENKEL; J. D. ROTHSTEIN; J. VANEYK; L. THOMPSON. *Cedars-Sinai Med. Ctr., Gladstone, MIT, Johns Hopkins, Univ. of California Irvine.*

1:00 D34 **219.25** The environmental neurotoxin β-methylamino-L-alanine: Modeling mother-to-infant transfer using human cell lines. L. ERSSON*; M. ANDERSSON; U. BERGSTRÖM; I. BRANDT; E. B. BRITTEBO. *Uppsala Univ., Uppsala Univ.*

2:00 D35 **219.26** Investigating the contribution of β-amyloid1-42 mediated toxicity to motor neuron degeneration in models of amyotrophic lateral sclerosis (ALS). J. BRYSON*; D. BUI; C. BARCELLOS-MACHADO; I. LIEBERAM; L. GREENSMITH. *UCL Inst. of Neurol., King's Col. London.*

3:00 D36 **219.27** Electrophysiological properties of human motoneurons derived from iPSc of patients with Amyotrophic Lateral Sclerosis. B. LAMOTTE D'INCAMPS*; C. LEFEBVRE; C. DALLE; C. NICAISE; F. SALACHAS; L. LACOMBLEZ; S. MILLECAMPS; S. BLANCHARD; D. BOHL. *Ctr. For Neurophysics, Physiol. and Pathology, Inst. du Cerveau et de la Moelle épinière - ICM- INSERM U 1127 - CNRS UMR-7225 - UPMC-Université Paris 6, Inst. du Cerveau et de la Moelle épinière - ICM- INSERM U 1127 - CNRS UMR-7225 - UPMC-Université Paris 6, Lab. Neurodegeneration and Regeneration, URPhyM-NARILIS, Univ. of Namur, Ctr. de référence maladies rares SLA, Hôpital Pitié-Salpêtrière, Unité Biothérapies pour les Maladies Neurodégénératives - Inst. Pasteur.*

4:00 D37 **219.28** Studying glia-neuronal interaction in C9ORF72 repeat expansion mediated amyotrophic lateral sclerosis using a human induced pluripotent stem cell based *in vitro* model. C. ZHAO*; A. DEVLIN; B. T. SELVARAJ; A. SERIO; S. BOROOAH; E. M. CLEARY; K. BURR; C. E. SHAW; G. B. MILES; S. CHANDRAN. *Univ. of Edinburgh, Univ. of Edinburgh, Univ. of St. Andrews, Imperial Col. London, King's Col. London.*

1:00 D38 **219.29** C9orf72 repeat-associated non-atg (ran) translation products induce tdp43 mislocalization and neurodegeneration in models of als and ftd. B. FLORES*; M. IVANOVA; A. KRANS; P. TODD; S. BARMADA. *Univ. of Michigan, Univ. of Michigan.*

2:00 D39 **219.30** ▲ Arginine-rich sense and antisense dipeptides in post-mortem human tissues of c9orf72-als/ftd patients. T. R. WESTERGARD*; X. WEN; N. A. SCHNEIDER; P. PASINELLI; D. TROTTI. *Thomas Jefferson Univ., Columbia Univ. Med. Ctr.*

**POSTER**

**220. Aging: Metabolism, Diet, and Oxidative Stress**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 D40 **220.01** Does MAO-A play a role in the development of depression for individuals with Alzheimer's disease. Z. WEI*; B. CHAHARYN; K. FEHR; K. CHEN; J. C. SHIH; D. D. MOUSSEAU. *Univ. of Saskatchewan, USC.*

2:00 D41 **220.02** Guanine nucleotide exchange factor OSG-1 confers functional aging via dysregulated Rho signaling in Caenorhabditis elegans neurons. F. SESTI*; Z. DUAN. *Rutgers.*

3:00 D42 **220.03** RAGE induces abnormal mitochondrial dynamics in sympathetic neurons expose to high glucose. M. G. OTERO; X. LU; A. CHANDNA; Y. YAMAMOTO; T. FALZONE; V. A. CAMPANUCCI*. *Inst. de Biologia Celular y Neurociencia, Univ. of Saskatchewan, Grad. Sch. of Med. Sci.*

4:00 D43 **220.04** Iron restriction induces alterations in dopamine metabolism and PrPC expression. J. M. PINO*; H. K. M. ANTUNES; S. Q. D. GIAMPÁ; K. S. LEE. *Univ. Federal De São Paulo UNIFESP, Univ. Federal De São Paulo UNIFESP, Univ. Federal De São Paulo UNIFESP.*



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

1:00 D44 **220.05** Effects of intermittent fasting on lipopolysaccharide-induced changes on glutamate-nitric oxide-Na,K-ATPase pathway during brain aging. A. R. VASCONCELOS*; P. F. KINOSHITA; L. M. YSHII; A. M. M. ORELLANA; A. E. BÖHMER; L. DE SÁ LIMA; R. ALVES; D. Z. ANDREOTTI; T. MARCOURAKIS; C. SCAVONE; E. M. KAWAMOTO. *Univ. of Sao Paulo, Univ. of Sao Paulo.*

2:00 D45 **220.06** The effects of LRRK2 genetic mutations on mitochondrial dynamics in Parkinson's disease model. J. KIM*; J. KIM; J. JANG; H. SEO. *Hanyang Univ.*

3:00 D46 **220.07** Age-dependent effects of RCAN1 overexpression on memory and synaptic plasticity. H. WONG*; J. LEVENGA; B. ROTHERMEL; E. KLANN; C. HOEFFER. *New York Univ., Univ. of Colorado, UT Southwestern Med. Ctr.*

4:00 D47 **220.08** HMGB1 sensitizes microglia in the aged brain causing prolonged inflammation and cognitive impairments following infection. L. K. FONKEN*; M. M. KITT; M. G. FRANK; R. M. BARRIENTOS; L. R. WATKINS; S. F. MAIER. *Univ. of Colorado.*

1:00 D48 **220.09** Differences in plasma and CNS cytokine levels in adult and ageing rats. I. P. JOHNSON*; V. KATHARESAN; M. D. LEWIS; R. VINK. *Univ. of Adelaide, South Australian Hlth. and Med. Res. Inst., Univ. of South Australia.*

2:00 E1 **220.10** Ameliorating age-related deficits in hippocampal function through viral overexpression of CREB protein. X. YU*; D. M. CURLIK, II; M. M. OH; J. C. P. YIN; J. F. DISTERHOFT. *Northwestern Univ., Univ. of Wisconsin.*

3:00 E2 **220.11** Effects of the anti-aging hormone Klotho on AKT/FoxO signaling in the central nervous system. C. MAZUCANTI*; M. CARARO; T. SALA; L. YSHII; C. SCAVONE. *Univ. of Sao Paulo.*

4:00 E3 **220.12** Activation of the A2A adenosine receptor protects PC12 cells from the H2O2-induced DNA damage by TRAX. Y. CHERN*; T. CHIEN; S. CHANG; H. LAI. *Inst. Biomed Sci., Inst. of Life Sci., Inst. of Neuroscience, Natl. Yang-Ming Univ.*

1:00 E4 **220.13** Pattern recognition receptor activity increases NF-κB signaling in cerebellar granule cells: A potential mechanism for age-associated alterations in neuronal structure and function. N. W. DEKORVER*; J. ARIKKATH; S. J. BONASERA. *Univ. of Nebraska Med. Ctr.*

2:00 E5 **220.14** Changes in nutrient sensing pathways alter bio-energetics and are upstream of age dependent changes in microglial phenotype. A. FLOWERS*; H. BELL-TEMIN; L. DALY; S. M. STEVENS; P. BICKFORD. *Univ. of South Florida, Univ. of South Florida, Univ. of South Florida.*

3:00 E6 **220.15** Neuroinflammation, dopaminergic neurodegeneration and behavioral impairment in hyperglycemic rats. K. DUFRESNE; J. RENAUD; N. ST-AMAND LUNA; C. LAVOIE; G. COSTA; N. SIMOLA; M. MORELLI; M. MARTINOLI*. *Univ. Quebec, Univ. di Cagliari.*

4:00 E7 **220.16** Establishing an animal model to study the neurobiology of obesity and ageing. J. K. SINHA*; S. GHOSH; M. RAGHUNATH. *Natl. Inst. of Nutr. (NIN).*

1:00 E8 **220.17** Modulation of metabolic parameters and antioxidant enzymes in diabetic aging female rat brain: Beneficial role of Metformin. P. KUMAR*; N. BAQUER. *Jawaharlal Nehru Univ.*

2:00 E9 **220.18** Longevity manipulations differentially affect serotonin/dopamine level and behavioral deterioration in aging caenorhabditis elegans. J. YIN*; X. LIU; J. YUAN; S. CAI. *Inst. of Neuroscience, SIBS, CAS.*

3:00 E10 **220.19** Inhibition of dopamine transporter by arachidonic acid oxidation is associated with γ-ketoaldehyde adduct formation in PC12 cells. J. A. PINO*; N. OSSES; T. B. BAUST; C. A. VALLE; J. G. REYES; G. E. TORRES. *Univ. of Pittsburgh, Pontifical Catholic Univ. of Valparaiso, Univ. of Viña del Mar.*

4:00 E11 **220.20** The neuronal mitochondrial proteome and regulation of synaptic stability. L. C. GRAHAM*; S. L. EATON; D. J. LAMONT; P. J. BRUNTON; C. M. HENSTRIDGE; T. L. SPIRES-JONES; T. H. GILLINGWATER; G. PENNETTA; P. SKEHEL; T. M. WISHART. *The Roslin Inst., The Roslin Inst., Univ. of Dundee, Univ. of Edinburgh.*

1:00 E12 **220.21** The role of STK3 in neurodegeneration : Brain region-specific alterations in the aging process. M. LESSARD-BEAUDOIN*; M. DEMERS; M. LAROCHE; G. GRENIER; R. GRAHAM. *Univ. of Sherbrooke, Res. Ctr. on Aging, Univ. of Sherbrooke.*

2:00 E13 **220.22** ▲ Glyceraldehyde-3-phosphate dehydrogenase regulates c-jun N-terminal kinase activation under oxidative stress conditions. K. SATO*; M. ITAKURA; Y. AZUMA; T. TAKEUCHI; H. NAKAJIMA. *Osaka Prefecture Univ.*

3:00 E14 **220.23** Role of surface MHCI in mediating negative effects of B2M and old blood on cognitive and regenerative function. C. SNETHLAGE*; L. SMITH; K. LIN; G. GONTIER; K. PLAMBECK; J. UDEOCHU; E. WHEATLEY. *UCSF.*

4:00 E15 **220.24** Role of classical MHC I molecules H2-Kb and H2-Db in regulating adult neurogenesis and cognitive function with age. K. LIN*; L. K. SMITH; S. A. VILLEDA. *UCSF.*

1:00 E16 **220.25** A role for Nrf2 in neural stem cell function during aging. L. MADHAVAN*; M. J. CORENBLUM; S. RAY; M. LONG; B. HARDER; D. ZHANG; C. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

2:00 E17 **220.26** Mitochondrial dysfunction leads to altered lipid homeostasis in prematurely aging mtDNA mutator (PolgAmut/mut) mice. J. M. ROSS*; G. COPPOTELLI; M. SHAFAATI; M. OLIN; B. HOFFER; I. BJÖRKHEM; L. OLSON. *Karolinska Institutet, Case Western Reserve Med. Ctr.*

3:00 E18 **220.27** ● Age-dependent high copper contents and expressions of copper regulatory proteins in the subventricular zone and choroid plexus. X. FU*; W. JIANG; W. ZHENG. *Purdue Univ. Sch. of Hlth. Sci.*

4:00 E19 **220.28** Aging-vulnerable and -resilient activity patterns in an identified *Drosophila* motor neuron: Acceleration by high temperature and distortion by oxidative stress. A. IYENGAR*; H. RUAN; C. WU. *Univ. of Iowa, Univ. of Iowa.*



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* Indicates abstract's submitting author

**POSTER**

## 221. Genetic Models of Autism Spectrum Disorder

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 E20 **221.01** Shank3-mutant mice lacking exon 9 show altered excitation/inhibition balance, enhanced rearing, and spatial memory deficit. J. LEE*; C. CHUNG; S. HA; D. LEE; D. KIM; H. KIM; E. KIM. *KAIST, Korea Univ., Inst. for Basic Sci. (IBS).*

2:00 E21 **221.02** Behavioral characterization of SHANK3-deficient rats on an 8-arm radial maze. M. YOUNG*; M. L. SHAPIRO. *Icahn Sch. of Med. At Mount Sinai, The Seaver Autism Ctr. for Res. and Treatment, Icahn Sch. of Med. at Mount Sinai.*

3:00 E22 **221.03** ● Pten is necessary to establish normal numbers of GABAergic cortical interneurons. D. VOGT*; K. K. A. CHO; A. T. LEE; V. S. SOHAL; J. L. R. RUBENSTEIN. *Univ. of California San Francisco.*

4:00 E23 **221.04** Conditional deletion of autism risk gene PTEN in the dopaminergic system leads to morphological, neurochemical, and behavioral abnormalities; can it be rescued? K. T. E. KLEIJER; A. HOYER; M. J. H. KAS; J. H. BURBACH*. *Brain Ctr. Rudolf Magnus, UMC Utrecht.*

1:00 E24 **221.05** Treatment with novel erk inhibitor rescues pathophysiology associated with 16p11.2 chromosomal deletion in mice. J. PUCILOWSKA*; J. VITHAYATHIL; C. KELLY; J. C. KARLO; R. BRAMBILLA; G. E. LANDRETH. *Case Western Reserve Univ., Case Western Reserve Univ., San Raffaele Scientific Inst.*

2:00 E25 **221.06** Autism-related shank3 exon 13 stop mice exhibit altered behavior and synaptic dysfunction in striatum and hippocampus. T. C. JARAMILLO*; H. SPEED; Z. XUAN; S. LIU; C. POWELL. *UT Southwestern Med. Ctr.*

3:00 E26 **221.07** Autism related stress circuits exhibit enhanced norepinephrine system activity in the Engrailed-2 (En2) knockout model of neurodevelopmental disorders. J. W. LUNDEN; M. GENESTINE; C. C. PENG; V. MIRABELLA; S. PREM; J. H. MILLONIG; E. M. DICICCO-BLOOM*. *Rutgers-Robert Wood Johnson Med. Sch., Rutgers Robert Wood Johnson Med. Sch.*

4:00 E27 **221.08** Autism-relevant social communication deficits and aberrant cognitive phenotypes in mice lacking the post-synaptic scaffolding protein SHANK1: A developmental perspective. A. Ö. SUNGUR*; M. C. E. JOCHNER; T. M. REDECKER; R. K. W. SCHWARTING; M. WÖHR. *Philipps-University of Marburg.*

1:00 E28 **221.09** FoxP1 orchestration of ASD-relevant signaling pathways in the striatum. D. ARAUJO*; A. G. ANDERSON; S. BERTO; W. RUNNELS; M. HARPER; S. AMMANUEL; M. A. RIEGER; H. HUANG; K. RAJKOVICH; K. LOERWALD; J. D. DEKKER; H. O. TUCKER; J. D. DOUGHERTY; J. R. GIBSON; G. KONOPKA. *UT Southwestern Med. Ctr., Washington Univ. Sch. of Med., Jackson State Univ., UT Austin.*

2:00 E29 **221.10** Neurodevelopmental mTORC1 activity predicts cell size and the effect of mutations in autism risk genes. W. HUANG*; D. PAGE. *The Scripps Res. Inst.*

3:00 E30 **221.11** Association of single-nucleotide polymorphisms of the CD157/BST1 gene with autism spectrum disorders in a Japanese population. S. YOKOYAMA*; N. A. MAHMUDA; T. MUNESUE; H. HIGASHIDA. *Kanazawa Univ.*

4:00 E31 **221.12** Functional characterization of coding FOXP1 variants found in individuals with intellectual disability, autism and language impairment. P. DERIZIOTI*; E. SOLLIS; A. VINO; C. GILLISEN; H. FROHLICH; S. GRAHAM; R. PFUNDT; D. DIMITROPOULOU; H. BRUNNER; G. RAPPOLD; S. FISHER. *Max Planck Inst. for Psycholinguistics, Dept. of Human Genetics, Radboud Inst. for Mol. Life Sci. and Donders Ctr. for Neuroscience, Radboud Univ. Med. Ctr., Dept. of Mol. Human Genetics, Ruprecht-Karls-University, Dept. of Clin. Genetics, Maastricht Univ. Med. Ctr., Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ.*

1:00 E32 **221.13** Autism phenotype and megalencephaly in zinc transporter 3 (ZnT3) null mice: Possible involvement of MMP activation and BDNF upregulation. M. YOO*; T. KIM; J. KOH. *Asan Life Sci. Res. Inst.*

2:00 E33 **221.14** Purkinje cells-restricted expression of mutant DISC1 in anterior cerebellum produces neurobehavioral abnormalities relevant to schizophrenia and autism spectrum disorders. A. V. SHEVELKIN*; B. N. ABAZYAN; C. YANG; O. A. MYCHKO; G. L. RUDOW; J. C. TRONCOSO; M. V. PLETNIKOV. *P.K.Anokhin Inst. Norm Physiol, Johns Hopkins Univ. Sch. of Med.*

3:00 E34 **221.15** Male-specific amygdala dendritic spine abnormalities in mice haploinsufficient for Protocadherin 10, an autism-associated gene. H. SCHOCH*; A. BANERJEE; S. FERRI; A. S. KREIBICH; H. DOW; S. HIRANO; R. T. SCHULTZ; C. HAHN; T. ABEL; E. BRODKIN; D. FELDMEYER. *Univ. of Pennsylvania, Perelman Sch. of Medicine, Univ. of Pennsylvania, Kansai Med. Univ., Perelman Sch. of Medicine, Univ. of Pennsylvania, Res. Ctr. Jülich, RWTH Aachen Univ.*

4:00 E35 **221.16** ● Evaluation of r-baclofen in novel object recognition in the Fmr1 knockout mouse model of Fragile X syndrome. T. M. KAZDOBA*; P. T. LEACH; J. N. CRAWLEY. *Univ. of California, Davis, Univ. of California, Davis.*

1:00 E36 **221.17** Shank3B knockout mice display unusual adult reciprocal social interactions, ultrasonic vocalizations, repetitive self-grooming, seizure activity and EEG gamma-power. J. L. SILVERMAN*; M. C. PRIDE; N. A. COPPING; J. E. HAYES; S. H. T. LAMMERS; S. C. DHAMNE; A. ROTENBERG; E. CHADWICK; D. G. SMITH; M. SAHIN; J. N. CRAWLEY. *UC Davis Sch. of Med., Boston Children's Hospital, Harvard Med. Sch., Autism Speaks.*

2:00 E37 **221.18** 16p11.2 mouse model of autism demonstrates impaired novel object recognition with intact spatial object recognition and contextual fear conditioning. S. L. FERRI*; W. O'BRIEN; J. WALSH; N. BOWMAN; R. HAVEKES; T. ABEL. *Univ. of Pennsylvania, Univ. of Pennsylvania, Swarthmore Col.*

3:00 E38 **221.19** Touchscreen visual discrimination learning deficits in the Ube3a mouse model of Angelman syndrome. P. T. LEACH*; T. M. KAZDOBA; K. SISON; C. M. GALL; G. S. LYNCH; J. N. CRAWLEY. *MIND Institute, Univ. of California Davis Sch., MIND Institute, Univ. of California Davis Sch., Univ. of California Irvine, Univ. of California Irvine Sch. of Med.*



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

4:00 E39 **221.20** Hyperactivity and male-specific sleep deficits in the 16p11.2 deletion mouse model of autism. C. C. ANGELAKOS*; A. J. WATSON; K. S. KRAINOCK; W. T. O'BRIEN; T. ABEL. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

1:00 E40 **221.21** Characterization of neuronal phenotypes in the 15q13.3 microdeletion mouse model. B. K. UNDA*; M. UDDIN; S. WHITE; A. FORSINGDAL; J. NIELSEN; S. W. SCHERER; K. K. SINGH. *McMaster Univ., The Hosp. for Sick Children, Synaptic Transmission in Vitro, Neurosci. Drug Discovery DK, H. Lundbeck A/S.*

2:00 E41 **221.22** Deficits in learning operant associations, but not motivation, in CNTNAP2 and Shank3b mouse models of autism. N. M. GRISSOM*; S. E. MCKEE; L. WALSH; M. R. MARINI; T. M. REYES; T. ABEL. *Univ. of Pennsylvania, Univ. of Cincinnati.*

3:00 E42 **221.23** Characterization of prenatal zinc deficient animals regarding possible autism like behavior. A. M. GRABRUCKER*; G. EHRET; T. BOECKERS; S. GRABRUCKER. *Neurocenter of Ulm Univ., Univ. Ulm, Univ. Ulm.*

4:00 E43 **221.24** Local information influences visual shape perception in autism spectrum across different developmental periods. A. PERREAULT*; C. HABAK; L. MOTTRON; F. LEPORE; A. BERTONE. *Univ. De Montréal, Hôpital Rivière-des-Prairies, Emirates Col. for Advanced Educ., Hôpital Rivière-des-Prairies, Univ. de Montréal, McGill Univ.*

1:00 E44 **221.25** Sensory filtering and cognitive impairments in a VPA rat model of autism. A. DE SILVA; S. SCHMID*. *Univ. of Western Ontario, Univ. of Western Ontario.*

2:00 E45 **221.26** Lower anisotropy and higher diffusivity in limbic system white matter in the autism spectrum. M. J. ALSHIKHO*; N. SHETTY; S. GHOSH; E. M. RATAI; M. R. HERBERT. *Massachusetts Gen. Hosp., MGH/HST Martinos Ctr. for Biomed. Imaging, Massachusetts Gen. Hospital/ TRANSCEND, Massachusetts Gen. Hosp.*

3:00 E46 **221.27** Novel approaches to the reconstruction of transcriptomic and epigenomic networks underlying dysfunction in CNV-dependent neurodevelopmental disorders. G. TESTA*; P. GERMAIN; A. ADAMO; M. ZANELLA; G. D'AGOSTINO; A. VITRIOLO; V. ALBERTIN; C. FASANO; S. TEMPLE; K. BENNETT. *Univ. of Milan and European Inst. of Onco, European Inst. of Oncology, The Neural Stem Cell Inst., Rensselaer Polytechnic Inst.*

**POSTER**

**222. Therapeutic Strategies for Remyelination**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 E47 **222.01** Neuregulin1 modulation of experimental autoimmune encephalomyelitis. F. SONG*; H. DEOL; J. A. LOEB; E. ALLENDER; E. H. SIMPSON. *Univ. of Illinois at Chicago, Columbia Univ.*

2:00 E48 **222.02** Epimedium flavonoids ameliorate neuroinflammatory and neuropathological changes in rodents. L. YIN*; Z. QU; M. LIANG; L. ZHANG; L. LI. *Xuan Wu Hosp. of Capital Med. Univ., Beijing Geriatric Med. Res. Ctr., Xuan Wu Hosp. of Capital Med. Univ.*

3:00 F1 **222.03** Phasic treatment with IFNγ stimulates release of CNS exosomes that protect against spreading depression. A. D. PUSIC*; K. M. PUSIC; R. P. KRAIG. *Univ. of Chicago.*

4:00 F2 **222.04** ● Siponimod - direct CNS effects of a 2nd generation immunomodulatory drug? P. EHLING*; M. CERINA; V. NARAYANAN; A. M. HERRMANN; S. PANKRATZ; S. BOCK; K. GOEBEL; S. G. MEUTH. *Univ. of Muenster.*

1:00 F3 **222.05** ● Evaluation of nefiracetam as a regenerative therapeutic in an animal model of demyelinating Charcot Marie Tooth disease. L. ALVEY*; R. P. MURPHY; K. J. MURPHY; K. H. KEANE; J. F. X. JONES; M. PICKERING. *Sch. of Med. and Med. Science, Univ. Col. Dublin, Sch. of Biomolecular and Biomed. Science, Univ. Col. Dublin.*

2:00 F4 **222.06** ● Amantadine ameliorates gait deficits and disease severity in an animal model of multiple sclerosis. J. NGUYEN; B. BRIGHAM*; J. OKSMAN; T. AHTONIEMI; B. SAVA; B. BUISSON. *Adamas Pharmaceuticals, Charles River Discovery Res. Services, Neuroservice.*

3:00 F5 **222.07** Dendritic cell-derived exosomes containing miR-219 are effective after nasal administration to rat brain - implications for treatment of multiple sclerosis and migraine. J. SCHUMER*; A. D. PUSIC; R. P. KRAIG. *Univ. of Chicago.*

4:00 F6 **222.08** Combinatorial treatment strategies attenuate EAE. K. P. KOENIG*; J. C. NISSEN; S. E. TSIRKA. *Stony Brook Univ. Med. Sch.*

1:00 F7 **222.09** Triacetin therapy alters spinal cord lipid metabolism in mice subjected to experimental autoimmune encephalomyelitis (EAE). A. C. CHEVALIER*; T. A. ROSENBERGER. *Univ. of North Dakota.*

2:00 F8 **222.10** Environmental enrichment stimulates immune cell secretion of exosomes that promote CNS myelination and reduce inflammation. K. M. PUSIC*; A. D. PUSIC; R. P. KRAIG. *Univ. of Chicago.*

3:00 F9 **222.11** Prolonged electrical stimulation of a hindbrain raphe region attenuates experimental autoimmune encephalomyelitis in mice. S. S. SLOLEY; P. M. MADSEN; M. M. CARBALLOSA; A. VITORES; R. BRAMBILLA; I. D. HENTALL*. *Univ. Miami Schl Med., Inst. of Mol. Med.*

4:00 F10 **222.12** FTY720 (Gilenya) stimulates neurotrophic factor expression in oligodendroglial cells. I. SEGURA; R. G. PEREZ*. *Texas Tech. Univ. HSC El Paso.*

1:00 F11 **222.13** Effect of Vitamin D replacement on cognition in Multiple Sclerosis patients. H. J. DARWISH*; R. HADDAD; S. OSMAN; S. GHASSAN; B. YAMOUT; S. KHOURY. *American Univ. of Beirut.*

2:00 F12 **222.14** Recognising the role of hypoxia in neuroinflammatory disease, and the effects of oxygen as a therapy. M. AMATRUDA*; A. MATIS; A. DAVIES; R. DESAI; M. LINDNER; C. LININGTON; K. J. SMITH. *Inst. of Neurology, Univ. Col. London, Univ. of Glasgow, Inst. of Infection, Immunity and Inflammation.*



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

3:00 F13 **222.15** ● Fingolimod sustains neuronal and electrophysiological function in a mouse model of myelin oligodendrocyte glycoprotein (MOG) induced experimental autoimmune encephalomyelitis (EAE). S. S. POPP*; P. SCHLEESE; B. K. MÜLLER; K. WICKE. *AbbVie Deutschland GmbH & Co. KG.*

4:00 F14 **222.16** Chronic oral riluzole or caloric restriction but not acute riluzole ameliorates symptoms of experimental autoimmune encephalomyelitis. A. J. BETZ*; R. ROTOLO; J. DEMURO; G. DRUMMOND; C. LITTLE; L. TELISKA; B. DALENA; S. CASTILLO; L. FRUEHAUF; T. STRANGE; T. MEDWID; A. BARBER; L. JOHNS. *Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ., Hopkins Sch.*

1:00 F15 **222.17** Activation of NF-κB protects oligodendrocytes against inflammation. W. LIN*; W. WISESSMITH; S. JAMISON; R. SCHMIDT-ULLRICH. *Univ. of Minnesota, Max-Delbrueck-Center for Mol. Med.*

2:00 F16 **222.18** The muscarinic acetylcholine receptor as a therapeutic target for remyelination and axonal integrity in multiple sclerosis. F. MEI*; K. LEHMANN-HORN; C. TEUSCHER; A. GREEN; J. WESS; J. LAWRENCE; S. TONEGAWA; S. ZAMVIL; S. P. J. FANCY; J. R. CHAN. *Univ. of California San Francisco, Third Military Med. Univ., Univ. of California San Francisco, Univ. of Vermont, US Natl. Inst. of Hlth., The Univ. of Montana, MIT, Univ. of California San Francisco.*

3:00 F17 **222.19** Oligodendroglial TNFR2 mediates membrane TNF-dependent repair in neuroimmune disease by promoting oligodendrocyte differentiation and remyelination. P. MADSEN*; D. MOTTI; D. E. SZYMKOWSKI; J. R. BETHEA; R. BRAMBILLA. *Univ. of Miami Miller Sch. of Med., Univ. of Southern Denmark, Nationwide Children's Hosp., Xencor Inc., Drexel Univ., Miller Sch. of Medicine, Univ. of Miami.*

**POSTER**

**223. Demyelinating Disorders: Human and Animal Studies**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 F18 **223.01** Immunophenotyping and cytokine expression in $MOG_{35-55}$ induced experimental autoimmune encephalomyelitis mouse model. M. VIHMA; M. TAAVITSAINEN; J. OKSMAN; S. KIM*; R. HODGSON; P. J. SWEENEY; A. NURMI. *Charles River Discovery Services.*

2:00 F19 **223.02** Characterization of the $MOG_{35-55}$ induced experimental autoimmune encephalomyelitis mouse model for multiple sclerosis by behavior and immunohistochemistry. J. OKSMAN*; S. KIM; L. TÄHTIVAARA; A. NURMI. *Charles River Discovery Services.*

3:00 F20 **223.03** Cuprizone model in mice: Characterization of white matter, tissue pathology and inflammation by mri and spect. K. LEHTIMÄKI; T. HUHTALA; A. ZAINANA; R. HODGSON; A. J. NURMI*. *Charles River Discovery Res. Services.*

4:00 F21 **223.04** Cuprizone model in mice: Characterization of tissue pathology by immunohistochemistry and flow cytometry. M. VIHMA; L. TAHTIVAARA*; A. ZAINANA; R. HODGSON; A. NURMI. *Charles River Discovery Res. Services Finland Ltd.*

1:00 F22 **223.05** Behavioral Characterization of the Cuprizone Model of demyelination in mice. A. ZAINANA; S. HÄTINEN*; J. PUOLIVÄLI; T. HEIKKINEN; R. HODGSON; A. NURMI. *Charles River Discovery Res. Services.*

2:00 F23 **223.06** Mechanisms of myelin loss in copper depleted mice: Implications for Progressive MS. A. V. CAPRARIELLO*; K. W. C. POON; J. R. PLEMEL; L. LU; J. F. DUNN; P. K. STYS. *Univ. of Calgary.*

3:00 F24 **223.07** Cell intrinsic and microenvironmental etiologies of chemotherapy-induced white matter injury. E. M. GIBSON*; L. S. WOOD; S. CARTMELL; A. K. GOLDSTEIN; J. LENNON; S. NAGARAJA; S. E. MILLER; P. J. WOO; A. OCAMPO; M. MONJE. *Stanford Univ.*

4:00 F25 **223.08** Understanding neuronal gene expression changes induced by distal demyelination or inflammatory insult. B. CLARKSON*; K. MIRCHIA; H. KIM; B. SAUER; R. LAFRANCE-COREY; C. HOWE. *Mayo Clin.*

1:00 F26 **223.09** Multiple sclerosis patients have increased levels of the uremic toxin 3-carboxy-4-methyl-5-propyl-2-furanpropanoic acid (CMPF). F. MIR*; D. BLEMUR; S. A. SADIQ. *Tisch MS Res. Ctr. of NY.*

2:00 F27 **223.10** Cortical spreading depression induces hemodynamic mini-strokes: A potential cause of white matter leisons in migraine. B. DONMEZ-DEMIR*; M. YEMISCI; K. KILIC; Y. GURSOY-OZDEMIR; M. MOSKOWITZ; T. DALKARA. *Hacettepe Univ., Dept. of Neurology, Hacettepe Univ., Massachusetts Gen. Hosp. Harvard Univ.*

3:00 F28 **223.11** Clinical difference between idiopathic optic neuritis and viral optic neuritis. S. KIM*. *Kangwon Natl. Univ. Hosp.*

4:00 F29 **223.12** Single cell analysis of multiple sclerosis cerebrospinal fluid B cells shows predominant IgM response in some MS patients. J. LIN*; P. H. AU; S. A. SADIQ. *Tisch MS Res. Cntr NY.*

1:00 F30 **223.13** Ultrastructure of the lower motor system in a mouse model of Krabbe disease (KD). V. CAPPELLO*; P. PARLANTI; L. MARCHETTI; I. TONAZZINI; M. CECCHINI; V. PIAZZA; M. GEMMI. *Inst. Italiano Di Tecnologia, Inst. Italiano Di Tecnologia, Scuola Normale Superiore, NEST, Scuola Normale Superiore and Inst. di Nanoscienze - CNR.*

2:00 F31 **223.14** Three cases of osmotic demyelination syndrome with an unusual onset and a favorable outcome. A. FUKUI; X. CAO; M. TAJITSU; J. NAGAI; T. YAMADA; Y. YAMBE; T. MURASE*. *Nagoya Med. Ctr.*

3:00 F32 **223.15** Neuroprotective effects of dihydrotestosterone in chronic experimental autoimmune encephalomyelitis. R. C. MELCANGI*; S. GIATTI; S. ROMANO; M. PESARESI; N. MITRO; B. VIVIANI; L. GARCIA-SEGURA; D. CARUSO. *Univ. Degli Studi Di Milano, Univ. Degli Studi Di Milano, CSIC.*

4:00 F33 **223.16** ● Blood plasma measurements of oxidative stress show phenotype specificity in x-linked adrenoleukodystrophy. B. R. TURK; C. TIFFANY; J. MARX; R. JONES; A. B. MOSER; A. FATEMI*. *Kennedy Krieger Institute, Johns Hopkins Univ., Johns Hopkins Univ.*



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

1:00 F34 **223.17** The effects of psychosocial stress during the remyelination phase in an animal model of multiple sclerosis. M. MAKINODAN*; K. YAMAMURO; D. IKAWA; Y. YAMASHITA; M. TORITSUKA; T. YAMAUCHI; S. FUKAMI; T. KISHIMOTO. *Fac. of Medicine, Nara Med. Univ.*

2:00 F35 **223.18** Relating white matter "potholes" to polygenic risk for Multiple Sclerosis. D. RINKER*; G. PRASAD; M. RENTERIA; N. JAHANSHAD; D. P. HIBAR; K. L. MCMAHON; G. I. DE ZUBICARAY; G. MONTGOMERY; N. G. MARTIN; M. J. WRIGHT; P. M. THOMPSON. *Univ. of Southern Califronia, USC, Queensland Inst. of Med. Res., Univ. of Queensland, Univ. of Queensland.*

3:00 F36 **223.19** Alpha-methylacyl-CoA racemase regulates the T Cell response in experimental autoimmune encephalomyelitis. N. TAFFERNER; J. BARTHELMES; M. EBERLE; N. FERREIROS; T. ULSHÖFER; M. HENKE; A. WEIGERT; N. DE BRUIN*; G. GEISSLINGER; M. J. PARNHAM; S. SCHIFFMANN. *Fraunhofer Inst. Mol Biol and Appl Ecol (IME), pharmazentrum frankfurt/ZAFES, Goethe-University.*

4:00 F37 **223.20** Brain galanin is regulated in an animal model of multiple sclerosis. P. LOPRESTI*. *Univ. of Illinois At Chicago.*

1:00 F38 **223.21** Effects of brief aquatic exercise on cardiovascular fitness and cerebral oxygenation in Multiple Sclerosis. J. PETERSEN; D. CALVO; H. GERHART; M. SPITZNAGEL; A. L. RIDGEL*. *Kent State Univ., Kent State Univ.*

2:00 F39 **223.22** The birth seasonality in multiple sclerosis: Implications from a similar seasonality found among gay men and an opposite seasonality found among both lesbian women and powerful baseball hitters. G. MARZULLO*. *Per Aspera Res. Fndn.*

3:00 F40 **223.23** ▲ Immunointervention in experimental autoimmune encephalomyelitis by targeting the protease site of endothelial NMDA receptor. R. M. MACREZ*; C. ORTEGA; A. FOURNIER; S. VAN DER POL; A. MERHA; E. MAUBERT; F. LESEPT; A. CHEVILLEY; B. HAELEWYN; F. DE CASTRO; E. DE VRIES; D. VIVIEN; D. CLEMENTE; F. DOCAGNE. *GIP Cyceron Inserm U919, Hosp. Nacional de paraplejicos, Neurosci. campus, Univ. of Caen.*

4:00 F41 **223.24** Galectin-3 is a possible target molecule for anti-brain microvascular endothelial cell antibodies in patients with secondary progressive multiple sclerosis. H. NISHIHARA*; F. SHIMIZU; Y. SANO; Y. TAKESHITA; M. ABE; T. MAEDA; T. KANDA. *Yamaguchi Univ. Grad. Sch. of Medicine.*

1:00 F42 **223.25** Diverse nicotinic mechanisms in a model of multiple sclerosis. R. J. LUKAS*; Q. LIU; L. LUCERO; A. R. SIMARD; P. WHITEAKER; B. J. MORLEY; F. SHI. *Barrow Neurol Inst., Univ. of Moncton, Boys Town Natl. Res. Hosp.*

2:00 F43 **223.26** Oligodendrocyte death in the DTA mouse model results in late-onset immune-mediated CNS demyelination. M. TRAKA*; J. R. PODOJIL; D. P. MCCARTHY; S. D. MILLER; B. POPKO. *Univ. of Chicago, Northwestern Univ. Feinberg Sch. of Med.*

3:00 F44 **223.27** Visuomotor delay adaptation reduces intention tremor in multiple sclerosis: A case series. M. HEENAN*; R. SCHEIDT; S. BEARDSLEY. *Marquette Univ., Northwestern Univ., Med. Col. of Wisconsin, Med. Col. of Wisconsin, Boston Univ.*

4:00 G1 **223.28** Dominant influence of mood on neurophysiological responses to exercise in people with multiple sclerosis. L. M. KOSKI*; A. YUSUF. *McGill Univ., McGill Univ.*

1:00 G2 **223.29** ▲ Brain endothelium differs between mouse and humans with adrenoleukodystrophy. J. M. T. SNYDER; P. L. MUSOLINO*; Y. GONG; J. LOK; E. LO; F. S. EICHLER. *Massachusetts Gen. Hosptial, MGH/Harvard, Massachusetts Gen. Hosptial.*

**POSTER**

**224. Demyelinating Disorders: Animal Studies**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 G3 **224.01** Enhanced GABAA receptor-mediated tonic conductance in hippocampal CA1 pyramidal neurons in experimental autoimmune encephalomyelitis. W. WEI*; L. KAMMEL; R. R. VOSKUHL; T. J. O'DELL. *UCLA Sch. Med., UCLA Sch. Med.*

2:00 G4 **224.02** Increased GABAergic inhibition contributes to impaired hippocampal synaptic plasticity in experimental autoimmune encephalomyelitis. L. G. KAMMEL*; W. WEI; S. W. THORNTON; T. J. O'DELL; R. R. VOSKUHL. *David Geffen Sch. of Medicine, UCLA, David Geffen Sch. of Medicine, UCLA.*

3:00 G5 **224.03** Pathological involvement of astrocyte-derived lipocalin-2 in the rodent model of demyelinating optic neuritis. J. KIM*; B. CHUN; K. SUK. *Brain Sci. and Engin. Institute, and Depar, Kyungpook Natl. Univ. Sch. of Med.*

4:00 G6 **224.04** Opposing roles of astrocytes in developmental myelination and early myelin repair. R. TOGNATTA*; M. KARL; C. KANTOR; R. R. DIGIACOMO; G. SHANO; P. LEAHY; S. L. FYFFE-MARICICH; R. H. MILLER. *George Washington Univ., Case Western Reserve Univ., Univ. of Pittsburgh.*

1:00 G7 **224.05** ▲ Analysis of chemokines and receptors expression profile in the myelin mutant taiep rat. G. GARCIA-ROBLES; G. SOTO-RODRIGUEZ; J. GONZALEZ-BARRIOS; D. MARTINEZ-FONG; V. BLANCO-ALVAREZ; J. EGUIBAR; A. UGARTE; F. MARTINEZ-PEREZ; E. BRAMBILA; L. MILLAN-PEREZ PEÑA; N. PAZOS-SALAZAR; M. TORRES-SOTO; C. TOMAS-SANCHEZ; B. LEON CHAVEZ*. *Benemerita Univ. Autonoma de Puebla, Ctr. de Investigaciones y de Estudios Avanzados, Hosp. regional 1 de Octubre ISSSTE, Ctr. de Investigaciones y de Estudios Avanzados, Benemerita Univ. Autonoma de Puebla, Benemerita Univ. Autonoma de Puebla, Univ. Industrial de Santander, Benemerita Univ. Autonoma de Puebla, Benemerita Univ. Autonoma Puebla.*

2:00 G8 **224.06** Notch ligand-selective activation in CNS demyelination-remyelination. P. MATHIEU; L. GÓMEZ PINTO; F. ALMEIRA GUBIANI; A. M. ADAMO*. *Facultad De Farmacia Y Bioquímica. Univ. of Buenos Aires. IQUIFIB-CONICET.*

3:00 G9 **224.07** Vitamin C facilitates pluripotent stem cell maintenance of MSCs and promotes its neurotrophic functions. Y. LIU; B. ULLOA; M. ALAHIRI; S. A. SADIQ*. *Tisch MS Res. Ctr.*



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

4:00 G10 **224.08** Pericyte deficiency leads to white matter tract damage, demyelination and axonal degeneration. A. M. NIKOLAKOPOULOU*; A. MONTAGNE; G. SI; A. P. SAGARE; Z. ZHAO; B. V. ZLOKOVIC. *USC.*

1:00 G11 **224.09** Studying lipocalin 2 as a novel player in the pathophysiology of the disease. F. MARQUES*; S. NEVES; C. FERREIRA; S. MESQUITA; C. SERRE-MIRANDA; L. BELARD; M. CORREIA-NEVES; J. SOUSA; J. CERQUEIRA; J. PALHA. *Life and Hlth. Sci. Res. Inst. (ICVS).*

2:00 G12 **224.10** ROS-initiated calcium-influx drives axonal degeneration in an animal model of multiple sclerosis. M. WITTE*; A. SCHUMACHER; C. MAHLER; J. BEWERSDORF; P. R. WILLIAMS; O. GRIESBECK; T. MISGELD; M. KERSCHENSTEINER. *Ludwig-Maximilians Univ. Munich, Ludwig-Maximilians Univ. Munich, Inst. of Neuronal Cell Biology,Technische Univ. München, Max Planck Inst. of Neurobio.*

3:00 G13 **224.11** Exosomal protein changes of cerebrospinal fluid from neuromyelitis optica and multiple sclerosis patients. S. HWANG*; J. LEE; K. Q. MCKINNEY; A. J. PAVLOPOULOS; J. M. CONWAY; H. KIM. *Carolinas Healthcare Syst., Carolinas Healthcare Syst., Res. Inst. and Hosp. of Natl. Cancer Ctr.*

4:00 G14 **224.12** CHOP knockdown protects oligodendrocytes in mouse models of immune-mediated demyelination. Y. DZHASHIASHVILI*; H. BOMMIASAMY; R. B. KUNJAMMA; B. POPKO. *Univ. of Chicago, Univ. of North Carolina at Chapel Hill.*

1:00 G15 **224.13** Application of a novel cell ablation for dissecting the role of immune cells in the pathogenesis of experimental allergic encephalomyelitis. X. QIN*, SR; F. LIU; Y. OHTAKE; D. FUNG; S. DAI; X. PENG; B. GAO; S. LI. *Temple Univ. Sch. of Med., Temple Univ. Sch. of Med., Shriners Hosp. Pediatric Res. Ctr., Lab. of Liver Dis.*

2:00 G16 **224.14** Exosomal secretion of a lipid neurotoxin from neural progenitors. G. SCESA*; A. L. MOYANO; L. D'AURIA; K. PITUCH; M. I. GIVOGRI; E. R. BONGARZONE. *Univ. of Illinois At Chicago.*

3:00 G17 **224.15** Psychosine causes cellular toxicity by downregulating the PI3K/Akt pathway in motoneurons. T. SURAL-FEHR*; L. CANTUTI-CASTELVETRI; H. ZHU; M. MARSHALL; E. R. BONGARZONE. *Univ. of Illinois At Chicago.*

4:00 G18 **224.16** Functional characterization of IPSC-derived brain cells as a model for X-linked adrenoleukodystrophy. I. SINGH*; A. SINGH; M. KHAN; M. BAARINE. *Med. Univ. South Carolina, Med. Univ. of South Carolina.*

1:00 G19 **224.17** Deletion of signal transducer and activator of transcription 3 (STAT3) in myeloid cells confers resistance to experimental autoimmune encephalomyelitis. H. LU*; A. STEELMAN; S. KIM; B. ZHOU; J. LI. *Texas A&M Univ.*

2:00 G20 **224.18** Indomethacin effect on BMMC migration: Prostaglandin synthesis inhibition or PPAR$\gamma$ activation? V. USACH; C. I. CASALIS; G. M. PIÑERO; L. PARRA; K. WEBER; P. A. SOTO; M. FERNÁNDEZ-TOMÉ; P. C. SETTON-AVRUJ*. *Sch. of Pharm. and Biochem.*

3:00 G21 **224.19** Aging exaggerates myelin disruption in an experimental model of demyelination. N. MICHAELS*; K. RAWJI; M. B. KEOUGH; J. R. PLEMEL; V. W. YONG. *Univ. of Calgary.*

4:00 G22 **224.20** Increased levels of colony stimulating factor-1 and its receptors in mouse spinal cords with experimental autoimmune encephalomyelitis. X. BO*; S. GUSHCHINA; W. J. B. ATKINS; G. PRYCE; G. GIOVANNONI; D. BAKER. *Queen Mary, Univ. London, Queen Mary Univ. of London.*

1:00 G23 **224.21** Notch-1 signaling in a mouse model of metachromatic leukodystrophy. F. MAROTTOLI*. *Univ. of Illinois At Chicago.*

2:00 G24 **224.22** Elimination of mitochondrial anchoring protects dysmyelinating shiverer: Implications for progressive MS. D. C. JOSHI*; C. ZHANG; T. LIN; A. GUSAIN; M. G. HARRIS; Z. SHENG; Z. FABRY; R. J. DEMPSEY; S. CHIU. *Univ. of Wisconsin, Madison, Univ. of Wisconsin, Madison, Univ. of Wisconsin, Madison, Natl. Inst. of Neurolog. Disorders and Stroke.*

3:00 G25 **224.23** Effects of anti-AQP4 and co-existing autoantibodies at the Blood-Brain Barrier in Neuromyelitis optica. Y. TAKESHITA*; B. OBERMEIER; F. SHIMIZU; A. COTLEUR; S. SPAMPINATO; T. KRYZER; V. LENNON; Y. SANO; T. KANDA; R. M. RANSOHOFF. *Yamaguchi Univ. Grad. Sch. of Med., Biogen, Univ. of Catania, Mayo Clin.*

4:00 G26 **224.24** Role of Caspase-8 in multiple sclerosis. S. J. KIM*; F. LU; A. STEELMAN; J. LI; B. ZHOU. *Texas A&M Univ., Texas A&M Univ.*

1:00 G27 **224.25** Simultaneous measurement of hnRNP A1 fibril formation by dynamic light scattering (DLS). M. MOTIWALA*; S. LEE; H. SALAPA; Y. SHIN; J. DOUGLAS; H. CHO; M. LEVIN. *VA Med. Ctr., Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Tennessee Hlth. Sci. Ctr.*

2:00 G28 **224.26** Cross-talk between astrocytes and mast cells is a neuro-immune mechanism for disease exacerbation in neuromyelitis optica. M. CAULFIELD*; Y. GUO; H. KITA; C. HOWE; C. LUCCHINETTI. *Mayo Clin.*

3:00 G29 **224.27** A1 reactive astrocytes are strongly neurotoxic inducing apoptosis of neurons and oligodendrocytes and are induced by M1 microglia via IL1α, TNFα and C1q signaling. S. A. LIDDELOW*; A. E. MÜNCH; L. E. CLARKE; B. A. BARRES. *Stanford Univ., The Univ. of Melbourne.*

4:00 G30 **224.28** Ultrastructural analysis of hippocampal synapses following demyelination. S. JAWAID*; G. J. KIDD; R. DUTTA; L. ROHOLT; S. DECKARD; E. BENSON; A. CHOMYK; B. D. TRAPP. *Lerner Res. Inst., Renovo Neural, Inc.*

1:00 G31 **224.29** Myelin disruption leads to targeted behavioral deficits. E. A. GOULD*; N. BUSQUET; D. RESTREPO; W. MACKLIN. *Univ. of Colorado Sch. of Med.*

2:00 G32 **224.30** ● Correlation of spinal cord and CSF biomarkers to clinical and radiological measures of CNS injury in a mouse model of multiple sclerosis. F. A. GILLI*; X. CHEN; A. R. PACHNER; B. GIMI. *Geisel Sch. of Med. At Dartmouth,, Geisel Sch. of Med. at Dartmouth.*



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* Indicates abstract's submitting author

**POSTER**

**225. Traumatic Brain Injury: Human Studies II**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 G33 **225.01** Long-term psycho-affective outcomes in male athlete with a history of concussion. W. SAUVE*; R. D. MOORE; D. ELLEMBERG. *Neurodevlab.*

2:00 G34 **225.02** Disruptions to white matter microstructure of the default mode network in pediatric traumatic brain injury. V. G. BABOYAN*; A. MEZHER; E. L. DENNIS; M. DAIANU; Y. JIN; T. BABIKIAN; C. GIZA; R. F. ASARNOW; P. M. THOMPSON. *USC, UCLA, UCLA.*

3:00 G35 **225.03** Processing of complex, real-world information as awareness fades under sedation. L. NACI*; E. HOULDIN; R. CUSACK; M. ARANGO; C. HARLE; A. M. OWEN. *Western Univ.*

4:00 G36 **225.04** Restoration of thalamo-cortical connectivity after severe brain injury: Recovery consciousness or passage of time? M. M. MONTI*. *UCLA.*

1:00 G37 **225.05** Intrinsic fMRI functional architecture differentiates single patients after severe brain injury. A. DEMERTZI*; G. ANTONOPOULOS; L. HEINE; H. U. VOSS; J. S. CRONE; C. DE LOS ANGELES; M. BAHRI; C. DI PERRI; F. GOMEZ; A. VANHAUDENHUYSE; V. CHARLAND-VERVILLE; M. KRONBICHLER; E. TRINKA; C. PHILLIPS; L. TSHIBANDA; A. SODDU; N. D. SCHIFF; S. WHITFIELD-GABRIELI; S. LAUREYS. *Inst. Du Cerveau Et De La Moelle Épinière - ICM, Univ. of Liège, Weill Cornell Med. Col., Ctr. for Neurocognitive Res., Paracelsus Private Med. Univ., Paracelsus Private Med. Univ., MIT, Univ. of Liège, Univ. Central de Colombia, CHU Univ. Hosp. of Liège, CHU Univ. Hosp. of Liège, Western Univ., Weill Cornell Grad. Sch. of Med. Sci., Weill Cornell Med. Col.*

2:00 G38 **225.06** Default mode network anticorrelations are associated with better clinical outcome in patients with disorders of consciousness. S. GABRIELI*. *MIT.*

3:00 G39 **225.07** Neocortical dynamics of ongoing EEG reflects mesocircuit integrity in acute anoxic brain injury after cardiac arrest. P. B. FORGACS*; H. FREY; E. MEYERS; A. G. VELAZQUEZ; S. THOMPSON; S. PARK; S. AGARWAL; M. C. FALO; M. SCHMIDT; N. D. SCHIFF; J. CLAASSEN. *Weill Cornell Med. Col., The Rockefeller Univ., Columbia Univ. Med. Ctr.*

4:00 G40 **225.08** Dynamics, connectivity and anatomical-functional coupling during loss of consciousness in deep sleep. E. TAGLIAZUCCHI*; N. CROSSLEY; E. BULLMORE; H. LAUFS. *Univ. of Kiel, Pontificia Univ. Catolica de Chile, Univ. of Cambridge, Univ. of Kiel.*

1:00 G41 **225.09** ● Multimodal TMS/EEG, FDG-PET and active fMRI assessments in patients with disorders of consciousness and locked-in syndrome. O. BODART*; S. WANNEZ; A. THIBAUT; J. ANNEN; A. G. CASALI; S. CASAROTTO; O. GOSSERIES; M. ROSANOVA; M. MASSIMINI; S. LAUREYS. *CHU Sart Tilman, Cyclotron Res. Ctr., Univ. of Sao Paulo, Univ. of Milano, Univ. of Wisconsin.*

2:00 G42 **225.10** Differentiating consciousness from unconsciousness in non-rapid eye movement sleep using transcranial magnetic stimulation and high-density EEG. O. GOSSERIES*; J. O. NIEMINEN; M. MASSIMINI; M. BOLY; F. SICLARI; B. R. POSTLE; G. TONONI. *Univ. of Wisconsin, Aalto Univ. Sch. of Sci., Univ. degli Studi di Milano, Univ. Hosp. of Lausanne.*

3:00 G43 **225.11** Characterization of synaptic dopaminergic deficits in post-traumatic brain injury (TBI) minimally conscious states. E. A. FRIDMAN*; J. R. OSBORNE; D. P. MOZLEY; N. D. SCHIFF. *Weill Cornell Med. Col., Mem. Sloan Kettering Cancer Ctr., Weill Cornell Med. Col.*

4:00 G44 **225.12** Extracellular RNA sequencing to identify RNA biomarkers of head impact in college athletes. R. RICHHOLT*; A. YERI; R. MCCOY; M. ANASTASI; A. ALLEN; S. ALTHOFF; A. SINIARD; M. DEBOTH; I. MALENICA; T. BEECROFT; E. CARLSON; L. GHAFFARI; S. ALLEN; M. SHAHBAUDER; K. RYDEN; R. BRUHNS; A. JANSS; D. VOOLETICH; T. IDE; D. ARMENT; D. LEONARD; J. CHU; A. BUCK; T. MCLEOD; J. CARDENAS; R. GREENWALD; T. LEE; J. TRENT; K. VAN KEUREN-JENSEN; M. HUENTELMAN. *TGen Neurogenomics Div., Arizona State Univ., Riddell Sports, Div. of Easton Bell Sports, Simbex, A.T. Still Univ., Barrow Neurolog. Inst.*

1:00 H1 **225.13** Very low birth weight and preterm birth: Impacts on subcortical volumes and white matter tracts by middle childhood. K. SRIPADA*; A. E. SØLSNES; H. F. ØSTGÅRD; S. AANES; G. C. LØHAUGEN; K. J. BJULAND; L. EIKENES; A. HÅBERG; L. M. RIMOL; J. SKRANES. *Norwegian Univ. of Sci. and Technol.*

2:00 H2 **225.14** ● Oculometric assessment of traumatic brain injury. D. B. LISTON*; L. R. WONG; L. S. STONE. *NASA Ames Res. Ctr., San Jose State Univ.*

3:00 H3 **225.15** Lack of volumetric differences in brain regions of former athletes with multiple concussions. D. TERRY; M. FERRARA; L. S. MILLER*. *Univ. of Georgia, Univ. of New Hampshire, Univ. of Georgia.*

4:00 H4 **225.16** Disruption to the dopaminergic system following traumatic brain injury. P. O. JENKINS*; S. DE SIMONI; J. J. FLEMINGER; A. E. JOLLY; J. H. COLE; D. TOWEY; D. J. SHARP. *Imperial Col., Imperial Col. Healthcare NHS Trust.*

1:00 H5 **225.17** White matter disruption in the cingulum relates to apathy following traumatic brain injury. N. GORGORAPTIS*; A. JOLLY; P. O. JENKINS; C. FEENEY; G. SCOTT; J. H. COLE; S. DE SIMONI; D. J. SHARP. *Imperial Col. London.*

2:00 H6 **225.18** Subcortical atrophy and EEG in disorders of consciousness. E. S. LUTKENHOFF*; C. SCHNAKERS; P. VESPA; M. MONTI. *UCLA, UCLA, UCLA.*

3:00 H7 **225.19** The role of the thalamus during propofol-induced loss of consciousness: New evidence from resting-state fMRI using dynamic causal modeling. J. S. CRONE*; E. LUTKENHOFF; B. BIO; S. LAUREYS; M. MONTI. *UCLA, UCLA, Univ. of Liege.*



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

4:00 H8 **225.20** Signatures of awareness in the resting-state brain activity dynamics. An EEG/fMRI study of similarities and differences between wakefulness, anesthesia and disorders of consciousness. J. D. SITT*; G. DECO; P. BARTTFELD; A. TAUSTE; F. RAIMONDO; L. NACCACHE; S. DEHAENE. *Inserm-Cea Cognitive Neuroimaging Unit, Inst. du cerveau et de la moelle épinière, Univ. Pompeu Fabra, Univ. of Buenos Aires.*

1:00 H9 **225.21** ● Characterizing the effect of chemotherapy on the developing brain and associated cognitive functions. E. VAN DER PLAS*; S. ITO; R. SCHACHAR; B. J. NIEMAN. *The Hosp. For Sick Children, The Hosp. for Sick Chidren, The Hosp. for Sick Chidren, The Mouse Imaging Ctr.*

2:00 H10 **225.22** The return-to-play recovery time for female concussion sufferers at a military academy. C. J. D'LAURO*; B. R. JOHNSON; E. WILLSON; J. JACKSON; D. ALLRED; G. MCGINTY; D. CAMPBELL. *US Air Force Acad., US Air Force Acad.*

**POSTER**

**226. Spinal Cord Injury: Restorative Strategies**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 H11 **226.01** Adult myelin stimulates neurite outgrowth from neural progenitor cells. G. H. POPLAWSKI*; R. LIE; P. LU; C. GEOFFROY; R. KAWAGUCHI; G. COPPOLA; B. ZHENG; M. TUSZYNSKI. *Univ. California SD, VAMC, Univ. of California Los Angeles.*

2:00 H12 **226.02** Caudal projection patterns of neural stem cells grafted to sites of spinal cord injury. W. GOMES-LEAL*, SR; S. ANIL; Y. WANG; D. WU; M. TUSZYNSKI; P. LU. *Univ. of California (UCSD), .Institute of Biol. Sciences. Federal Univ. of Para, Neuroprosthetics and Brain Mind Inst.*

3:00 H13 **226.03** Expression of the CSPG receptor, LAR, after spinal cord transection in the lamprey. W. RODEMER*; G. ZHANG; J. HU; M. SELZER. *Temple Univ. Sch. of Med., Temple Univ. Sch. of Med.*

4:00 H14 **226.04** Role of CXCR4 in mediating axon sprouting after intrathecal infusion of CXCL12 in a mouse model of spinal cord injury. F. TUNDO*; V. ESTRADA; A. STAHR; A. HESKAMP; M. HENDRICKS; A. HALLENBERGER; A. ANDREADAKI; C. VON GALL; D. FISCHER; H. W. MÜLLER. *Mol Neurobiol Lab, Neurology, Heinrich Heine Univ., Div. of Exptl. Neurology, Neurology, Heinrich Heine Univ., Inst. of Anat. II, Heinrich Heine Univ.*

1:00 H15 **226.05** Temperature sensitive injectable hydrogel bridges cystic cavities and supports functional recovery following contusive spinal cord injury. H. A. LE*. *Ajou Univ.*

2:00 H16 **226.06** Protein synthetic machinery and mrna in regenerating tips of spinal cord axons in lamprey. L. JIN*; C. R. PENNISE; W. RODEMER; K. S. JAHN; M. E. SELZER. *Temple Univ. Sch. of Med., The Children's Hosp. of Philadelphia.*

3:00 H17 **226.07** Blood-spinal cord barrier disruption after contusive spinal cord injury (SCI) rapidly recovers following intravenous infusion of bone marrow mesenchymal stem cells (MSCs) or MSC-derived exosomes. K. L. LANKFORD*; T. MATSUSHITA; E. J. ARROYO; P. W. ASKENASE; J. D. KOCSIS. *Ctr. For Neurosci. & Regen. Res., Yale Univ. Sch. of Med., Sapporo Med. Univ., Yale Univ.*

4:00 H18 **226.08** Neuroprotection and immunomodulation by mesenchymal stem cell and fibrin sealant treatment following intraspinal axotomy. A. B. SPEJO*; G. B. CHIAROTTO; R. S. FERREIRA JR; B. BARRAVIERA; A. L. R. OLIVEIRA. *Univ. of Campinas, UNESP.*

1:00 H19 **226.09** Exercise induced changes in inflammation along the sensory neuroaxis after unilateral cervical spinal cord injury. D. QUIROS-MOLINA; S. CHHAYA; J. R. BETHEA; J. D. HOULE; M. R. DETLOFF*. *Drexel Univ. Col. of Med., Drexel Univ.*

2:00 H20 **226.10** The acute inflammatory response after spinal cord injury and its role in the development of spinal cord injury-induced chronic neuropathic pain. S. CHHAYA*; D. QUIROS-MOLINA; J. R. BETHEA; J. D. HOULE; M. R. DETLOFF. *Drexel Univ. Col. of Med., Drexel Univ.*

3:00 H21 **226.11** ● Initial limb unloading after spinal cord injury alters glutamatergic synaptic plasticity associated with impaired functional recovery. K. MORIOKA*; T. TAZOE; J. HUIE; C. F. GUANDIQUE; M. XIAOKUI; J. HAEFELI; J. A. SACRAMENTO; J. T. TRUONG; S. TANAKA; J. C. BRESNAHAN; M. S. BEATTIE; T. OGATA; A. R. FERGUSON. *Brain and Spinal Injury Center, UCSF, Res. Institute, Natl. Rehabil. Ctr. for the Persons with Disabilities, Univ. of Pittsburgh, Brain and Spinal Injury Center, UCSF, Fac. of Medicine, The Univ. of Tokyo.*

4:00 H22 **226.12** A mechanical microconnector to improve regeneration after spinal cord injury: Characterization of the therapeutic effect by tracing studies. J. KREBBERS*; N. BRAZDA; V. ESTRADA; C. VOSS; V. T. RIBAS; K. SEIDE; H. K. TRIEU; P. LINGOR; H. W. MÜLLER. *Mol Neurobiol Lab, Neurology, Heinrich Heine Univ., Inst. of Microsystems Technology, Tech. Univ., BG Trauma Hosp., Neurology, Univ. Med.*

1:00 H23 **226.13** clinical trials of stem cell therapy for spinal cord injury in south korea. J. JUNG*; S. Y. KIM; J. K. HYUN. *Dankook Univ., Dankook Univ., Dankook Univ.*

2:00 H24 **226.14** Lack of effect of anti-integrin treatment in contusion models of rat spinal cord injury. N. M. GEREMIA; T. HRYCIW; F. BAO; F. STREIJGER; E. OKON; J. H. T. LEE; B. K. KWON; L. C. WEAVER; A. BROWN*; G. A. DEKABAN. *Robarts Res. Inst., ICORD, Univ. of British Columbia, Robarts Res. Inst.*

3:00 H25 **226.15** The role of fibronectin in BMSC survival and repair potential after spinal cord injury. A. E. HAGGERTY*; M. OUDEGA. *Univ. of Miami, Univ. of Miami.*

4:00 H26 **226.16** Task-specific training-based rehabilitation improves bladder outcomes following human spinal cord injury. C. HUBSCHER*; A. HERRITY; L. MONTGOMERY; A. WILLHITE; C. ANGELI; S. HARKEMA. *Univ. Louisville Sch. Med., Kentucky Spinal Cord Injury Res. Ctr., Frazier Rehab Inst., Univ. of Louisville Sch. Med.*



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* Indicates abstract's submitting author

1:00 H27 **226.17** Electroacupuncture combined with bone marrow mesenchymal stem cells transplantation attenuates inflammatory response and reactive astrogliosis in the transected spinal cord of rats. Y. DING*; R. ZHANG; Y. ZENG. *Zhongshan Sch. of Medicine, Sun Yat-Sen Universi, Zhongshan Sch. of Medicine, Sun Yat-sen Univ., Zhongshan Sch. of Medicine, Sun Yat-sen Univ.*

2:00 H28 **226.18** Automated robot system for high-throughput training, testing, and analysing skilled reaching performance in rodents before and after CNS injury. K. K. FENRICH*; A. TORRES-ESPIN; J. FORERO; Z. MAY; D. J. BENNETT; K. FOUAD. *Univ. of Alberta, Neurosci. and Mental Hlth. Institute, Univ. of Alberta, Fac. of Rehabil. Medicine, Univ. of Alberta.*

3:00 H29 **226.19** Development of research toolkits for locomotor functional recovery after spinal cord injury in common marmosets. K. SATO*; T. KONDO; K. YOSHINO-SAITO; S. TASHIRO; A. IWANAMI; H. J. OKANO; M. NAKAMURA; H. OKANO; J. USHIBA. *Grad. Sch. of Sci. and Technonogy, Keio Un, Keio Univ. Sch. of Med., JSPS Res. Fellow, Keio Univ. Sch. of Med., Keio Univ. Sch. of Med., Jikei Univ. Sch. of Med., Keio Univ.*

4:00 H30 **226.20** Programmed freeze/thaw method dramatically improved cell viability of ips cell-derived neural stem cells for clinical application in spinal cord injury. Y. NISHIYAMA*; A. IWANAMI; J. KOHYAMA; G. ITAKURA; Y. KOBAYASHI; S. NISHIMURA; H. IWAI; M. MATSUMOTO; H. OKANO; M. NAKAMURA. *Dept. of Orthopedic Surgery, Sch. of Medicine, Keio Univ., Dept. of Physiology, Sch. of Medicine, Keio Univ.*

1:00 H31 **226.21** Transplantation of human iPS cell-derived oligodendrocyte precursor cells enriched neural stem/progenitor cells in chronic and subacute spinal cord injury. S. KAWABATA*; A. IWANAMI; J. KOHYAMA; M. TAKANO; Y. NUMASAWA; G. ITAKURA; Y. KOBAYASHI; S. SHIBATA; H. OKANO; M. MATSUMOTO; M. NAKAMURA. *Dept. of Orthopaedics Surgery, Sch. of Medicine, Keio Univ., Dept. of Orthopaedics Surgery, Sch. of Medicine, Keio Univ., Dept. of Physiology, Sch. of Medicine, Keio Univ., Dept. of Pediatrics, Sch. of Medicine, Keio Univ.*

2:00 H32 **226.22** Functional regeneration of descending propriospinal axons through and beyond a growth-promoting pathway constructed by transplanted Schwann cells overexpressing GDNF after a thoracic spinal cord transection in adult rats. L. DENG*; Y. SUN; Y. RUAN; M. WALKER; M. HAMILTON; W. QU; Y. WANG; G. M. SMITH; X. XU. *STARK NEUROSCIENCE INSTITUTE, Sch. of Basic Med. Sciences, Fudan Univ., Guangdong-Hong Kong-Macau Inst. for CNS Regeneration, Spinal Cord and Brain Injury Res. Group, Stark Neurosciences Res. Inst., Spinal Cord and Brain Injury Res. Group, Stark Neurosciences Res. Institute, Dept. of Neurolog. Surgery, Goodman and Campbell Brain and Spine Indiana Univ., Spinal Cord and Brain Injury Res. Group, Stark Neurosciences Res. Institute, Dept. of Neurolog. Surgery, Goodman and Campbell Brain and Spine, Indiana Univ. Sch. of Med., Shriners Hosp. Pediatric Res. Center, Temple University, Sch. of Medicine.*

3:00 H33 **226.23** Neurotrophin-3 normalises spinal reflexes after central nervous system injury. C. KATHE*; T. H. HUTSON; S. B. MCMAHON; L. D. F. MOON. *King's Col. London, Imperial Col. London, King's Col. London.*

4:00 H34 **226.24** Optogenetic evaluation of functional synaptic reconnection by corticospinal tract axons in the injured spinal cord. N. JAYAPRAKASH*; B. HOEYNCK; N. KRUEGER; Z. WANG; M. BLACKMORE. *Marquette Univ.*

1:00 H35 **226.25** Combinatorial testing of transcriptional modification and chondroitinase treatment to promote axon regeneration and functional recovery after spinal cord injury. Z. WANG*; K. WINSOR; E. BALLE; P. POWERS; N. KRUEGER; M. BLACKMORE. *Marquette Univ.*

2:00 H36 **226.26** Mesoporous silica-supported lipid bilayer nanoparticles target gene transfer to motoneurons. M. A. GONZALEZ*; A. MUNIZ; J. BRINKER; G. C. SIECK; C. B. MANTILLA. *Mayo Clin., Mayo Clin., Univ. of New Mexico, Mayo Clin.*

3:00 H37 **226.27** Evaluation of immunological response in human iPS cell-derived neural stem cells using mixed lymphocyte reaction focusing HLA matching. M. OZAKI*; A. IWANAMI; J. KOHYAMA; G. ITAKURA; H. IWAI; M. MATSUMOTO; M. NAKAMURA; H. OKANO. *Dept. of Orthopaedic Surgery, Keio Univ., Dept. of Physiology, Keio Univ.*

4:00 H38 **226.28** 14-3-3 proteins targeted to promote axon regeneration. A. KAPLAN*; A. KRONER; S. LEONG; C. MADWAR; S. BANERJEE; I. RAMBALDI; N. BISSON; J. ANTEL; S. DAVID; A. FOURNIER. *McGill Univ., Laval Univ.*

1:00 H39 **226.29** Dynamin inhibitors and their effect on endocytosis of surface functionalized nanospheres. S. SEBASTIAN*; R. AMMASSAM VEETTIL; D. HYNDS; T. MCALLISTER; S. GHOSH. *Texas Woman's Univ., Southeast Missouri State University.*

2:00 H40 **226.30** Poly(ADP-ribose) polymerase 1 is a novel target to promote axonal regeneration. C. BROCHIER*; D. WILLIS; B. LANGLEY. *Burke/Cornell Med. Res. Inst., Weill Cornell Med. Col.*

**POSTER**

**227. Psychosis: Mechanism**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 H41 **227.01** ● Alterations in Regulator of G-protein Signaling 4 (RGS4) in schizophrenia. S. KIMOTO*; J. R. GLAUSIER; K. N. FISH; D. W. VOLK; H. H. BAZMI; D. ARION; D. DATTA; D. A. LEWIS. *Nara Med. Univ., Univ. of Pittsburgh, Univ. of Pittsburgh.*

2:00 H42 **227.02** Signals recorded from the eye reveal disease states, including schizophrenia. R. F. MILLER*; A. MACDONALD, III; D. C. MILLER; M. S. LEE; C. G. SUMMERS; T. NETOFF; S. AMERI; T. TAKARA; D. C. MILLER; P. MOGHIMI. *Dept. of Neuroscience, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

3:00 H43 **227.03** Computer model of endocannabinoid effects in CA3. M. A. SHERIF*; P. SKOSNIK; M. HAJÓS; W. LYTTON. *Yale Univ., VA Connecticut Healthcare Syst., SUNY Downstate Med. Ctr., Ain Shams Univ. Inst. of Psychiatry, Yale Univ., SUNY Downstate Med. Ctr., SUNY Downstate Med. Ctr., SUNY Downstate Med. Ctr., Kings County Hosp. Ctr.*

4:00 H44 **227.04** Antipsychotic drugs, social interaction behavior and AMPA receptor RNA editing in mice. E. NWABUISI-HEATH*; E. DONG; A. GUIDOTTI; M. SODHI. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*



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

1:00 H45 **227.05** ▲ Acoustic startle response in patients with bipolar disorder and schizophrenia. J. L. FRESCHL*; A. MANIAR; A. SHAH; J. V. PATTERSON. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine Med. Ctr.*

2:00 H46 **227.06** Perineuronal net deficits in the polyi:c model of schizophrenia. J. W. PAYLOR*; B. LINS; Q. GREBA; N. MOEN; J. HOWLAND; I. WINSHIP. *Univ. of Alberta, Univ. of Saskatchewan.*

3:00 H47 **227.07** PsychENCODE: Cis-regulatory epigenome mapping in schizophrenia. M. KUNDAKOVIC*; Y. JIANG; V. POTHULA; L. BROWN; E. ZHAROVSKY; A. DINCER; R. JACOBOV; I. MAGRO; D. KAVANAGH; M. FROMER; M. PETERS; S. SIEBERTS; J. S. JOHNSON; P. SKLAR; S. AKBARIAN. *Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Sage Bionetworks.*

4:00 H48 **227.08** Schizophrenia susceptibility gene dysbindin maintains prefrontal function. W. ZHANG*; K. M. DALY; B. LIANG; L. ZHANG; Y. LI; D. LIN. *Natl. Inst. On Drug Abuse.*

1:00 I1 **227.09** An investigation of synapse deficits in 22q11.2 Schizophrenia using patient induced stem cell derived neurons. E. DEBOER*. *Children's Hosptial of Philadelphia.*

2:00 I2 **227.10** ▲ P200 activity patterns in bipolar, schizoaffective, and paranoid schizophrenia patients in response to gaps-in-noise. R. B. BATINO*; C. VILLEGAS; S. MONDAL. *Univ. of California, Irvine Med. Ctr., Univ. of California, Irvine Med. Ctr.*

3:00 I3 **227.11** ▲ Cortico-limbic circuit dysfunction in NMDA receptor hypofunction model of schizophrenia. A. RAVIKRISHNAN*; S. C. GUPTA; B. HILLMAN; S. M. DRAVID. *Creighton Univ.*

4:00 I4 **227.12** Human neuropsychiatric disease modeling using conditional deletion reveals synaptic transmission defects caused by heterozygous mutations in Neurexin-1. C. PAK*; T. DANKO; Y. ZHANG; J. AOTO; G. ANDERSON; S. MAXEINER; F. YI; M. WERNIG; T. SUDHOF. *Stanford Univ., Universitätsklinikum Homburg, Univ. des Saarlandes.*

1:00 I5 **227.13** Understanding the neurobiology of early-onset schizophrenia using whole-brain computational modelling: A connectomics approach. H. M. FERNANDES*; J. CABRAL; T. V. HARTEVELT; T. CROW; A. C. JAMES; G. DECO; M. L. KRINGELBACK. *Univ. of Oxford, Aarhus Univ., Warneford Hosp., Univ. Pompeu Fabra, Institució Catalana de Recerca i Estudis Avançats (ICREA).*

2:00 I6 **227.14** Altered gene expression of proinflammatory cytokines and their membrane-bound receptors in the lymphocytes of schizophrenia patients. H. ZHANG*; H. S. RIZAVI; X. REN; G. N. PANDEY. *Univ. Illinois at Chicago.*

3:00 I7 **227.15** Brain volume changes following chronic antipsychotic treatment in animal models: MRI and histological study. E. GUMA*; J. ROCCHETTI; G. A. DEVENYI; J. LERCH; G. DAL BO; A. MATHIEU; B. COURCOT; M. M. CHAKRAVARTY; B. GIROS. *Douglas Res. Ctr. - McGill Univ., Brain Imaging Ctr. - Douglas Res. Ctr., Mouse Imaging Ctr. Hosp. for Sick Children.*

4:00 I8 **227.16** Adolescent stress induced white matter changes revealed by diffusion mri in disc1 transgenic mice. C. LIU*; Y. LI; T. JIANG. *Queensland Brain Inst.*

1:00 I9 **227.17** Human mutant DISC1 induced expansion of the hindbrain oligodendrocytes progenitors to the forebrain during early development - relevance to schizophrenia. P. L. KATSEL*; P. FAM; W. TAN; S. RUDCHENKO; M. PLETNIKOV; V. HAROUTUNIAN. *Icahn Sch. of Med. At Mount Sinai, JJ Peters VA Med. Ctr., Mount Sinai Med. Ctr., Weill Med. Col. of Cornell Univ., Johns Hopkins Univ. Sch. of Med., Icahn Sch. of Med. at Mount Sinai.*

2:00 I10 **227.18** Impulsive or indecisive: Impairments of decision making in a cortical circuit model of disrupted excitation-inhibition balance associated with schizophrenia. J. D. MURRAY*; T. BORDUQUI; J. HALLAK; A. ROQUE; X. WANG. *New York Univ., Univ. of São Paulo, Univ. of São Paulo.*

3:00 I11 **227.19** ● Targeting hippocampal dysfunction improves cognition in a schizophrenia model. Y. SHAO; M. KOH*; M. GALLAGHER. *Johns Hopkins Univ.*

**POSTER**

**228. Stroke Imaging and Diagnostic Studies**

***Theme C: Disorders of the Nervous System***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 I12 **228.01** Measuring the efficacy of therapy in chronic stroke, active and passive range-of-motion do not reflect improvements in upper-limb motor-function. P. A. MCNULTY*; T. TRINH; P. LEE; G. LIN; A. G. THOMPSON-BUTEL; C. T. SHINER; S. G. FAUX. *Neurosci. Res. Australia, UNSW Australia, St Vincent's Hosp.*

2:00 I13 **228.02** A constrained motor connectome can predict function of fine motor tasks of the non-paretic hand after stroke. S. PETERS*; K. P. WADDEN; J. L. NEVA; L. A. BOYD. *Univ. of British Columbia.*

3:00 I14 **228.03** Increased interhemispheric coherence during transcallosal inhibition assessment in chronic stroke: A preliminary TMS-EEG investigation. M. R. BORICH*; L. A. WHEATON; B. LAKHANI; S. M. BRODIE; L. A. BOYD. *Emory Univ., Georgia Inst. of Technol., Univ. of British Columbia.*

4:00 I15 **228.04** A preliminary examination of electrical impedance myography in stroke. H. SHIN*; X. LI; S. LI; P. ZHOU. *UT Hlth. Sci. Ctr. at Houston.*

1:00 I16 **228.05** Imbalance between frontal and parietal cortex during choice reaction task in patient with spatial neglect. Y. TAKAMURA*; S. OHMATSU; M. IMANISHI; M. OSAKA; T. TOMINAGA; S. MORIOKA; N. KAWASHIMA. *Grad. Sch. of Hlth. Science, Kio Univ., Suisyokai Murata Hosp., Kio univercity Neurorehabilitation research center, Res. Inst. Natl. Rehabil. Ctr. for Persons with Disabilities.*

2:00 I17 **228.06** ● Mapping brain function at the bedside during acute stroke recovery using High-Density Diffuse Optical Tomography. K. M. BERGONZI*; A. T. EGGEBRECHT; A. K. FISHELL; J. LEE; J. P. CULVER. *Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis, Washington Univ. In St. Louis.*

Sun. PM

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

3:00 I18 **228.07** EEG phase synchrony of sensorimotor area reflects limb functions after stroke. T. KAWANO*; N. HATTORI; Y. UNO; K. KITAJO; M. HATAKENAKA; H. YAGURA; H. FUJIMOTO; T. YOSIOKA; M. NAGASAKO; I. MIYAI. *Morinomiya Hosp., Riken Brain Sci. Inst.*

4:00 I19 **228.08** ▲ Correspondence of breath-hold and resting-state vascular reactivity measures in stroke patients. R. V. RAUT*; V. A. NAIR; C. LA; V. PRABHAKARAN. *Univ. of Wisconsin-Madison.*

1:00 I20 **228.09** ▲ Prolactin alteration after repetitive transcranial magnetic stimulation. B. KEPPLINGER*; B. SEDLNITZKY-SEMLER; C. KRONSTEINER; H. BARAN. *Karl Landsteiner Res. Institute, Mauer, Karl Landsteiner Res. Inst. Mauer.*

2:00 I21 **228.10** Proportional resolution of upper limb impairment after stroke depends on corticomotor integrity. C. M. STINEAR*; W. D. BYBLOW; A. BARBER; M. A. PETOE; S. J. ACKERLEY. *Univ. of Auckland, Bionics Inst.*

3:00 I22 **228.11** ● Stroke destabilizes the afferent and efferent connectivity of VIP expressing interneurons in the peri-infarct cortex: Insights from *in vivo* imaging. K. A. GERROW*; N. LIANG; C. BROWN. *Univ. of Victoria, Univ. of Victoria.*

4:00 I23 **228.12** Dorsal damage - ventral compensation: Structural reorganization of left superior temporal and bilateral fusiform gyri induced by perinatal infarct in occipito-parietal cortex. S. BAE*; M. SCHAER; M. BEIDELMAN; T. EVANS; M. ZEINEH; C. BATTISTA; V. MENON. *Stanford Univ. Sch. of Med., Univ. of Geneva, Stanford Univ. Med. Ctr.*

1:00 I24 **228.13** ● Lesion location is associated with kinaesthetic impairment post-stroke. J. M. KENZIE*; J. A. SEMRAU; S. E. FINDLATER; J. A. DESAI; A. Y. YU; T. M. HERTER; M. D. HILL; S. H. SCOTT; S. P. DUKELOW. *The Univ. of Calgary, Univ. of South Carolina, Queen's Univ.*

2:00 I25 **228.14** Lesion Symptom Mapping of brain regions involved in action selection and specification during Trail Making. S. TRYON*; O. SPEAD; A. MIDDLETON; B. MAREBWA; C. RORDEN; J. FRIDRIKSSON; S. FRITZ; T. HERTER. *Univ. of South Carolina, Univ. of South Carolina, Univ. of Trento, Univ. of South Carolina, Univ. of South Carolina, Univ. of South Carolina.*

3:00 I26 **228.15** ● Ischemic versus Hemorrhagic Stroke: Differences in motor recovery rates. S. E. FINDLATER*; J. A. SEMRAU; J. M. KENZIE; A. Y. YU; R. T. MOORE; T. M. HERTER; S. H. SCOTT; S. P. DUKELOW. *Univ. of Calgary, Univ. of Calgary, Univ. of South Carolina, Queen's Univ.*

4:00 I27 **228.16** Neuroanatomical correlates of visually guided reaching after stroke. J. E. TAPPER; S. E. FINDLATER; J. M. KENZIE; M. M. WANG; J. A. DESAI; A. Y. X. YU; T. M. HERTER; S. H. SCOTT; S. P. DUKELOW*. *Univ. of Calgary, Univ. of South Carolina, Queens Univ., Univ. of Calgary.*

1:00 I28 **228.17** Preservation of parietal area 5 is associated with improved motor recovery and functional connectivity following MCA stroke in non-human primates. J. Y. NASHED*; J. Z. WANG; C. HERNANDEZ-CASTILLO; J. GALLIVAN; J. FERNANDEZ-RUIZ; D. J. COOK. *Queen's Univ., Univ. Veracruzana,, Univ. Nacional Autonoma de Mexico, Queen's Univ.*

2:00 I29 **228.18** ● Quantifying motor recovery of the ipsilesional arm after stroke. J. A. SEMRAU*; T. M. HERTER; S. H. SCOTT; S. P. DUKELOW. *Univ. of Calgary, Univ. of South Carolina, Queen's Univ., Univ. of Calgary.*

3:00 I30 **228.19** Visuomotor learning is attenuated by impairments of visual search following stroke. T. M. HERTER*; K. FUSS; T. SINGH; C. PERRY; K. GOINS; B. MAREBWA; J. FRIDRIKSSON; S. FRITZ. *Univ. of South Carolina, Univ. of Trento, Univ. of South Carolina.*

4:00 I31 **228.20** Cell survival and regeneration in the ischemic core following focal cerebral ischemia in mice. M. Q. JIANG*; W. CAO; Z. Z. WEI; X. GU; L. WEI; S. YU; S. YU. *Emory Univ., Emory Univ.*

1:00 I32 **228.21** Microstructural properties of a constrained motor connectome in individuals with stroke predicts motor learning. K. P. WADDEN*; S. PETERS; L. BOYD. *Univ. of British Columbia, Univ. of British Columbia.*

2:00 I33 **228.22** Metabolic pattern in capsular infarct model: Ssm/pca and fdg-micropet based approach. D. KIM*; H. KIM; S. JUN. *Gwangju Inst. of Sci. and Technol., Gwangju Inst. of Sci. and Technol.*

3:00 I34 **228.23** Differential sympto-diagnostic features of ischemic stroke, and tools for the measurement of tPA outcome. M. J. CHAVES; E. S. FULMER; T. J. COCHRAN; D. BLACKHURST; S. STERNBERG; R. LEACOCK; T. I. NATHANIEL*. *Univ. of South Carolina Sch. of Med. At Greenville, Univ. of South Carolina Sch. of Med., Greenville Hlth. Syst.*

4:00 I35 **228.24** ● Employing patient's individual characteristics to derive personalized brain stimulation therapies. V. SANKARASUBRAMANIAN*; N. VARNERIN; D. CUNNINGHAM; K. POTTER-BAKER; K. SAKAIE; A. CONFORTO; A. MACHADO; E. PLOW. *Cleveland Clin., Sao Paulo Univ.*

1:00 I36 **228.25** Assessment of post-stroke white matter change with HARDI track density imaging. A. U. TURKEN*; N. F. DRONKERS. *Veterans Affairs Northern California Hlth. Care S, UC Davis Med. Sch.*

2:00 I37 **228.26** ● Multi-muscle navigated TMS mapping combined with corticospinal tract assessment in chronic ischemic stroke patients. M. NAZAROVA*; M. A. PIRADOV; P. NOVIKOV; D. POZDEEVA; E. BLAGOVECHTCHENSKI; V. NIKULIN. *Natl. Res. Univ. - Higher Sch. of Ec, Res. Ctr. of Neurol., Bauman Moscow State Tech. Univ., Lab. of translational neuroscience and molecular pharmacology, Saint-Petersburg State University,, Dept. of Neurology, Campus Benjamin Franklin, Charité Univ. Med.*

3:00 I38 **228.27** Tracking changes in passive muscle stiffness after acute hemispheric stroke. A. LAI*; X. HU; N. SURESH; W. RYMER. *Northwestern Univ., Northwestern Univ.*

4:00 I39 **228.28** Brain sensorimotor structural network difference between two hemispheres in chronic stroke. B. KIM*; Y. OH; R. M. LEAHY; J. P. HALDAR; N. SCHWEIGHOFER; C. J. WINSTEIN. *USC, USC, USC, USC.*

1:00 I40 **228.29** Optogenetic stimulation of cerebellar dentate nucleus reduces pCREB expression in the contralesional motor cortex after stroke. M. Y. CHENG*; S. ISHIZAKA; A. M. SHAH; E. H. WANG; A. R. BAUTISTA; G. SUN; G. K. STEINBERG. *Stanford Univ.*



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* Indicates abstract's submitting author

2:00 I41 **228.30** Deletion of the hemopexin or heme oxygenase-2 gene aggravates brain injury following stroma-free hemoglobin-induced intracerebral hemorrhage. B. MA*; J. DAY; E. TOLOSANO; S. DORE. *Univ. of Florida, Col. of Med., Univ. of Florida, Col. of Med., Univ. of Torino, Univ. of Florida, Col. of Med.*

**POSTER**

**229. Olfaction: Olfactory Bulb**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 I42 **229.01** Primacy coding of odor identity across concentrations. C. WILSON*; G. SERRANO; A. KOULAKOV; D. RINBERG. *NYU Langone Med. Ctr., Cold Spring Harbor Lab.*

2:00 I43 **229.02** Transformation of odor information from defined olfactory receptor inputs. E. M. ARNEODO*; K. PENIKIS; N. RABINOWITZ; T. BOZZA; D. RINBERG. *New York Univ. Neurosci. Inst., New York Univ. Langone Med. Ctr., New York Univ., Howard Hughes Med. Inst., Northwestern Univ.*

3:00 I44 **229.03** Effects of odorant exposure on the M72 glomerular module. A. LIU*; N. N. URBAN. *Univ. of Pittsburgh, Carnegie Mellon Univ., Carnegie Mellon Univ.*

4:00 I45 **229.04** Ultrastructural analyses of mitral and external tufted cell dendrites in rat olfactory bulb glomeruli. J. N. BOURNE*; N. E. SCHOPPA. *Univ. of Colorado Anschutz Med. Campus.*

1:00 I46 **229.05** *In vivo* imaging of mitral/tufted cell activity in the mouse olfactory bulb. D. A. STORACE*; L. B. COHEN. *Yale Univ., Korea Inst. of Sci. and Technol.*

2:00 I47 **229.06** Olfactory bulb mitral cells exhibit distinct temporal response profiles during prolonged odor stimulation. M. C. OGG*; M. BENDAHMANE; M. L. FLETCHER. *Univ. of Tennessee Hlth. Sci. Ctr.*

3:00 I48 **229.07** Parallel synaptic processing of afferent sensory information in the olfactory bulb. C. E. VAAGA*; G. L. WESTBROOK. *Oregon Hlth. and Sci. Univ.*

4:00 J1 **229.08** Coordinated persistent granule cell and mitral/tufted cell structural plasticity in the olfactory bulb. K. A. SAILOR*; M. T. VALLEY; M. T. WIECHERT; G. J. SUN; W. ADAMS; C. DENNIS; H. RIECKE; G. MING; H. SONG; P. LLEDO. *Inst. Pasteur, Johns Hopkins Univ., Northwestern Univ.*

1:00 J2 **229.09** A hybrid coupled-oscillator network synchronizes gamma-band field oscillations in olfactory bulb slices. S. T. PEACE*; B. C. JOHNSON; A. C. MOLNAR; T. A. CLELAND. *Cornell Univ., Cornell Univ., Cornell Univ.*

2:00 J3 **229.10** Functional characterization of calretinin-expressing periglomerular cells in the olfactory bulb. N. BENITO*; A. SANZ; D. DE SAINT JAN. *Inst. of Cell. and Integrative Neurosci.*

3:00 J4 **229.11** Functional mapping of circuits mediating inhibition of olfactory bulb periglomerular cells. A. SANZ DÍEZ*; N. BENITO; D. DE SAINT JAN. *INCI CNRS.*

4:00 J5 **229.12** Non-linear interactions between GABAergic inhibition and extrasynaptic glutamate gate output of olfactory bulb glomeruli. J. D. ZAK*; D. H. GIRE; N. E. SCHOPPA. *Univ. of Colorado, AMC.*

1:00 J6 **229.13** Mosaic representation of odors in the output layer of the mouse olfactory bulb. H. CHAE*; D. KEPPLE; A. KOULAKOV; V. N. MURTHY; D. F. ALBEANU. *Cold Spring Harbor Lab., Watson Sch. for Biol. Sci., Harvard Univ.*

2:00 J7 **229.14** Pharmacological rescue of altered neuronal circuits in a mouse model of X-linked intellectual disability. N. REDOLFI*; L. GALLA; A. MASET; E. SAVOIA; I. ZAMPARO; C. LODOVICHI. *Venetian Intitute of Mol. Med., Venetian Institute of Molecular Medicine, Venetian Institute of Molecular Medicine.*

3:00 J8 **229.15** Abnormal olfactory behavior and neural patterning in forebrain-specific Ctgf knockout mice. H. CHANG*; L. LEE. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ.*

4:00 J9 **229.16** Serotonergic modulation of olfactory bulb network dynamics. M. LEWIS*; S. T. PEACE; G. LI; T. A. CLELAND; C. LINSTER. *Cornell Univ., Cornell Univ.*

1:00 J10 **229.17** Behavioral modulation of corticalbulbar feedback and olfactory bulb output in a multisensory reversal learning paradigm. P. GARCIA DA SILVA*; B. REBOUILLAT; M. DAVIS; D. F. ALBEANU. *Cold Spring Harbor Lab., Champalimaud Neurosci. Programme, Ecole Normale Supérieure de Cachan.*

2:00 J11 **229.18** Olfactory bulb plasticity during complex perceptual learning in mice. J. FOREST*; J. SACQUET; M. RICHARD; A. DIDIER; N. MANDAIRON. *Lyon Neurosci. Res. Ctr.*

3:00 J12 **229.19** Learning-related changes in odour representations in mitral and tufted cells of the mouse olfactory bulb. R. JORDAN*; I. FUKUNAGA; M. KOLLO; A. T. SCHAEFER. *Francis Crick Inst. Mill Hill Lab., Univ. Col. London.*

**POSTER**

**230. Olfaction: Higher Order Processing**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 J13 **230.01** fMRI study of olfaction in the olfactory bulb and higher olfactory structures of rats. F. ZHAO*; X. WANG; H. ZARIWALA; J. M. USLANER; A. HOUGHTON; J. EVELHOCH; C. WINKELMANN. *Merck & Co.*

2:00 J14 **230.02** Top-down cortical modulation of olfactory processing. H. CHAE; G. H. OTAZU*; M. B. DAVIS; D. F. ALBEANU. *Cold Spring Harbor Lab.*

3:00 J15 **230.03** Dynamics of spontaneous activity in the mouse piriform cortex *in vivo*. M. L. TANTIRIGAMA*; J. M. BEKKERS. *The Australian Natl. Univ.*

4:00 J16 **230.04** Is the innervation of piriform by the olfactory bulb random? P. A. RHODES*. *Evolved Machines.*

1:00 J17 **230.05** Somatostatin interneurons in piriform cortex. A. M. LARGE*; A. M. OSWALD. *Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition.*



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

2:00 J18 **230.06** Encoding odors with ensembles of piriform cortex neurons in awake and anesthetized mice. K. A. BOLDING; K. M. FRANKS*. *Duke Univ.*

3:00 J19 **230.07** Piriform outputs effect multi-stage normalization of cortical odor representations. K. A. BOLDING*; K. M. FRANKS. *Duke Univ.*

4:00 J20 **230.08** State-dependent oscillatory coding and interactions between olfactory bulb and piriform cortex. S. GAUTAM*; S. CHAKRABORTY; W. L. SHEW. *Univ. of Arkansas.*

1:00 J21 **230.09** The olfactory cortex areas coordinately perform inhalation-exhalation switching between superficial- and deep-layer active states. K. NARIKIYO*; H. MANABE; K. MORI. *RIKEN Brain Sci. Inst., Doshisha Univ., The Univ. of Tokyo.*

2:00 J22 **230.10** Spatial profiles of inhibition onto semilunar and pyramidal neurons in piriform cortex. N. W. VOGLER; A. M. LARGE; A. M. OSWALD*. *Univ. of Pittsburgh.*

3:00 J23 **230.11** Differential odor processing in feedforward and feedback neurons in the lateral entorhinal cortex. F. C. LEITNER*; S. MELZER; H. LÜTCKE; E. C. FUCHS; P. H. SEEBURG; F. HELMCHEN; H. MONYER. *DKFZ, Max Planck Inst. for Med. Res., Med. Fac. of Heidelberg Univ. and German Cancer Res. Ctr. (DKFZ), Howard Hughes Med. Institute, Harvard Med. Sch., Brain Res. Institute, Univ. of Zurich, ETHZ.*

4:00 J24 **230.12** The encoding of stimulus valence and primary reinforcers in the olfactory tubercle. M. A. GADZIOLA*; K. A. TYLICKI; D. L. CHRISTIAN; D. W. WESSON. *Case Western Reserve Univ.*

1:00 J25 **230.13** The olfactory thalamus: Characterizing single-unit activity of the mediodorsal thalamic nucleus in behaving rat. E. COURTIOL*; D. A. WILSON. *Nathan Kline Inst. For Psychiatric Res., New York Univ. Langone Med. Ctr.*

2:00 J26 **230.14** Variability and adaptation of odor representations in the zebrafish homolog of olfactory cortex. G. A. JACOBSON; R. W. FRIEDRICH*. *Friedrich-Miescher-Institute For Biomed Res.*

3:00 J27 **230.15** Electron microscopy reconstruction of Kenyon cells and their synaptic connectivity in the mushroom body of adult *Drosophila* melanogaster. Z. ZHENG*; J. S. LAURITZEN; C. B. FISHER; J. M. RATLIFF; B. M. HARRISON; A. E. ADESINA; C. G. ROBINSON; J. PRICE; D. MILKIE; O. TORRENS; B. KARSH; E. T. TRAUTMAN; K. KHAIRY; E. PERLMAN; M. KAZHDAN; A. CARDONA; S. SAALFELD; D. D. BOCK. *Janelia Res. Campus/HHMI, Northeastern Univ., Hudson Price Designs, LLC, Coleman Technologies, Inc., Johns Hopkins Univ.*

4:00 J28 **230.16** Plasticity-driven individualization of olfactory coding in mushroom body output neurons. T. HIGE*; Y. ASO; G. M. RUBIN; G. C. TURNER. *Cold Spring Harbor Lab., HHMI, Janelia Res. Campus.*

**POSTER**

## 231. Auditory Processing: Neural Coding, Experiment, and Theory

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 J29 **231.01** Neural correlates of auditory scene analysis in the primate inferior colliculus. D. S. PAGES*; V. C. CARUSO; J. M. GROH. *Duke Univ., Duke Univ., Duke Univ.*

2:00 J30 **231.02** The code biasing the owl's orienting behavior in situation of uncertainty. F. CAZETTES*; B. J. FISCHER; J. L. PENA. *Albert Einstein Col. of Med., Seattle Univ.*

3:00 J31 **231.03** Amplitude modulation rate discrimination and cortical encoding in the awake-behaving gerbil. G. VON TRAPP*; M. N. SEMPLE; D. H. SANES. *New York Univ.*

4:00 J32 **231.04** Activation of parvalbumin-positive interneurons enhances transient responses and changes tuning of offset responses in awake auditory cortex. K. J. HILDEBRANDT*; P. J. GANÇALVES; M. SAHANI; J. F. LINDEN. *Carl von Ossietzky Univ. Oldenburg, Univ. Col. London, Univ. Col. London.*

1:00 J33 **231.05** Cortical population nonlinearities reflect asymmetric auditory perception in mice. A. KEMPF; T. DENEUX; P. EMMANUEL; B. BATHELLIER*. *CNRS, IRCAM.*

2:00 J34 **231.06** Local sensory context modulates responses to complex sounds in multiple brain areas along the auditory pathway. A. F. MEYER*; J. F. LINDEN; M. SAHANI. *Univ. Col. London, Univ. Col. London.*

3:00 J35 **231.07** Swarm intelligence meets the brain: Estimating cellular parameters related to auditory processing in young and aged rats using particle swarm optimization. B. S. COVENTRY*; A. PARTHASARATHY; E. BARTLETT. *Purdue Univ., Purdue Univ.*

4:00 J36 **231.08** Representations of voice onset timing cues in the inferior colliculus of young and aged rats. C. S. SOVERNS*; A. PARTHASARATHY; E. L. BARTLETT. *Purdue Univ., Purdue Univ.*

1:00 J37 **231.09** Chronic calcium imaging of neuronal ensembles in the mouse auditory cortex. D. F. ASCHAUER*; J. EPPLER; M. KASCHUBE; S. RUMPEL. *Johannes Gutenberg-University Mainz, Johann Wolfgang Goethe Univ.*

2:00 J38 **231.10** ▲ Modeling discrete cortical representations and their stability in the presence of synaptic turnover. J. EPPLER*; D. ASCHAUER; S. RUMPEL; M. KASCHUBE. *FIAS, Johann Wolfgang Goethe Univ., Johannes Gutenberg Univ.*

3:00 J39 **231.11** Prediction of neural population responses to complex acoustic stimuli. D. LYZWA*. *Dep. Nonlinear Dynamics Max Planck Inst. For Dynamics and Self-Organization.*

4:00 J40 **231.12** Change in brain state leads to stimulus information degradation through the thalamocortical circuit. J. BAMBER*; S. SAKATA; J. HERRMANN. *Inst. for Adaptive and Neural Computation, Univ. of Strathclyde, Univ. of Edinburgh.*



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

1:00 J41 **231.13** Quantifying temporal structure of auditory cortex multineuronal patterns. J. DECHERY*; J. N. MACLEAN. *Univ. of Chicago, Univ. of Chicago, Univ. of Chicago.*

2:00 J42 **231.14** Cortical representations of stimulus intensity of cochlear implant stimulation in awake marmosets. K. LIM*; L. A. JOHNSON; C. C. DELLA SANTINA; X. WANG. *Johns Hopkins Sch. of Med., Univ. of Minnesota, Johns Hopkins Sch. of Med.*

3:00 J43 **231.15** Spectro-temporal dynamics of excitatory, suppressive, and inhibitory influences in the auditory nerve and ventral cochlear nucleus following sensorineural hearing loss. M. G. HEINZ*; K. S. HENRY; M. SAYLES. *Purdue Univ., Univ. of Rochester, Purdue Univ., KU Leuven.*

4:00 J44 **231.16** Single trial decoding of task-relevant variables in auditory and frontal cortex during sensorimotor decision-making. M. INSANALLY*; I. CARCEA; B. ALBANNA; R. FROEMKE. *New York Univ., New York University, Skirball Inst. for Biomolecular Med., Fordham University, Dept. of Natural Sci.*

1:00 J45 **231.17** Encoding and decoding of amplitude modulated signals amongst populations in auditory core of awake squirrel monkeys. M. J. RUNFELDT*; B. J. MALONE. *UCSF, UCSF.*

2:00 J46 **231.18** Differential effects of multiple anaesthetic regimes on spontaneous, sensory and multisensory recordings from guinea pig cortex. O. WOOLNOUGH*; J. I. BERGER; B. COOMBER; M. N. WALLACE; A. R. PALMER; C. J. SUMNER. *MRC Inst. of Hearing Res.*

3:00 J47 **231.19** Neural dynamics for encoding stationary sound stimuli in the primary auditory cortex of marmoset monkeys. W. SUN*; D. L. BARBOUR. *Washington Univ. in St. Louis.*

4:00 J48 **231.20** Rapid estimation of neuronal frequency response area using Gaussian process regression. X. D. SONG*; W. SUN; D. L. BARBOUR. *Washington Univ. In St. Louis.*

1:00 K1 **231.21** Neural signatures of predictive coding in cortical pitch processing. W. SEDLEY*; P. E. GANDER; S. KUMAR; H. OYA; H. KAWASAKI; M. A. HOWARD, III; T. D. GRIFFITHS. *Newcastle Univ., Univ. of Iowa.*

2:00 K2 **231.22** Single and population neural discrimination of vocalizations in noise. R. NI*; D. A. BENDER; J. R. GAMBLE; D. L. BARBOUR. *Washington Univ. in St. Louis, Washington Univ. in St. Louis.*

3:00 K3 **231.23** ● Avalanche dynamics of population activity in the auditory cortex. D. WINKOWSKI; S. SESHADRI; D. PLENZ; P. O. KANOLD*. *Univ. of Maryland, NIMH.*

4:00 K4 **231.24** Determining the joint neural encoding of phonetic and speaker features with EEG. B. KHALIGHINEJAD; M. YANG; J. O'SULLIVAN; N. MESGARANI*. *Columbia Univ.*

1:00 K5 **231.25** Characterizing the dynamic representation of acoustic spectral regularity in humans. A. M. GIFFORD*; M. KAHANA; Y. COHEN. *Univ. of Pennsylvania.*

2:00 K6 **231.26** The encoding mechanism throughout the human auditory pathway. Q. ZHANG*; X. HU. *Tsinghua Univ., Tsinghua Univ.*

**POSTER**

**232. Striate Cortex: Receptive Field Organization**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 K7 **232.01** Geometric diversity of axons in afferent and efferent projections of the mouse visual cortex. P. RÉGNIER; I. MASSÉ; R. TREMBLAY-LALIBERTÉ; D. BOIRE*. *UQTR.*

2:00 K8 **232.02** The spatiotemporal distribution of synaptic inputs to simple cells of V1: Challenging a classical model of receptive field structure. M. M. TAYLOR*; M. SEDIGH-SARVESTANI; L. E. VIGELAND; L. A. PALMER; D. CONTRERAS. *Perelman Sch. of Med., Univ. of Pennsylvania.*

3:00 K9 **232.03** The effect of callosal projections on stimulus responses of layer 2/3 neuronal populations in rodent visual cortex. V. RAMACHANDRA*; V. PAWLAK; J. N. D. KERR. *Res. Ctr. Caesar.*

4:00 K10 **232.04** Neural circuits for the cortical control of the optokinetic reflex. B. LIU*; A. HUBERMAN; M. SCANZIANI. *UCSD, HHMI.*

1:00 K11 **232.05** Effect of running on surround suppression in inhibitory neurons of mouse visual cortex. M. DIPOPPA*; A. RANSON; M. KRUMIN; M. CARANDINI; K. D. HARRIS. *Univ. Col. London, Cardiff Univ.*

2:00 K12 **232.06** Functional properties of deep layer projection neurons in the primary visual cortex. G. LUR*; L. TANG; J. A. CARDIN; M. J. HIGLEY. *Yale Univ.*

3:00 K13 **232.07** Binocular organization of cortical maps for ON/OFF spatial phase and orientation in primary visual cortex. J. KREMKOW*; J. JIN; Y. WANG; J. ALONSO. *Humboldt Univ. of Berlin, State Univ. of New York, Col. of Optometry.*

4:00 K14 **232.08** Direction selectivity of thalamic excitation onto single neurons in mouse primary visual cortex. A. D. LIEN*; M. SCANZIANI. *Gladstone Inst. of Neurolog. Dis., HHMI/University of California San Diego.*

1:00 K15 **232.09** Laminar processing of global visual contours in V1 and V2. R. CHEN; F. WANG; H. LIANG; W. LI*. *Beijing Normal Univ., Drexel Univ.*

2:00 K16 **232.10** Two-photon imaging of neuronal populations in the primary visual cortex representation of the overhead visual field. S. RULLA*; B. NG; J. MACKE; D. WALLACE; J. SAWINSKI; J. KERR. *Res. Ctr. Caesar: A Max Planck Inst., Res. Ctr. Caesar: A Max Planck Inst.*

3:00 K17 **232.11** Cortical spread of correlations between orientation selectivity and orientation preference in primary visual cortex. J. JIN*; J. KREMKOW; Y. WANG; R. LASHGARI; J. ALONSO. *SUNY-Optometry, Humboldt Univ. of Berlin, Iran Univ. of Sci. and Technol.*

4:00 K18 **232.12** Cortical topography and cross-orientation interactions in visual cortex. E. KOCH*; J. JIN; M. JANSEN; C. PONS; J. ALONSO; Q. ZAIDI. *SUNY Col. Optometry.*

1:00 K19 **232.13** Specificity in the spatial organization of receptive fields supporting multiple functional maps in tree shrew visual cortex. K. LEE*; X. HUANG; D. FITZPATRICK. *Max Planck Florida Inst., Florida Atlantic Univ.*



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

2:00 K20 **232.14** Phase and structure selectivity depend on grating class in primary (V1) and secondary (V2) visual cortex. P. DE LUNA*; J. POIROT; R. KRETZ; G. RAINER. *Univ. of Fribourg, Switzerland.*

3:00 K21 **232.15** Orientation- and direction- selective responses of GABAergic neurons in ferret visual cortex. D. E. WILSON*; G. B. SMITH; A. JACOB; T. WALKER; J. DIMIDSCHSTEIN; G. J. FISHELL; D. FITZPATRICK. *Max Planck Florida Inst. For Neurosci., Florida Atlantic Univ., New York Univ. Langone Med. Ctr.*

4:00 K22 **232.16** End-stopped cells help detect natural contours. G. C. MEL*; P. MARTIN; B. MEL. *USC.*

1:00 K23 **232.17** Self-organization of receptive fields and orientation maps in layer 2/3 of the primary visual cortex: Comparisons between cats and rodents. M. MIYASHITA*; N. WAKABAYASHI; S. TANAKA. *Numazu Natl. Col. of Technol., Toyohashi Univ. of Technol., The Univ. of Electro-Communications.*

2:00 K24 **232.18** Receptive fields mapped with natural and artificial stimuli in macaque monkey V1. H. WU*; Y. HSU; C. YEH. *Dept. of Psychology, Natl. Taiwan Universi, Inst. of Neuroscience, Natl. Yang-Ming Univ., Dept. of Psychology, Natl. Taiwan University.*

**POSTER**

**233. Extrastriate Cortex: Motion Processing**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 K25 **233.01** Impact of speed and contrast on response latency and spatial representations in primate area MT. S. C. CHEN*; J. W. MORLEY; S. G. SOLOMON. *Ctr. for Perceptual Systems, ARC Ctr. of Excellence for Integrative Brain Function, Univ. of Sydney, Univ. of Western Sydney, Univ. Col. London.*

2:00 K26 **233.02** Response properties of neurons specialized in motion detection in extrastriate area 21a of the cat cortex. H. ASLANYAN*; A. KHACHATRYAN; D. KHACHVANKIAN; B. HARUTIUNIAN-KOZAK; A. GHAZARIAN. *Inst. of Applied Problems of Physics of NAS, SUNY Downstate Med. Ctr.*

3:00 K27 **233.03** Motion-direction tuning in the post-saccadic remapped response in macaque MT. T. YAO*; S. TREUE; S. KRISHNA. *German Primate Ctr., Goettingen Univ., Bernstein Ctr. for Computat. Neurosci.*

4:00 K28 **233.04** Topographic maps of depth in human visual cortex. D. BERMAN*; N. J. FINLAYSON; J. D. GOLOMB. *The Ohio State Univ.*

1:00 K29 **233.05** ▲ Evidence for neurochemical alterations in area MT following damage to V1 in monkeys. O. HOPKINS*; K. DING; J. FANG; H. RODMAN. *Emory Univ., Med. Col. of Georgia, Emory Univ.*

2:00 K30 **233.06** Dynamics of heading and choice-related signals in areas PIVC, VIP and MSTd. J. FERNANDEZ-LEON*; A. ROSENBERG; A. CHEN; A. ZAIDEL; G. C. DEANGELIS; D. E. ANGELAKI. *Baylor Col. of Med., Ctr. for Computat. Neurosci. and Robotics, Univ. of Sussex, Key Lab. of Brain Functional Genomics, East China Normal Univ., Bar-Ilan Univ., Ctr. for Visual Science, Univ. of Rochester.*

3:00 K31 **233.07** Contributions of visual and extra-retinal mechanisms to rotation-tolerant heading selectivity in macaque area MSTd. A. D. DANZ*; D. E. ANGELAKI; G. C. DEANGELIS. *Univ. of Rochester, Ctr. for Visual Sci., Baylor Col. of Med.*

4:00 K32 **233.08** Contributions of visual and vestibular cues to rotation-tolerant heading perception. A. SUNKARA*; B. LI; G. C. DEANGELIS; D. E. ANGELAKI. *Baylor college of medicine, Univ. of Rochester, Univ. of Rochester.*

1:00 K33 **233.09** Multisensory representation of self-motion in macaque area 7a. K. LAKSHMINARASIMHAN*; E. AVILA; G. C. DEANGELIS; D. E. ANGELAKI. *Baylor Col. of Med., Univ. of Rochester, Rice Univ.*

2:00 K34 **233.10** Perception of object motion during self-motion: Multisensory contributions to flexible reference frame transformations. R. SASAKI*; D. E. ANGELAKI; G. C. DEANGELIS. *Univ. of Rochester, Baylor Col. of Med., Univ. of Rochester.*

3:00 K35 **233.11** Decoding feature spaces in primate MT: An evaluation of multivariate pattern analysis methods. T. A. CARLSON*; E. GODDARD; H. HOGENDOORN; S. S. SOLOMON; S. G. SOLOMON. *Macquarie Univ., Univ. Utrecht Utrecht, Albert Einstein Col. of Med., Univ. Col. London.*

4:00 K36 **233.12** Direction tuning of response variability in populations of MT neurons is different in awake versus anesthetized recordings. J. LOMBARDO*; M. MACELLAIO; B. LIU; L. C. OSBORNE; S. E. PALMER. *Univ. of Chicago.*

1:00 K37 **233.13** Synergistic coding of motion direction and speed in MT neurons in monkeys. M. V. MACELLAIO*; B. LIU; L. C. OSBORNE. *Univ. of Chicago.*

2:00 K38 **233.14** Navigation and decision in mouse parietal cortex. M. KRUMIN*; K. D. HARRIS; M. CARANDINI. *Univ. Col. London.*

**POSTER**

**234. Eye Movements: Saccades**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 K39 **234.01** Bimodal-distributed saccadic reaction time of predictive and reactive saccades. K. NI*; Z. HAN; M. ZHANG. *Chinese Acad. of Sci., Beijing Normal Universisty.*

2:00 K40 **234.02** Saccade trajectory curvature induced by planning of sequential saccades. R. AZADI*; R. M. MCPEEK. *Grad. Ctr. for Vision Research,SUNY Optometry.*

3:00 K41 **234.03** The effects of visual target goal on the adaptation of saccades. R. SOETEDJO*. *Univ. of Washington.*



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

4:00 K42 **234.04** Modulation of vigor during a temporal discounting task. T. REPPERT*; K. M. LEMPERT; P. W. GLIMCHER; R. SHADMEHR. *Johns Hopkins Univ., New York Univ.*

1:00 L1 **234.05** On the role of intrinsic microsaccadic biases in influencing behavior in Posner cueing. X. TIAN*; Z. M. HAFED. *Physiol. of Active Vision.*

2:00 L2 **234.06** ● Foveal attention amplifies a position-correcting mechanism during ocular pursuit. S. J. HEINEN*; E. POTAPCHUK; S. WATAMANIUK. *Smith-Kettlewell Eye Res. Inst., Wright State Univ.*

3:00 L3 **234.07** Inter-trial correlations in sequences of saccade endpoints: Further reflections on fractal structure in motor control. M. J. SHELHAMER*; A. WONG; P. FEDERIGHI. *Johns Hopkins Univ. Sch. Med., Johns Hopkins Univ. Sch. Med., Univ. of Firenze.*

4:00 L4 **234.08** Short-term saccadic adaptation to intra-saccadic conjugate and disconjugate background shifts. C. BUSETTINI*; K. P. SCHULTZ. *Univ. Alabama Birmingham, Univ. Alabama Birmingham.*

1:00 L5 **234.09** Camera-based calibration system for obtaining gaze vectors from freely moving rats in a screened arena. M. E. SILVA PRIETO*; K. VOIT; D. S. GREENBERG; G. NOTARO; J. SAWINSKI; D. J. WALLACE; J. N. D. KERR. *Res. Ctr. Caesar: A Max Planck Inst.*

2:00 L6 **234.10** Rat eye movements diminish visual field blind spots during free movement. J. N. KERR*; D. S. GREENBERG; J. SAWINSKI, Jr; D. J. WALLACE. *Res. Ctr. Caesar: A Max Planck Inst.*

3:00 L7 **234.11** Oculo-videography of eye movements in freely moving ferrets and tree shrews. D. J. WALLACE*; D. S. GREENBERG; J. SAWINSKI; R. CORLEW; D. FITZPATRICK; J. N. D. KERR. *Res. Ctr. Caesar: A Max Planck Inst., Max Planck Florida Inst. for Neurosci.*

4:00 L8 **234.12** ▲ Fixation eye movements of monkeys studied with bright and dark background. O. SPIVAK*; P. THIER; S. BARASH. *Hertie Inst. For Clin. Brain Res., Hertie Inst. for Clin. Brain Res., Weizmann Inst. of Sci.*

1:00 L9 **234.13** Unable to Attend Characteristics of spontaneous square-wave jerks in the healthy macaque monkey during visual fixation. F. M. COSTELA; J. OTERO-MILLAN; M. B. MCCAMY; S. L. MACKNIK; L. L. DI STASI; H. RIEIRO; J. R. LEIGH; X. G. TRONCOSO; A. NAJAFIAN JAZI; S. MARTINEZ-CONDE*. *Barrow Neurolog. Inst., Arizona State Univ., Johns Hopkins Univ., SUNY Downstate Med. Ctr., Univ. of Granada, Univ. of Vigo, Case Western Reserve Univ., CNRS-UNIC.*

**POSTER**

**235. Vestibular Hair Cells, End Organs, and Nerve**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 L10 **235.01** Line of polarization reversal (LPR) located lateral to the striola in the chinchilla utricular macula. A. LYSAKOWSKI*; S. D. PRICE; J. M. GOLDBERG. *Univ. of Illinois At Chicago, Univ. of Chicago.*

2:00 L11 **235.02** Whole-cell recordings from type II vestibular hair cells with basolateral processes in the mature mouse utricular macula. A. GONZALEZ GARRIDO*; J. S. STONE; R. A. EATOCK. *Univ. of Chicago, Univ. of Washington.*

3:00 L12 **235.03** Modulatory actions of metabotropic glutamate receptors on spontaneous electrical activity of the vestibular afferents: An ontogenic study. R. VARELA; E. MONJARAZ; F. GALINDO*; J. CEBADA; A. FLORES. *Benemerita Univ. Autonoma De Puebla, Benemérita Univ. Autónoma de Puebla.*

4:00 L13 **235.04** Histamine receptor 4 antagonist JNJ7777120 inhibits the sodium currents modulating the discharge of vestibular afferent neurons of the rat. R. VEGA*; E. SESEÑA; E. SALCEDA; E. SALINAS; E. SOTO. *Univ. Autonoma De Puebla, Univ. Autonoma De Puebla.*

1:00 L14 **235.05** Spontaneous and driven activity of vestibular afferent calyces in the extrastriolar zone of the mouse utricle. O. LOPEZ*; V. LUMBRERAS; R. A. EATOCK. *Univ. of Chicago.*

2:00 L15 **235.06** Voltage-dependent inhibition of N-type calcium current by activation of ORL-1 receptor in vestibular afferent neurons of rat. E. SESEÑA MENDEZ*; A. ORTEGA; R. VEGA; E. SOTO. *Fac. De Medicina, Univ. Autonoma De Puebla, Univ. Autónoma de Puebla.*

3:00 L16 **235.07** Dynamic diversity of horizontal canal afferent neurons in Xenopus laevis tadpoles. K. GENSBERGER; C. GRAVOT; L. F. HOFFMAN*; M. PAULIN; H. STRAKA. *Ludwig-Maximilians-University, Ludwig-Maximilians-University, UCLA Sch. Med., Univ. of Otago.*

4:00 L17 **235.08** Parallel channels with different timescales encode self-motion information in the vestibular system. M. JAMALI*; J. CARRIOT; M. J. CHACRON; K. E. CULLEN. *McGill Univ.*

1:00 L18 **235.09** Spontaneous discharge in mammalian vestibular afferents modelled as Gamma-censored Poisson processes: Associations with response dynamics. L. HOFFMAN; K. PULLAR; F. E. SCHWEIZER*; M. PAULIN. *Geffen Sch. of Med., Univ. of Otago, UCLA, Box 951763.*

2:00 L19 **235.10** Age-related effects of vestibular stimulation on gait. V. TUNG*; T. BURTON; S. QUAIL; A. J. CAMP. *Univ. of Sydney.*

**POSTER**

**236. Vestibular Central Physiology, Anatomy, and Behavior**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 L20 **236.01** Efferent vestibular neurons show homogeneous discharge output and heterogeneous synaptic input profile in mice *in vitro*. M. A. MATHEWS*; R. WIJESINGHE; A. MURRAY; V. TUNG; A. J. CAMP. *USYD, Columbia Univ.*

2:00 L21 **236.02** Changes in c-Fos expression in the striatum following electrical stimulation of the peripheral vestibular system. L. STILES*; Y. ZHENG; R. M. NAPPER; P. F. SMITH. *Univ. of Otago, Univ. of Otago, Univ. of Otago.*

3:00 L22 **236.03** Role of G-protein-coupled serotonin receptor on synaptic plasticity of excitatory transmission in the vestibular nucleus of rats. Y. CHAN*; L. HAN; Y. H. LI; C. W. MA; D. K. Y. SHUM. *Dept. of Physiol., Fac Med, The Univ. of Hong Kong, Dept. of Biochem., Fac Med, The Univ. of Hong Kong.*

4:00 L23 **236.04** Neural mediation in vestibular nucleus: Habituation and sensitization of horizontal semicircular canal-related neurons by galvanic vestibular stimulation. G. KIM*; S. LEE; K. KIM; E. JEON. *Inha Univ., Inha Univ. Hosp.*

1:00 L24 **236.05** Discharge properties of vestibular neurons during horizontal eye movements in the goldfish. A. M. PASTOR*; P. M. CALVO; R. R. DE LA CRUZ; H. STRAKA; R. BAKER. *Univ. de Sevilla, Ludwig-Maximilians-Universität München, New York Univ. Med. Ctr.*

2:00 L25 **236.06** Selective encoding of unexpected head tilt by the vestibular nuclei but not by the vestibular afferents. I. MACKROUS*; J. CARRIOT; K. E. CULLEN. *McGill.*

3:00 L26 **236.07** Reticular formation neurons with vestibular inputs respond to hindlimb movement: Comparisons between decerebrate and conscious cats. D. M. MILLER*; D. J. MILLER; G. H. BOURDAGES; L. A. COTTER; B. J. YATES; A. A. MCCALL. *Univ. of Pittsburgh.*

4:00 L27 **236.08** Anatomical and physiological characteristics of vestibulospinal neurons in zebrafish. M. W. BAGNALL*; K. L. HEISEY; R. ROBERTS. *Washington Univ., Washington Univ.*

1:00 L28 **236.09** Plasticity within vestibulo-spinal reflex pathways: Implications for use of vestibular prostheses. D. E. MITCHELL*; C. C. DELLA SANTINA; K. E. CULLEN. *McGill Univ., Johns Hopkins Univ. Sch. of Med.*

2:00 L29 **236.10** Pulsed infrared stimulation of the vestibulo-sympathetic reflex (VSR) pathway. G. R. HOLSTEIN*; S. M. RAJGURU; G. P. MARTINELLI; V. L. FRIEDRICH, Jr.; R. D. RABBITT. *Icahn Sch. of Med. at Mount Sinai, Univ. of Miami, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Univ. of Utah.*

3:00 L30 **236.11** Sound-evoked responses of abducens neurons in rats. H. ZHU*; J. HUANG; X. TANG; C. STEWART; Y. YU; J. LIPPINCOTT; W. ZHOU. *Dept Otolaryngology, Univ. Mississippi Med. Ctr., Univ. Mississippi Med. Ctr.*

4:00 L31 **236.12** Exploratory activity, motor coordination, and spatial learning in mice subjected to hindlimb unloading. C. STRAZIELLE*; G. HARLE; J. FRIPPIAT; R. LALONDE. *Univ. of Lorraine, Univ. of Lorraine, Univ. of Normandy.*

**POSTER**

**237. Spinal Cord Processing: Anatomy and Physiology**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 L32 **237.01** Optogenetic tools for perturbing spinal neural circuits. A. J. CHRISTENSEN*; S. IYER; S. VYAS; A. FRANCOIS; G. SCHERRER; K. DEISSEROTH; S. L. DELP. *Stanford Univ., Stanford Univ.*

2:00 L33 **237.02** Identification of excitatory neuron populations that form the dorsal horn mechanical pain circuit. C. PEIRS*; S. WILLIAMS; X. ZHAO; J. GEDEON; R. SEAL. *Univ. of Pittsburgh, Pittsburgh Ctr. for Pain Res.*

3:00 L34 **237.03** Painful cervical facet joint injury alters spinal dorsal horn excitatory and inhibitory synapse numbers and astrocytic GLT-1 that is sustained. M. E. ITA*; N. CROSBY; B. BULKA; B. WINKELSTEIN. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

4:00 L35 **237.04** Optogenetic interrogation of mammalian mechanosensory and nociceptive circuits. S. M. IYER*; A. J. CHRISTENSEN; S. VYAS; S. VESUNA; A. FRANCOIS; C. RAMAKRISHNAN; K. DEISSEROTH; G. SCHERRER; S. L. DELP. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

1:00 L36 **237.05** Unitary EPSCs at single primary afferent-lamina I neuron synapses show predominant role of GluN2B- and GluN2D-containing NMDA receptors. G. M. PITCHER*; A. S. MORRISSY; L. GARZIA; M. D. TAYLOR; M. W. SALTER. *Hosp Sick Children.*

2:00 L37 **237.06** Optical and computational tools for analyzing somatosensory circuits. S. VYAS*; A. J. CHRISTENSEN; S. M. IYER; C. RAMAKRISHNAN; K. DEISSEROTH; S. L. DELP. *Stanford Univ.*

3:00 L38 **237.07** A machine learning methodology for the selection and classification of spontaneous spinal cord dorsum potentials allows disclosure of structured (non-random) changes in population neuronal activity induced by nociceptive stimulation. P. RUDOMIN*; M. MARTIN; J. BEJAR; E. CONTRERAS-HERNÁNDEZ; D. CHAVEZ; G. ESPOSITO; U. CORTES; S. GLUSMAN. *Ctr. de Investigación y de Estudios Avanzados del IPN, El Colegio Nacional, Univ. Politecnica de Catalunya. Barcelona Tech.*

4:00 L39 **237.08** Chasing morphological changes of neuronal processes in the spinal dorsal horn in an inflammatory pain model by using two-photon microscopy. S. MATSUMURA*; W. TANIGUCHI; K. NISHIDA; T. NAKATSUKA; S. ITO. *Kansai Med. Univ., Wakayama Med. Univ., Pain Res. Center, Kansai Univ. of Hlth. Sci.*

1:00 L40 **237.09** The paired-domain transcription factor Pax2, as a possible nuclear marker for adult GABAergic spinal dorsal horn neurons. P. SZUCS*; L. L. LUZ; F. DORA; M. SIVADO; E. KOKAI; Z. MESZAR. *MTA-DE-NAP B-Pain Control Res. Group, Univ. of Debrecen, Fac. of Med., Inst. of Mol. and Cell Biol., Univ. of Porto, Fac. of Med., Univ. of Debrecen, Fac. of Med.*

2:00 L41 **237.10** Control of nociceptive responses by spinal cholinergic tone after peripheral neuropathy. M. CORDERO-ERAUSQUIN*; M. MEDRANO; D. DHANASOBHON; I. YALCIN; R. SCHLICHTER. *CNRS, CNRS - Univ. de Strasbourg.*

3:00 L42 **237.11** Intradermal serotonin enhances warming-evoked responses of superficial dorsal horn neurons in the mouse. T. AKIYAMA*; M. NAGAMINE; M. I. CARSTENS; E. CARSTENS. *Temple Univ., UC Davis.*

4:00 L43 **237.12** Activity-dependent calcium dynamics in spinal cord lamina I neurons. E. K. HARDING*; M. W. SALTER. *Hosp. For Sick Children, Univ. of Toronto.*



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

1:00 L44 **237.13** Regulation of lipids in the spinal cord reflects activation of microglia after sciatic nerve transection. X. DONGMIN; T. OMURA*; N. MASAKI; H. ARIMA; M. HANADA; T. BANNO; M. SETOU; Y. MATSUYAMA. *Hamamatsu Univ. Sch. of Med., Hamamatsu Univ. Sch. of Med., Hamamatsu Univ. Sch. of Med.*

2:00 M1 **237.14** Diode laser nociceptive primary afferent-selective activation of spinal dorsal horn neurons. J. ZHANG*; D. J. CAVANAUGH; A. I. BASBAUM; M. I. NEMENOV. *Univ. of Utah, Univ. of Pennsylvania, Univ. of California San Francisco, Lasmed LLC, Stanford Univ.*

3:00 M2 **237.15** ● An exploratory analysis of the variation in firing properties among rat spinal dorsal horn neurons responding to knee joint movement in the monosodium iodoacetate sensitized rat. J. A. MIRANDA*; E. PITT; K. GORE; M. WHITLOCK; H. REES. *Pfizer Neurosci. and Pain, Pfizer Clin. Res.*

4:00 M3 **237.16** Region-specific organization of mammalian dorsal spinal cord pain circuits. W. P. OLSON*; J. NIU; A. VYSOCHAN; W. LUO. *Univ. of Pennsylvania.*

1:00 M4 **237.17** Characterization of Gbx1 neurons in the mouse spinal dorsal horn. K. HAENRAETS*; H. WILDNER; S. THERIN; H. U. ZEILHOFER. *Univ. of Zurich, Inst. of Pharmacol. and Toxicology, Swiss Federal Inst. of Technol. (ETH) Zurich.*

2:00 M5 **237.18** Investigating the viability and excitability of adult dorsal horn neurons using a double-sectioning assay. A. DEDEK*; K. FARMER; T. BOSNIC; M. E. HILDEBRAND. *Carleton Univ., Carleton Univ.*

3:00 M6 **237.19** Parabrachial nucleus mediates itch-induced scratching behavior. Y. SUN*; D. MU; K. LIU; J. DENG; Y. SHI; Q. MAO. *Inst. of Neurosci.*

4:00 M7 **237.20** Integration of bilateral nociceptive signals in the human central nervous system: Evidence for novel and distinct modulatory mechanisms in the spinal cord and brain. N. RUSTAMOV*; J. TESSIER; M. PICHÉ. *Univ. du Quebec a Trois-Rivieres.*

1:00 M8 **237.21** Characterization of spinal VGF expression and localization following spinal cord injury. J. L. COOK*; M. S. RIEDL; J. MAXON; A. M. PARR; L. VULCHANOVA. *Univ. of Minnesota.*

2:00 M9 **237.22** ● Dual frequency temporal patterns improve efficacy and efficiency of spinal cord stimulation. T. ZHANG*; J. J. JANIK; W. M. GRILL. *Duke Univ., Stryker Corp., Duke Univ., Duke Univ., Duke Univ.*

3:00 M10 **237.23** Spinal integration of bilateral asynchronous nociceptive signals. S. BEN MANAA*; N. RUSTAMOV; S. BOIS; J. TESSIER; M. PICHE. *Lab. De Neurophysiologie De La Douleur, Univ. du Quebec a Trois-Rivieres.*

4:00 M11 **237.24** Properties of cutaneous and muscle afferent synapses onto lamina I projection neurons in the developing rat spinal cord. J. LI*; M. BACCEI. *Univ. Cincinnati, Univ. Cincinnati.*

1:00 M12 **237.25** ▲ Spinal manipulation decreases experimental back pain: Specific effects on temporal summation of pain. C. RANDOLL*; N. RUSTAMOV; J. TESSIER; V. GAGNON-NORMANDIN; J. O'SHAUGHNESSY; M. DESCARREAUX; M. PICHÉ. *Univ. Du Quebec A Trois-Rivieres, Univ. Du Quebec A Trois-Rivieres.*

2:00 M13 **237.26** Identification of spinal circuitry for mechanical pain by intersectional genetics. B. DUAN*; L. CHEN; M. GOULDING; Q. MA. *Dana-Farber Cancer Institute, Harvard, Salk Inst.*



**POSTER**

**238. Visceral Pain**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 M14 **238.01** Effects of early life stress vary across paradigm: A comparative analysis of sex-specific alterations in viscerosomatic pain. D. PRUSATOR*; B. GREENWOOD-VAN MEERVELD. *Univ. of Oklahoma Hlth. Sci. Ctr., Univ. of Oklahoma Hlth. Sci. Ctr.*

2:00 M15 **238.02** Chronic stress-induced lower back pain in a rat trigeminal neuropathic pain model: Central mechanisms that contribute to comorbid pain conditions. J. YANG; S. ZOU; W. GUO; K. REN; R. DUBNER*; R. TRAUB; F. WEI. *Univ. Maryland Dent. Sch.*

3:00 M16 **238.03** Opposing roles of estradiol and testosterone on stress-induced visceral hypersensitivity in rats. Y. JI; X. HU; R. J. TRAUB*. *Univ. of Maryland Sch. of Dent., UM Ctr. to Advance Chronic Pain Res.*

4:00 M17 **238.04** Stress epigenetically regulates spinal NMDA and mGluR3 expression modulating visceral sensitivity in female rats. D. CAO; G. BAI*; Y. JI; R. J. TRAUB. *Univ. of Maryland Dent. Sch., Xi'an Jiaotong Univ. Hlth. Sci. Ctr., Univ. of Maryland.*

1:00 M18 **238.05** Voluntary exercise can prevent or reverse comorbid urogenital and mood disorders resulting from early life stress in male mice. I. FUENTES*; A. N. PIERCE; R. WANG; J. A. CHRISTIANSON. *Univ. of Kansas Med. Ctr.*

2:00 M19 **238.06** Investigating comorbidities in an early life stress model of chronic urogenital pain in mice. O. K. ELLER; A. N. PIERCE; I. M. FUENTES; P. T. O'NEIL; R. WANG; G. O. DUSSOR; J. A. CHRISTIANSON*. *Univ. of Kansas Med. Ctr., The Univ. of Texas at Dallas.*

3:00 M20 **238.07** Somatic complaint in dysmenorrhea and other visceral pains. R. ZUCKERMAN; J. KANE; R. L. SILTON; K. M. HELLMAN*; F. F. TU. *Univ. of Chicago, NorthShore Univ. HealthSystem, Loyola.*

4:00 M21 **238.08** ▲ Neural correlates of sensory amplification in dysmenorrhea and other visceral pain conditions. K. E. DILLANE; S. HARTE; K. L. POLNASZEK; F. F. TU; R. L. SILTON*; K. M. HELLMAN. *Northshore Univ. HealthSystem, Univ. of Michigan, Loyola Univ. Chicago, Univ. of Chicago.*

1:00 M22 **238.09** The effects of depression, dysmenorrhea, and sensory amplification on resting state brain activity. K. BRANDSTATT*; K. E. DILLANE; K. M. HELLMAN; F. F. TU; R. L. SILTON. *Loyola Univ. Chicago, NorthShore Univ. HealthSystem, Univ. of Chicago.*

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

2:00 M23 **238.10** ● Alterations in expression of aspartate aminotransferase and glutaminase in drg neurons: Comparison between rat models of arthritis and inflammatory bowel disease. K. E. MILLER*; Z. ZHANG; B. R. BOLT; S. DAS; R. JOHN; M. B. ANDERSON; C. KIM; K. TYLER; B. GREENWOOD-VAN MEERVELD. *Oklahoma State Univ. Ctr. Hlth. Sci., Univ. of Oklahoma Hlth. Sci. Ctr.*

3:00 M24 **238.11** ● The role of glutamatergic colonic innervation in trinitro-benzene-sulphonic acid (TNBS)-induced colitis in rats. S. DAS; Z. ZHANG; M. B. ANDERSON; K. S. CURTIS*; B. GREENWOOD-VAN MEERVELD; K. E. MILLER. *Oklahoma State Univ. Ctr. For Hlth. Sci., Oklahoma State Univ. Ctr. For Hlth. Sci., Univ. of Oklahoma.*

4:00 M25 **238.12** Asymmetrical involvement of the left and right central amygdala in bladder pain. K. E. SADLER*; A. M. TROUTEN; B. J. KOLBER. *Duquesne Univ.*

1:00 M26 **238.13** ● Pudendal nerve stimulation inhibits visceromotor responses to urinary bladder distension during concurrent treatment with acute or chronic baclofen. T. J. NESS*; A. RANDICH; B. CLODFELDER-MILLER; J. MCNAUGHT; C. DEWITTE; D. E. NELSON; X. SU. *Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham, Medtronic, Inc.*

2:00 M27 **238.14** Macrophage-derived high mobility group box 1 participates in the development and maintenance of pancreatic pain through the activation of RAGE and CXCR4 in mice with cerulein-induced acute pancreatitis. Y. IRIE*; M. TSUBOTA; F. SEKIGUCHI; H. ISHIKURA; M. NISHIBORI; A. KAWABATA. *Kinki Univ. Sch. Pharm., Div. Emerg. Critical Care Med. Fukuoka Univ. Hosp., Okayama Univ. Grad. Sch. Med.*

3:00 M28 **238.15** Zinc deficiency aggravates bladder pain accompanying cyclophosphamide-induced cystitis through the enhanced activity of $Ca_v3.2$ T-type $Ca^{2+}$ channels in mice. T. OZAKI*; J. MATSUOKA; M. TSUBOTA; S. TOMITA; F. SEKIGUCHI; T. MINAMI; A. KAWABATA. *Kinki Univ. Sch. Pharm., Kinki Univ. Sch. Sci. Engineer.*

4:00 M29 **238.16** Bladder pain accompanying cyclophosphamide-induced mouse cystitis involves HMGB1 release upstream of the cystathionine-gamma-lyase/H2S/Cav3.2 pathway in the bladder tissue. A. KAWABATA*; M. TSUBOTA; K. YAMAGUCHI; S. HIRAMOTO; F. SEKIGUCHI; J. TANAKA; H. ISHIKURA; M. NISHIBORI. *Kinki Univ. Sch. of Pharm., Fukuoka Univ., Okayama Univ. Grad. Sch. of Med.*

1:00 M30 **238.17** Central connectivity of the bladder afferent terminals in the rat spinal cord. Y. BAE*; S. PARK; A. P. DEVI; J. BAE; W. MAH; Y. KIM; Y. CHO. *Sch. of Dentistry, Kyungpook Natl. Univ.*

2:00 M31 **238.18** ● Glutamate metabolism and pleural inflammation in heat-killed tuberculosis induced pleurisy. Z. ZHANG*; S. DAS; S. GANDHAPUDI; M. ANDERSON; K. TEAGUE; K. E. MILLER. *Oklahoma State Univ-CHS, Univ. of Oklahoma Sch. of Community Med.*

**POSTER**

**239. Musculoskeletal Pain**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 M32 **239.01** ● A pan-trk inhibitor with low brain penetration inhibits NGF-induced pharmacological responces, and exerts analgesic effect comparable to Morphine in rat osteoarthritis pain model. T. YASUHIRO; K. ODA; T. NAGAURA; K. MITSUI*; S. KATSUMATA; Y. HIROTA. *ONO Pharmaceut. Co., Ltd.*

2:00 M33 **239.02** Cav3.2-expressing low-threshold C fibres in human hairy skin contribute to cooling allodynia - a non-TRPV1- and non-TRPM8-dependent phenomenon. D. A. MAHNS*; M. S. SAMOUR; S. S. NAGI. *Univ. of Western Sydney.*

3:00 M34 **239.03** Spinal microglial activation in a murine surgical model of osteoarthritis is driven by joint damage. P. B. TRAN*; R. E. MILLER; S. ISHIHARA; R. J. MILLER; A. MALFAIT. *Rush Univ. Med. Ctr., Northwestern Univ.*

4:00 M35 **239.04** ● Antinociceptive effects of ONO-2952, a TSPO antagonist, on acidic saline-induced mechanical hyperalgesia in rats. S. KATSUMATA*; K. MITSUI; Y. EZAKI. *ONO Pharmmaceutical Co., Ltd., ONO Pharmaceutical. CO., LTD., ONO Pharmaceut. CO., LTD., ONO Pharmaceut. CO., LTD.*

1:00 M36 **239.05** ▲ Systemic administration of the bioflavonoid rutin reduces fibromyalgia-like pain in hypoestrogenic rats. A. HERNÁNDEZ LEÓN*; A. FERNÁNDEZ-GUASTI; M. GONZÁLEZ-TRUJANO. *Ctr. De Investigacion Y De Estudios Avanzados De, Inst. Nacional de Psiquiatria.*

2:00 M37 **239.06** Long term muscle involvement after neonatal pain. A. B. SIMÕES; J. A. ALVES; F. J. DIAS; E. C. CARMO; N. L. B. MACHADO; L. S. SANADA; V. S. FAZAN*. *Sch. of Med. of Ribeirao Preto, Sch. of Med. of Ribeirao Preto, Sch. of Med. of Ribeirao Preto.*

3:00 M38 **239.07** ● Reliability of pressure pain threshold and tolerance determined by an automated pressure system in knee osteoarthritis patients. J. R. SCOTT*; K. PHILLIPS; D. J. CLAUW; S. E. HARTE. *Univ. of Michigan, Univ. of Michigan.*

4:00 M39 **239.08** Effects of interferential current on pain relief in people with chronic nonspecific low back pain: A randomized placebo-controlled trial. R. LIEBANO*; J. B. CORRÊA; N. T. B. OLIVEIRA; L. O. P. COSTA; K. A. SLUKA. *UNICID, UNICID, Univ. of Iowa.*

1:00 M40 **239.09** A model of chronic pain from human prostate cancer cells implanted into the mouse tibia. M. ENOMOTO*; H. KABURAGI; T. HIRAI; Y. WAKABAYASHI; K. YAGISHITA; T. YOKOTA; A. OKAWA. *Tokyo Med. & Dent. Univ.*

2:00 M41 **239.10** Chronic low back pain is mediated by increased NGF in intervertebral discs: Therapeutic effect of active lifestyle and pharmacological interventions in mice. M. MILLECAMPS*; M. SUZUKI; Y. SUN; A. DANCO; A. P. MATHIEU; A. CHABOT-DORE; B. XUE; J. KIM; L. S. STONE. *McGill Pain Ctr., Chiba Univ., Douglas Hosp.*



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**POSTER**

**240. Somatosensory Functional Organization**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 M42 **240.01** Molecular-genetic tools to study spinal cord anterolateral tract neurons and their projections to the brain. S. CHOI*; D. D. GINTY. *Harvard Med. Sch.*

2:00 M43 **240.02** Joint perception task activates motor-related areas in healthy subjects: A functional magnetic resonance imaging study. H. HIROYUKI*; Y. HIRANO; C. SUTOH; D. MATSUZAWA; R. NAGAI; E. SHIMIZU. *Chiba Univ., Chiba Univ., Chiba Univirsity, Chiba Univ., Ichikawa-city Rehabil. Hosp.*

3:00 M44 **240.03** Neural activation induced by the perception of sticky tactile stimuli. J. YEON*; J. KIM; J. RYU; J. PARK; S. KIM. *Ulsan Natl. Inst. of Sci. and Technol., Korea Univ., Sungkyunkwan Univ.*

4:00 M45 **240.04** Writing lies and feelings of alleviation caused by hand soap: Neural underpinnings of the Macbeth effect. C. DENKE; M. SCHAEFER; H. HEINZE; M. SCHAEFER*. *Dep. of Anesthesiol & Intensive Care Medicine, Charité Univ. Berlin, CVK, Dept. of Neurology, Otto-von-Guericke Univ. Magdeburg.*

1:00 M46 **240.05** Spatiotemporal neuronal and hemodynamic integration in sensorimotor cortex of mice upon external stimuli. E. BAEG*; J. SIM; S. BAE; H. RYU; M. SUH. *CNIR, Inst. For Basic Sci. (IBS), Biol. Science, Sungkyunkwan Univ., Biomed. Engineering, Sungkyunkwan Univ.*

2:00 M47 **240.06** Muscle proprioceptors and their central connections in the adult rodent. H. M. GABRIEL; J. A. VINCENT; P. NARDELLI*; A. S. DEARDORFF; R. E. W. FYFFE; T. C. COPE. *Wright State Univ.*

3:00 M48 **240.07** Neural encoding of saltatory tactile velocity in human glabrous hand using fMRI. H. OH*; R. CUSTEAD; S. M. BARLOW. *Univ. of Nebraska, Univ. of Nebraska - Lincoln, Univ. of Nebraska - Lincoln.*

4:00 N1 **240.08** Vagal sensory neuron subtypes that differentially control breathing. D. E. STROCHLIC*; R. B. CHANG; E. K. WILLIAMS; B. D. UMANS; S. D. LIBERLES. *Havard Med. Sch., Harvard Med. Sch.*

1:00 N2 **240.09** Hair follicle density and the perception of touch in humans. E. JÖNSSON*; I. CROY; J. WESSBERG; H. OLAUSSON; H. BACKLUND WASLING. *Inst. of Neurosci. and physiology, Universi, Technische Univ. Dresden, Linköping Univ., Univ. of Gothenburg, Univ. of Gothenburg.*

2:00 N3 **240.10** Neural correlates of ankle joint proprioception test: A preliminary fMRI study. R. IANDOLO; I. MARRE; A. BELLINI; G. BOMMARITO; N. OESINGMANN; L. FLEYSHER; F. LEVRERO; G. MANCARDI; M. CASADIO; M. INGLESE*. *Dept. of Informatics, Bioengineering, Robotics and Systems Engineering, Univ. of Genoa, Dept. of Med. Physics, San Martino Hosp., Dept. of Neuroscience, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Hlth., Mount Sinai Sch. of Med.*

3:00 N4 **240.11** Defining the populations of pruritogen-sensitive neurons in the mouse dorsal root ganglion. S. S. ESPINO*; R. TEICHERT; B. OLIVERA. *Dept. of Biology, Univ. of Utah.*

4:00 N5 **240.12** Functional comparison of Cav3.2-expressing and TRPV1-expressing sensory neuron subpopulations. D. M. DUBREUIL*; D. S. KIM; S. DENOME; D. LIPSCOMBE. *Brown Univ., Soonchunhyang Univ.*

1:00 N6 **240.13** Peripheral sensory perception of diabetics using Semmes Westein 5.07 monofilament. N. M. JOSEPH*; V. A. EGWUONWU. *Col. of Medicine, Nnamdi Azikiwe Univ., Nnamdi Azikiwe Univ.*

2:00 N7 **240.14** Stochastic resonance in the brain elicited by optogenetic noise-photostimulation. E. MANJARREZ*; P. LINARES; N. HUIDOBRO; A. MENDEZ-FERNANDEZ; B. DE LA TORRE VALDOVINOS; I. MENDEZ-BALBUENA; A. FLORES; R. GUTIERREZ. *Benemerita Univ. Autonoma de Puebla, Benemerita Univ. Autonoma de Puebla, CINVESTAV IPN.*

3:00 N8 **240.15** Mesoscopic calcium imaging reveals the presence of modules of synchronized activity delimited by strong boundaries and dependent on behavior context. M. P. VANNI*; G. SILASI; D. XIAO; A. CHAN; J. LEDUE; T. MURPHY. *Univ. of British Columbia, Univ. of British Columbia.*

4:00 N9 **240.16** Electroencephalographic correlates of tactile vs. visual guidance during a tracing task. P. J. LEE; R. N. HUYNH; S. N. KUKKE*. *The Catholic Univ. of America.*

1:00 N10 **240.17** Upward propagation of spiking activity across cortical layers. G. PLOMP*; C. QUAIRIAUX; C. MICHEL. *Univ. of Fribourg, Univ. of Geneva.*

2:00 N11 **240.18** ECoG based high-gamma somatosensory activity measurement for digit separation. R. PRUECKL; C. KAPELLER; K. KAMADA; F. TAKEUCHI; H. OGAWA; G. EDLINGER*; C. GUGER. *Guger Technologies OG, Asahikawa Med. Univ., G.Tec Med. Engin. Gmbh, Guger Technologies OG.*

3:00 N12 **240.19** Brain mechanisms for the processing of the gentle touch stimuli in patients with anorexia nervosa. M. DAVIDOVIC*; L. KARJALAINEN; E. WENTZ; H. OLAUSSON. *Inst. of Neurosci. and Physiol., Gillberg Neuropsychiatry Centre, Inst. of Neurosci. and Physiology, Univ. of Gothenburg, Dept. of Clin. and Exptl. Medicine, Linkoping Univ.*

4:00 N13 **240.20** Retrosplenial interconnectivity with motor and medial frontal cortical areas in the mouse. N. YAMAWAKI*; G. M. G. SHEPHERD. *Northwestern Univ.*

1:00 N14 **240.21** Spatial-temporal functional reorganization of somatosensory area 3b and area 1 of squirrel monkeys after spinal cord injury. L. CHEN*; R. WU; L. SU; P. YANG. *Vanderbilt Univ., Duke Univ.*

2:00 N15 **240.22** Thermal Pattern Identification on the Hand. L. A. JONES*; A. SINGHAL. *MIT.*

3:00 N16 **240.23** Functional, acoustic and articulatory outcomes of speech training: A multi-modal investigation of native and non-native imitation. D. CAREY*; M. MIQUEL; B. EVANS; P. ADANK; C. MCGETTIGAN. *Royal Holloway, Univ. of London, Queen Mary, Univ. of London, Univ. Col. London, Univ. Col. London, Royal Holloway, Univ. of London.*

4:00 N17 **240.24** A possible challenge to sensorimotor adaptation. B. J. MARTIN*; T. A. THRASHER; C. S. LAYNE; B. LEE. *Univ. of Michigan, Univ. of Houston.*



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* Indicates abstract's submitting author

1:00 N18 **240.25** Anatomical basis of spiking correlation in upper layers of somatosensory cortex. U. CZUBAYKO*; G. BASSETTO; R. T. NARAYANAN; M. OBERLAENDER; J. H. MACKE; J. N. D. KERR. *Res. Ctr. Caesar: A Max Planck Inst., Max Planck Inst. for Biol. Cybernetics and Bernstein Ctr. for Computat. Neurosci., Max Planck Inst. for Biol. Cybernetics, Res. Ctr. Caesar: A Max Planck Inst.*

2:00 N19 **240.26** Variations in corticospinal excitability associated with different modes of hedonic touch. I. AL-BUHAISI; A. REMAUD; F. TREMBLAY*. *Univ. of Ottawa, Bruyere Res. Inst., Univ. of Ottawa.*

3:00 N20 **240.27** Intracellular responses induced by transcranial magnetic stimulation. J. BANERJEE; M. SORRELL; P. CELNIK; G. PELLED*. *Johns Hopkins Sch. of Med., Kennedy Krieger Inst., Johns Hopkins Sch. of Med.*

4:00 N21 **240.28** ● Multi-joint proprioception deficits at the shoulder, elbow and wrist post stroke. L. ZHANG*; D. XU; Y. REN; H. PARK; S. KANG; Y. LEE; Y. LIN. *Rehabil. Inst. of Chicago, KAIST, RIC.*

1:00 N22 **240.29** fMRI reveals altered processing of affective touch in heterozygous carriers of a nerve growth factor beta (NGFB) mutation influencing C tactile afferent pathway. I. MORRISON*; I. PERINI. *Linköping Univ.*

2:00 N23 **240.30** C-tactile afferent stimulating touch carries a positive affective value. S. C. WALKER*; R. PAWLING; P. D. TROTTER; P. R. CANNON; F. P. MCGLONE. *Liverpool John Moores Univ., Massey Univ.*

**POSTER**

**241. Spinal Cord Injury and Plasticity**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 N24 **241.01** Combining theta burst motor cortex stimulation with spinal cathodal DC stimulation to promote motor functional recovery after corticospinal tract injury. W. SONG*; D. RYAN; A. AMER; J. MARTIN. *City Col. of the City Univ. of New York.*

2:00 N25 **241.02** Electrophysiological assessment of the cervical spinal cord networks of intact rats based on profiles of spinal evoked potential amplitudes and delays in multiple forelimb muscles. L. MOORE*; H. ZHONG; R. R. ROY; V. EDGERTON; D. C. LU. *UCLA, UCLA, UCLA, UCLA.*

3:00 N26 **241.03** Changes in step height following locomotor training are not related to change in reflex excitability or voluntary muscle strength. E. C. FIELD-FOTE*; K. J. MANELLA; L. MELBOURN. *Shepherd Ctr. / Crawford Res. Inst., Univ. of Miami Miller Sch. of Med., Univ. of St Augustine for Hlth. Sci., Rosalind Franklin Univ. of Med. and Sci.*

4:00 N27 **241.04** Changes in activity of spinal postural networks at different time points after spinalization. T. DELIAGINA*; P. V. ZELENIN; V. F. LYALKA; L. HSU; G. N. ORLOVSKY. *Karolinska Inst.*

1:00 N28 **241.05** Using silicon probe electrode recording arrays to examine changes in spinal cord neuronal activity produced by spinal cord direct current stimulation. J. H. MARTIN*; W. SONG. *The City Col. of the City Univ. of NY, The City Col. of the City Univ. of NY.*

2:00 N29 **241.06** Effect of interlimb coupling on spinal reflexes during cycling. R. ZHOU*; J. ASSH; L. ALVARADO; S. CHONG; V. MUSHAHWAR. *Univ. of Alberta, Univ. of Alberta, Univ. of Alberta.*

3:00 N30 **241.07** A tilting task for brain-machine interface control of balance after spinal cord injury. M. MEYERS*; N. BRIDGES; J. GARCIA; K. A. MOXON. *Drexel Univ.*

4:00 N31 **241.08** Interlimb coordination: Effect of training strategy and locomotor task post-SCI. K. A. CHEFFER*; W. A. O'STEEN; K. L. WHYLAND; S. K. WINTER; N. PELISCH; D. R. HOWLAND. *Kentucky Spinal Cord Injury Res. Ctr., Univ. of Louisville, Univ. of Louisville, Robley Rex VA Med. Ctr., Kosair Charities Ctr. for Pediatric Neurorecovery.*

1:00 N32 **241.09** Cortical control of balance using an interactive brain-machine interface. N. BRIDGES*; R. MADINENI; A. SHARAN; J. GARCIA; M. MEYERS; K. A. MOXON. *Drexel Univ., Thomas Jefferson Univ.*

2:00 N33 **241.10** Changes in corticomotor excitability and hand use in persons with tetraplegia following stimulation-augmented task-specific versus resistance training. J. GOMES-OSMAN*; J. TIBBETT; K. BRISSON; K. ROACH; E. C. FIELD-FOTE. *Univ. of Miami, Univ. of Miami, Shepherd Ctr.*

3:00 N34 **241.11** Cholinergic inputs on motor neurons are modulated by manipulating the corticospinal projection. Y. JIANG*; J. H. MARTIN. *The City Col. of the City Univ. of NY.*

4:00 N35 **241.12** Mapping intermuscular force dependent reflex pathways selectively using intramuscular stimulation in the decerebrate cat. M. A. LYLE*; A. CLOUTIER; T. R. NICHOLS. *Georgia Inst. of Technol.*

1:00 N36 **241.13** Kinematics analysis using 3D sagittal and novel multiple plane models for the study of gait recovery in quadrupeds with neurological disorders. N. PELISCH*; K. A. CHEFFER; N. BROWN; K. L. WHYLAND; S. K. WINTER; W. A. O'STEEN; G. BERTOCCI; D. R. HOWLAND. *Kentucky Spinal Cord Injury Res. Ctr., Univ. of Louisville, Univ. of Louisville, Robley Rex VA Med. Ctr., Univ. of Louisville, Kosair Charities Ctr. for Pediatric Neurorecovery.*

2:00 N37 **241.14** Lack of adaptation during prolonged split-belt locomotion in the intact and chronic spinal-transected adult cat. V. KUCZYNSKI; Y. THIBAUDIER; M. HURTEAU; C. DAMBREVILLE; A. TELONIO; A. FRIGON*. *Univ. de Sherbrooke, Univ. de Sherbrooke.*

3:00 N38 **241.15** Examination of the mechanisms that contribute to the induction and maintenance of a peripheral memory. M. M. STRAIN*; J. D. TURTLE; K. C. HOY; J. W. GRAU. *Texas A&M, MetroHealth Med. Ctr.*

4:00 N39 **241.16** Intra-spinal network for motor learning revealed by dI3 interneuron silencing in complete spinalized mice. N. STIFANI*; A. SAMPALLI; I. WRIGHT; T. V. BUI; T. AKAY; R. M. BROWNSTONE. *Dalhousie Univ., Univ. of Ottawa, Dalhousie Univ.*

1:00 N40 **241.17** Examining the molecular mechanisms underlying activity-dependent corticospinal axon growth. N. ZAREEN*; S. DODSON; K. ARMADA; R. MISIR; J. H. MARTIN. *The City Col. of the City Univ. of New Yor, The City Col. of the City Univ. of NY.*

2:00 N41 **241.18** Timing errors during lower limb cycling under various conditions. A. VALY*; J. LACZKO. *Pazmany Peter Catholic Univ., Univ. of Pécs.*



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

3:00 N42 **241.19** The role of rat trunk muscles in postural control. J. GARCIA*; N. BRIDGES; M. MEYERS; K. A. MOXON. *Drexel Univ.*

4:00 N43 **241.20** Spinal pathways for the coordination of swallow and cough. T. PITTS*; S. KING; D. R. HOWLAND. *Univ. of Louisville, Univ. of Louisville.*

**POSTER**

**242. Motor Control: Novel Techniques**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 N44 **242.01** A three-dimensional map of the hindlimb motor representation in the lumbar spinal cord in sprague dawley rats. J. A. BORRELL*; S. B. FROST; J. PETERSON; R. J. NUDO. *Univ. of Kansas Med. Ctr., Univ. of Kansas, Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr.*

2:00 N45 **242.02** ● Increase in fALFF-measured spontaneous neuronal activities in sensorimotor cortices after muscle fatigue. Z. JIANG*; G. H. YUE. *Kessler Fndn., New Jersey Inst. of Technol., Kessler Fndn., Rutgers New Jersey Med. Sch.*

3:00 N46 **242.03** Unbiased estimate of the spinal cord neuronal population involved in primate motor control. N. WILSON*; P. ROSE; S. SCOTT. *Queen's Univ.*

4:00 N47 **242.04** Feasibility of using causality changes to monitor fatigue during forearm repetitive movement in typically developing children. Y. WU*; Y. CAO; C. STARK; K. CHAN; S. YEN. *Univ. of Massachusetts Lowell, Univ. of Massachusetts Lowell, Northeastern Univ.*

1:00 N48 **242.05** Motor cortical input-output characteristics of the lower extremity in young and old adults. H. HASSANLOUEI*; C. W. SUNDBERG; J. SENEFELD; A. KUPLIC; S. K. HUNTER. *Marquette Univ.*

2:00 O1 **242.06** ● Peripheral motor neuron inhibition using novel inhibitory opsins. C. GORINI*; C. RAMAKRISHNAN; K. DEISSEROTH; S. DELP. *Stanford Univ.*

3:00 O2 **242.07** Muscle coordination patterns underlying dynamic hand function. N. M. COLE*; A. B. AJIBOYE. *Case Western Reserve Univ., Louis Stokes Cleveland Dept. of Veterans Affairs Med. Ctr.*

4:00 O3 **242.08** Rabies virus retrograde tracing of monosynaptic premotor spinal interneuron networks extended to mature animals. L. GOMEZ-PEREZ; R. W. GRIFFITH; F. J. ALVAREZ*. *Emory Univ.*

1:00 O4 **242.09** A novel wireless microelectrode array implanted chronically provides reliable and selective stimulation. G. S. BENDALE; A. KANNEGANTI; F. DEKU; S. BREDESON; J. L. SEIFERT*; P. TROYK; S. COGAN; M. I. ROMERO-ORTEGA. *UT Dallas, Illinois Inst. of Technol., UT Dallas, UT Southwestern.*

2:00 O5 **242.10** A concurrent TMS/tACS approach to investigate the function of intrinsic brain oscillations in the motor system. N. WENDEROTH*; K. RUDDY; M. BÄCHINGER. *Neural Control of Movement Lab, ETH Zurich.*

3:00 O6 **242.11** Isolation and purification of actively translated rna from spinal motor neuron axon terminals. J. SHADRACH*; B. PIERCHALA. *Univ. of Michigan, Univ. of Michigan.*

4:00 O7 **242.12** Motor control differs for increasing and releasing force. S. PARK*; M. KWON; D. SOLIS; N. LODHA; E. CHRISTOU. *Univ. of Florida.*

1:00 O8 **242.13** Transcranial optogenetic mapping revealed longitudinal changes in motor maps of ipsi-lesional and contra-lesional cortex following mild traumatic brain injury. T. NGUYEN*; X. JIN. *Indiana Univ. Sch. of Med.*

2:00 O9 **242.14** Exploration of neuromuscular modeling approaches and gait adaptation across terrain types as a basis for prosthetic limb development. T. R. CLITES*; A. S. ARNOLD; H. M. HERR. *MIT, Harvard Univ.*

3:00 O10 **242.15** A novel neuromuscular model for a robotic prosthesis based on velocity-dependent muscle activation. U. TAHIR*; J. L. PETAK; K. C. NISHIKAWA; J. TESTER. *Norther Arizona Univ.*

4:00 O11 **242.16** Methodological study to identify trunk and hip muscle representation in motor cortex. A. M. ALBISHI*; J. ARMOUR SMITH; B. FISHER. *USC, USC.*

1:00 O12 **242.17** Neural mechanisms of central fatigue during a prolonged motor task in patients with cancer related fatigue. D. ALLEXANDRE*; A. HOXHA; G. YUE. *Kessler Fndn. Res. Ctr., Kessler Fndn.*

2:00 O13 **242.18** Effect of aerobic exercise intensity dose on corticomotor excitability, intracortical inhibition and intracortical facilitation. S. KEIL*; D. CORCOS; S. MADHAVAN; M. RAFFERTY. *Univ. of Illinois Chicago, Northwestern Univ.*

3:00 O14 **242.19** ▲ The Pasta gnawing test: A simple and stress-free test for motor behavior. R. RABL*; M. FARCHER; D. AMSCHL; B. HUTTER-PAIER. *QPS Austria Gmbh.*

**POSTER**

**243. Posture: Muscle Activity, Exercise and Biomechanics**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 O15 **243.01** ● Online vs offline learning of challenging balance tasks post-stroke. R. LOPEZ-ROSADO; D. A. BROWN*. *Northwestern University, Feinberg Sch. of Med., Univ. of Alabama At Birmingham.*

2:00 O16 **243.02** Postural adaptive strategies of young basketball players in different conditions: Possible impact of a proprioceptive training protocol. R. A. MEZZARANE*; T. C. L. BEZERRA; L. C. GOMES; D. C. SILVA; L. HAGSTROM; T. G. RUSSOMANNO. *Univ. of Brasilia (unb).*

3:00 O17 **243.03** Role of body asymmetry in control of vertical posture. B. CHEN*; Y. LEE; A. ARUIN. *Univ. of Illinois At Chicago.*

4:00 O18 **243.04** Balance strategies of professional ballet dancers with a history of low back pain are more similar to non-dancers than dancers without low back pain: Analysis of balance with non-linear measures. P. W. HODGES*; J. GILDEA; W. VAN DEN HOORN. *Univ. Queensland.*



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

1:00 O19 **243.05** Ballet dancers take more advantage of additional sensory information to reduce their postural sway. R. B. GARBUS*; R. C. MARINHO; S. M. S. F. FREITAS. *Univ. Cidade De São Paulo, Univ. Cidade De São Paulo.*

2:00 O20 **243.06** Effects of lower leg muscle and balance training on periodic floor oscillation task with fixing the knee, hip and trunk in the elderly. K. FUJIWARA*; N. KIYOTA; M. IREI; C. YAGUCHI; H. TOYAMA. *Kanazawa Gakuin Univ., Japan Hlth. Care Col., Osaka Hlth. Sci. Univ., Hokkaido Bunkyo Univ.*

3:00 O21 **243.07** Response of the plantarflexor muscles to maintaining balance on an unstable platform. C. L. POLLOCK*; D. BACHMANN; J. M. WAKELING. *Simon Fraser Univ., ETH Zurich.*

4:00 O22 **243.08** Revealing the person-specific characteristics of the control of upright balance in younger adults. H. A. OMAÑA*, JR; B. W. N. BADIUK; V. G. DEPAUL; W. E. MCILROY. *Univ. of Waterloo, Univ. of Waterloo, Toronto Rehabil. Inst.*

1:00 O23 **243.09** Key factors leading to falls in stroke survivors: Insights from biomechanical analysis of laboratory-induced falls. M. NEVISIPOUR*; M. GRABINER; C. HONEYCUTT. *Arizona State Univ., Univ. of Illinois at Chicago, Arizona State Univ.*

2:00 O24 **243.10** ▲ Ankle joint positioning sense following soccer induced fatigue. D. K. LARSEN; A. LORENTZEN; G. K. JEPPESEN; S. FRICKE; N. MRACHACZ-KERSTING; U. G. KERSTING*. *Aalborg Univ.*

3:00 O25 **243.11** Three phases of postural adjustments during obstacle avoidance in a real and virtual environment. H. IDA*; S. MOHAPATRA; A. S. ARUIN. *Jobu Univ., Univ. of Montana, Univ. of Illinois at Chicago.*

4:00 O26 **243.12** Developmental changes from childhood to adolescence in activation patterns of postural muscles during bilateral arm flexion. T. KIYOTA*; K. FUJIWARA; K. KUNITA; K. ANAN; C. YAGUCHI. *Sapporo Intl. Univ., Kanazawa Gakuin Univ., Hokkaido Bunkyo Univ.*

1:00 O27 **243.13** ● Muscle Synergies in the Neck. J. B. FICE*; P. A. FORBES; G. P. SIEGMUND; J. BLOUIN. *Univ. of British Columbia, Delft Univ. of Technol., MEA Forensic Engineers & Scientists.*

**POSTER**

**244. Cortical Planning and Execution: Primary Motor Cortex**

***Theme D: Sensory and Motor Systems***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 O28 **244.01** Developing a method that is suitable to unveil the relevance of monosynaptic corticospinal projections for motor function. C. LEUKEL*; A. GOLLHOFER; W. TAUBE. *Univ. of Freiburg, Univ. of Fribourg.*

2:00 O29 **244.02** Somatosensory information drives motor cortex activity during feedback, but not feedforward, adaptations of locomotion. E. E. STOUT*; I. N. BELOOZEROVA; N. DOUNSKAIA. *Barrow Neurol Inst., Arizona State Univ.*

3:00 O30 **244.03** Variability of motor cortical spiking activity depends on the behavioral context. A. RIEHLE*; T. BROCHIER; S. GRÜN. *INT, CNRS - AMU, RIKEN, Res. Ctr. Juelich - INM-6, Res. Ctr. Juelich - IAS-6, RWTH Aachen Univ.*

4:00 O31 **244.04** Neural circuit dynamics in motor cortex linking sensory input to goal-directed motor output. E. ZAGHA*; X. GE; D. A. MCCORMICK. *Yale Sch. of Med.*

1:00 O32 **244.05** Motor cortical neurons reflect the active goal-dependent feedback control policy. D. J. O'SHEA*; E. M. TRAUTMANN; S. LIN; K. V. SHENOY. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

2:00 O33 **244.06** Cortico-cortical coupling during bimanual forces in intact humans. J. LONG*; T. TAZOE; D. SOTEROPOULOS; M. A. PEREZ. *Univ. of Miami, Univ. of Pittsburgh, Newcastle Univ.*

3:00 O34 **244.07** Crossed corticospinal facilitation between arm and trunk muscles in humans. S. CHIOU*; P. H. STRUTTON; M. A. PEREZ. *Imperial Col. London, Univ. of Miami, Univ. of Pittsburgh.*

4:00 O35 **244.08** Keeping up with a virtual monkey: Representation of self-generated actions vis-a-vis observed actions of a competitor by monkey cortical ensembles during an arm reaching task. A. RAMAKRISHNAN*; Z. LI; S. SHOKUR; M. A. LEBEDEV; M. A. L. NICOLELIS. *Duke Univ., Duke Univ., Beijing Normal Univ., Edmond and Lily Safra Intl. instutute of Neurosci. of Natal, Duke Univ.*

1:00 O36 **244.09** ▲ Spatiotemporal signature of force production in orofacial motor cortex. A. A. TOBAA*; M. D. BEST; F. I. ARCE-MCSHANE; N. G. HATSOPOULOS. *Univ. of Chicago, Univ. of Chicago.*

2:00 O37 **244.10** Test-retest reliability of TMS measures of corticospinal excitability across the age spectrum. K. COLLINS*; N. KENNEDY; A. CLARK; V. POMEROY. *Univ. of East Anglia.*

3:00 O38 **244.11** Mapping horizontal connections in primate motor cortex using intracortical microstimulation. Y. HAO*; A. RIEHLE; T. BROCHIER. *Inst. De Neurosciences De La Timone (INT), CNRS, Qiushi Acad. for Advanced Studies, Zhejiang Univ., Riken Brain Sci. Inst., Inst. of Neurosci. & Med. (INM-6).*

4:00 O39 **244.12** Supplementary motor area and voluntary movement initiation: Neural population responses and the effects of microstimulation. A. H. LARA*; J. C. CUNNINGHAM; M. M. CHURCHLAND. *Columbia Univ., Columbia Univ.*

1:00 O40 **244.13** Motor cortex but not muscles approximate a dynamical system during a novel cycling task. A. A. RUSSO*; S. M. PERKINS; B. M. LONDON; M. M. CHURCHLAND. *Columbia Univ.*

2:00 O41 **244.14** Membrane potential dynamics of single neurons in mouse forelimb motor cortex correlate with movement parameters during voluntary reaching. B. C. VOIGT*; L. ESTEBANEZ; J. F. A. POULET. *Max Delbrück Ctr. For Mol. Med., Unité de Neurosciences, Information et Complexité, UNIC-FRE3693, Ctr. Natl. de la Recherche Scientifique.*



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* Indicates abstract's submitting author

3:00 O42 **244.15** Spike recordings from the primary motor cortex correlate more strongly with individual muscles or original joint angles than with muscle synergies or joint angle PCs. Z. LIU*; A. G. ROUSE; M. H. SCHIEBER. *Univ. of Rochester, Univ. of Rochester.*

4:00 O43 **244.16** Comparison of motor cortical excitability of projections to trunk muscles during anticipatory postural adjustments in standing and lying. T. REED; M. HURRY; S. CHIOU; P. H. STRUTTON*. *Imperial Col. London.*

1:00 O44 **244.17** Motor cortical excitability of projections to trunk muscles during anticipatory postural adjustments. M. HURRY*; T. REED; S. CHIOU; P. H. STRUTTON. *Imperial Col. London.*

2:00 O45 **244.18** Paired-pulse transcranial magnetic stimulation suppresses ipsilateral motor evoked potentials. A. B. MCCAMBRIDGE*; J. W. STINEAR; W. D. BYBLOW. *Ctr. for Brain Research, Univ. of Auckland.*

3:00 O46 **244.19** Imaging dendritic computation during perceptual decision making and motor planning. A. M. KERLIN*; B. MOHAR; B. MACLENNAN; D. FLICKINGER; K. SVOBODA; N. JI. *Janelia Res. Campus, Weizmann Inst. of Sci.*

4:00 O47 **244.20** Reversible inactivation mapping of cortical sites required for voluntary forelimb movements in VGAT-ChR2 transgenic mice. R. KATREDDI*; G. SILASI; J. D. BOYD; J. M. LEDUE; S. H. SCOTT; T. H. MURPHY. *Univ. of British Columbia, Queens Univ.*

1:00 O48 **244.21** Functional distinction of interneuron circuits in human motor cortex during motor behaviour. R. HANNAH; S. JERJIAN; S. CAVANAGH; M. SOMMER; J. C. ROTHWELL*. *Inst. Neurol.*

2:00 P1 **244.22** The role of primary motor cortex in the coordination of digit force and position for dexterous object manipulation. P. MCGURRIN*; P. PARIKH; M. SANTELLO. *Arizona State Univ., Arizona State Univ.*

3:00 P2 **244.23** Corticomotoneuronal cells represent muscle function in the motor cortex . D. M. GRIFFIN*; D. S. HOFFMAN; P. L. STRICK. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Veterans Affairs Med. Ctr.*

4:00 P3 **244.24** Neural processes during the preparation and the mental simulation of action. C. RUFFINO*; C. PAPAXANTHIS; I. GREENHOUSE; L. LABRUNA; R. B. IVRY; F. LEBON. *INSERM U1093 Cognition Action Et Plasticité Sensor, Univ. of Burgundy, Dept. of Psychology, Helen Wills Neurosci. Inst.*

1:00 P4 **244.25** Transcranial magnetic stimulation measures of intrinsic motor system excitability and task-based inhibition exhibit intra-subject stability across weeks. I. GREENHOUSE*; M. KING; R. B. IVRY. *Univ. of California, Berkeley.*

2:00 P5 **244.26** The relationship between neural and muscle synergies investigated with common decomposition methods. R. L. HARDESTY*, JR; W. J. TALKINGTON; E. OLESH; V. GRITSENKO. *West Virginia Univ., West Virginia Univ.*

3:00 P6 **244.27** ● ▲ Short interval intrahemispheric inhibition (SICI) in a shoulder girdle muscle in humans. K. MUDGAL*; C. ALEXANDER. *Imperial Col. London, Imperial Col. Healthcare NHS Trust.*

4:00 P7 **244.28** Withdrawn.

1:00 P8 **244.29** Enhancing acquisition of classical eyeblink conditioning by non-invasive transcranial direct current stimulation (tDCS) in alert rabbits. C. AMMANN*; A. GRUART; J. M. DELGADO-GARCÍA; J. MÁRQUEZ-RUIZ. *Univ. Pablo de Olavide.*

**POSTER**

**245. Sexual Differentiation**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 P9 **245.01** Kisspeptin cell-specific deletion of PTEN results in sex- and nucleus-specific trophic effects in the adult mouse brain. A. L. NEGRON*; U. BOEHM; M. ACOSTA-MARTÍNEZ. *Stony Brook Univ., Univ. of Saarland Sch. of Med., Stony Brook Univ. Med. Ctr.*

2:00 P10 **245.02** Effects of estrous cycle on fear conditioning and extinction, and on single prolonged stress induced extinction recall deficits. C. V. CHEN*; I. LIBERZON. *Univ. of Michigan.*

3:00 P11 **245.03** Progesterone receptor immunoreactivity in the brains of neonatal PRA knockout (PRAKO) or PRBKO mice. D. LALITSASIVIMOL*; K. D. ACHARYA; S. NETTLES; M. J. TETEL; O. M. CONNEELY; C. K. WAGNER. *Univ. At Albany, Wellesley Col., Baylor Col. of Med.*

4:00 P12 **245.04** Role of microglia in sexual differentiation of the amygdala. J. W. VANRYZIN*; M. M. MCCARTHY. *Univ. of Maryland, Baltimore, Univ. of Maryland, Baltimore.*

1:00 P13 **245.05** Sex difference in microRNA-124 in neonatal hippocampus and impact on NKCC1. K. E. KIGHT*; M. M. MCCARTHY. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

2:00 P14 **245.06** CB1 and CB2 endocannabinoid receptors act in concert to modulate sex differences in the developing amygdala and social play behavior. K. J. ARGUE*; J. W. VANRYZIN; M. M. MCCARTHY. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

3:00 P15 **245.07** High-throughput identification of sexual and developmental dimorphisms within the hypothalamus and pituitary gland. K. L. GRUCHALLA*; T. RHEN. *Univ. of North Dakota.*

4:00 P16 **245.08** The role of microglia and mast cells in sculpting the sexually dimorphic nucleus (SDN) of the POA. L. A. PICKETT*; K. M. LENZ; M. M. MCCARTHY. *Univ. of Maryland Sch. of Med., The Ohio State Univ.*

1:00 P17 **245.09** Organizational influences of sex steroid hormones on glucocorticoid receptor responses in male and female Long Evan rats. L. INNALA*; L. HILL; Y. YANG; A. ANONUEVO; V. VIAU. *Univ. of British Columbia.*

2:00 P18 **245.10** Stress-induced hypothalamic pituitary adrenal axis responses in male and female Long-Evans and Sprague-Dawley rats. Y. YANG*; L. INNALA; A. ANONUEVO; L. HILL; V. VIAU. *Univ. of British Columbia.*



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* Indicates abstract's submitting author

3:00 P19 **245.11** Effects of DNA methyltransferase inhibition on sexually dimorphic cell groups in the preoptic area. M. MOSLEY*; J. M. WEATHINGTON; A. CASTILLO-RUIZ; N. G. FORGER. *Georgia State Univ.*

4:00 P20 **245.12** Excitatory synaptic input differs by sex in the nucleus accumbens core but not shell in prepubertal rats. J. CAO; J. A. WILLETT; C. A. HAUSER; T. R. WILL; D. M. DORRIS; J. MEITZEN*. *North Carolina State Univ.*

**POSTER**

**246. Sexual Behavior**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 P21 **246.01** Disruption of conditioned sexual inhibition in male rats: Role of dopaminergic VTA neurons in alcohol- and cue-induced dopamine release in the nucleus accumbens core. K. GERMÉ*; L. R. GOSSIP; J. ALVAREZ-BARKHAM; N. WATSON; J. G. PFAUS. *Concordia Univ.*

2:00 P22 **246.02** Both populations of kisspeptin neurons are involved in the stimulation by rams of LH secretion in anestrous ewes. C. FABRE-NYS; L. DUFOURNY*; S. MARTINET; O. LASSERRE; R. P. MILLAR; S. OKHURA; Y. SUETOMI. *INRA-CNRS-Univ Tours-Haras Nationaux, INRA UEPAO, Univ. of Pretoria,, Nagoya Univ.*

3:00 P23 **246.03** Non-ovarian aromatization regulates sexual motivation and receptivity in female quail. C. DE BOURNONVILLE; C. A. CORNIL; G. F. BALL; J. H. BALTHAZART*. *Univ. of Liège, Univ. of Liege, Univ. of Maryland.*

4:00 P24 **246.04** ▲ Depressive-like behavior in same sex preference male rats with prenatal letrozole. A. HERNANDEZ-GONZALEZ*; A. FERNANDEZ-GUASTI. *Centro De Investigacion Y Estudios Avanzados Del I, Centro De Investigacion Y Estudios Avanzados Del I.*

1:00 P25 **246.05** ▲ Hormonal response in enforced interval of copulation and copula add libitum in male rats. T. M. MEDINA*; M. ARTEAGA-SILVA; H. BONILLA-JAIME; M. HERNÀNDEZ-GONZÀLEZ. *Univ. De Guadalajara, Univ. Politecnica de la Zona Metropolitana de Guadalajara, Univ. Autonoma Metropolitana, Univ. de Guadalajara.*

2:00 P26 **246.06** Neural circuits in the medial preoptic area associated with appetitive female sexual behaviour are modified by steroid hormones. J. W. PAYNE*; M. GRAHAM; K. GERMÉ; J. G. PFAUS. *Concordia Univ.*

3:00 P27 **246.07** Naloxone blocks neurogenesis in the olfactory bulb induced by paced mating in the female rat. M. SANTOYO ZEDILLO*; R. G. PAREDES; W. PORTILLO MARTÍNEZ. *Inst. de Neurobiologia, INB-UNAM.*

4:00 P28 **246.08** Effects of the endocrine disruptor 2-4 dichlorophenol in male rat sexual behavior. H. A. HURTAZO*; F. QUINTANILLA; J. P. MAC GREGOR; M. CRUZ-SOTO. *Univ. Del Valle De Mexico, Univ. Politecnica de Santa Rosa Jauregui.*

1:00 P29 **246.09** The role of experience and testing arenas on the ejaculatory threshold in male rats. J. OLAYO-LORTIA*; A. MORALES- OTAL; A. CRUZ-BENITES; A. FERREIRA- NUÑO. *Univ. Autonoma Metropolitana - Iztapalapa.*

2:00 P30 **246.10** ▲ Investigating the role of ghrelin in male rat sexual behavior. L. M. HYLAND*; S. ROSENBAUM; B. WOODSIDE; J. PFAUS; A. ABIZAID. *Carleton Univ., Carleton Univ., Concordia Univ.*

3:00 P31 **246.11** Sexually dimorphic brain nuclei in female rats that undergo same-sex preference conditioning. M. B. TECAMACHALTZI-SILVARÁN*; M. BARRADAS-MOCTEZUMA; L. I. GARCÍA; P. CARRILLO; J. MANZO; G. A. CORIA-AVILA. *Ctr. De Investigaciones Cerebrales, Univ. Veracruzana.*

4:00 P32 **246.12** Hypothalamic and peripheral oxytocin in the female rat and the effect of mating experience. M. L. LANGETT; N. CAMERON*. *Binghamton Univ.*

1:00 P33 **246.13** Effect of sexual behavior on the prevention of testosterone-induced precancerous prostate lesions. D. HERRERA-COVARRUBIAS*; M. B. TECAMACHALTZI-SILVARAN; M. BARRADAS-MOCTEZUMA; J. MANZO; G. E. ARANDA-ABREU; N. ISMAIL; M. HERNÁNDEZ; G. A. CORIA-AVILA. *Univ. Veracruzana, Univ. Veracruzana, Univ. of Ottawa, Univ. Veracruzana.*

2:00 P34 **246.14** Development of a conditioned ejaculatory preference in male rats is determined by their first sexual experiences. G. R. QUINTANA ZUNINO*; L. PRIMEAU; J. PFAUS. *Concordia Univ.*

3:00 P35 **246.15** Conditioning heterosexual preference in male rats with unconditioned same-sex preference. M. BARRADAS*; M. B. TECAMACHALTZI-SILVARAN; L. I. GARCÍA; P. CARRILLO; J. MANZO; G. A. CORIA-AVILA. *Ctr. De Investigaciones Cerebrales.*

4:00 P36 **246.16** The role of female sexual components on mate choice of the male rat in a multiple- partner choice arena. A. FERREIRA-NUNO*; A. CRUZ-BENITES; J. OLAYO-LORTIA; A. MORALES-OTAL. *Univ. Autonoma Metropolitana, Univ. Autónoma Metropolitana.*

1:00 P37 **246.17** Biphasic effects of intra-VTA anandamide administration on sexual behavior expression of the male rat. A. CANSECO-ALBA; G. RODRIGUEZ-MANZO*. *Cinvestav-Sede Sur, IPN.*

2:00 P38 **246.18** The effects of acute prenatal exposure to valproic acid on sociosexual behaviors and anxiety in female rats. S. M. HARDING*; J. A. CAPUTO; S. R. BARRETT; E. C. MASTERS; M. M. MCDONOUGH. *Fairfield Univ.*

3:00 P39 **246.19** One of these things is not like the other: Sign-tracking for sucrose does not predict sign-tracking for sex. L. M. SPARKS*; V. BOUZO; V. PALLIKARAS; D. DI GREGORIO-RIFIORATI; A. SHARMA; S. KANTHASAMY; J. G. PFAUS. *Concordia Univ.*

4:00 P40 **246.20** Investigation of glutamate neurotransmission during sex behavior in female Syrian hamsters. K. M. MOORE*; L. E. BEEN; R. L. MEISEL. *Univ. of Minnesota.*

1:00 P41 **246.21** Using fast-scan cyclic voltammetry to measure dopamine release from the nucleus accumbens of female hamsters during sex behavior. L. E. BEEN*; S. R. EBNER; B. T. HIMMLER; R. L. MEISEL. *Univ. of Minnesota.*

2:00 P42 **246.22** ▲ A single dissociation: Intranasal oxytocin alters affiliative but not sexual cues. N. M. Y. KUEK*; J. C. J. LIU. *Yale-Nus Col., Yale-Nus Col.*



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

3:00 Q1 **246.23** Acute postnatal phthalate exposure results in both an immediate and long-term deficit in the masculinization of crucial neural circuits in the male rat brain. M. R. HOLAHAN*; A. WEIR; C. SMITH. *Carleton Univ.*

4:00 Q2 **246.24** Hypothalamic modulation of mesolimbic reward circuitry: A functional tracing study. O. IYILIKCI*; J. BALTHAZART; G. F. BALL. *Johns Hopkins Univ., Univ. of Liege, Johns Hopkins Univ., Univ. of Maryland.*

1:00 Q3 **246.25** The neurobiology of reproductive competition. S. M. BOWDEN; M. H. FERKIN; G. J. DE VRIES; A. PETRULIS*. *Georgia State Univ., Univ. of Memphis.*

2:00 Q4 **246.26** Dopamine signaling in the nucleus accumbens is necessary for sexual preference in male mice. Y. BENY*; T. KIMCHI. *Weizmann Inst. of Sci.*

3:00 Q5 **246.27** Spargel overexpression in dopaminergic neurons induces male-male courtship. K. WU*; J. QIAO; C. QIAN; Y. KE. *The Chinese Univ. of Hong Kong, Fudan Univ.*

4:00 Q6 **246.28** The incentive value of multisensory stimuli in male rats. E. M. SNOEREN*; A. ÅGMO. *Univ. of Tromso.*

**POSTER**

**247. Parental Behavior**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 Q7 **247.01** Comparing the efficacy of maternal fluoxetine and exercise in a rodent model of postpartum depression: Outcome of both mother and male and female offspring. A. R. GOBINATH*; R. J. RICHARDSON; C. CHOW; J. L. WORKMAN; S. E. LIEBLICH; A. M. BARR; L. A. M. GALEA. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia.*

2:00 Q8 **247.02** Estrogen receptor alpha expression in the auditory cortex changes across motherhood. A. MORENO*; K. K. CHONG; T. N. IVANOVA; R. C. LIU. *Emory Univ., Georgia Inst. of Technol., Emory Univ.*

3:00 Q9 **247.03** Effects of reproductive state on the expression of oxytocin receptor mRNA and protein in the midbrain raphe nuclei of female rats. Z. GRIEB*; J. LONSTEIN. *Michigan State Univ.*

4:00 Q10 **247.04** Ultrasonic vocalizations and parenting in a rat model of postpartum depression. M. PEREIRA*. *Univ. of Massachusetts Amherst.*

1:00 Q11 **247.05** Immediate early gene activation in post parturient oxytocin receptor forebrain knockout mice. S. K. WITCHEY*; K. GERBIG; H. K. CALDWELL. *Kent State Univ., Sch. of Biomed. Sciences, Kent State Univ.*

2:00 Q12 **247.06** Child executive functioning is predicted by parent hypothalamic pituitary adrenal (hpa) function in both cancer survivors and healthy control children. R. RIEGER*; S. M. DINCES; S. N. HILE; L. N. ROWELL; J. F. L. PINNER; N. C. MOSS; R. S. ALLEN; M. EMERY THOMPSON; A. C. TANG; R. D. ANNETT. *Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico, Natl. Sci. Fndn., Univ. of Colorado Denver.*

3:00 Q13 **247.07** The role of sensitization and stress on maternal behavior and neuronal activation in lactating mice. M. CHAVEZ*; D. MERCADO; L. JAQUES; M. MCCREARY; K. D'ANNA-HERNANDEZ. *California State Univ. San Marcos, California State Univ. San Marcos.*

4:00 Q14 **247.08** Absence of the father during pre-weaning does not impact adult offspring anxiety, social recognition or parental care in C57Bl/6J mice. S. WILLIAMS*; W. S. YOUNG. *NIMH, Natl. Inst. of Mental Hlth.*

1:00 Q15 **247.09** The experience of cancer affects the relationship between parent and child hypothalamic pituitary adrenal (hpa) function. S. M. DINCES*; S. H. HILE; L. N. ROWELL; J. F. L. PINNER; R. E. RIEGER; N. C. MOSS; R. S. ALLEN; M. EMERY THOMPSON; A. C. TANG; R. D. ANNETT. *Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico, Natl. Sci. Foundatation, Univ. of Colorado, Denver.*

2:00 Q16 **247.10** Effects of maternal 5-HT2C inhibition and mouse pup handling on maternal behavior. D. V. WIDZOWSKI*; D. S. AMPOFO. *Indiana Univ. of Pennsylvania, Indiana Univ. of Pennsylvania.*

3:00 Q17 **247.11** ▲ Biparental behavior in the burying beetle, Nicrophorus orbicollis: A role for dopamine? J. P. SPEER; J. W. YAEGER; K. J. RENNER; S. C. PANAITOF*. *Univ. of Nebraska at Kearney, Univ. of South Dakota.*

4:00 Q18 **247.12** Bubble nesting behavior is disrupted in male Betta splendens exposed to sub-toxic levels estradiol. A. J. VELKEY*; K. WOOLWINE; H. KAY; N. KHAN; A. EDWARDS; K. GUDYKA; K. CARTER; H. PREMO. *Christopher Newport Univ., Christopher Newport Univ.*

1:00 Q19 **247.13** ▲ Hypocretin receptors 1 and 2 differentially regulate materal motivation and maternal depressive behavior in lactating dams. Y. CABRERA*; H. NORRIS; N. GRENIER; A. KENT; E. LANE; K. D'ANNA-HERNANDEZ. *California State Univ. San Marcos.*

2:00 Q20 **247.14** Trait anxiety is associated with medial prefrontal cortex GABA system protein expression in postpartum rats. C. M. RAGAN*; J. S. LONSTEIN. *Michigan State Univ.*

3:00 R1 **247.15** Gestational stress impairs maternal motivation and induces anhedonia: Role of dopamine signaling in the nucleus accumbens shell. B. LEUNER*; A. HAIM; C. ALBIN-BROOKS; M. SHERER; E. MILLS. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ. Wexner Med. Ctr.*

4:00 R2 **247.16** Effects of the environmental context on the maternal behavior of early undernourished rats. M. REGALADO; M. GIORDANO*; N. SERAFIN; L. RUBIO; C. TORRERO; M. SALAS. *Univ. Nacional Autónoma De México.*

1:00 R3 **247.17** Postpartum lesions targeting serotonergic neurons in the dorsal raphe alter various aspects of maternal behavior. M. A. HOLSCHBACH*; E. M. VITALE; J. S. LONSTEIN. *Michigan State Univ., Michigan State Univ.*

2:00 R4 **247.18** Impacts of perinatal oxytocin exposure on maternal behavior, physiology, and epigenetic regulation. A. M. PERKEYBILE*; W. M. KENKEL; J. R. YEE; T. S. LILLARD; T. ROSENSTEIN; C. F. FERRIS; C. S. CARTER; J. J. CONNELLY. *Northeastern Univ., Univ. of Virginia, Northeastern Univ., Indiana Univ.*



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

3:00 R5 **247.19** A little extra push: Exploring the consequences of oxytocin administration on neonatal physiology, behavior and epigenetics. W. KENKEL*; A. M. PERKEYBILE; J. R. YEE; T. ROSENSTEIN; C. F. FERRIS; C. S. CARTER; J. CONNELLY. *Indiana Univ., Northeastern Unniversity, Virginia Univ.*

4:00 R6 **247.20** ▲ Changes in maternal behavior due to fetal ethanol exposure and stressed environment. V. A. DONAHUE*. *Viterbo Univ.*

1:00 R7 **247.21** Parental environment affects social behaviors and neurochemical systems in the offspring of socially monogamous prairie voles. M. TABBAA*; K. LEI; Y. LIU; Z. X. WANG. *Florida State Univ., Univ. of California, San Francisco.*

2:00 R8 **247.22** Individual differences in maternal care associate with variations in dendritic morphology and Rem2 within the medial preoptic area of rats. T. ZHANG*; C. I. PARENT; X. WEN; S. K. DHIR; R. RYAN; J. DIORIO; M. J. MEANEY. *McGill Univ.*

3:00 R9 **247.23** Heightened medial orbitofrontal cortex activity in mothers' responses to infant vocal cues: An fMRI comparison of women with and without young infants. C. PARSONS*; K. YOUNG; E. JEGINDØ; A. STEIN; M. KRINGELBACH. *Univ. of Oxford, Aarhus Univ., UCLA, Aarhus Univ.*

4:00 R10 **247.24** Maternal care and oxytocin secretion are controlled by a sexually dimorphic hypothalamic circuit. N. SCOTT; M. PRIGGE; O. YIZHAR; T. KIMCHI*. *Weizmann Inst. of Sci.*

1:00 R11 **247.25** Individual differences in male mice ultrasonic vocalizations to females are correlated with sexual motivation and neuronal activity in the ventral tegmental area. K. KOUTA*; T. KIKUSUI. *Azabu Univ., Azabu Univ.*

2:00 R12 **247.26** Male mice ultrasonic vocalizations enhance female reproductive function. A. ASABA*; K. MOGI; T. KIKUSUI. *Azabu Univ.*

3:00 R13 **247.27** ▲ Non-breeder's alloparenting behaviors are enhanced by coprophagy in eusocial rodents, the naked mole-rats. A. WATARAI*; N. ARAI; S. MIYAWAKI; K. MIURA; K. MOGI; T. KIKUSUI. *Azabu Univ., IPCR, Hokkaido Univ.*

**POSTER**

**248. Parental and Gestational Influences on Stress Vulnerability**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 R14 **248.01** Fumbling the maternal-fetal microbial handoff: Maternal stress reprogramming of the developing gut-brain axis. E. JAŠAREVIC*; C. D. HOWARD; A. MISIC; D. P. BEITING; T. L. BALE. *Univ. of Pennsylvania.*

2:00 R15 **248.02** Placental OGT serves as an epigenetic dispatcher of prenatal stress signals to the developing fetal brain. B. M. NUGENT; C. L. HOWERTON; T. L. BALE*. *Univ. of Pennsylvania, Univ. Pennsylvania.*

3:00 R16 **248.03** Maternal and fetal exosomes: A message in the bottle for neurodevelopmental programming. B. M. NUGENT*; T. L. BALE. *Univ. of Pennsylvania.*

4:00 R17 **248.04** Lasting and dose-responsive reprogramming of sperm microRNA content by paternal stress. J. CHAN*; A. B. RODGERS; T. L. BALE. *Univ. of Pennsylvania.*

1:00 R18 **248.05** Placental insulin receptors as novel orchestrators of sex-specific neurodevelopmental programming. S. L. BRONSON*; T. L. BALE. *Univ. of Pennsylvania.*

2:00 R19 **248.06** Father: An essential element The impact of preconception paternal experience on offspring neurodevelopment and behaviour. A. F. HARKER*; S. RAZA; K. WILLIAMSON; B. KOLB; R. GIBB. *Univ. of Lethbridge.*

3:00 R20 **248.07** Whole genome response of developing baboon fetal hypothalamus to the effects of maternal nutrient restriction (MNR) in late gestation. T. NURMAMAT*; L. A. COX; P. W. NATHANIELSZ; S. YANG; C. LI; J. GLENN. *Texas Biomed. Res. Inst., Univ. of Wyoming.*

4:00 S1 **248.08** Birth: An overlooked event in brain development? A. CASTILLO-RUIZ*; M. MOSLEY; N. G. FORGER. *Georgia State Univ.*

1:00 S2 **248.09** Chronic CRH stunts cortical neuron dendritic arborization: A basis for reduced cortical thickness in children exposed to high CRH *in utero*? M. M. CURRAN*; C. SANDMAN; E. DAVIS; L. GLYNN; A. ANDRES; T. Z. BARAM. *Univ. of California Irvine.*

2:00 S3 **248.10** Prenatal stress induces epigenetic changes in the rat offspring brain. M. C. ANTONELLI*; M. C. MONTELEONE; M. E. PALLARES; E. ADROVER; A. C. FRASCH; M. A. BROCCO. *Inst. de Biologia Celular y Neurociencia, Inst. de Investigaciones Biotecnologicas.*

3:00 S4 **248.11** Involvement of the serotonergic and orexinergic systems in the antidepressant effects of light of maternally separated male Sprague-Dawley rats. J. J. DIMATELIS*; A. MTINTSILANA; D. J. STEIN; V. A. RUSSELL. *Univ. of Cape Town, Univ. of Cape Town, Univ. of Cape Town.*

4:00 S5 **248.12** Maternal separation during breastfeeding affects eating behavior by generating a greater preference for sweetener products consumption, increase body weigh and alters locomotion activity. L. B. AYA-RAMOS; C. A. CONTRERAS-VARGAS; Z. DUENAS*. *Univ. Nacional De Colombia, Univ. Nacional De Colombia.*

1:00 S6 **248.13** Withdrawn.

1:00 S7 **248.14** ▲ Long term consequences of maternal separation on integration of postnatally generated granule cells. M. LÓPEZ-VARGAS; A. ROQUE; L. TORNER; E. OLVERA - CORTÉZ; N. LAJUD*. *Inst. Mexicano del Seguro Social.*

2:00 S8 **248.15** Alterations in learning of C7BL/6 mice following daily maternal separation. J. D. KARP*; N. RINALDI; M. FRIEDFELD; C. ROACH. *Rider Univ., Rider Univ.*

3:00 S9 **248.16** Characterizing Bdnf DNA methylation in the mPFC throughout development in healthy and early-life stressed rats. J. BLAZE*; T. L. ROTH. *Univ. of Delaware.*



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

4:00 S10 **248.17** Neonatal maternal separation modifies vasopressin receptor Va1 and V1b expression during development in rat amygdala and cerebellum: It possible role in anxiogenesis and alcohol intake. A. T. NAVA KOPP*; L. ZHANG. *Dept. of Physiology, Fac. of Medicine, Natl. Autonomous Univ. of.*

1:00 S11 **248.18** Prenatal exposure to ethanol and early maternal separation alters HPA axis responsiveness and emotional state in young adult rats. F. BIGGIO*; V. LOCCI; M. G. PISU; M. C. MOSTALLINO; M. SERRA. *Univ. of Cagliari, Univ. of Sassari, Inst. of Neuroscience, Natl. Res. Council.*

2:00 S12 **248.19** Effects of maternal separation and post-weaning housing on social and depressive-like behaviors and neuronal oxytocin expression in rats. Y. GILLES; A. NTIM-ADDAE; L. APOLONIO; K. F. MANAYE; E. K. POLSTON*. *Howard Univ. Col. of Med., Georgia Inst. of Technol.*

3:00 S13 **248.20** Maternal separation reduces NFKB1 and miRNA-155 expression in hippocampus of female adolescent mice with no effect of physical training. L. WEARICK-SILVA*; T. W. VIOLA; L. A. AZEREDO; A. CENTENO-SILVA; T. W. BREDY; R. GRASSI-OLIVEIRA. *Pontifical Univ. of Rio Grande Do Sul, Univ. of California Irvine.*

4:00 S14 **248.21** Effects of maternal care on amygdala, prefrontal cortex, and hippocampal development in infant rhesus monkeys. C. L. FU; V. K. WING; D. L. PADMANABHAN; B. R. HOWELL; D. G. GUZMAN; J. R. GODFREY; Y. SHI; M. STYNER; M. SANCHEZ*. *Emory Univ., Univ. of Minnesota, Univ. of North Carolina, Emory Univ.*

1:00 S15 **248.22** Impacts of maternal stress and high fat diet on hpa axis programming in offspring. S. ABUAISH*; C. M. W. LUM; P. O. MCGOWAN. *Univ. of Toronto, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto.*

2:00 S16 **248.23** Impact of Early Life Stress during Stress Hyporesponsive period (SHRP) attenuates both fear retention and extinction in rats. P. K. MISHRA*, JR; L. T. RAO; B. M. KUTTY. *NIMHANS.*

3:00 S17 **248.24** ● A blend of dietary prebiotics and the probiotic LGG modulate behavioral and cognitive responses to maternal separation stress. R. V. WAWORUNTU; K. M. NEUFELD; B. M. BERG*; S. M. O'MAHONY; T. G. DINAN; J. F. CRYAN. *Mead Johnson Nutr., Univ. Col. Cork, Univ. Col. Cork, Univ. Col. Cork.*

4:00 S18 **248.25** Cross-fostered high-yawning dams increased stress responses in the outbred Sprague-Dawley rats: A base of atypical maternal care. C. URIBE*; C. CORTES; J. R. EGUIBAR. *Inst. De Fisiología BUAP, Benemérita Univ. Autónoma De Puebla.*

1:00 S19 **248.26** Effect of VNS-paired extinction of conditioned fear in a VPA-induced animal model of autism. A. ALVAREZ-DIEPPA*; K. GRIFFIN; S. CAVALIER; P. SEKAR; C. MCINTYRE. *Univ. of Texas At Dallas.*

**POSTER**

**249. Food Intake and Energy Balance: Integration of Peripheral Signals I**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 S20 **249.01** *In vivo* imaging of vagal afferent neurons to decode internal senses. E. K. WILLIAMS*; D. E. STROCHLIC; R. CHANG; B. D. UMANS; S. LIBERLES. *Harvard Med. Sch.*

2:00 T1 **249.02** Lipolysis activates sensory nerves in white fat. J. T. GARRETSON*; V. RYU; L. A. SZYMANSKI; T. J. BARTNESS. *Georgia State Univ.*

3:00 T2 **249.03** Differential distribution of adiponectin receptors 1 and 2 in olfactory bulb and hippocampus in the rat and insulin receptor induction by adiponectin. A. MIRANDA-MARTINEZ*; R. GUEVARA-GUZMÁN. *Univ. Nacional Autonoma De Mexico, Univ. Nacional Autonoma de Mexico.*

4:00 T3 **249.04** Effects of long-term estrogen replacement in the ventromedial nucleus of the hypothalamus on ovariectomy-induced changes in body weight, fat distribution and bone mass in rats. Z. ZHANG; A. KALSBEEK*; E. FLIERS; A. BOELEN; J. LIU; Y. SU; E. FOPPEN; B. C. J. VAN DER EERDEN; N. BRAVENBOER; P. H. BISSCHOP. *Academic Med. Ctr. (AMC), Academic Med. Ctr. (AMC), Dept Endocrinol & Metab, Academic Med. Ctr. (AMC), Erasmus MC, VU Univ. Med. Ctr.*

1:00 T4 **249.05** The combination phentermine + 5hydroxytryptophan/carbidopa showed a synergistic effect on food intake and weight loss in rats: A new drug combination therapy for obesity. C. PEREZ DIAZ*; B. KALYANASUNDAR; M. G. MORENO; A. LUNA; S. A. SIMON; R. GUTIERREZ. *CINVESTAV, Duke Univ. Med. Ctr.*

2:00 T5 **249.06** Genetic ablation and pharmacological blockade of FKBP51 in mice reduces obesity and metabolic dysfunction. G. BALSEVICH*; N. C. GASSEN; A. HÄUSL; C. W. MEYER; X. FENG; C. DOURNES; A. URIBE; M. THEODOROPOULOU; M. PAEZ-PEREDA; T. REIN; F. HAUSCH; A. CHEN; M. H. TSCHÖP; M. V. SCHMIDT. *Max-Planck-Institut für Psychiatrie, Helmholtz Ctr.*

3:00 T6 **249.07** Central GLP-1 signaling contributes to cancer anorexia and body weight loss in hepatoma tumor bearing rats. T. BORNER*; T. A. LUTZ; T. RIEDIGER. *Inst. of Vet. Physiology, Univ. of Zurich.*

4:00 T7 **249.08** High fat diet results in activation of microglia and reorganization of the nucleus of the solitary tract as well as a change in the intestinal microbiota. K. CZAJA*; A. VAUGHN; E. M. COOPER; P. M. DILORENZO; L. J. O'LOUGHLIN; M. E. KONKEL; J. H. PETERS. *Univ. of Georgia, Washington State Univ., Binghamton Univ.*

1:00 T8 **249.09** Effects of ethanol administration on energy homeostasis in male Long Evans rats. N. NELSON*; N. LIANG. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois- Urbana Champaign.*

2:00 T9 **249.10** Effects of Roux-en-Y gastric bypass surgery on lingual fatty acid receptor expression in high fat diet-induced obese female rats. A. HAJNAL*; A. M. ROGERS; S. D. PRIMEAUX. *Penn State Univ., Penn State Univ., LSUHSC, Pennington Biomed. Res. Ctr.*

3:00 T10 **249.11** ▲ Obese rats induced by high-sucrose diet promote a stage of hypoalgesia: Antinociceptive effects of ketoprofen. O. A. JARAMILLO-MORALES*; J. V. ESPINOSA-JUAREZ; J. N. CORONA-RAMOS; F. J. LOPEZ-MUNOZ. *Cinvestav, CINVESTAV.*

4:00 T11 **249.12** A role for vitamin D in diet-induced obesity and dopamine-related behaviors. J. R. TRINKO*; B. B. LAND; W. B. SOLECKI; R. J. WICKHAM; L. A. TELLEZ; J. G. MALDONADO-AVILES; I. E. DE ARAUJO; N. A. ADDY; R. J. DILEONE. *Yale Univ., The John B Pierce Lab.*

1:00 T12 **249.13** ▲ The effects of obesity and type-2 diabetes on performance in open-field and light-dark box tasks. J. A. HICKS*; J. A. SEGGIO. *Bridgewater State Univ., Bridgewater State Univ.*

2:00 T13 **249.14** ● Brain self-control networks and weight loss in humans. S. NESELILER*; W. HU; M. ZACCHIA; K. LARCHER; S. SCALA; M. LAMARCHE; S. STOTLAND; M. LAROQUE; E. MARLISS; A. DAGHER. *Montreal Neurolog. Inst., McGill Univ., McGill Univ., Motivation Weight Mgmt. Clin.*

**POSTER**

**250. Brain Blood Flow**

***Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 T14 **250.01** Short photoperiods reduce hippocampal blood vessel density in white-footed mice (Peromyscus leucopus). J. C. BORNIGER*; S. TEPLITSKY; R. J. NELSON; C. RINK. *The Ohio State Univ. Wexner Med. Ctr., The Ohio State Univ. Wexner Med. Ctr.*

2:00 T15 **250.02** Effects of ambient temperature and hypothalamic temperature manipulations on thermoregulatory yawning in rats. M. L. SHOUP-KNOX*; K. GAFFNEY; L. GAMBRILL; K. PONDER; R. PRUETT. *James Madison Univ.*

3:00 T16 **250.03** Huperzine-A in clinical concentrations does not block sympathetic nAChR-mediated nitrergic neurogenic dilation of porcine basilar arteries. T. J. LEE*; M. CHEN; C. SHIH; P. CHEN. *Southern Illinois Univ. Med. Sch., Dept of Med. Res, Buddhist Tzu Chi Gen. Hosp, Dept of Life Sci, Coll of Life Sci, Tzu Chi Univ., Tzu Chi Coll of Technol., Dept of Pharmacol & Toxicol, Coll of Med, Tzu Chi Univ.*

4:00 T17 **250.04** The effects of anodal tDCS on neurovascular coupling in rat somatosensory cortex. C. THOMAS*; T. F. D. FARROW; C. MARTIN. *Univ. of Sheffield, Univ. of Sheffield, Univ. of Sheffield.*

1:00 T18 **250.05** Cortical and subcortical modulations of neurovascular coupling by serotonin. A. SPAIN; C. HOWARTH; J. BERWICK; C. J. MARTIN*. *The Univ. of Sheffield, The Univ. of Sheffield.*

2:00 T19 **250.06** Does vasomotion alter functional connectivity; a multi-modal study using optical imaging spectroscopy, multi-channel electrophysiology and bold fmri. P. PATEL*; A. KENNERLEY; L. BOORMAN; M. JONES; J. BERWICK. *Univ. of Sheffield.*

3:00 T20 **250.07** Cholinergic modulation of neurovascular coupling and neuroimaging signals. G. BREZZO*; A. SPAIN; J. BERWICK; C. MARTIN. *Univ. of Sheffield.*

4:00 U1 **250.08** NMDA-dependent neurovascular dysregulation in mice overexpressing mutated human tau. L. PARK*; K. KOIZUMI; P. ZHOU; C. IADECOLA. *Weill Cornell Med. Col.*

1:00 U2 **250.09** Pericyte regulation of neurovascular coupling. K. KISLER*; S. V. REGE; A. R. NELSON; A. RAMANATHAN; A. AHUJA; P. S. TSAI; D. A. BOAS; S. SAKADŽIĆ; B. V. ZLOKOVIC. *Keck Sch. of Med. of the Univ. of Southern California, UCSD, Massachusetts Gen. Hosp. and Harvard Med. Sch.*

2:00 U3 **250.10** *In vivo* longitudinal imaging and probing of brain system through a clear and soft cranial window. C. HEO*; H. PARK; T. KIM; T. KIM; S. KIM; M. SUH. *Sung Kyun Kwan Univ., Inst. for Basic Sci. (IBS), Sungkyunkwan Univ., Sungkyunkwan Univ., Sungkyunkwan Univ.*

3:00 U4 **250.11** The local cerebral blood flow in the dorsal hippocampus of rats during initial and deep stages of informational pathology of behavior. M. NEBIERIDZE*; I. KVACHAKIDZE; L. GUMBERIDZE; L. DAVLIANIDZE-GOBECHIA; M. MANTSKAVA; N. MOMTSELIDZE; N. SIKHARULIDZE. *I. Beritashvili Ctr. of Exptl. Biomedicine, Beritashvili Ctr. of Exptl. Biomedicine*.

4:00 U5 **250.12** Evidence that resting-state functional connectivity is mediated via arteriole vasomotion. C. MATEO*; P. KNUTSEN; P. S. TSAI; A. Y. SHIH; D. KLEINFELD. *UCSD, Med. Uni. of South Carolina, UCSD.*

1:00 U6 **250.13** Coupling of spontaneous and sensory evoked hemodynamic signals to neural activity in the barrel cortex of awake mice. A. WINDER*; P. J. DREW. *Penn State Univ.*

2:00 U7 **250.14** Strong blood flow undershoot induced by brief stimulation in the human brain. D. RESS*; J. KIM. *Baylor Col. of Med.*

3:00 U8 **250.15** Regional cerebral blood flow in pediatric post-traumatic headache. D. J. HODKINSON*; P. SERRANO; M. O'BRIEN; A. LEBEL; L. BECERRA; D. BORSOOK. *Boston Children's Hospital, Harvard Med. Sch., Boston Children's Hospital, Harvard Med. Sch.*

4:00 U9 **250.16** Role of 20-HETE in the development of hypertension-related cerebral vascular disease. F. FAN*; L. RICK; M. R. PABBIDI; E. GOMEZ-SANCHEZ; R. J. ROMAN. *The Univ. of Mississippi Med. Ctr., The Univ. of Mississippi Med. Ctr.*

1:00 U10 **250.17** Role of gamma-Adducin in cerebral vascular disease. R. J. ROMAN*; A. M. GEURTS; R. LIN; M. R. PABBIDI; E. GOMEZ-SANCHEZ; G. RAJKOWSKA; D. R. HARDER; F. FAN. *The Univ. of Mississippi Med. Ctr., Med. Col. of Wisconsin, The Univ. of Mississippi Med. Ctr., The Univ. of Mississippi Med. Ctr., Med. Col. of Wisconsin.*



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

**POSTER**

**251. Higher Cognition**

***Theme F: Cognition and Behavior***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 U11 **251.01** Exploring the neuronal population responses in the human intraparietal sulcus during real life speech processing. X. YANG*; A. DAITCH; J. SCHROUFF; S. GATTAS; S. DEHAENE; H. KOOPMAN; J. PARVIZI. *Stanford Univ., Lab. of Behavioral and Cognitive Neurosci. (LBCN), Collège de France, Univ. of California at Los Angeles.*

2:00 U12 **251.02** Dynamics within and between ventral temporal and parietal cortices during numerical processing. A. L. DAITCH*; I. KASIKCI; B. L. FOSTER; S. GATTAS; V. RANGARAJAN; J. PARVIZI. *Stanford Univ., Lab. of Behavioral and Cognitive Neurosci. (LBCN), Stanford Human Intracranial Cognitive Electrophysiology Program (SHICEP).*

3:00 U13 **251.03** How the visual system constructs perceptions of two- and three-dimensional manifolds (flat, corrugated and curved surfaces and volumes) from zero, one and two dimensional building blocks. E. L. ALTSCHULER*; H. J. KIM; S. RONCATO. *Temple Univ. Sch. of Med., New Jersey Med. Sch., Univ. di Padova.*

4:00 U14 **251.04** The influence of color and vowel context on the perception of visual speech. W. C. HOOKS, JR.*; L. V. DEAL. *OtoLing, Michigan State Univ.*

1:00 U15 **251.05** Multivariate decoding of numerosity-evoked fMRI activity patterns in human parietal cortex is reflective of individual differences in number discrimination performance. G. LASNE; M. PIAZZA; S. DEHAENE; A. KLEINSCHMIDT; E. EGER*. *INSERM Cognitive Neuroimaging Unit CEA/NEUROSPIN, Univ. Pierre et Marie Curie, Ctr. for Brain/Mind Sciences, Univ. of Trento, Univ. of Geneva.*

2:00 U16 **251.06** ● Neural networks for pulse perception in musical rhythm. E. W. LARGE*; J. HERRERA. *Univ. of Connecticut, Stanford Univ.*

3:00 U17 **251.07** Eeg based brain computer interfaces for numerical cognition. V. MANIAN*; O. NIEVES; J. CAMACHO; T. P. COLEMAN. *Univ. of Puerto Rico, Univ. of California.*

4:00 U18 **251.08** The neural substrate of the Eureka effect. Y. LU*; W. SINGER. *Max Planck Inst. for Brain Res., Frankfurt Inst. for Advanced Studies, Ernst Strüngmann Inst. (ESI) for Neurosci. in Cooperation with Max Planck Society, Dept. of Biology, Tech. Univ. of Darmstadt.*

1:00 U19 **251.09** Neural correlates of musical improvisation. K. DHAKAL*; M. NORGAARD; M. DHAMALA. *Georgia State Univ., Georgia State Univ., Georgia State Univ.*

2:00 U20 **251.10** Dynamics of auditory cortex during internal speech. M. REGEV*; U. HASSON. *Princeton Univ., Princeton Univ.*

3:00 U21 **251.11** ▲ Spelling with Color? An investigation into the Bidirectionality of Synesthesia. B. HACKNEY*; J. F. AWAD; J. BUENROSTRO; S. A. DREW. *California State University, Northridge.*

4:00 U22 **251.12** Parietal cortex mediates perceptual grouping of dynamic stimuli independent of stimulus size. P. R. GRASSI*; N. ZARETSKAYA; A. BARTELS. *Ctr. For Integrative Neurosci., A. Martinos Ctr. for Biomed. Imaging.*

1:00 U23 **251.13** Familiar size relationships decrease size-contrast illusion. M. MALTSEVA*; K. STUBBS; M. A. GOODALE; J. C. CULHAM. *Western Univ.*

2:00 U24 **251.14** Neural oscillations and illusory rotatory motion: Spatiotemporal analysis of neuromagnetic activities related to unusual visual perception. A. TAKEDA*; T. MAEKAWA; T. URAKAWA; T. OKAMOTO; K. OGATA; N. HIRONAGA; S. TOBIMATSU. *Fac. of Med. Sciences, Kyushu Univ., Fac. of Science, Tokyo Univ. of Sci., Div. for Arts and Science, Kyushu Univ.*

3:00 U25 **251.15** Effects of mechanical tactile noise on the amplitude of visual evoked potentials. I. MENDEZ-BALBUENA*; N. HUIDOBRO; M. SILVA; R. CORRIPIO; A. FLORES; C. TRENADO; L. QUINTANAR; O. ARIAS-CARRION; R. KRISTEVA; E. MANJARREZ. *Facultad de Psicologia, Benemérita Univ. Autónoma de Puebla, México, Benemérita Univ. Autónoma de Puebla, México, Heinrich Heine Univ. Düsseldorf, Univ. Nacional Autónoma de México, Univ. of Freiburg.*

4:00 U26 **251.16** Color categorization and color knowledge after left occipitotemporal damage: Behavioral and neuroimaging evidence. K. SIUDA-KRZYWICKA*; C. WITZEL; K. MOREAU; S. FERRIEUX; L. COHEN; P. BARTOLOMEO. *Inst. du Cerveau et de la Moelle épinière, Inserm, CNRS, Sorbonne Universités UPMC Univ. Paris 06, Univ. Paris Descartes, Hôpitaux de Saint-Maurice, Groupe Hospitalier Pitié-Salpêtrière, AP-HP, Hôpital de la Pitié Salpêtrière, Catholic Univ.*

1:00 U27 **251.17** Visual cortex activity predicts subjective experience after reading books with colored letters. O. COLIZOLI*; J. M. J. MURRE; H. S. SCHOLTE; D. M. VAN ES; T. KNAPEN; R. ROUW. *Univ. of Amsterdam, Univ. of Amsterdam, Vrije Univ.*

2:00 U28 **251.18** The effects of visual scene complexity on human cortex. A. J. BIES; J. B. WEKSELBLATT; C. R. BOYDSTON; R. P. TAYLOR; M. E. SERENO*. *Univ. of Oregon.*

3:00 U29 **251.19** Attention and motion-induced position shifts: Evidence from visual neglect. S. DE VITO; M. LUNVEN; C. BOURLON; C. DURET; P. CAVANAGH; P. BARTOLOMEO*. *Inserm UMRS 1127, Brain and Spine Inst., Sorbonne Universités, UPMC Univ. Paris 06, UMR S 1127, CNRS, UMR 7225, Inst. du Cerveau et de la Moelle épinière, Catholic Univ., Ctr. de Rééducation Fonctionnelle Les Trois Soleils, Université Paris Descartes.*

4:00 U30 **251.20** Dorsolateral prefrontal cortex, metacognitive awareness of emotional visual stimuli, and emotion regulation: A TMS/EEG study. R. C. LAPATE*; J. SAMAHA; B. ROKERS; A. AUSTERMUEHLE; H. HAMZAH; B. R. POSTLE; R. J. DAVIDSON. *Univ. of Wisconsin-Madison.*

1:00 U31 **251.21** Generic decoding of seen and imagined objects using hierarchical visual features. T. HORIKAWA*; Y. KAMITANI. *ATR, Kyoto Univ.*

2:00 U32 **251.22** Progressive enhancement of phase synchronization in fronto-occipital regions during visual perception. M. HAYAKAWA*; K. AKIBA; Y. MORISHITA; Y. KAKIMOTO; O. ARAKI. *Tokyo Univ. of Sci.*

3:00 U33 **251.23** The temporal sequence of cortical activity during probe-induced binocular rivalry. B. METZGER*; K. A. LOW; E. L. MACLIN; M. FABIANI; G. GRATTON; D. M. BECK. *Univ. of Illinois, The Beckman Inst. for Advanced Sci. and Technol.*

4:00 U34 **251.24** Differential cortical responses to high- and low-Level visual features of naturalistic movie stimuli. S. HUNG*; K. LU; H. WEN; Z. LIU. *Purdue Univ.*

1:00 U35 **251.25** Visually-responsive regions around the right TPJ and attentional reorienting. L. DUGUÉ*; E. P. MERRIAM; D. J. HEEGER; M. CARRASCO. *NYU.*

2:00 U36 **251.26** Behavioral evidence that skin reflectance is used as an illumination cue for color constancy. R. LAFER-SOUSA*; K. L. HERMANN; B. R. CONWAY. *MIT, Wellesley Col.*

3:00 U37 **251.27** Neural coding of navigational affordances in visual scenes. M. F. BONNER*; J. RYAN; R. EPSTEIN. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

**POSTER**

**252. Cognitive Development**

***Theme F: Cognition and Behavior***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 U38 **252.01** Neuroconnectivity in human fetuses subsequently born preterm. M. E. THOMASON*; D. SCHEINOST; J. H. MANNING; L. E. GROVE; P. K. JELLA; K. M. HERMEZ; J. L. HECT; S. JIRJIS; R. T. CONSTABLE; L. R. MENT; R. ROMERO. *Wayne State Univ., NICHD/NIH/DHHS, Yale Univ., Wayne State Univ., Wayne State Univ.*

2:00 U39 **252.02** Family nurture intervention alters relationships between preterm eeg coherence and 18 month neurodevelopmental outcome. M. G. WELCH*; R. STARK; P. GRIEVE; J. ISLER; R. LUDWIG; M. MYERS. *Columbia Univ. Col. of Physicians & Surgeons, Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr.*

3:00 U40 **252.03** Visual short term memory capacity in preterm born adults is associated with fractional anisotropy in posterior thalamic radiations and splenium of the corpus callosum. A. MENEGAUX*; C. MENG; J. NEITZEL; J. BAÜML; H. MÜLLER; D. WOLKE; A. WOHLSCHLÄGER; C. SORG; K. FINKE. *Ludwig-maximilians-University, Klinikum rechts der Isar, Technische Univ. München TUM, Univ. of Warwick.*

4:00 U41 **252.04** Neural and behavioral markers of metacognititive sensitivity in infants. S. KOUDIER*; L. GOUPIL. *Ecole Normale Supérieure.*

1:00 U42 **252.05** Neural dynamics of prediction and surprise in infants. S. V. GELSKOV*; B. LONG; L. LE STANC; S. CHARRON; L. S. BARBOSA; A. FIEVET; S. KOUIDER. *École Normale Supérieure, Harvard Univ.*

2:00 V1 **252.06** Interactive Specialization and the development of functional systems support complex cognitive skills in children. C. J. BATTISTA*; T. NGOON; T. CHEN; L. CHEN; A. BAKER; J. KOCHALKA; T. EVANS; V. MENON. *Stanford Cognitive and Systems Neurosci. Lab., Stanford Univ.*

3:00 V2 **252.07** Brain activity during expectation violation triggered by magic tricks. A. H. DANEK*; M. ÖLLINGER; T. FRAPS; B. GROTHE; V. L. FLANAGIN. *Div. of Neurobiology, LMU München, LMU München, Trick 17 Magic Concepts, German Ctr. for Vertigo and Balance Disorders.*

4:00 V3 **252.08** Development of medial prefrontal cortex is related to statistical learning and inference. K. F. GUARINO; M. L. SCHLICHTING; A. C. SCHAPIRO; N. B. TURK-BROWNE; A. R. PRESTON*. *The Univ. of Texas At Austin, Princeton Univ.*

1:00 V4 **252.09** Neural correlates of spatial navigation in young children: Linking brain volumetry and performance on a virtual Morris Water Maze task. Q. YU*; A. SHAFER; D. ANDERSON; A. HEITZER; J. PIERCY; D. BRUSH; W. ANGELL; S. RAZ; N. OFEN. *Inst. of Gerontology.*

2:00 V5 **252.10** STSp functional connectivity in adults and children during biological motion perception. S. DASGUPTA*; Z. J. MCINTIRE; M. A. NGUYEN; J. X. LI; K. H. JAMES; E. D. GROSSMAN. *Univ. of California, Irvine, Indiana Univ.*

3:00 V6 **252.11** Brain state flexibility predicts diverse cognitive functions during critical periods in neurodevelopment. J. D. MEDAGLIA; T. D. SATTERTHWAITE; M. YANG; S. GU; Q. K. TELESFORD*; R. C. GUR; R. E. GUR; D. S. BASSETT. *Univ. of Pennsylvania.*

4:00 V7 **252.12** Age predicts functional connectivity of the intraparietal sulcus during early childhood: Implications for attention development? C. ROHR*; S. VINETTE; K. PARSONS; S. BRAY. *Univ. of Calgary, Univ. of Calgary, Univ. of Calgary, Univ. of Calgary.*

1:00 V8 **252.13** Resting state connectivity at 1st grade predicts math competence at 2nd grade. G. PRICE*; E. D. WILKEY; D. J. YEO; L. E. CUTTING. *Vanderbilt Univ.*

2:00 V9 **252.14** Altered reading networks in young children with dyslexia. J. WALTERS*; J. MURTAGH; K. HALVERSON; A. CYR; T. K. PERRACHIONE; P. CHANG; P. HOOK; J. D. E. GABRIELI; J. A. CHRISTODOULOU. *MIT, Boston Univ., MGH Inst.*

3:00 V10 **252.15** Cortical maturation accompanying individual differences in longitudinal development of children's reading ability. T. M. EVANS*; M. SCHAER; J. KOCHALKA; T. J. NGOON; L. CHEN; C. BATTISTA; V. MENON. *Stanford Univ., Stanford Univ.*

4:00 V11 **252.16** The neural development of pragmatic inference-making in discourse comprehension. F. SCHWARTZ*; I. A. NOVECK; J. PRADO. *CNRS, CNRS Lab. Langage, Cerveau & Cognition.*

1:00 V12 **252.17** TITLE: Investigating social initiation behaviors with strangers in different groups of children with developmental disorders. N. WOO-VONHOOGENSTYN*; P. LAI; J. REILLY; U. BELLUGI. *Salk Inst., Univ. of California at San Diego, San Diego State Univ.*



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

2:00 V13 **252.18** ● Implicit learning in young children with autism. R. M. JONES*; C. CARBERRY; D. DELLARCO; A. HAMO; C. LORD. *Weill Cornell Med. Col., Weill Cornell Med. Col.*

3:00 V14 **252.19** Neural synchronization during different types of teaching. F. L. ZHENG*. *Beijing Normal Univ.*

4:00 V15 **252.20** ● When does an adolescent become an adult: The influence of emotion on the development of cognitive control. A. COHEN*; K. BREINER; D. DELLARCO; A. S. HELLER; M. RUDOLPH; G. PEDERSEN; R. BONNIE; K. TAYLOR-THOMPSON; E. S. SCOTT; L. STEINBERG; D. A. FAIR; A. GALVAN; B. CASEY. *Weill Cornell Grad. Sch. of Med. Sci., Sackler Inst. for Developmental Psychobiology, UCLA, Univ. of Miami, Oregon Hlth. & Sci. Univ., Univ. of Virginia Sch. of Law, New York Univ. Sch. of Law, Columbia Law Sch., Temple Univ., Weill Cornell Med. Col.*

1:00 V16 **252.21** The effects of information and communication technology use in adolescence on attention-related brain activity. M. MOISALA*; V. SALMELA; L. HIETAJÄRVI; E. SALO; S. CARLSON; O. SALONEN; K. LONKA; K. HAKKARAINEN; K. SALMELA-ARO; K. ALHO. *Univ. of Helsinki, Advanced Magnetic Imaging Centre, Aalto NeuroImaging, Brain Res. Unit, Dept. of Neurosci. and Biomed. Engin., Neurosci. Unit, Dept. of Physiology, Fac. of Med., Helsinki Med. Imaging Ctr., Cicero Learning, Helsinki Collegium for Advanced Studies, Swedish Collegium for Advanced Study.*

2:00 V17 **252.22** Cannabis use and adolescent neurocognitive development: A prospective fmri study. B. C. TERVO-CLEMMENS*; D. SIMMONDS; B. LUNA. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

3:00 V18 **252.23** ● The cognitive profile of early-onset obsessive-compulsive disorder. Does age matter? J. GOTTWALD*; A. M. APERGIS-SCHOUTE; S. MOREIN-ZAMIR; M. KASER; A. SULE; A. CONWAY MORRIS; W. LIMMER; T. W. ROBBINS; B. J. SAHAKIAN. *Univ. of Cambridge, Univ. of Cambridge, Univ. of Cambridge, NHS.*

**POSTER**

**253. Mechanisms of Attention I**

***Theme F: Cognition and Behavior***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 V19 **253.01** The combination of mk-801 and sch-23390 at sub-effective doses synergistically impairs attentional set-shifting in rats. S. J. DESAI*; B. L. ALLMAN; N. RAJAKUMAR. *Dept. of ACB, Univ. of Western Ontario.*

2:00 V20 **253.02** Testing sustained attention in rats in touchscreen operant chambers. D. A. BANGASSER*; B. WICKS; K. WHITE; N. DUNCAN; S. COHEN; J. BERGMANN; B. YEGLA; R. COLE; V. PARIKH; D. WAXLER. *Temple Univ.*

3:00 V21 **253.03** The effects of different pharmacological treatments on physiological signals in rats using implanted telemetry. R. O. PUSSINEN*; L. TOLPPANEN; A. NURMI; R. HODGSON. *Charles River Discovery Res. Services, Charles River Discovery Res. Services.*

4:00 V22 **253.04** Selective entorhinal cortex lesions influence visual attentional set-shifting performance in rats. K. BOUAYAD-GERVAIS*; Y. CHUDASAMA. *McGill Univ., McGill Univ.*

1:00 V23 **253.05** Superior colliculus activity is necessary for both selectively attending and actively ignoring visual stimuli. L. P. LOVEJOY*; R. J. KRAUZLIS. *Columbia Univ. / New York State Psychiatric Inst., Natl. Eye Inst. - NIH.*

2:00 V24 **253.06** On the magnitude of signal correlations versus noise correlations. C. M. LEWIS*; A. LAZAR; B. LIMA; M. VINCK; S. NEUENSCHWANDER; W. SINGER; P. FRIES. *Ernst Strüngmann Inst. (ESI) For Neurosci. In Cooperation With Max Planck, Max Planck Inst. for Brain Res., Columbia Univ., Princeton Univ., Inst. do Cérebro.*

3:00 V25 **253.07** Two-photon imaging of state-dependent modulation in primary and higher-order visual areas. R. N. RAMESH*; C. R. BURGESS; S. SUBRAMANIAN; G. J. GOLDEY; M. L. ANDERMANN. *Harvard Med. Sch., Beth Israel Deaconess Med. Ctr., Northeastern Univ.*

4:00 V26 **253.08** The dependence of inter-areal functional connectivity through rhythmic synchronization on anatomical connection strength. J. VEZOLI*; A. M. BASTOS; C. LEWIS; C. A. BOSMAN; H. KENNEDY; P. FRIES. *Ernst Strüngmann Inst. (ESI), Picower Inst. for Learning and Memory, MIT, Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ. Nijmegen, Swammerdam Inst. for Life Sciences, Ctr. for Neuroscience, Fac. of Science, Univ. of Amsterdam, Inserm U846, Stem Cell and Brain Res. Inst.*

1:00 V27 **253.09** Inter-areal synchronization in visual cortex during a divided attention task. M. L. SCHOLVINCK*; J. R. DOWDALL; E. FIEDLER; T. STIEGLITZ; P. FRIES. *Ernst Strungmann Inst. (ESI) for Neurosci., IMTEK, Univ. of Freiburg.*

2:00 V28 **253.10** The role of theta oscillations during spatial attention in monkey visual cortex. G. SPYROPOULOS*; C. BOSMAN; P. FRIES. *Ernst Struengmann Inst., Univ. of Amsterdam.*

3:00 V29 **253.11** Cholinergic contributions to PASA and functional compensation in rats. B. YEGLA*; J. A. FRANCESCONI; J. C. FORDE; V. PARIKH. *Temple Univ.*

4:00 V30 **253.12** Neural correlates of rhythmic selective attention. I. C. FIEBELKORN*; M. A. PINSK; S. KASTNER. *Princeton Univ.*

1:00 V31 **253.13** Distinct roles of mouse visual and parietal cortex during perceptual decisions. G. N. PHO*; M. J. GOARD; B. CRAWFORD; M. SUR. *MIT.*

2:00 V32 **253.14** Multiple, temporally-ordered gain mechanisms of attention in macaque area V4. I. SANI*; M. C. MORRONE; L. CHELAZZI; E. SANTANDREA. *Rockefeller Univ., Univ. of Pisa, Univ. of Verona.*

3:00 V33 **253.15** Response gain is modulated by the gamma cycle. J. NI*; T. WUNDERLE; C. LEWIS; R. DESIMONE; I. DIESTER; P. FRIES. *Ernst Strüngmann Inst. (ESI) for Neurosci., Intl. Max Planck Res. Sch. for Neural Circuits, McGovern Inst. for Brain Research, Massachusetts Inst. of Technol., BrainLinks-BrainTools Cluter of Excellenz, Univ. of Freiburg, Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ. Nijmegen.*



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

4:00 V34 **253.16** Rodent model of sensory prioritization: Behavioral performance and neural correlates. C. LEE*; M. E. DIAMOND; E. ARABZADEH. *John Curtin Sch. of Med. Research, ANU, Intl. Sch. for Advanced Studies.*

1:00 V35 **253.17** Principal component model of neural activities in macaque area MT. M. SARAF; K. MABOUDI; M. ESGHAEI; M. DALIRI*. *Inst. for Res. in Fundamental Sci. (IPM), Iran Univ. of Sci. and Technol.*

2:00 V36 **253.18** Attention operates uniformly throughout the Classical Receptive Field and the Surround. B. E. VERHOEF*; J. H. R. MAUNSELL. *The Univ. of Chicago.*

3:00 V37 **253.19** Prone to addiction as well as to falls: Poor attention in sign-tracking rats extends to complex movement control and is associated with regression of choline transporter capacity. A. J. KUCINSKI*; A. KOSHY CHERIAN; P. VALUSKOVA; B. YEGLA; V. PARIKH; T. ROBINSON; M. SARTER. *Univ. of Michigan, First Fac. of Medicine, Charles Univ., Temple Univ.*

4:00 V38 **253.20** Locus coeruleus firing modes differentially regulate neural processing of salience in somatosensory cortex. E. M. VAZEY*; D. E. MOORMAN; G. ASTON-JONES. *Univ. of Massachusetts, Univ. of Massachusetts, Rutgers Univ.*

1:00 V39 **253.21** Methylphenidate enhances early sensory signal processing in the rat visual thalamus through noradrenergic signaling. R. L. NAVARRA*; A. T. GARGIULO; B. D. CLARK; B. D. WATERHOUSE. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*

2:00 V40 **253.22** Communication between the pulvinar and the layers of Area V4 during selective visual attention. R. LY*; S. KASTNER. *Princeton Univ.*

3:00 V41 **253.23** Musically trained mice selectively attend to their own music. U. LIVNEH*; A. ZADOR. *Cold Spring Harbor Lab.*

4:00 V42 **253.24** ● A behavioral paradigm for visuospatial selection in freely-behaving mice. W. YOU*; S. P. MYSORE. *The Johns Hopkins Univ.*

1:00 V43 **253.25** An animal model of “shift work”: The interaction of sex, scheduled food, and sustained attention on daily activity rhythms. M. M. MAHONEY*; R. BALACHANDRAN; P. EUBIG. *Univ. Illinois, Univ. of Illinois at Urbana Champaign.*

2:00 V44 **253.26** Cellular correlates of state dependent and methylphenidate-induced changes in prefrontal cortical activity during a sustained attention task. B. D. CLARK*; K. L. AGSTER; B. D. WATERHOUSE. *Drexel Univ. Coll Med., Drexel Univ. Col. of Med.*

3:00 V45 **253.27** Inhibition and stimulus competition within a GABAergic nucleus in the midbrain attention network. M. STRAKA*; S. MYSORE. *Johns Hopkins Univ.*

4:00 V46 **253.28** Atypical encoding of sensory space by an inhibitory nucleus in the midbrain attention network. N. R. MAHAJAN*; S. P. MYSORE. *Johns Hopkins Univ.*

1:00 V47 **253.29** Methylphenidate-induced modulation of visual evoked potentials and oscillatory states in the rat visual thalamus. L. R. MITCHELL*; R. L. NAVARRA; B. D. CLARK; B. D. WATERHOUSE. *Drexel Univ. Col. of Med.*

2:00 V48 **253.30** A physiological role for locus coeruleus dopamine. A. SONNEBORN*; C. HAMILTON; R. W. GREENE. *Univ. of Texas Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr.*

**POSTER**

**254. Anatomy of Stress, Anxiety, and Fear**

***Theme F: Cognition and Behavior***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 W1 **254.01** Medial prefrontal cortex provides psychological stress signals to the dorsomedial hypothalamus to drive brown adipose tissue thermogenesis and hyperthermia. N. KATAOKA; K. NAKAMURA*. *Nagoya Univ. Grad. Sch. of Med., PRESTO, JST.*

2:00 W2 **254.02** Changes in D2R binding potential within the striatum and PFC are modulated by psychosocial stress exposure and E2 treatment in female rhesus monkeys. M. PEREZ DIAZ*; V. MICHOPOULOS; L. L. HOWELL; M. WILSON. *Yerkes Natl. Primate Res. Ctr., Emory Univ.*

3:00 W3 **254.03** Fkbp5 in the infralimbic cortex modulates fear conditioning and extinction. M. CRIADO MARRERO*; R. MORALES-SILVA; B. VELAZQUEZ; J. PORTER. *Ponce Hlth. Sci. Univ., Univ. of Puerto Rico in Ponce.*

4:00 W4 **254.04** Prolonged elevations in corticosterone induces regressive dendritic spine alterations in the medial prefrontal cortex. R. M. ANDERSON*; S. JOHNSON; M. MILLER; R. GLANZ; S. ROMIG- MARTIN; J. J. RADLEY. *Univ. of Iowa.*

1:00 W5 **254.05** Baboon fetal frontal cortex response to moderate maternal nutrition reduction (MNR) in late gestation. S. YANG; T. NURMAMAT; P. W. NATHANIELSZ; C. LI*. *Univ. Wyoming, Texas Biomed. Res. Inst.*

2:00 W6 **254.06** Selective control of fear expression by manipulation of infralimbic cortex during extinction retrieval. H. KIM; H. CHO; G. J. AUGUSTINE; J. HAN*. *KAIST, KIST, Nanyang Technological Univ., Inst. of Mol. and Cell Biol.*

3:00 W7 **254.07** Posterior insular cortex is required for acquiring a conditioned fear inhibitor and supports fear recall. A. R. FOILB*; J. P. CHRISTIANSON. *Boston Col.*

4:00 W8 **254.08** ● Chronic unpredictable stress dysregulates glutamate transmission in the rat medial prefrontal cortex: A potential role for noradrenergic modulation. J. D. JETT*; L. EVANS; M. PATTON; D. MORILAK. *Univ. Texas Hlth. Sci. Ctr, SA.*

1:00 W9 **254.09** Prefrontal inputs to the amygdala instruct fear extinction memory formation. O. BUKALO*; C. R. PINARD; S. SILVERSTEIN; O. GUNDUZ-CINAR; R. CINAR; C. C. BREHM; N. D. HARTLEY; N. WHITTLE; G. COLACICCO; E. F. BUSCH; S. PATEL; N. SINGEWALD; G. KUNOS; A. HOLMES. *NIH/NIAAA, Ctr. for Neurosci. and Regenerative Med. at the Uniformed Services Univ. of the Hlth. Sci., NIH/NIAAA, Univ. of Innsbruck, Vanderbilt Univ. Med. Ctr.*

2:00 W10 **254.10** Perirhinal cortex involvement in fear extinction using a discontinuous light stimulus. C. A. CALUB*; N. M. POTTER; A. G. BECKNER; A. C. SARDO; S. C. FURTAK. *California State University, Sacramento.*



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

3:00 W11 **254.11** Changes in limbic system responsiveness predict the behavioral emergence of conditioned freezing in developing rats. M. A. BURMAN*; A. D. DEAL; K. E. ERICKSON; J. DIONNE. *Univ. of New England, Univ. of New England.*

4:00 W12 **254.12** Response of the tail of the ventral tegmental area to aversive stimuli. M. BARROT*; M. SÁNCHEZ-CATALÁN; M. MULLER; M. MAJCHRZAK; I. YALCIN. *INCI - CNRS UPR3212, INCI, CNRS, LNCA, UMR 7364, Univ. de Strasbourg, CNRS.*

1:00 W13 **254.13** The role of norepinephrine in the expression of Pavlovian defensive reactions. Y. GU*; R. M. SEARS; E. M. VAZEY; G. S. ASTON-JONES; J. E. LEDOUX. *New York Univ., Nathan Kline Inst., Med. Univ. of South Carolina.*

2:00 W14 **254.14** Vagus nerve simulation enhances extinction of conditioned fear in a rat model of PTSD. L. J. NOBLE*; I. J. GONZALEZ; K. R. RAMANATHAN; B. D. BELFORT; C. K. MCINTYRE. *Univ. of Texas At Dallas.*

3:00 W15 **254.15** Biallelic expression mapping of the imprinted Grb10 locus reveals novel fear-suppressive neurons in the periaqueductal gray. E. SZELENYI*; R. PALANISWAMY; H. SCHIFF; J. TUCCIARONE; J. HUANG; B. LI; P. OSTEN. *Cold Spring Harbor Lab., Stony Brook Univ.*

4:00 W16 **254.16** Topographic stress-induced sensitivity of the dorsal raphe following antidepressant treatment in a rat model of depression. J. A. BABB*; S. E. LINNROS; K. G. COMMONS. *Boston Children's Hosp., Harvard Med. Sch., Uppsala Univ.*

1:00 W17 **254.17** Locus coeruleus-ventral tegmental area neural circuit mediates resilience to social defeat stress. H. ZHANG*; D. CHAUDHURY; B. JUAREZ; A. K. FRIEDMAN; S. M. KU; E. S. CALIPARI; A. R. NECTOW; M. CRUMILLER; J. CHENG; H. SUN; S. SALTON; J. M. FRIEDMAN; J. CAO; M. HAN. *Icahn Sch. of Med. At Mount Sinai, Xuzhou Med. Col., The Rockefeller Univ.*

2:00 W18 **254.18** The effects of isolation stress on UCN1 and TH immunoreactivity in the midbrain of prairie voles. A. T. WALCOTT; C. M. HOSTETLER; A. E. RYABININ*. *Oregon Hlth. and Sci. Univ.*

3:00 W19 **254.19** Critical role of the locus coeruleus-norepinephrine system in social stress-induced cytokine release. J. E. FINNELL*; C. M. LOMBARD; J. R. FADEL; C. S. WOOD; S. K. WOOD. *Univ. of South Carolina Sch. of Med.*

4:00 W20 **254.20** Ventral tegmental area dopamine neurons trigger fear extinction learning. R. LUO*; Y. TAO; L. PRESTON; J. KOIVUMAA; J. JOHANSEN. *RIKEN Brain Sci. Inst. - Wako, Waseda Univ., RIKEN BSI, Tokyo Med. and Dent. Univ.*

1:00 W21 **254.21** Structural and functional connectivity associated with the neuroendocrine response to acute psychosocial stress. M. D. WHEELOCK*; D. RANGAPRAKASH; T. R. OREM; N. HARNETT; K. WOOD; G. DESHPANDE; S. MRUG; D. KNIGHT. *UAB, Auburn Univ.*

2:00 W22 **254.22** Obese rats have enhanced panic-like sensitivity to brief hypercarbic air (CO2) exposure. A. R. ABREU*; A. I. MOLOSH; L. LI; I. F. CALIMAN; C. S. BERNABE; P. L. JOHNSON; R. C. A. DE MENEZES; A. SHEKHAR. *Federal Univ. of Ouro Preto, Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Federal Univ. of Espirito Santo, Vitoria, Indiana Univ. Sch. of Med., Federal Univ. of Ouro Preto, Indiana Univ. Sch. of Med.*

3:00 W23 **254.23** Further evidence of a role for the lateral hypothalamic area juxtadorsomedial region (LHAjd) in the expression of social context-related defensive behaviors. J. D. HAHN; M. J. RANGEL; N. S. CANTERAS*. *USC, Inst. Biomed Sci., Inst. Biomed Sci.*

4:00 W24 **254.24** Prolonged corticosterone exposure decreases neuronal activity and dampens glutamatergic drive to CRH neurons in the paraventricular nucleus of the hypothalamus. N. RASIAH*; J. BAINS. *Hotchkiss Brain Inst. - Univ. of Calgary.*

1:00 W25 **254.25** Use of FDG positron emission tomography to visualize brain activation in a model of stress relief by "comfort" food. A. E. EGAN*; J. C. ELIASSEN; M. NORRIS; L. C. LEMEN; K. LASANCE; Y. M. ULRICH-LAI. *Univ. of Cincinnati, Univ. of Cincinnati, Univ. of Cincinati, Univ. of Cincinnati.*

2:00 W26 **254.26** ▲ Aged garlic extract increases neuropeptide y, superoxide dismutase 2, catalase and glutathione peroxidase mRNA levels in hypothalamus of diabetic rats. M. BARRAGAN-BONILLA; P. AGUILERA; M. ESPINOZA*. *Univ. Autonoma de Guerrero, Inst. Nacional de Neurología y Neurocirugía, Monica Espinoza Rojo.*

3:00 W27 **254.27** Pharmacological inhibition of the psychiatric risk factor FKBP51 has anxiolytic properties. J. HARTMANN*; K. V. WAGNER; S. GAALI; A. KIRSCHNER; C. KOZANY; G. RÜHTER; N. DEDIC; A. S. HAEUSL; L. HOEIJMAKERS; S. WESTERHOLZ; C. NAMENDORF; T. GERLACH; M. UHR; A. CHEN; J. M. DEUSSING; F. HOLSBOER; F. HAUSCH; M. V. SCHMIDT. *Max Planck Inst. of Psychiatry, Lead Discovery Ctr.*

4:00 W28 **254.28** Prostaglandin E2 inhibits GABAergic synaptic transmission onto parvocellular neuroendocrine cells in the paraventricular nucleus of the hypothalamus. W. INOUE*. *Univ. of Western Ontario.*

1:00 W29 **254.29** The lateral septum and anterior hypothalamus work in tandem to regulate defensive burying. S. J. LAMONTAGNE*; M. C. OLMSTEAD; J. L. MENARD. *Queen's Univ.*

2:00 W30 **254.30** ● ▲ The minor spliceosome snRNA's U4atac and U6atac are down regulated in starvation induced stress response. N. STURROCK*; J. SIKKA; M. BAUMGARTNER; C. LEMOINE; R. KANADIA. *Univ. of Connecticut, Univ. of Connecticut.*

**POSTER**

**255. Appetitive and Incentive Learning and Memory I**

***Theme F: Cognition and Behavior***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 W31 **255.01** Delays in proactive inhibition are specific to adolescence. M. CHODAKEWITZ*; H. C. MEYER; D. J. BUCCI. *Dartmouth Col., Dartmouth Col.*

2:00 W32 **255.02** Age differences in the extinction of Pavlovian excitatory responding. D. J. BUCCI*; H. C. MEYER. *Dartmouth Col., Dartmouth Col.*

3:00 W33 **255.03** Response inhibition after extinction: Optogenetic activation of the infralimbic prefrontal cortex reduces the spontaneous recovery and reinstatement of appetitive Pavlovian conditioning. F. LACROIX*; D. SPARKS; C. SANIO; A. CHAPMAN; N. CHAUDHRI. *Concordia Univ.*

4:00 W34 **255.04** Differential recruitment of the medial prefrontal cortex and hippocampal formation during renewal of conditioned responses to food cues in male and female rats. L. C. ANDERSON*; G. D. PETROVICH. *Boston Col.*

1:00 W35 **255.05** Blockade of orexin/hypocretin receptor 1 signaling attenuates Pavlovian cue-food conditioning and extinction. S. E. KEEFER*; S. COLE; H. S. MAYER; G. D. PETROVICH. *Boston Col.*

2:00 W36 **255.06** Disconnection of the medial prefrontal cortex and lateral hypothalamus system prevents cue-potentiated feeding in sated rats. S. COLE*; S. E. KEEFER; H. S. MAYER; G. D. PETROVICH. *Boston Col.*

3:00 W37 **255.07** Individual variability in outcome devaluation and second- order conditioning predict sign-tracking behavior. H. M. NASSER*; Y. CHEN; K. A. FISCELLA; A. B. KAWA; D. J. CALU. *Natl. Inst. of Drug Abuse.*

4:00 W38 **255.08** Disconnection of ventral pallidum and nucleus accumbens shell with DREADDs enhances sign-tracking in rats. S. E. CHANG*; T. P. TODD; K. S. SMITH. *Dartmouth Col.*

1:00 W39 **255.09** Inhibiting ventral pallidum disrupts adaptive salt-seeking behavior in rats. K. J. STANSFIELD*; S. E. CHANG; K. S. SMITH. *Dartmouth Col.*

2:00 W40 **255.10** Genome-wide association study for the propensity to attribute incentive salience to reward cues in outbred rats. A. GILETA*; S. GOPALAKRISHNAN; J. GAO; C. J. FITZPATRICK; S. B. FLAGEL; T. E. ROBINSON; A. A. PALMER. *Univ. of Chicago, Univ. of Michigan, Univ. of Michigan.*

3:00 W41 **255.11** Enhanced cue-triggered motivation in obesity-prone rats; interactions between predisposition and junk-food exposure. R. C. DERMAN*; C. R. FERRARIO. *Univ. of Michigan, Univ. of Michigan.*

4:00 W42 **255.12** Differential changes in appetitive taste memory and aversive new learning induced by prolonged consumption of sugar or high fructose corn syrup. D. BADILLO JUAREZ*; M. MIRANDA. *Inst. De Neurobiología UNAM.*

1:00 W43 **255.13** Differences in cue-directed appetitive behavior and its relation to c-fos expression in the prefrontal cortex. S. M. LEWIS*; D. J. KRAAN; M. H. MONFILS; H. J. LEE. *Univ. of Washington, Univ. of Texas, Univ. of Texas.*

2:00 W44 **255.14** The reinforcement omission effect on the behavioral repertoire of rats with lesions on the nucleus accumbens. J. O. BUENO*; E. F. BERNARDES. *Univ. São Paulo.*

3:00 W45 **255.15** Role of dopamine in learning Pavlovian cues associated with different rates of reward. K. GIRVEN; K. FONZI; I. OLIVA; M. J. WANAT*. *Univ. of Texas at San Antonio.*

4:00 W46 **255.16** How does reward devaluation control behavior? Expectancy and S-R habits in appetitive conditioning. M. R. PAPINI*; A. C. GLUECK; S. E. CONRAD. *Texas Christian Univ.*

1:00 W47 **255.17** Neuronal ensemble characterisation following exposure to reward-associated cues. J. J. ZIMINSKI; E. KOYA*. *Univ. of Sussex, Univ. of Sussex.*

2:00 W48 **255.18** Contribution of lateral habenula to midbrain dopaminergic neurons in the Pavlovian appetitive conditioning. B. CHOI*; D. KIM; J. HAN. *Konkuk Univ.*

3:00 X1 **255.19** Pontomesencephalic tegmental afferents to VTA are necessary to develop prepotent response inhibition. H. YAU*; D. V. WANG; J. TSOU; B. T. CHEN; K. DEISSEROTH; S. IKEMOTO; A. BONCI. *NIH/NIDA, Stanford Univ., Howard Hughes Med. Inst., Johns Hopkins Univ. Sch. of Med.*

4:00 X2 **255.20** Microstructural analysis of cue evoked sucrose consumption and its dependence on dopamine. A. T. LIU*; B. HALBOUT; S. B. OSTLUND. *UC Irvine.*

1:00 X3 **255.21** Modulation of cue-triggered reward seeking by cholinergic signaling in the dorsomedial striatum. S. B. OSTLUND*; A. T. LIU; B. HALBOUT; K. M. WASSUM; N. T. MAIDMENT. *UCI Sch. of Med., UCLA, UCLA Sch. of Med.*

2:00 X4 **255.22** Temporal information is transferred in a general Pavlovian-Instrumental transfer task. R. B. DELLA VALLE; M. S. MATELL*. *Villanova Univ.*

3:00 X5 **255.23** ● Effects of protracted withdrawal from repeated cocaine exposure on goal-directed learning. B. HALBOUT*; A. T. LIU; S. B. OSTLUND. *UC Irvine, Univ. of California Irvine.*

4:00 X6 **255.24** Effect of glycogen synthase kinase-3 inhibition on cocaine cue-conditioned activity. J. F. ROCCA*; R. J. BENINGER. *Queen's Univ.*

**POSTER**

**256. Molecular Mechanisms of Memory Consolidation**

***Theme F: Cognition and Behavior***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 X7 **256.01** Improvement of memory reconsolidation induced by polyaminergic agents involves calcium-dependent protein kinase in rats. M. A. RUBIN*; B. A. GIRARDI; C. SIGNOR; D. A. RIBEIRO; C. F. MELLO. *Federal Univ. of Santa Maria (UFSM).*



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

2:00 X8 **256.02** Sleep-scoring in mice using gamma frequency in the olfactory bulb. S. BAGUR*; M. LACROIX; G. LAVILLEON; K. BENCHENANE. *ESPCI.*

3:00 X9 **256.03** Gene regulatory events in the hippocampus following the contextual fear conditioning. N. YU*; H. KIM; J. CHO; J. CHOI; S. SIM; S. J. KANG; C. KWAK; J. KIM; S. LEE; D. CHOI; N. V. KIM; B. KAANG. *Seoul Natl. Univ.*

4:00 X10 **256.04** Chronic *in vivo* imaging in a H2B::Pa-GFP-expressing transgenic mouse model reveals experience-induced nucleus-scale remodeling of chromatin in neocortical neurons. S. RUMPEL*; D. ASCHAUER; F. GROESSEL; W. HAUBENSAK; M. PETER. *Johannes Gutenberg Univ. Mainz, Res. Inst. of Mol. Pathology (IMP), Univ. of Cambridge.*

1:00 X11 **256.05** The NMDA receptor antagonist (±)-3-(2-Carboxypiperazin-4-yl) propyl-1-phosphonic acid impairs consolidation, but not acquisition, of hippocampal spatial memory in the rat. C. MARSHALL*; D. C. GIDYK; R. J. MCDONALD. *Univ. of Lethbridge.*

2:00 X12 **256.06** Memory reconsolidation of an inhibitory avoidance task in mice involves cytosolic ERK2 bidirectional modulation. M. M. BOCCIA*; M. C. KRAWCZYK; M. G. BLAKE; C. M. BARATTI; A. G. ROMANO; M. FELD. *Univ. of Buenos Aires, Cátedra de Farmacologìa, Lab. de Neurobiología de la Memoria.*

3:00 X13 **256.07** Associative and affective contributions to context fear conditioning. L. M. TURNBULL; A. A. SCHMELING; E. J. DONZIS; B. R. SCHWARCZ; N. C. TRONSON*. *Univ. of Michigan.*

4:00 X14 **256.08** Involvement of δCalcium/calmodulin-dependent protein kinase II in persistent forms of memory. G. P. ZALCMAN*; N. FEDERMAN; A. FISZBEIN; A. ROMANO. *IFIByNE-CONICET, IBioBA-CONICET, IFIByNE-CONICET.*

1:00 X15 **256.09** H2B ubiquitination-dependent histone “cross-talk” is a critical regulator of synaptic plasticity and fear memory formation. T. J. JAROME*; W. M. WEBB; R. B. CREED; F. D. LUBIN. *Univ. of Alabama At Birmingham.*

2:00 X16 **256.10** Cognitive impairments caused by sleep deprivation is prevented by increasing protein synthesis in the hippocampus. J. C. TUDOR*; E. J. DAVIS; C. W. CHUNG; R. HAVEKES; P. PIERRE; T. ABEL. *Univ. of Pennsylvania, Ctr. d’Immunologie de Marseille-Luminy.*

3:00 X17 **256.11** ▲ Dopamine in hippocampus is required for spatial novelty detection and consolidation of an updated memory. D. AVILA AGUIRRE*; F. BERMUDEZ RATTONI. *Univ. Autonoma De Mexico, Univ. Nacional Autonoma de Mexico.*

4:00 X18 **256.12** The essential role of BAF53b in learning-related synaptic structural plasticity and long-term fear memory formation in the lateral amygdala. M. YOO*; K. CHOI; J. SHIM; J. CHOI; J. KIM; J. OH; B. KAANG; J. HAN. *Korea Advanced Inst. of Sci. and Technol., Korea Advanced Inst. of Sci. and Technol., Seoul Natl. Univ.*

1:00 X19 **256.13** The co-repressor SIN3A is a novel transcriptional regulator of Homer1/mGluR5 signaling during memory consolidation. H. SCHOCH; M. S. BRIDI; C. FLORIAN; S. G. POPLAWSKI; G. S. PORCARI; T. ABEL*. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. Paul Sabatier, Univ. of Pennsylvania, Univ. of Pennsylvania.*

2:00 X20 **256.14** Hippocampal BDNF-dependent mechanisms mediate the formation of long-lasting latent memory traces during the infantile amnesia period. A. TRAVAGLIA*; R. BISAZ; C. M. ALBERINI. *New York Univ.*

3:00 X21 **256.15** Sex differences in generalization and molecular mechanisms of context fear conditioning. A. A. SCHMELING*; E. J. DONZIS; L. M. TURNBULL; N. C. TRONSON. *Univ. of Michigan.*

4:00 X22 **256.16** Characterizing sub-stages of Non REM sleep: Importance for memory consolidation. M. M. LACROIX*; S. BAGUR; K. BENCHENANE. *UMR8249 ESPCI CNRS, CNRS UMR8249.*

1:00 X23 **256.17** Promoter specific effects of DREADD modulation on synaptic plasticity and hippocampal learning. A. J. LOPEZ*; E. KRAMAR; J. KWAPIS; A. O. WHITE; D. MATHEOS; A. VOGEL-CIERNIA; M. WOOD. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Davis.*

2:00 X24 **256.18** Expression of a Noonan syndrome-associated mutant PTPN11 in excitatory neurons impairs learning. M. KANG; T. KIM; H. RYU; A. J. SILVA; B. KAANG; Y. LEE*. *Chung-Ang Univ., Seoul Natl. Unviersity, Univ. of California Los Angeles.*

3:00 X25 **256.19** Temporal profile of BDNF-dependent protein synthesis requirement for rat hippocampal memory consolidation: A computational analysis. Y. ZHANG*; P. SMOLEN; D. A. BAXTER; J. H. BYRNE. *Univ. Texas.*

4:00 X26 **256.20** The Role of IL-1 signaling in behavior and neurodegeneration after soman (GD) exposure. T. M. FERRARA-BOWENS*; J. CHANDLER; J. IRWIN; K. LAITIPAYA; L. SHUMWAY; M. WEGNER; E. A. JOHNSON. *USAMRICD, USAMRICD*.

1:00 X27 **256.21** Learning regulates the mRNA demethylase fto and mRNA methylation. B. J. WALTERS*; V. MERCALDO; P. W. FRANKLAND; S. A. JOSSELYN. *Hosp. For Sick Children.*

2:00 X28 **256.22** NF-kappaB regulates DNA demethylation in the hippocampus via Gadd45beta during fear memory formation. F. D. LUBIN*; T. J. JAROME; A. A. BUTLER; N. L. PACHECO; J. N. NICHOLS. *Univ. Alabama Birmingham.*

3:00 X29 **256.23** HDAC3: An epigenetic key to ameliorating synaptic plasticity and memory impairments in the aging brain. J. L. KWAPIS*; Y. ALAGHBAND; E. A. KRAMÁR; D. P. MATHEOS; D. RHEE; A. J. LOPEZ; M. A. WOOD. *Univ. of California, Irvine.*

4:00 X30 **256.24** Extension of the sensitive period for imprinting in chickens by manipulating experience-dependent translation initiation. G. BATISTA*; J. JOHNSON; M. COSTA-MATTIOLI; J. PENA. *Albert Einstein Col. of Med., Baylor Col. of Med.*



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

1:00 X31 **256.25** The effects of post-acquisition blockade of hippocampal NMDA receptor subunit GluN2A and/or GluN2B on spatial memory forgetting. K. SHINOHARA*; T. HATA. *Doshisha Univ., Res. Fellow of Japan Society for the Promotion of Sci.*

2:00 X32 **256.26** Correlation analysis between remote memory and CREB phosphorylation in cerebral cortex using *in vivo* imaging. T. ISHIMOTO*; H. MORI. *Univ. of Toyama.*

3:00 X33 **256.27** The role of neuron-specific nucleosome remodeling complex subunit baf53b in cocaine-associated memories. A. O. WHITE*; D. P. MATHEOS; E. A. KRAMÁR; A. J. LÓPEZ; J. DOAN; M. DAVATOLHAGH; M. WOOD. *Univ. of California Irvine.*

4:00 X34 **256.28** Hippocampal synaptic NF-kappa B during inhibitory avoidance long-term memory consolidation in mice. A. SALLES*; M. BOCCIA; M. BLAKE; N. CORBI; A. ROMANO; R. FREUDENTHAL. *IFIBYNE, CONICET, FFyB, UBA, Consiglio Nazionale delle Ricerche, IFIBYNE, CONICET.*

**POSTER**

**257. Temporal Processing in Entorhinal and Hippocampal Circuits**

***Theme F: Cognition and Behavior***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 X35 **257.01** To extract and interpret dynamics of functional and effective connectivity. H. WANG*; P. P. QUILICHINI; C. BERNARD. *Inst. De Neurosci. Des Systemes, INSERM U1106, Aix-Marseille Univ.*

2:00 X36 **257.02** Reprogramming of the hippocampal circadian clock in epilepsy. C. BERNARD*; A. GHESTEM; K. LUKASIUK; K. DEBSKI; S. SCHOCH; A. BECKER; P. SASSONE-CORSI; N. CEGLIA; P. BALDI. *INSERM U1106, The Nencki Inst. of Exptl. Biol., Inst. für Neuropathologie, Dept. of Pharmacology, UCI, Inst. for Genomics and Bioinformatics, UCI.*

3:00 X37 **257.03** Interictal epileptiform discharges induce pathological hippocampal-cortical coupling in temporal lobe epilepsy. J. GELINAS*; D. KHODAGHOLY; T. THESEN; O. DEVINSKY; G. BUZSAKI. *New York Univ., New York Univ. Langone Med. Ctr., New York Univ., New York Univ.*

4:00 X38 **257.04** A contained closed-loop electrical stimulation system. Z. ZHAO*; D. KHODAGHOLY; J. GELINAS; Y. WAN; G. BUZSAKI. *NYU Langone Med. Ctr., Peking Univ.*

1:00 X39 **257.05** Neurogrid: Large-scale hippocampal-cortical interactions. D. KHODAGHOLY*; J. N. GELINAS; G. BUZSÁKI. *NYU Langone Med. Ctr.*

2:00 X40 **257.06** Replay is supported by a sub-population of CA1 pyramidal cells. A. D. GROSMARK*; G. BUZSAKI. *NYU Neurosci., New York Univ.*

3:00 X41 **257.07** Modulation of neurons and assemblies by sleep. B. O. WATSON*; J. P. GREENE; G. BUZSAKI. *New York Univ., Weill Cornell Med. Col., Univ. of Chicago.*

4:00 X42 **257.08** Physiological properties of the hippocampus-amygdala networks during sleep and wakefulness. G. GIRARDEAU*; I. INEMA; G. BUZSÁKI. *NYU Med. Ctr. Neurosci. Inst.*

1:00 X43 **257.09** Local circuit dynamics and spatial information coding in the hippocampal dentate gyrus. Y. SENZAI*; L. ROUX; E. STARK; G. BUZSÁKI. *New York Univ., Tel Aviv Univ.*

2:00 X44 **257.10** Functional labeling of restricted populations of head direction neurons in the postsubiculum. D. F. ENGLISH*; A. PEYRACHE; S. KILJAN; G. BUZSAKI. *The Neurosci. Institute, New York University, Sch. of Med.*

3:00 X45 **257.11** Transformation of a head-direction signal into a spatial code. A. PEYRACHE*; N. SCHIEFERSTEIN; G. BUZSAKI. *New York Univ. Langone Med. Ctr., New York Univ. Langone Med. Ctr.*

4:00 X46 **257.12** A re-examination of the relationship between rodent dCA1 and behavior. J. D. LONG II*; G. BUZSAKI. *New York Univ.*

1:00 X47 **257.13** Segmentation of space by theta sequences recorded across the longitudinal axis of the hippocampus. S. A. MCKENZIE*; J. PATEL; A. CHADWICK; G. BUZSÁKI. *NYUMC, Univ. of Edinburgh.*

2:00 X48 **257.14** Monolithicalyl integrated micro-LED probe for high-precision optogenetics. F. WU*; E. STARK; K. KIM; G. BUZSAKI; E. YOON. *Univ. of Michigan, New York Univ., Tel Aviv Univ.*

3:00 Y1 **257.15** Mechanisms of theta sequence formation during exploration of a novel environment. C. DRIEU; R. TODOROVA; M. B. ZUGARO*. *CNRS - Collège de France, CNRS - Col. De France.*

4:00 Y2 **257.16** Cross-frequency coupling and network dynamics in entorhinal-hippocampal circuits. A. FERNÁNDEZ RUIZ*; A. OLIVA; G. BUZSÁKI; A. BERÉNYI. *Sch. of Medicine, Univ. of Szeged, Complutense Univ., New York Univ.*

1:00 Y3 **257.17** Targeted transcranial electrical stimulation protocols: Spatially restricted intracerebral effects via improved stimulation and recording techniques. M. VOROSLAKOS*; A. OLIVA; K. BRINYICZKI; T. ZOMBORI; B. IVÁNYI; G. BUZSÁKI; A. BERÉNYI. *Univ. of Szeged, Dept. of Pathology, Neurosci. Inst.*

2:00 Y4 **257.18** Place cells properties in CA1 depend on different inputs. A. OLIVA GONZÁLEZ*; A. FERNÁNDEZ-RUIZ; G. BUZSÁKI; A. BERÉNYI. *Szeged Univ., Complutense Univ., New York Univ.*

3:00 Y5 **257.19** I(h) attenuation impairs learning and underlying entorhinal-hippocampal network oscillations. A. MERSEBURG*; K. MEIER; S. MARGUET; F. MORELLINI; D. ISBRANDT. *DZNE Res. Team, Ctr. for Mol. Neurobio.*

4:00 Y6 **257.20** Development of hippocampal network activity patterns in mice during the first two weeks of life. R. HINSCH*; S. MARGUET; A. SIROTA; W. FAZELI; D. ISBRANDT. *DZNE, BCCN, Univ. children's hospital.*



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

1:00 Y7 **257.21** Burst generation and propagation during hippocampal sharp waves in a lognormal recurrent network model. T. FUKAI*; Y. OMURA; M. M. CARVALHO; K. INOKUCHI. *RIKEN BSI, CREST JST, Univ. of Toyama, Univ. São Paulo.*

2:00 Y8 **257.22** Theta phase precession in spatial non-grid cells in the medial entorhinal cortex. G. W. DIEHL*; O. J. HON; C. C. CANNOVA; M. P. BRANDON; S. LEUTGEB; J. K. LEUTGEB. *UC-San Diego, Kavli Inst. for Brain and Mind.*

3:00 Y9 **257.23** The role of recurrent networks in the medial entorhinal cortex layer II and parasubiculum for grid cell generation. I. ZUTSHI*; V. LILASCHAROEN; M. P. BRANDON; J. K. LEUTGEB; B. K. LIM; S. LEUTGEB. *UC-San Diego, Kavli Inst. for Brain and Mind.*

4:00 Y10 **257.24** Hippocampal and medial entorhinal cortex lesions result in only a transient impairment in delayed spatial alternation: Physiological evaluation of the functional recovery. M. SABARIEGO*; B. L. BOUBLIL; G. DE GUIA; J. K. LEUTGEB; R. E. CLARK; S. LEUTGEB. *UC-San Diego, Veterans Affairs San Diego Healthcare Syst., UC-San Diego, Kavli Inst. for Brain and Mind.*

1:00 Y11 **257.25** Theta oscillations shape the precise temporal response of a network of stellate cells. A. NERU; C. G. ASSISI*. *Indian Inst. of Sci. Educ. and Res.*

**POSTER**

**258. Reward: Motivational Mechanisms I**

***Theme F: Cognition and Behavior***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 Y12 **258.01** Direct evidences for the involvement of orexin-1 receptor in the mesolimbic reward-related behaviors in conditioned place preference paradigm. A. HAGHPARAST*; Z. FATAHI; Z. TASLIMI; M. MORADI. *Neurosci. Res. Center, Shahid Beheshti Univ. of Med. Sci., Hamadan Univ. of Med. Sci.*

2:00 Y13 **258.02** Development of the objective method for evaluating nest building behaviors in mice using a 3-D depth camera. A. TOYODA*; T. GOTO; T. OKAYAMA. *Ibaraki Univ.*

3:00 Y14 **258.03** Exposure to different macronutrients during post-weaning and its effects on the consumption of standard and obesogenic diets in adulthood. J. A. MATA-LUÉVANOS*; J. JUAREZ. *Inst. De Neurociencias, Univ. De Guadala, Inst. De Neurociencias, Univ. De Guadalajara.*

4:00 Y15 **258.04** Emotional modulation on action control in a stop-signal task. H. LEE*; W. KUO. *Natl. Yang-Ming Univ.*

1:00 Y16 **258.05** Basolateral amygdala mu opioid receptor activation and connections to the orbitofrontal cortex mediate outcome-specific Pavlovian-instrumental transfer. N. T. LICHTENBERG*; V. Y. GREENFIELD; A. S. WANG; K. M. WASSUM. *UCLA.*

2:00 Y17 **258.06** Comparison of rapid dopamine signaling dynamics in the nucleus accumbens core and shell during a magnitude-based decision making task. D. A. SACKETT*; M. P. SADDORIS; X. WANG; R. M. CARELLI. *UNC Chapel Hill, Univ. of Colorado, Boulder.*

3:00 Y18 **258.07** Examination of a history of cocaine self-administration on rapid dopamine signaling during a delay discounting task. T. M. MOSCHAK*; D. R. TERRY; R. M. CARELLI. *Univ. of North Carolina.*

4:00 Y19 **258.08** Nucleus accumbens subregions (core vs shell) differentially encode reward-associated cues following reinforcer devaluation. E. A. WEST*; E. L. THOMAS; R. M. CARELLI. *Univ. of North Carolina.*

1:00 Y20 **258.09** Dopamine decreases during extinction and increases during signaled food reward in core, but not shell region of NAc. J. P. HUSTON*; C. BIESDORF; A. WANG; B. TOPIC; D. PETRI; H. MILANI; M. A. DE SOUZA SILVA. *Univ. of Dusseldorf, State Univ. of Maringá.*

2:00 Y21 **258.10** Assessing macronutrient diet preference in rats selectively bred to run long vs short distances. J. R. LEE*; J. MUCKERMAN; B. WAHLE; A. WRIGHT; F. BOOTH; M. WILL. *Univ. of Missouri.*

3:00 Y22 **258.11** Neural responses to subjective and objective properties of food during a reward motivation task. J. WEGMAN*; E. KETEL; I. VAN LOON; M. E. VAN BOCHOVE; D. SCHUTTER; P. SMEETS; J. H. F. BULT; R. COOLS; E. AARTS. *Radboud Univ., Wageningen Univ., Univ. Med. Ctr. Utrecht, NIZO Food Res., Radboudumc.*

4:00 Y23 **258.12** ● MK212 disrupts maternal response through suppressing maternal motivation in rats. R. WU*; M. LI. *Univ. of Nebraska-Lincoln.*

1:00 Y24 **258.13** Positive reinforcement learning is impaired in rats bred for helplessness and not reversible by monoamine oxidase (MAO)-B inhibitor deprenyl. D. SCHULZ*; D. PETRI; J. P. HUSTON; F. A. HENN. *Yeditepe Univ., Univ. of Duesseldorf, Icahn Sch. of Med. at Mount Sinai.*

2:00 Y25 **258.14** Opposing roles for dopamine D1 and D2 receptor expressing accumbens medium spiny neurons in cocaine induced neuroplasticity and reinstated cocaine seeking. J. A. HEINSBROEK*; Y. M. KUPCHIK; W. C. GRIFFIN III; P. W. KALIVAS. *Med. Univ. of South Carolina, Inst. for Med. Res. Israel-Canada, The Hebrew Univ.*

3:00 Y26 **258.15** Junk food consumption induces abnormal food-seeking responses to environmental stimuli in rats. A. R. KOSHELEFF; K. QUIZON; J. ZHOU; J. HSUEH; A. LE; S. B. OSTLUND; N. T. MAIDMENT; N. P. MURPHY*. *UCLA, UCLA, Univ. of California.*

4:00 Y27 **258.16** ▲ Differential effects of ghrelin on alcohol intake in C57BL/6J mice and Sprague Dawley rats. E. T. BROCKWAY; J. A. SELVA; L. J. ZALLAR; E. E. GARLING; H. M. BAUMGARTNER; M. B. SHESKIER; I. MORALES; R. PASTOR; P. J. CURRIE*. *Dept. Psychology, Reed Col., Univ. Jaume I.*

1:00 Y28 **258.17** A role for the accumbens shell - lateral hypothalamus pathway in the inhibition of alcohol seeking. G. GIBSON*; G. P. MCNALLY. *UNSW Australia.*

2:00 Y29 **258.18** ● Affective temperament and smoking history predict a response to anticipated reward in the ventral striatum. Y. OGURA*; Y. WAKATSUKI; T. MIYAMOTO; Y. TSUCHIDA; Y. NAKAI; A. TOYOMAKI; N. HASHIMOTO; T. INOUE; I. KUSUMI. *Hokkaido Univ., Japan Society for the Promotion of Sci., Ryukyu Univ., Univ. of California, San Francisco, Tokyo Med. Sch.*



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

3:00 Y30 **258.19** ● A novel hypocretin receptor 1 antagonist, RTIOX-276, regulates cocaine self-administration and dopamine signaling in the nucleus accumbens core. K. A. LEVY*; J. K. SHAW; D. A. PERREY; Y. ZHANG; R. A. ESPAÑA. *Drexel Univ. Col. of Med., Res. Triangle Inst., Drexel Univ. Col. of Med.*

4:00 Y31 **258.20** A new tool to exam molecular alterations in synapses of neuronal ensembles. F. C. CRUZ*; R. M. LEAO; P. C. BIANCHI; P. CARNEIRO-DE-OLIVEIRA; V. P. SELVAN; G. M. A. LIMA; F. C. COSTA; C. S. PLANETA; B. T. HOPE. *USP, Lab. of Pharmacol., NIH.*

**POSTER**

**259. Dynamic Circuitry of Stress and Anxiety**

***Theme F: Cognition and Behavior***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 Y32 **259.01** The temporal dynamics of fear learning: A single-trial fMRI study. S. YIN*; M. DING; A. KEIL; Y. LIU. *Univ. of Florida, Univ. of Florida, Univ. of California, Davis.*

2:00 Y33 **259.02** ● Light-induced anxiety-like behavior in the unpredictable chronic mild stress model in mice: A time-dependent trajectory based approach. K. MISQUITTA; M. BANASR; E. SIBILLE*. *Campbell Family Mental Hlth. Res. Inst. of CAMH, Univ. of Toronto, Yale Univ., CAMH - Univ. of Toronto.*

3:00 Y34 **259.03** Hippocampal neuronal activation and neurogenesis in a pharmacological model of anxiety. A. R. COSTA*; B. R. LEVONE; C. LINO-DE-OLIVEIRA; T. G. DINAN; O. F. O'LEARY; T. C. M. DE LIMA; J. F. CRYAN. *Univ. Federal De Santa Catarina, Alimentary Pharmabiotic Centre, Univ. Col. Cork, Univ. Col. Cork, Univ. Federal de Santa Catarina.*

4:00 Y35 **259.04** PFC-VTA neuronal substrates for anxiety-related alteration of motivated behavior. J. PARK*; A. DEL ARCO; B. YU; B. MOGHADDAM. *Univ. of Pittsburgh, Carnegie Mellon Univ.*

1:00 Y36 **259.05** The habenulo-raphe circuit is not sensitive to the dimension of behavioral control and mediates the anxiety-like response produced by tailshock. S. D. DOLZANI*; M. V. BARATTA; L. R. WATKINS; S. F. MAIER. *Inst. For Behavioral Genetics, Univ. of Colorado, Univ. of Colorado.*

2:00 Y37 **259.06** Effects of neonatal dopamine depletion on anxiety-related behaviors and c-Fos expression in the dorsal raphe nucleus in adult rats. M. OGATA*; K. NODA; H. AKITA; H. ISHIBASHI. *Dept of Physiol, Kitasato Univ, Sch. Allied Hlth. Sci.*

3:00 Y38 **259.07** Deep brain stimulation in Internal Capsule and ventral Striatum: Effects on spontaneous grooming and anxiety in Sapap3 mutant mice. C. PINHAL; F. SANTANA; L. FELLINGER; I. EHMER; R. HAMELINK; G. FENG; M. FEENSTRA; I. WILLUHN*; D. DENYS. *Netherlands Inst. For Neurosci., Academic Med. Ctr., MIT.*

4:00 Y39 **259.08** ● Evidence for psychosocial stress-induced inflammation, altered dopamine status and impaired reward-directed behaviour in mice. G. BERGAMINI*; H. SIGRIST; S. AUER; J. MECHTERSHEIMER; T. SUTER; B. FERGER; E. SEIFRITZ; C. PRYCE. *Univ. of Zurich, Univ. of Zurich, Boehringer Ingelheim Pharma GmbH & Co. KG, Univ. of Zurich.*

1:00 Y40 **259.09** ● The development of a novel animal model of depression to study the implication of inflammation, stress and hippocampal neurogenesis. K. MUSAELYAN*; M. T. EGELAND; C. M. PARIANTE; C. FERNANDES; S. THURET. *Inst. of Psychiatry, KCL, Inst. of Psychiatry, KCL, Inst. of Psychiatry, KCL.*

2:00 Y41 **259.10** ● Modulation of glutamatergic transmission by amphetamine in cognition related circuits of hippocampus and prefrontal cortex. S. A. NEALE*; P. H. HUTSON; T. E. SALT. *Neurexpert, UCL Inst. of Ophthalmology, Shire Pharmaceut.*

3:00 Y42 **259.11** Infralimbic BDNF regulates extinction of active avoidance. L. E. ROSAS-VIDAL*; W. A. RAMOS-GUASP; G. J. QUIRK. *Univ. of Puerto Rico.*

4:00 Y43 **259.12** Optogenetic silencing of prelimbic cortex in active avoidance. M. M. DIEHL*; J. RODRÍGUEZ-ROMAGUERA; P. A. PAGÁN-RIVERA; G. J. QUIRK. *Univ. of Puerto Rico, Sch. of Med.*

1:00 Y44 **259.13** Inducible pharmacogenetic inhibition of protein synthesis in lateral amygdala. P. SHRESTHA*; P. AYATA; N. HEINTZ; E. KLANN. *NYU, Rockefeller Univ.*

2:00 Z1 **259.14** Adiponectin regulates anxiety behaviors and DA neuron firing in the VTA. F. SUN; S. CHENG; X. FANG*; J. LIU; D. LODGE; X. LU. *Univ. of Texas Hlth. Sci. Ctr.*

3:00 Z2 **259.15** Antidepressant effects of ketamine in male and female rats. A. SARKAR*; F. JOHNSON; M. KABBAJ. *Florida State Univ., Florida State Univ.*

4:00 Z3 **259.16** ▲ Neuro circuitry changes in response to unconditioned fear exposure. A. MITCHELL*; A. F. MOHED; R. E. JACOBS; E. L. BEARER. *Univ. of New Mexico Hlth. Sci. Ctr., Beckman Institute, California Inst. of Technol.*

1:00 Z4 **259.17** Differential medial prefrontal cortex Egr-1 expression in variants of standard contextual fear conditioning. T. CHAKRABORTY*; A. ASOK; W. SCHREIBER; M. E. STANTON; J. B. ROSEN. *Univ. of Delaware.*

2:00 Z5 **259.18** The Lateral Hypothalamic Parvafox-nucleus projects to emotional circuits. A. BILELLA*; G. ALVAREZ-BOLADO; M. R. CELIO. *Univ. of Fribourg, Univ. of Heidelberg.*

**POSTER**

**260. Song Learning and Auditory Processing**

***Theme F: Cognition and Behavior***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 Z6 **260.01** Differential contributions of FoxP2 isoforms to vocal learning and variability. Z. D. BURKETT*; J. A. MORALES; S. A. WHITE. *UCLA, UCLA.*



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

2:00 Z7 **260.02** Beyond sensorimotor learning: Striatal FoxP2 affects maintenance of learned vocalizations in adult zebra finches. N. F. DAY*; C. Y. KIM; S. A. WHITE. *UCLA.*

3:00 Z8 **260.03** Neural representation of learned vocal behavior in motor cortex of juvenile songbirds. R. C. YUAN*; S. W. BOTTJER. *USC.*

4:00 Z9 **260.04** Timing vs. sequencing in song learning. J. HYLAND BRUNO*; O. TCHERNICHOVSKI. *Hunter Col.*

1:00 Z10 **260.05** ▲ Sequentially tutored zebra finches exhibit mirror patterns of lateralized neuronal activation in the avian auditory cortex. E. M. OLSON; R. K. MAEDA; S. M. H. GOBES*. *Wellesley Col.*

2:00 Z11 **260.06** mTOR cascade signaling in the songbird auditory cortex is required for developmental song learning. S. AHMADIANTEHRANI*; S. E. LONDON. *Univ. of Chicago, Univ. of Chicago.*

3:00 Z12 **260.07** Epigenetic histone modifications correlate with learning potential in the auditory forebrain of juvenile songbirds. S. E. LONDON*; T. K. KELLY. *Univ. of Chicago, Active Motif.*

4:00 Z13 **260.08** miR-9 regulates vocal learning and performance in the zebra finch. Z. SHI*; A. WEBER; X. LI. *Neurosci. Center, Louisiana State Univ. He.*

1:00 Z14 **260.09** Familial genetic bias in vocal babbling pattern at early song development. D. SATO; K. WADA*. *Hokkaido Univ., Hokkaido Univ.*

2:00 Z15 **260.10** Genetic constraints on the learning of a complex song phenotype. D. G. METS*; M. S. BRAINARD. *UCSF/HHMI.*

3:00 Z16 **260.11** Rapid learning of auditory discrimination via observation and its limited generalization. G. NARULA*; R. H. R. HAHNLOSER. *Inst. of Neuroinformatics, Univ. of Zurich - ETH Zurich.*

4:00 Z17 **260.12** What information can zebra finches extract from video clips? I. LJUBICIC*; J. GORDON; O. TCHERNICHOVSKI. *Hunter College, CUNY, Grad. Center, CUNY.*

1:00 Z18 **260.13** The brain in flux: Transient changes in hemispheric lateralization accompany prolonged exposure to a novel auditory environment. L. YANG*; D. S. VICARIO. *Rutgers Univ.*

2:00 Z19 **260.14** Differential effects of experience on immediate early gene response in black-capped chickadees. A. H. HAHN*; L. M. GUILLETTE; D. LEE; N. MCMILLAN; J. HOANG; C. B. STURDY. *Univ. of Alberta.*

3:00 Z20 **260.15** Rhythm does not influence ZENK expression in NCM of zebra finches up to day 45. J. A. LAMPEN*; K. JONES; J. MCAULEY; S. CHANG; J. WADE. *Michigan State Univ., Michigan State Univ., Univ. of Michigan.*

4:00 Z21 **260.16** State-dependent auditory selectivity for familiar songs in the auditory association cortex of juvenile songbirds. S. YANAGIHARA*; Y. YAZAKI-SUGIYAMA. *Okinawa Inst. of Sci. and Technol.*

1:00 Z22 **260.17** Courtship song preferences in female zebra finches arise independently of early auditory experience. Y. CHEN*; O. CLARK; V. NG; S. C. WOOLLEY. *McGill Univ., McGill Univ.*

2:00 Z23 **260.18** Experimental manipulations in the developing songbird affect both vocal imitation and auditory memories. D. S. VICARIO*; B. BELL; M. L. PHAN; K. L. BUCHANAN. *Rutgers Univ., Deakin Univ.*

3:00 Z24 **260.19** Longitudinal *in vivo* diffusion tensor imaging study maps structural plasticity in the brain of juvenile male zebra finches throughout the critical period for vocal learning. J. HAMAIDE; G. DE GROOF; A. VAN DER LINDEN*. *Univ. of Antwerp.*

4:00 Z25 **260.20** Sensory expectation in male HVC for call communication in zebra finches. S. MA*; A. TER MAAT; M. GAHR. *Max-Planck-Institute For Ornithology, Grad. Sch. of Systemic Neurosciences (GSN).*

1:00 Z26 **260.21** Vocal sequence predictability modulates traveling wave activity in songbird auditory forebrain. G. J. BECKERS*; J. A. BROEKHUIZEN; N. C. RATTENBORG; J. J. BOLHUIS. *Utrecht Univ., Max Planck Inst. for Ornithology.*

2:00 Z27 **260.22** Inhibition systematically silences an instructive signal during motor learning. D. VALLENTIN*; G. KOSCHE; D. LIPKIND; M. A. LONG. *NYU Sch. of Medicine, Dept. of Physiol. and Neurosci., Dept. of Psychology, Lab. of Vocal Learning, Hunter Col.*

3:00 Z28 **260.23** High order interactions between synapses affect the average dynamics of the synaptic efficacy in recurrent neural networks. N. RAVID*; Y. BURAK. *Hebrew Univ., Hebrew Univ. of Jerusalem, Hebrew Univ. of Jerusalem.*

4:00 Z29 **260.24** Sequence processing in a songbird secondary auditory area. N. GIRET*; A. CAZALA; C. DEL NEGRO. *Neurosci. Paris Saclay Institute, UMR CNRS 9197.*

1:00 Z30 **260.25** Neuritin (CPG-15) may contribute to synaptic plasticity in brain areas for sensory song learning during development. B. BORDEN*; S. E. LONDON. *Inst. For Mind and Biol., Univ. of Chicago.*

## POSTER

### 261. Molecular Techniques

***Theme G: Novel Methods and Technology Development***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 Z31 **261.01** Rapid molecular profiling of genetically defined cell types using viral TRAP. E. F. SCHMIDT*; A. R. NECTOW; M. I. EKSTRAND; A. MOUSA; K. L. MCGUIRE; C. E. SFERRAZZA; B. C. FIELD; Y. LIANG; G. S. RABINOWITZ; K. SAWICKA; N. HEINTZ. *Rockefeller Univ., Rockefeller Univ., Rockefeller Univ., Rockefeller Univ., Howard Hughes Med. Inst.*

2:00 Z32 **261.02** Sequence specific radiolytic footprinting study of monomer, oligomeric and fibrillar Aβ42. A. KLINGER*; J. KISELAR; A. PARAVASTU; T. ROSENBERRY. *Dechiperbio, Case Western Reserve Univ., Florida State Univ., Mayo Clin.*



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

3:00 Z33 **261.03** ● MojoSort™, a versatile nanoparticle for magnetic isolation of CX3CR1+ cells with high purity, yield, and preserved functionality. H. ZHANG; M. TAM; D. GOHEL; J. KOURY; T. OIDA; X. ZHAO; S. GARCIA MOJICA; X. YANG; M. TAYLOR*. *BioLegend, Biolegend.*

4:00 Z34 **261.04** Pre-sequencing quality control metrics predicting success of sequencing single-cell transcriptomes. M. VAN DEN HURK*; C. BARDY; J. ERWIN; B. P. F. RUTTEN; G. KENIS; H. W. M. STEINBUSCH; F. H. GAGE. *Maastricht Univ., Salk Inst. for Biol. Studies.*

1:00 Z35 **261.05** Practical optimization of *in situ* hybridization procedure for the detection of microRNAs and mRNA expression in brain tissues. A. KASAI*; S. KAKIHARA; R. OKADA; K. HAZAMA; T. NAKAZAWA; K. NAGAYASU; A. HAYATA-TAKANO; N. SHINTANI; H. HASHIMOTO. *Osaka Univ.*

2:00 Z36 **261.06** Improved gene delivery to adult mouse spinal cord through the use of hybrid adeno-associated viral (aav) vectors. J. J. SIU*; C. WANG; L. CAO. *Ohio State Univ., Ohio State Univ.*

3:00 Z37 **261.07** Exposure to blue light alters gene expression in murine microglia. K. P. CHENG*; S. K. BRODNICK; J. WILLIAMS; J. J. WATTERS. *Univ. of Wisconsin Madison, Univ. of Wisconsin Madison.*

4:00 Z38 **261.08** A convenient real-time neuronal molecule tracking system using a novel bidirectional-expressing system. Y. YANG*; Y. GENG; J. CHU; M. Z. LIN. *Stanford Univ., Shenzhen Inst. of Advanced Technology, Chinese Acad. of Sci.*

1:00 Z39 **261.09** A single vector platform for high-level gene transduction of central neurons with Tet-Off adeno-associated virus. H. HIOKI*; J. SOHN; M. TAKAHASHI; S. OKAMOTO; T. KANEKO. *Kyoto Univ. Grad. Sch. of Med.*

2:00 Z40 **261.10** Generation of human iN cell line. S. LAU*; N. AVALIANI; A. HEUER; M. KOKAIA; M. PARMAR. *Lund Univ., Lund Univ., Lund Univ.*

3:00 Z41 **261.11** Patient centric gene targets for silencing the Huntington's disease mutation in adult and juvenile HD. P. DENG*; K. FINK; A. KOMARLA; J. HALMAI; A. TORREST; J. GUTIERREZ; T. TEMPKIN; V. WHEELOCK; L. CARVAJAL-CARMONA; D. SEGAL; J. NOLTA. *UC Davis, Univ. of California Davis Hlth. Systems, Univ. of California Davis Hlth. Systems.*

4:00 Z42 **261.12** Inhibition of microRNA-128 promotes excitability of dissociated cortical networks in a multiwell microelectrode array assay *in vitro*. K. MCSWEENEY*; A. B. GUSSOW; S. BRADRICK; S. PETROVSKI; D. MILLARD; W. N. FRANKEL; D. B. GOLDSTEIN. *Columbia Univ., Duke Univ., Duke Univ., Univ. of Texas Med. Br., Axion Biosystems, The Jackson Lab.*

**POSTER**

## 262. Genomics, Proteomics, and Systems Neurobiology

***Theme G: Novel Methods and Technology Development***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 Z43 **262.01** L-to-D-amino acid isomerization of peptides in the nervous system. H. TAI*; I. LIVNAT; E. T. JANSSON; S. S. RUBAKHIN; J. V. SWEEDLER. *Univ. of Illinois At Urbana-Champaign.*

2:00 Z44 **262.02** Neurosystematics and genealogy of neurons: Single-cell sequencing and computational approaches to reconstructing the natural classification of neural systems across species. L. L. MOROZ*; A. B. KOHN; C. BOSTWICK; E. DABE; G. WINTERS; Q. YANG; R. D. HAWKINS; K. KOKOT; N. WHELAN; K. HALANYCH; J. RUSSO; I. MOROZOVA; S. KALACHIKOV; J. JU. *Univ. of Florida, Univ. of Florida, McKnight Brain Inst., Univ. of Florida, Columbia Univ., New York State Psychiatric Inst., Auburn Univ., Columbia Univ., Columbia Univ.*

3:00 AA1 **262.03** Development of a novel tool for the assessment of health outcomes and sickness behavior in rodents. E. B. ENGLER-CHIURAZZI*; D. N. DOLL; A. E. KERR; B. L. UNDERWOOD; J. H. WIMSATT; J. W. SIMPKINS. *West Virginia Univ., West Virginia Univ., West Virginia Univ., West Virginia Univ.*

4:00 AA2 **262.04** Strategy for achieving a complete cns transcriptome for *Aplysia*, a model system in learning and memory. P. SHRESTHA*; J. ORVIS; L. J. TALLON; A. MAHURKAR; C. M. FRASER; T. W. ABRAMS. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

1:00 AA3 **262.05** ● A novel method for cell specific labeling of the nascent proteome. R. M. BARRETT*; H. LIU; R. H. GOODMAN; M. S. COHEN. *Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ.*

2:00 AA4 **262.06** UnipicK+ for efficient collection of single cells from cell cultures and microdissection of complex tissues with subsequent dispensing of acquired material. S. L. KARSTEN*; A. ZAVALA; Z. MA; L. C. KUDO. *NeuroInDx, Inc.*

3:00 AA5 **262.07** Single-neuron lipidomics analysis of hippocampal granule cells. C. B. MERRILL*; A. ARMIROTTI; A. BASIT; Y. JIA; C. M. GALL; G. LYNCH; D. PIOMELLI. *Univ. of California-Irvine, Inst. Italiano di Tecnologia.*

4:00 AA6 **262.08** Proteomic quantification and site-mapping of s-nitrosylated proteins using isobaric iodotmt reagents. Z. QU; R. BOMGARDEN; R. VINER; J. LI; J. ROGERS; J. CHENG; C. GREENLIEF; J. CUI; D. LUBAHN; G. SUN; Z. GU*. *Univ. Missouri Sch. Med., Thermo Fisher Scientific, Thermo Fisher Scientific, Univ. of Missouri Col. of Engin., Univ. of Missouri Col. of Arts and Sci., Univ. Missouri Sch. Med.*

1:00 AA7 **262.09** ● Western blot optimization using BlotCycler, automated western blot processor. A. MARGULIS; D. P. CHIMENTO; A. ZAORSKI; R. YUKHANANOV*. *Precision Biosystems, Rockland Immunochemicals, Inc.*



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

2:00 AA8 **262.10** ● Top down proteomics enables quantitative analysis of mouse brain tissue proteoforms. P. THOMAS*; K. KIM; R. T. FELLERS; R. D. LEDUC; B. P. EARLY; S. S. RUBAKHIN; E. V. ROMANOVA; J. A. ZOMBECK; J. S. RHODES; J. V. SWEEDLER; N. L. KELLEHER. *Northwestern Univ., Univ. of Illinois, Urbana-Champaign.*

3:00 AA9 **262.11** Single-neuron methylomes and transcriptomes: Determining the epigenomic basis of neuronal identity. E. C. DABE*; R. S. SANFORD; A. B. KOHN; L. L. MOROZ. *Univ. of Florida Whitney Lab., McKnight Brain Institute, Univ. of Florida.*

4:00 AA10 **262.12** Neurometabolomic profiling of neurotransmitters after repeated exposure of Pacific ciguatoxin-1. C. H. E. MA*; E. N. Y. LEI; N. P. B. AU; G. KUMAR; Y. L. MAK; L. L. CHAN; P. K. S. LAM; M. H. W. LAM. *City Univ. of Hong Kong, City Univ. of Hong Kong, City Univ. of Hong Kong, Res. Ctr. for the Oceans and Human Health, City Univ. of Hong Kong Shenzhen Res. Inst.*

1:00 AA11 **262.13** ● Post-sampling changes in opioid peptide levels and the effect of tissue heat stabilization. M. SÖDERQUIST*; L. SEGERSTRÖM; M. BORÉN; I. NYLANDER. *Denator AB, Uppsala Univ.*

2:00 AA12 **262.14** Fractionation dependent improvements in proteome resolution in the mouse hippocampus by isoelectric focusing and mass spectrometry. J. L. BUNDY*; R. S. NOWAKOWSKI. *Florida State Univ. Col. of Med.*

3:00 AA13 **262.15** The effect of elevated aSyn expression on the phosphoproteome in neuronal cells. R. J. SCHUSTER*; L. L. PARKER; J. ROCHET. *Purdue Univ., Univ. of Minnesota, Purdue Univ.*

4:00 AA14 **262.16** Quantitative proteomic analysis of brain protein levels in mice after transient cerebral ischemic injury using isobaric DiART sixplex reagents with tandem mass spectrometry. H. SONG*; H. ZHOU; Z. QU; D. Y. CHUANG; S. CHEN; S. LI; J. LI; J. CHENG; M. C. GREENLIEF; D. B. LUBAHN; J. CUI; A. SIMONYI; G. Y. SUN; Z. GU. *Univ. of Missouri, Columbia, Ctr. for Translational Neuroscience, Univ. of Missouri Sch. of Med., Ctr. for Botanical Interaction Studies, Univ. of Missouri, Univ. of Missouri Sch. of Med., Univ. of Maryland, Informatics Institute, Univ. of Missouri, Univ. of Missouri.*

1:00 AA15 **262.17** ● Sample preparation of brain tissue for extraction of β-amyloid and other neuronal markers. S. GUTIERREZ*; I. STRUG; J. L. SMITH; T. NADLER. *EMD Millipore.*

2:00 AA16 **262.18** 4-Thiouracil tagging of RNA for transcriptional characterization of excitatory forebrain neurons. D. F. ALZATE-CORREA*; K. SAKAMOTO; K. KARELINA; K. F. HANSEN; K. HOYT; K. OBRIETAN. *The Ohio State Univ., The Ohio State Univ., Univ. of North Carolina.*

3:00 AA17 **262.19** Selective induction of alternate gene transcripts by cocaine treatment. M. A. ZYGMUNT*; J. RODRIGUEZ PARKITNA; S. GOLDA; M. PIECHOTA; J. FICEK; M. KOROSTYNSKI. *Inst. of Pharmacology, PAS.*

4:00 AA18 **262.20** Involvement of long non-coding RNAs in cerebral changes associated with acute-liver failure. V. R. SILVA*; A. S. HAZELL. *UNIVERSITY OF CAMPINAS, UNIVERSITY OF MONTREAL.*

1:00 AA19 **262.21** The neurobehavioral phenotypes of the C57BL/6NJ substrain are not altered by genetic rescue of the Crb1$^{rd8}$ retinal degeneration mutation. S. J. SUKOFF RIZZO*; G. WELLS; S. BURRILL; J. RYAN; L. C. ANDERSON; M. P. KREBS; P. M. NISHINA; M. V. WILES. *The Jackson Lab.*

2:00 AA20 **262.22** Comprehensive transcriptional atlas of primate brain development. J. A. MILLER*; T. BAKKEN; S. DING; S. SUNKIN; K. SMITH; L. NG; A. SZAFER; J. GOLDY; C. LEE; A. EBBERT; R. DALLEY; N. DEE; J. ROYALL; P. D. PARKER; Z. RILEY; Z. MOLNAR; R. HEVNER; D. AMARAL; M. HAWRYLYCZ; J. HOHMANN; A. JONES; J. PHILLIPS; P. WOHNOUTKA; C. DANG; A. BERNARD; E. LEIN. *Allen Inst. For Brain Sci., Univ. of Oxford, Univ. of Washington, UC Davis.*

**POSTER**

**263. Optical Methods II**

***Theme G: Novel Methods and Technology Development***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 AA21 **263.01** Modeling of inhibition of action potentials due to infrared laser heating. M. GANGULY*; K. M. SHAW; M. W. JENKINS; H. J. CHIEL; E. D. JANSEN. *Vanderbilt Univ., Case Western Reserve Univ., Case Western Reserve Univ.*

2:00 AA22 **263.02** Infrared inhibition of capsaicin evoked afferent potentials. J. FORD*; M. JENKINS; H. CHIEL; E. D. JANSEN. *Vanderbilt Univ., Case Western Reserve Univ.*

3:00 AA23 **263.03** ▲ Optical inhibition for selective block of unmyelinated axonal subpopulations within nerves. E. LOTHET*; H. LU; Y. WANG; C. HORN; E. D. JANSEN; H. CHIEL; M. JENKINS. *Case Western Reserve Univ., Case Western Reserve Univ., Case Western Reserve Univ., Univ. of Pittsburgh, Vanderbilt Univ.*

4:00 AA24 **263.04** Cortex-wide cellular-resolution imaging access in head-fixed behaving mice using chronically implanted glass cranial windows covering the entire dorsal cortical surface. B. S. HUANG*; S. VRONTOU; A. BELLAFARD; P. GOLSHANI. *UCLA Sch. of Med.*

1:00 AA25 **263.05** *In vivo* patterned photo-stimulation and imaging in independent axial planes. M. S. KOH; F. ANSELMI*; A. BANERJEE; M. B. DAVIS; D. F. ALBEANU. *Cold Spring Harbor Lab.*

2:00 AA26 **263.06** Effective optical neural stimulation using localized surface plasmon resonance of gold nanoparticles. K. EOM*; S. HWANG; T. KANG; S. YUN; S. SHIM; G. CHOI; K. BYUN; S. JUN; S. KIM. *Seoul Natl. Univ., Ewha Womans Univ., Kyung Hee Univ., Ewha Womans Univ.*

3:00 AA27 **263.07** Micro-point photothermal stimulation for inhibition of single neuron activity. S. YOO; J. PARK; Y. NAM*. *KAIST.*

4:00 AA28 **263.08** ● ScanImage for closed-loop cellular resolution brain imaging and stimulation with two-photon laser scanning microscopy. N. CLACK; E. KANG; G. JAINDL; J. KING; J. ROCAMORA; B. KIMMEL; V. IYER*. *Vidrio Technologies, LLC.*

1:00 AA29 **263.09** ● Wavesurfer: A flexible application for neurophysiology data acquisition. A. L. TAYLOR*; B. J. ARTHUR; H. INAGAKI; J. YU; X. ZHAO; C. GRIENBERGER; S. WEGENER; D. HUNT; M. KOYAMA; V. JAYARAMAN; J. MAGEE; N. SPRUSTON; K. SVOBODA. *Janelia Farm, HHMI Janelia Res. Campus.*

2:00 AA30 **263.10** A novel wearable NIRS sensor module detects optical signal from every positions of head. H. EDA*; M. YAMAZAKI; K. SOETA; Y. OHTAKI; M. SAKURAI; T. YAMAUCHI; T. FUJITA. *Grad. Sch. For GPI, Daito Bunka Univ., ALPS ELECTRIC CO., LTD, Genial Light.co., LTD.*

3:00 AA31 **263.11** ● Can wearable NIRS capture brain activities comparably to EEG? M. YAMAZAKI*; H. EDA. *Daito Bunka Univ., Grad. school for GPIHamamatsu.*

4:00 AA32 **263.12** Spike detection with biophysical models for GCaMP6 and other multivalent calcium indicator proteins. D. S. GREENBERG*; D. J. WALLACE; J. T. VOGELSTEIN; J. N. D. KERR. *Res. Ctr. Caesar: A Max Planck Inst., Res. Ctr. Caesar: A Max Planck Inst., Johns Hopkins Univ.*

1:00 AA33 **263.13** An algorithm for identification of structures from fluorescently labeled neuronal populations validated with simultaneous electrophysiological and 2-photon imaging recordings, *in vivo*. K. VOIT*; D. J. WALLACE; J. N. D. KERR; D. S. GREENBERG. *Res. Ctr. Caesar: A Max Planck Inst.*

2:00 AA34 **263.14** DAQLab: A hierarchical data acquisition and task control software for imaging. A. NEGREAN; H. MANSVELDER*. *Neurosci. Campus Amsterdam.*

3:00 AA35 **263.15** Two-photon imaging of light-induced nociceptive processing *in vivo*. H. C. JOHANNSSEN*; H. U. ZEILHOFER. *Univ. of Zurich, Univ. of Zurich and Swiss Federal Inst. of Technol. (ETH) Zurich.*

4:00 AA36 **263.17** 3D imaging of neurons *in vivo* using a variable focus fiber-coupled microscope. B. OZBAY*; J. T. LOSACCO; D. RESTREPO; R. CORMACK; J. T. GOPINATH; V. M. BRIGHT; R. WEIR; E. A. GIBSON. *Univ. of Colorado Denver, Univ. of Colorado Denver, Univ. of Colorado Boulder, Univ. of Colorado Boulder.*

1:00 AA37 **263.18** Strategic positioning and characterization of the SH-SY5Y human neuroblastoma cell line. C. A. MANGOLD; M. M. SHIPLEY; T. J. HUANG; M. L. SZPARA*. *Pennsylvania State Univ., Pennsylvania State Univ.*

2:00 AA38 **263.19** ● *In vivo* characterization of genetic expression of virus-transduced calcium indicators in retinal ganglion cells using a funduscope. Y. CHANG*; S. T. WALSTON; R. H. CHOW; J. D. WEILAND. *USC, USC, USC, USC.*

3:00 AA39 **263.20** ● Mapping receptive fields of foveal ganglion cells in the living primate eye. L. YIN*; Q. YANG; J. ZHANG; D. R. WILLIAMS; W. H. MERIGAN. *Univ. of Rochester.*

4:00 AA40 **263.21** Research Scientist. O. ASSAYAG*; R. CONTI; M. GUILLON; V. DE SARS; V. EMILIANI. *Intelligent Imaging Innovations, Neurophotonics Lab.*

1:00 AA41 **263.22** Unraveling circuit mechanisms: Linking circuits components to behavioral parameters through 3D holographic optogenetics. J. C. DONOVAN*; M. DAL MASCHIO; H. BAIER. *Max Planck Inst. of Neurobio., UCSF.*

2:00 AA42 **263.23** Development of novel fast-response GCaMP6 sensors for monitoring neuronal action potential. N. HELASSA; B. PODOR; A. FINE; K. TÖRÖK*. *SGUL, Dalhousie Univ.*

**POSTER**

**264. Optical Methods III**

***Theme G: Novel Methods and Technology Development***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 AA43 **264.01** Probing the retinal circuit with computer generated holography and two photon calcium imaging. G. L. SPAMPINATO*; E. RONZITTI; E. PAPAGIAKOUMOU; H. KHABOU; D. DALKARA; S. PICAUD; O. MARRE; V. EMILIANI. *The Vision Inst., UPMC, Univ. Paris Descartes, CNRS, INSERM.*

2:00 AA44 **264.02** Video-rate monitoring of calcium signals with HiLo microscopy. E. RONZITTI*; M. A. LAUTERBACH; J. STERNBERG; C. WYART; V. EMILIANI. *Univ. Paris Descartes - CNRS, Inst. du Cerveau et de la Moelle Épinière, INSERM, CNRS, UPMC Univ.*

3:00 AA45 **264.03** ● Design and evaluation of an all-optical electrophysiology workstation integrating two-photon imaging, two-photon digital holographic photostimulation, and temporal focusing. K. KILBORN*; O. ASSAYAG. *3i, 3i.*

4:00 AA46 **264.04** Phase-based light shaping improves the spatial specificity of calcium and voltage fluorescence functional imaging. V. ZAMPINI*; D. TANESE; A. J. FOUST; E. PAPAGIAKOUMOU; M. CANEPARI; V. EMILIANI. *Paris Descartes Univ., Lab. Interdisciplinaire de Physique, Univ. J. Fourier.*

1:00 AA47 **264.05** Three-dimensional simultaneous photoconversion of neuronal ensembles with single-cell resolution. O. HERNANDEZ; E. PAPAGIAKOUMOU; C. WYART; V. EMILIANI*. *CNRS-University Paris Descartes, Inst. du Cerveau et de la Moelle Épinière (ICM), INSERM, CNRS, UPMC.*

2:00 AA48 **264.06** Optogenetic, calcium-sensing, and chemogenetic mouse models available from the JAX repository. M. SASNER*; S. F. ROCKWOOD; J. BECKWITH. *The Jackson Lab.*

3:00 BB1 **264.07** Improved red fluorescent genetically-encoded calcium indicators for *in vivo* imaging. H. DANA*; Y. SUN; J. P. HASSEMAN; G. TSEGAYE; E. R. SCHREITER; B. LIN; S. D. BRENOWITZ; B. MOHAR; V. JAYARAMAN; L. L. LOOGER; K. SVOBODA; D. S. KIM. *Howard Hughes Med. Inst., Weizmann Inst. of Sci.*

4:00 BB2 **264.08** Multi-color genetically-encoded calcium indicators for fast-spiking neurons in *Drosophila*. Y. SUN*; D. HOD; J. P. HASSEMAN; G. TSEGAYE; G. HOLT; E. R. SCHREITER; A. NERN; M. REISER; K. SVOBODA; L. L. LOOGER; V. JAYARAMAN; D. S. KIM. *HHMI Janelia.*

1:00 BB3 **264.09** Multisite two-photon three-dimensional random access *in vivo* calcium imaging. S. J. YANG*; W. ALLEN; I. V. KAUVAR; A. ANDALMAN; N. YOUNG; C. K. KIM; K. DEISSEROTH. *Electrical Engin., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*



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

2:00 BB4 **264.10** Simultaneous 3-D optogenetics and volumetric imaging on neural circuits *in vivo*. W. YANG; L. CARILLO-REID; J. K. MILLER; R. YUSTE; D. S. PETERKA*. *Columbia Univ.*

3:00 BB5 **264.11** Modulation of spinal motoneurons recruitment by mechanosensory feedback during ongoing locomotion. S. KNAFO*; C. DICKEY; K. FIDELIN; U. BÖHM; H. PASCAL-MOUSSELARD; C. WYART. *Inst. Du Cerveau Et De La Moelle Épinière, Inst. du cerveau et de la Moelle épinière.*

4:00 BB6 **264.12** ● Single emitter light distribution in homogenous brain tissue for optogenetic applications. D. ANGELEY; I. D. GALLAGER*; D. ANDERSEN. *Circuit Therapeut.*

1:00 BB7 **264.13** Novel organic light emitting diodes for optogenetic experiments. A. SHAH*; A. SRIDHARAN; J. SMITH; J. CHRISTEN; J. MUTHUSWAMY. *Arizona State Univ.*

2:00 BB8 **264.14** Nanomachined tapered optical fibers for optogenetics. M. DE VITTORIO*; F. PISANELLO; L. SILEO; M. PISANELLO; I. A. OLDENBURG; A. DELLA PATRIA; J. A. ASSAD; B. L. SABATINI. *Inst. Italiano Di Tecnologia, Univ. del Salento, Harvard Med. Sch., Harvard Med. Sch., Inst. Italiano Di Tecnologia.*

3:00 BB9 **264.15** Epidural optic fiber implant for spinal optogenetics. R. P. BONIN*; F. WANG; M. DESROCHERS-COUTURE; M. BOULANGER; A. GASECKA; D. COTE; Y. DE KONINCK. *Univ. of Toronto, Laval Univ., Laval Univ., Laval Univ.*

4:00 BB10 **264.16** Tapered fiber optical waveguide for homogeneous *in vivo* light delivery in extended brain structures. F. PISANELLO*; I. A. OLDENBURG; L. SILEO; M. S. EMARA; A. DELLA PATRIA; G. MANDELBAUM; M. PISANELLO; B. SPAGNOLO; B. L. SABATINI; M. DE VITTORIO. *Inst. Italiano Di Tecnologia, Harvard Med. School, Howard Hughes Med. Inst., Univ. del Salento.*

1:00 BB11 **264.17** A miniature wireless device for movement-triggered deep-brain optical stimulation in rats. M. PASQUET*; L. PETIT; D. ROBBE. *INMED.*

2:00 BB12 **264.18** LED-based neural probes for optogenetics. M. SCHWAERZLE*; F. POTHOF; O. PAUL; P. RUTHER. *Univ. of Freiburg.*

3:00 BB13 **264.19** Microscale LED probe for massively parallel optogenetic control at depth. S. SAKATA*; R. SHARF; N. MCALINDEN; T. TSUNEMATSU; E. GU; M. D. DAWSON; K. MATHIESON. *SIPBS, Univ. of Strathclyde, Univ. of Strathclyde.*

4:00 BB14 **264.20** A comprehensive optogenetic toolkit for *in vivo* control of endogenous GABA(A) receptors and synaptic inhibition. M. TSAI*; W. LIN; H. ADESNIK; R. KRAMER. *Univ. of California, Berkeley, Helen Wills Neurosci. Inst.*

1:00 BB15 **264.21** The rhodopsin-guanylyl cyclase of the aquatic fungus Blastocladiella emersonii enables fast optical control of cGMP signaling. C. E. GEE*; U. SCHEIB; K. STEHFEST; R. FUDIM; H. KOERSCHEN; P. HEGEMANN; T. G. OERTNER. *Inst. For Synaptic Physiol., Humboldt-Universität, Ctr. of Advanced European Studies and Res. (caesar), Ctr. for Mol. Neurobio. Hamburg (ZMNH).*

2:00 BB16 **264.22** Novel transgenic animals for tracing and optogenetics -Flame rats and bistable ChR reporter rats-. H. IGARASHI*; K. KOIZUMI; R. KANEKO; K. NISHIZAWA; Y. YANAGAWA; S. MURAMATSU; K. KOBAYASHI; T. ISHIZUKA; H. YAWO. *Tohoku Univ. Grad. Sch. of Med., Tohoku univ. Grad, Sch. of Life Sci., Gunma Univ. Grad. Sch. of Med., Fukushima Med. Univ. Sch. of Med., Jichi Med. Univ.*

3:00 BB17 **264.23** Using optical activation to redefine gain modulation in detailed biophysical neuron models. S. JARVIS*; K. NIKOLIC; S. R. SCHULTZ. *Imperial Col. London, Imperial Col. London, Imperial Col. London.*

**POSTER**

**265. Electrophysiology: Cellular**

***Theme G: Novel Methods and Technology Development***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 BB18 **265.01** ● Progress towards high throughput, *in vivo* cell-type identification using coupled electrophysiological and morphological properties. G. HOLST*; W. A. STOY; I. KOLB; L. LI; U. KNOBLICH; S. B. KODANDARAMAIAH; S. A. SORENSON; H. GILL; T. JARSKY; J. WATERS; A. C. SINGER; B. YANG; G. T. FRANZESI; E. S. BOYDEN; H. ZENG; C. R. FOREST. *Georgia Inst. of Technol., Georgia Inst. of Technol., Allen Inst. for Brain Sci., MIT.*

2:00 BB19 **265.02** Oscillatory modulation of action potential firing in hippocampal neurons of awake mice via periodic shunting inhibition. G. TALEI FRANZESI; A. C. SINGER*; S. B. KODANDARAMAIAH; E. WU; B. ARKHURST; C. R. FOREST; C. BORGERS; N. J. KOPELL; E. S. BOYDEN. *McGovern Inst. and Media Lab, MIT, Georgia Inst. Of Technol., Tuft Univ., Boston Univ.*

3:00 BB20 **265.03** Automated two-photon guided patch-clamp electrophysiology *in vivo*. H. SUK*; I. VAN WELIE; C. FOREST; E. BOYDEN. *MIT, MIT, Georgia Inst. of Technol., MIT, MIT, MIT.*

4:00 BB21 **265.04** ● Human iPSC-derived neurons stably expressing a GCaMP3 calcium sensor demonstrate robust (and temporal) HTS capabilities. G. C. LUERMAN*; R. KETTENHOFEN; A. EHLICH; T. PALM; H. BOHLEN. *Axiogenesis Inc, Axiogenesis AG.*

1:00 BB22 **265.05** ● Testing the role of SK channels in frequency tuning with a novel dynamic clamp system for sharp electrodes. H. POLDER*; J. PRESERN; J. LOOSER; J. BENDA. *npi electronic GMBH, Eberhard Karls Univ.*

2:00 BB23 **265.06** HumSilencer: A smart and simple Axon Digidata 1550 series feature for eliminating line-frequency noises. K. TANG*; B. BLIZARD; K. SRIDHAR; W. DANILO; B. MAERTZ; M. YOUNGQUIST. *Mol. Devices, LLC.*

3:00 BB24 **265.07** ▲ 3d data mapping and real-time experiment control and visualization in brain slices. M. E. MILLER*; M. A. NAVARRO; J. V. K. HIBBARD; T. W. NIVIN; A. A. PETERS; L. S. MILESCU. *Univ. of Missouri, Univ. of Missouri.*

4:00 BB25 **265.08** Volume effect of localized injection on PO2, single unit activity, and fMRI. D. P. AKSENOV*; K. RUTILA; L. LI; M. MILLER; R. LINSENMEIER; A. WYRWICZ. *NorthShore Univ. HealthSystem, Northwestern Univ.*



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

1:00 BB26 **265.09** Nonapplication of neuroscience data to medical treatment. G. S. WASSERMAN*. *Purdue Univ.*

2:00 BB27 **265.10** Voltage-gated calcium channels regulate neural precursor cell migration in the directed current electric field. A. STEIGER*; H. ZHAO; Z. BINDA; H. YE. *Loyola Univ. Chicago, Loyola Univ. Chicago.*

3:00 BB28 **265.11** ● An automated patch-clamp platform (CytoPatch™) for neuronal ligand- and voltage-gated ion channels pharmacology and recordings in cell lines and dissociated neurons. T. KNOTT; S. FRECH*; O. SCHEEL; J. EISFELD; B. AMUZESCU; S. WIERSCHKE; J. KUDOLO; K. LIN; J. WOLFART. *Cytocentrics Biosci. GmbH, Univ. of Rostock.*

4:00 BB29 **265.12** Glycine-induced currents are insensitive to the glycine receptor α1 subunit-specific blocker, cyanotriphenylborate, in older circling mice. J. PRADHAN*, SR; S. AHN. *Kathmandu Ctr. For Genomics and Res. Laborat, Dankook Univ.*

1:00 BB30 **265.13** Fluorescent nanodiamonds: A novel tool for detecting neuronal activity. A. M. MONACO*; J. MOTYLEWSKI; S. K. R. SINGAM; E. GOOVAERTS; M. GIUGLIANO. *Univ. of Antwerp, Univ. of Antwerp, Brain Mind Institute, Swiss Federal Inst. of Technol. Lausanne, Univ. of Sheffield.*

**POSTER**

**266. Methods: Electrophysiology**

***Theme G: Novel Methods and Technology Development***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 BB31 **266.01** Connectivity analysis of whole-network recordings obtained by a high-spatiotemporal-resolution microelectrode array. J. MUELLER*; D. J. BAKKUM; A. HIERLEMANN. *ETH Zurich.*

2:00 BB32 **266.02** Neurophysiological investigation of spontaneous BOLD fluctuations in the orbitofrontal cortex and anterior temporal lobe. M. J. SUTTERER*; C. K. KOVACH; P. E. GANDER; M. A. HOWARD, III; M. W. VOSS. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa.*

3:00 BB33 **266.03** Fast-scan cyclic voltammetric measurements of stimulation-induced dopamine release with chronically implanted carbon fibers in awake non-human primate. H. N. SCHWERDT*; H. SHIMAZU; K. AMEMORI; S. HONG; J. C. SY; K. C. SPENCER; P. L. TIERNEY; Y. YANG; H. YERRAMREDDY; C. DAGDEVIREN; K. RAMADI; R. S. LANGER; M. J. CIMA; A. M. GRAYBIEL. *MIT, MIT, MIT.*

4:00 BB34 **266.04** Self-rolled-up 3D microtube arrays for enhanced control and guidance of hippocampal neurons in synthetic circuits. O. V. CANGELLARIS*; P. FROETER; X. LI; M. U. GILLETTE. *Univ. of Illinois, Univ. of Illinois, Univ. of Illinois.*

1:00 BB35 **266.05** Target-specific modulation of descending prefrontal cortical inputs to the dorsal raphe nucleus by endocannabinoids. S. D. GEDDES*; S. ASSADZADA; D. LEMELIN; A. SOKOLOVSKI; R. BERGERON; S. HAJ-DAHMANE; J. BEIQUE. *Univ. of Ottawa, Canadian Partnership for Stroke Recovery, Ottawa Hosp. Res. Inst., Res. Inst. on Addictions, Ctr. for Neural Dynamics.*

2:00 BB36 **266.06** Neck collar: A novel non-invasive system for restricting head and body movements in rats for behavioral task performance and simultaneous neuron activity recording. Y. TATEYAMA*; K. OYAMA; C. LO; T. IIJIMA; K. TSUTSUI. *Div. Sys Neurosci, Tohoku Univ, Grad Sch. Life Sci.*

3:00 BB37 **266.07** Novel *in vitro* assay of embryonic stem cell-derived neural network properties. J. R. GAMBLE*; S. SAKIYAMA-ELBERT; D. L. BARBOUR. *Washington Univ. In St Louis.*

4:00 BB38 **266.08** Simultaneous detection of dopamine release and neural activity. M. L. HEIEN*; K. L. PARENT; D. F. HILL; J. WIEGAND; M. A. MILLER; C. W. ATCHERLEY; S. L. COWEN. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Mayo Clin., Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

1:00 BB39 **266.09** Isoflurane dose dependent functional connectivity in the rodent somatosensory cortex. M. NEZAFATI*; J. C. W. BILLINGS; W. PAN; S. D. KEILHOLZ. *Georgia Inst. of Technology/Emory Univ., Emory Univ.*

2:00 BB40 **266.10** Understanding frequency dependencies in transfer entropy estimates. S. E. ROBINSON*; A. J. MANDELL. *NIH/NIMH, Univ. of California San Diego Sch. of Med.*

3:00 BB41 **266.11** ▲ A millisecond short-latency reprogrammable silicon chip solution for the pre-processing of electrophysiological data: Towards a real-time closed-loop approach. L. S. MONDRAGON; N. OUARTI; E. BURGUIERE*. *Brain and spine Inst. - UPMC – INSERM U1127 – Pitie-Salpetriere Hosp., Univ. Pierre et Marie Curie-Paris 6, CNRS UMR 7222, Brain and spine Inst. – UPMC – INSERM U1127.*

4:00 BB42 **266.12** Whole-brain, sub-second data collection with little cost using simultaneous multi-slice/multiband acquisition in task-evoked fMRI. S. A. MCMAINS*; R. M. HUTCHISON; R. W. MAIR. *Harvard Univ., Athinoula A Martinos Ctr. for Biomed. Imaging.*

1:00 BB42 **266.13** Point source networks: Relationship between dynamics of cortical/sub-cortical neuron firing and regional cortical imaging in mouse cortex. D. XIAO*; M. P. VANNI; A. CHAN; A. C. CHEN; T. H. MURPHY. *Kinsmen Lab, Dept. of Psychiatry, Capital Med. Univ.*

**POSTER**

**267. Electrode Arrays I**

***Theme G: Novel Methods and Technology Development***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 BB44 **267.01** The use of thomas electrodes and traditional tetrodes in an *in vivo* reloadable hyperdrive. M. KESLER*; H. STEENLAND; K. LIN; B. L. MCNAUGHTON. *Univ. of Lethbridge.*

2:00 BB45 **267.02** Determination of spatio- temporal input current patterns of single hippocampal neurons based on extracellular potential measurements. Z. SOMOGYVARI*; Z. BENKO; J. Z. JALICS; L. ROUX; A. BERENYI. *Wigner Res. Ctr. For Physics, Natl. Inst. of Clin. Neurosciences, Youngstown State Univ., The Neurosci. Inst. New York Univ., Univ. of Szeged, Dept. of Physiol.*



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

3:00 BB46 **267.03** The open ephys gui: Plugin-based software for high-channel-count electrophysiology. A. CUEVAS LOPEZ*; Y. A. PATEL; J. VOIGTS; J. H. SIEGLE. *Univ. Politècnica De València, Georgia Inst. of Technol., MIT, Allen Inst. for Brain Sci.*

4:00 BB47 **267.04** Analysis of channel cross-talk in microwire bundles: Microwires go far enough from each other to record activity of different neurons. L. N. VASILEVA*; I. V. BONDAR. *Inst. of Higher Nervous Activity.*

1:00 BB48 **267.05** Long-term isolation of same single unit activity: Stability criteria and estimation of longevity. I. V. BONDAR*; L. N. VASILEVA; A. M. BADAKVA. *Inst. of Higher Nervous Activity and Neurophysiol. RAS, RF SRC-Institute of Biomed. Problems RAS.*

2:00 BB49 **267.06** ● Next generation of large-scale, semi-chronic micromanipulator systems for measuring neuronal activity in distributed neural circuits in behaving, non-human primates. A. B. GOODELL*; C. M. GRAY. *Gray Matter Res.*

3:00 BB50 **267.07** Ultrasound-induced long term potentiation of the spontaneous neural activity recorded from hippocampal neurons cultured on multi-electrode arrays. S. HWANG*; H. JEONG; S. KIM; Y. LEE; T. KIM; S. JUN. *Ewha Womans Univ., Kyung Hee Univ., Ewha Womans Univ., , Ewha Womans Univ.*

4:00 BB51 **267.08** ● Semi-automated high-frequency oscillation detection from tripolar concentric ring electrode electroencephalography. W. G. BESIO*; M. ABTAHI; I. E. MARTÍNEZ-JUÁREZ; J. N. GAITANIS. *Univ. of Rhode Island/Cremedical Corp., Univ. of Rhode Island, Mexico's Natl. Inst. of Neurol. and Neurosurg. MVS, and Natl. Autonomous Univ. of Mexico, Tufts Med. Ctr.*

1:00 BB52 **267.09** Miniature wireless and batteryless device for longitudinal recording and stimulating of bioelectric events in small animals. K. L. SEBURN*; R. BERCICH; Z. WANG; D. PEDERSON; H. MEI; P. P. IRAZOQUI. *The Jackson Lab., Purdue Univ., Purdue Univ.*

2:00 BB53 **267.10** The path of least resistance: Minimizing vascular damage from electrode array insertions. W. J. JOHNSTON*; N. GAUDREAULT; D. DENMAN; B. LONG; H. PENG; T. J. BLANCHE. *Univ. of Chicago, Allen Inst. for Brain Sci., Univ. of California, Berkeley.*

3:00 BB54 **267.11** ● A High-resolution flexible electrode manufacturing with a platform 3-d printing system. D. R. MERRILL*; T. J. PARK; C. F. SMITH; D. A. MCDONNALL; K. S. GUILLORY. *Ripple.*

4:00 BB55 **267.12** Highly-flexible package and silk fibroin assisted needle penetration for 5-μm-diameter neuroprobe device. D. TEO*; H. SAWAHATA; S. YAMAGIWA; A. MORIYA; H. OI; Y. ANDO; R. NUMANO; M. ISHIDA; K. KOIDA; T. KAWANO. *Toyohashi Univ. of Technol., Toyohashi Univ. of Technol., Toyohashi Univ. of Technol.*

1:00 BB56 **267.13** A neuroelectronic device based on nanocoax arrays. J. R. NAUGHTON; J. M. VARELA; J. N. LUNDBERG; T. J. CONNOLLY; M. J. BURNS; T. C. CHILES; J. P. CHRISTIANSON; M. J. NAUGHTON*. *Boston Col., Boston Col., Boston Col., Boston Col.*

2:00 BB57 **267.14** Toward pan-retinal characterization of ganglion cells responses to finely controlled spatio-temporal light stimuli on 4096 CMOS-MEAs. A. MACCIONE*; S. DI MARCO; G. HILGEN; S. PIRMORADIAN; M. HENNIG; E. SERNAGOR; L. BERDONDINI. *Inst. Italiano Di Tecnologia, Univ. degli Studi dell'Aquila, Newcastle Univ., Univ. of Edinburgh.*

3:00 BB58 **267.15** Flexible electrodes and insertion machine for stable, minimally-invasive neural recording. T. L. HANSON*; M. M. MAHARBIZ; P. N. SABES. *UCSF, Univ. of California, Berkeley.*

4:00 BB59 **267.16** Simultaneous *in vivo* single-unit recording and fast-scan cyclic voltammetry in the behaving rat. A. G. HOWE*; K. M. WASSUM; H. T. BLAIR. *UCLA, Dept. of Psychology.*

1:00 BB60 **267.17** Long-term recordings with immobile silicon probes in the mouse cortex. M. OKUN*; M. CARANDINI; K. D. HARRIS. *UCL.*

2:00 BB61 **267.18** ● ▲ Predicting current density induced by transcranial direct current stimulation (tDCS) in the human motor cortex using an optimized electrode configuration and high-resolution head models. M. E. RASMUSSEN*; P. LUU; E. ANDERSON; K. K. MORGAN; A. R. GUNN; D. M. TUCKER. *Electrical Geodesics, Inc., Univ. of Oregon, Univ. of Oregon.*

3:00 BB62 **267.19** ● Effect of shank spacing and probe sharpening on insertion force and dimpling depth in Matrix Array 3D probe implantation into the primate cortex. A. E. SNELLINGS*; M. FUKUSHIMA; J. JEON; R. J. VETTER; M. MISHKIN; R. C. SAUNDERS. *NeuroNexus Technologies, NIMH/NIH.*

4:00 BB63 **267.20** Tunable microelectrode arrays for monitoring neurons in deep brain structures. S. PALANISWAMY*; A. SRIDHARAN; J. MUTHUSWAMY; M. BAKER; M. OKANDAN. *Arizona State Univ., Sandia Natl. Labs.*

1:00 BB64 **267.21** Characterization of somatosensory and motor cortices in awake common marmosets using carbon nanotube coated ECoG electrodes. A. KOSUGI*; M. TAKEMI; E. CASTAGNOLA; A. ANSALDO; D. RICCI; K. SATO; T. NAKAMURA; B. TIA; K. SEKI; L. FADIGA; A. IRIKI; J. USHIBA. *Keio Univ., RIKEN Brain Sci. Inst., Copenhagen Univ. Hosp. Hvidovre, Univ. of Ferrara, Natl. Inst. of Neurosci., Keio Univ. Facalty of Sci. and Technol.*

2:00 BB65 **267.22** 4096 CMOS multielectrode arrays reveal lognormal firing patterns in hippocampal neuronal networks and allow to characterize early distribution changes induced by amyloid-beta toxicity. H. AMIN*; A. MACCIONE; L. BERDONDINI. *Fondazione Inst. Italiano Di Tecnologia (IIT).*

3:00 BB66 **267.23** The Real-Time eXperiment Interface: A closed-loop data acquisition system with sub-millisecond latencies for electrophysiology. A. GEORGE*; Y. PATEL; F. ORTEGA; J. WHITE; D. CHRISTINI; A. DORVAL; R. BUTERA. *Weill Cornell Med. Col., Georgia Tech, Boston Univ., Univ. of Utah, Georgia Tech.*

4:00 BB67 **267.24** Event-related potential correlates of mindfulness meditation aptitude. R. M. ATCHLEY*; D. KLEE; T. MEMMOTT; E. GOODRICH; B. OKEN. *Oregon Hlth. & Sci. Univ.*



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

1:00 BB68 **267.25** A novel micro-fabricated tetrode. S. SHIN*; J. KIM; J. JEONG; J. PARK; T. GWON; S. LEE; S. KIM. *Seoul Natl. Univ., KAIST.*

2:00 BB69 **267.26** OvalDrive36: A chronically implantable microdrive system for brain-wide single-unit recording, optogenetic stimulation, and cyclic voltammetry in behaving rats. H. T. BLAIR*, IV; A. G. HOWE; R. M. DE GUZMAN. *UCLA, Univ. at Albany.*

3:00 BB70 **267.27** Self–curling and –sticking flexible thin–film ECoG array device. S. YAMAGIWA*; H. SAWAHATA; M. ISHIDA; T. KAWANO. *Toyohashi Univ. of Technol., Electronics-Inspired Interdisciplinary Res. Inst. (EIIRIS), Toyohashi Univ. of Technol.*

4:00 BB71 **267.28** phy: A fast, next-generation spike sorting and data analysis framework for high-channel-count electrophysiology. M. L. D. HUNTER*; D. F. M. GOODMAN; S. N. KADIR; N. A. STEINMETZ; K. D. HARRIS; C. ROSSANT. *Univ. Col. London.*

1:00 BB72 **267.29** A 512-channels, whole array readout, CMOS implantable probe for acute recordings from the brain. L. BERDONDINI*; G. ANGOTZI; M. MALERBA. *Inst. Italiano Ditecnologia.*

2:00 BB73 **267.30** Large-scale multi-regional neural recordings reveal altered frontostriatal network dynamics following cocaine administration. W. C. SMITH*; L. CLAAR; M. ROSENBERG; V. CHANG; N. CHONG; S. SHAH; S. MASMANIDIS. *UCLA, UCLA.*

**POSTER**

**268. Neuron Stimulation Methods**

***Theme G: Novel Methods and Technology Development***

Sun. 1:00 PM – *McCormick Place*, Hall A

1:00 BB74 **268.01** ● ▲ Novel electrical stimulation paradigm to reduce habituation of the nociceptive withdrawal reflex: Preliminary results. C. B. LAURSEN; S. GERVASIO; O. K. ANDERSEN; K. HENNINGS; E. G. SPAICH*. *Aalborg Univ., Nordic NeuroSTIM ApS.*

2:00 BB75 **268.02** High-resolution artifact removal for single and multi-channel electrical stimulation of neural tissue. A. A. NORRIS; H. READ; K. DUTTA; M. A. ESCABI*. *Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut, Univ. Connecticut.*

3:00 BB76 **268.03** Low-frequency repetitive transcranial magnetic stimulation (rTMS) over parietal cortex in rhesus macaques alters neural activity and impairs numerical cognition. C. B. DRUCKER*; E. M. BRANNON; M. L. PLATT. *Duke Univ., Duke Univ., Duke Univ.*

4:00 BB77 **268.04** ● Peripheral Nerve Fiber Stimulation - Relevance of angle between electrode and nerve fiber. K. S. FRAHM*; K. HENNINGS; L. VERA-PORTOCARRERO; P. W. WACNIK; C. D. MØRCH. *Aalborg Univ., Nordic NeuroSTIM Aps, Medtronic Inc.*

1:00 BB78 **268.05** ● Localized neuron stimulation with organic electrochemical transistors on delaminating depth probes. A. KASZAS*; A. WILLIAMSON; M. FERRO; P. LELEUX; E. ISMAILOVA; T. DOUBLET; P. P. QUILICHINI; J. RIVNAY; G. KATONA; B. RÓZSA; G. MALLIARAS; C. BERNARD. *Aix-Marseille Univ., Inserm, Ecole Nationale Supérieure des Mines, CMP-EMSE, MOC, Microvitae Technologies, Hôtel Technologique, Inst. of Exptl. Med. HAS, Pázmány Péter Catholic Univ.*

2:00 BB79 **268.06** ● Desynchronization prior to seizures is a common feature of electrographic signals in acute and chronic seizure models in rodent and human temporal lobe epilepsy. M. T. SALAM*; R. GENOV; T. VALIANTE; J. L. P. VELAZQUEZ; L. ZHANG. *Toronto Western Hosp., Univ. of Toronto, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto, The Hosp. for Sick Children.*

3:00 BB80 **268.07** Non invasive brain stimulation techniques for improving cognitive functions in healthy individuals. G. B. PATRUDU*. *Andhra Med. Col. & King George Hosp.*

4:00 BB81 **268.08** Engineering mechanoreceptor Piezo1 for fast magneto-genetic neuromodulation. G. DURET*; D. B. MURPHY; S. POLALI; E. ANDERSON; B. W. AVANTS; J. T. ROBINSON. *Rice Univ., Rice Univ., Rice Univ.*

1:00 BB82 **268.09** ● Dissolution of platinum electrodes during electrical stimulation of neural tissue. D. KUMSA; D. BARDOT; P. TAKMAKOV*. *FDA, Med. Device Innovation Consortium.*

2:00 BB83 **268.10** ● Neurostimulation strategy for urinary stress incontinence. X. HUANG*; G. E. LOEB; L. LIAO. *USC, Gen. Stim Inc., China Rehabil. Res. Ctr., Capital Med. Univ.*

3:00 BB84 **268.11** Temporally precise control of single-neuron spiking by juxtacellular nanostimulation. M. C. STUTTGEN*; L. J. P. NONKES; H. R. A. P. GEIS; P. H. TIESINGA; A. R. HOUWELING. *Univ. Med. Ctr. Mainz, Erasmus Univ. Med. Ctr., Radboud Univ. Nijmegen Med. Ctr., Radboud Univ. Nijmegen.*

4:00 BB85 **268.12** Artificial synapse chip: A nanopore array for local chemical modulation of neuronal activity. P. D. JONES*; M. STELZLE. *NMI Natural and Med. Sci. Inst. At the, NMI Natural and Med. Sci. Inst. at the Univ. of Tuebingen.*

1:00 BB86 **268.13** Prolonged depressor response induced by transient deep peroneal nerve fasicular stimulation in a hypertensive animal model. A. KANNEGANTI*; M. MIZUNO; R. DOWNEY; M. WIJESUNDHARA; S. SMITH; M. I. ROMERO-ORTEGA. *Univ. of Texas At Dallas, Univ. of Texas Southwestern Med. Ctr., Univ. of Texas at Arlington Res. Inst., Univ. of Texas Southwestern Med. Ctr.*

2:00 BB87 **268.14** Comparing ultrasound neuromodulation and ultrasound stimulation in rat motor cortex. D. W. GULICK*; T. LI; B. C. TOWE; J. A. KLEIM. *Arizona State Univ., Renmin Hosp.*

3:00 BB88 **268.15** Efficient stimulation of hypoglossal nerve using cuff electrode. J. SEO*; J. PARK; H. KIM; S. HONG; W. LEE; J. AHN; S. JO; S. AHN; C. KIM; J. KIM; S. KIM. *Seoul Natl. Univ., Dept. of Otorhinolaryngology, Seoul Natl. Univ. Col. of Med.*



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

4:00 BB89 **268.16** Sub-second recording of dopamine release in the nucleus accumbens of awake head-fixed mice by fast-scan cyclic voltammetry. C. DA CUNHA*; A. GÓMEZ-A; C. D. BLAHA. *Univ. Federal do Parana, The Univ. of Memphis.*

1:00 BB90 **268.17** Extracellular stimulation of rat VTA neurons with sinusoidal waveforms. Y. A. CHO*; Y. LEE; J. JANG; S. KIM; Y. LEE; J. LEE; S. JUN. *Ewha Womans Univ., Ewha Womans Univ., Ewha Womans Univ.*

2:00 BB91 **268.18** ▲ Non-invasive brain stimulation using focused magnetic field produced by magnetic shielding. M. C. CHERRY*; Q. MENG; E. HONG; F. CHOA. *Univ. of Maryland Baltimore County, MPRC, Univ. of Maryland Sch. of Med. and Maryland Psychiatric Res. Ctr.*

3:00 BB92 **268.19** ● Gender and high definition transcranial stimulation. M. J. RUSSELL*. *Aaken Res. Inst.*

4:00 BB93 **268.20** Neural interfacing hardware for closed-loop stimulation with on-line stimulation artifact removal. A. E. MENDRELA*; V. NAGARAJ; M. P. FLYNN; T. I. NETOFF; E. YOON. *Univ. of Michigan, Univ. of Minnesota, Univ. of Minnesota.*

1:00 CC1 **268.21** TMS waveforms and variability in response to an inhibitory TBS protocol. D. AUSTIN*; C. VAN DER BURGHT; M. CIOCCA; J. RATNER; R. HANNAH; J. ROTHWELL. *Inst. of Neurol.*

2:00 CC2 **268.22** Closing the loop around firing rate: Following dynamic trajectories. A. WILLATS*; M. F. BOLUS; C. J. WHITMIRE; C. J. ROZELL; G. B. STANLEY. *Georgia Inst. of Technol. & Emory Univ., Georgia Inst. of Technol.*

3:00 CC3 **268.23** Neurotransmitter monitoring via boron-doped diamond electrode-based voltammetry during human deep brain stimulation in essential tremor. S. PAEK*; P. MIN; J. TOMSHINE; C. BLAHA; D. JANG; M. MARSH; M. SETTELL; E. NICOLAI; C. KIMBLE; S. CHANG; K. BENNET; K. LEE. *Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin., Hanyang Univ.*

4:00 CC4 **268.24** A novel approach to rapidly and effectively perturb the rotation of the eye. M. O. BOHLEN; L. L. CHEN*. *Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr.*

1:00 CC5 **268.25** Generating neuron membrane action potentials using optimal input current stimuli in the medicinal leech. D. A. MILLER*; M. ELLINGER; J. JELLIES; A. C. FERGUSON; C. L. LINN; M. E. KOELLING. *Western Michigan Univ., Western Michigan Univ., Western Michigan Univ.*

2:00 CC6 **268.26** The dose response relationship between single pulse TMS intensity and neuronal activity in cerebral cortex of alert macaques. E. M. GRIGSBY*; M. V. SMITH; M. J. KOVAL; Z. DENG; M. L. PLATT; A. V. PETERCHEV; W. M. GRILL; M. A. SOMMER. *Duke Univ., Univ. of Pittsburgh, Duke Univ., Duke Univ., Duke Univ., Duke Univ.*



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# 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.

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| 105.11 | **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.; Autifony-consultant, Bristol-Myers Squibb-investigator initiated research support, Concert Pharmaceuticals-consultant, Sunovion-consultant, Pfizer-investigator initiated research support. |
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| 121.19 | **P. Mullen:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Autifony Therapeutics Ltd. **C. Large:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Autifony Therapeutics Ltd. |
| 123.10 | **C.R. Schubert:** A. Employment/Salary (full or part-time); Pfizer, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pfizer, Inc. **J.A. Allen:** A. Employment/Salary (full or part-time); Pfizer, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pfizer, Inc. **P. O'Donnell:** A. Employment/Salary (full or part-time); Pfizer, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pfizer, Inc. |
| 126.07 | **C.A. Thorn:** A. Employment/Salary (full or part-time); Pfizer Inc. **J. Edgerton:** A. Employment/Salary (full or part-time); Pfizer Inc. |
| 126.08 | **E. Uykal:** A. Employment/Salary (full or part-time); Pfizer, Inc. **S.J. Neal:** A. Employment/Salary (full or part-time); Pfizer, Inc. **S. Grimwood:** A. Employment/Salary (full or part-time); Pfizer, Inc. **J.R. Edgerton:** A. Employment/Salary (full or part-time); Pfizer, Inc. |
| 126.09 | **D.L. Smith:** A. Employment/Salary (full or part-time); Pfizer, Inc. **J.E. Davoren:** A. Employment/Salary (full or part-time); Pfizer Inc. |
| 128.21 | **J.D. Dougherty:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); TRAP Licensing. |
| 129.17 | **M.S. Gentry:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Founder of OptiMol Enzymes, LLC. **C.W. Vander Kooi:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Founder of OptiMol Enzymes, LLC. |
| 130.11 | **D.M. Holtzman:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Holtzman lab receives research grants from, AstraZeneca, Eli Lilly, and C2N Diagnostics. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Holtzman lab receives research grants from Cure Alzheimer's Fund, JPB Foundation, and the Tau Consortium. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-founder, C2N Diagnostics LLC and ownership interests. F. Consulting Fees (e.g., advisory boards); Scientific advisory boards/consulting: AstraZeneca, Genentech, Eli Lilly, Neurophage, C2N Diagnostics. |
| 130.16 | **J.C. Carroll:** A. Employment/Salary (full or part-time); NeuroPhage Pharmaceuticals. **J.M. Levenson:** A. Employment/Salary (full or part-time); NeuroPhage. **S. Schroeter:** A. Employment/Salary (full or part-time); NeuroPhage Pharmaceuticals. **E. Asp:** A. Employment/Salary (full or part-time); NeuroPhage Pharmaceuticals. **M. Proschitsky:** A. Employment/Salary (full or part-time); NeuroPhage Pharmaceuticals. **V. Cullen:** A. Employment/Salary (full or part-time); NeuroPhage Pharmaceuticals. **C. Chung:** A. Employment/Salary (full or part-time); NeuroPhage Pharmaceuticals. **H. Tsubery:** A. Employment/Salary (full or part-time); NeuroPhage Pharmaceuticals. **R. Krishnan:** A. Employment/Salary (full or part-time); NeuroPhage Pharmaceuticals. **B. Solomon:** A. Employment/Salary (full or part-time); NeuroPhage Pharmaceuticals. **R. Fisher:** A. Employment/Salary (full or part-time); NeuroPhage Pharmaceuticals. **K. Gannon:** A. Employment/Salary (full or part-time); NeuroPhage Pharmaceuticals. |
| 130.19 | **T. Bolmont:** A. Employment/Salary (full or part-time); Stemedica International. **A. Lukashev:** A. Employment/Salary (full or part-time); Stemedica International. |
| 130.21 | **D.S. Adams:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); BioTherapeutix LLC. F. Consulting Fees (e.g., advisory boards); BioTherapeutix LLC. **M.D. Spritzer:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); BioTherapeutix LLC. |
| 131.11 | **H. Robb:** A. Employment/Salary (full or part-time); AbbVie, Inc. **P. Veselcic:** A. Employment/Salary (full or part-time); AbbVie, Inc. **K. Wicke:** A. Employment/Salary (full or part-time); AbbVie, Inc. **L. Rueter:** A. Employment/Salary (full or part-time); AbbVie, Inc. **K. Kohlhaas:** A. Employment/Salary (full or part-time); AbbVie, Inc. |
| 132.07 | **B. Pouyatos:** A. Employment/Salary (full or part-time); SynapCell. **R. Maury:** A. Employment/Salary (full or part-time); Synapcell. **C. Bouyssières:** A. Employment/Salary (full or part-time); SynapCell. **C. Roucard:** A. Employment/Salary (full or part-time); Synapcell. **Y. Roche:** A. Employment/Salary (full or part-time); Synapcell. **V. Duveau:** A. Employment/Salary (full or part-time); SynapCell. |
| 132.26 | **W. Yang:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Key Basic Research Program of China (Grant 2012CBA01304), the |

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| | National Natural Science Foundation of China (Grants 91332206, the Strategic Priority Research Program of the Chinese Academy of Sciences (Grant XDB13000000), the National Institutes of Health (Grants AG19206 and NS041449 to X.J.L.), the State Key Laboratory of Molecular Developmental Biology, China. |
| 133.11 | **J.M. Henderson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Intelect Medical, Nevro Corp. F. Consulting Fees (e.g., advisory boards); Intelect Medical, Nevro Corp. |
| 133.12 | **J.M. Henderson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Intelect Medical, Nevro Corp. F. Consulting Fees (e.g., advisory boards); Intelect Medical, Nevro Corp. |
| 133.15 | **M. Okun:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Royalties for book publications. |
| 134.04 | **G. Porras:** A. Employment/Salary (full or part-time); Motac. **E.Y. Pioli:** A. Employment/Salary (full or part-time); Motac. **A. Crossman:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Motac. **E. Bezard:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Motac. |
| 134.06 | **A. Montefeltro:** A. Employment/Salary (full or part-time); nLife Therapeutics, S.L. **A. Bortolozzi:** A. Employment/ Salary (full or part-time); Andres Montefeltro - Nlife Therapeutics S.L. |
| 134.07 | **L.M. Broersen:** A. Employment/Salary (full or part-time); Nutricia Research BV. **N. van Wijk:** A. Employment/Salary (full or part-time); Nutricia Research BV. **A. Attali:** A. Employment/Salary (full or part-time); Nutricia Research BV. **J. Garssen:** A. Employment/Salary (full or part-time); Nutricia Research BV. |
| 134.11 | **D.W. Ko:** A. Employment/Salary (full or part-time); Motac Neuroscience. **Q. li:** A. Employment/Salary (full or part-time); Motac Neuroscience. **E. Bezard:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Motac neuroscience. |
| 134.15 | **E. Bezard:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Motac neuroscience. |
| 134.22 | **L. Padegimas:** A. Employment/Salary (full or part-time); Copernicus Therapeutics Inc. **O. Sesenoglu-Laird:** A. Employment/Salary (full or part-time); Copernicus Therapeutics Inc. **M.J. Cooper:** A. Employment/Salary (full or part-time); Copernicus Therapeutics Inc. |
| 134.23 | **K. Unsicker:** A. Employment/Salary (full or part-time); Institutes of Anatomy and Cell Biology, Universities of Freiburg and Rostock, D-79104, Freiburg, D-18055 Rostock, Germany. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Spemann Graduate School of Biology and Medicine (SGBM), University of Freiburg, D-79104, Freiburg, Germany. |
| 135.06 | **L.V. Kristensen:** A. Employment/Salary (full or part-time); H. Lundbeck A/S. **K. Thirstrup:** A. Employment/Salary (full or part-time); H. Lundbeck A/S. |
| 138.04 | **T. Ishii:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); receipt of drug. **A. Maeda:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); receipt of drug. **Y. Takiguchi:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); receipt of drug. **M. Kaneda:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); receipt of drug. |
| 138.08 | **J. Trautman:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Photoswitch Biosciences, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Photoswitch Biosciences, Inc. **R. Kramer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of California, Berkeley. |
| 138.09 | **R.H. Kramer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Photoswitch Biosciences, Inc. |
| 139.03 | **I. Myin-Germeys:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; European Research Council Consolidator Grant. |
| 139.08 | **R. Kanai:** A. Employment/Salary (full or part-time); ARAYA Brain Imaging. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ARAYA Brain Imaging. |
| 139.10 | **W.G. Honer:** F. Consulting Fees (e.g., advisory boards); In Silico, Otsuka/Lundbeck, Roche and Eli Lilly. |
| 139.12 | **H. Kuga:** A. Employment/Salary (full or part-time); full. |
| 139.15 | **S. Keedy:** A. Employment/Salary (full or part-time); University of Chicago. |
| 139.20 | **J. Radua:** A. Employment/Salary (full or part-time); Clinical rater in Roche clinical trials. **A.J. Cleare:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Received research grant support from Lundbeck. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Received honoraria for speaking from Astra Zeneca and Pfizer. **A.H. Young:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Is lead Investigator for the Embolden Study (AZ), BCI Neuroplasticity study and Aripiprazole Mania Study and investigator initiated studies from AZ, Eli Lilly, Lundbeck, Wyeth. F. Consulting Fees (e.g., advisory boards); Has given paid lectures and sits on advisory boards for all major pharmaceutical companies with drugs used in affective and related disorders. **D. Arnone:** D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Has received travel grants from Janssen-Cilag and Servier. |
| 140.05 | **S.E. McCallum:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Pfizer. |
| 141.24 | **M. Witt:** A. Employment/Salary (full or part-time); Bruker Daltonik GmbH. **J. Fuchser:** A. Employment/Salary (full or part-time); Bruker Daltonik GmbH. **J. Beckmann:** A. Employment/Salary (full or part-time); Bruker Daltonik GmbH. |
| 142.01 | **X.S. Xie:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Afasci Inc. |
| 142.02 | **M.A. Nitsche:** F. Consulting Fees (e.g., advisory boards); Neuroelectrics. |
| 142.20 | **W.M. Howe:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Pfizer. |
| 143.24 | **M. Graupe:** A. Employment/Salary (full or part-time); Gilead Sciences, INC. **I. Diamond:** B. Contracted Research/ Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). |

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|---|---|
| | If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; consultant. |
| 146.01 | **J. Lee:** A. Employment/Salary (full or part-time); Andrews University. **B. Navia:** A. Employment/Salary (full or part-time); Andrews Univerity. |
| 147.15 | **X. Yao:** A. Employment/Salary (full or part-time); Duke University. **G.D. Field:** A. Employment/Salary (full or part-time); Duke University. |
| 148.07 | **J.A. Bourne:** A. Employment/Salary (full or part-time); Monash University. **W.C. Kwan:** A. Employment/Salary (full or part-time); Monash University. **I.C. Mundinano:** A. Employment/Salary (full or part-time); Monash University. |
| 148.14 | **Q.V. Le:** A. Employment/Salary (full or part-time); full time. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; No. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); No. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); No. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); No. F. Consulting Fees (e.g., advisory boards); No. Other; No. |
| 150.03 | **D. Sugiyama:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Hydra Biosciences. **S. Kang:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Hydra Biosciences. **H. Gu:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Hydra Biosciences. **T.J. Brennan:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Hydra Biosciences. |
| 150.04 | **T.J. Brennan:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Hydra Bioscience. |
| 150.06 | **A.M. Schumacher:** A. Employment/Salary (full or part-time); Genomics Institute of the Novartis Research Foundation. |
| 150.09 | **A. Bruggemann:** A. Employment/Salary (full or part-time); Nanion Technologies. **M. Rapedius:** A. Employment/Salary (full or part-time); Nanion Technologies. **T. Goetze:** A. Employment/Salary (full or part-time); Nanion Technologies. **C. Haarmann:** A. Employment/Salary (full or part-time); Nanion Technologies. **I. Rinke:** A. Employment/Salary (full or part-time); Nanion Technologies. **M. Vogel:** A. Employment/Salary (full or part-time); Nanion Technologies. **T. Stengel:** A. Employment/Salary (full or part-time); Nanion Technologies. **J. Stiehler:** A. Employment/Salary (full or part-time); Nanion Technologies. **J.L. Costantin:** A. Employment/Salary (full or part-time); Nanion Technologies. **R. Haedo:** A. Employment/Salary (full or part-time); Nanion Technologies. **J. Oestreich:** A. Employment/Salary (full or part-time); Nanion Technologies. **C. Bot:** A. Employment/ Salary (full or part-time); Nanion Technologies. **G. Okeyo:** A. Employment/Salary (full or part-time); Nanion Technologies. **M. George:** A. Employment/Salary (full or part-time); Nanion Technologies. **N. Fertig:** A. Employment/ Salary (full or part-time); Nanion Technologies. |
| 151.19 | **J.C. Eisenach:** A. Employment/Salary (full or part-time); Anesthesiology. |
| 152.17 | **J. Lee:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; a grant (2014R1A2A2A01007695) from National Research Foundation (NRF) funded by the Korean Government (MSIP), Republic of Korea. |
| 152.25 | **C.D. Morch:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The method is patented by AAU. **K. Hennings:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The method is patented by AAU. **L. Arendt-Nielsen:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The method is patented by AAU. **O.K. Andersen:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The method is patented by AAU. |
| 154.02 | **D. Borsook:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 NIH. |
| 154.16 | **D.J. Clauw:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Forest. **R.E. Harris:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Forest. **S.E. Harte:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Cerephex (Palo Alto, CA), Forest Laboratories (New York, NY), Merck (White House Station, NJ). F. Consulting Fees (e.g., advisory boards); Pfizer (New York, NY), Analgesic Solutions (Natick, MA), Regeneron (Tarrytown, NY), deCode Genetics (Reykjavik, Iceland). |
| 154.19 | **J. Meek:** A. Employment/Salary (full or part-time); University College London Hospital. |
| 154.25 | **A.G. Machado:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Office of Director, NIH. Grant number: 1DP2OD006469-01. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); intellectual property and distribution rights in Enspire, ATI and Cardionomics. F. Consulting Fees (e.g., advisory boards); consultant to Spinal Modulation and Functional Neuromodulation. Other; Fellowship support from Medtronic. |
| 154.26 | **S. Shcherbinin:** A. Employment/Salary (full or part-time); Eli Lilly and Company. **A.J. Schwarz:** A. Employment/ Salary (full or part-time); Eli Lilly and Company. **V.N. Barth:** A. Employment/Salary (full or part-time); Eli Lilly and Company. **J.M. Hooker:** A. Employment/Salary (full or part-time); Eli Lilly and Company. |
| 155.12 | **J. Hooker:** A. Employment/Salary (full or part-time); Eli Lilly. |
| 156.17 | **T. Amemiya:** A. Employment/Salary (full or part-time); NTT. **H. Gomi:** A. Employment/Salary (full or part-time); NTT. |
| 157.08 | **J.L. Lujan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific. |
| 159.05 | **B. Ikiz:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regeneron Pharmaceuticals. **S.D. Croll:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regeneron Pharmaceuticals. **V. Lai:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regeneron Pharmaceuticals. **N. Stahl:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regeneron Pharmaceuticals. **A.J. Murphy:** E. Ownership Interest (stock, stock options, royalty, receipt |

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| | of intellectual property rights/patent holder, excluding diversified mutual funds); Regeneron Pharmaceuticals. **L.E. Macdonald:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regeneron Pharmaceuticals. **M.L. Lacroix-fralish:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Regeneron Pharmaceuticals. |
| 159.20 | **J.M. Van Kampen:** A. Employment/Salary (full or part-time); Neurodyn Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurodyn Inc. **D.G. Kay:** A. Employment/Salary (full or part-time); Neurodyn Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurodyn Inc. **P.A. Howson:** A. Employment/Salary (full or part-time); Atuka. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Atuka. **J.M. Brotchie:** A. Employment/Salary (full or part-time); Atuka. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Atuka. **D.C. Baranowski:** A. Employment/Salary (full or part-time); Neurodyn Inc. **C.A. Shaw:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurodyn Inc. **H.A. Robertson:** A. Employment/Salary (full or part-time); Neurodyn Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurodyn Inc. |
| 159.24 | **R. Sattler:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Johns Hopkins University. |
| 160.08 | **P. Contessa:** A. Employment/Salary (full or part-time); Delsys Inc. **C.J. De Luca:** Other; Delsys Inc. |
| 160.09 | **J.C. Kline:** A. Employment/Salary (full or part-time); Delsys, Inc. **C.J. De Luca:** Other; Delsys, Inc. |
| 160.10 | **C.J. DeLuca:** Other; Delsys, Inc. **S.S. Chang:** A. Employment/Salary (full or part-time); Delsys, Inc. **S.H. Roy:** A. Employment/Salary (full or part-time); Delsys, Inc. **J.C. Kline:** A. Employment/Salary (full or part-time); Delsys, Inc. |
| 161.08 | **F. Wang:** A. Employment/Salary (full or part-time); Nanjing University of Traditional Chinese Medicine. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Nanjing Normal University. |
| 162.03 | **J. Cryan:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mead Johnson, Suntory Wellness, Nutritia and Cremo. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Mead Johnson, Yakult, Janssen. F. Consulting Fees (e.g., advisory boards); Alkermes, Mead Johnson. |
| 162.04 | **B. Kiely:** A. Employment/Salary (full or part-time); Alimentary Health. |
| 162.05 | **G. Clarke:** A. Employment/Salary (full or part-time); University College Cork. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Science Foundation Ireland, Health Research Board, Brain and Behaviour Research Foundation. **A.E. Hoban:** A. Employment/Salary (full or part-time); University College Cork. **R.M. Stilling:** A. Employment/Salary (full or part-time); University College Cork. **F. Shanahan:** A. Employment/Salary (full or part-time); University College Cork. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Science Foundation Ireland. **T.G. Dinan:** A. Employment/Salary (full or part-time); University College Cork. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Science Foundation Ireland, Health Research Board. **J.F. Cryan:** A. Employment/Salary (full or part-time); University College Cork. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Science Foundation Ireland, Health Research Board. |
| 162.09 | **T. Dinan:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; The Alimentary Pharmabiotic Centre has conducted studies in collaboration with several companies including GSK, Pfizer, Cremo, Suntory, Wyeth and Mead Johnson, TGD has until recently been on the Board of Alimentary Health. |
| 166.24 | **C.M. Wood:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); BBSRC CASE studentship with Eli Lilly. **A.P. McCarthy:** A. Employment/Salary (full or part-time); Eli Lilly and Company. **E. Shanks:** A. Employment/Salary (full or part-time); Eli Lilly and Company. **K.A. Wafford:** A. Employment/Salary (full or part-time); Eli Lilly and Company. |
| 167.11 | **E. Pittaras:** A. Employment/Salary (full or part-time); Institut de Recherche Biomédicale des Armées. |
| 171.25 | **N.A. Kahn:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Abbott Nutrition. **A.F. Kramer:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Abbott Nutrition. **C.H. Hillman:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Abbott Nutrition. **N.J. Cohen:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Abbott Nutrition. |
| 172.09 | **V.A. Grane:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Northern Norway Regional Health Authority, 5154/PEP1012-11. **R.T. Knight:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NINDS R37NS21135. **A. Solbakk:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NNRHA 5154/PEP1012-11. |
| 172.11 | **J.T. McCracken:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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, Seaside Therapeutics. F. Consulting Fees (e.g., advisory boards); BioMarin, Roche, PharmaNet. |
| 172.27 | **C.W. Hogue:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Covidien, NIH RO1. |

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| | C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Ornim. **A. Gurakar:** D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Gilead. **K.J. Neufeld:** B. Contracted Research/ Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Hitachi Med Co, Ornim Med. **A. Kamiya:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Hitachi Med Co. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Hitachi Med Co. F. Consulting Fees (e.g., advisory boards); Taisho Pharm Co. |
| 174.06 | **W. Chung:** A. Employment/Salary (full or part-time); Dongguk University. **S. Kim:** A. Employment/Salary (full or part-time); Nanyang Technological University. **M. Park:** A. Employment/Salary (full or part-time); Dongguk University. |
| 181.04 | **B.G. Cooper:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; HHF 23103, Hearing Health Foundation. |
| 181.07 | **T.J. Gardner:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Circuit Formation, Inc. |
| 181.13 | **B.G. Cooper:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; 60710, RCAF. |
| 182.01 | **Z. Liu:** A. Employment/Salary (full or part-time); Horizon Discovery. **G. Zhao:** A. Employment/Salary (full or part-time); Horizon Discovery. **X. Cui:** A. Employment/Salary (full or part-time); Horizon Discovery. |
| 183.01 | **C. Hupple:** A. Employment/Salary (full or part-time); Employee of iThera Medical GmbH. |
| 183.19 | **K. Brennan:** F. Consulting Fees (e.g., advisory boards); Advisory Board, Eli Lilly, 2015 (unrelated). |
| 184 | **S.W. Hell:** A. Employment/Salary (full or part-time); Max Planck Institute. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; -. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); -. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); -. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); shares Abberior (Instruments) GmbH. F. Consulting Fees (e.g., advisory boards); Consultant to Abberior Instruments and Leica Microsystems. |
| 185.02 | **E. Chiao:** A. Employment/Salary (full or part-time); Biogen IDEC. |
| 185.05 | **E. Dolan:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; INSYS, Inc provided research support to evaluate cannibidiol in neuronal cells. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); CDI, Inc provided sensory neurons for evaluation of chemotherapeutic neurotoxicity. |
| 187.05 | **D. Schafer:** F. Consulting Fees (e.g., advisory boards); Annexon (Scientific Advisory Board). |
| 192 | **T.C. Südhof:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Limes Schlosskliniken. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); REATA Pharmaceuticals, Circuit Therapeutics, Elysium LLP, Buenobel. F. Consulting Fees (e.g., advisory boards); REATA Pharmaceuticals, Genentech, Elysium, Buenobel. |
| 193.07 | **Y. Chen:** A. Employment/Salary (full or part-time); The Pennsylvania State University. |
| 197.03 | **P. Haakana:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lu Daniel C, Edgerton Reggie V. **V.R. Edgerton:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Victor R Edgerton. **D.C. Lu:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Daniel C Lu. |
| 197.07 | **V. Edgerton:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies. **Y. Gerasimenko:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies. |
| 197.08 | **Y. Gerasimenko:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroRecovery Technologies. **R. Roy:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroRecovery Technologies. **D. Lu:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroRecovery Technologies. **V. Edgerton:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroRecovery Technologies. |
| 197.09 | **Y. Gerasimenko:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroRecovery Technologies. **R. Roy:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroRecovery Technologies. **D. Lu:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroRecovery Technologies. **R. Edgerton:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroRecovery Technologies. |
| 199.13 | **T. Kariharan:** A. Employment/Salary (full or part-time); Multi-Institutional Training Program in Genetic/Genomic Approaches to Sleep Disorders (T32 HL110952). **S.J. Aton:** A. Employment/Salary (full or part-time); DP2MH104119 and R01EB018297. |
| 200.14 | **Y. Yick:** A. Employment/Salary (full or part-time); Nanyang Technological University. **F. Taya:** A. Employment/Salary (full or part-time); National University of Singapore. **J. Lim:** A. Employment/Salary (full or part-time); Nanyang Technological University. **J. de Souza:** A. Employment/ Salary (full or part-time); National University of Singapore. **Y. Sun:** A. Employment/Salary (full or part-time); National University of Singapore. **A. Bezerianos:** A. Employment/ Salary (full or part-time); National University of Singapore. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Singapore Institute for Neurotechnology. |

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| | **A. Chen:** A. Employment/Salary (full or part-time); Nanyang Technological 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.; Japan Society for the Promotion of Science, Nanyang Technological University. |
| 202.08 | **T. Portmann:** A. Employment/Salary (full or part-time); Circuit Therapeutics Inc., Menlo Park, CA94025. **H. Ho:** A. Employment/Salary (full or part-time); Circuit Therapeutics Inc., Menlo Park, CA94025. **I. Gallager:** A. Employment/Salary (full or part-time); Circuit Therapeutics Inc., Menlo Park, CA94025. **D. Zwilling:** A. Employment/Salary (full or part-time); Circuit Therapeutics Inc., Menlo Park, CA94025. **H. Lee:** A. Employment/Salary (full or part-time); Circuit Therapeutics Inc., Menlo Park, CA94025. **E. Zhao:** A. Employment/Salary (full or part-time); Circuit Therapeutics Inc., Menlo Park, CA94025. **V. Gontcharova:** A. Employment/Salary (full or part-time); Circuit Therapeutics Inc., Menlo Park, CA94025. **K.R. Thompson:** A. Employment/Salary (full or part-time); Circuit Therapeutics Inc., Menlo Park, CA94025. **S.P. Braithwaite:** A. Employment/Salary (full or part-time); Circuit Therapeutics Inc., Menlo Park, CA94025. |
| 202.13 | **C. Chuang:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Kun-Yi Chien. |
| 203.16 | **S.M. O'Neill:** A. Employment/Salary (full or part-time); Pfizer. |
| 205.06 | **M. Rodríguez-Muñoz:** A. Employment/Salary (full or part-time); Depto. Ecología y Recursos Naturales, Facultad de Ciencias. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; PAPIIT IN210913 , CONACYT 178526. **E. Oña-Córdova:** A. Employment/Salary (full or part-time); Depto. Ecología y Recursos Naturales, Facultad de Ciencias. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; PAPIIT IN210913 , CONACYT 178526. **E.G. Escamilla-Chimal:** A. Employment/Salary (full or part-time); Depto. Ecología y Recursos Naturales, Facultad de Ciencias. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; PAPIIT IN210913 , CONACYT 178526. |
| 206.01 | **K. Sapkota:** A. Employment/Salary (full or part-time); Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE, USA. **Z. Mao:** A. Employment/Salary (full or part-time); Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE, USA. **V. Gautam:** A. Employment/Salary (full or part-time); Harvard Medical School. **D. Monaghan:** A. Employment/Salary (full or part-time); Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE, USA. |
| 206.06 | **D. Lynch:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent for cell-based assay testing for anti-NMDA receptor encephalitis with royalties paid to Eurimmune. |
| 206.12 | **X. Cai:** A. Employment/Salary (full or part-time); Southern Illinois University School of Medcine. |
| 207.12 | **M. Yamasaki:** A. Employment/Salary (full or part-time); full. |
| 207.14 | **J.M. Witkin:** A. Employment/Salary (full or part-time); Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **A. Kato:** A. Employment/Salary (full or part-time); Eli Lilly and Co. **S. Gleason:** A. Employment/Salary (full or part-time); Eli Lilly and Company. **D. Gernert:** A. Employment/Salary (full or part-time); Eli Lilly and Co. **W. Porter:** A. Employment/Salary (full or part-time); Eli Lilly and Co. **K. Gardinier:** A. Employment/Salary (full or part-time); Eli Lilly and Co. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Co. |
| 207.15 | **C. Ding:** A. Employment/Salary (full or part-time); Eli Lilly and Co. **B. Heinz:** A. Employment/Salary (full or part-time); Eli Lilly and Co. **A.S. Kato:** A. Employment/Salary (full or part-time); Eli Lilly and Co. **H. Yu:** Other; Former Employment at Eli Lilly and Co. **K.M. Gardinier:** A. Employment/Salary (full or part-time); Eli Lilly and Co. **D.L. Gernert:** A. Employment/Salary (full or part-time); Eli Lilly and Co. **D.S. Bredt:** Other; Former employment at Eli Lilly and Co. **J.M. Witkin:** A. Employment/Salary (full or part-time); Eli Lilly and Co. **K.D. Burris:** A. Employment/Salary (full or part-time); Eli Lilly and Co. |
| 207.16 | **D. Gernert:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **K.M. Gardinier:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **J. Witkin:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **W. Porter:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **J. Reel:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **K. Burris:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **C. Ding:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **V. Barth:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **F. Stevens:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **P. Hahn:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **P. Spinazze:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **S. Hollinshead:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **D. Mayhugh:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **J. Schkeryantz:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **A. Khilevich:** A. Employment/Salary (full or part-time); Eli Lilly & Co. **D. Bredt:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical. **H. Yu:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical. **P. Ornstein:** A. Employment/Salary (full or part-time); Roosevelt Univerity. |
| 207.17 | **A. Kato:** A. Employment/Salary (full or part-time); Eli Lilly and Company (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.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **C. Ding:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Comapny. **K.M. Gardinier:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **D.L. Gernert:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, |

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| | excluding diversified mutual funds); Eli Lilly and Company. **H. Yu:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **R. Zwart:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **H. Wang:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **Y. Qian:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **F. Pasqui:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **E. Sher:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **K. Burris:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **J.T.R. Isaac:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **J.M. Witkin:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship |
| | even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **D.S. Bredt:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Comapny. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. **E.S. Nisenbaum:** A. Employment/Salary (full or part-time); Eli Lilly and Company. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly and Company. |
| 207.18 | **K.L. Knopp:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **R.M.A. Simmons:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **W. Guo:** A. Employment/Salary (full or part-time); Eli Lilly. **B.L. Adams:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **J.M. Witkin:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **K.M. Gardinier:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **D.L. Gernert:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **W. Porter:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **P. Ornstein:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **J. Reel:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **C. Ding:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **H. Wang:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **Y. Qian:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **K. Burris:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **A. Need:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **V. Barth:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **F. Pasqui:** A. Employment/Salary (full or |

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| | part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **R. Zwart:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **E. Sher:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **K. Choong:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **A.S. Kato:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **T.M. Wall:** A. Employment/Salary (full or part-time); Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. **E.S. Nisenbaum:** A. Employment/Salary (full or part-time); Eli Lilly. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eli Lilly. |
| 207.27 | **R.L. Huganir:** A. Employment/Salary (full or part-time); Millipore Corporation. |
| 209.10 | **R. Neff:** A. Employment/Salary (full or part-time); Janssen R&D, LLC. **C. Lindwall-Blom:** A. Employment/Salary (full or part-time); Cellectricon AB. **Å. Jägervall:** A. Employment/Salary (full or part-time); Cellectricon AB. **B. Balana:** A. Employment/Salary (full or part-time); Janssen R&D, LLC. **M. Karlsson:** A. Employment/Salary (full or part-time); Cellectricon AB. **P. Karila:** A. Employment/Salary (full or part-time); Cellectricon AB. **T. Lovenberg:** A. Employment/Salary (full or part-time); Janssen R&D, LLC. |
| 212.05 | **L. Grado:** A. Employment/Salary (full or part-time); University of Minnesota. **M. Johnson:** A. Employment/Salary (full or part-time); University of Minnesota. **T. Netoff:** A. Employment/Salary (full or part-time); University of Minnesota. |
| 213.08 | **E. Pavlopoulos:** A. Employment/Salary (full or part-time); Acorda Therapeutics (Full time). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Acorda Therapeutics (stock holder). **Y. Wang:** A. Employment/Salary (full or part-time); Acorda Therapeutics (Full time temporary). **C. Cui:** A. Employment/Salary (full or part-time); Acorda Therapeutics (Full Time). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Acorda Therapeutics (stock holder). **E. Troy:** A. Employment/Salary (full or part-time); Acorda Therapeutics (Full Time). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Acorda Therapeutics (stock holder). **T.J. Parry:** A. Employment/Salary (full or part-time); Acorda Therapeutics (Full Time). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Acorda Therapeutics (stock holder). **A.O. Caggiano:** A. Employment/Salary (full or part-time); Acorda Therapeutics (Full Time). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Acorda Therapeutics (stock holder). **R.W. Colburn:** A. Employment/Salary (full or part-time); Acorda Therapeutics (Full Time). E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Acorda Therapeutics (stock holder). |
| 213.10 | **M. El-Etr:** A. Employment/Salary (full or part-time); INSERM U 1195. **M. Rame:** A. Employment/Salary (full or part-time); INSERM U1195. **A.M. Ghoumari:** A. Employment/Salary (full or part-time); INSERM U1195/ Universite Paris 11. **M. Schumacher:** A. Employment/ Salary (full or part-time); INSERM U1195. **R. Sitruk-ware:** A. Employment/Salary (full or part-time); Population Council. |
| 214.23 | **D.M. Holtzman:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AstraZeneca, Eli Lilly, C2N Diagnostics. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Cure Alzheimer's Fund, JPB Foundation, Tau Consortium. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); C2N Diagnostics LLC. F. Consulting Fees (e.g., advisory boards); AstraZeneca, Genentech, Eli Lilly, Neurophage, C2N Diagnostics. |
| 215.09 | **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 Sigma-Aldrich Chem. Co. related to the sales of secreted APP. |
| 215.15 | **D. Chui:** A. Employment/Salary (full or part-time); Neuroscience Research Institute, HSC, Peking University, Beijing, China. |
| 216.04 | **P.M. Ardestani:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); patent. **B. Yi:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent. **M. Shamloo:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent. |
| 216.09 | **D.N. Ishii:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Colorado State University; Aurogen Inc. Other; Founder of Aurogen Inc. |
| 217.14 | **F.M. Longo:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of North Carolina, University of California, San Francisco and the Dept. of Veterans Affairs. **S.M. Massa:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of North Carolina, University of California, San Francisco and the Dept. of Veterans Affairs. |
| 217.15 | **S.M. Massa:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of North Carolina, University of California, San Francisco and the Dept. of Veterans Affairs. **F.M. Longo:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of North Carolina, University of California, San Francisco and the Dept. of Veterans Affairs. |
| 217.16 | **H.S. Pereira:** A. Employment/Salary (full or part-time); State University of Rio Grande do Norte. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Edmond and Lily Safra International Institute of Neuroscience. |
| 217.17 | **S. Kortagere:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Polycore Therapeutics LLC. |
| 217.20 | **J.H. Kordower:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; ARETFACT. |

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| 219.08 | **H. Archbold:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); KPT compounds provided by Karyopharm Therapeutics Inc. **S. Tamir:** A. Employment/Salary (full or part-time); Full time employee of Karyopharm Therapeutics, Inc. |
| 219.11 | **P. Asthana:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; The Health and Medical Research Fund (HMRF), Food and Health Bureau, Hong Kong Special Administrative Region Government (Ref. No: 01122026). |
| 219.14 | **M.E.R. 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. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); 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. |
| 219.15 | **B. Ferger:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma GmbH & Co. KG. |
| 219.20 | **K. Borges:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Ultrgenyx Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ultrgenyx Pharmaceuticals. |
| 220.27 | **X. Fu:** A. Employment/Salary (full or part-time); Purdue University. |
| 221.03 | **J.L.R. Rubenstein:** F. Consulting Fees (e.g., advisory boards); Neurona Therapeutics. |
| 221.16 | **T.M. Kazdoba:** A. Employment/Salary (full or part-time); UC Davis/MIND Institute. **P.T. Leach:** A. Employment/Salary (full or part-time); UC Davis/MIND Institute. **J.N. Crawley:** A. Employment/Salary (full or part-time); UC Davis/MIND Institute. |
| 222.04 | **P. Ehling:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Novartis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Novartis. F. Consulting Fees (e.g., advisory boards); Novartis. **M. Cerina:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Novartis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Novartis. **V. Narayanan:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Novartis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Novartis. **A.M. Herrmann:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Novartis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Novartis. **S. Pankratz:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Novartis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Novartis. **S. Bock:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Novartis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Novartis. **K. Goebel:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Novartis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Novartis. **S.G. Meuth:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Novartis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Novartis. |
| 222.05 | **K.J. Murphy:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Holder of patent relating to compound investigated in this study. **M. Pickering:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Holder of patent relating to compound investigated in this study. |
| 222.06 | **J. Nguyen:** A. Employment/Salary (full or part-time); Adamas Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Adamas Pharmaceuticals. **B. Brigham:** A. Employment/Salary (full or part-time); Adamas Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Adamas Pharmaceuticals. |
| 222.15 | **S.S. Popp:** A. Employment/Salary (full or part-time); AbbVie. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **P. Schleese:** A. Employment/Salary (full or part-time); AbbVie. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **B.K. Müller:** A. Employment/Salary (full or part-time); AbbVie. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. **K. Wicke:** A. Employment/Salary (full or part-time); AbbVie. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); AbbVie. |
| 223.16 | **A. Fatemi:** F. Consulting Fees (e.g., advisory boards); BlueBirdBio, Inc. |
| 224.30 | **F.A. Gilli:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Biogen Idec. **A.R. Pachner:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Biogen Idec, EMD Serono, Genzyme, Sanofi-Aventis. |
| 225.09 | **O. Bodart:** A. Employment/Salary (full or part-time); Research fellow at FRS-FNRS. **O. Gosseries:** A. Employment/Salary (full or part-time); Post-doctoral fellow at FRS-FNRS. **S. Laureys:** A. Employment/Salary (full or part-time); Research director at FRS-FNRS. |
| 225.14 | **D.B. Liston:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); DL holds a provisional patent, which is the subject matter of this publication, not licensed or otherwise commercialized. **L.S. Stone:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding |

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| | diversified mutual funds); LS holds a provisional patent, which is the subject matter of this publication, not licensed or otherwise commercialized. |
| 225.21 | **R. Schachar:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Equity in BNAS (psychological software company), Owns patent on Stop Signal Task. F. Consulting Fees (e.g., advisory boards); Highland Therapeutics, Purdue Pharma, Lilly Corp. |
| 226.11 | **K. Morioka:** A. Employment/Salary (full or part-time); UCSF/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.; NIH Grants NS088475 (ARF), NIH Grants NS067092 (ARF), Wings for Life Spinal Cord Research Foundation WFLUS013/13 (KM), Wings for Life Spinal Cord Research Foundation WFLUS008/12 (ARF), Craig H. Neilsen Foundation Grant 313739 (JH), Craig H. Neilsen Foundation Grant 224308 (ARF). **T. Tazoe:** A. Employment/Salary (full or part-time); University of Pittsburgh/full. **J. Huie:** A. Employment/Salary (full or part-time); UCSF/full. **J. Haefeli:** A. Employment/Salary (full or part-time); UCSF/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.; Craig H. Neilsen Foundation Grant 313739 (JH). **J.C. Bresnahan:** A. Employment/Salary (full or part-time); UCSF/full. **M.S. Beattie:** A. Employment/Salary (full or part-time); UCSF/full. **T. Ogata:** A. Employment/Salary (full or part-time); NRCD/full. **A.R. Ferguson:** A. Employment/Salary (full or part-time); UCSF/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.; NIH Grants NS067092 (ARF), NIH Grants NS069537 (ARF),, Wings for Life Foundation Grant WFLUS008/12 (ARF), Craig H. Neilsen Foundation Grant 224308 (ARF). |
| 227.01 | **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.; Bristol-Myers Squibb, Pfizer. F. Consulting Fees (e.g., advisory boards); Autifony, Bristol-Myers Squibb, Concert Pharmaceuticals, Sunovion. |
| 227.19 | **M. Koh:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Johns Hopkins University. **M. Gallagher:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Johns Hopkins University. |
| 228.06 | **J.P. Culver:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cephalogics. |
| 228.11 | **K.A. Gerrow:** A. Employment/Salary (full or part-time); University of Victoria. **C. Brown:** A. Employment/Salary (full or part-time); University of Victoria. |
| 228.13 | **S.H. Scott:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BKin Technologies. |
| 228.15 | **S.H. Scott:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Scott is co-founder and chief scientific officer of BKIN Technologies, the company that commercializes the KINARM device. |
| 228.18 | **S.H. Scott:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SHS is co-founder and Chief Scientific Officer of BKIN Technologies. |
| 228.24 | **A. Machado:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ATI, Cardionomics and Enspire. F. Consulting Fees (e.g., advisory boards); Functional Neuromodulation and Spinal Modulation. |
| 228.26 | **M. Nazarova:** A. Employment/Salary (full or part-time); Centre for Cognition and Decision Making, National Research University Higher School of Economics, Russian Federation, Research Centre of Neurology, Moscow, Russian Federation. **V. Nikulin:** A. Employment/Salary (full or part-time); Department of Neurology, Campus Benjamin Franklin, Charité University Medicine Berlin, Germany. |
| 231.23 | **P.O. Kanold:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 U01NS090569. |
| 234.06 | **S. Watamaniuk:** A. Employment/Salary (full or part-time); Smith-Kettlewell Eye Research Institute. |
| 237.15 | **J.A. Miranda:** A. Employment/Salary (full or part-time); Pfizer LTD. |
| 237.22 | **J.J. Janik:** A. Employment/Salary (full or part-time); Stryker Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stryker Corporation. |
| 238.10 | **K.E. Miller:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Kemmx Corporation, Sapulpa, OK. |
| 238.11 | **K.E. Miller:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Kemmx Corporation, Sapulpa, OK. |
| 238.13 | **T.J. Ness:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Medtronic, Inc. **D.E. Nelson:** A. Employment/Salary (full or part-time); Medtronic, Inc. **X. Su:** A. Employment/Salary (full or part-time); Medtronic, Inc. |
| 238.18 | **K.E. Miller:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Kemmx Corporation, Sapulpa, OK. |
| 239.01 | **T. Yasuhiro:** A. Employment/Salary (full or part-time); full-time, ONO Pharmaceutical co.,LTD. **K. Oda:** A. Employment/Salary (full or part-time); full-time, ONO Pharmaceutical co.,LTD. **T. Nagaura:** A. Employment/Salary (full or part-time); full-time, ONO Pharmaceutical co.,LTD. **S. Katsumata:** A. Employment/Salary (full or part-time); full-time, ONO Pharmaceutical co.,LTD. **Y. Hirota:** A. Employment/Salary (full or part-time); full-time, ONO Pharmaceutical co.,LTD. |
| 239.04 | **S. Katsumata:** A. Employment/Salary (full or part-time); ONO Pharmaceutical CO., LTD. **K. Mitsui:** A. Employment/Salary (full or part-time); ONO Pharmaceutical CO., LTD. **Y. Ezaki:** A. Employment/Salary (full or part-time); ONO Pharmaceutical CO., LTD. |
| 239.07 | **D.J. Clauw:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-inventor of the pain testing device used in this study. F. Consulting Fees (e.g., advisory boards); Merck and Company Inc. **S.E. Harte:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-inventor of the pain testing device used in this study. |
| 240.28 | **L. Zhang:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rehabtek. **Y. Ren:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rehabtek. |
| 242.02 | **Z. Jiang:** A. Employment/Salary (full or part-time); Department of Biomedical Engineering, New Jersey Institute of Technology, Newark,NJ USA. |

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| 242.06 | **K. Deisseroth:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Circuit Therapeutics. **S. Delp:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Circuit Therapeutics. |
| 243.01 | **D.A. Brown:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); HDT Robotics. F. Consulting Fees (e.g., advisory boards); HDT Robotics. |
| 243.13 | **G.P. Siegmund:** A. Employment/Salary (full or part-time); MEA Forensic. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MEA Forensic. |
| 244.27 | **C. Alexander:** A. Employment/Salary (full or part-time); imperial college healthcare nhs trust. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 institute of health reseach. |
| 248.24 | **R.V. Waworuntu:** A. Employment/Salary (full or part-time); Mead Johnson Nutrition. **K.M. Neufeld:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mead Johnson Nutrition. **B.M. Berg:** A. Employment/Salary (full or part-time); Mead Johnson Nutrition. **S.M. O'Mahony:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mead Johnson Nutrition. **T.G. Dinan:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mead Johnson Nutrition. **J.F. Cryan:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mead Johnson Nutrition. |
| 249.14 | **M. Laroque:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Motivation Weight-loss Clinic. |
| 251.06 | **E.W. Large:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Circular Logic, LLC. |
| 252.18 | **C. Lord:** F. Consulting Fees (e.g., advisory boards); Dr. Lord receives royalties from Western Psychological Services (WPS) for the ADOS and ADI-R. |
| 252.20 | **A.S. Heller:** A. Employment/Salary (full or part-time); University of Miami. **R. Bonnie:** A. Employment/Salary (full or part-time); University of Virginia. **K. Taylor-Thompson:** A. Employment/Salary (full or part-time); New York University. **E.S. Scott:** A. Employment/Salary (full or part-time); Columbia University. **L. Steinberg:** A. Employment/Salary (full or part-time); Temple University. **D.A. Fair:** A. Employment/Salary (full or part-time); Oregon Health & Science University. **A. Galvan:** A. Employment/Salary (full or part-time); University of California, Los Angeles. **B. Casey:** A. Employment/Salary (full or part-time); Weill Cornell Medical College. |
| 252.23 | **T.W. Robbins:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cambridge Cognition. F. Consulting Fees (e.g., advisory boards); Cambridge Cognition. **B.J. Sahakian:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cambridge Cognition. F. Consulting Fees (e.g., advisory boards); Cambridge Cognition. |
| 253.24 | **W. You:** Other; Johns Hopkins University. |
| 254.08 | **D. Morilak:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Lundbeck A/S. F. Consulting Fees (e.g., advisory boards); Lundbeck A/S. |
| 254.30 | **M. Baumgartner:** A. Employment/Salary (full or part-time); University of Connecticut. **C. Lemoine:** A. Employment/Salary (full or part-time); University of Connecticut. **R. Kanadia:** A. Employment/Salary (full or part-time); University of Connecticut. |
| 255.23 | **B. Halbout:** A. Employment/Salary (full or part-time); University of California, Irvine. **A.T. Liu:** A. Employment/Salary (full or part-time); University of California, Irvine. **S.B. Ostlund:** A. Employment/Salary (full or part-time); University of California, Irvine. |
| 258.12 | **R. Wu:** A. Employment/Salary (full or part-time); Full time. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Research Grant. |
| 258.18 | **A. Toyomaki:** D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Dainippon Sumitomo Pharma. **N. 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.; Astellas Pharma. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Otsuka Pharmaceutical, Dainippon Sumitomo Pharma, Astellas Pharma. **T. Inoue:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Otsuka Pharmaceutical. F. Consulting Fees (e.g., advisory boards); GlaxoSmithKline, Pfizer, Astellas, EliLilly, Mitsubishi Tanabe Pharma, Mochida Pharmaceutical, Otsuka Pharmaceutical, Meiji Seika Pharma, Asahi Kasei Pharma, Shionogi, Janssen Pharmaceutical. Other; GlaxoSmithKline, Eli Lilly, Mochida Pharmaceutical, Mitsubishi Tanabe Pharma. **I. Kusumi:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Takeda Pharmaceutical, Astellas, Dainippon Sumitomo Pharma. F. Consulting Fees (e.g., advisory boards); Dainippon Sumitomo Pharma, Tanabe Mitsubishi Pharma. Other; Eli Lilly. |
| 258.19 | **Y. Zhang:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Research Triangle Institute. |
| 259.02 | **M. Banasr:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Institut de Recherches Internationnales SERVIER (France), BioHaven (Connecticut, US). |
| 259.08 | **B. Ferger:** A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma GmbH & Co. KG. |
| 259.09 | **K. Musaelyan:** A. Employment/Salary (full or part-time); PhD studentship from Janssen Pharmaceutica. **C.M. Pariante:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if |

| PRESENTATION NUMBER | STATEMENT |
|---|---|
| | those funds come to an institution.; Received a grant from Janssen Pharmaceutica. **C. Fernandes:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Received a grant from Janssen Pharmaceutica. **S. Thuret:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Received a grant from Janssen Pharmaceutica. |
| 259.10 | **S.A. Neale:** A. Employment/Salary (full or part-time); Neurexpert Limited, London, UK. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-owner and share holder of Neurexpert Limited. **P.H. Hutson:** A. Employment/Salary (full or part-time); Shire. **T.E. Salt:** A. Employment/Salary (full or part-time); Neurexpert Limited, London, UK. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Share holder and Director of Neurexpert Limited. |
| 261.03 | **H. Zhang:** A. Employment/Salary (full or part-time); BioLegend. **M. Tam:** A. Employment/Salary (full or part-time); BioLegend. **D. Gohel:** A. Employment/Salary (full or part-time); BioLegend. **J. Koury:** A. Employment/Salary (full or part-time); BioLegend. **T. Oida:** A. Employment/Salary (full or part-time); BioLegend. **X. Zhao:** A. Employment/Salary (full or part-time); BioLegend. **S. Garcia Mojica:** A. Employment/Salary (full or part-time); BioLegend. **X. Yang:** A. Employment/Salary (full or part-time); BioLegend. **M. Taylor:** A. Employment/Salary (full or part-time); BioLegend. |
| 262.05 | **R.M. Barrett:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Takeda Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); US Provisional Patent Application 62/096,364 entitled CELL SPECIFIC LABELING OF NEWLY SYNTHESIZED PROTEINS. **H. Liu:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Takeda Pharmaceuticals. **R.H. Goodman:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Takeda Pharmaceuticals. **M.S. Cohen:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Takeda Pharmaceuticals. |
| 262.09 | **A. Margulis:** A. Employment/Salary (full or part-time); Precision Biosystems. **D.P. Chimento:** A. Employment/Salary (full or part-time); Rockland Immunochemicals, Inc. **A. Zaorski:** A. Employment/Salary (full or part-time); Rockland Immunochemicals, Inc. **R. Yukhananov:** A. Employment/Salary (full or part-time); Precision Biosystems. |
| 262.10 | **J.V. Sweedler:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIDA P30 DA018310. **N.L. Kelleher:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIDA P30 DA018310, NIGMS R01 GM067193. |
| 262.13 | **M. Söderquist:** A. Employment/Salary (full or part-time); Denator. **M. Borén:** A. Employment/Salary (full or part-time); Denator. |
| 262.17 | **S. Gutierrez:** A. Employment/Salary (full or part-time); EMD Millipore. **I. Strug:** A. Employment/Salary (full or part-time); EMD Millipore. **J.L. Smith:** A. Employment/Salary (full or part-time); EMD Millipore. **T. Nadler:** A. Employment/Salary (full or part-time); EMD Millipore. |
| 263.08 | **N. Clack:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vidrio Technologies, LLC. **E. Kang:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vidrio Technologies, LLC. **B. Kimmel:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vidrio Technologies, LLC. **V. Iyer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vidrio Technologies, LLC. |
| 263.09 | **K. Svoboda:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vidrio Technologies, LLC. |
| 263.11 | **M. Yamazaki:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); ALPS ELECTRIC CO., LTD, Tokyo, JAPAN and Genial Light. co.,LTD, Hamamatsu, Japan. |
| 263.19 | **J.D. Weiland:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Second Sight Medical Products, Inc. |
| 263.20 | **Q. Yang:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Canon Inc., Polgenix Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Canon Inc.,, University of Rochester, Montana State University. **J. Zhang:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Canon Inc., Polgenix Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Canon Inc., University of Rochester. **D.R. Williams:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Canon Inc., Polgenix Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Rochester. |
| 264.03 | **K. Kilborn:** A. Employment/Salary (full or part-time); 3i. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 3i. **O. Assayag:** A. Employment/Salary (full or part-time); 3i. |
| 264.12 | **D. Angeley:** A. Employment/Salary (full or part-time); Circuit Therapeutics. **I.D. Gallager:** A. Employment/Salary (full or part-time); Circuit Therapeutics. **D. Andersen:** A. Employment/Salary (full or part-time); Circuit Therapeutics. |
| 265.01 | **G. Holst:** F. Consulting Fees (e.g., advisory boards); Neuromatic Devices, Inc. **I. Kolb:** F. Consulting Fees (e.g., advisory boards); Neuromatic Devices, Inc. |
| 265.04 | **H. Bohlen:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CEO, Axiogenesis AG. |
| 265.05 | **H. Polder:** A. Employment/Salary (full or part-time); npi electronic GmbH. **J. Looser:** A. Employment/Salary (full or part-time); npi electronic GmbH. |
| 265.11 | **T. Knott:** Other; Cytocentrics Bioscience GmbH. **S. Frech:** Other; Cytocentrics Bioscience GmbH. **O. Scheel:** Other; Cytocentrics Bioscience GmbH. **J. Eisfeld:** Other; Cytocentrics Bioscience GmbH. **B. Amuzescu:** Other; Cytocentrics Bioscience GmbH. **S. Wierschke:** Other; Cytocentrics Bioscience GmbH. **J. Kudolo:** Other; Cytocentrics Bioscience GmbH. **K. Lin:** Other; Cytocentrics Bioscience GmbH. |
| 267.06 | **A.B. Goodell:** A. Employment/Salary (full or part-time); Gray Matter Research. **C.M. Gray:** A. Employment/Salary (full or part-time); Gray Matter Research. |
| 267.08 | **W.G. Besio:** A. Employment/Salary (full or part-time); CREmedical Corp. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); stock. |

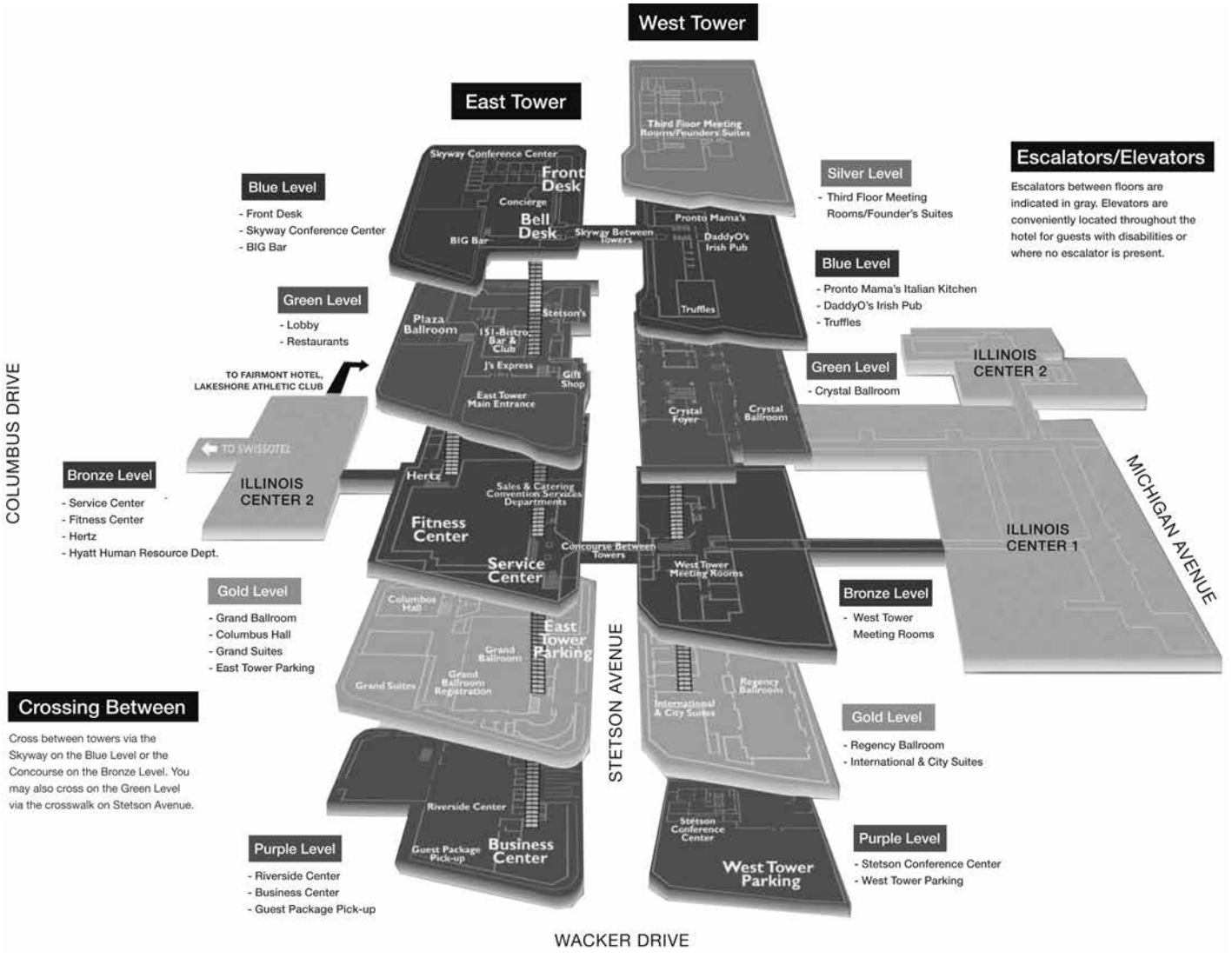
| PRESENTATION NUMBER | STATEMENT |
|---|---|
| 267.11 | **D.R. Merrill:** A. Employment/Salary (full or part-time); Ripple LLC. **T.J. Park:** A. Employment/Salary (full or part-time); Ripple LLC. **C.F. Smith:** A. Employment/Salary (full or part-time); Ripple LLC. **D.A. McDonnall:** A. Employment/Salary (full or part-time); Ripple LLC. **K.S. Guillory:** A. Employment/Salary (full or part-time); Ripple LLC. |
| 267.18 | **M.E. Rasmussen:** A. Employment/Salary (full or part-time); Electrical Geodesics, Inc. **P. Luu:** A. Employment/Salary (full or part-time); Electrical Geodesics, Inc. **E. Anderson:** A. Employment/Salary (full or part-time); Electrical Geodesics, Inc. **K.K. Morgan:** A. Employment/Salary (full or part-time); Electrical Geodesics, Inc. **A.R. Gunn:** A. Employment/Salary (full or part-time); Electrical Geodesics, Inc. **D.M. Tucker:** A. Employment/Salary (full or part-time); Electrical Geodesics, Inc. |
| 267.19 | **A.E. Snellings:** A. Employment/Salary (full or part-time); NeuroNexus Technologies. **J. Jeon:** A. Employment/Salary (full or part-time); NeuroNexus Technologies. **R.J. Vetter:** A. Employment/Salary (full or part-time); NeuroNexus Technologies. |
| 268.01 | **S. Gervasio:** A. Employment/Salary (full or part-time); Nordic NeuroSTIM ApS. **O.K. Andersen:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nordic NeuroSTIM ApS. **K. Hennings:** A. Employment/Salary (full or part-time); Nordic NeuroSTIM ApS. **E.G. Spaich:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/ patent holder, excluding diversified mutual funds); Nordic NeuroSTIM ApS. |
| 268.04 | **K.S. Frahm:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Medtronic, Inc. **L. Vera-Portocarrero:** A. Employment/Salary (full or part-time); Medtronic, Inc. **P.W. Wacnik:** A. Employment/Salary (full or part-time); Medtronic, Inc. **C.D. Mørch:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Medtronic, Inc. |
| 268.05 | **G. Katona:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Femtonics Kft., Budapest, Hungary. **B. Rózsa:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Femtonics Kft., Budapest, Hungary. F. Consulting Fees (e.g., advisory boards); Femtonics Kft., Budapest, Hungary. |
| 268.06 | **M.T. Salam:** A. Employment/Salary (full or part-time); University of Toronto. **R. Genov:** A. Employment/Salary (full or part-time); University of Toronto. **T. Valiante:** A. Employment/Salary (full or part-time); University of Toronto. **J.L.P. Velazquez:** A. Employment/Salary (full or part-time); University of Toronto. **L. Zhang:** A. Employment/Salary (full or part-time); University of Toronto. |
| 268.09 | **D. Kumsa:** A. Employment/Salary (full or part-time); Medical Device Innovation Consortium. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Case Wester Reserve University. **D. Bardot:** A. Employment/Salary (full or part-time); Medical Device Innovation Consortium. |
| 268.10 | **X. Huang:** A. Employment/Salary (full or part-time); General Stim Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); General Stim Inc. **G.E. Loeb:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); General Stim Inc. F. Consulting Fees (e.g., advisory boards); General Stim Inc. **L. Liao:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); General Stim Inc. |
| 268.19 | **M.J. Russell:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aaken Laboratories. |

# Hotel Floor Plans

## HYATT REGENCY CHICAGO DOWNTOWN

(not connected to McCormick Place)

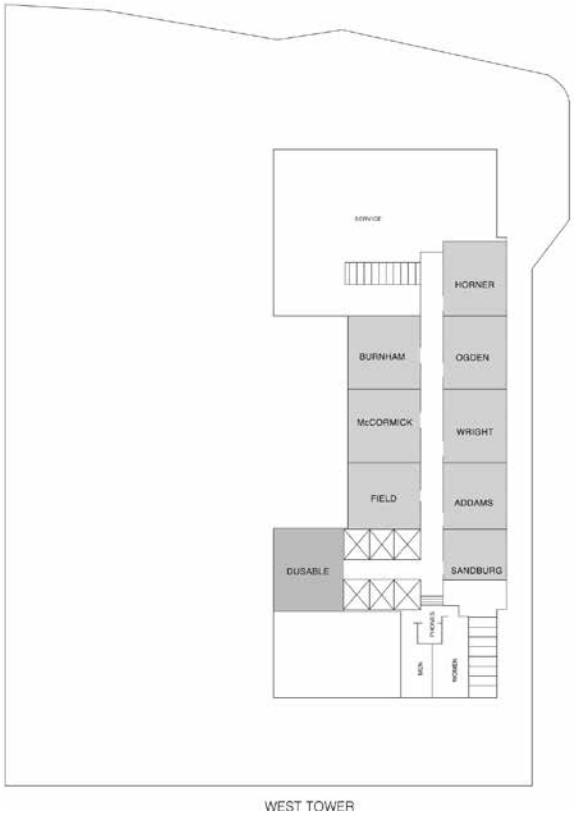
151 E. Wacker Drive
Chicago, IL 60601



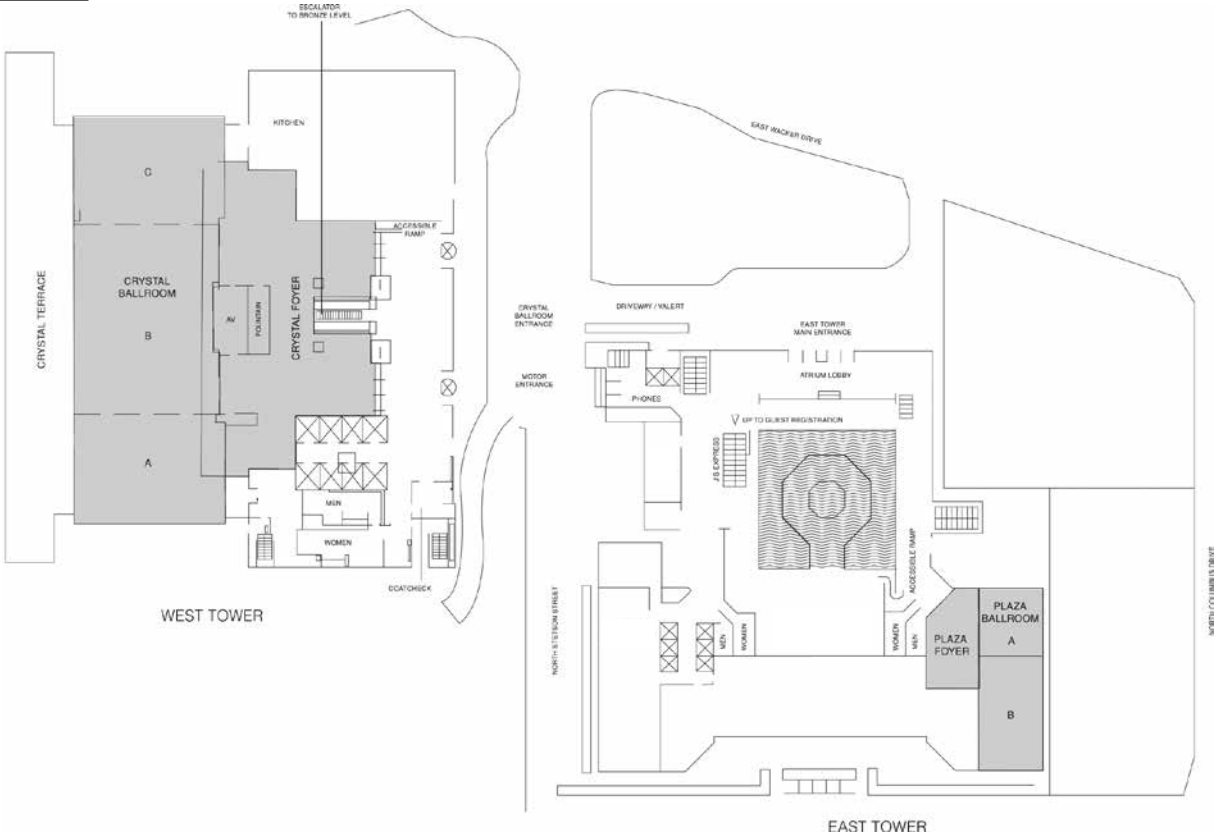
## HYATT REGENCY CHICAGO DOWNTOWN

(continued)

### SILVER LEVEL




### GREEN LEVEL



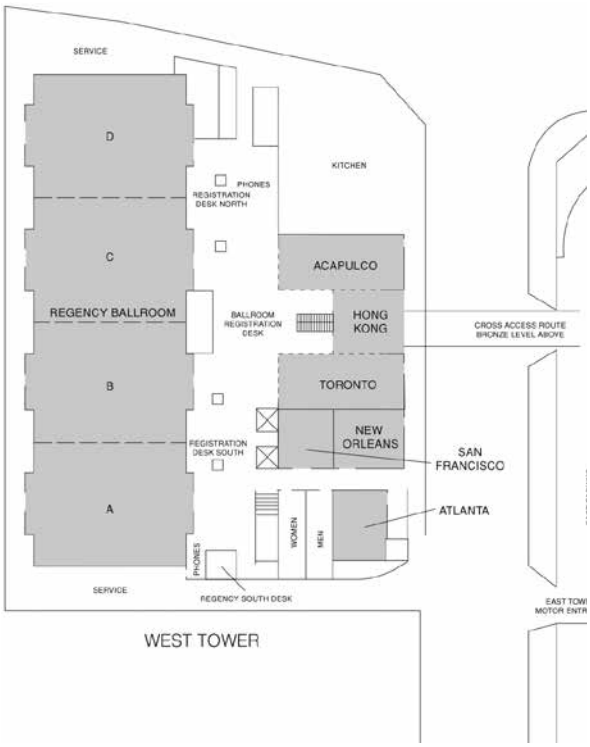
# HYATT REGENCY CHICAGO DOWNTOWN

(continued)

## BRONZE LEVEL

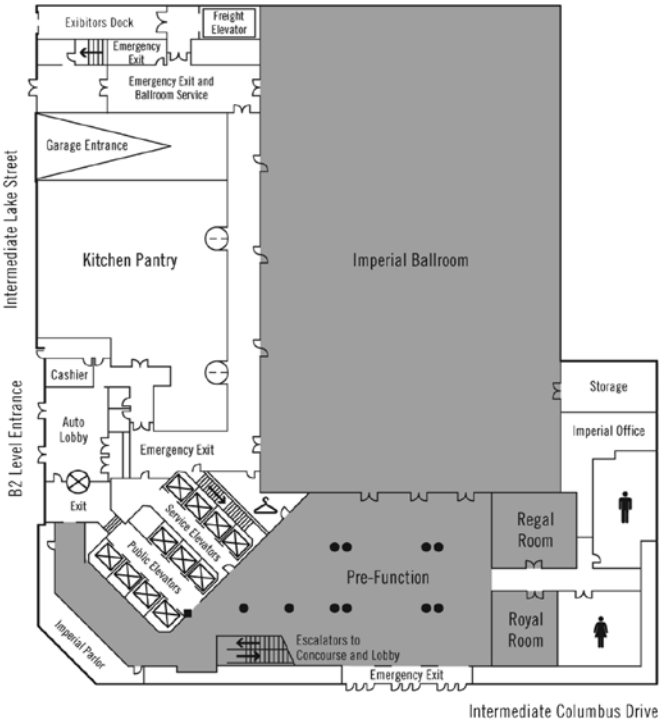


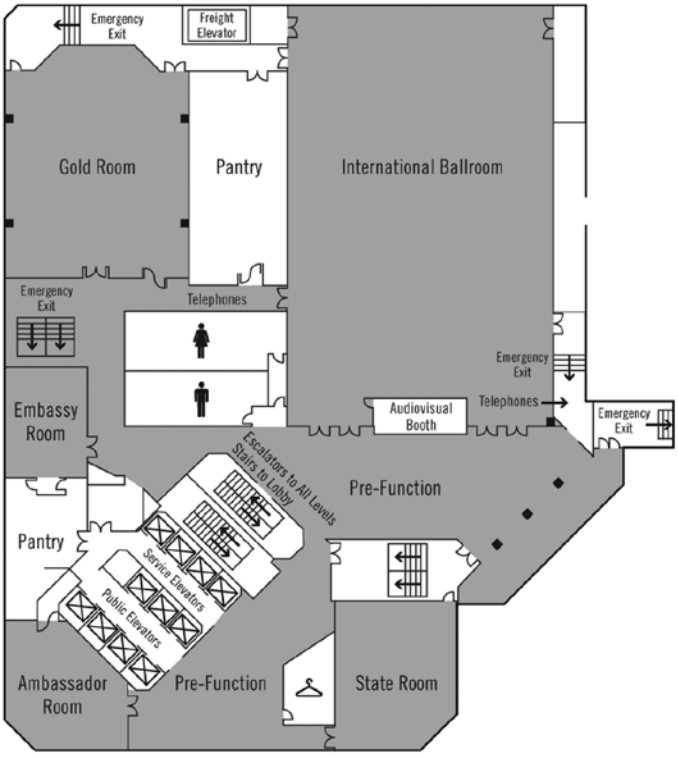

## GOLD LEVEL

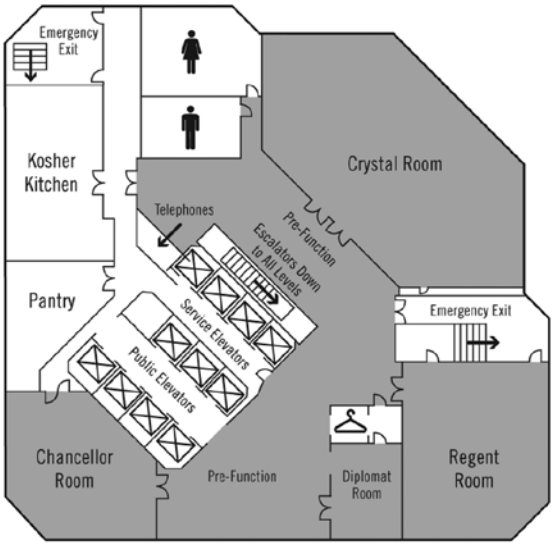


## FAIRMONT CHICAGO, MILLENNIUM PARK

200 N. Columbus Drive
Chicago, IL 60601



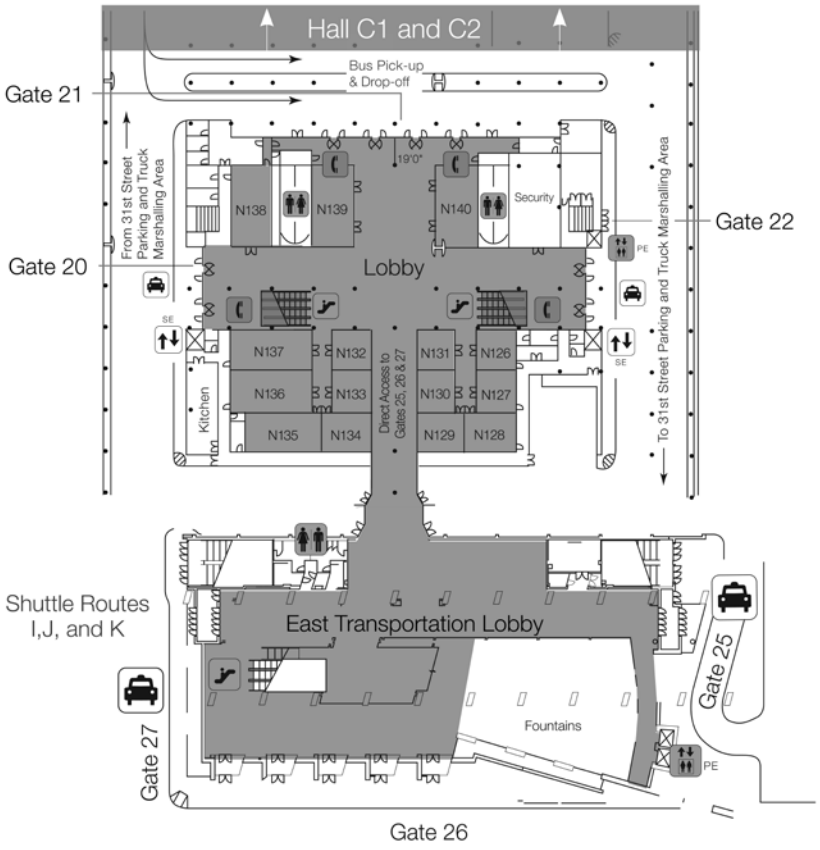



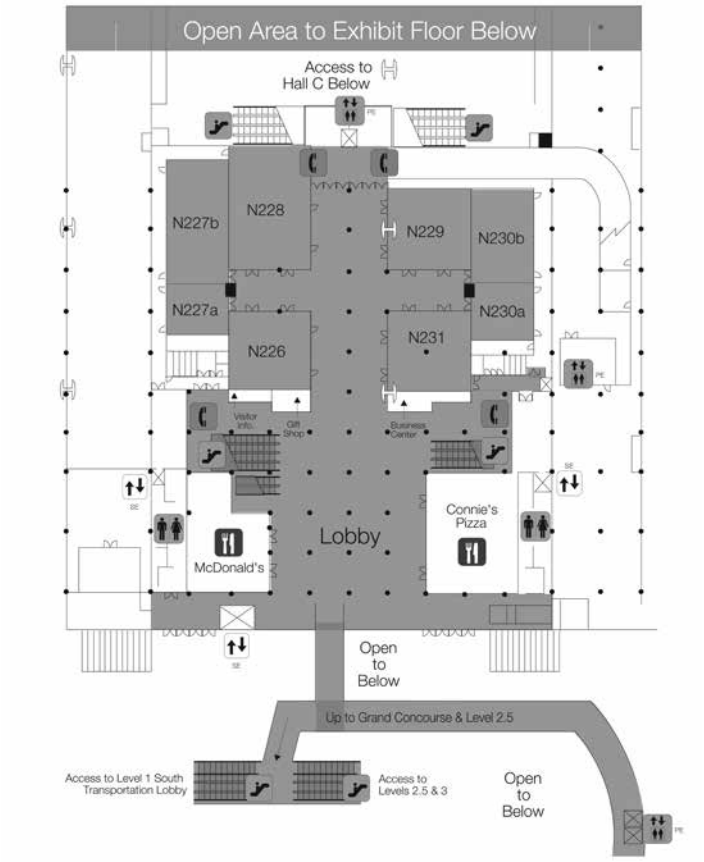
## McCORMICK PLACE

2301 S. Martin Luther King Drive
Chicago, IL 60616

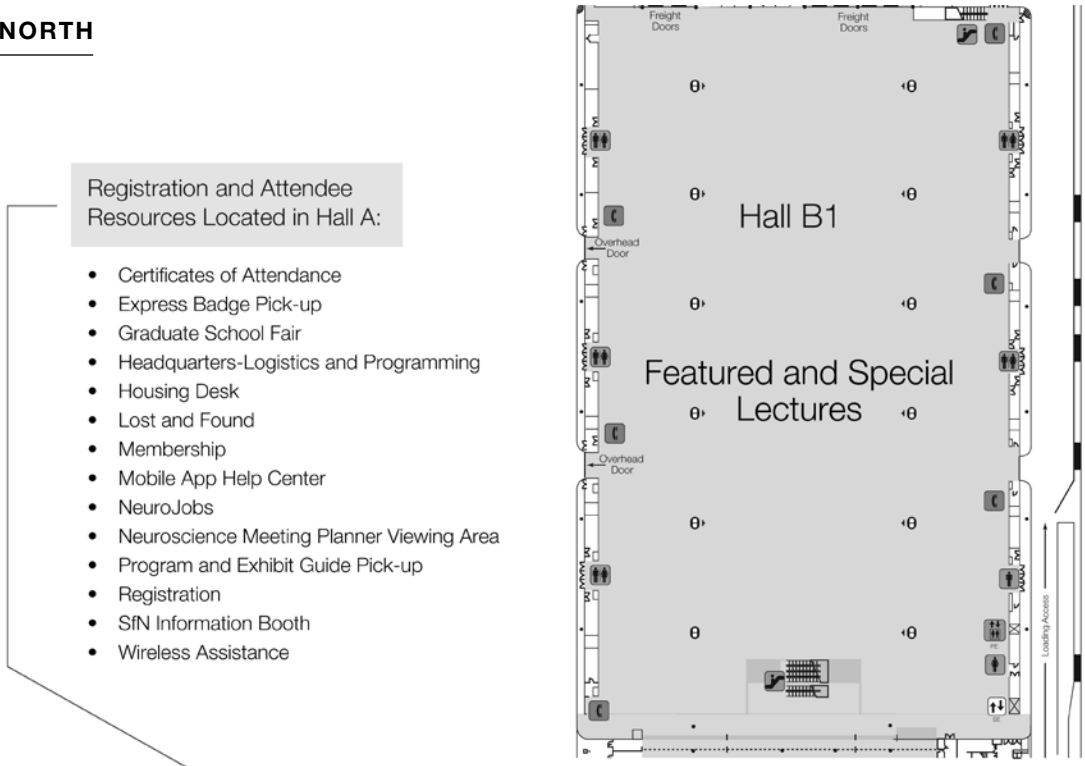
### LEVEL 1 NORTH



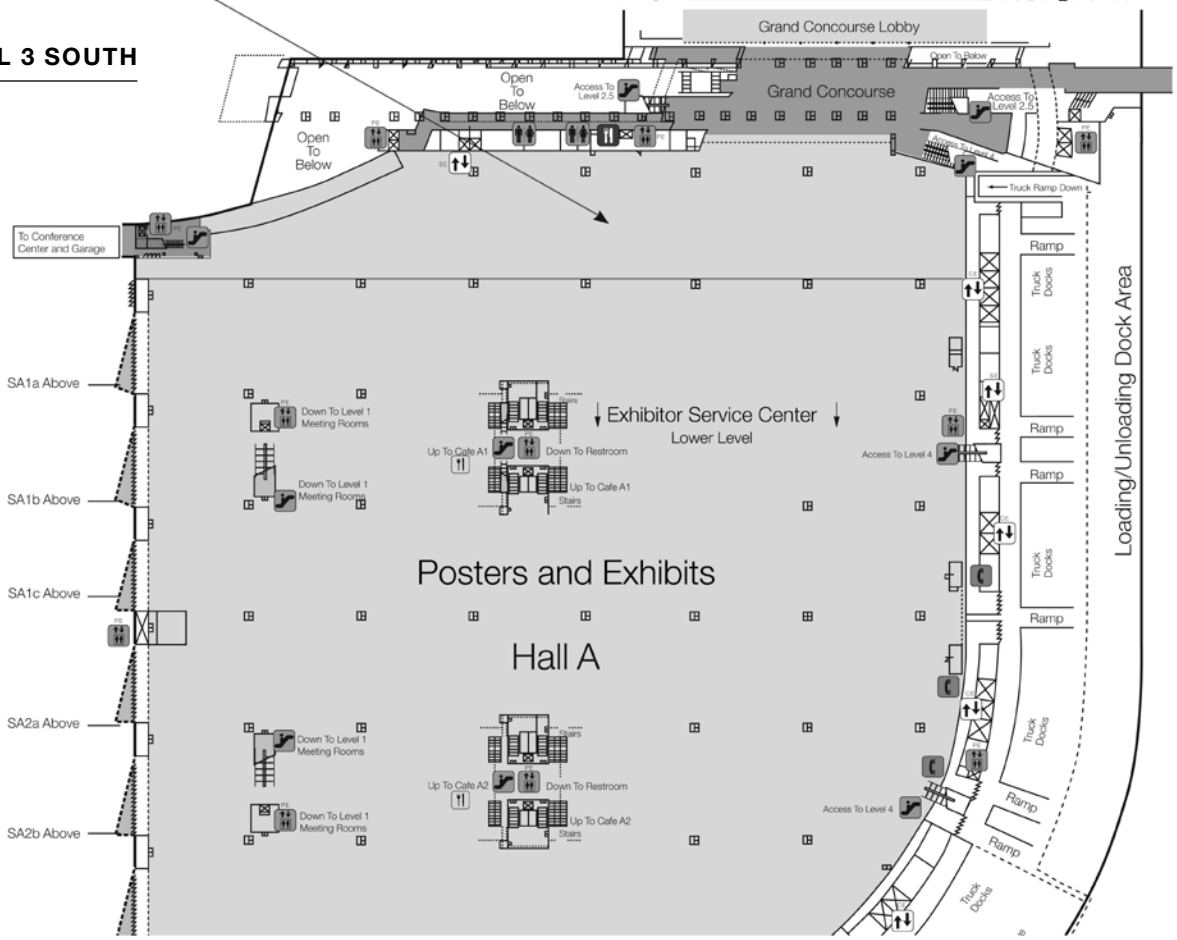

### LEVEL 2 NORTH



## LEVEL 3 NORTH



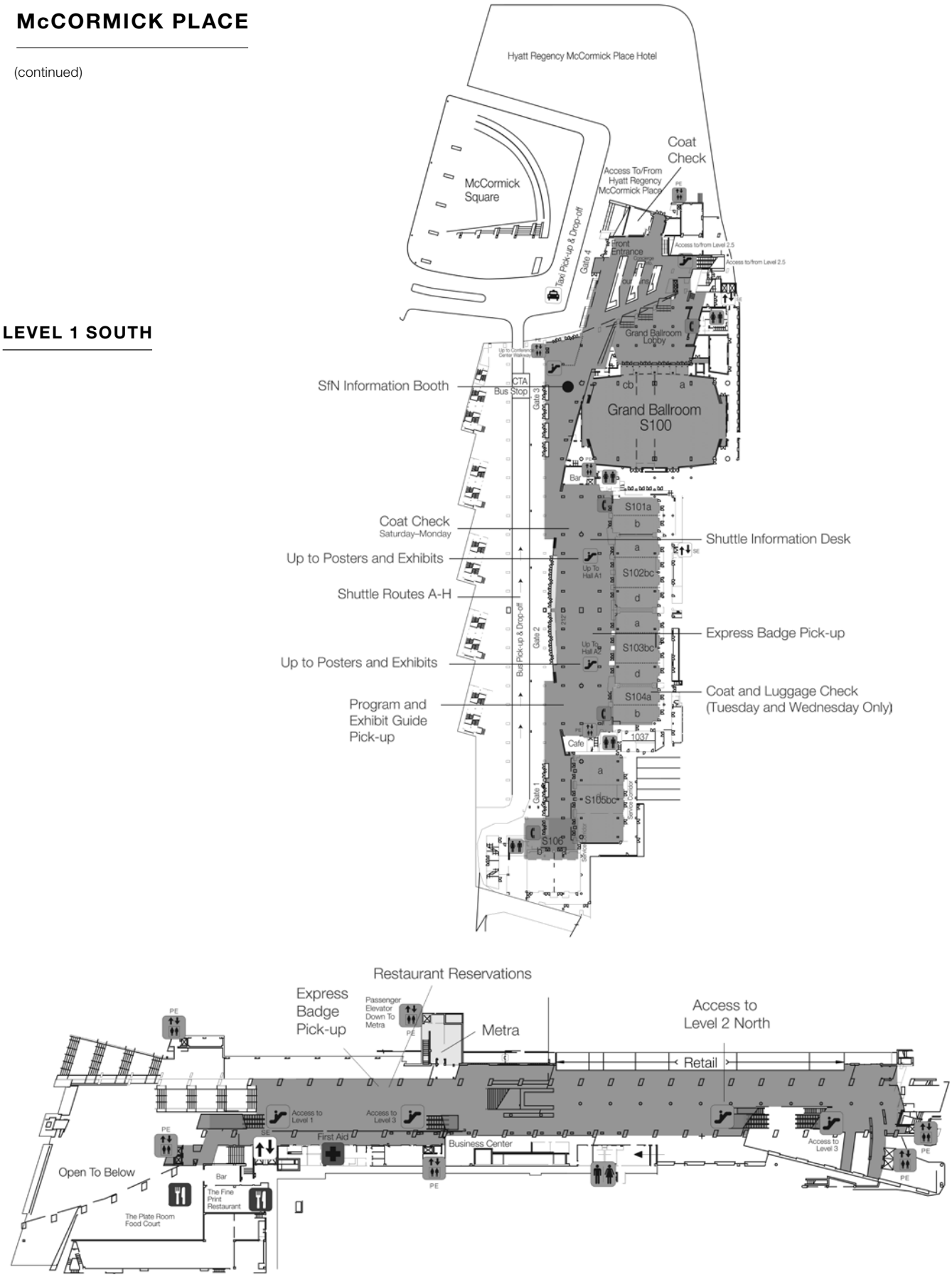

## LEVEL 3 SOUTH



## McCORMICK PLACE

(continued)

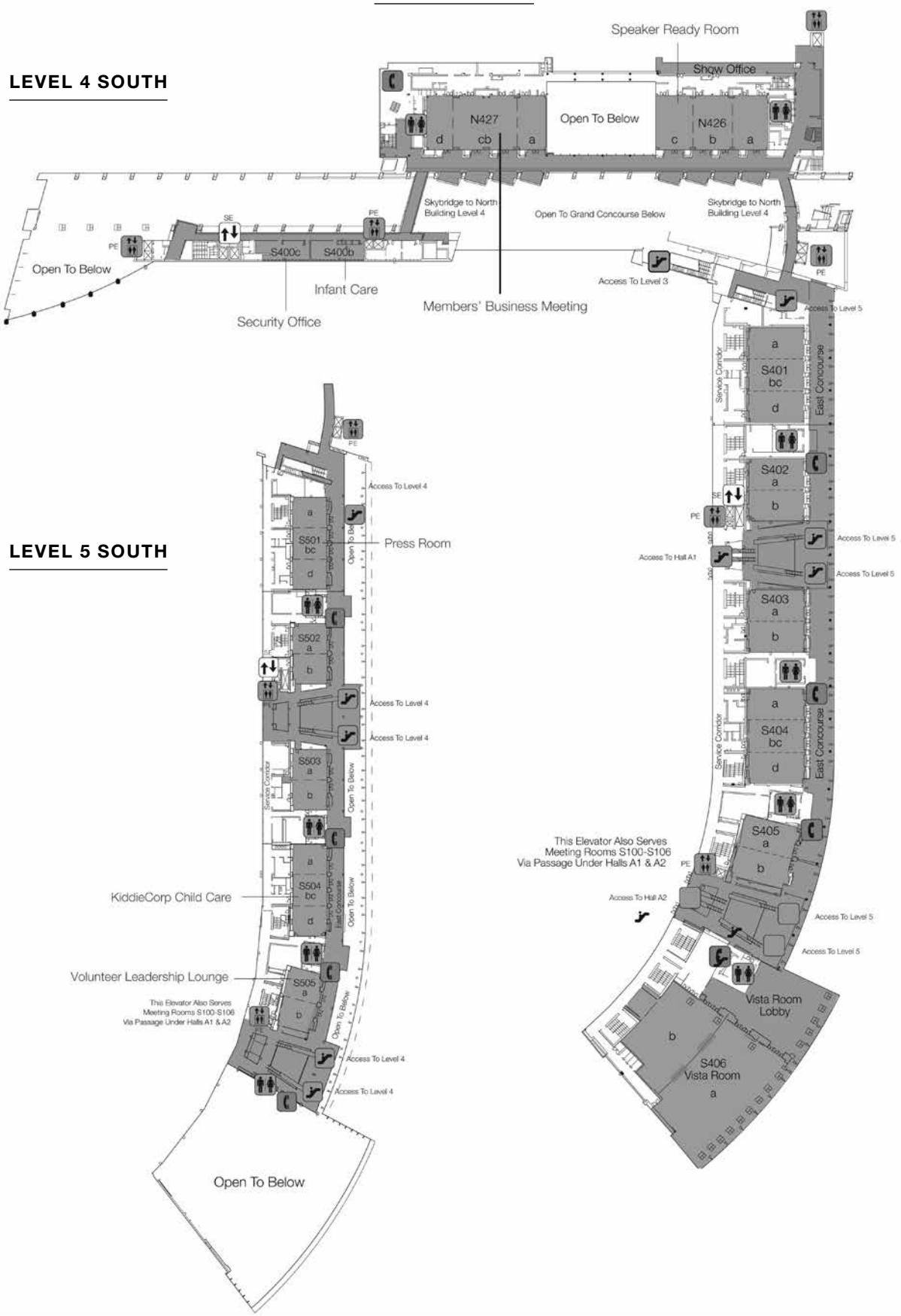
### LEVEL 1 SOUTH



## LEVEL 4 NORTH

## LEVEL 4 SOUTH

## LEVEL 5 SOUTH



Neuroscience 2015

# Exhibits and Poster Sessions

McCormick Place, South Building

Meeting Dates: Oct. 17–21

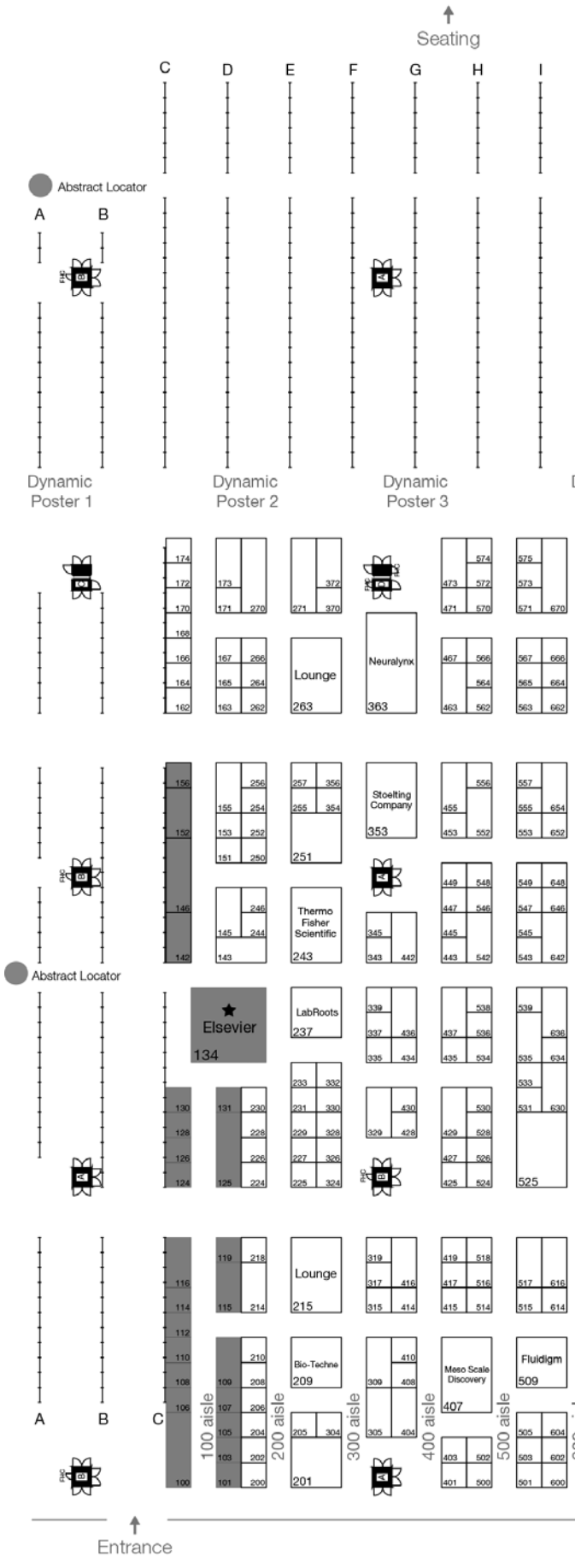
Exhibit Dates: Oct. 18–21

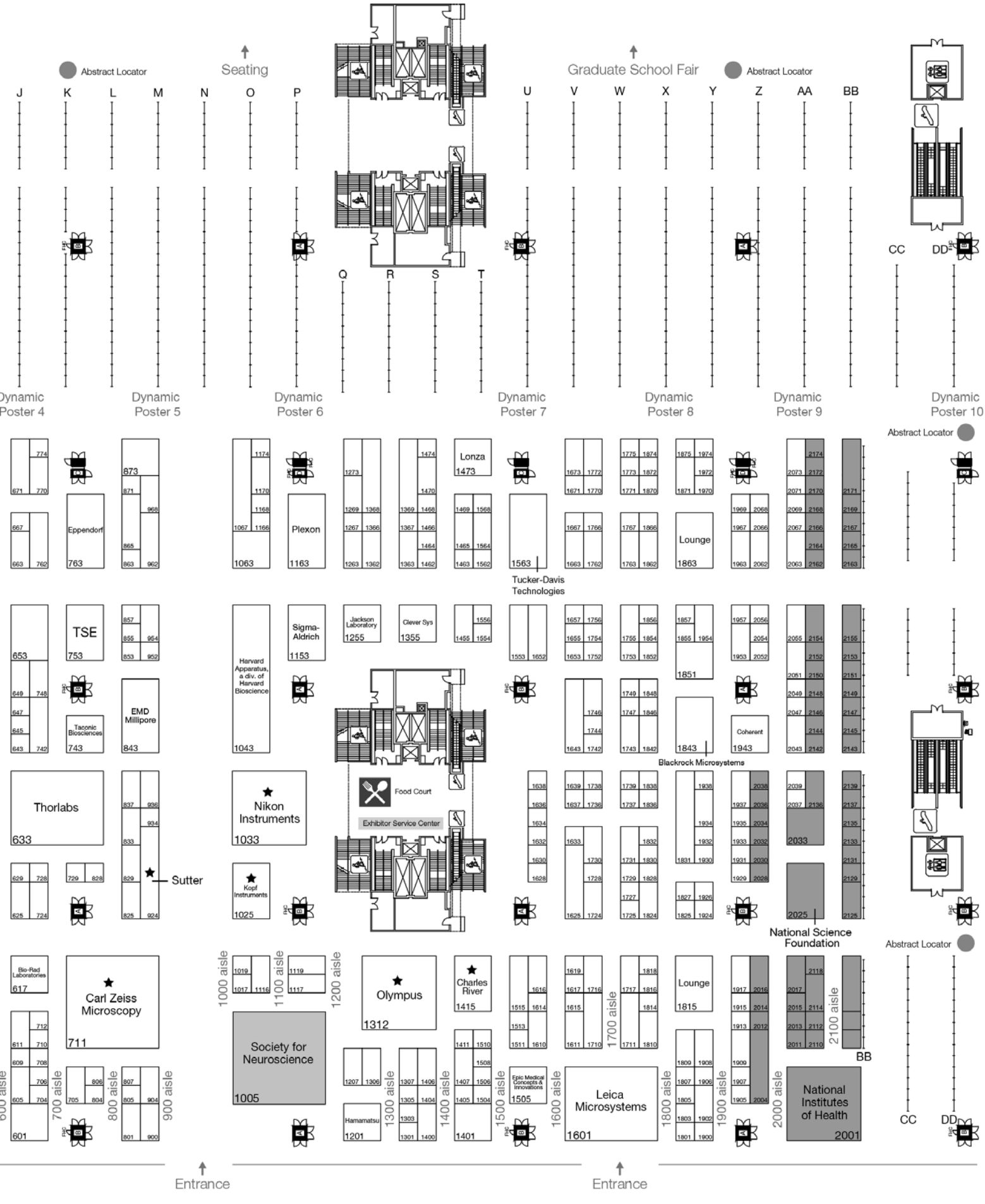
**Note:** Entrances will open at noon on Saturday and at 7 a.m. Sunday through Wednesday for poster presenter setup only. Poster sessions are open for all attendees at 1 p.m. on Saturday and 8 a.m. Sunday through Wednesday.

Floor plans subject to change.

For current floor plan, visit SfN.org/exhibits.

- Publisher's Row
- Nonprofit / Institutes
- SfN
- Exhibitor Service Center
- ★ Sustaining Associate Members
- Food Court
- Abstract Locator
- Column / Fire Hydrant (FHC)




Abstract Locator
Seating
Graduate School Fair
Abstract Locator
J K L M N O P
U V W X Y Z AA BB
Q R S T
CC DD
Dynamic Poster 4
Dynamic Poster 5
Dynamic Poster 6
Dynamic Poster 7
Dynamic Poster 8
Dynamic Poster 9
Dynamic Poster 10
Abstract Locator
Eppendorf 763
Plexon 1163
Lonza 1473
Lounge 1863
1563
Tucker-Davis Technologies
TSE 753
Sigma-Aldrich 1153
Jackson Laboratory 1255
Clever Sys 1355
Harvard Apparatus, a div. of Harvard Bioscience 1043
Taconic Biosciences 743
EMD Millipore 843
1851
Coherent 1943
Blackrock Microsystems
Thorlabs 633
Nikon Instruments 1033
Food Court
Exhibitor Service Center
Sutter
Kopf Instruments 1025
2033
2025
National Science Foundation
Abstract Locator
Bio-Rad Laboratories 617
Carl Zeiss Microscopy 711
1000 aisle
1100 aisle
1200 aisle
Olympus 1312
Charles River 1415
1700 aisle
Lounge 1815
2100 aisle
BB
Society for Neuroscience 1005
Epic Medical Concepts & Innovations 1505
Leica Microsystems 1601
National Institutes of Health 2001
600 aisle
700 aisle
800 aisle
900 aisle
1300 aisle
1400 aisle
1500 aisle
1600 aisle
1800 aisle
1900 aisle
2000 aisle
Hamamatsu 1201
601
1401
CC DD
Entrance
Entrance

# Neuroscience 2016

# See You in San Diego

NOVEMBER 12–16



Society for Neuroscience