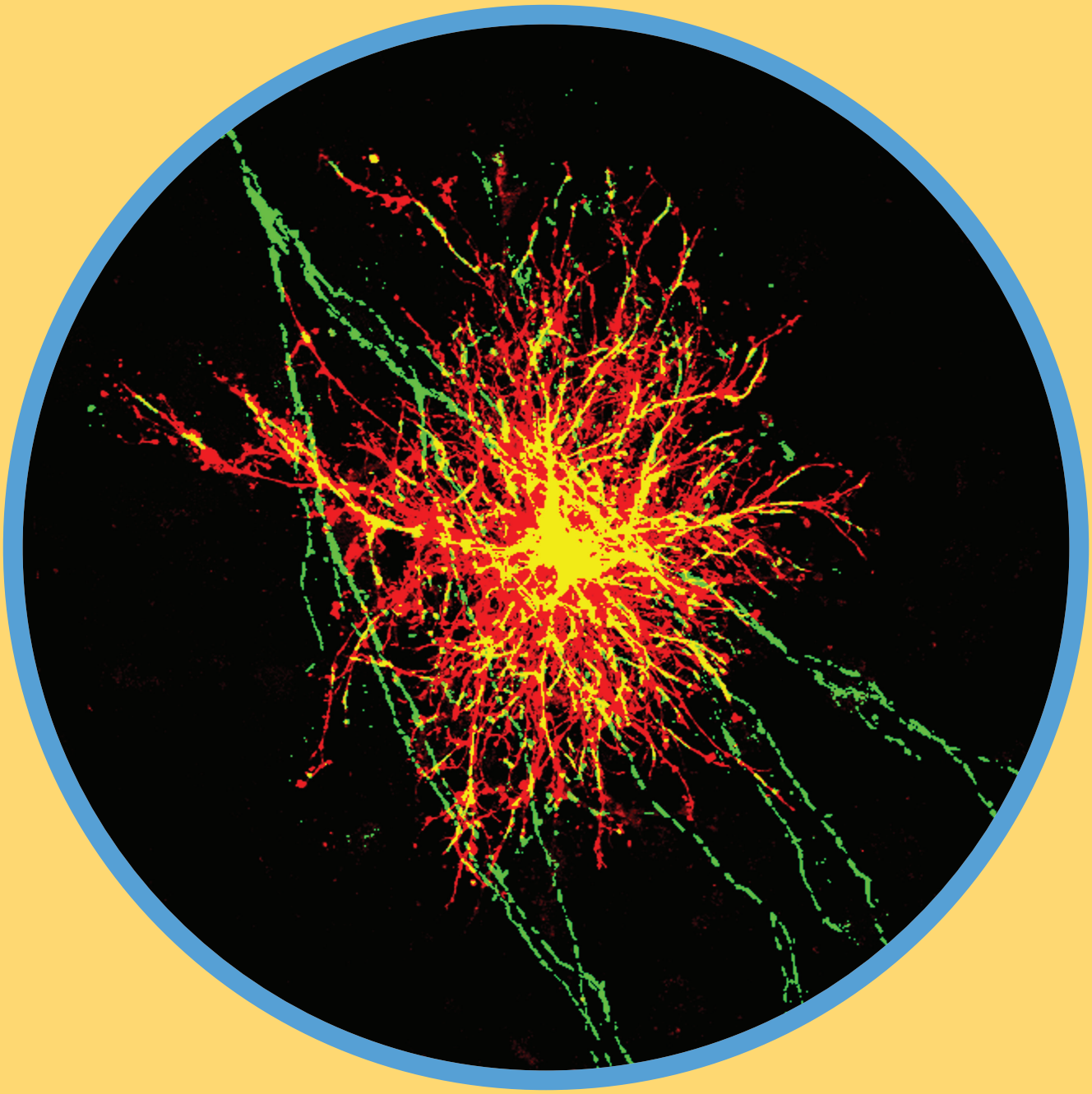
Monday

SAN DIEGO | NOVEMBER 3–7
SESSION LISTING 256–432

NEUROSCIENCE 2018



SfN Society for Neuroscience

Information at a Glance

Session information listed here is current as of September 19, 2018.
See SfN.org for the most up-to-date annual meeting information.

Important Phone Numbers

Annual Meeting Headquarters Office

Logistics and Programming

San Diego Convention Center:
Sails Pavilion
Logistics: (619) 525-6200
Programming: (619) 525-6205

Volunteer Leadership Lounge

San Diego Convention Center:
Room 14A
(619) 525-6235

Annual Meeting Information Booths

San Diego Convention Center

Lobby A: (619) 525-6224
Lobby D: (619) 525-6225
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First Aid and Hospital Numbers

First Aid Room

San Diego Convention Center:
Lobby C
(619) 525-6211

Scripps Mercy Hospital

4077 Fifth Avenue
San Diego, CA 92103
(619) 294-8111

Sharp Rees – Stealy Downtown San Diego Urgent Care

300 Fir Street
San Diego, CA 92101
(858) 499-2600

Key to Poster Floor by Themes

The poster floor begins with Theme A in Hall H and ends with Theme J in Hall B. Refer to the poster floor map at the end of this booklet.

Theme

A .....Development
B .....Neural Excitability, Synapses, and Glia
C .....Neurodegenerative Disorders and Injury
D .....Sensory Systems
E .....Motor Systems
F.....Integrative Physiology and Behavior
G.....Motivation and Emotion
H.....Cognition
I.....Techniques
J.....History and Education

NOTE: Theme J Posters will be on display in Hall B beginning at 1 p.m. on Saturday, Nov. 3, and will remain posted until 5 p.m., Sunday, Nov. 4. One-hour presentations will occur either Saturday afternoon or Sunday morning.

Code of Conduct at SfN Events

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

If attendees experience unwelcome or unsafe situations anywhere in the city, attendees should swiftly contact local authorities (dial 9-1-1), and additional local social services resources are listed in one convenient location at the federal website www.changingourcampus.org. Any official report of sexual harassment should be brought to the designated Human Resources Officer in the SfN headquarters office at each meeting convention center, or sent via email to hrofficer@sfn.org. The HR Officer will facilitate the completion of a report by a complainant.

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

Cover Image: This image shows an astrocyte (green mitochondria; gfap-driven red plasma membrane) intercalated throughout the apical dendrites of a CA1 pyramidal neuron (green mitochondria) at its branch point in stratum radiatum of a rat hippocampal slice. After 30 min oxygen/glucose deprivation, mitochondria in these astrocytes undergo delayed, glutamate-dependent fragmentation and autophagic degradation, resulting in drastically altered calcium signaling. **Courtesy with permission:** *Journal of Neuroscience* 6 July 2016, 36 (27): 7109–7127.

Complete Session Listing

Monday AM

LECTURE *San Diego Convention Center*

256. Organelle Structure and Dynamics: What High-Resolution Imaging Is Uncovering — CME

Mon. 8:30 AM - 9:40 AM — SDCC Ballroom 20

Speaker: J. LIPPINCOTT-SCHWARTZ*, Janelia Res. Campus.*

Powerful new ways to image the internal structures and complex dynamics of cells are revolutionizing cell biology and biomedical research. This lecture will focus on how emerging imaging technologies are increasing spatiotemporal resolution dramatically, permitting simultaneous multispectral imaging of multiple cellular components. Using these tools, it is now possible to begin describing the interrelationships of different cellular organelles as they carry out critical functions.

SYMPOSIUM *San Diego Convention Center*

257. Repairing the Injured Nervous System: Inhibiting the Inhibitors — CME

Mon. 8:30 AM - 11:00 AM — SDCC 6A

Chair: E. J. BRADBURY, *King's College London*
Co-Chair: C. G. BECKER, *University of Edinburgh*

This symposium will focus on inhibitory factors that prevent neuroplasticity and functional recovery after central nervous system injury. We will present new advances in understanding how inhibitory molecules present in a tissue injury environment are a barrier to repair and may be therapeutically targeted. The symposium will cover bench-to-bedside approaches that span mammalian and nonmammalian systems, organic chemistry, gene therapy, and clinical trials, with a common goal of repairing the injured nervous system.

8:30 **257.01** Introduction.

8:35 **257.02** Roles of chondroitin sulfate proteoglycans in neuroplasticity and axon regeneration: A chemical neurobiology approach. L. C. HSIEH-WILSON. *Caltech.*

9:10 **257.03** How the lesion site environment determines successful regeneration: Lessons from non-mammalian models. C. G. BECKER. *Univ. of Edinburgh.*

9:45 **257.04** Rewiring the injured spinal cord: targeting the extracellular matrix to promote functional repair. E. J. BRADBURY. *King's Col. London.*

10:20 **257.05** Nogo-A therapy for stroke and spinal cord injury: From bench to clinic. M. E. SCHWAB. *Univ. of Zurich.*

10:55 **257.06** Closing Remarks.

SYMPOSIUM *San Diego Convention Center*

258. ● Targeted Therapies for Parkinson's Disease: From Genetics to the Clinic — CME

Mon. 8:30 AM - 11:00 AM — SDCC 6B

Chair: L. S. SHIHABUDDIN, *Sanofi*
Co-Chair: P. BRUNDIN, *Van Andel Research Institute*

The greatest unmet need in Parkinson's disease (PD) is the development of treatments that slow the relentless progression of the neurodegenerative process. The discovery of genomic and biochemical biomarkers for PD is starting to revolutionize its diagnosis, prognosis, and treatment. This symposium will focus on therapeutic paradigms under active clinical development and highlight a wide range of outstanding questions that need to be addressed to advance the field of disease modification in PD.

8:30 **258.01** Introduction.

8:35 **258.02** ● Alpha-synuclein related therapies for Parkinson's disease. P. BRUNDIN. *Van Andel Res. Inst.*

9:10 **258.03** ● LRRK2-related therapies for Parkinson's disease. J. T. GREENAMYRE. *Univ. of Pittsburgh.*

9:45 **258.04** ● GBA as a therapeutic target in Parkinson's disease. S. SARDI. *Sanofi.*

10:20 **258.05** ● Critical path for Parkinson's disease: Increasing efficiency, safety, and speed in clinical trials. D. STEPHENSON. *Critical Path Inst.*

10:55 **258.06** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

259. Defining Dysbiosis in Disorders of Movement and Motivation — CME

Mon. 8:30 AM - 11:00 AM — SDCC 6C

Chair: C. T. FIELDS, *Georgia State University*
Co-Chair: H. VUONG, *University of California, Los Angeles*

The gut microbiota can affect multiple aspects of brain function and behavior in health and disease. Interestingly, movement and motivation outputs driven by thalamo-cortico-basal ganglia circuits are modulated by changes in this gut-brain axis. In this mini-symposium, speakers will discuss recent advances in understanding the effects of the gut microbiota on action selection, somatosensation, and motor behavior in health and disease models, including Parkinson's, obesity, and opioid addiction.

8:30 **259.01** Introduction.

8:35 **259.02** Effects of gut-derived endotoxin on anxiety-like and repetitive behaviors in male and female mice. C. T. FIELDS. *Georgia State Univ.*

8:55 **259.03** Maternal microbiome mediates fetal brain development and offspring sensory behaviors. H. VUONG. *Univ. of California-Los Angeles.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:15 **259.04** The gut microbiota mediates affective and sensory function associated with regimen-selective morphine dependence. A. TAYLOR. *Univ. of Alberta.*

9:35 **259.05** Perturbations of the gut microbiome affect drug seeking behaviors. D. D. KIRALY. *Icahn Sch. of Med. at Mount Sinai.*

9:55 **259.06** Gut microbiota regulate motor deficits and neuroinflammation in a model of Parkinson's disease. T. SAMPSON. *Caltech.*

10:15 **259.07** Maternal obese-type gut microbiota differentially impact cognition, anxiety, and compulsive behavior in male and female offspring in mice. A. BRUCE-KELLER. *Louisiana State Univ.*

10:35 **259.08** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

260. Insular Cortex Neurocircuits: Relationships Among Function, Connectivity, and Drug and Alcohol Abuse — CME

Mon. 8:30 AM - 11:00 AM — SDCC 6E

Chair: B. K. ATWOOD, *Indiana University School of Medicine*

The insular cortex plays a major role in processing the interoceptive effects of drugs of abuse, including alcohol. This minisymposium will highlight preclinical studies that dissect the local neurocircuitry of the insular cortex and its projections to specific brain regions in the context of alcohol, opioid, and psychostimulant abuse. Novel functional roles of these networks in drug-related behaviors and the impact of drugs of abuse on insular cortex-originating synapses will be discussed.

8:30 **260.01** Introduction.

8:35 **260.02** A role for the insula-accumbens circuit in alcohol interoceptive sensitivity and drinking. J. BESHEER. *Univ. of North Carolina - Chapel Hill.*

8:55 **260.03** Forced abstinence from ethanol intake dysregulates behavioral affect and an endocannabinoid-sensitive insular-BNST circuit. D. G. WINDER. *Vanderbilt Univ. Sch. of Med.*

9:15 **260.04** Role of anterior insula and amygdala circuits in relapse after voluntary abstinence. M. VENNIRO. *Natl. Inst. On Drug Abuse.*

9:35 **260.05** Perineuronal nets in the insula regulate aversion-resistant ethanol consumption. A. W. LASEK. *Univ. of Illinois, Chicago.*

9:55 **260.06** Mu opioid receptor-mediated long-term depression at insular cortex inputs to dorsolateral striatum: Synapse-specific effects of drugs of abuse. B. K. ATWOOD. *Indiana Univ. Sch. of Med.*

10:15 **260.07** Insula regulates conflict response and adaptive stress circuits to promote compulsive alcohol drinking. F. W. HOPF. *UCSF.*

10:35 **260.08** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

261. Algorithms for Olfactory Search Across Species — CME

Mon. 8:30 AM - 11:00 AM — SDCC 28A

Chair: M. SMEAR, *University of Oregon*
Co-Chair: K. NAGEL, *New York University Medical Center*

Olfactory navigation provides a unique model for understanding how neural computations shape a behavior critical for survival. This minisymposium will present recent advances in the understanding of olfactory search in flies and rodents. While many cross-species commonalities have emerged, important questions about the neural circuits that implement search behavior remain. This minisymposium will take a multidisciplinary approach to provide an update on progress on these questions.

8:30 **261.01** Introduction.

8:35 **261.02** How flies find food in the real world. M. DICKINSON. *Caltech.*

8:55 **261.03** Behavioral structure of active olfactory search. R. FINDLEY. *Univ. of Oregon.*

9:15 **261.04** Sensorimotor computation directing olfactory navigation through active sampling. M. LOUIS. *UCSB.*

9:35 **261.05** Strategies and circuits for probabilistic search in turbulent environments. D. H. GIRE. *Univ. of Washington.*

9:55 **261.06** Mouse Navigation in a Virtual Reality Environment. J. VERHAGEN. *John B. Pierce Lab.*

10:15 **261.07** Central neurons encoding wind direction in *Drosophila*. M. SUVER. *New York Univ. Med. Ctr.*

10:35 **261.08** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

262. Exposing Neural Dynamics Using Real-Time Control: From Neurons to Human Behavior and Psychopathology — CME

Mon. 8:30 AM - 11:00 AM — SDCC 29D

Chair: H. KEREN, *National Institute of Mental Health*
Co-Chair: C. ZRENNER, *University Hospital Tübingen*

The brain requires interaction with the environment to function. Current experimental and clinical paradigms, however, do not reflect this bidirectional coupling to a reactive environment. This minisymposium will present new experimental approaches to "close the loop" around neural systems, using a real-time system control approach. These methodological advancements will be addressed as they constitute a range of aspects, from computational modeling and engineering to clinical treatments.

8:30 **262.01** Introduction.

8:35 **262.02** Long-term neuronal response dynamics of single neurons and networks. S. REINARTZ. *Intl. Sch. for Advanced Studies (SISSA).*

8:55 **262.03** Sleep-whisking: Using closed loop feedback to bridge the awake-anesthetized gap. A. WALLACH. *Columbia Univ.*

9:15 **262.04** Dynamical structure of socio-vocal networks in marmoset monkeys. D. Y. TAKAHASHI. *Princeton Univ.*

9:35 **262.05** Large-scale control of human brain structural networks: Emergence over development and utility in clinical interventions. D. S. BASSETT. *Univ. of Pennsylvania.*

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9:55 **262.06** Causal differentiation of functional brain-states with real-time EEG-triggered TMS: Oscillatory phase induces plasticity in the human motor system. C. ZRENNER. *Univ. Hosp. Tübingen.*

10:15 **262.07** Reward, mood and depression: exposing interrelations and dynamics using a closed-loop control. H. KEREN. *Natl. Inst. of Mental Health, NIH.*

10:35 **262.08** Closing Remarks.

BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE
San Diego Convention Center

263. ● Molecular Therapies for Neurological Diseases — CME

Mon. 8:30 AM - 11:00 AM — SDCC 10

Organizer: F. BENNETT, *Ionis Pharmaceuticals*

Speakers: B. K. KASPAR, O. KHWAJA, R. FINKEL

This roundtable will highlight spinal muscular atrophy (SMA) as an example of the progress being made in translating knowledge of the molecular basis of a disease to therapies that transform how the disease is managed. Topics to be discussed include SMA background, antisense, gene therapy, and small molecule approaches to treat SMA. In addition, lessons learned from these development programs will be discussed, highlighting how they translate to other neurological diseases.

LECTURE *San Diego Convention Center*

264. DAVID KOPF LECTURE ON NEUROETHICS: When Is an Adolescent an Adult?: Implications for Justice Policy

Mon. 10:00 AM - 11:10 AM — SDCC Ballroom 20

Speaker: B. J. CASEY*, Yale Univ.*

Advances in brain imaging techniques are providing new insight as to why adolescents experience and respond to the world in unique ways. These developmental findings have influenced a series of Supreme Court decisions on the treatment of adolescents. Now, emerging evidence of developmental changes in the brains of young adults (ages 18 to 21) suggest that they, too, may be immature in ways that are relevant to justice policy.

LECTURE *San Diego Convention Center*

265. ● New Computational Perspectives on Serotonin Function — CME

Mon. 11:30 AM - 12:40 PM — SDCC Ballroom 20

Speaker: Z. F. MAINEN*, Champalimaud Institute, Portugal.*

Serotonin is an important target of psychoactive drugs whose endogenous neuromodulatory functions remain enigmatic. Data indicate that serotonin neurons are activated by surprising events and that consequent serotonin release facilitates neural plasticity and biases decision-making. This lecture will discuss these data from a computational perspective in which serotonin is seen as reporting uncertainty in the brain's internal models of the world and helping to modify them accordingly.

NANOSYMPOSIUM

266. Autism: Structural and Functional Correlates in Children

Theme A: Development

Mon. 8:00 AM – *San Diego Convention Center*, SDCC 32

8:00 **266.01** Longitudinal diffusion tensor imaging study of infants at low and high risk for autism. J. J. WOLFF*; M. R. SWANSON; Y. PERALTA; M. STYNER; K. BOTTERON; S. R. DAGER; J. T. ELISON; A. M. ESTES; H. C. HAZLETT; R. T. SCHULTZ; J. PIVEN. *Univ. of Minnesota Twin Cities, Univ. of North Carolina, Washington Univ. in St. Louis, Univ. of Washington, Children's Hosp. of Philadelphia.*

8:15 **266.02** ● Restricted and repetitive behavior and brain functional connectivity in infants at risk for developing autism spectrum disorder. A. T. EGGEBRECHT*; C. J. MCKINNON; A. TODOROV; J. J. WOLFF; J. T. ELISON; C. M. ADAMS; A. Z. SNYDER; A. M. ESTES; L. ZWAIGENBAUM; K. N. BOTTERON; R. C. MCKINSTRY; N. MARRUS; A. C. EVANS; H. C. HAZLETT; S. R. DAGER; S. J. PATERSON; J. PANDEY; R. T. SCHULTZ; M. A. STYNER; G. GERIG; B. L. SCHLAGGAR; S. E. PETERSEN; J. PIVEN; J. R. PRUETT, JR; .. FOR THE IBIS NETWORK. *Washington Univ. Sch. of Med., Univ. of Chicago, Washington Univ. Sch. of Med., Univ. of Minnesota, Washington Univ. Sch. Med., Univ. of Washington, Univ. of Alberta, Montreal Neurolog. Inst., Univ. of North Carolina at Chapel Hill, Temple Univ., Children's Hosp. of Philadelphia, New York Univ., Washington Univ, Sch. Med., Washington Univ. Sch. Med., Washington Univ. Sch. Med.*

8:30 **266.03** Atypical circuit level brain activity in infants at high risk for autism spectrum disorder. A. DICKINSON*; A. T. MARIN; A. SCHEFFLER; D. SENTURK; S. S. JESTE. *UCLA, UCLA, UCLA Semel Inst. of Biobehavioral Sci.*

8:45 **266.04** An EEG biomarker quantifying sensitive period onset in Autism Spectrum Disorder. L. J. GABARD-DURNAM*; H. TAGER-FLUSBERG; C. A. NELSON. *Boston Childrens' Hosp., Boston Univ., Harvard Med. Sch.*

9:00 **266.05** EEG markers of language development in infants and toddlers at risk for autism spectrum disorder. C. L. WILKINSON*; L. J. GABARD-DURNAM; A. R. LEVIN; K. KAPUR; H. TAGER-FLUSBERG; C. NELSON. *Boston Children's Hosp., Boston Children's Hosp., Boston Univ.*

9:15 **266.06** Atypical visual network connectivity in toddlers with autism spectrum disorders. B. CHEN*; A. C. LINKE; C. H. FONG; L. OLSON; S. REYNOLDS; M. KINNEAR; R. MUELLER; I. FISHMAN. *San Diego State Univ., San Diego State Univ., SDSU, SDSU / UC San Diego.*

9:30 **266.07** Modeling brain overgrowth in psychiatric disorders using human pluripotent stem cells. S. CHETTY*.

9:45 **266.08** Atypical links between resting state EEG and fMRI measures in autism spectrum disorders. L. E. MASH*; B. KEEHN; Y. GAO; J. TOWNSEND; T. T. LIU; R. MUELLER. *San Diego State Univ., SDSU/UC San Diego Joint Doctoral Program in Clin. Psychology, Purdue Univ., UCSD, UCSD.*

10:00 **266.09** Neural retainability in autism. T. WATANABE*; G. E. REES; N. MASUDA. *RIKEN Ctr. for Brain Sci., UCL Inst. of Cogntive Neurosci., UCL Inst. of Cognitive Neurosci., UCL Wellcom Ctr. for Human Neuroimaging, Univ. of Bristol.*

10:15 **266.10** Anatomical correlates of language connectivity-based subgrouping in autism spectrum disorder. Y. GAO*; J. S. KOHLI; C. H. FONG; A. C. LINKE; I. FISHMAN; R. A. CARPER; R. MUELLER. *San Diego State University/ UC San Diego, San Diego State Univ.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
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10:30 **266.11** Functional connectivities are more informative than anatomical variables in diagnostic classification of autism. A. JAHEDI*; A. EILL; Y. GAO; J. S. KOHLI; C. H. FONG; R. A. CARPER; B. BAILEY; R. MUELLER. *San Diego State Univ., San Diego State Univ., San Diego State University/ UC San Diego, San Diego State Univ.*

10:45 **266.12** Gender-related differences in intrinsic functional connectivity in children and adolescents with autism spectrum disorders. L. OLSON*; A. C. LINKE; L. E. MASH; M. REITER; R. MUELLER; I. FISHMAN. *SDSU / UC San Diego, San Diego State Univ., San Diego State Univ.*

11:00 **266.13** Response to own name in noise differs in autistic adolescents with severe language impairments. S. SCHWARTZ*; L. WANG; B. SHINN-CUNNINGHAM; H. TAGER-FLUSBERG. *Boston Univ., Boston Univ., Boston Univ.*

11:15 **266.14** The cingulum and cingulate U-fibers in children and adolescents with autism spectrum disorders. J. HAU*; S. ALJAWAD; N. BAGGETT; R. CARPER; I. FISHMAN; R. MÜLLER. *Brain Develop. Imaging Lab., San Diego State Univ.*

NANOSYMPOSIUM

267. Alzheimer's Disease: Neuroinflammation and Immune Actions

Theme C: Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *San Diego Convention Center*, SDCC 24

8:00 **267.01** Progressive envelopment of sporadic Alzheimer's disease (AD) neuronal nuclei by microbiome-derived lipopolysaccharide (LPS); selective inhibition of neurofilament light chain (NF-L) gene expression. W. J. LUKIW*; L. CONG; Y. ZHAO; V. JABER. *Louisiana State Univ. Neurosci. Ctr. of Excellence, Dept. of Neurology, Shengjing Hospital, China Med. Univ., LSUHSC-NO Neurosci., LSU Neurosci. Ctr.*

8:15 **267.02** Meningeal lymphatic vessels play a key role in age-dependent cognitive decline and in Alzheimer's disease pathology. S. DA MESQUITA*; A. LOUVEAU; A. VACCARI; I. SMIRNOV; R. CORNELISON; K. M. KINGSMORE; C. CONTARINO; D. RAPER; K. E. VIAR; R. D. POWELL; W. BAKER; N. DABHI; J. M. MUNSON; M. LOPES; C. C. OVERALL; S. T. ACTON; J. KIPNIS. *Univ. of Virginia, Univ. of Virginia, Univ. of Virginia, Univ. of Trento, Virginia Tech, Col. of Engin., Univ. of Virginia.*

8:30 **267.03** Upregulation of MIF in Alzheimer's disease. W. SONG*; S. ZHANG; J. ZHAO; Y. ZHANG; Y. ZHANG; F. CAI; L. WANG. *The Univ. of British Columbia, Guangdong Gen. Hosp.*

8:45 **267.04** Reconstructed neurotoxic microglial activation triggered by reactive astrocytes in a 3d organotypic human Alzheimer's disease brain model. H. CHO*; J. PARK; I. WETZEL; I. MARRIOTT; D. DRÉAU; D. KIM; R. E. TANZI. *UNC Charlotte, Massachusetts Gen. Hospital/ Harvard Med. Sch., Massachusetts Gen Hosp, Harvard Med. Sch.*

9:00 **267.05** Reversal of amyloid beta-induced microglial activation through the regulation of metabolism: A novel role for the pro-resolving receptor, Fpr2. E. WICKSTEAD*; S. J. GETTING; C. BIGGS; S. MCARTHUR. *Queen Mary, Univ. of London, Univ. of Westminster.*

9:15 **267.06** The role of microglia in Alzheimer's disease-associated retinal neurodegeneration. S. DI ANGELANTONIO*; A. GRIMALDI; C. BRIGHI; D. RAGOZZINO; C. LIMATOLA; R. CECCARELLI; G. RUOCCO. *Inst. Italiano Di Tecnologia, Inst. Italiano Di Tecnologia IIT, Sapienza Univ. di Roma, Sapienza Univ. di Roma, CrestOptics.*

9:30 **267.07** Detrimental effects of endothelial nitric oxide deficiency on microglial phenotype. S. A. AUSTIN*; Z. S. KATUSIC. *Mayo Clin.*

9:45 **267.08** *Ex vivo* systems to determine the roles of microglia in Alzheimer's disease. T. E. GOLDE; B. MOORE*; C. L. CROFT; A. M. ROSARIO; K. REWIS; T. B. LADD; C. B. LESSARD; P. E. CRUZ. *Col. of Medicine, Univ. of Florida, Univ. of Florida.*

10:00 **267.09** Effects of docosahexaenoic acid and its peroxidation product on Aβ-stimulated microglia. X. GENG*; B. YANG; R. LI; T. TENG; G. Y. SUN; C. GREENLIEF; J. C. LEE. *Univ. of Illinois at Chicago, Univ. Missouri, Univ. Missouri.*

10:15 **267.10** Genetic diversity is a significant driver of amyloid-induced neuroinflammation and neurodegeneration in APP/PS1 mice. K. D. ONOS*; A. UYAR; K. J. KEEZER; H. M. WILLIAMS; C. PREUSS; C. ACKLIN; R. O'ROURKE; R. BUCHANAN; T. L. COSSETTE; S. J. SUKOFF RIZZO; I. SOTO; G. W. CARTER; G. R. HOWELL. *The Jackson Lab., Rowan Univ.*

10:30 **267.11** The astrocytic circadian clock gates neuroinflammation and neuronal health through regulation of Alzheimer's disease biomarker Chi3l1 (YKL-40). B. V. LANANNA*; C. J. NADARAJAH; C. A. MCKEE; M. R. CEDENO; P. GRIFFIN; J. DIMITRY; E. S. MUSIEK. *Washington Univ. in St Louis, Univ. of Colorado Boulder.*

10:45 **267.12** ▲ Complement C5aR1 signaling results in decreased hippocampal neuronal complexity in Alzheimer's disease mouse models. P. SELVAN; V. AGHAJANYAN; S. CHU; S. R. BARNAM; D. BAGLIETTO-VARGAS; A. J. TENNER*. *Univ. California Irvine, Univ. of Alabama, Univ. California Irvine, Univ. California Irvine.*

NANOSYMPOSIUM

268. Alzheimer's Disease and Other Dementias: Therapeutic Strategies: Preclinical Animal Models

Theme C: Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *San Diego Convention Center*, SDCC 33

8:00 **268.01** ● A novel murine knock-in model for progranulin-deficient frontotemporal dementia with nonsense-mediated mRNA decay. A. D. NGUYEN*; T. A. NGUYEN; J. ZHANG; S. DEVIREDDY; P. ZHOU; A. M. KARYDAS; X. XU; B. L. MILLER; F. RIGO; S. M. FERGUSON; E. J. HUANG; T. C. WALTHER; R. V. FARESE, Jr. *St. Louis Univ., Harvard Sch. of Publ. Hlth., UCSF, Yale Univ., Gladstone Inst., Ionis Pharmaceuticals.*

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* Indicates abstract's submitting author

8:15 **268.02** Reversal of memory and neuropsychiatric symptoms and reduced taupathology by selenium in 3xTg-AD mice. A. VAN DER JEUGD*; A. J. PARRA-DAMAS; R. BAETA-CORRAL3; C. M. SOTO-FAGUÁS; T. AHMED; F. M. LAFERLA; L. GIMÉNEZ-LLORT; R. D'HOOGE; C. A. SAURA. *Kuleuven, Inst. De Neurociencies, UAB, Inst. de Neurociències, Departament de Psiquiatria i Medicina Legal, Unitat de Psicologia Mèdica, Univ. Autònoma de Barcelona, Inst. de Neurociències, Departament Bioquímica i Biologia Molecular, Ctr. de Investigación Biomédica en Red Enfermedades Neurodegenerativas (CIBERNED), Univ. Autònoma de Barcelona,, HBKU, Univ. California, Irvine, KU Leuven (BE0419.052.173), Univ. Autònoma de Barcelona.*

8:30 **268.03** ● Neuron-targeted caveolin-1 promotes neuronal plasticity in a mouse model of Alzheimer's disease (AD). S. WANG*; K. ZHOU; J. LEEM; P. PATEL; B. HEAD. *VA Healthcare System, UCSD.*

8:45 **268.04** The phosphodiesterase-4 inhibitor roflumilast reverses cognition deficits and depression-like effects via cAMP signaling-mediated neuroprotection in APP/PS1 transgenic mice. H. WANG; F. ZHANG; Y. XU; H. FU; X. WANG; L. WANG; W. CHEN; X. XU; Y. GAO; J. ZHANG; H. ZHANG*. *Inst. of Pharmacology, Taishan Med. Univ., West Virginia Univ. Hlth. Sci. Ctr.*

9:00 **268.05** Probing late-onset Alzheimer's disease using 2xtetr-teto-mir-34a transgenic mouse model. S. N. SARKAR*. *West Virginia Univ.*

9:15 **268.06** ● Novel NFAT inhibitor Q314R ameliorates synaptic deficits in a mouse model of Alzheimer's disease. P. SOMPOL; J. L. GOLLIHUE; S. D. KRANER; I. A. ARTIUSHIN; R. CLOYD; S. KOREN; G. K. NATION; J. F. ABISAMBRA; O. HUZIAN; L. G. PUSKAS; C. M. NORRIS*. *Univ. Kentucky, Avidin Biotech.*

9:30 **268.07** Neuroprotective effect of Carvacrol in Okadiac acid induced tau hyperphosphorylation and cognitive impairment in mice. A. JUVEKAR*; M. GURSAHANI; N. B. GAWALI; S. MESTRY. *Inst. of Chem. Technol., Inst. of Chem. Technol.*

9:45 **268.08** Near infrared light treatment reduces synaptic levels of toxic tau oligomers and improves memory in two transgenic mouse models of human tauopathies. G. TAGLIALATELA*; B. TUMURBAATAR; B. KRISHNAN; R. KAYED; M. COMEROTA. *Univ. of Texas Med. Br. Dept. of Neurol.*

10:00 **268.09** ● Targeting the eotaxin/CCR3 pathway in aging-associated cognitive decline. S. MINAMI*; S. REGE; H. HACKBART; E. CZIRR; S. P. BRAITHWAITE. *Alkahest, Inc.*

10:15 **268.10** ● *In vivo* validation of a small molecule inhibitor of tau oligomer formation in htau mice. J. G. MOE*; P. DAVIES; E. J. DAVIDOWITZ; P. LOPEZ; H. JIMENEZ; L. ADRIEN. *Oligomerix, Inc., The Feinstein Inst. of Med. Research, Northwell Hlth., The Feinstein Inst. of Med. Research, Northwell Hlth.*

10:30 **268.11** Anti-inflammatory drug prevents and reverses protein aggregation in animal models of Alzheimer's disease. S. AYYADEVARA*; S. KAKRABA; M. BALASUBRAMANIAM; N. R. PENTHALA; S. W. BARGER; S. T. GRIFFIN; P. A. CROOKS; R. J. SHMOOKLER REIS. *Univ. of Arkansas for Med. Sci., Central Arkansas Veterans Healthcare Syst., Univ. of Arkansas at Little Rock, Univ. of Arkansas for Med. Sci., Univ. of Arkansas for Med. Sci., Univ. of Arkansas for Med. Sci., Central Arkansas Veterans Healthcare Syst., Univ. of Arkansas for Med. Sci.*

10:45 **268.12** Gestational high-fat diet attenuates cognitive dysfunction and brain pathology in the offspring of both Alzheimer's disease and aging mouse models. A. DI MECO*; E. LAURETTI; D. PRATICO. *Lewis Katz Sch. of Med.*

11:00 **268.13** Development of a tissue-selective ABCA1 agonist for the treatment of Alzheimer's disease. M. BEN AISSA*; S. H. LEE; C. LEWANDOWSKI; G. THATCHER. *Univ. of Illinois at Chicago. Col. of Phar, Univ. of Illinois At Chicago, Univ. of Illinois At Chicago.*

11:15 **268.14** The aging brain: Long-term effects of environmental and pharmacological neuroprotective factors in male Long-Evans rats. M. BARDI*; M. GRANGER; J. PERDOMO TREJO; S. SCAROLA; K. GERECKE. *Randolph-Macon Col.*

NANOSYMPOSIUM

269. Tauopathies, Tau-Dementias, and Prion Diseases: Cellular and Molecular Mechanisms

Theme C: Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *San Diego Convention Center*, SDCC 1

8:00 **269.01** Microglia engulfment of tangle-bearing neurons in a living tauopathy model. N. SAHARA*; H. TAKUWA; Y. TAKADO; T. URUSHIHARA; M. SHIMOJO; M. TAKAHASHI; M. ONO; T. KIMURA; C. SEKI; J. MAEDA; B. JI; Y. TOMITA; M. ZHANG; T. SUHARA; M. HIGUCHI. *Natl. Inst. of Radiological Sci., Keio Univ. Sch. of Med.*

8:15 **269.02** Immunotherapy targeting tau oligomeric strains in aged transgenic animals of tauopathy. R. AL-LAHHAM*; A. BITTAR; M. CARRETERO MURILLO; M. MONTALBANO; A. ELLSWORTH; N. BHATT; S. MCALLEN; R. KAYED. *Univ. of Texas Med. Branch.*

8:30 **269.03** An n-terminal motif unique to primate tau enables differential protein-protein interactions. K. STEFANOSKA*; A. VOLKERLING; J. BERTZ; A. POLJAK; Y. D. KE; L. M. ITTNER; A. ITTNER. *The Univ. of New South Wales, Univ. of New South Wales, Univ. of New South Wales, Neurosci. Australia.*

8:45 **269.04** Insights into tauopathies and tau therapeutic targets utilizing rAAV-based brain slice culture models. C. L. CROFT*; P. E. CRUZ; D. H. RYU; C. CEBALLOS-DIAZ; K. H. STRANG; B. M. WOODY; K. REWIS; M. S. GOODWIN; W. LIN; M. DETURE; E. RODRIGUEZ-LEBRON; D. DICKSON; P. CHAKRABARTY; Y. LEVITES; B. I. GIASSON; T. E. GOLDE. *Univ. of Florida, Dept. of Neurosci., Mayo Clin., Univ. of Florida, Dept. of Pharmacol. and Therapeut.*

9:00 **269.05** Tau secretion and propagation is regulated by p300/CBP via autophagy-lysosomal pathway. X. CHEN*; Y. LI; C. WANG; Y. TANG; S. MOK; R. M. TSAI; J. C. ROJAS; A. KARYDAS; B. MILLER; A. BOXER; J. E. GESTWICKI; M. ARKIN; A. CUERVO; L. GAN. *Univ. of California San Diego, Gladstone Inst., Univ. of California, San Francisco, Albert Einstein Col. of Med.*

9:15 **269.06** Pathological tau shifts translation by modifying rpS6 and 5' TOP RNA protein synthesis. S. KOREN*; S. E. MEIER; G. K. NATION; J. SIMPSON; J. RODRIGUEZ-RIVERA; S. ESTUS; H. ZHU; E. M. BLALOCK; J. ABISAMBRA. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:30 **269.07** ● PERK-Tau coupling causes biphasic consequences to tau pathology and neuronal function *in vitro* and *in vivo.* J. F. ABISAMBRA*; S. N. FONTAINE; S. KOREN; G. NATION; B. WEISS; R. CLOYD; S. MEIER; D. POWELL. *Univ. of Kentucky, Univ. of Florida, Univ. of Kentucky, Univ. of Kentucky.*

9:45 **269.08** Post-translational modifications alter tau structure and impair tubulin binding. M. BALASUBRAMANIAM*; S. AYYADEVARA; S. T. GRIFFIN; R. SHMOOKLER REIS. *Univ. of Arkansas for Med. Sci., Univ. of Arkansas for Med. Sci., Univ. of Arkansas for Med. Sci.*

10:00 **269.09** Constitutive XBP-1s-mediated activation of the endoplasmic reticulum unfolded protein response protects against pathological tau. S. M. WALDHERR*; B. C. KRAEMER. *Univ. of Washington, Univ. of Washington, Veterans Affairs Puget Sound Hlth. Care Syst., Univ. of Washington, Univ. of Washington.*

10:15 **269.10** Effects of USP14 inhibition on proteasomal degradation in mammalian cells. Q. WANG*; J. CHADCHANKAR; V. KORBOUKH; P. DOIG; S. JACOBSEN; N. BRANDON; S. MOSS. *Astrazeneca R&D Boston, Tufts Univ., AstraZeneca R&D Boston, AstraZeneca R&D Boston, Tufts Univ.*

10:30 **269.11** Analysis of tauopathy research funding between 2006 and 2016 reveals critical gaps in research priorities. C. M. ALTIMUS*; P. BRANNELLY; K. KELLER; E. RILEY; L. BRIGGS. *Milken Inst., Rainwater Charitable Fndn., Milken Inst.*

10:45 **269.12** The role of the ESCRT pathway in prion disease. J. LAWRENCE*; C. SIGURDSON; J. TREJO; T. NAM. *UCSD.*

11:00 **269.13** Reducing heparan sulfate chain length increases clearance of fibrillar prions and prolongs survival. P. AGUILAR CALVO*; A. SEVILLANO; J. BAPAT; K. SOLDAU; D. SANDOVAL; P. NILSSON; J. ESKO; C. SIGURDSON. *Univ. of California, San Diego (UCSD), Univ. of California, San Diego (UCSD), Univ. of California, San Diego (UCSD), Linköping Univ.*

NANOSYMPOSIUM

270. Vision and Eye Movements

Theme D: Sensory Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC 4

8:00 **270.01** Spatial receptive field dynamics in prefrontal cortex. S. B. KHANNA*; J. A. SCOTT; M. A. SMITH. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

8:15 **270.02** Primary visual cortex encodes detailed movement plans. G. GUITCHOUNTS*; J. DAPELLO; J. A. MASIS; S. B. WOLFF; D. D. COX. *Harvard Univ., Harvard Univ.*

8:30 **270.03** Decoding saccade timing and direction from LFPs associated with corollary discharge in macaque V1. S. AKERS-CAMPBELL*; O. RUIZ; J. E. NIEMEYER; J. LOPER; S. GEMAN; M. A. PARADISO. *Brown Univ., Brown Univ., Salk Inst. for Biol. Studies, Rockefeller Univ., Columbia Univ., Brown Univ.*

8:45 **270.04** The relationship between fixation duration and saliency coding in superior colliculus during free viewing of natural scenes. J. HEEMAN*; B. J. WHITE; S. VAN DER STIGCHEL; J. THEEUWES; L. ITTI; D. P. MUNOZ. *Vrije Univ. Amsterdam/Utrecht Univ., Queen's Univ., Utrecht Univ., Vrije Univ., USC.*

9:00 **270.05** Functional organization of the presaccadic neural activity in the superior colliculus. C. MASSOT*; U. K. JAGADISAN; N. J. GANDHI. *Univ. of Pittsburgh.*

9:15 **270.06** Modelling the dynamic interactions of spatiotemporal channels during human ocular following. A. I. MESO*; N. GEKAS; C. SIMONCINI; P. MAMASSIAN; G. S. MASSON. *Bournemouth Univ., CNRS & Ecole normale supérieure, CNRS & Aix-Marseille Univ., Inst. De Neurosciences De La Timone.*

9:30 **270.07** Natural stimulus evoked visual responses are more reliable when actively engaged with the stimulus. J. KI*; J. DMOCHOWSKI. *City Col. of New York.*

9:45 **270.08** Eye tracking during virtual reality navigation in a rodent model of epilepsy. H. TAKANO*; A. G. BERNHARD; S. A. PARK; J. B. KAHN; D. A. COULTER. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania, Haverford Col., Univ. of Pennsylvania.*

10:00 **270.09** Hand-selective areas of both dorsal and ventral visual streams represent how to appropriately grasp 3D tools. E. KNIGHTS*; F. W. SMITH; C. MANSFIELD; D. TONIN; H. WEAVER; J. GREEN; J. SAADA; S. ROSSIT. *Univ. of East Anglia, Norfolk and Norwich Univ. Hosp. NHS Fndn. Trust.*

NANOSYMPOSIUM

271. Brain-Machine Interface

Theme E: Motor Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC 7

8:00 **271.01** ● Advancing hand-grasp neuroprosthetics for spinal cord injury patients: The next step toward clinic-to-home translation. G. SHARMA*; S. COLACHIS, IV; M. A. BOCKBRADER; D. FRIEDENBERG; N. ANNETTA; M. ZHANG; N. SKOMROCK; M. SCHWEMMER; J. MYSIW; H. BRESLER. *Battelle Mem. Inst., Ohio State Univ. Col. of Med.*

8:15 **271.02** ● 15-DOF motor decoding based on a high performance PNS interface and deep neural network. Z. YANG; J. XU; A. NGUYEN; M. JIANG; T. WU; W. TAM; W. ZHAO; C. K. OVERSTREET; D. LUU; C. ZHAO; J. J. CHENG; E. W. KEEFER*, III. *Univ. of Minnesota, Univ. of Minnesota, Nerves Inc., UT Southwestern Med. Ctr.*

8:30 **271.03** ● Improved long-term performance of utah slanted arrays in clinical studies. L. RIETH*; B. BAKER; M. G. STREET; R. B. CALDWELL; D. CROSLAND; D. T. KLUGER; J. A. GEORGE; A. HARDING; R. SHARMA. *Feinstein Inst. for Med. Res., Univ. of Utah, Halyard Hlth., Univ. of Utah, Univ. of Utah.*

8:45 **271.04** ● Long-term performance of emg movement decoders trained using dataset aggregation. H. CUNHA DANTAS*; V. MATHEWS; S. WENDELKEN; G. CLARK; D. WARREN; T. DAVIS. *Oregon State Univ., Oregon State Univ., Univ. of Utah.*

9:00 **271.05** Predicting learning performance in a brain-machine interface study with a tetraplegic human. S. SAKELLARIDI*; V. N. CHRISTOPOULOS; T. AFLALO; K. W. PEJSA; E. ROSARIO; D. S. OUELLETTE; N. POURATIAN; R. A. ANDERSEN. *Caltech, Casa Colina Hosp. and Centers for Healthcare, Univ. of California Los Angeles.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:15 **271.06** Neurophysiological recording and stimulation using an off-the-shelf component wireless brain implant. C. A. GKOGKIDIS*; C. BENTLER; X. WANG; C. SCHEIWE; H. CRISTINA SCHMITZ; T. STIEGLITZ; T. BALL. *Univ. of Freiburg, Univ. of Freiburg, Univ. of Freiburg, Univ. of Freiburg.*

9:30 **271.07** Massive-scale dense customizable penetrating silicon electrode array for 3D neural recording and stimulation. A. SANDOUGHSAZ*; V. HETRICK; B. ROSTAMI; O. J. AHMED; K. NAJAFI. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

9:45 **271.08** ● Selective multichannel electrical stimulation of peripheral nerve for sensory prostheses. C. K. OVERSTREET*; J. CHENG; E. KEEFER. *Nerves Inc., UTSW Med. Ctr.*

10:00 **271.09** Calcium activation of frequency dependent, phasic, localized, and dense population of cortical neurons by continuous electrical stimulation. T. D. KOZAI*; N. J. MICHELSON; R. ISLAM; A. VAZQUEZ; K. LUDWIG. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Mayo Clin.*

10:15 **271.10** Perceptual consequences of changing the frequency of intracortical microstimulation applied to somatosensory cortex. T. CALLIER*; K. KUMARAVELU; L. E. MILLER; W. M. GRILL; S. J. BENSMAIA. *Univ. of Chicago, Duke Univ., Northwestern Univ., Univ. of Chicago.*

10:30 **271.11** tACS effects on the motor system are caused by transcutaneous and not transcranial stimulation. M. MC LAUGHLIN*; B. ASAMOAH; A. KHATOUN. *KU Leuven.*

10:45 **271.12** Gas vesicles as hemodynamic enhancers for noninvasive functional ultrasound imaging of the mouse brain. D. MARESCA*; T. PAYEN; A. LEE-GOSSELIN; B. LING; D. MALOUNDA; C. DEMENÉ; T. DEFFIEUX; M. TANTER; M. SHAPIRO. *Caltech, Inserm.*

11:00 **271.13** A functional ultrasound brain-machine interface: Offline proof of concept in non-human primates. S. L. NORMAN*; V. N. CHRISTOPOULOS; D. MARESCA; C. DEMENÉ; T. DEFFIEUX; M. TANTER; M. G. SHAPIRO; R. A. ANDERSEN. *Caltech, Inst. Langevin, Inst. Langevin / Inserm U979, INSERM.*

11:15 **271.14** ● A brain-computer interface group study for motor rehabilitation of chronic stroke patients. G. EDLINGER*; F. CAO; S. DIMOV; C. GUGER. *G.Tec Med. Engin. Gmbh, g.tec neurotechnology GmbH, g.tec neurotechnology GmbH.*

NANOSYMPOSIUM

272. Cortical and Subcortical Mechanisms of Learning and Cognition

Theme G: Motivation and Emotion

Mon. 8:00 AM – *San Diego Convention Center*, SDCC 2

8:00 **272.01** Prefrontal somatostatin interneurons promote fear memory expression. K. A. CUMMINGS*; R. L. CLEM. *Mount Sinai Sch. of Med.*

8:15 **272.02** Investigating neural and behavioral mechanisms of olfactory generalization in humans. D. B. PORTER*; L. P. QU; E. GJORGIEVA; T. KAHNT; J. A. GOTTFRIED. *Northwestern Univ., Univ. of Pennsylvania.*

8:30 **272.03** Cholinergic signaling in the ventral subiculum modulates neuronal activity and fear conditioning. S. WANG*; L. W. ROLE; D. A. TALMAGE. *Program In Neuroscience, SUNY At Stony Brook, Stony Brook Univ., Stony Brook Univ.*

8:45 **272.04** Dopaminergic regulation of aversive memory formation. T. TSETSENIS*; J. K. BADYNA; M. SUBRAMANIYAN; K. YANG; J. A. DANI. *Univ. of Pennsylvania.*

9:00 **272.05** Disrupting consolidation of fear memory through deep brain stimulation of the medial prefrontal cortex. S. Z. TAN*; Y. CHAN; L. LIM. *The Univ. of Hong Kong, Sch. of Biomedic. Sci., Fac. Med., Univ. Hong Kong, Sch. of Biomed. Sciences, Li Ka Shing Fac. of Medicine, The Univ. of Hong Kong.*

9:15 **272.06** Brain mechanisms by which emotional learning selectively and retroactively enhances memory for related information. D. V. CLEWETT*; D. YI; S. BACHMAN; J. E. DUNSMOOR; E. A. PHELPS; L. DAVACHI. *New York Univ., New York Univ., Univ. of Texas at Austin.*

9:30 **272.07** Mental context tagging reveals deficits of extinction learning in PTSD. A. C. HENNINGS*; J. A. LEWIS-PEACOCK; J. E. DUNSMOOR. *The Univ. of Texas at Austin, The Univ. of Texas at Austin, The Univ. of Texas at Austin.*

9:45 **272.08** Proximity to virtual threats modulates fear learning and extinction networks. L. FAUL*; J. M. STIVERS; D. STJEPANOVIC; G. W. STEWART; J. L. GRANER; K. S. LABAR. *Duke Univ.*

10:00 **272.09** Identifying neural signatures of reconsolidation in humans. M. C. KROES*; Q. LIN; J. E. DUNSMOOR; E. A. PHELPS. *Radboud Univ. Nijmegen Med. Ctr., Yale Univ., Univ. of Texas at Austin, New York Univ. Dept. of Psychology.*

10:15 **272.10** Aversive learning processes modulate attentional bias to threat. T. WISE*; J. MICHELY; P. DAYAN; R. DOLAN. *Univ. Col. London, Univ. Col. London.*

10:30 **272.11** Genetic dissection of catecholaminergic innervation of the cognitive cerebellum. E. S. CARLSON*; S. G. SANDBERG; T. M. LOCKE; P. E. PHILLIPS; L. S. ZWEIFEL. *Univ. of Washington, Unviersity of Washington, Univ. of Washington, Univ. of Washington.*

10:45 **272.12** Removal of information from working memory via replacement, suppression, and clearing. H. KIM*; H. SMOLKER; L. SMITH; M. T. BANICH; J. A. LEWIS-PEACOCK. *Univ. of Texas at Austin, Univ. of Colorado Boulder.*

11:00 **272.13** Reconciling persistent and dynamic hypotheses of working memory coding in prefrontal cortex. S. E. CAVANAGH*; J. P. TOWERS; J. D. WALLIS; L. T. HUNT; S. KENNERLEY. *Univ. Col. London, Univ. of California Berkeley, Univ. of Oxford.*

11:15 **272.14** Microcircuitry of performance monitoring: Laminar origin of outcome monitoring and executive control in supplementary eye field. A. SAJAD*; J. D. SCHALL. *Vanderbilt Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

NANOSYMPOSIUM

273. Animal Cognition and Behavior: Decision Making: Prefrontal Cortex I

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC 25

8:00 **273.01** Molecular, anatomical, and behavioral dissection of mPFC projection neuron heterogeneity. J. H. LUI*; N. D. NGUYEN; L. LUO. *Stanford Univ., Stanford Univ.*

8:15 **273.02** The neural correlates of strategic competition. Y. JIANG*; M. L. PLATT. *Univ. of Pennsylvania.*

8:30 **273.03** Causally essential neural network for performing metacognitive judgement on experience and ignorance in primates. K. MIYAMOTO*; R. SETSUIE; T. OSADA; Y. MIYASHITA. *Dept Physiol, Univ. Tokyo Sch. Med.*

8:45 **273.04** Representations of dynamic reward in primate prefrontal and visual cortex during value-based learning. X. CHEN*; M. ZIRNSAK; T. MOORE. *Stanford Univ. Sch. of Med., Howard Hughes Med. Inst. - Stanford Univ.*

9:00 **273.05** Neural signatures of model-free and model-based reinforcement learning in striatum and prefrontal cortex. B. MIRANDA*; N. MALALASEKERA; T. BEHRENS; P. DAYAN; S. W. KENNERLEY. *Fac. of Med. – Univ. of Lisbon, Univ. Col. London, Univ. of Oxford, Univ. Col. London.*

9:15 **273.06** Parent-of-origin epigenetics set sleep in mice. I. COSENTINI*; E. BALZANI; T. NIEUS; V. TUCCI. *IIT, Ctr. for Neural Sci. and Ctr. for Data Sci., Univ. of Milan.*

9:30 **273.07** A premotor circuit engaged in flexible sensory-action mapping. Z. WU*; A. LITWIN-KUMAR; P. SHAMASH; A. TAYLOR; R. AXEL; M. SHADLEN. *Columbia Univ.*

9:45 **273.08** Neural mechanisms mediating cooperation. W. S. ONG*; M. L. PLATT. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

10:00 **273.09** Dynamic brain states of the freely-moving monkey. R. MILTON*; N. SHAHIDI; V. DRAGOI. *Univ. of Texas Hlth. Sci. Ctr. At Houst.*

10:15 **273.10** Neural mechanism for information seeking in monkey prefrontal cortex. K. NAKAMURA*; M. KOMATSU. *Tokyo Inst. Technol., RIKEN Brain Sci. Inst.*

10:30 **273.11** Projections from the claustrum to the PFC regulate impulsive-like behavior. J. LIU*; R. WU; B. JOHNSON; J. VU; J. LI. *SUNY At Buffalo.*

NANOSYMPOSIUM

274. Human Cognition and Behavior: Spatial Learning and Navigation

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC 23

8:00 **274.01** A grid cell signal in human entorhinal theta oscillations. S. MAIDENBAUM*; J. MILLER; J. JACOBS. *Columbia Univ., Columbia Univ.*

8:15 **274.02** Spatial modulation of phases of spikes in the human entorhinal cortex. Z. NADASDY*; Á. TÖRÖK; P. NGUYEN; J. SHEN; D. BRIGGS; P. MODUR; R. J. BUCHANAN. *Univ. of Texas At Austin, Sarah Cannon Res. Inst., Eötvös Loránd Univ., Systems and Control Laboratory, Inst. for Computer Sci. and Control, Hungarian Acad. of Sci., Sch. of Medicine, Baylor Col. of Med., Dell Med. School, The Univ. of Texas at Austin, Seton Brain & Spine Inst., Dell Med. School, The Univ. of Texas at Austin, Dell Med. School, The Univ. of Texas at Austin, Austin, Seton Brain and Spine Inst.*

8:30 **274.03** Decoding spatial information from local field potentials in the human MTL. N. A. HERWEG*; P. A. WANDA; A. BRANDT; M. R. SPERLING; A. D. SHARAN; A. SCHULZE-BONHAGE; M. J. KAHANA. *Univ. of Pennsylvania, Univ. Med. Ctr., Thomas Jefferson Univ., Thomas Jefferson Univ. Hosp.*

8:45 **274.04** Intracranial recordings in humans reveal flexible coding of experience in the medial temporal lobe. S. E. QASIM*; J. MILLER; C. INMAN; R. E. GROSS; J. T. WILLIE; A. SHARAN; C. WU; M. SPERLING; B. C. LEGA; J. LIN; S. A. SHETH; E. H. SMITH; G. MCKHANN; C. SCHEVON; J. M. STEIN; J. JACOBS. *Columbia, Emory Univ. Sch. Med., Thomas Jefferson Univ., UT Southwestern Med. Ctr., Baylor Col. of Med., Columbia Univ., Columbia Univ., Univ. of Pennsylvania.*

9:00 **274.05** ● Cortico-hippocampal communication during goal-directed navigation: Evidence from functional magnetic resonance imaging and intracranial electroencephalography. L. KUNZ*; L. WANG; D. LACHNER-PIZA; H. ZHANG; A. BRANDT; M. DÜMPELMANN; P. C. REINACHER; V. A. COENEN; D. CHEN; W. WANG; W. ZHOU; S. LIANG; P. GREWE; C. BIEN; A. BIERBRAUER; T. NAVARRO SCHROEDER; A. SCHULZE-BONHAGE; N. AXMACHER. *Univ. of Freiburg, Inst. of Psychology, Chinese Acad. of Sci., Ruhr-University Bochum, Univ. Med. Ctr. Freiburg, Beijing Normal Univ., Tsinghua Univ. Yuquan Hosp., First Affiliated Hosp. of Gen. Hosp. of PLA, Mara Hosp., Norwegian Univ. of Sci. and Technol.*

9:15 **274.06** Integrating scenes into location-based representations. S. BERENS*; B. JOENSEN; A. HORNER. *Univ. of York.*

9:30 **274.07** Theta oscillations during active and passive decision making for human spatial navigation. E. R. CHRASTIL*; M. GONCALVES; K. MOORE; C. E. STERN; E. NYHUS. *Univ. of California, Santa Barbara, Boston Univ., Bowdoin Col., Boston Univ., Bowdoin Col.*

9:45 **274.08** Spatiotemporal binding of memories in typical and atypical brain development. S. LEE*.

10:00 **274.09** Age-related differences in spatial learning and neural activations in the early phase of reference memory acquisition in a virtual Morris water maze. K. R. MAGNUSSON*; J. Y. ZHONG; N. C. REYNOLDS; M. SWARTS; C. CLENDINEN; S. D. MOFFAT. *Oregon State Univ., Georgia Inst. of Technol., Oregon State Univ., Georgia Inst. of Technol., Emory Univ.*

10:15 **274.10** Sources and mechanistic explanations for spatial navigation deficits in old age. M. STANGL*; I. KANITSCHEIDER; I. R. FIETE; T. WOLBERS. *German Ctr. for Neurodegenerative Dis. (DZNE), Univ. of Texas at Austin, UT Austin, German Ctr. For Neurodegenerative Dis.*

10:30 **274.11** Using mobile brain/body imaging (MoBI) to investigate the role of the retrosplenial complex for natural heading computation. K. GRAMANN*. *Berlin Inst. of Technol.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:45 **274.12** Different proinflammatory cytokines correlate to hippocampus and caudate nucleus dependent navigation strategies. V. D. BOHBOT*; J. POIRIER; J. BREITNER. *Douglas Mental Hlth. Univ. Inst., Douglas Mental Hlth. Univ. Inst.*

11:00 **274.13** Cities have a negative impact navigation ability: Evidence from mass online assessment via Sea Hero Quest. A. COUTROT; E. PATAI; R. SILVA; E. MANLEY; J. M. WEINER; R. C. DALTON; C. HOELSCHER; M. HORNBERGER; H. J. SPIERS*. *CNRS, Univ. de Nantes, UCL Inst. of Behavioural Neurosci., Univ. Col. London, UCL, Univ. of Bournemouth, Univ. of Northumbria, ETH Zurich, Univ. of East Anglia.*

NANOSYMPOSIUM

275. Human Cognition and Behavior: Working Memory I

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC 5

8:00 **275.01** Spatial priority in the service of non-spatial working memory. M. RAHMATI*; M. PAYTON; T. C. SPRAGUE; C. E. CURTIS; K. K. SREENIVASAN. *New York Univ., New York Univ., New York Univ. Abu Dhabi.*

8:15 **275.02** ▲ Reconstructing stimulus identity and context binding from the CDA. Y. CAI; J. SAMAHA; B. R. POSTLE*. *Univ. of Wisconsin–Madison, Bejing Normal Univ., Univ. of Wisconsin–Madison, Univ. of Wisconsin–Madison.*

8:30 **275.03** Oscillations associated with binding errors in visual working memory. K. K. SREENIVASAN*; A. TEMUDO; V. BABUSHKIN. *New York Univ. Abu Dhabi.*

8:45 **275.04** Continuous theta-burst stimulation of parietal cortex alters representational structure of occipital stimulus representations in visual working memory. Q. YU*; O. GOSSERIES; B. POSTLE. *Univ. of Wisconsin-Madison, Univ. and Univ. Hosp. of Liege.*

9:00 **275.05** Memory visualization and spatial learning. L. T. LIKOVA*; C. W. TYLER. *Smith-Kettlewell Eye Res. Inst., Smith-Kettlewell Eye Res. Inst.*

9:15 **275.06** A population coding model for simple and complex visual objects in working memory. V. SALMELA*; K. ÖLANDER; I. MUUKKONEN; P. M. BAYS. *Univ. of Helsinki, Univ. of Cambridge.*

9:30 **275.07** Retrospectively cuedattention shifts mitigate information loss in human cortex during working memory storage. E. F. ESTER*; L. RODRIGUEZ; A. NOURI. *Florida Atlantic Univ.*

9:45 **275.08** Tracking the dynamics and uncertainty of visual spatial working memory representations across human cortex. T. C. SPRAGUE*; A. YOO; M. RAHMATI; W. MA; C. E. CURTIS. *New York Univ., New York Univ.*

10:00 **275.09** Can TMS to visual cortex reactivate unattended representations held in visual working memory? M. WIDHALM*; N. S. ROSE. *Univ. of Notre Dame, Univ. of Notre Dame.*

10:15 **275.10** Motion perception in 360°: Decoding direction of motion using alpha-band EEG oscillations and sustained ERPs. G. BAE*; S. J. LUCK. *UC Davis.*

10:30 **275.11** Stimulus-specific visual working memory representations in human cerebellum. J. A. BRISSENDEN*; S. M. TOBYNE; M. A. HALKO; D. C. SOMERS. *Boston Univ., Boston Univ., Harvard Med. Sch. / Beth Israel Deaconess Med. Ctr.*

10:45 **275.12** Sensory-selective and sensory-independent auditory and visual working memory in human cerebral cortex. A. L. NOYCE*; S. M. TOBYNE; B. SHINN-CUNNINGHAM; D. C. SOMERS. *Boston Univ., Boston Univ., Boston Univ.*

11:00 **275.13** A flexible model of working memory. F. BOUCHACOURT*; T. BUSCHMAN. *Princeton Neurosci. Inst., Princeton Univ.*

11:15 **275.14** Intracranial recordings within human hippocampus reveal task dependent spectral signatures. J. M. CASTELHANO*; I. C. DUARTE; F. PELLE; S. FRANCIONE; F. SALES; M. CASTELO-BRANCO. *IBILI/ICNAS, Univ. of Coimbra, Claudio Munari Epilepsy Surgery Center, Niguarda Hosp., Epilepsy unit, CHUC, IBILI - Fac. of Medicine, Univ. of Coimbra.*

NANOSYMPOSIUM

276. The Mouse Brain: Circuitry and Mapping in 3D

Theme I: Techniques

Mon. 8:00 AM – *San Diego Convention Center*, SDCC 30B

8:00 **276.01** High throughput anatomical characterization of projection neuron types of the mouse brain. H. DONG*; B. LIM; I. R. WICKERSHAM; H. HINTIRYAN; G. A. ASCOLI. *Keck Sch. of Med. of USC, UCSD, MIT, George Mason Univ.*

8:15 **276.02** *In situ* transcriptomics reveals a high resolution spatial and functional atlas of cell types in the mouse preoptic region. D. BAMBAH-MUKKU*; J. R. MOFFITT; S. EICHHORN; E. VAUGHN; K. SHEKHAR; A. REGEV; X. ZHUANG; C. DULAC. *Harvard Univ., Howard Hughes Med. Inst., Harvard Univ., Harvard Univ., Harvard Univ., MIT, Harvard Univ.*

8:30 **276.03** Whole-brain inputs and outputs of layer and class-specific neurons in mouse cortex. J. A. HARRIS*; Q. WANG; K. E. HIROKAWA; A. CETIN; S. YAO; P. BOHN; A. WILLIFORD; N. GRADDIS; L. KUAN; R. NICOVICH; M. MCGRAW; W. WAKEMAN; S. M. SUNKIN; P. A. GROBLEWSKI; L. NG; H. ZENG. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

8:45 **276.04** Monosynaptic inputs to connectivity-defined cell types within the upper limb region of mouse primary motor cortex. M. S. BIENKOWSKI*; L. GOU; C. CAO; M. BECERRA; E. M. CALLAWAY; J. R. ECKER; H. DONG. *Keck Sch. of Med. of USC, Salk Inst., The Salk Inst. for Biol. Studies.*

9:00 **276.05** An open repository for single-cell reconstruction of the brain forest. G. A. ASCOLI*; S. NANDA; P. MARAVER ABAD; M. A. AKRAM, JR; K. BIJARI; R. ARMANANZAS. *George Mason Univ., Krasnow Inst. for Advanced Study, George Mason Univ., George Mason Univ., GMU.*

9:15 **276.06** Pipelined production of 3d full morphology of mouse neurons at whole brain scale. H. PENG*; Z. RUAN; L. LIU; Z. ZHOU; Y. WANG; Y. YU; J. YANG; T. DAIGLE; B. TASIC; A. LI; N. GRADDIS; K. HIROKAWA; Y. LI; Y. WANG; S. SORENSEN; L. NG; R. CAI; N. ZHONG; Z. GU; H. GONG; W. XIE; J. HARRIS; Q. LUO; H. ZENG. *Allen Inst. for Brain Sci., Southeast Univ., Shanghai Univ., BJUT, HUST, Allen Inst., Southeast Univ.*

9:30 **276.07** Deepneuron + ultratracer automates very large-scale whole-brain full-morphology reconstructions. Z. ZHOU*; F. LONG; H. PENG. *Allen Inst. for Brain Sci., Southeast Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:45 **276.08** Mapping the brain at cellular resolution: Region and gender-specific differences. P. OSTEN*; A. NARASIMHAN; K. UMADEVI VENKATARAJU. *Cold Spring Harbor Lab.*

10:00 **276.09** A virtual reality platform for visualization, exploration, and annotation of brain-wide neuronal images. Y. WANG*; H. PENG. *Southeast Univ., Shanghai Univ., Shanghai Univ., Allen Inst. for Brain Sci.*

10:15 **276.10** Annotation and classification of 3d neuron morphology in whole mouse brain. L. LIU*; A. LIU; J. YUAN; S. ZHANG; G. HONG; Z. MENG; J. ZHANG; S. PENG; Z. MA; Y. WANG; S. A. SORENSEN; W. XIE; H. ZENG; H. PENG. *Southeast Univ., Southeast Univ. – Allen Inst. Joint Ctr. for Neuron Morphology, Allen Inst., Allen Inst. for Brain Sci., Inst. of Life Sciences, Southeast Univ., Allen Inst. for Brain Sci.*

10:30 **276.11** BigTree: A hierarchical tree construction tool for visualization and processing large brain image data sets. Y. YU*; H. PENG. *Allen Inst. For Brain Sci., Southeast Univ. – Allen Inst. Joint Ctr. for Neuron Morphology.*

10:45 **276.12** Genetic dissection of glutamatergic pyramidal neuron subpopulations underlying motor cortex output pathways. K. S. MATHO*; W. GALBAVY; H. KONDO; K. UMADEVI VENKATARAJU; R. PALANISWAMY; X. AN; J. TUCCIARONE; A. NARASIMHAN; P. WU; M. HE; Y. KIM; P. OSTEN; P. ARLOTTA; Z. HUANG. *Cold Spring Harbor Lab., Stanford Univ., Fudan Univ., Col. of Medicine, Penn State Univ., Harvard Univ.*

11:00 **276.13** Whole mouse brain morphology reconstruction using vaa3d. S. JIANG*; Q. OUYANG; Y. WANG; Z. ZHOU; Z. RUAN. *Southeast Univ., Shanghai Univ., Allen Inst. For Brain Sci.*

POSTER

277. Neurogenesis and Gliogenesis: Neuronal Development I

Theme A: Development

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 A1 **277.01** Maternally controlled length of the neurogenic period determines the number of produced neocortical neurons. B. K. STEPIEN*; S. VAID; R. NAUMANN; A. HOLTZ; W. B. HUTTNER. *Max Planck Inst. of Mol. Cell Biol. and, Max Planck Inst. of Mol. Cell Biol. and Genet.*

9:00 A2 **277.02** The effects of apolipoprotein E (APOE) polymorphism on human hippocampal neurogenesis. H. LEE*; S. THURET. *King's Col. London, King's Col. London.*

10:00 A3 **277.03** Role of Meis1 in the cerebellar development. T. OWA*. *Natl. Inst. of Neurosci.*

11:00 A4 **277.04** The protein tyrosine phosphatase receptor delta PTPRD regulates embryonic neurogenesis during cortical development. G. I. CANCINO*; H. TOMITA; C. L. WOODARD; C. C. RIOSECO; B. G. NEEL; D. R. KAPLAN; F. D. MILLER. *Univ. Mayor, Hosp. for Sick Children, New York Univ. Langone Hlth., Univ. of Toronto, Univ. of Toronto.*

8:00 A5 **277.05** ● Synergistic effects of a plasma fraction and exercise on neurogenesis. I. D. GALLAGER*; R. ALCANTARA-LEE; M. CASTRO; R. ESTRADA; S. P. BRAITHWAITE; V. KHEIFETS. *Alkahest Inc.*

9:00 A6 **277.06** ▲ Administration of maternal leukemia inhibitory factor induces Nkx.2.1 in the ventral cerebrum of fetal mice. H. SAKAGAMI*; T. TSUKADA; H. SAKATA-HAGA; H. SHIMADA; K. MIURA; H. WANG; T. ARIKAWA; S. TAKATA; H. SHOJI; T. HATTA. *Kanazawa Med. Univ. Sch. of Med., Kanazawa Med. Univ. Sch. of Med., Kanazawa Med. Univ. Sch. of Med., Kanazawa Med. Univ. Sch. of Nursing, Kanazawa Med. Univ.*

10:00 A7 **277.07** GSK3 beta inhibition restores impaired neurogenesis in premature infants with intraventricular hemorrhage. P. BALLABH*; P. DOHARE. *Albert Einstein Col. of Med., Albert Einstein Col. of Med.*

11:00 A8 **277.08** GATA cofactor Fog1 is reguired for the development of dorsal raphe serotonergic neurons and inactivation of Fog1 causes anxiety. L. TIKKER*; P. CASAROTTO; C. BIOJONE; N. M. ESTARTÚS; J. PARTANEN. *Univ. of Helsinki, Univ. of Helsinki.*

8:00 A9 **277.09** Large-scale parallel tracing of cell-type specific transcriptional trajectories in the developing mouse neocortex. D. JABAUDON*; L. TELLEY; G. AGIRMAN; J. PRADOS; P. OBERST; L. NGUYEN; A. DAYER. *Univ. of Geneva, Univ. of Lausanne, Univ. of Liege.*

9:00 A10 **277.10** An Evf2 lncRNA-dependent enhancer-gene superloop links the mevalonate pathway with serotonin receptor gene regulation in developing interneurons. J. D. KOHTZ*; I. C. CAJIGAS; K. S. SWYTER; A. C. CHAKRABORTY; F. A. AY; E. MORRIS. *Northwestern Univ. Dept. of Pediatrics, La Jolla Inst. for Allergy & Immunol., La Jolla Inst. for Allergy & Immunol.*

10:00 A11 **277.11** Systemic administration of antihistamines in pregnant rats impairs offspring motor cortical cytoarchitecture and pyramidal intrinsic electrophysiological properties. R. VALLE-BAUTISTA*; E. GRIEGO-MELO; G. HERRERA-LÓPEZ; E. GALVÁN; N. DÍAZ; J. ARIAS-MONTAÑO; A. MOLINA-HERNÁNDEZ. *Cinvestav, Cinvestav, Inst. Nacional de Perinatología.*

11:00 A12 **277.12** Pannexin1 plays a prominent role in promoting axonal growth during neuroblastoma cell differentiation. Q. XING; P. DOHARE; Q. LI; F. GUAN; D. C. SPRAY*. *Albert Einstein Col. Med., Zhengzhou Univ., Albert Einstein Col. Med.*

8:00 A13 **277.13** Impaired interneuron density in the human preterm prefrontal cortex. H. LACAILLE*; C. M. VACHER; D. BAKALAR; J. J. O'REILLY; J. SALZBANK; A. A. PENN. *Children's Natl. Hlth. Syst., George Washington Univ., Fetal Med. Institute, Children's Natl. Hlth. Syst.*

9:00 A14 **277.14** ● Expression of NCAM, PSA-NCAM, GFAP, and S100 in subgranular zone of dentate in developing hippocampus. S. CHOMPOOPONG*; C. TURBPAIBOON; B. TASSANEETRITHEP; W. WIRIYARAT; P. NIMNOI; W. SIRIPAN. *Dept. of Anatomy, Fac. of Med. Siriraj, Fac. of Med. Siriraj Hospital, Mahidol Univ., Fac. of Vet. Science, Mahidol Univ.*

10:00 A15 **277.15** ● Longitudinal characterization of plasma fraction efficacy on neurogenesis in aging mice. I. GALLAGER; R. ALCANTARA-LEE; M. CASTRO; R. A. ESTRADA-VERDUZCO*; S. P. BRAITHWAITE; V. KHEIFETS. *Alkahest, Inc.*

11:00 A16 **277.16** Single-cell whole-genome sequencing reveals widespread somatic copy number variations arising during neurodevelopment in the cerebral cortex. S. E. ROHRBACK; C. S. LIU; B. SIDDOWAY; C. APRIL; F. KAPER; J. CHUN*. *Illumina, Univ. of California San Diego, Sanford Burnham Prebys Med. Discovery Inst., Sanford Burnham Prebys Med. Discovery Inst.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 A17 **277.17** Differential expression of GRIM-19 (gene associated with retinoid-interferon induced mortality-19) in the adult mouse dentate gyrus: A regulator in adult neurogenesis. J. KIM; S. HWANG; S. KIM*. *The Catholic Univ. of Korea, The Catholic Univ. of Korea, The Catholic Univ. of Korea.*

9:00 A18 **277.18** Connectomics in the dentate gyrus. M. BEINING*; P. BASTIANS; M. HELMSTAEDTER. *Max Planck Inst. for Brain Res., MPI for Brain Res., Moritz Helmstaedter, MD, MS.*

10:00 A19 **277.19** Pattern of expression of the transcription factor Ebf2 in the lateral hypothalamus of the mouse brain. R. VIDALTAMAYO*; X. A. ACOSTA-VILLALOBOS; V. C. ZOMOSA-SIGNORET. *Univ. of Monterrey, Univ. Autónoma de Nuevo León.*

11:00 A20 **277.20** Lead (Pb^{2+}) exposure alters cellular and behavioral neurodevelopment in a planarian model. S. ABDALLAH*; R. CANDIA; M. SCOTTO; N. MAGNAVITA; S. R. GUARIGLIA. *CUNY Col. of Staten Island, St. Joseph by the Sea High Sch., New York State Inst. for Basic Res.*

8:00 A21 **277.21** Corpus callosum formation requires FOXG1 action in cortical projection neurons. F. CARGNIN*; J. KWON; B. CHEN; J. W. LEE; S. LEE. *Oregon Health&Science Univ., Oregon Hlth. & Sci. Univ., UC Santa Cruz, Oregon Hlth. and Sci. Univ.*

9:00 A22 **277.22** Role of Fezf2 in maintaining corticospinal motor neuron identity in the mammalian cerebral cortex. A. ZHANG*; S. LODATO; J. L. SHERWOOD; J. R. BROWN; H. CHEN; R. AMAMOTO; S. SIMMONS; J. LEVIN; P. ARLOTTA. *Harvard Univ., Humanitas Univ., Genentech, Broad Inst.*

10:00 A23 **277.23** Essential role of RLS-associated MEIS homeobox proteins revealed by modeling human forebrain development. V. R. KITTKE*; D. D. LAM; C. ZHAO; J. WINKELMANN. *Helmholtz Zentrum München.*

11:00 A24 **277.24** Differential mode of Hes-1 activation maintains neural stem cells and promotes its transition into radial glial cells during neocortical development. J. JAMES*; R. ANN PAUL; L. SOUNDARARAJAN; S. PARVATHY; S. SURYA; V. MEERA; S. DHANESH; B. BUDHADITYA. *Rajiv Gandhi Ctr. for Biotech.*

8:00 A25 **277.25** Molecular controls over corticospinal neuron axonal segmental targeting. V. V. SAHNI*; S. J. SHNIDER; D. JABAUDON; J. SONG; F. DING; J. D. MACKLIS. *Weill Cornell Med., Harvard Univ.*

9:00 A26 **277.26** R-loops as mechanisms governing neural differentiation and cell-type specific transcription. L. LAMARCA*; S. ESPESO-GIL; E. FLAHERTY; P. RAJARAJAN; N. BARRETTO; N. TSANKOVA; K. BRENNAND; S. AKBARIAN. *Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. At Mount Sinai.*

10:00 A27 **277.27** Knee joint inflammation: A new trigger for adult neurogenesis in the hippocampus and spinal cord of rats. M. FOUANI; E. D. AL-CHAER*; W. ABOU-KHEIR; N. LAWAND. *American Univ. of Beirut, American Univ. of Beirut, American Univ. of Beirut.*

11:00 A28 **277.28** Molecular taxonomy of cell types in developing human neocortex. L. DE LA TORRE-UBIETA*; D. POLIOUDAKIS; J. LANGERMAN; J. L. STEIN; G. RAMASWAMI; C. OPLAND; C. VUONG; D. LU; T. ALLISON; S. SABRI; K. PLATH; D. H. GESCHWIND. *UCLA, UCLA, UCLA, UNC-Chapel Hill, UCLA.*

8:00 A29 **277.29** The role of lactate in neuronal differentiation. M. M. DARWISH*; N. TUERSUNJIANG; H. FIUMELLI; P. J. MAGISTRETTI. *King Abdullah Univ. of Sci. and Technol., King Abdullah Univ. of Sci. and Technol. (KAUST).*

POSTER

278. Stem Cells and Disease Modeling I

Theme A: Development

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 A30 **278.01** ▲ Generation of maternal UBE3A knock-out pluripotent stem cell lines for a practical verification of Angelman syndrome pathogenesis. R. OKOCHI*; M. ISHIKAWA; T. SONE; H. OKUNO; H. OKANO. *Keio Univ. Sch. of Med., Dept. of Physiology, Keio Univ. Sch. of Med.*

9:00 A31 **278.02** Using iPSC-derived neurons to uncover cellular phenotypes associated with NGLY1 deficiency. A. A. MANOLE*; S. STERN; R. MARES; X. CHENG; G. WANG; K. J. LEE; C. MARCHETTO; F. H. GAGE. *Salk Inst. For Biol. Studies, Stanford Univ., Grace Sci. Fndn.*

10:00 A32 **278.03** Modeling benign adult familial myoclonic epilepsy (BAFME) using patient specific induced pluripotent stem cells (iPSCs)- derived neurons. Y. NAGASAKO*; S. MAEDA; H. TANABE; M. ISHIKAWA; H. ISHIURA; T. TODA; S. TSUJI; H. OKANO. *The Univ. of Tokyo, Keio Univ. Sch. of Med.*

11:00 A33 **278.04** Subset of genes spanning chromosome 16p11.2 deletion contribute to a hyperproliferation phenotype observed in patient derived neural stem cells. M. MEHTA*; R. CONNACHER; P. G. MATTESON; S. PREM; M. WILLIAMS; M. AYALA; E. DICICCO-BLOOM; J. H. MILLONIG. *Rutgers Univ., Ctr. for Advanced Biotech. and Med.*

8:00 A34 **278.05** Modeling an epilepsy-associated cortical malformation using hiPSC-derived organoids. S. SONG*; R. DHINDSA; D. WILLIAMS; E. HEINZEN COX; D. GOLDSTEIN; M. BOLAND. *Columbia Univ.*

9:00 B1 **278.06** Ultrastructural analysis of motor neurons derived from induced pluripotent stem cells (iPSCs) of patients with Brown-Vialetto-Van Laere (BVVL) syndrome. F. COLASUONNO*; A. NICEFORO; A. FRACASSI; C. COMPAGNUCCI; E. BERTINI; S. MORENO. *Roma Tre Univ., Children's Res. Hosp. Bambino Gesù, Univ. of Texas Med. Br.*

10:00 B2 **278.07** ▲ Reduced neuronal complexity and -activity in human inducible pluripotent stem cell derived excitatory cortical neurons carrying the MELAS 3243A>G mitochondrial mutation. T. M. KLEIN GUNNEWIEK*; M. FREGA; D. CASSIMAN; E. MORAVA-KOZICZ; N. NADIF KASRI; T. L. KOZICZ. *Radboudumc, Radboudumc, Univ. Hosp. Leuven, Radboud UMC, Radboud Univ. Med. Ctr.*

11:00 B3 **278.08** Investigation of the role of CHD8 in human brain development at single-cell resolution. G. QUADRATO*; B. PAULSEN; T. NGUYEN; S. SIMMONS; S. VELASCO; J. SHERWOOD; J. PAN; F. ZHANG; A. REGEV; J. LEVIN; P. ARLOTTA. *USC, Harvard Univ., Broad Inst. of MIT and Harvard, LeafLabs, LLC.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 B4 **278.09** Using iPSC characteristics to test BSNIP psychosis Biotypes. A. M. BOBILEV*; E. I. IVLEVA; B. A. CLEMENTZ; E. GERSHON; M. KESHAVAN; G. PEARLSON; C. A. TAMMINGA. *Univ. of Texas Southwestern Med. Ctr., UT Southwestern Med. Center, Dept. of Psychiatry, Univ. of Georgia Dept. of Psychology, Univ. of Chicago, Harvard Med. Sch., Yale Univ., Univ. of Texas Southwestern Med. Ctr. at Dallas.*

9:00 B5 **278.10** Optimization and characterization of protocols for 3D human brain models: Cerebral organoids and spheroids. S. VELASCO*; G. QUADRATO; T. NGUYEN; S. SIMMONS; A. NASH; M. ROCHA; J. LEVIN; A. REGEV; P. ARLOTTA. *Broad Inst., USC, Harvard Univ.*

10:00 B6 **278.11** Targeted activation of endogenous neuronal-fate determining genes using CRISPR/dCas9 advances induced neuron disease modeling for Jordan's syndrome. J. L. CARTER*; J. A. HALMAI; P. DENG; D. CAMERON; J. NOLTA; D. SEGAL; K. FINK. *Univ. of California Davis Hlth. Systems, Univ. of California Davis Hlth. Systems, Univ. of California, Davis.*

11:00 B7 **278.12** Three-dimensional cellular model of hypoxic brain injury of prematurity. A. M. PASCA*; J. PARK; H. SHIN; Q. QI; O. REVAH; R. KRASNOFF; R. O'HARA; J. WILLSEY; T. PALMER; S. P. PASCA. *Stanford Univ., Stanford Univ., UCSF, Stanford Univ.*

8:00 B8 **278.13** ● Disease modelling of bipolar disorder and drug evaluation in patient-derived induced pluripotent stem cell cortical circuits. J. IZSAK*; K. FUNA; H. ÅGREN; S. ILLES. *The Sahlgrenska Acad. at the Univ. of Gothe, Sahlgrenska Cancer Center, Univ. of Gothenburg, The Sahlgrenska Acad. at the Univ. of Gothe, Cellectricon AB.*

9:00 B9 **278.14** Modeling prenatal environmental challenges in placental cells derived from schizophrenic patients. E. TIETZE*; G. URSINI; D. R. WEINBERGER; J. VAN DE LEEMPUT; J. ERWIN. *Lieber Inst. for Brain Develop., Johns Hopkins.*

10:00 B10 **278.15** Using forebrain assembloids to study the role of L-type calcium channels in human cortical interneuron function and dysfunction. F. BIREY*; R. M. AGOGLIA; S. P. PASCA. *Stanford Univ., Stanford Univ., Stanford Univ.*

11:00 B11 **278.16** Generation of functional cortico-spinal assembloids to study human development and disease. J. ANDERSEN*; O. REVAH; E. WALCZAK; C. FAN; N. THOM; J. R. HUGUENARD; R. REIMER; S. P. PASCA. *Stanford Univ., BD Genomics, Stanford Univ., Stanford Univ.*

8:00 B12 **278.17** Evaluation of redox dysregulation in schizophrenia using induced pluripotent stem cells. B. GIANGRECO*; D. DWIR; S. SACHCHITHANATHAM; J. KOCHER-BRAISSANT; L. BARTESAGHI; P. STEULLET; J. CABUNGCAL; R. CHRAST; N. TONI; K. Q. DO. *Ctr. for Psychiatric Neurosciences, Karolinska Institutet.*

9:00 B13 **278.18** ● Stem cell and genome engineering technologies to advance the understanding of neurological diseases. R. VEGA*; J. DIZON; J. WEBB; D. PIPER. *Thermo Fisher Scientific Inc Carlsbad.*

10:00 B14 **278.19** Alpha-tocopherol and polyunsaturated fatty acids treatment effects on quality and maturation of cultured human neurons derived from induced pluripotent stem (hIPS) cells. K. M. GLANOWSKA*; G. G. MURPHY; K. S. O'SHEA; C. J. DELONG. *Univ. of Michigan.*

POSTER

279. Stem Cells and Reprogramming: Neural Stem Cells: *In Vitro* Studies

Theme A: Development

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 B15 **279.01** Post-translational tubulin modifications in differentiated human neural stem cells. V. B. KNIGHT; M. P. JOGALEKAR; E. E. SERRANO*. *New Mexico State Univ.*

9:00 B16 **279.02** A novel approach for efficient dissociation of distinct adult mouse brain regions and subsequent sorting of neurons and neural stem cells using the MACSQuant® Tyto®. S. REIß; C. WITTWER; J. GAISER; A. BOSIO*; M. JUNGBLUT. *Miltenyi Biotec.*

10:00 B17 **279.03** Examining the role of sex hormones in postnatal depression and major depressive disorder: Polygenic risk scores and hippocampal neurogenesis. D. SMEETH*; I. KOUROUZIDOU; T. POWELL; S. THURET. *King's Col. London, King's Col. London.*

11:00 B18 **279.04** Inhibition of the thrombin receptor promotes subventricular zone neural stem cell expansion and differentiation towards the oligodendrocyte lineage. C. CHOI*; H. YOON; M. LANGLEY; L. KLEPPE; I. A. SCARISBRICK. *Mayo Clin., Mayo Clin., Mayo Clin.*

8:00 B19 **279.05** Electrophysiological characterization of sensory neurons derived from human induced pluripotent stem cells (hIPSCs) using a small molecule inhibition protocol. L. S. LESPERANCE*; S. S. SHARMIN; J. ELLIS; S. A. PRESCOTT; A. PIEKNA; W. WEI. *The Hosp. For Sick Children, The Hosp. for Sick Children, The Hosp. For Sick Children, Hosp. For Sick Children.*

9:00 B20 **279.06** Elevated MeCP2 in starved neural stem cells. X. HE*; F. GUO. *Shanghai Univ. of Med. & Hlth. Sci.*

10:00 B21 **279.07** Sex differences in the proteome of exosomes secreted by fetal neural stem cells. D. CHUNG*; M. PINSON; S. KOO; L. DANGOTT; R. MIRANDA. *Texas A&M Hlth. Sci. Ctr., Texas A&M Univ.*

11:00 B22 **279.08** Investigating the promyelinating properties of the quinolone GSA-10. L. TIROU; C. DEMONGIN; H. FAURE; A. DEL GIOVANE; E. NOCITA; A. RAGNINI-WILSON; M. RUAT*. *CNRS, Univ. of Roma "Tor Vergata".*

8:00 B23 **279.09** Nanocellulose surfaces promote neural differentiation. S. C. PANDANABOINA*; A. B. RANGU MAGAR; K. D. SHARMA; B. CHHETRI; A. GHOSH. *Arkansas State Univ., Univ. of Arkansas at Little Rock.*

9:00 B24 **279.10** *In vitro* system to dissect the molecular basis of vanilloid/TRPV1 mediated anti-tumoral activity of human neural progenitor cells in glioblastoma multiforme. L. AZMITIA*, SR; R. UYAR; R. KÄLIN; B. BRÄNDL; F. MÜLLER; R. GLASS; M. SYNOWITZ. *Uksh-Kiel, LMU, UKSH-Kiel/ZIP, UKSH-Kiel.*

10:00 B25 **279.11** Zika Virus E protein modulates proliferation and differentiation of human fetal neural stem cells by modulating of microRNA circuitry. R. BHAGAT*; B. PRAJAPATI; S. NARWAL; Y. K. ADLAKHA; P. SETH. *Natl. Brain Res. Ctr., Natl. Brain Res. Ctr.*

11:00 B26 **279.12** ● The neural stem/glioblastoma cell marker GlioStem associates with GOLGA2/GM130, a golgi apparatus protein. B. MIGLIORI; O. HERMANSON*. *Dept. of Neuroscience, Karolinska Institutet.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 B27 **279.13** High-throughput screening of induced pluripotent stem cell derived motor neurons on qube and qpatch. K. R. ROSHOLM; D. SAUTER*; M. SCHUPP; R. B. JACOBSEN. *Sophion Biosci., Sophion Biosci.*

9:00 B28 **279.14** The role of Elk-1 transcription factor in tumoursphere formation of brain tumour cells. M. SAVASAN SOGUT*; B. YILMAZ; I. KURNAZ. *Gebze Tech. Univ., Yeditepe Univ., Yeditepe Univ.*

10:00 B29 **279.15** Neuronal conversion of olfactory epithelial cells using mir-9/9-124. C. HAHN*; R. RAY; H. LIN; J. FULLARD; P. ROUSSOS; K. BORGMANN-WINTER. *Univ. Pennsylvania Sch. Med., Univ. of Pennsylvania, Univ. of Pennsyvania, Mt. Sinai, Univ. of Pennsylvania.*

11:00 B30 **279.16** Calcium dynamics identify neural progenitor populations altered by ethanol exposure and withdrawal. A. H. MAHNKE*; R. C. MIRANDA. *Texas A&M Univ. Hlth. Sci. Ctr.*

8:00 B31 **279.17** Let-7 MicroRNA inhibits adult ciliary epithelium cells neurosphere formation. C. B. DEL DEBBIO*; L. T. FRASSON. *Univ. of Sao Paulo.*

9:00 B32 **279.18** Development and characterization of an *in vitro* human iPSC-derived neurospheroid model. J. L. MOHN*; M. KLAUSNER; P. J. HAYDEN. *MatTek Corp.*

10:00 C1 **279.19** ● Quantification of functional network electrophysiology from stem cell derived neurons with multiwell microelectrode array technology. D. C. MILLARD*; H. B. HAYES; A. M. NICOLINI; C. A. ARROWOOD; M. CLEMENTS. *Axion Biosystems.*

11:00 C2 **279.20** ● An improved cell culture system to recapitulate endogenous neural stem cell behavior. N. ZHANG*; T. OUGHOURLIAN; L. PENG; J. SHEPPARD; M. BAY; M. BONAGUIDI. *Eli and Edythe Broad Cirm Ctr. of Stem Cell and.*

8:00 C3 **279.21** ● Utilizing CRISPR/Cas9 genome editing in human induced pluripotent stem cells to model neuropathologies in cortical progenitors and neurons. J. WEBB*; J. DIZON; R. VEGA; C. REVANKAR; E. WILLEMS; X. LIANG; D. PIPER. *Thermo Fisher Scientific.*

9:00 C4 **279.22** Neuronal differentiation of dental pulp mesenchymal stem cells (DPSCs) as a model to study neurodegeneration. M. CARDENAS-AGUAYO*; G. LOPEZ-TOLEDO; M. SILVA-LUCERO; L. ZHANG; D. E. GARCIA-DIAZ; J. ARIAS-MONTANO. *UNAM, Med. Sch., Cinvestav-IPN, Natl. Autonomous Univ. of Mexico, Univ. Nacional Autónoma de México, Cinvestav-IPN.*

10:00 C5 **279.23** Ag Nps induce apoptosis, mitochondrial damages and MT3 and OSGIN2 expression changes in an *in vitro* model of human dental pulp stem cells derived neurons. S. CAVALLARO*; G. BONAVENTURA; V. LA COGNATA; R. IEMMOLO; M. ZIMBONE; A. CONTINO; G. MACCARRONE; B. FAILLA; M. BARCELLONA; F. CONFORTI; V. D'AGATA. *Italian Natl. Res. Council, Inst. for Microelectronics and Microsystems, Italian Natl. Res. Council, Catania, Italy, Dept. of Chem. Sciences, Univ. of Catania, Viale A. Doria 6, 95125 Catania, Italy, Dept. of Pharmaceut. Sciences, Section of Biochemistry, Univ. of Catania, Catania, Italy, Dept. of Biomed. and Biotechnological Sciences, Section of Human Anat. and Histology, Univ. of Catania, Catania, Italy.*

11:00 C6 **279.24** Growing human induced pluripotent stem cell-derived cortical neuronal networks on biocompatible two-photon polymerised scaffolds. J. A. CROWE*; D. NAGEL; E. J. HILL; S. SOKOLOVSKY; A. EL-TAMER; A. V. KOROLEVA; B. N. CHICHKOV; E. U. RAFAILOV; R. PARRI. *Aston Univ., Laser Zentrum Hannover e.V.*

8:00 C7 **279.25** Inference of neuronal networks in three-dimensional cultures. A. LUDL*; E. ESTÉVEZ; O. E. OLARTE; J. MADRID-WOLFF; P. LOZA-ALVAREZ; J. SORIANO. *Univ. de Barcelona, Univ. de Barcelona Inst. of Complex Systems (UBICS), ICFO-Institut de Ciencies Fotoniques, Univ. de los Andes.*

9:00 C8 **279.26** Neuronal 3D network dynamics of primary cultures and human-derived neural precursor cells on a semisynthetic hydrogel using light-sheet microscopy. E. ESTEVEZ PRIEGO*; O. E. OLARTE; A. A. LUDL; J. MADRID-WOLFF; A. V. KOROLEVA; P. LOZA-ALVAREZ; J. SORIANO. *Univ. de Barcelona, Univ. de Barcelona Inst. of Complex Systems (UBICS), ICFO-Institut de Ciencies Fotoniques, Univ. de los Andes, Laser Zentrum Hannover.*

POSTER

280. Synaptogenesis and Activity-Dependent Development: Synapse Maturation and Remodeling

Theme A: Development

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 DP01/C9 **280.01** ● (Dynamic Poster) Patterned spontaneous network activity accompanies synapse development in the *Drosophila* visual system. B. T. BAJAR*; O. AKIN; M. F. KELES; M. A. FRYE; S. L. ZIPURSKY. *HHMI / Univ. of California Los Angeles, Univ. of California Los Angeles.*

9:00 C10 **280.02** Target-dependent signaling mediates synaptic plasticity at the *Drosophila* neuromuscular junction. B. A. BERKE; L. LE; H. S. KESHISHIAN*. *Truman State Univ., Yale Univ.*

10:00 C11 **280.03** Alterations in MHCI subclass expression in neurally restricted IKK2 conditional knockout mice. J. OGAWA*. *Salk Inst. LOG-V.*

11:00 C12 **280.04** Synaptic acetylcholinesterase in the mouse brain increases following administration of donepezil or galantamine. S. G. ROSSI; R. L. ROTUNDO*. *Univ. of Miami Sch. of Med.*

8:00 C13 **280.05** Development and activity-dependence of spinules in primary sensory cortex. M. NAHMANI*; A. ERISIR; C. CAMPBELL; S. KIM; A. KNYAZ; W. SONG. *Univ. of Washington | Tacoma, Univ. of Virginia.*

9:00 C14 **280.06** Synapse elimination triggered by BMP4 exocytosis and presynaptic BMP receptor activation. T. HIGASHI*; S. TANAKA; T. IIDA; S. OKABE. *Univ. of Tokyo.*

10:00 C15 **280.07** Brain-specific actinfilin that is associated with infantile spasms modulates dendrite arborization and spine formation. H. HU*; Y. HSUEH. *Inst. of Mol. Biology, Academia Sinica.*

11:00 C16 **280.08** Role of histone deacetylase 2 (Hdac2) in PV cell circuit development. M. LAVERTU JOLIN*; B. CHATTOPADHYAYA; F. DUMOUCHEL; P. CHEHRAZI; G. DI CRISTO. *Ctr. de recherche du CHU Sainte-Justine.*

8:00 C17 **280.09** A unique tyrosine in the intracellular domain of neuroligin-1 regulates the recruitment of AMPA receptors during synapse differentiation and potentiation. O. THOUMINE*; Z. SZIBER; I. CHAMMA; C. SAPHY; I. PAPASIDERI; B. TESSIER; H. JANOVJAK; M. SAINLOS; K. CZONDOR; M. LETELLIER. *Interdisciplinary Inst. for Neurosci., Inst. of Sci. and Technol. Austria.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 C18 **280.10** Functional changes in connectivity induced by differential silencing or ablation of tonic versus phasic motoneurons in *Drosophila.* N. A. APONTE-SANTIAGO*; J. T. LITTLETON. *MIT, The Picower Inst. for Learning and Memory, Massachusetts Inst. of Technol.*

10:00 C19 **280.11** Mechanisms regulating the alternative splicing of synaptic adhesion molecules in somatosensory neurons. J. YOO*; R. W. GEREAU; B. COPITS. *Washington Univ. Sch. of Med.*

11:00 C20 **280.12** IL-33/ST2 signaling enhances the formation of excitatory synapses in the hippocampus. Y. WANG*; K. HUNG; C. CHUANG; W. FU; A. 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.*

8:00 C21 **280.13** SIRPα: An activity-dependent regulator of synaptic refinement. S. NAGAPPAN CHETTIAR*; E. M. JOHNSON-VENKATESH; H. UMEMORI. *Boston Children's Hosp., Boston Children's Hospital, Harvard Med. Sch.*

9:00 C22 **280.14** ▲ Amyloid-β(25-35) peptide administration into the CA1 subfield decreases dendritic spines number but not their morphology in the hippocampus of rats with spatial memory. C. SÁNCHEZ MALDONADO*; E. RAMÍREZ HERNÁNDEZ; I. D. LIMÓN PÉREZ DE LEÓN. *Benemérita Univ. Autónoma De Puebla.*

10:00 C23 **280.15** Functional maturation of mossy fiber terminals from adult-generated hippocampal dentate granule cells. N. P. VYLETA*; D. R. SEIB; J. S. SNYDER. *The Univ. of British Columbia.*

11:00 C24 **280.16** Single cell RNAseq of mouse olfactory bulb reveals cellular heterogeneity and activity dependent molecular census of adult-born neurons. B. TEPE*; M. C. HILL; B. T. PEKAREK; T. J. MARTIN; J. F. MARTIN; B. R. ARENKIEL. *Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med.*

8:00 C25 **280.17** The protein arginine methyltransferase PRMT8 regulates dendritic spine maturation and localization of excitatory synapses. K. LAI*; L. H. Y. LO; R. DONG; A. CHAI; Q. LYU. *The Univ. of Hong Kong.*

9:00 C26 **280.18** Non-redundant functions of different kinesin I motor proteins in dendritic mRNA transport and synapse development. J. ZHAO*; R. FAN; H. K. FOK; H. CHAN; L. H. Y. LO; J. D. HUANG; C. S. W. LAI; K. LAI. *The Univ. of Hong Kong.*

10:00 C27 **280.19** Functional diversity between splice variants of the neurodevelopmental disorder gene Kirrel3. M. TAYLOR*; E. A. MARTIN; M. E. WILLIAMS. *Univ. of Utah.*

11:00 C28 **280.20** The functional impact to synapse formation of Kirrel3 variants associated with neurodevelopmental disorders. E. A. MARTIN*; M. R. TAYLOR; M. E. WILLIAMS. *Univ. of Utah, Univ. of Utah, Univ. of Utah.*

8:00 C29 **280.21** The role of Kirrel3 in presynaptic structural plasticity. R. L. RAWSON*; D. WOODRUFF; T. TUIFA; M. WILLIAMS. *Univ. Utah, Dept. of Neurobio. & Anat.*

9:00 C30 **280.22** Heterogeneous expression of glutamatergic receptor genes in normally developing human cortex and adult schizophrenia. S. MANCINI*; D. G. JONES; K. M. MURPHY. *McMaster Univ., Pairwise Affinity Inc., McMaster Univ.*

POSTER

281. Adolescent Development: Human Imaging

Theme A: Development

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 C31 **281.01** Gray Matter and Neuroprediction: Brain-age outperforms chronological age in prediction of antisocial behavior. N. E. ANDERSON*; K. A. KIEHL; E. AHARONI; J. M. MAURER; K. A. HARENSKI; V. RAO; E. D. CLAUS; M. R. KOENIGS; J. DECETY; D. KOSSON; T. D. WAGER; V. CALHOUN; V. R. STEELE. *Mind Res. Network, Univ. of New Mexico, Georgia State Univ., Univ. of Wisconsin-Madison, Univ. of Chicago, Rosalind Franklin Univ., Univ. of Colorado Boulder Dept. of Psychology and Neurosci., NIH.*

9:00 C32 **281.02** ▲ Race, violence exposure, and the psychosocial stress response. E. DAVIS*; A. M. GOODMAN; T. R. OREM; N. G. HARNETT; M. D. WHEELOCK; S. MRUG; M. A. SCHUSTER; M. N. ELLIOTT; S. R. TORTOLERO; D. C. KNIGHT. *Univ. of Alabama At Birmingham, Harvard Univ., RAND, Univ. of Texas at Houston.*

10:00 C33 **281.03** ▲ The effects of early childhood trauma and gender on brain structure. S. MCQUINN*. *Univ. of Utah.*

11:00 C34 **281.04** Associations between socioeconomic factors and brain structure in preadolescence. M. R. GONZALEZ; K. A. UBAN; M. M. HERTING; E. KAN; E. R. SOWELL*. *Children's Hosp. Los Angeles, USC, USC/CHLA.*

8:00 C35 **281.05** The influence of neighborhood disadvantage during adolescence on volume of the adult amygdala, hippocampus, and thalamus. K. BELL*; N. G. HARNETT; S. MRUG; M. A. SCHUSTER; M. N. ELLIOTT; S. R. TORTOLERO; D. C. KNIGHT. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Boston Children's Hosp., RAND Corp., Univ. of Texas.*

9:00 C36 **281.06** Differential brain response between OPRM1 genotypes to reward feedback during early adolescence. V. C. MUCCIARONE*; R. A. SCHROEDER; B. W. STEVENS; D. H. FISHBEIN; J. W. VANMETER. *Georgetown Univ., Pennsylvania State Univ.*

10:00 C37 **281.07** fMRI activation predicts depressive episodes in highly -comorbid adolescents. I. FROSCH*; N. A. HUBBARD; M. GONCALVES; V. SILESS; J. WANG; G. VERGARA; K. CONROY; C. BAUER; F. VAZ DE SOUZA; J. R. KACZMARZYK; I. ROSSO; D. HISCHFELD-BECKER; A. HENIN; S. HOFMANN; D. PIZZAGALLI; S. GHOSH; R. AUERBACH; A. YENDIKI; J. D. E. GABRIELI; S. WHITFIELD-GABRIELI. *MIT, Athinoula A. Martinos Center, Massachusetts Gen. Hosp., McLean Hosp., Boston Univ., Massachusetts Gen. Hosp., Columbia Univ.*

11:00 C38 **281.08** Alterations in gray matter volume of the prefrontal cortex, hippocampus, and amygdala persist into adulthood following alcohol, tobacco, and cannabis use during adolescence. J. B. PURCELL*; N. G. HARNETT; S. MRUG; M. N. ELLIOTT; S. TORTOLERO EMERY; M. A. SCHUSTER; D. C. KNIGHT. *Univ. of Alabama at Birmingham, RAND Corp., Univ. of Texas Hlth. Sci. Ctr., Boston Children's Hosp.*

8:00 D1 **281.09** Parental involvement predicts posterior ínsula hemodynamic activation in response to child's costly error. E. L. RATLIFF*; K. T. COSGROVE; K. L. KERR; D. C. DEVILLE; K. BURROWS; A. MOORE; J. BODURKA; W. K. SIMMONS; A. S. MORRIS. *Oklahoma State Univ., Laureate Inst. for Brain Res., The Univ. of Tulsa, Stephenson Sch. of Biomed. Engin., Janssen Res. & Develop.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 D2 **281.10** The relationship between brain activation during parent-child fMRI hyperscanning and symptoms of anxiety and depression. K. T. COSGROVE*; D. C. DEVILLE; K. L. KERR; E. L. RATLIFF; K. BURROWS; A. J. MOORE; S. F. TAPERT; M. MISAKI; J. BODURKA; R. L. AUPPERLE; W. K. SIMMONS; A. S. MORRIS. *Laureate Inst. for Brain Res., The Univ. of Tulsa, Oklahoma State Univ., UC San Diego, The Univ. of Oklahoma, Janssen Res. & Develop.*

10:00 D3 **281.11** Developmental, cognitive, and gender correlates of dynamic functional brain connectivity. B. ROSENBERG*; E. MENNIGEN; R. KAISER. *UCLA.*

11:00 D4 **281.12** Sex-dependent effects of child-parent relationships on resting-state functional connections in early adolescence. T. ITAHASHI*; N. OKADA; S. ANDO; S. YAMASAKI; D. KOSHIYAMA; K. MORITA; N. YAHATA; S. KOIKE; A. NISHIDA; K. KASAI; R. HASHIMOTO. *Showa Univ., The Univ. of Tokyo, Tokyo Metropolitan Inst. of Med. Sci., The Univ. of Tokyo, Natl. Inst. of Radiological Sci., Univ. of Tokyo, The Univ. of Tokyo, Tokyo Metropolitan Univ.*

8:00 D5 **281.13** Differential effects of pubertal development on changes in white matter microstructure in adolescent boys and girls. T. C. HO*; K. OSKIRKO; N. L. COLICH; J. K. LEONG; I. H. GOTLIB. *Stanford Univ., Univ. of Washington, Stanford Univ.*

9:00 D6 **281.14** Representational differentiation in the amygdala to faces relates to trustworthy judgments in adolescents. S. M. TASHJIAN*; J. F. GUASSI MOREIRA; A. GALVÁN. *UCLA.*

10:00 D7 **281.15** Acute electroacupuncture modulates the fronto-limbic system in overweight/obese patients during food and neutral cues fMRI task. Y. REN†; M. XU†; X. LI; W. ZHANG; Y. ZHANG*; K. VON DENEEN*. *Shaanxi Univ. of Chinese Med., Xidian Univ.*

11:00 D8 **281.16** Acute electroacupuncture modulates the somatosensory and mesocorticolimbic dopamine systems in overweight/obese patients during resting state. M. XU*; Y. REN†; W. ZHANG; X. LI; Y. ZHANG; K. VON DENEEN*. *Xidian Univ., Shaanxi Univ. of Chinese Med.*

8:00 D9 **281.17** Physical health and active lifestyle in 12-year-old children is linked with brain measures. P. SALVAN*; T. WASSENAAR; C. WHEATLEY; N. BEALE; H. DAWES; H. JOHANSEN-BERG. *Univ. of Oxford, Oxford Brookes Univ.*

9:00 D10 **281.18** Typical total sleep time is associated with intra- and inter- resting-state network functional connectivity in 9-10 year olds. A. GOLDSTONE*; S. A. CLAUDATOS; L. ROSAS; V. ALSCHULER; Y. LIM; M. GIL; M. DE ZAMBOTTI; D. B. CLARK; B. P. HASLER; D. E. PROUTY; I. M. COLRAIN; F. C. BAKER. *SRI Intl., Univ. of Pittsburgh, Univ. of Melbourne, Univ. of Witwatersrand.*

10:00 D11 **281.19** Inverse relationship between homotopic and intra-hemispheric asymmetry of intrinsic brain functional connectivity in school-age children. Z. GRACIA TABUENCA*; M. B. MORENO; F. A. BARRIOS; S. ALCAUTER. *Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México.*

11:00 D12 **281.20** Preliminary evidence of the maturation of cortical inhibition from a TMS-evoked potential study. C. P. WALKER*; N. MURPHY; N. RAMAKRISHNAN; D. FRAHER; R. Y. CHO. *Univ. of Texas Hlth. Sci. Ctr. At Houst, Baylor Col. of Med., Baylor Col. of Med.*

8:00 D13 **281.21** Developmental trajectories of MR diffusion parameters in major brain fiber tracts: A longitudinal study with multiple measurements from ages 5 to 12. W. ZHAO*; W. K. THOMPSON; N. AKSHOOMOFF; T. T. BROWN; A. M. DALE; T. L. JERNIGAN. *UCSD, Univ. of California, San Diego Sch. of Med., Univ. of California, San Diego Sch. of Med., UCSD, Univ. of California, San Diego Sch. of Med.*

9:00 D14 **281.22** White matter microstructure relates to reward-seeking behavior under stress in adolescents and adults. J. P. UY*; A. GALVAN. *UCLA, UCLA.*

10:00 D15 **281.23** ▲ Focal abnormalities in white matter microstructure correspond to neuropsychological comorbidities in BECTS. L. OSTROWSKI*; D. Y. SONG; E. L. THORN; S. M. STOYELL; G. XIAO; M. PARNES; M. A. KRAMER; S. M. STUFFLEBEAM; A. K. MORGAN; B. C. EMERTON; C. J. CHU. *Brown Univ., Massachusetts Gen. Hosp., Boston Univ., MGH NMR Ctr., Psychological Assessment Center, Massachusetts Gen. Hosp., Harvard Med. Sch.*

Mon. AM

POSTER

282. Comparative Anatomy and Brain Evolution

Theme A: Development

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 D16 **282.01** Chemical neuroanatomy of the olfactory system of the nocturnal tree pangolin (Manis tricuspis). A. IMAM*; M. S. AJAO; A. BHAGWANDIN; M. A. SPOCTER; I. O. AMADI; P. R. MANGER. *Univ. of the Witwatersrand, Univ. of Ilorn, Univ. of the Witwatersrand, Des Moines Univ.*

9:00 D17 **282.02** Development of the brain structures in chimpanzees and database of mri data. A. MIKAMI*; T. SAKAI; Y. HAMADA; J. SUZUKI; T. MIYABE-NISHIWAKI; M. MATSUI; K. OISHI; T. MATSUZAWA; M. TANAKA; M. HAYASHI; M. TOMONAGA. *Chubu Gakuin Univ., Dept. of Physiol. Sch. of Medicine, Keio, Primate Res. Institute, Kyoto Univ., Grad. Sch. of Advanced Preventive Med. Sciences, Kanazawa Univ., The Russell H. Morgan Dept. of Radiology and Radiological Science, The Johns Hopkins Univ. Sch. of Med.*

10:00 D18 **282.03** Organization of telencephalic inputs to the medial spiriform nucleus, a pretectal cerebellar relay nucleus in birds. C. GUTIERREZ-IBANEZ*; M. D. FERNÁNDEZ; G. J. MARÍN; D. R. WYLIE. *Univ. of Alberta, Facultad de Ciencias, Univ. de Chile.*

11:00 D19 **282.04** The role of grp and grpr in the extinction of cued fear memory in zebrafish. L. L. BRUCE*; E. A. DORCHUCK; B. N. HASSMAN; A. W. MEZHER; O. OCHUBA; K. L. KRAMER. *Creighton Univ., Creighton Univ.*

8:00 D20 **282.05** ▲ Carnivores and rodents evolved different patterns of proportional brain structures than other taxa. S. GRETA; W. TOMITA; A. BURRE; D. ROSTAMIAN; N. SCHOTTLER; W. E. GRISHAM*. *Univ. of Chicago, UCLA, Claremont McKenna Col., UCLA.*

9:00 D21 **282.06** An overview of adult neurogenesis in the forebrain of domestic pigeons. J. MEHLHORN*; E. SCHREIVOGEL; K. AMUNTS; C. HEROLD. *Inst. of Anat. I, Univ. of Düsseldorf, C. & O. Vogt Inst. of Brain Res., Inst. of Neurosci. and Med. INM-1, Res. Ctr. Jülich.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 D22 **282.07** The Japan Monkey Centre primates brain imaging repository for comparative neuroscience: an archive of digital records including records for endangered species. T. SAKAI*; J. HATA; H. OHTA; Y. SHINTAKU; N. KIMURA; Y. OGAWA; K. SOKABE; S. MORI; H. J. OKANO; Y. HAMADA; S. SHIBATA; H. OKANO; K. OISHI. *Sch. of Medicine, Keio Univ., RIKEN Brain Sci. Inst., The Jikei Univ. Sch. of Med., Kyoto Univ., Japan Monkey Ctr., Ushioda Gen. Hosp., The Johns Hopkins Univ., Kenney Krieger Inst., Kyoto Univ.*

11:00 D23 **282.08** Differential serotonergic innervation at the amygdala among macaque species that differ in social style. D. N. JONES*; C. C. SHERWOOD; P. R. HOF; J. M. ERWIN; M. RAGHANTI. *Kent State Univ., The George Washington Univ., Icahn Sch. of Med. at Mount Sinai.*

8:00 D24 **282.09** ▲ Neural scaling of auditory nuclei with overall brain size in passeriformes. P. MILLER*; J. CORFIELD. *Salisbury Univ., Salisbury Univ.*

9:00 D25 **282.10** A white matter atlas of the chimpanzee brain and quantitative comparison with the human and macaque. K. L. BRYANT*; L. LI; R. B. MARS. *Donders Inst. for Brain, Cognition, and Behavi, Marcus Autism Ctr., Donders Inst. for Brain, Cognition & Behaviour.*

10:00 D26 **282.11** Expansion of primary areas occurs without a change in the relative distribution of cortical neurons. M. GABI*; E. C. TURNER; J. KAAS. *Vanderbilt Univ., ASU-Banner Neurodegenerative Res. Ctr.*

11:00 D27 **282.12** Longevity and sexual maturity scale with number of cortical neurons across birds and mammals, and humans are no different. S. HERCULANO-HOUZEL*. *Vanderbilt Univ.*

8:00 D28 **282.13** ▲ Analysis of astrocyte densities across the cerebral cortex of primate species. L. GLASSBURN*; S. E. DOS SANTOS; S. HERCULANO-HOUZEL. *Vanderbilt Univ., Vanderbilt Univ.*

9:00 D29 **282.14** MicroRNAs associated with neurogenesis in the developing human cerebral cortex. M. J. LAFFERTY*; D. H. GESCHWIND; L. DE LA TORRE-UBIETA; J. L. STEIN. *UNC-Chapel Hill, UCLA.*

10:00 D30 **282.15** Secretory cells in the digestive epithelium of Trichoplax adhaerens, an animal that feeds by external digestion. T. D. MAYOROVA*; C. L. SMITH; T. S. REESE. *NINDS.*

11:00 D31 **282.16** Exploring the evolutionary origin of small-molecule neurotransmission through the Hydra nervous system. H. MAHMOOD*; Y. NORO; H. SHIMIZU; K. MINETA; P. MAGISTRETTI; T. GOJOBORI. *King Abdullah Univ. of Sci. & Technol.*

8:00 D32 **282.17** Comparative development of the cerebellum in reptiles reveals different strategies for morphogenesis. T. VARELA; R. J. WINGATE*. *King's Col. London, King's Col. London.*

9:00 D33 **282.18** Whole brain imaging of neuronal activity in ciona intestinalis, an early branching chordate. K. KOLAR*; M. CHATZIGEORGIOU. *Sars Intl. Ctr. For Marine Mol. Bio.*

10:00 D34 **282.19** Duplicated genes and their role in human neurological development and disease. A. SEKAR*; J. WANG; E. HA; K. HINO; G. KAYA; S. SIMO; M. DENNIS. *Univ. of California Davis, Univ. of California Davis, Univ. of California Davis, Univ. of California Davis.*

11:00 D35 **282.20** Characterization of diminished diffusion in the brain extracellular space of the naked mole-rat harboring unique high-molecular-mass hyaluronan. D. THEVALINGAM*; S. HRABETOVA; D. P. MCCLOSKEY. *CUNY Col. of Staten Island, The Grad. Ctr. of the City Univ. of New York, SUNY Downstate Med. Ctr., City Univ. of New York.*

8:00 D36 **282.21** ▲ Homology in Gyf gene maintains neuron cell homeostasis in *Drosophila melanogaster and Drosophila eugracilis*. L. A. NEAL*; J. LARIMORE; S. ROBIC. *Agnes Scott Col.*

9:00 D37 **282.22** The miR-183/-96/-182 cluster - A key player in the ontogeny of neuronal asymmetries? S. LOR*; V. THEIS; D. MOSER; R. KUMSTA; C. THEISS; O. GUNTURKUN. *Ruhr-University Bochum, Ruhr-University Bochum, Ruhr-University Bochum, Ruhr-University Bochum.*

10:00 D38 **282.23** Dynamic changes of chromatin accessibility during human telencephalic neuronal differentiation. D. LIANG*; A. E. ELWELL; O. KRUPA; K. E. CHEEK; K. P. COURTNEY; L. DE LA TORRE-UBIETA; D. H. GESCHWIND; J. L. STEIN. *Univ. of North Carolina At Chapel Hill, UCLA.*

POSTER

283. Structure and Function of Nicotinic Acetylcholine Receptors

Theme B: Neural Excitability, Synapses, and Glia

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 D39 **283.01** Binding of noncompetitive inhibitors to the extracellular domain of neuronal nAChRs: Molecular docking with anticonvulsant α-substituted acetamides and lactams. A. V. KRIVOSHEIN*; J. L. GUEVARA; M. F. MERIANO. *Univ. of Houston - Clear Lake.*

9:00 D40 **283.02** Regulation of antigen-presenting cell (APC)-dependent $CD4^+$ T cell differentiation by α7 nicotinic acetylcholine receptors on both APC and $CD4^+$ T cells. K. KAWASHIMA*; M. MASHIMO; T. FUJII; Y. MORIWAKI; H. MISAWA; S. ONO. *Kitasato Univ. Sch. of Pharm., Doshisha Wemen's Col. of Liberal Arts, Doshisha Women's Col. of Liberal Arts, Keio Univ. Sch. of Pharm., Keio Univ. Sch. of Pharm., Osaka Ohtani Univ.*

10:00 D41 **283.03** ▲ Effect of new modulator compounds on the activity of human α7-acetylcholine receptors using an automated patch clamp system. T. SEEGER*; C. SCHEFFEL; S. RAPPENGLUECK; F. WOREK; H. THIERMANN; K. T. WANNER; K. V. NIESSEN. *Bundeswehr Inst. of Pharmacol. & Toxicology, Ludwig-Maximilians-University.*

11:00 D42 **283.04** ▲ Functional analysis of muscle-type nicotinic acetylcholine receptors using SSM-based electrophysiology - Detection of novel "resensitizers". K. V. NIESSEN*; S. RAPPENGLUECK; W. SCHMEISSER; T. WEIN; S. SICHLER; G. HOEFNER; K. T. WANNER; H. THIERMANN; F. WOREK; T. SEEGER. *Bundeswehr Inst. of Pharmacol. and Toxicol., Ludwig-Maximilians-University.*

8:00 D43 **283.05** Evaluation of nicotinic acetylcholine receptor expression and plasticity following chronic nicotine exposure in alpha 4-GFP and WT C57Bl/6 mice. J. R. PAULY*; C. L. RICHARDS; P. MORAN. *Univ. of Kentucky, Univ. of Kentucky.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 D44 **283.06** Evaluating commercially-available antibodies for RIC3. R. H. LORING*; S. SUKUMARAN; J. P. THUMMAPUDI; Z. WANG. *Northeastern Univ.*

10:00 D45 **283.07** Bupropion modulation of 5-HT_{3AB}receptors. A. STUEBLER; F. OMORUYI; M. JANSEN*. *Sch. of Medicine, Texas Tech. Univ. Hlth. S, Sch. of Medicine, Texas Tech. Univ. Hlth. S.*

11:00 D46 **283.08** Macroscopic and microscopic activation of α7 nicotinic acetylcholine receptors by the structurally unrelated ago-PAMs B-973B and GAT107. M. QUADRI*; S. GARAI; G. A. THAKUR; C. STOKES; A. GULSEVIN; N. A. HORENSTEIN; R. L. PAPKE. *Univ. of Florida, Northeastern Univ., Univ. of Florida.*

8:00 D47 **283.09** Upregulation of α4* and α4α6* nAChRs on VTA dopamine neurons is correlated with nicotine reward-related behavior. B. J. HENDERSON*; A. T. AKERS; Z. J. BAUMGARD; A. J. AVELAR. *Joan C Edwards Sch. of Med. at Marshall Univ.*

9:00 D48 **283.10** Green apple tobacco flavorant farnesol enhances nicotine reward-related behavior. A. J. AVELAR*; A. T. AKERS; Z. J. BAUMGARD; B. J. HENDERSON. *Marshall Univ., Marshall Univ.*

10:00 D49 **283.11** ● Building extracellular domain α4β2 nicotinic acetylcholine receptors on stilts for making water-soluble receptors. G. B. WELLS*; A. M. PERSON. *Texas A&M Univ. Col. of Med.*

11:00 D50 **283.12** ● Mechanism of alpha7 nicotinic acetylcholine receptor upregulation by Bcl2 family proteins. B. DAWE*; H. YU; S. GU; A. N. BLACKLER; E. R. SIUDA; J. A. MATTA; E. B. REX; D. S. BREDT. *Janssen Res. & Develop., Alkermes, The Med. Affairs Co.*

8:00 D51 **283.13** Characterization of murine brain region-specific ^{3}H-epibatidine binding in response to chronic exposure to nicotine, (-) menthol, and nicotine co-administered with either (-)-menthol or (±)-menthol. M. J. MULCAHY*; S. M. HUARD; J. H. WANG; H. A. LESTER. *Caltech.*

9:00 E1 **283.14** Essential role of chs in the ion channel function and thermal stability of native muscle type nachr detergent complex. R. MALDONADO-HERNÁNDEZ*; C. MAYSONET; A. PASTRANA; C. SILVA; E. ALBINO; O. QUESADA; J. LASALDE. *Univ. of Puerto Rico, Univ. of Puerto Rico.*

10:00 E2 **283.15** ● Anti-apoptotic bcl2 proteins upregulate α7Nicotinic acetylcholine receptorsin neurons. H. YU*; G. B. DAWE; A. N. BLACKLER; S. GU; E. SIUDA; J. MATTA; E. REX; D. BREDT. *Janssen Res. and Develop. La Jolla, Alkermes, The Med. Affairs Co.*

11:00 E3 **283.16** ● Uncovering cholinergic mechanisms of anxiety regulation through the nicotinic receptor protein modulator, lynx2, in mice and humans. K. R. ANDERSON*; H. WANG; A. HUPBACH; J. M. MIWA. *Lehigh Univ., Lehigh Univ.*

8:00 E4 **283.17** ● Effects of positive allosteric modulators on the human α4β2 receptor desensitization. S. BERTRAND*; T. SCHAER; D. BERTRAND; M. ACKERMAN; J. NAU. *Hiqscreen, Oyster Point Pharma Inc.*

9:00 E5 **283.18** Properties of novel alpha7 nicotinic acetylcholine receptor ligands for predicting performance as PET tracers. M. M. LEVANDOSKI*; A. KOZJEK; Y. LIU; W. TEAGLE; D. PETERS; W. DEUTHER-CONRAD; M. SCHEUNEMANN; P. BRUST. *Grinnell Col., DanPET AB, HZDR Inst. of Radiopharmaceutical Cancer Res.*

10:00 E6 **283.19** *In vivo* optical control of brain nicotinic acetylcholine receptors. A. MOUROT*; R. DURAND-DE CUTTOLI; S. MONDOLONI; J. JEHL; P. FAURE. *Sorbonne Univ.*

11:00 E7 **283.20** Screening of alpha-Conotoxins with activity at the alpha3beta2* nicotinic acetylcholine receptor subtype. B. EATON*; F. FISHER; F. HARARAH; C. HUIDOBRO; J. MCINTOSH; P. WHITEAKER. *Barrow Neurolog. Inst., Univ. of Utah, George E. Whalen Veterans Affairs Med. Ctr., Univ. of Utah, Barrow Neurolog. Inst.*

8:00 E8 **283.21** Amyloid beta-induced alterations in basal forebrain cholinergic intrinsic excitability are mediated by α7 and α7β2-containing nicotinic acetylcholine receptors (nAChRs). A. A. GEORGE*; H. A. BIMONTE-NELSON; R. J. LUKAS; P. WHITEAKER. *Barrow Neurolog. Inst., Arizona State Univ.*

9:00 E9 **283.22** AN6001: A subtype selective α6 nAChR PAM showing potentiation of dopamine release and protection of dopaminergic neurons. T. DYHRING*; D. T. BROWN; J. KLEIN; M. VAN HOUT; A. A. JENSEN; P. CHRISTOPHERSEN. *Saniona A/S, Univ. of Copenhagen.*

10:00 E10 **283.23** ● SUVN-911 (potent and selective nicotitinicacetylcholine α4β2 receptor antagonist) - Safety, tolerability and pharmacokinetics in healthy subjects. G. BHYRAPUNENI*; K. MUDIGONDA; R. PALACHARLA; P. JAYARAJAN; R. SUBRAMANIAN; V. GOYAL; S. PANDEY; D. AJJALA; A. MOHAMMED; S. JETTA; R. NIROGI. *Suven Life Sci. Ltd.*

11:00 E11 **283.24** The genes encoding the alpha7 nicotinic acetylcholine receptor subunit and the human truncated and duplicated form, dup alpha7, are expressed and regulated in microglia cells. J. D. MIKKELSEN*; S. ARPE; M. DINARZEHI; J. MENEZES; M. H. SØRENSEN; S. S. ARIPAKA. *Univ. Copenhagen - Rigshospitalet.*

8:00 E12 **283.25** Modulation of glutamate release by nicotine in the rostromedial tegmental nucleus (RMTg). D. E. CASTILLO-ROLON*; G. ARENAS-LÓPEZ; S. MIHAILESCU; O. HERNANDEZ-GONZALEZ; S. HERNÁNDEZ-LÓPEZ. *Natl. Autonomous Univ. of Mexico (UNAM).*

9:00 E13 **283.26** Opposite effects of alpha7 and alpha4beta2 nicotinic acetylcholine receptors on dorsal raphe serotonergic neurons. S. P. MIHAILESCU*; O. HERNANDEZ; D. CASTILLO-ROLON; S. HERNANDEZ-LOPEZ. *Fac. of Medicine, UNAM, Fac. of Medicine, UNAM.*

10:00 E14 **283.27** ▲ Sex differences in gene expression of nicotinic acetylcholine receptor (nAChr) subunits in the interpeduncular nucleus of female and male rats experiencing nicotine withdrawal. M. C. GARCIA ARREGUIN*; V. L. CORREA; R. J. FLORES GARCIA; L. E. O'DELL. *The Univ. of Texas at El Paso, Univ. of Texas at El Paso, Univ. Texas at El Paso.*

11:00 E15 **283.28** Space clamp issues fail to confound estimates of nicotinic synaptic strength in rat sympathetic neurons. J. P. HORN*; P. H. M. KULLMANN. *Univ. of Pittsburgh.*

8:00 E16 **283.29** The elusive role of the alpha5 nicotinic receptor subunit in prefrontal responses to acetylcholine. S. VENKATESAN*; E. E. TURNER; E. K. LAMBE. *Univ. of Toronto, Univ. of Toronto, Seattle Children's Res. Inst., Univ. of Washington, Univ. of Toronto, Univ. of Toronto.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 E17 **283.30** The neurophysiological role of the interpeduncular nucleus in α5 subunit mediated nicotine responses. S. SIVAKUMARAN*; D. W. SPARKS; E. E. TURNER; E. K. LAMBE. *Univ. of Toronto, Univ. of Toronto, Seattle Children's Res. Inst., Univ. of Washington, Univ. of Toronto, Univ. of Toronto.*

10:00 E18 **283.31** Pharmacological characterization of cmpi interaction with (A4)3(B2)2 neuronal nicotinic acetylcholine receptors. F. DEBA; K. MUNOZ; A. TAIRU; A. K. HAMOUDA*. *Univ. of Texas At Tyler, Texas A&M HSC.*

POSTER

284. Synaptic Connectivity and Synaptic Properties

Theme B: Neural Excitability, Synapses, and Glia

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 E19 **284.01** Quantal fluctuation in transmitter release can be accounted for by fluctuations in presynaptic Ca^{2+} entry. S. RODRIGUEZ*; M. POTCOAVA; S. RAMACHANDRAN; S. T. ALFORD. *Univ. of Illinois At Chicago, Univ. Illinois, Chicago, Univ. of Illinois at Chicago.*

9:00 E20 **284.02** Probabilistic synaptic plasticity induction due to stochastic gating of synaptic receptors. C. O'DONNELL*; Y. RODRIGUES; H. MARIE; R. J. VELTZ. *Univ. of Bristol, INRIA, Inst. de Pharmacologie Moleculaire et Celluaire (IPMC).*

10:00 E21 **284.03** Contribution of single synapses on dendritic spines to electrical signaling in individual neurons. J. WENG; C. CELIS; D. ZECEVIC*. *Yale Univ. Sch. of Med., Yale Univ. Sch. Med., Yale Univ. Sch. Med.*

8:00 DP02/E22 **284.04** (Dynamic Poster) Toric spines at a site of learning. D. SANCULI; K. E. PANNONI; E. A. BUSHONG; M. CRUMP; E. G. ANTZOULATOS; B. J. FISCHER; I. S. STEIN; K. M. ZITO; D. FIORAVANTE; M. H. ELLISMAN; W. M. DEBELLO*; W. M. DEBELLO. *Ctr. for Neuroscience, Univ. of California, Davis, Univ. California - San Diego, Seattle Univ., UCSD BSB 1000, UC Davis.*

8:00 E23 **284.05** Investigation of optical methods for monitoring synaptic input to ca1 pyramidal neurons. M. ADOFF*; D. A. DOMBECK. *Northwestern Univ.*

9:00 E24 **284.06** A tight lower bound on the storage capacity of synapses in the rat middle stratum radiatum in hippocampal area CA1. M. SAMAVAT*; T. M. BARTOL, Jr.; C. BROMER; K. M. HARRIS; T. J. SEJNOWSKI. *Salk Inst. For Biol. Studies, Salk Inst. for Biol. Studies, The Univ. of Texas at Austin.*

10:00 E25 **284.07** Simultaneous optical and electrophysiological analysis of presynaptic excitability and GCaMP Ca^{2+} signals: Kinetic properties and spatial distribution in glutamatergic and aminergic synaptic boutons of *Drosophila* motor terminals. X. XING*; C. WU. *Univ. of Iowa, Univ. of Iowa.*

11:00 E26 **284.08** Functional and morphological stability of adult human cortical Layer 2/3 Pyramidal neurons *in vitro* in organotypic slice cultures. N. SCHWARZ*; U. B. HEDRICH; B. UYSAL; J. BAHR; H. SCHWARZ; H. PA; J. B. HONEGGER; H. LERCHE; A. SKORDAS; T. V. WUTTKE; H. KOCH. *Hertie Inst. For Clin. Brain Res., Hertie-Institute For Clin. Brain Res., Hertie Inst. for Clin. Brain Res., Dept. of Neurosurg.*

8:00 E27 **284.09** Patterns of presynaptic connectivity and modulation in the mouse medial prefrontal cortex. A. L. BAKER*; A. T. GULLEDGE. *Geisel Sch. of Med. at Dartmouth, Geisel Sch. of Med. At Dartmouth Col.*

9:00 E28 **284.10** Disabling Gβγ-SNARE interaction disrupts GPCR-mediated presynaptic inhibition leading to physiological and behavioral phenotypes. Z. ZURAWSKI*; A. D. THOMPSON GRAY; L. J. BRADY; K. HYDE; B. PAGE; E. CHURCH; N. A. HARRIS; M. R. DOHN; Y. Y. YIM; D. P. MORTLOCK; D. G. WINDER; S. ALFORD; C. K. JONES; H. HAMM. *Vanderbilt Univ., Univ. of Illinois at Chicago, Vanderbilt Univ.*

10:00 E29 **284.11** Connexin36 in the mouse inferior olive is a component of the post-synaptic protein complex of glutamatergic synapses. Z. ZHU; J. D. LAUTZ; E. A. BROWN; S. E. P. SMITH; J. P. WELSH*. *Seattle Children's Res. Inst., Univ. of Washington.*

POSTER

285. LTP: Pre- and Postsynaptic Mechanisms

Theme B: Neural Excitability, Synapses, and Glia

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 E30 **285.01** Calpain-2 conditional knockout mice are resistant to cell death induced by traumatic brain injury. Y. WANG*; Y. LIU; J. SUN; A. MCCLOUD; S. BIAGI; X. BI; M. BAUDRY. *Western Univ. of Hlth. Sci.*

9:00 E31 **285.02** A smarter mouse created by conditional deletion of calpain-2 gene in forebrain using the Cre/loxP system. Y. LIU*; S. BIAGI; K. BROWN; Y. WANG; J. SUN; X. HAO; X. BI; M. BAUDRY. *Western Univ. of Hlth. Sci.*

10:00 E32 **285.03** Slow glutamate clearance triggers postsynaptic calcium amplification and impairs synaptic plasticity via calpain-2. J. R. BARNES*; M. P. PARSONS. *Mem. Univ. of Newfoundland.*

11:00 E33 **285.04** SynDIG4/Prrt1 establishes a reserve pool of extra-synaptic AMPARs required for LTP. E. DIAZ*; K. E. PLAMBECK; D. J. SPECA. *UC Davis Sch. of Med.*

8:00 E34 **285.05** Synaptic activity-dependent changes in the hippocampal palmitoyl-proteome. N. MATIN*; K. MOON; L. FOSTER; S. X. BAMJI. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia.*

9:00 E35 **285.06** Distinct patterns of long-term potentiation within the hippocampal CA1 stratum radiatum. T. L. FONG; J. S. THACKER; Y. XU; B. LAIRD; J. G. MIELKE*. *Univ. of Waterloo.*

10:00 E36 **285.07** The interplay of interactions controlling postsynaptic AMPA receptor localization in synaptic transmission and plasticity. J. F. WATSON*; H. HO; A. PINGGERA; I. H. GREGER. *MRC Lab. of Mol. Biol., MRC LMB.*

11:00 E37 **285.08** Diverse changes in synaptic plasticity at distinct inhibitory synapses within the CA1 region of the mouse hippocampus. M. UDAKIS*; S. E. L. CHAMBERLAIN; J. R. MELLOR. *Bristol Univ.*

8:00 E38 **285.09** Synaptic function of microRNA-34a. J. WANG; X. MIN; K. HE*. *Chinese Acad. of Sci.*

9:00 E39 **285.10** Endogenous neuropeptide Y release attenuates long-term potentiation in the temporoammonic pathway of hippocampus. Q. LI*; L. E. DOBRUNZ. *Univ. of Alabama at Birimgham.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 E40 **285.11** Cholinergic regulation of deleted-in-colorectal cancer receptor facilitates persistent firing in the entorhinal cortex. S. D. GLASGOW*; J. GIBON; P. A. SEGUELA; E. S. RUTHAZER; T. E. KENNEDY. *McGill Univ., Univ. of British Columbia - Okanagan, Montreal Neurolog. Inst., McGill Univ., Montreal Neurolog. Institute.*

11:00 E41 **285.12** LTP is modulated by interneurons containing the α5-GABAA receptor subunit. A. G. FIGUEROA; G. SURGES; C. LOR*; M. PERKINS; U. RUDOLPH; R. A. PEARCE. *Univ. of Wisconsin - Madison, McLean Hosp. / Harvard Med. Sch.*

8:00 E42 **285.13** Effects of social isolation rearing and ketamine on hippocampal synaptic plasticity. J. B. LOGUE*; K. J. SCHOEPFER; Y. ZHOU; M. KABBAJ. *Florida State Univ., Florida State Univ., Florida State Univ., Florida State Univ.*

9:00 E43 **285.14** Activity in the ventral-tegmental area modulates synaptic plasticity in the insular cortex. L. F. RODRIGUEZ-DURAN*; M. L. ESCOBAR; F. BERMÚDEZ-RATTONI. *UNAM, UNAM, Fac Psicologia, Inst. de Fisiología Celular.*

10:00 E44 **285.15** Cell surface expression of GluA1-containing AMPA receptors is enhanced by secreted amyloid precursor protein-alpha; visualized by BioPLAy. J. M. WILLIAMS*; M. K. ELDER; W. P. TATE. *Univ. of Otago, New York Univ.*

11:00 E45 **285.16** Lactate induces a Hebbian form of LTP on the recurrent collateral synapses of hippocampal area CA3. G. HERRERA-LOPEZ*; E. J. GALVAN. *CINVESTAV SUR.*

8:00 E46 **285.17** Single-spine LTP modulates plasticity at neighboring GABAergic inhibitory dendritic synapses. T. RAVASENGA*; M. RUBEN; E. PETRINI; A. BARBERIS. *Inst. Italiano Di Tecnologia.*

9:00 E47 **285.18** Evolutionarily conserved site on Neurexin3-α modulates balance between excitation and inhibition. S. RESTREPO*; K. A. NELSON; J. AOTO. *Univ. of Colorado Denver Anschutz Med. Cam, Univ. of Colorado Denver Anschutz Med. Cam.*

10:00 E48 **285.19** ● NYX-2925 facilitates auditory-evoked long-term potentiation in rats: A translational approach for measuring NMDA receptor-dependent synaptic plasticity. J. S. BURGDORF*; K. LEADERBRAND; X. ZHANG; P. K. STANTON; T. M. MADSEN; M. A. KAHN; R. A. KROES; J. R. MOSKAL. *Northwestern Univ., Aptinyx Inc., Northwestern Univ., New York Med. Col.*

11:00 E49 **285.20** Immediate perisynaptic membrane expansion after LTP induction visualized by correlative light and electron microscopy. Y. SUN*; N. KAMASAWA; R. YASUDA. *Max Planck Florida Inst. for Neurosci.*

8:00 E50 **285.21** Model of paradoxical LTP maintenance predicts multiple intermediate states between early and late LTP. P. D. SMOLEN*; D. A. BAXTER; J. H. BYRNE. *McGovern Med. Sch. of UTHSC At Houston, McGovern Med. Sch. of UTHSC at Houston.*

9:00 E51 **285.22** Over-expression of GluR2 in hippocampal parvalbumin-positive interneurons impairs synaptic plasticity and memory performance. M. J. COOPER*; M. MONIRI; D. BANNERMAN; E. O. MANN. *Univ. of Oxford, Univ. of Oxford.*

10:00 F1 **285.23** Long-term potentiation requires a rapid burst of dendritic mitochondrial fission during induction. S. DIVAKARUNI*; A. VAN DYKE; R. CHANDRA; T. A. LEGATES; M. CONTRERAS; P. A. DHARMASRI; H. N. HIGGS; M. LOBO; S. M. THOMPSON; T. A. BLANPIED. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Geisel Sch. of Med. at Dartmouth Col.*

11:00 F2 **285.24** Endocannabinoid-mediated regulation of LTP at mossy cell to dentate granule cell synapses. K. R. JENSEN*; P. E. CASTILLO. *Albert Einstein Col. of Med.*

8:00 F3 **285.25** Endocannabinoid-mediated spike-timing dependent plasticity in the lateral habenula glutamatergic synapses is modulated by early life stress. L. D. LANGLOIS*; R. D. SHEPARD; M. E. AUTHEMENT; F. S. NUGENT. *Uniformed Services Univ. of Hlth. Sci., Uniformed Services Univ.*

9:00 F4 **285.26** Effects of chronic high altitude exposure on synaptic protein levels across different brain regions in a rodent model. Z. ADAHMAN*; R. SHARMA; E. MURPHY; N. CRAMER; X. XU; Z. GALDZICKI; D. L. DICKSTEIN; B. DARDZINSKI; D. P. PERL; D. IACONO. *Uniformed Services Univ. of Hlth. Sci., Uniformed Services Univ. of Hlth. Sci., Uniformed Services Univ. of Hlth. Sci., USUHS, Uniformed Services Univ. of the Hlth. Sci., Uniformed Services Univ. of Hlth. Sci.*

POSTER

286. Network Interactions and Synaptic Integration I

Theme B: Neural Excitability, Synapses, and Glia

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 F5 **286.01** Reduction of alcohol-seeking behavior by optogenetic reversal of alcohol-evoked input- and cell type-specific synaptic plasticity in the dorsomedial striatum. J. LU*; Y. CHENG; T. MA; X. WANG; J. WANG. *Texas A&M Univ. Hlth. Sci. Ctr.*

9:00 F6 **286.02** Theta phase-dependent competitive long-term potentiation in area CA1 of the hippocampal slices caused by feed-forward and feedback gabaergic control. T. TOMINAGA*; Y. TOMINAGA. *Inst. of Neuroscience, Tokushima Bunri Univ.*

10:00 F7 **286.03** Differential learning from pre- vs. postsynaptically expressed STDP. B. E. P. MIZUSAKI*; S. S. Y. LI; R. P. COSTA; P. J. SJOSTROM. *UFRGS, McGill Univ., Univ. of Oxford.*

11:00 F8 **286.04** A spike timing-dependent plasticity rule for single, clustered and distributed dendritic spines. D. E. MITCHELL*; S. TAZERART; S. MIRANDA-ROTTMANN; R. ARAYA. *Univ. De Montréal.*

8:00 F9 **286.05** Acetylcholine controls input selectivity in CA1 of the hippocampus by pathway specific muscarinic regulation of feedforward excitatory-inhibitory ratio. J. PALACIOS*; J. R. MELLOR. *Univ. of Bristol.*

9:00 F10 **286.06** A dendritic model of CA1 place-field formation and remapping through excitatory and inhibitory synaptic plasticity. P. A. BOZELOS; E. J. AGNES; T. VOGELS*; P. POIRAZI. *Univ. of Oxford, IMBB-FORTH.*

10:00 F11 **286.07** Spike-timing computation with complex vectors: Emergence of theta oscillations, place-fields and phase-precssion in a model of hippocampus. E. P. FRADY*; P. KANERVA; F. T. SOMMER. *UC Berkeley, UC Berkeley.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 F12 **286.08** Analysis of complex temporal information streams by dendritic neuron model. T. ASABUKI*; T. FUKAI. *RIKEN Brain Sci. Inst., The Univ. of Tokyo.*

8:00 F13 **286.09** Imaging STDP: Potentiation and depression with timed dual-site stimulation in hippocampal CA3 region. M. B. JACKSON*. *Univ. of Wisconsin-Madison.*

9:00 F14 **286.10** An increase of the readily releasable pool accounts for post-tetanic potentiation at the hippocampal mossy fiber bouton-CA3 pyramidal neuron synapse. D. VANDAEL; P. JONAS*. *Inst. of Sci. and Technol. (IST) Austria.*

10:00 F15 **286.11** The modulation of back-propagating action potential by LTP induction on dendrite in rat hippocampal dentate-granule cells. S. SUGIMOTO*; J. KASAI; M. KONDO; K. KATO; T. AIHARA. *Tamagawa Univ., The Univ. of Tokyo, Morinomidori mental institution.*

11:00 F16 **286.12** *In vivo*-like irregular activity reveals dominance of firing rate over spike-timing in synaptic plasticity. M. GRAUPNER*; Y. DEMBITSKAYA; S. VALTCHEVA; S. OSTOJIC; L. VENANCE. *Brain Physiol. Lab, CNRS, Collège de France, NYU Sch. of Med., Ecole Normale Superieure.*

8:00 F17 **286.13** Dissecting synaptic dynamics underlying the neuronal code with *in vivo* dynamic clamp manipulation of visually-evoked excitation and inhibition in mouse primary visual cortex. M. GAJOWA; L. J. GRAHAM*. *CNRS UMR8250, Univ. Paris Descartes.*

9:00 F18 **286.14** Fast 3D two-photon $Ca2^+$ imaging in mouse V1 reveals patterns of layer II/III and V pyramidal cell dendrite activity *in vivo.* T. J. YOUNTS*; S. SADEH; C. BARAGLI; A. R. SILVER. *Univ. Col. London, Univ. Col. London.*

10:00 F19 **286.15** Heterosynaptic plasticity normalizes cortical excitatory-inhibitory balance. R. E. FIELD*; J. D'AMOUR; R. TREMBLAY; F. ZENKE; J. GJORGJIEVA; T. VOGELS; B. RUDY; R. C. FROEMKE. *New York Univ. Sch. of Med., NIH, New York Univ., Oxford Univ., Max Planck Inst. for Brain Res., NYU Sch. of Med., NYU Med.*

11:00 F20 **286.16** Sharp wave-ripple associated dendritic signal integration in awake mice. B. CHIOVINI*; D. PÁLFI; G. JUHÁSZ; L. JUDÁK; Z. MEZRICZKY; G. KATONA; B. RÓZSA. *Inst. of Exptl. Med. Hungarian Acad. of Sci., Pázmány Péter Catholic University, Fac. of Information Technol. and Bionics.*

8:00 F21 **286.17** Enhanced dendritic compartmentalization in human cortical neurons. L. BEAULIEU-LAROCHE*; E. TOLOZA; M. LAFOURCADE; M. VAN DER GOES; D. BARNAGIAN; E. N. ESKANDAR; M. FROSCH; S. S. CASH; M. T. HARNETT. *MIT, MIT, Massachusetts Gen. Hosp., C.S. Kubik Lab. for Neuropathology, Massachusetts Gen. Hosp., Mass Genl Hosp, MIT.*

POSTER

287. Synaptic Plasticity

Theme B: Neural Excitability, Synapses, and Glia

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 F22 **287.01** Experience-dependent synaptic plasticity in the lateral habenula. M. TRUSEL*; S. LECCA; M. MAMELI. *UNIL.*

9:00 F23 **287.02** Resolving plasticity at accumbal to lateral hypothalamus synapse in feeding behaviour. S. THOENI*; E. O'CONNOR; C. LÜSCHER. *Univ. of Geneva.*

10:00 F24 **287.03** Exogenous coenzyme Q treatment affects age-related alterations of the motor cortex in aged mice. R. INOUE*; M. TAKAHASHI; M. MIURA. *Tokyo Metro Inst. Gerontology.*

11:00 F25 **287.04** Monitoring Rem2 interaction with the CamKIIα holoenzyme by simultaneous homo- and hetero-FRET measurements. D. J. LIPUT*; T. NGUYEN; H. L. PUHL, III; S. VOGEL. *NIH/NIAAA, NIH/NIAAA, NIH, NIH/NIAAA.*

8:00 F26 **287.05** Interaction between NMDA receptor- and endocannabinoid-mediated modulation of nociceptive synapses. B. D. BURRELL*; S. YUAN. *Univ. of South Dakota, Ctr. for Brain and Behavior Res.*

9:00 G1 **287.06** Mitochondria dependent metabolic programming drive hebbian long term potentiation. H. ROLYAN*. *Yale Univ.*

10:00 G2 **287.07** Spontaneously hypertensive rat exhibits increased synaptic plasticity. S. TANIGUCHI*; M. OGURA; K. TANABE; D. YAMANAKA; K. ITO. *Univ. of Tokyo, Univ. Tokyo.*

11:00 G3 **287.08** Presynaptic DCAF12 is part of a negative feedback loop regulating TGF-beta signaling at the *Drosophila* neuromuscular junction. M. TORVUND*; L. A. PATRON; K. E. ZINSMAIER. *Univ. of Arizona.*

8:00 G4 **287.09** Electrical synapses as modulators of behavior. L. VOELKER*; I. RABINOWITCH; J. BAI. *Fred Hutch Cancer Res. Ctr., Univ. of Washington.*

9:00 G5 **287.10** Distinct mechanisms underlie electrical coupling resonance and membrane potential resonance. X. LI*; H. G. ROTSTEIN; F. NADIM. *Dept Biol. Sci., Rutgers/Njit, Inst. for Brain and Neurosci. Research, NJIT.*

10:00 G6 **287.11** Long-term potentiation of electrical synapses in the thalamic reticular nucleus. B. A. FRICKER; E. L. HECKMAN; P. CUNNINGHAM; J. S. HAAS*. *Lehigh Univ.*

11:00 G7 **287.12** Na^+-dependent regulation of vesicular glutamate transport at an auditory synapse. H. HUANG*; D. LI; Y. ZHU. *Tulane Univ.*

8:00 G8 **287.13** BDNF induces *in vivo* long-term synaptic plasticity at hippocampal mossy fiber pathway in a transcription and translation-independent manner. A. MARTÍNEZ*; M. L. ESCOBAR. *Univ. Nacional Autónoma De México.*

9:00 G9 **287.14** The role of synaptic BDNF-TrkB signaling in ketamine-mediated antidepressant effects. P. LIN*; E. T. KAVALALI; L. M. MONTEGGIA. *UTSouthwestern Med. Ctr., UT Southwestern Med. Ctr.*

10:00 G10 **287.15** Serotonergic modulation on the inhibitory synaptic transmission in the lateral amygdala. R. YAMAMOTO*; T. SUGAI; N. KATO. *Kanazawa Med. Univ.*

11:00 G11 **287.16** Oxytocin enhances excitatory and inhibitory synaptic transmission in a layer specific manner in the rat medial prefrontal cortex. S. M. SINGHAL*; S. W. HARDEN; C. J. FRAZIER. *Univ. of Florida.*

8:00 G12 **287.17** Effects of temperature during brain slice preparation on the physiology of cortical neurons. J. C. MERCADO DEL VALLE*; A. T. GULLEDGE. *Dartmouth Col., Geisel Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

288. Synaptic Protein Dynamics

Theme B: Neural Excitability, Synapses, and Glia

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 H1 **288.01** Identification of long-lived synaptic proteins by proteomic analysis of synaptosome protein turnover. S. HEO*; G. H. DIERING; C. NA; R. S. NIRUJOGI; J. BACHMAN; A. PANDEY; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Manipal Acad. of Higher Educ.*

9:00 H2 **288.02** Cortex-wide synaptic AMPA receptor plasticity during motor learning. R. H. ROTH*; R. H. CUDMORE; H. L. TAN; Y. ZHANG; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Peking Univ., Peking Univ.*

10:00 H3 **288.03** Imaging endogenous AMPA receptor dynamics *in vitro* and *in vivo.* A. R. GRAVES*; R. H. ROTH; D. J. TWARD; M. I. MILLER; J. T. VOGELSTEIN; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

11:00 H4 **288.04** ICA69-mediated AMPA receptor trafficking regulates activity-dependent synaptic strengthening and learning and memory. S. CHIU*; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

8:00 H5 **288.05** Phosphorylation of GluA2 tyrosine 876 is necessary for homeostatic plasticity. A. J. YONG*; A. M. BYGRAVE; H. L. TAN; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

9:00 H6 **288.06** Distance-dependent AMPA receptor dynamics following visual deprivation *in vivo.* H. L. TAN*; R. H. ROTH; A. R. GRAVES; R. H. CUDMORE; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

10:00 H7 **288.07** Mitochondrial ROS regulate structural and functional synaptic plasticity. H. FANG*; B. LIU; P. WU; D. WIRTZ; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., The Johns Hopkins Univ., The Johns Hopkins Univ.*

11:00 H8 **288.08** Distinct translocation patterns and biochemical characteristics of SynGAP isoform and gene mutations in diseases during synaptic plasticity. Y. ARAKI*; T. R. GAMACHE; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

8:00 H9 **288.09** Platform for longitudinal *in vivo* two-photon imaging with sub-micron precision. I. HONG*; R. H. ROTH; J. B. ISSA; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Northwestern Univ.*

9:00 H10 **288.10** A suite of single-fluorophore biosensors for sensitive and multiplexed detection of signaling activities. S. MEHTA*; R. H. ROTH; B. LIU; R. L. HUGANIR; J. ZHANG. *Univ. of California San Diego, Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

10:00 H11 **288.11** Novel transgenic mouse line for visualizing endogenous AMPA receptor trafficking *in vitro* and *in vivo.* Q. ZHU*; A. M. BYGRAVE; H. L. TAN; R. H. ROTH; A. R. GRAVES; R. C. JOHNSON; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

11:00 H12 **288.12** Depalmitoylation of GluA1 by CPT1C enhances AMPAR trafficking. E. GRATACÒS-BATLLE*; N. SÁNCHEZ-FERNÁNDEZ; M. OLIVELLA; F. MIGUEZ-CABELLO; X. GASULL; D. SOTO. *Univ. de Barcelona, Inst. de Neurociències, UB, Univ. de Vic, IDIBAPS.*

8:00 H13 **288.13** Neuronal receptors display cytoskeleton-independent directed motion on the plasma membrane. L. C. ANDREAE*; R. D. TAYLOR; M. HEINE; N. J. EMPTAGE. *King's Col. London, 3Leibniz-Institute of Neurobio., Univ. of Oxford.*

9:00 H14 **288.14** Spatial and geometrical aspects of cAMP dynamics in dendritic spines. D. OHADI*; D. L. SCHMITT; T. M. BARTOL; T. J. SEJNOWSKI; J. ZHANG; P. RANGAMANI. *UCSD, Salk Inst.*

10:00 H15 **288.15** Heteromeric JIP proteins regulate synaptic transport of AMPARs. F. J. HOERNDLI*; P. J. BROCKIE; J. E. MELLEM, JR; R. WANG; D. MADSEN; B. E. PULFORD; A. V. MARICQ; R. DOSER. *Colorado State Univ., Univ. of Utah-School of Med., Univ. of Utah, Colorado State Univ.*

11:00 H16 **288.16** Role of sorting nexin-1 in metabotropic glutamate receptor (mGluR's) trafficking. R. SHARMA*; R. GULIA; S. BHATTACHARYYA. *Indian Inst. of Sci. Educ. and Res.*

POSTER

289. Anticonvulsant and Antiepileptic Therapies

Theme B: Neural Excitability, Synapses, and Glia

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 H17 **289.01** Evaluation of the antiepileptogenic efficacy of promising multitargeted drug combinations. L. WELZEL*; F. TWELE; P. KLEIN; W. LÖSCHER. *Univ. of Vet. Med. Hannover, Ctr. for Systems Neurosci., Mid-Atlantic Epilepsy and Sleep Ctr.*

9:00 H18 **289.02** ● Inhibition of cholesterol 24-hydroxylase improves the survival of a mouse model of epileptic phenotype and modulates extracellular levels of glutamate. T. NISHI*; S. WATANABE; S. HASEGAWA; S. FUJIMOTO; E. SUNAHARA; M. OHORI; T. KOIKE; M. MIYAMOTO; S. KONDO. *Takeda Pharmaceut., Takeda Pharmaceut.*

10:00 I1 **289.03** ● Cholesterol 24-hydroxylase inhibition is a novel pharmacological mechanism that exerts neuroprotective effects against glutamate excitotoxicity in rats. S. HASEGAWA; T. NISHI; S. WATANABE; S. FUJIMOTO; S. KONDO*. *Takeda Pahrmaceutical Co. Limited.*

11:00 I2 **289.04** Suppression of seizure-induced increased expression of JAK/STAT signaling in kindling model of epileptogenesis using isoxylitones [E/Z]. S. U. SIMJEE*; U. NISAR; F. SHAHEEN; .. ATTA UR RAHMAN; M. I. CHOUDHARY. *H.E.J. Res. Inst. of Chemistry, Internatio, H.E.J. Res. Inst. of Chemistry, Intl. Ctr. for Chem. and Biol. Sci., H.E.J. Res. Inst. of Chemistry, Dr. Panjwani Ctr. for Mol. Med. and Drug Research, Intl. Ctr. for Chem. and Biol. Sci.*

Mon. AM

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 I3 **289.05** Targeting exaggerated TGF-β signaling pathway to inhibit pentylenetetrazole-induced epileptogenesis in mice. M. SHAHID*; U. NISAR; F. SHAHEEN; .. ATTA UR RAHMAN; M. CHOUDHARY; M. ASKANI; S. U. SIMJEE. *Intl. Ctr. For Chem. and Biol. S, Intl. Ctr. For Chem. and Biol. Sci.*

9:00 I4 **289.06** Myelinated axons are clustered in the rat cVN and localized stimulation reduces the off-target activation of Aα motor axons in the recurrent laryngeal nerve. A. WELLS*; M. GONZÁLEZ GONZÁLEZ; S. A. HAYS; M. P. KILGARD; R. L. RENNAKER; M. I. ROMERO-ORTEGA. *The Univ. of Texas at Dallas, The Univ. of Texas at Dallas.*

10:00 I5 **289.07** Enaminone modulators of extrasynaptic alpha$_4$beta$_3$delta GABA$_A$receptors reverse electrographic seizures and prevent neuronal cell death after acute organophosphate poisoning. T. JOHNSTONE; H. S. MCCARREN; J. SPAMPANATO; F. E. DUDEK; J. H. MCDONOUGH; D. HOGENKAMP; K. W. GEE*. *Univ. of California Irvine, US Army Med. Res. Inst. of Chem. Def, Univ. of Utah, Univ. of Utah.*

11:00 I6 **289.08** ▲ Retinoic acid decreases the epileptic activity through the interaction of Sox-1 with β-catenin in the cerebellum of kindling rats. A. ROSILES*; C. RUBIO-OSORNIO; C. TREJO-SOLÍS; V. CUSTODIO; C. MENDOZA; L. HERNÁNDEZ-LÓPEZ; E. GONZALEZ-RUIZ; J. C. MARTÍNEZ-LAZCANO; E. GONZALEZ; C. PAZ. *Inst. Nacional De Neurología y Neurocirugía, Inst. Nacional De Neurología y Neurocirugía.*

8:00 I7 **289.09** Delayed post-traumatic neuronal death in the developing hippocampus. T. BALENA*; N. RAHMATI; K. P. LILLIS; K. J. STALEY. *Massachusetts Gen. Hosp., Harvard Med. Sch. & Massachusetts Gen. Hos, Harvard Med. Sch. Dept. of Neurol., Massachusetts Gen. Hosp.*

9:00 I8 **289.10** Evaluation of repurposed antiepileptic drugs to treat spontaneous recurrent seizures in instrumented male C57Bl/6 mice following a sublethal soman exposure. D. L. NGUYEN*; M. R. EISEN; C. E. ARDINGER; E. N. DUNN; K. M. HAINES; A. N. SANTORO; P. M. BODNER; P. B. DUBEE; H. S. MCCARREN; P. M. MCNUTT. *USAMRICD.*

10:00 I9 **289.11** ● Development of serotonin modulators for Dravet syndrome through phenotypic drug screening in zebrafish. A. GRIFFIN*; J. GRANDJEAN; P. JAISHANKAR; A. R. RENSLO; S. H. OLSON; S. C. BARABAN. *Univ. California San Francisco, Univ. of California San Francisco, Univ. of California San Francisco, Univ. California San Francisco.*

11:00 I10 **289.12** Role of protein kinase c phosphorylation in neurosteroid modulation of extrasynaptic gaba-a receptors in the hippocampus. S. CHUANG*; S. REDDY. *Texas A&M Univ. Hlth. Sci. Ctr.*

8:00 I11 **289.13** Effects of ruta chalepensis L. (rutaceae) over EEG activity and PTZ induced seizures in mice. D. MARTINEZ-VARGAS*; M. GONZALEZ-TRUJANO; M. HERNÁNDEZ-ARÁMBULO; E. URBINA-TREJO; F. SANTOS-VALENCIA; B. VILLASANA-SALAZAR. *Inst. Nacional de Psiquiatria, Inst. Nacional de Psiquiatria, Inst. Nacional de Psiquiatria, Inst. Nacional de Psiquiatria.*

9:00 I12 **289.14** NKCC1 is not obligatory for epileptogenesis and the manifestation of seizures in the intrahippocampal kainate mouse model. P. HAMPEL*; K. RÖMERMANN; A. VOGEL; W. THEILMANN; B. GAILUS; M. JOHNE; K. TÖLLNER; K. KAILA; W. LÖSCHER. *Univ. of Vet. Med. Hannover, Ctr. for Systems Neurosci., Univ. of Helsinki, Univ. of Helsinki.*

10:00 I13 **289.15** ● Pronounced antiepileptic activity of the subtype-selective GABA$_A$ positive allosteric modulator PF-06372865 in the GAERS model. C. ROUCARD*; R. GURRELL; D. BUHL; A. EVRARD; C. RUGGIERO; V. DUVEAU. *SYNAPCELL, Pfizer Inc.*

11:00 I14 **289.16** Tau loss modifies network excitability in brain tumor related epilepsy. A. HATCHER*; K. YU; I. AIBA; B. DENEEN; J. L. NOEBELS. *Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med.*

8:00 I15 **289.17** Adenosine A1 receptor antagonism reduces the effect of gamma-decanolactone on acute and chronic seizures in mice. P. PEREIRA*; G. REGNER; L. L. SILVA; L. TOUGUINHA; M. SALVADOR; P. PFLÜGER. *Federal Univ. of Rio Grande Do Sul, Univ. de Caxias do Sul.*

9:00 I16 **289.18** Crispr/cas9-mediated overexpression of cb1 receptors for the control of epileptogenesis. V. DI MARIA*; M. RYDE; L. QUINTINO; M. LEDRI. *Lund Univ., Lund Univ.*

10:00 I17 **289.19** ● Novel KCNT1 inhibitors of wild-type and a P924L gain-of-function variant identified through comprehensive high-throughput drug repurposing screening. G. R. STEWART*; J. M. ANDRESEN; B. C. GAY; C. M. MAHER; A. C. GERLACH; T. A. ATKIN; M. D. FULLER; M. L. CHAPMAN; B. M. ANTONIO; D. B. GOLDSTEIN; O. DEVINSKY; S. PETROU. *Pairnomix, Icagen, Columbia Univ. Press, Columbia Univ. Med. Ctr., New York Univ. Med. Ctr., Univ. of Melbourne.*

11:00 J1 **289.20** Optogenetic control of cerebellar output abolishes generalized seizures. J. SCHWITALLA*; S. HERITZE; M. D. MARK. *Gen. Zoology and Neurobio.*

8:00 J2 **289.21** ● CX-8998 and CX-5395, potent, selective T-type calcium channel antagonists suppress seizures in genetic models of epilepsy. M. S. LEE; E. J. NEWBOLD; S. PAPAPETROPOULOS*. *Cavion, Cavion.*

9:00 J3 **289.22** TrkB activation reduces seizure activity in a mouse model of Dravet syndrome via enhanced interneuron function. F. GU*; I. PARADA; D. PRINCE. *Stanford Univ.*

10:00 J4 **289.23** ● Development of a clinically-relevant nonclinical model to investigate recovery of pilocarpine-induced convulsions by benzodiazepines. J. K. DASILVA*; C. TYSZKIEWICZ; K. LEE; D. L. BUHL; S. M. G. GOODY. *Pfizer, Inc., Pfizer, Inc.*

11:00 J5 **289.24** Anodal and cathodal transcranial direct current stimulation (tDCS) effects on convulsions induced in the kindling model by pentylenetetrazole. I. L. TORRES*; G. G. REGNER; C. DE OLIVEIRA; V. L. SCARABELOT; D. E. S. RIOS; P. PFLÜGER; A. SOUZA; R. STRÖHER; P. PEREIRA. *UFRGS - Univ. Federal do Rio Grande do Sul, Univ. Federal do Rio Grande do Sul.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

290. Epilepsy: Human Studies

Theme B: Neural Excitability, Synapses, and Glia

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 J6 **290.01** High fidelity simulated driving paradigm for identifying EEG features of generalized spike-wave discharges that impair driving ability. P. ANTWI*; B. BANZ; C. A. ARENCIBIA; J. RYU; E. ATAC; S. TOMATSU; H. KRESTEL; J. WU; M. CROWLEY; F. E. VACA; H. BLUMENFELD. *Yale Sch. of Med., Yale Sch. of Med., Yale Sch. of Med., Yale Univ. Sch. of Med., Hacettepe Univ., Bern Univ. Hosp. and Univ. of Bern, Yale Sch. of Med., Yale Sch. of Med.*

9:00 J7 **290.02** Characterization of cross frequency couplings produced by harmonic and non-harmonic frequency bands during seizure activity from intracerebral recordings in patients candidate to epilepsy surgery. D. DELLAVALE*; E. URDAPILLETA; N. CÁMPORA; O. VELARDE; S. KOCHEN; G. MATO. *CONICET and Balseiro Institute, UNCuyo, CONICET and Balseiro Institute, UNCuyo, Neurosciences and Complex Systems Unit (EnyS) CONICET - Fac. of Medicine, UBA, CONICET - CNEA and Balseiro Institute, UNCuyo.*

10:00 J8 **290.03** Deep brain stimulation for seizure control: A role for white matter. F. SCHAPER*; B. R. PLANTINGA; A. COLON; L. WAGNER; P. BOON; E. GOMMER; G. HOOGLAND; L. ACKERMANS; R. ROUHL; Y. TEMEL. *Maastricht Univ. Med. Ctr., Maastricht Univ. Med. Ctr., Academic Ctr. for Epilepsy, Academic Epilepsy Ctr.*

11:00 J9 **290.04** Using automated detection and classification of interictal HFOs to improve the identification of epileptogenic zones in preparation for epilepsy surgery. T. SOBAYO*; S. FARAHMAND; D. J. MOGUL. *Illinois Inst. of Technol., Illinois Inst. of Technol.*

8:00 J10 **290.05** Validating cortical surface electrode localization uncertainty with simulation and clinical stimulation. C. M. CHARLEBOIS*; K. SHAYESTEHFARD; D. N. ANDERSON; A. JANSON; J. A. CRONIN; M. DANNHAUER; D. J. CALDWELL; L. SORENSEN; J. G. OJEMANN; D. BROOKS; R. MACLEOD; C. R. BUTSON; A. D. DORVAL. *Univ. of Utah, Northeastern Univ., Univ. of Washington, Duke Univ.*

9:00 J11 **290.06** ● A portable 512-channel system for intracranial recording and mapping inclinical epilepsy research and other high-current neural stimulation applications. T. POULSON; S. BARRUS; A. M. WILDER*; S. HIATT. *Ripple.*

10:00 J12 **290.07** Dynamics of neuronal activity in the cerebral neocortex during human epileptic seizures revealed by microelectrode recordings. J. B. ZIMMERMANN*; P. MEGEVAND; A. YULZARI; A. WOODTLI; L. SPINELLI; S. MOMJIAN; M. CORNIOLA; G. R. COSGROVE; J. P. DONOGHUE; M. SEECK. *Wyss Ctr. for Bio and Neuroengineering, Geneva Univ. Hosp., Geneva Univ., Geneva Univ. Hosp., Brigham and Women's Hosp.*

11:00 J13 **290.08** ● Noninvasive skin volatilomics for forcasting and diagnosing seizures. K. DESHPANDE*; D. D. SPENCER; R. B. DUCKROW; H. P. ZAVERI; L. HIRSCH; T. EID. *Yale Univ., Yale Univ. Sch. Med., Yale Univ. Sch. Med., Yale Univ., Yale Yale Univ. Sch. Med., Yale Univ.*

8:00 J14 **290.09** ● LGI1-IgG levels, subtypes and clinical correlations in faciobrachial dystonic seizures. M. BI*; J. THOMPSON; A. G. MURCHISON; M. MAKUCH; S. R. IRANI. *The Univ. of New South Wales, Univ. of Oxford.*

9:00 K1 **290.10** ● Safety of transcranial focal stimulation (TFS) via tripolar concentric ring electrodes (TCREs) in people: Initial results. L. M. MCCANE*; P. STEELE; J. MERCIER; D. J. MCFARLAND; W. G. BESIO. *CREmedical Corp, Univ. of Rhode Island, Wadsworth Ctr., Univ. of Rhode Island.*

10:00 K2 **290.11** Temporal evolution of features of high-frequency oscillations in human epilepsy. J. SCOTT*; B. HUNT; S. GLISKE; W. STACEY. *Univ. of Michigan.*

11:00 K3 **290.12** Anatomical evaluation of corpus callosum in MS patients mr images. A. D. AYDIN KABAKÇI*; M. BUYUKMUMCU; D. AKIN; N. POYRAZ; A. UCA. *Necmettin Erbakan Univ., Necmettin Erbakan Univ., Necmettin Erbakan Univ., Necmettin Erbakan Univ.*

8:00 K4 **290.13** Stimulation levels determine amplitude and variability of cortico-cortical evoked potentials following single-pulse electrical stimulation. T. DAVIS*; J. D. ROLSTON. *Univ. of Utah, Univ. of Utah.*

9:00 K5 **290.14** White matter tract development disrupted in youth with temporal lobe epilepsy. W. I. MATTSON*; M. MORNINGSTAR; J. VENTICINQUE; S. SINGER, Jr.; B. A. FULLER; S. GEDELA; E. E. NELSON. *Nationwide Children's Hosp., Ohio State Univ., Nationwide Children's Hosp.*

10:00 K6 **290.15** Increased spectral power and altered functional connectivity in patients with infantile spasms. G. KOIRALA; N. KIM; H. KIM; D. LEE*. *Kwangwoon Univ., Yonsei Univ. Col. of Med., Yonsei Univ. Col. of Med.*

11:00 K7 **290.16** Functional ultrasound (fUS) imaging of neonate brain activity at bedside characterizes the spatiotemporal propagation of epileptiform activity. C. DEMENÉ*; J. BARANGER; M. BERNAL; C. DELANOE; V. BIRAN; M. ALISON; E. HARRIBAUD; M. PERNOT; M. TANTER; O. BAUD. *Inst. Langevin, Assistance Publique–Hôpitaux de Paris, Robert Debré Univ. Hosp., Assistance Publique–Hôpitaux de Paris, Robert Debré Univ. Hosp., Assistance Publique–Hôpitaux de Paris, Robert Debré Univ. Hosp., Univ. Paris Diderot, Children's Univ. Hosp. of Geneva and Univ. of Geneva, Fondation PremUp.*

8:00 K8 **290.17** Characterizing the relationship between functional connectivity and neurocognitive deficits in benign epilepsy with centrotemporal spikes. E. SPENCER*; D. SONG; L. OSTROWSKI; C. CHU; M. KRAMER. *Boston Univ., Massachusetts Gen. Hosp.*

9:00 K9 **290.18** Machine learning based responsive brain stimulation device: An epilepsy clinical trial. G. O'LEARY*; D. M. GROPPE; R. GENOV; T. A. VALIANTE. *Univ. of Toronto, Univ. of Toronto, Toronto Western Hosp.*

10:00 K10 **290.19** Linking data to models to estimate potassium ion concentration during a seizure. E. SCHLAFLY*; U. T. EDEN; M. A. KRAMER. *Boston Univ.*

11:00 K11 **290.20** Organization of high frequency oscillations by low freq activity within and between human seizures. J. NADALIN*; L. MARTINET; C. CHU; S. S. CASH; U. EDEN; M. KRAMER. *Boston Univ., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Mass Genl Hosp, Boston Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 K12 **290.21** Dynamic functional network analysis during human seizures. L. MARTINET*; E. SPENCER; C. CHU; E. N. ESKANDAR; E. KOLACZYK; M. A. KRAMER; S. S. CASH. *Massachusetts Gen. Hosp., Boston Univ., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Boston Univ.*

POSTER

291. Brain Wellness and Aging: Pharmacological and Non-Pharmacological Interventions

Theme C: Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 K13 **291.01** The effect of urolithin A on neuronal mitochondrial redox activity, mitochondrial respiration and mitochondrial network. J. NG*; T. L. MERRY; A. SCHEEPENS; W. C. ABRAHAM; A. J. R. HICKEY; N. P. BIRCH. *Univ. of Auckland, Brain Res. New Zealand Rangahau Roro Aotearoa & Ctr. for Brain Res., Univ. of Auckland, Univ. of Otago.*

9:00 K14 **291.02** Neurological effects of moving from an enriched environment to social isolation in adult mice. V. HENG*; M. J. ZIGMOND; R. J. SMEYNE. *Thomas Jefferson Univ., Univ. of Pittsburgh.*

10:00 K15 **291.03** ● Human plasma fraction prevents age-dependent decline in neuronal activity, neurogenesis, and neuroinflammation in C57BL6 mice. M. K. CAMPBELL*; C. TUN; A. LIU; H. HACKBART; S. REGE; I. GALLAGER; S. P. BRAITHWAITE; S. MINAMI; E. CZIRR. *Alkahest.*

11:00 K16 **291.04** A focal cerebral ischemic stroke model in the aged mouse: Comparative studies between 2-month and 18-month-old ages. Z. Z. WEI*; X. H. GU; C. QU; R. K. CHIN; L. WEI; S. P. YU. *Anesthesiol./ Neurol., Emory Univ. Sch. Med., Ctr. for Vis. Neurocogn. Rehabil., Atlanta VA Med. Ctr.*

8:00 K17 **291.05** Inhibitory effects of phenolic compounds on glioblastoma multiforme. Y. K. GUTIERREZ-MERCADO*; E. E. REZA-ZALDIVAR; M. A. HERNANDEZ-SAPIENS; S. E. OCHOA-HUGO; A. L. MARQUEZ-AGUIRRE; E. PADILLA-CAMBEROS; A. A. CANALES-AGUIRRE. *CIATEJ, CIATEJ, CIATEJ.*

9:00 K18 **291.06** Secreted alpha-Klotho overexpressed in the hippocampus alters social behavior and memory formation. D. LI; Y. CHEN; D. JING; Z. LIU; T. BEHNISCH*. *Inst. of Brain Science, State Key Lab. of Med. Neurobio.*

10:00 L1 **291.07** Inward rectifier potassium channels (K_{IR}) and impaired cerebrovascular dilatory function in mouse models of Alzheimer's disease and cerebrovascular disease. M. LACALLE-AURIOLES*; L. J. TRIGIANI; M. BOUROUROU; E. HAMEL. *Montreal Neurolog. Institute, McGill Univ.*

11:00 L2 **291.08** Effect of the chronic administration of curcumin on the neuronal morphology and protein expression of the hippocampus and prefrontal cortex in senile mice. A. E. GONZÁLEZ*, SR; S. I. GONZÁLEZ CANO; D. GNECCO; G. FLORES. *Benemérita Univ. Autónoma de Puebla, Benemérita Univ. Autónoma de Puebla.*

8:00 L3 **291.09** Long term ingestion of drinking water containing sodium pyruvate prevents brain or neuronal damages in the models of epilepsy. J. LEE*; M. KIM; S. PARK; H. SON. *Asan Inst. for Life Sci.*

9:00 L4 **291.10** Investigating the potential of dexamethasone to modulate focused ultrasound-mediated increases in blood-brain barrier permeability. D. MCMAHON*; W. OAKDEN; K. HYNYNEN. *Sunnybrook Res. Inst., Univ. of Toronto.*

10:00 L5 **291.11** ● The GSK3 inhibitor AR-A014418 promotes oligodendrogenesis in adult white matter. F. PIEROPAN*; A. M. BUTT; A. D. RIVERA. *Univ. of Portsmouth.*

11:00 L6 **291.12** Interference with dopamine neurotransmission in substantia nigra affects movement frequency without striatal involvement. M. F. SALVATORE*; T. R. MCINNIS; K. E. LANZA; C. R. BISHOP. *Univ. of North Texas Hlth. Sci. Ctr., Univ. of North Texas Hlth. Sci. Ctr., Binghamton Univ.*

8:00 L7 **291.13** ● ▲ Effects of probiotics on Alzheimer's disease progression: Assessing cognitive and cellular markers. D. MEDEIROS*; K. MCMURRY; N. BUITRAGO; C. LYONS; A. TANG; A. SILVER; P. SACCHETTI. *Univ. of Hartford.*

9:00 L8 **291.14** Decreasing rest intervals within a moderate exercise regimen boosts efficacy to prevent aging-related motor decline. E. A. KASANGA*; T. MCINNIS; M. F. SALVATORE. *Univ. of North Texas Hlth. Sci. Ctr., Univ. of North Texas Hlth. Sci. Ctr.*

10:00 L9 **291.15** Calorie restriction prevents age-associated increase in amyloid beta in aged rhesus macaques. G. A. STONEBARGER*; H. F. URBANSKI; R. WOLTJER; K. VAUGHAN; E. M. TILMONT; J. A. MATTISON; P. L. SCHULTZ; S. M. CALDERAZZO; D. L. ROSENE; S. G. KOHAMA. *Oregon Natl. Primate Res. Ctr., Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ., Natl. Inst. on Aging, SoBran, Inc., Boston Univ, Med. Campus.*

11:00 L10 **291.16** *In vitro* effects of a polyphenol-rich blue berry extract on adult human neural progenitor cells. T. ZHENG*; D. F. BIELINSKI; D. R. FISHER; B. SHUKITT-HALE; D. A. STEINDLER. *HNRCA, Tufts Univ.*

8:00 L11 **291.17** ● The effects of intermittent wild blueberry feeding on inflammation and motor and cognitive behavior. D. R. FISHER; D. S. CAHOON; M. G. MILLER; D. F. BIELINSKI; B. SHUKITT-HALE*. *USDA-ARS Human Nutr. Res. Ctr. on Aging.*

9:00 L12 **291.18** Influence of dopamine compounds on mitochondria motility. M. P. VAWTER*; L. MORGAN; A. TRINH. *UC Irvine Schl Med., Univ. of California, Univ. of California.*

8:00 DP03/L13 **291.19** (Dynamic Poster) Mitochondrial permeability transition pore-mediated mitochondrial stress is essential in age-related cognitive decline. E. D. NOLTE*; Q. YU; F. DU; F. AKHTER; S. S. YAN. *Univ. of Kansas.*

11:00 L14 **291.20** Phytohaemagglutinin (PHA)-induced oxidative stress in SH-SY5Y cells: A possible model to studyAβ toxicity and its modulation by pharmacological intervention. K. RAFI*; S. HUSSAIN; S. U. SIMJEE. *Intl. Ctr. for Chem. and Biol. S, Intl. Ctr. for Chem. and Biol. Sci.*

8:00 L15 **291.21** As an FDA-approved drug, the small molecule suppresses LPS-induced neruoinflammatory responses in BV2 microglial cells and wild-type mice. H. HOE*; H. NAM; J. NAM; J. LEE. *X, Korea Brain Reserach Inst., Korea Brain Res. Inst., Korea Brain Reserach Inst.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 L16 **291.22** The *in vitro* effect of different coffees and extraction of coffee in Alzheimer's disease-associated cell line. H. YANG*; C. CAO; P. PHAM; U. KHAN; Y. HONG; X. LIN; N. SHEN. *USF Hlth. Byrd Alzheimer's Inst., Univ. of South Florida, Col. of Pharm. Univ. of South Florida, Univ. of South Florida.*

10:00 L17 **291.23** Effects of high-sucrose diet and multiple low-dose LPS injections on Alzheimer's disease-related pathological processes. A. G. PACHOLKO*; L. K. BEKAR. *Univ. of Saskatchewan.*

11:00 L18 **291.24** Levels of cerebrospinal fluid amyloid-β 40 and 42 are decreased in amyloid PET-negative idiopathic normal pressure hydrocephalus patients. Y. KIM*; J. CHANG. *Ajou Univ. Grad. Sch. of Med., Ajou Univ. Sch. of Med.*

8:00 M1 **291.25** Intensive interval training as promising approach to imporve cognitive function in mild cognitive impaired older persons. S. RUEDIGER*; T. STUCKENSCHNEIDER; S. SCHNEIDER. *German Sport Univ., Univ. of the Sunshine Coast.*

9:00 M2 **291.26** Nutritional strategies against synaptic and metabolic alterations in obese rats. T. SYEDA*; L. PÉREZ-JIMÉNEZ; M. SÁNCHEZ-TAPIA; N. TORRES-TORRES; C. PEREZ-CRUZ. *Ctr. de Investigación y de Estudios Avanzados, 2Instituto Nacional de Ciencias Médicas y de la Nutricion.*

10:00 M3 **291.27** ● The VBrain system: Innovative training for cognitive diseases based on 3D and virtual reality. O. ARANCIO*; C. LUCIOTTO; S. M. PAPPALARDO; D. BARATTA; D. PUZZO. *Columbia Univ., Action 4 Care Srls, Software Engin. Italia Srl, Software Engin. Italia Srl, Univ. of Catania.*

11:00 M4 **291.28** The effects of continuous aerobic and nonaerobic exercise on electrocortical activity in older adults with mild cognitive impairment. T. STUCKENSCHNEIDER*; J. WEBER; V. ABELN; T. VOGT; S. RUEDIGER; S. SCHNEIDER. *German Sport Univ., German Sport Univ., German Sport Univ., German Sport Univ., German Sport Univ. Cologne.*

POSTER

292. Parkinson's Disease: Preclinical Animal Studies: Cellular and Molecular I

Theme C: Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 M5 **292.01** Glucocerebrosidase gene therapy induces alpha-synuclein clearance and stops disease progression. J. L. LANCIEGO*; A. J. RICO; I. G. DOPESO-REYES; D. MARIN-RAMOS; E. RODA; A. I. RODRIGUEZ-PEREZ; J. L. LABANDEIRA-GARCIA; D. SUCUNZA. *Fima-University of Navarra, CIBERNED, FIMA-University of Navarra, CIBERNED, Univ. de Santiago de Compostela, CIBERNED, Univ. de Santiago de Compostela.*

9:00 M6 **292.02** Variation in dopamine modulation by P2X4 receptor modulators, ivermectin (IVM) and moxidectin (MOX). A. M. WARNECKE*; M. S. KANG; M. W. JAKOWEC; D. L. DAVIES. *USC, USC.*

10:00 M7 **292.03** ● Immunohistochemical analysis of cellular transfection in the brains of rats given intranasal GDNF pDNA nanoparticles with focused ultrasound (FUS). B. L. WASZCZAK*; A. E. ALY; Z. LI; T. SUN; Y. ZHANG; O. SESENOGLU-LAIRD; L. PADEJIMAS; M. J. COOPER; N. J. MCDANNOLD. *Northeastern Univ., Brigham & Womens' Hosp., Copernicus Therapeutics, Inc.*

11:00 M8 **292.04** ● Delayed treatment of capsaicin enhances functional recovery of dopamine neurons in MPP^+ model of Parkinson's disease. K. Y. KYOUNG IN*. *Kyunghee Univ.*

8:00 M9 **292.05** Intranasal delivery of heat shock protein 70 reduces histopathology and smell loss in α-synuclein fibril-infused 20 month-old mice. T. N. BHATIA*; P. G. NEEDHAM; D. M. MASON; K. M. MINER; E. A. ECKHOFF; C. M. NAVAGH; S. A. TRBOJEVIC; P. WIPF; J. L. BRODSKY; K. C. LUK; R. K. LEAK. *Univ. of Pittsburgh, Duquesne Univ., Univ. of Pittsburgh, Univ. Pennsylvania.*

9:00 M10 **292.06** ▲ Brain uptake of copper after systemic administration of copper gluconate in rats. B. A. GARCÍA-MARTÍNEZ*; S. MONTES; L. TRISTAN-LOPEZ; L. M. MELGOZA; D. QUINTANAR-GUERRERO; C. RIOS. *Univ. Autonoma Metropolitana, Inst. Nacional de Neurologia y Neurocirugia, Univ. Autonoma Metropolitana, Univ. Autonoma de Mexico, Inst. Nacional de Neurologia y Neurocirugia.*

10:00 M11 **292.07** 5-alpha reductase inhibitors dampen L-DOPA-induced dyskinesia by normalizing D1-receptor downstream signaling pathway. S. FANNI*; F. ROSSI; F. TRACCIS; P. SABA; S. SCHEGGI; E. TRONCI; A. MELIS; P. DEVOTO; M. BORTOLATO; M. CARTA; R. FRAU. *Univ. of Cagliari, Univ. of Siena, Univ. of Utah, Tourette Syndrome Ctr., Sleep Med. Ctr., Natl. Inst. of Neurosci.*

11:00 M12 **292.08** ● Co-treatment with rivastigmine and idalopirdine reduces the propensity for falls in a rat model of falls in Parkinson's disease. A. KOSHY CHERIAN*; A. KUCINSKI; R. WU; I. E. M. DE JONG; M. SARTER. *Univ. of Michigan, Lundbeck A/S.*

8:00 M13 **292.09** Luminopsin-mediated stimulation of transplanted dopaminergic cells in unilateral 6-OHDA lesion model of Parkinson's disease. K. A. ANDERSON*; E. D. PETERSON; A. PAL; R. A. BYRD; E. L. BURKETT; B. WHITEHEAD; A. S. HAULER; R. R. ANCOG; K. E. AZINGER; M. D. HILL; U. HOCHGESCHWENDER; M. I. SANDSTROM. *Central Michigan Univ.*

9:00 M14 **292.10** Regulation of corticostriatal transmission and motor function by phosphodiesterase 9A: Implications for the treatment of Parkinson's disease. A. R. WEST*; F. ALTWAL; S. CHAKROBORTY; N. VOELKNER; R. MALIK; I. M. SANDOVAL; K. TSENG; F. P. MANFREDSSON. *Rosalind Franklin Univ. of Med. and Sci., Michigan State Univ., Univ. of Illinois at Chicago Col. of Med., Michigan State Univ.*

10:00 M15 **292.11** Multimodal serotonergic drugs for the treatment of L-DOPA induced dyskinesia in an experimental model of Parkinson's disease. F. ALTWAL*; N. VOELKNER; R. MALIK; V. OLIVERA; A. PASTWA; A. R. WEST. *Rosalind Franklin Univ.*

11:00 M16 **292.12** A gene therapy approach to knock-down Fyn in the striatum reduces levodopa induced dyskinesia in the 6-hydroxydopamine mouse model of Parkinson's disease. M. P. BORDONE*; A. DAMIANICH; M. A. BERNARDI; S. SANZ-BLASCO; O. S. GERSHANIK; M. E. AVALE; J. E. FERRARIO. *Inst. de Investigaciones Farmacológicas, INGEBI - CONICET.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 M17 **292.13** ● NPT520-34 administration improves grip strength, limb posture, and balance and gait-related measures in a transgenic mouse model of Parkinson's disease. D. L. PRICE*; A. KHAN; M. MAILE; C. WITTMER; K. TATSUKAWA; E. STOCKING; W. WRASIDLO; D. BONHAUS. *Neuropore Therapies, Inc.*

9:00 M18 **292.14** VEGF-B overexpression in PINK1 gene knock out rats improves motor function: Is this effect due to neuroprotection or to functional improvement of dopaminergic neurons? M. J. BARTLETT*; S. CRISTIANI; S. I. B. SMIDT; D. C. FARRELL; K. P. DOYLE; M. L. HEIEN; S. J. SHERMAN; T. FALK. *Univ. of Arizona Col. of Med., Univ. of Arizona Col. of Med., Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona Col. of Med.*

10:00 N1 **292.15** Effect of complete bee venom on fine-tune motor behavior in a 6-OHDA rat lesion model. S. J. LOPEZ-PEREZ*; A. K. LOMELI-LEPE. *Univ. of Guadalajara (CUCBA).*

11:00 N2 **292.16** Pramipexole reverts the development of tactile allodynia in a rat model of Parkinson's disease. A. M. AUSTRICH OLIVARES*; L. MENDIETA; V. GÓMEZ-GARCÍA; A. ESPINOSA-ROMERO; A. MATA-BERMÚDEZ; T. PASTRANA-QUINTO; B. GODÍNEZ-CHAPARRO. *Univ. Autónoma Metropolitana, Benemérita Univ. Autónoma de Puebla.*

8:00 N3 **292.17** ● Preclinical efficacy of systemically administered NPT189 in a mouse model of α-synuclein transmission. K. MCDOWELL*; E. ASP; M. PROSCHITSKY; M. LULU; C. ROCKWELL-POSTEL; J. WRIGHT; R. KRISHNAN; R. FISHER; J. LEVENSON. *Proclara Biosci.*

9:00 N4 **292.18** Adenosinergic drugs control striatal metaplasticity in mice with L-DOPA-induced dyskinesia. A. E. SPECK*; A. S. AGUIAR, JR; R. A. CUNHA; R. D. PREDIGER. *Federal Univ. of Santa Catarina, Univ. Federal de Santa Catarina, CNC -Center For Neurosci. and Cell Biol.*

10:00 N5 **292.19** A combined pharmacological strategy to block NMDA receptor function and reduce L-DOPA induced dyskinesias. S. SANZ-BLASCO*; L. ISAJA; M. P. BORDONE; A. K. STARK; O. S. GERSHANIK; J. E. FERRARIO. *ININFA (UBA-CONICET).*

11:00 N6 **292.20** Chronic caffeine treatment modulates disease progression in a transgenic α-synuclein prion-like spreading mouse model of Parkinson's disease. N. FERREIRA*; C. BETZER; L. REIMER; M. ROMERO-RAMOS; P. H. JENSEN. *Danish Res. Inst. of Translational Neurosc, Aarhus Univ., NEURODIN, Dept. Biomedicine, Aarhus Univ., Univ. Aarhus.*

8:00 N7 **292.21** The role of dysfunctional BDNF in remodeling of the parkinsonian striatum following dopamine neuron grafting in val68met (rs6265) knock-in rats. K. STEECE-COLLIER*; R. L. DANGREMOND; C. E. SORTWELL; T. J. COLLIER; I. M. SANDOVAL; B. F. DALEY; M. F. DUFFY; N. M. MERCADO; J. A. STANCATI. *Michigan State Univ., Michigan State Univ.*

9:00 N8 **292.22** ● Post-treatment with PT302, a long-acting Exendin-4 sustained release formulation, reduces dopaminergic neurodegeneration in a 6-Hydroxydopamine rat model of Parkinson's disease. Y. WANG*; S. CHEN; S. YU; Y. LI; D. LECCA; E. GLOTFELTY; H. KIM; H. CHOI; B. J. HOFFER; D. KIM; N. H. GREIG. *Natl. Hlth. Res. Inst., NIA, NIH, NIH, NIA NIH, Peptron Inc., NIDA/NIH, Intramural Res. Program, Natl. Inst. on Aging, NIH.*

10:00 N9 **292.23** Short chain fatty acid drug sodium butyrate delays Parkinson's disease progression in transgenic mice comparable to sodium phenylbutyrate treatment outcomes. S. M. GARCIA*; W. ZHOU; C. LOZUPONE; C. FREED. *CU Denver Anschutz Med. Campus, CU Denver Anschutz Med. Campus.*

11:00 N10 **292.24** Neuroplastic effects in the striatum contribute to the suppression of the development of L-DOPA-induced dyskinesia by sub-anesthetic ketamine. T. FALK*; M. J. BARTLETT; A. J. FLORES; H. K. DOLLISH; J. A. STANCATI; K. P. DOYLE; M. L. HEIEN; K. STEECE-COLLIER; S. J. SHERMAN. *Univ. of Arizona Col. of Med., Univ. of Arizona Col. of Med., Michigan State Univ., Univ. of Arizona Col. of Med., Univ. of Arizona Col. of Med.*

8:00 N11 **292.25** Neuroprotective efficacy of nilvadipine in experimental models of Parkinson's disease. R. GORDON*; A. HICKS; J. CONROY; K. Z. HANTON; C. S. FONG; V. KUMAR; M. A. COOPER; K. SCHRODER; T. M. WOODRUFF; J. D. O'SULLIVAN. *The Univ. of Queensland, The Univ. of Queensland, The Univ. of Queensland, The Univ. of Queensland, The Univ. of Queensland.*

9:00 N12 **292.26** Modulation of miR-181 influences dopaminergic neuronal degeneration in a mouse model of Parkinson's disease. R. L. BOUDREAU*; N. H. WITMER; C. S. STEIN. *Univ. Iowa, Univ. of Iowa.*

POSTER

293. Tauopathies and Synucleinopathies: Cellular and Molecular Mechanisms

Theme C: Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 O1 **293.01** Behavioral consequences of neuronally -derived exosomes cargo proteins *in vivo.* C. N. WINSTON*; E. M. ROCKENSTEIN; M. MANTE; J. FLORIO; B. SALEHI; A. ADAME; E. MASLIAH; R. A. RISSMAN. *UC San Diego, Univ. Calif San Diego, UCSD, UCSD Sch. Med.*

9:00 O2 **293.02** Re-expression of differentiation factors in the neuronal DNA damage response: Alteration in tauopathies. C. SCHIRMER*; Y. DJENIDI; M. REYNAERT; L. BUÉE; B. LEFEBVRE; M. GALAS. *UMR-S Inserm 1172.*

10:00 O3 **293.03** Prolyl oligopeptidase is a novel and critical regulator for protein phosphatase 2A. T. T. MYÖHÄNEN*; R. SVARCBAHS; U. JULKU; M. JÄNTTI. *Univ. of Helsinki.*

11:00 O4 **293.04** Ubiquilin-2 regulation of tau and α-synuclein in neurodegenerative disease. J. GERSON*; S. S. PISTORIUS; J. WELDAY; L. M. SHARKEY; H. L. PAULSON. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan Dept. of Neurol.*

8:00 O5 **293.05** Activity-dependent release of human tau from transgenic *Drosophila* neurons. S. K. ISMAEL*; R. A. COLVIN; D. LEE. *Ohio Univ., Ohio Univ., Ohio Univ.*

9:00 O6 **293.06** Rna binding protein tia1 is involved in tau propagation and subsequent neurodegeneration. L. JIANG; P. ASH; H. BALLANCE; B. MAZIUK; S. BOUDEAU; L. PETRUCELLI; B. L. WOLOZIN*. *Boston Univ. Schl Med., Mayo Clin.*

10:00 O7 **293.07** Mitochondrial trafficking and clearance in tauopathies. V. BHARAT*; X. WANG. *Stanford Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 O8 **293.08** Deficits in nonsense-mediated RNA decay contribute to neurodegeneration in tauopathy. G. ZUNIGA*; G. CORNELISON; B. FROST. *UT Hlth. San Antonio.*

8:00 O9 **293.09** Tauopathy associated PERK alleles increase neuronal vulnerability to ER stress via loss of function. S. H. YUAN*; N. HIRAMATSU; Q. LIU; X. SUN; D. LENH; P. CHAN; K. CHIANG; E. H. KOO; A. KAO; I. LITVAN; J. H. LIN. *UCSD, UCSD, UCSD, UCSD, UCSF, UC San Diego.*

9:00 O10 **293.10** Higher-order polyamines and ssat ablation impacts the tau neuropathology. L. SHELTON; L. SANDUSKY; M. WATLER; A. KOVALENKO; J. B. HUNT, Jr.; M. B. SELENICA; D. C. LEE*. *USF Byrd Alzheimer's Inst.*

10:00 O11 **293.11** The mechanism of tau oligomer internalization. N. PUANGMALAI*; G. GHAG; M. MONTALBANO; N. BHATT; S. MCALLEN; A. ELLSWORTH; R. KAYED. *Univ. of Texas Med. Br.*

11:00 O12 **293.12** The molecular tweezer CLR01 ameliorates pathology in the P301S-tau mouse model. Z. LI*; J. DI; I. ERICSSON; A. BOGHOS; A. WANG; H. MENG; G. MALKI; T. SCHRADER; F. KLÄRNER; G. BITAN. *Univ. of California Los Angeles, Inst. of Chemistry, Univ. of Duisburg-Essen, Brain Res. Institute, Univ. of California, Los Angeles, Mol. Biol. Institute, Univ. of California, Los Angeles.*

8:00 O13 **293.13** Inherited tauopathy mutation alters the interaction between tau and protein phosphatase 1. B. COMBS*; K. CHRISTENSEN; C. RICHARDS; N. M. KANAAN. *Michigan State Univ., Michigan State Univ., Mercy Hlth. St. Mary's.*

9:00 O14 **293.14** Nitric oxide synthase-associated tau phosphorylation in CTE mouse model. N. SHIN*; H. KIM; C. KIM; Y. KIM; D. KIM. *Chungnam Natl. Univ. Sch. of Med., Brain Res. Institute, Chungnam Natl. Univ. Sch. of Med., Chungnam Natl. Univ. Hosp., Indiana Univ. Sch. of Med., Chungnam Natl. Univ. Sch. of Med., The Univ. of Alabama.*

10:00 O15 **293.15** Developmental impact of exon 10-positive tau is lost with the P301L mutation. J. GAMACHE*; L. KEMPER; K. LEINONEN; E. STEUER; W. XIA; K. BENZOW; M. KOOB; K. HSIAO ASHE. *Univ. of Minnesota Twin Cities Campus, Univ. of Minnesota Twin Cities Campus, Boston Univ. Sch. of Med., Univ. of Minnesota Twin Cities Campus, Univ. of Minnesota Twin Cities Campus.*

11:00 O16 **293.16** Retinal degeneration in PS19 tau transgenic mice. P. CHAN; K. CHIANG; N. HIRAMATSU; A. P. CHEN; E. H. KOO; J. H. LIN*. *UCSD, UCSD, Kanazawa Med. Univ., VA San Diego Healthcare Syst.*

8:00 P1 **293.17** Investigating how tau overexpression in the retina of a triple repeat tau transgenic mouse model impacts visual-spatial learning. J. NGOLAB*; E. M. ROCKENSTEIN; M. MANTE; J. B. FLORIO; J. GRUNDMAN; N. NANDANKAR; E. MASLIAH; R. A. RISSMAN. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Veterans Affairs San Diego Healthcare Syst.*

9:00 P2 **293.18** Discharge and synaptic input profiles of striatal neurons in models of neurodegenerative disease. M. MO*; M. A. MATHEWS; D. JOHNSTONE; A. J. CAMP. *Univ. of Sydney, USYD, Univ. of Sydney, Univ. of Sydney.*

10:00 P3 **293.19** ● Zebrafish proteinopathy models for target validation. J. M. HUBBARD; N. RIBEIRO PALHA; A. DEKEYNE; W. BOUCHERON; N. ROGEZ; S. VEIGA; R. BILLIRAS; V. PASTEAU; S. CAIGNARD; S. GUENIN; A. FRANCOIS; E. SCHENKER*; R. JEGGO. *Inst. de Recherches Servier.*

POSTER

294. Ischemia I

Theme C: Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 P4 **294.01** ▲ Expression change of lipocalin-2 and BIM in ischemic cerebral protection induced by remote preconditioning. M. LIU; J. CHEN; S. ZHANG; C. REN*. *Shanghai No. 5 Hospital, Fudan Univ., Shanghai Dongfang Hospital,Tongji Univ.*

9:00 P5 **294.02** Proteomic study to uncover neuroprotective mechanisms linked to ischemic preconditioning in rat hippocampus. A. TOMASCOVA*; Z. TATARKOVA; D. KALENSKA; B. TÓTHOVÁ; J. LEHOTSKY. *Jessenius Fac. of Med., Biomed. Ctr. Martin, Jessenius Fac. of Med.*

10:00 P6 **294.03** Ischemic preconditioning induces cortical microglial proliferation and a transcriptomic program of cell cycle activation. A. MCDONOUGH*; S. NOOR; R. DODGE, III; J. S. STROSNIDER; J. SHEN; T. LE; J. R. WEINSTEIN. *Univ. of Washington.*

11:00 P7 **294.04** Neuroprotective effects of oxidative preconditioning against apoptosis induced by H2O2 in differentiated neuroblastoma SH-SY5Y cells. R. AKKI*; R. SIRACUSA; R. MORABITO; A. REMIGANTE; M. CAMPOLO; M. ERRAMI; S. CUZZOCREA; A. MARINO. *Fac. of Sciences, Univ. Abdelmalek Essaadi, Fac. of sciences, Univ. of Messina, Fac. of sciences, Univ. Abdelmalek Essadi.*

8:00 P8 **294.05** Proteomic profiling of exosomes derived from brain microvascular endothelial cells under hypoxia: Identifying molecular pathways of adaptive responses to ischemic stress. A. N. CAMPERO-ROMERO*; E. RÍOS-CASTRO; L. B. TOVAR-Y-ROMO. *Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México, CINVESTAV-IPN.*

9:00 P9 **294.06** ▲ Docosahexaenoic acid stimulates autophagy and rescues NGFDPC12 cells from hypoxia-induced cell death. M. L. MONTERO*; J. LIU; M. A. DELEÓN. *Loma Linda Univ.*

10:00 P10 **294.07** Spatial memory in zebrafish (Danio rerio) following cerebral hypoxia. J. A. WINDELBORN*; K. M. MARINO. *Washington Col.*

11:00 P11 **294.08** Attenuated response to hypoxia in hippocampal slices from mice lacking the glutamate antiporter, xCT. B. S. HEIT; A. CHU; J. R. LARSON*. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago Dept. of Psychiatry.*

8:00 P12 **294.09** Dysregulation of mitochondrial quality control mechanisms during *in vitro* ischemia-reperfusion injury. A. R. ANZELL*; S. RAGHUNAYAKULA; J. M. WIDER; T. H. SANDERSON. *Wayne State Univ., Univ. of Michigan, The Univ. of Michigan.*

9:00 P13 **294.10** NAD^+ precursor reverses ischemia-induced increase of mitochondrial fission protein P-Drp1 (S616) via a SIRT3 mediated mechanism. N. KLIMOVA; A. LONG; T. KRISTIAN*. *Univ. of Maryland Sch. of Med., VAMHS.*

10:00 P14 **294.11** Focal cerebral ischemia and reperfusion induces brain injury through alpha2delta-1-bound NMDA receptors. Y. LUO*; H. MA; J. ZHOU; L. LI; S. CHEN; J. ZHANG; L. CHEN; H. PAN. *Univ. of Texas MD Anderson Cancer Ctr.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 P15 **294.12** Detrimental role of neuropeptide Y in cardiac arrest-induced cerebral ischemia. R. H. LEE*; T. HSIEH; A. DO COUTO E SILVA; H. POSSOIT; C. T. CITADIN; C. Y. WU; J. T. NEUMANN; H. W. LIN. *LSU Hlth. Sci. Ctr. Shreveport, LSU Hlth. Sci. Ctr., West Virginia Sch. of Osteo. Med.*

8:00 Q1 **294.13** Neuroprotective effect of intracranial chronic toxoplasma gondii infection in cerebral ischemia. S. LEE*; B. JUNG; H. SONG; E. HEO; H. SEO; J. CHAI; G. LEE; J. LEIGH; B. OH. *Seoul Natl. Univ. Hosp., Inst. of Parasitic Dis., Incheon Workers Compensation Hosp., Incheon St. Mary's Hosp.*

9:00 Q2 **294.14** Contribution of cyclophilin A and CD147 receptor in brain ischemia. Q. FANG*; L. LEE; S. KANG; J. WONG; R. A. NOWAK; T. V. ARUMUGAM; E. H. KOO. *Natl. Univ. of Singapore, Natl. Univ. of Singapore, Univ. of Illinois at Urbana-Champaign, UCSD.*

10:00 Q3 **294.15** Protective effects of melatonin in corpus callosum astrocytes during ischemia. B. S. ALGHAMDI*. *King Abdulaziz Univ.*

11:00 Q4 **294.16** Deletion of FosDT an abundantly expressed lncRNA in vertebrates does not affect normal development, but improves post-ischemic functional outcome. S. L. MEHTA*; T. KIM; K. C. MORRIS-BLANCO; A. K. CHOKKALLA; S. BATHULA; R. VEMUGANTI. *Univ. of Wisconsin.*

8:00 Q5 **294.17** Hyperacetylation as a response to neurodegeneration process. B. TÓTHOVÁ*; M. KOVALSKÁ; D. KALENSKÁ; A. TOMAŠCOVÁ; E. HALAŠOVÁ; J. LEHOTSKÝ. *BioMed Martin, Jessenius Fac. of Med., Jessenius Fac. of Med., Jessenius Fac. of Med.*

9:00 Q6 **294.18** DNA hydroxymethylation of neuroprotective genes by Tet3 ameliorates ischemic brain injury. K. MORRIS-BLANCO*; M. J. BERTOGLIAT; T. KIM; R. VEMUGANTI. *Univ. of Wisconsin-Madison, Univ. of Wisconsin.*

10:00 Q7 **294.19** DNA methylation and gene expression of astroglia before, during and after oxygen and glucose deprivation. I. PONCE*; L. B. TOVAR-Y-ROMO. *Univ. Nacional Autónoma de México.*

11:00 Q8 **294.20** The DNA repair enzyme apurinic/apyrimidinic endonuclease-1 (APE1) improves oligodendrocytic survival following ischemic insults. J. CHEN; M. V. BREGY; K. ZHANG; R. A. STETLER*. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

8:00 Q9 **294.21** Developmental transcription factors in post-stroke axonal sprouting. C. A. SCHWEPPE*; I. BAGGA; S. T. CARMICHAEL. *Univ. of California Los Angeles.*

9:00 Q10 **294.22** Mechanistic gain-of-function and loss-of-function studies of Wnt7A in post-stroke neural repair. H. ZHAO*; T. LENGNING; A. BRUMM; S. T. CARMICHAEL. *UCLA, Univ. Med. Ctr. Hamburg-Eppendorf.*

10:00 Q11 **294.23** Elovanoids are novel class of homeostatic lipid mediators that protect brain after experimental ischemic stroke. N. G. BAZAN*; A. OBENAUS; H. MENGHANI; S. MARCELL; L. KHOUTOROVA; N. PETASIS; L. BELAYEV. *Louisiana State Univ. Hlth. Sci. Ctr., Univ. of California, Irvine, USC.*

11:00 Q12 **294.24** Role of Semaphorin 3E signaling in the developing brain vasculature and remodeling after ischemic stroke. R. YU*; D. KIM; W. OH. *Korea Brain Res. Inst.*

8:00 Q13 **294.25** Astrocytic Na/H exchanger modulates Wnt/b-catenin signaling activation in cerebral vessels following ischemic stroke. G. BEGUM*; X. GUAN; S. SONG; V. PIGOTT; H. HUANG; M. SUN; D. B. STOLZ; G. E. SHULL; D. AGALLIU; D. SUN. *Univ. of Pittsburgh, Univ. of Pittsburgh, Cincinnati, Columbia Univ., Veterans Affairs Pittsburgh Hlth. Care Syst.*

9:00 Q14 **294.26** Role of the glycoprotein Dickkopf3 as a novel central and peripheral modulator of blood pressure. C. L. BUSCETI*; F. BIANCHI; A. CARRIZZO; M. DE LUCIA; A. DAMATO; M. AMBROSIO; P. DI PIETRO; M. COTUGNO; R. STANZIONE; S. MARCHITTI; C. NIEHRS; V. BRUNO; G. BATTAGLIA; F. FORNAI; M. VOLPE; S. RUBATTU; C. VECCHIONE; F. NICOLETTI. *I.R.C.C.S. Neuromed, Inst. of Mol. Biol., German Cancer Res. Ctr. (DKFZ), Univ. Sapienza, Univ. of Pisa, Univ. Sapienza, Univ. of Salerno.*

10:00 R1 **294.27** Amyloid β reduces pannexin-1 channel opening during ischemia through a novel mGluR1-mediated mechanism. L. A. PALMER*; A. K. J. BOYCE; A. W. LOHMAN; R. J. THOMPSON. *Univ. of Calgary, Univ. of Calgary.*

11:00 R2 **294.28** Exosomes derived from human neural stem cells-stimulated by interferon gamma enhance cellular stress mechanisms and accelerate neurological recovery of cerebral ischemic rats. G. ZHANG*; L. CHEN. *Sch. of Medicine, Southeast Univ., Zhongda Hospital, Sch. of Medicine, Southeast Univ.*

8:00 R3 **294.29** Liquefaction of the brain following stroke shares characteristics with atherosclerosis. K. P. DOYLE*; A. CHUNG; J. B. FRYE; J. C. ZBESKO; E. CONSTANTOPOULOS; M. HAYES; A. G. FIGUEROA; W. A. DAY; J. P. KONHILAS; B. S. MCKAY; T. V. NGUYEN. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

9:00 R4 **294.30** $CD11b^+$ cells in developing brain and it's phagocytotic function change in neonatal hypoxia and ischemia model. F. LI*; Y. MIN; L. YAN; Q. WANG; F. WANG; H. HUA; Y. YUAN; H. JIN; Y. YANG. *Kunming Med. Univ.*

POSTER

295. Brain Injury and Trauma: Animal Models of Brain Injury: Physiology and Behavior I

Theme C: Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 R5 **295.01** Hypothermia ameliorates neurotoxicity of anesthesia in the neonatal brain. C. IKONOMIDOU*; G. KIRVASSILIS; H. WANG; J. HUFFMAN; S. L. WILLIAMS; S. CAPUANO III; K. R. BRUNNER; K. CROSNO; H. A. SIMMONS; K. K. NOGUCHI. *Univ. of Wisconsin, Univ. of Wisconsin Madison, Washington Univ., Univ. of Wisconsin Madison, Wahington Univ. St. Louis.*

9:00 R6 **295.02** ● Noxious stimulation from surgery has no effect on anesthesia-induced apoptosis in the developing macaque brain. J. N. HUFFMAN*; S. WILLIAMS; S. LIU; K. LUCAS; L. D. MARTIN; G. A. DISSEN; K. SCHENNING; A. BRAMBRINK; K. K. NOGUCHI. *Univ. of Missouri-St. Louis, Washington Univ. in St Louis, Washington Univ. in St Louis, Oregon Hlth. Sci. Univ., Oregon Nat Primate Res. Ctr., Oregon Hlth. Sci. Univ., Columbia Univ., Washington Univ. St. Louis.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 R7 **295.03** DREADD-mediated activation of dopaminergic neurons ameliorates mild TBI-induced depression-like behavior in the adolescent female rat. L. L. GIACOMETTI*; D. LENGEL; R. A. ESPAÑA; R. RAGHUPATHI. *Drexel Univ. Col. of Med.*

11:00 R8 **295.04** Sex-dependent cellular and cognitive deficits following traumatic brain injury in neonate rats are reversed by progesterone. D. LENGEL*; J. W. HUH; R. RAGHUPATHI. *Drexel Univ., Children's Hosp. of Philadelphia, Drexel Univ. Col. of Med.*

8:00 R9 **295.05** ● Repetitive mild traumatic brain injury impairs performance in a rodent assay of cognitive flexibility. R. L. NAVARRA; C. P. KNAPP; D. M. DEVILBISS*; D. P. FOX; R. RAGHUPATHI; L. L. GIACOMETTI; S. B. FLORESCO; B. D. WATERHOUSE. *Rowan Univ. - Sch. of Osteo. Med., Drexel Univ. Col. of Med., Univ. British Columbia.*

9:00 R10 **295.06** Modeling the neural circuit of rodent lower urinary tract. T. BANKS*; V. GUNTU; M. GAHL; G. JONES; D. J. SCHULZ; S. S. NAIR. *Univ. of Missouri, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri-Columbia, Univ. of Missouri Columbia.*

10:00 R11 **295.07** Repeated mild traumatic brain injury in a mouse model: The effect of BDNF genetic polymorphisms on recovery and personalized treatment approaches. S. L. TENG; A. O. GIRRATANA; C. ZHENG; S. THAKKER-VARIA*; J. ALDER. *Rutgers University-Robert Wood Johnson Med. Sch., Rutgers University-Robert Wood Johnson Med. Sch.*

11:00 R12 **295.08** Hippocampal synaptic plasticity changes following exposure to high frequency head impacts (HF-HI). S. S. SLOLEY*; B. S. MAIN; C. N. WINSTON; M. S. PARSADANIAN; J. WU; J. G. PARTRIDGE; S. VICINI; M. P. BURNS. *Georgetown Univ., Georgetown Univ., UC San Diego, Georgetown Univ., Georgetown Univ. Med. Ctr., Georgetown Univ. Med. Ctr., Georgetown Univ.*

8:00 R13 **295.09** ▲ Chondroitin-sulfate glycosaminoglycan (CS-GAG) matrix implants mediate chronic neuroprotection after severe traumatic brain injury. R. C. MOHANKUMAR*; N. BALAJI; M. BETANCUR; H. D. MASON; G. SIMCHICK; M. LOGUN; C. LENEAR; Q. ZHAO; P. HOLMES; L. KARUMBAIAH. *Univ. of Georgia.*

9:00 R14 **295.10** Developing potential quantitative tractography biomarkers of epileptogenesis following experimental traumatic brain injury. R. P. CABEEN*; D. DUNCAN; A. BRAIMAH; R. IMMONEN; X. NDODE-EKANE; O. GRÖHN; D. WRIGHT; I. ALI; R. BRADY; S. SHULTZ; N. JONES; P. CASILLAS-ESPINOSA; C. SANTANA-GOMEZ; R. STABA; N. HARRIS; G. SMITH; A. PITKANEN; T. J. O'BRIEN; J. ENGEL, Jr.; A. W. TOGA. *Keck Sch. of Med. of USC, Univ. Eastern Finland, Monash Univ., Ronald Reagan UCLA Med. Ctr., Ronald Reagan UCLA Med. Ctr.*

10:00 R15 **295.11** Assessing cognitive correlates of cellular regeneration after brain injury in adult zebrafish. K. SKAGGS*. *Univ. of Findlay.*

11:00 R16 **295.12** Chronic neurocognitive sequelae of tbi & ptsd: An animal model. A. FESHARAKI*. *Yale Sch. of Med.*

8:00 R17 **295.13** Exploring the effects of age in a fruit fly model of traumatic brain injury. A. M. BRISENO*; L. S. VILLALPANDO; A. D. TROFIMOVA; W. HARDEMAN; C. BARCENAS; R. E. HARTMAN. *Loma Linda Univ.*

9:00 R18 **295.14** ▲ Noradrenergic and motor assessment in an experimental model of cerebellar injury iron-induced. N. CHÁVEZ-GARCÍA; G. GARCÍA-DÍAZ; R. GONZÁLEZ-PIÑA; L. E. RAMOS-LANGUREN; J. LOMELI*. *Escuela Superior Med. IPN, Inst. Nacional de Neurología y Neurocirugía, MVS, SSA, Inst. Nacional de Neurología y Neurocirugía, Inst. Nacional de Rehabilitación, UNAM, Escuela Superior Med. IPN.*

10:00 S1 **295.15** Pattern separation deficits and enhanced dentate gyrus activity following mild traumatic brain injury. R. T. SOMACH*; S. SAMUEL; H. METHENY; A. S. COHEN. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia Univ. of Pennsylvania.*

11:00 S2 **295.16** Chronic stress exposure provided during adolescence confers protective effects on experimental traumatic brain injury acquired as an adult. P. BARRA DE LA TREMBLAYE*; J. L. WELLCOME; K. M. WILEY; I. H. BLEIMEISTER; M. S. HELKOWSKI; J. P. CHENG; C. O. BONDI; A. E. KLINE. *Univ. of Pittsburgh.*

8:00 S3 **295.17** ▲ Amantadine confers significant motor and cognitive benefits after experimental brain trauma. A. OKIGBO; B. ROYES; I. H. BLEIMEISTER; J. P. CHENG; D. M. BROOKS; C. O. BONDI; A. E. KLINE*. *Univ. of Pittsburgh.*

9:00 S4 **295.18** ▲ The effect of experimental brain trauma on sustained attention and behavioral flexibility in rats. T. J. CRAINE; L. A. KUTASH; D. A. O'NEIL; A. IOUCHMANOV; J. P. CHENG; A. E. KLINE; C. O. BONDI*. *Univ. of Pittsburgh.*

10:00 S5 **295.19** ▲ Multimodal assessment of executive function and behavioral flexibility after frontal brain trauma: Beneficial effects of milnacipran. L. KUTASH*; T. J. CRAINE; D. A. O'NEIL; J. P. CHENG; A. E. KLINE; C. O. BONDI. *Univ. of Pittsburgh.*

11:00 S6 **295.20** ▲ Alterations in motivational behavior and executive function in adolescent rats following pediatric traumatic brain injury. K. GROBENGIESER*; N. PATEL; T. J. CRAINE; D. A. O'NEIL; L. A. KUTASH; J. P. CHENG; A. E. KLINE; C. O. BONDI. *Univ. of Pittsburgh.*

8:00 S7 **295.21** An investigation of zinc supplementation in a mouse model of repetitive mild traumatic brain injury. C. L. NEELY*; C. M. HERNANDEZ; G. M. GRANT; T. H. SHAW; J. M. FLINN. *George Mason Univ., George Mason Univ.*

9:00 S8 **295.22** Interaction of chronic variable stress and intranasal zinc treatment following traumatic brain injury. E. N. DOHERTY*; W. R. KOCHEN; J. M. FLINN. *George Mason Univ., George Mason Univ., George Mason Univ.*

10:00 S9 **295.23** The behavioral and biochemical effects of social isolation following repetitive mild traumatic brain injury (rmTBI). K. M. CRAVEN*; W. R. KOCHEN; C. M. HERNANDEZ; N. T. COSCHIGANO; E. Q. MURDOCH; J. M. FLINN. *George Mason Univ.*

11:00 S10 **295.24** Intranasal therapeutic zinc following traumatic brain injury with chronic stress. W. R. KOCHEN*; E. N. DOHERTY; C. CUNNIFF; L. BRADSHAW; M. WIENER; E. Q. MURDOCH; R. H. LIPSKY; J. M. FLINN. *George Mason Univ.*

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* Indicates abstract's submitting author

POSTER

296. Spinal Cord Injury II

Theme C: Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 S11 **296.01** Spinal cord epidural stimulation and recovery of cardiovascular function in individuals with chronic cervical spinal cord injury. B. DITTERLINE*; S. WANG; C. FERREIRA; B. UGILIWENEZA; C. A. ANGELI; Y. CHEN; A. V. OVECHKIN; M. BOAKYE; S. J. HARKEMA; G. HIRSCH. *Univ. of Louisville, Univ. of Louisville, Frazier Rehab Inst., Univ. of Louisville, Univ. of Louisville.*

9:00 S12 **296.02** ● Refinement of lumbosacral epidural electrical stimulation enhances performance of stand and step functions after motor complete paraplegia. P. GRAHN*; M. L. GILL; J. S. CALVERT; M. B. LINDE; I. LAVROV; D. VEITH; L. BECK; J. STROMMEN; D. SAYENKO; M. VAN STRAATEN; A. THORESON; C. LOPEZ; Y. P. GERASIMENKO; V. EDGERTON; K. H. LEE; K. ZHAO. *Mayo Clin., Mayo Clin., Mayo Clin., Univ. of California Los Angeles, Pavlov Inst. of Physiol, Univ. of California Los Angeles.*

10:00 S13 **296.03** Characterization of epidural electrical stimulation evoked motor responses during stepping in humans with complete spinal cord injury. J. S. CALVERT*; P. GRAHN; M. GILL; I. LAVROV; M. LINDE; M. VAN STRAATEN; J. STROMMEN; L. BECK; A. THORESON; C. LOPEZ; D. VEITH; D. SAYENKO; Y. P. GERASIMENKO; V. EDGERTON; K. ZHAO; K. LEE. *Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin., Univ. of California Los Angeles, Pavlov Inst. of Physiol, Univ. of California Los Angeles.*

11:00 S14 **296.04** Lumbosacral neuromodulation with task specific motor training enables independent performance of dynamic motor functions following clinically complete sci. M. GILL*; P. GRAHN; J. S. CALVERT; M. LINDE; I. LAVROV; D. VEITH; L. BECK; J. STROMMEN; D. SAYENKO; M. VAN STRAATEN; A. THORESON; C. LOPEZ; Y. P. GERASIMENKO; V. EDGERTON; K. H. LEE; K. ZHAO. *Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin., Univ. of California Los Angeles, Pavlov Inst. of Physiol, Univ. of California Los Angeles.*

8:00 DP04/S15 **296.05** ● (Dynamic Poster) Restoring upper extremity function using concurrent transcutaneous cervical spinal cord stimulation and task-specific training in chronic spinal cord injury. F. INANICI*; S. SAMEJIMA; P. GAD; R. EDGERTON; C. P. HOFSTETTER; C. T. MORITZ. *Univ. of Washington, CSNE - The Ctr. for Sensorimotor Neural Engineering, An NSF Engin. Res. Ctr., WASCIC - Washington State Spinal Cord Injury Consortium, Univ. of Washington, Univ. of California Los Angeles, Univ. of Washington, Univ. of Washington, Univ. of Washington.*

9:00 S16 **296.06** Inter-limb synchronization in standing balance in individuals with chronic incomplete spinal cord injury. O. D. HABIB PEREZ*; J. LEE; K. MASANI; K. E. MUSSELMAN. *Toronto Rehabil. Inst. - UHN, Univ. of Toronto, Univ. of Toronto.*

10:00 S17 **296.07** Extraction and selective activation of muscle synergies through spinal stimulation for SCI. R. CHENG*; J. W. BURDICK. *Caltech.*

11:00 S18 **296.08** Corticocuneate pathways are altered after dorsal column injury in New World monkeys. C. LIAO*; H. X. QI; J. L. REED; H. JEOUNG; J. H. KAAS. *Vanderbilt Univ.*

8:00 T1 **296.09** Human stem cell-derived replacement of motor neurons after conus medullaris/cauda equina injury in rhesus macaques. N. P. BISCOLA*; J. H. NIETO; R. DATTA; M. C. CONDRO; D. MOORE; N. ZHANG; M. OHLSSON; K. L. CHRISTE; B. G. NOVITCH; H. I. KORNBLUM; L. A. HAVTON. *David Geffen Sch. of Med. at UCLA, UCLA, David Geffen Sch. of Med. at UCLA, Karolinska Hosp., California Natl. Primate Res. Center, Univ. of California at Davis, Dept. of Neurobiology, David Geffen Sch. of Med. at UCLA, Eli and Edythe Broad Ctr. of Regenerative Med. and Stem Cell, Univ. of California Los Angeles, Dept. of Psychiatry and Biobehavioral Sciences, and Semel Inst. for Neurosci. & Human Behavior at UCLA, Departments of Pharmacol. and Pediatrics, David Geffen Sch. of Med. at UCLA, UCLA.*

9:00 T2 **296.10** Cutaneous mechanoreceptor distributions in the hand change following cervical spinal cord injury in the macaque monkey. M. CROWLEY*; A. LILAK; J. AHLOY-DALLAIRE; C. DARIAN-SMITH. *Stanford Univ. Sch. of Med.*

10:00 T3 **296.11** Enhanced therapeutic effect of repetitive transcranial magnetic stimulation combined with anti-RGMa antibody treatment in a monkey model of spinal cord injury. H. YAMANAKA*; Y. TAKATA; H. NAKAGAWA; T. YAMASHITA; M. TAKADA. *Primate Res. Institute, Kyoto Univ., Grad. Sch. of Medicine, Osaka Univ.*

11:00 T4 **296.12** Reactivation of spinal locomotor circuits by non-task-specific training after a complete spinal cord injury in adult cats. J. HARNIE*; A. DOELMAN; E. DE VETTE; E. DESROCHERS; J. AUDET; J. ALIZADEH; N. GAUDREAULT; A. FRIGON. *Univ. De Sherbrooke.*

8:00 T5 **296.13** Simultaneous versus delayed pairing of rehabilitation and electrical stimulation: Functional recovery and axon outgrowth in rats after chronic unilateral corticospinal injury. T. T. BETHEA*; J. SANTOS; H. PARK; J. BOLGER; A. SINDHURAKAR; T. WEN; J. B. CARMEL. *Burke Neurolog. Inst., Weill Cornell Med.*

9:00 T6 **296.14** Orientation-selective spinal cord stimulation. C. A. CUELLAR*; L. J. LEHTO; M. BALTIN; A. C. PLIEGO; S. MANGIA; S. MICHAELI; I. A. LAVROV. *Mayo Clin., Ctr. for Magnetic Resonance Research, Univ. of Minnesota, Kazan Federal University, Inst. of Fundamental Med. and Biol., Autonomous Univ. of the State of Mexico, Mayo Clin.*

10:00 T7 **296.15** Low intensity electromagnetic field exposure on neuronal connectivity and survival in spinal cord injured rats: A potential non-invasive therapy. S. BHATTACHARYYA*; S. JAIN. *AIIMS, New Delhi, All India Inst. of Med. Sciences, New Delhi.*

11:00 T8 **296.16** Effects of a contusive spinal cord injury on spinal motor neuron activity, corticospinal coupling and conduction time in rats. S. B. FROST*; J. A. BORRELL; D. KRIZSAN-AGBAS; R. J. NUDO. *Univ. Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas, Univ. Kansas Med. Ctr., Univ. Kansas Med. Ctr., Univ. of Kansas Med. Ctr.*

8:00 T9 **296.17** ▲ Locomotor function evaluation of adult rats with complete and chronic spinal cord transection, after transplantation of bone marrow stromal cells, pre-degenerated peripheral nerve and chondroitinase ABC. J. J. RIVERA OSORIO*; E. GARCIA-VENCES; S. M. SÁNCHEZ-TORRES; I. GRIJALVA-OTERO; V. BUZOIANU-ANGUIANO. *Natl. Autonomous Univ. of Mexico, Univ. Anahuac México Campus Norte, Hosp. de Especialidades, Ctr. Medico Nacional Siglo XXI, IMSS.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 T10 **296.18** Optimal spike-stimulus delay for increasing synaptic efficacy in descending motor pathways using an activity dependent stimulation paradigm in an acute, anesthetized rat model of spinal cord injury. J. A. BORRELL*; D. KRIZSAN-AGBAS; R. J. NUDO; S. B. FROST. *Univ. of Kansas Med. Ctr., Univ. of Kansas, Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr.*

10:00 T11 **296.19** Nogo receptor antagonist LOTUS promotes axonal regeneration and inhibition of neuronal apoptosis after clinically relevant contusive spinal cord injury in adult mice. S. ITO*; N. NAGOSHI; O. TSUJI; K. KOJIMA; S. SHIBATA; M. SHINOZAKI; K. TAKEI; M. NAKAMURA; H. OKANO. *Keio Univ., Keio Univ. Sch. of Med., Yokohama City Univ. Grad Sch. of Med. Life Sci.*

11:00 T12 **296.20** Locomotor recovery in the rat after spinal hemisection is impeded by contralesional motor cortex inactivation. A. R. BROWN*; M. MARTINEZ. *Univ. de Montreal, Hop. du Sacre-Coeur de Montreal, Univ. de Montreal.*

8:00 T13 **296.21** ▲ CORM-2 loaded solid lipid nanoparticle enhances anti-allodynic effect of CORM-2 via sustained carbon monoxide delivery. J. KYUNG*; I. HAN. *CHA Univ., CHA Univ.*

9:00 T14 **296.22** ● ▲ Pain input after a spinal cord injury increases tissue loss and impairs long-term recovery: A comparison of male and female rats. R. BAINE; M. M. STRAIN-MALAMAKAL; Y. J. HUANG; J. A. REYNOLDS; M. HENWOOD; J. DAVIS; G. N. FAUSS; P. BEAN; A. NORRIS; T. JOHNSTON; C. COX; J. W. GRAU*. *Texas A&M Univ., United States Army Inst. of Surgical Res.*

10:00 T15 **296.23** Pain induced hemorrhage after spinal cord injury is blocked by pentobarbital and lidocaine anesthesia. J. DAVIS*; M. M. STRAIN; M. K. HENWOOD; R. BAINE; G. N. LEAL; T. JOHNSTON; J. W. GRAU. *Texas A&M Univ., Inst. of Surgical Res., Texas A&M Univ.*

11:00 T16 **296.24** ▲ Pain after SCI expands the area of hemorrhage: Evaluating the spread of secondary injury and the effect of injury severity. M. K. BRUMLEY*; J. REYNOLDS; J. A. DAVIS; G. FAUSS; J. D. TURTLE; A. NORRIS; P. BEAN; J. GRAU. *Texas A&M Univ.*

8:00 T17 **296.25** Reduction of allodynia following SCI using antioxidant nanoparticles. J. J. HERRERA*; K. H. BOCKHORST; L. NILEWSKI; W. SIKKEMA; J. M. TOUR. *The Univ. of Texas Med. Sch. at Houston, Rice Univ.*

9:00 T18 **296.26** Noxious stimulation after spinal cord injury (SCI) induces a brain-dependent increase in hemorrhage. G. N. LEAL*; M. M. STRAIN; Y. J. HUANG; J. A. REYNOLDS; J. A. DAVIS; M. K. HENWOOD; C. R. WEST; J. W. GRAU. *Texas A&M Univ., Inst. for Surgical Res., Univ. of British Columbia.*

10:00 U1 **296.27** Neuroprotective and immunomodulatory effects of dimethyl-fumarate after ventral root avulsion. P. R. KEMPE*; A. L. OLIVEIRA. *Univ. Estadual De Campinas, Univ. of Campinas - Lab. of Nerve Regeneration.*

POSTER

297. Spinal Cord Injury and Plasticity: Training, Rehabilitation, and Repair: Animal Models

Theme C: Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 U2 **297.01** ▲ Combined pro-regenerative strategies and targeted rehabilitation to improve behavioral outcomes after spinal cord injury. D. B. NOWAK*; E. T. EASTWOOD; N. JAYAPRAKASH; M. G. BLACKMORE. *Marquette Univ.*

9:00 U3 **297.02** Daily acute intermittent hypercapnia training to improve respiratory plasticity following spinal cord injury. M. RANDELMAN*; L. V. ZHOLUDEVA; V. M. SPRUANCE; T. BEZDUDNAYA; T. HORMIGO; H. MURALIDHARAN; M. COTE; L. QIANG; M. A. LANE. *Drexel Univ. Col. of Med.*

10:00 U4 **297.03** Timing and stimulation parameters of therapeutic deep brain stimulation of the mesencephalic locomotor region in rats. A. HOFER*; M. I. SCHEUBER; A. M. SARTORI; A. K. ENGMANN; M. E. SCHWAB. *Univ. and ETH Zurich, Harvard Univ.*

11:00 U5 **297.04** ● Anti-Nogo-A antibodies for treating and understanding neurogenic lower urinary tract dysfunction after spinal cord injury. A. M. SARTORI*; M. P. SCHNEIDER; A. K. ENGMANN; A. HOFER; C. D. CRUZ; T. M. KESSLER; M. E. SCHWAB. *Univ. and ETH Zurich, Balgrist Univ. Hosp., Dept. of Exptl. Biol. - FMUP.*

8:00 U6 **297.05** Intracortical neuroprosthesis fosters locomotor recovery after spinal cord injury. M. BONIZZATO*; M. MARTINEZ. *Univ. De Montréal, Univ. de Montréal, Hôpital du Sacré-Coeur de Montréal.*

9:00 U7 **297.06** The effects of chronic paralysis on the mechanical properties and fibre-type composition of the diaphragm. P. M. WARREN*; R. W. P. KISSANE; J. C. KWOK; G. N. ASKEW. *Univ. of Leeds, Kings College, London, Ctr. for Reconstructive Neurosci.*

10:00 U8 **297.07** Effects of early and delayed strength training on neuropathic pain and nociceptive afferent sprouting after cervical spinal cord injury. M. R. DETLOFF*; A. ONG; A. D. TAMASHIRO-ORREGO; T. THAWEERATTANASINP; S. J. CHHAYA; J. D. HOULE. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*

11:00 U9 **297.08** New therapies in experimental cervical spinal cord injury (C-SCI)-induced spasticity and gait disabilities. J. HOU*; R. NELSON; N. MOHAMMAD; D. PLANT; G. MUSTAFA; S. TSUDA; J. GODWIN; R. MARTIN; K. BUCKLEY; A. LERNER; R. J. BERGERON, Jr.; F. J. THOMPSON; P. BOSE. *North Florida/South Georgia Veterans Hlth. Syst., Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

8:00 U10 **297.09** Inflammation-induced attenuation of locomotor recovery is associated with decreased motoneuronal KCC2 expression. R. JEFFREY-GAUTHIER*; M. PICHE; J. BOUYER; M. COTE; H. LEBLOND. *Univ. Du Quebec À Trois-Rivieres, Univ. Du Quebec a Trois-Rivieres, Drexel Univ. Col. of Med., Drexel Univ. Col. of Med., Univ. Du Quebec a Trois-Rivieres.*

Mon. AM

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 U11 **297.10** Low level laser therapy leads to recovery from spinal cord injury by improving behavior and physiological changes. P. JENDELOVA*; B. SVOBODOVA; J. RUZICKA; L. NAVRATIL; M. JHANWAR UNIYAL; L. MACHOVA URDZIKOVA. *2nd Fac. of Medicine, Charles Univ., Inst. of Exptl. Med. CAS, Fac. of Biomed. Engineering, CTU, New York Med. Col.*

10:00 U12 **297.11** Assessing corticospinal-dependent skilled forelimb movement in mice. N. SERRADJ*; F. MARINO; S. AGGER; A. M. SLOAN; E. R. HOLLIS. *Burke Neurolog. Inst., Vulintus, Inc., Lafayette, CO, Feil Family Brain and Mind Res. Inst.*

11:00 V1 **297.12** H reflex recorded from lumbar external oblique can be used to study effects of optogenetically mediated cortical neuromodulation after a complete T9/T10 spinal transection in rats. K. A. SCHMIDT*; S. F. GISZTER. *Drexel Univ., Drexel Univ. Col. of Med.*

8:00 V2 **297.13** Electrical stimulation to promote plasticity in the injured corticospinal tract. N. J. BATTY*; A. TORRES-ESPIN; R. VAVREK; P. RAPOSO; A. BLESCH; K. FOUAD. *Neurosci. and Mental Hlth. Institute, Univ. of AB, Univ. of AB, Indiana Univ. Sch. of Med.*

9:00 V3 **297.14** Combined epidural stimulation, anti-Nogo antibody treatment and training in a severe contusion injury. R. G. DICKSON*; R. W. KISSANE; K. O. CHEN; M. E. SCHWAB; S. CHAKRABARTY; R. M. ICHIYAMA. *Univ. of Leeds, Beihang Univ., Univ. Zurich.*

10:00 V4 **297.15** Changes in descending drive and local spinal reflexes in rats following spinal cord injury, with combinatorial application of locomotor training, epidural stimulation and anti-Nogo (11C7) antibody. R. W. KISSANE*; R. G. DICKSON; K. CHEN; C. C. SMITH; M. E. SCHWAB; S. CHAKRABARTY; R. M. ICHIYAMA. *Univ. of Leeds, Beihang Univ., Univ. Col. London, Univ. of Zurich.*

11:00 V5 **297.16** ● Bumetanide differently alters spinal reflex inhibition over time after SCI. G. CARON*; K. YEAKLE; J. BILCHAK; M. COTE. *Drexel Univ. Col. of Med.*

8:00 V6 **297.17** Enhancing KCC2 function attenuates hyper-excitable stretch reflex after SCI. J. BILCHAK STROUGHAIR*; G. CARON; K. YEAKLE; M. COTE. *Drexel Univ.*

9:00 V7 **297.18** ▲ Exploring approaches to promote respiratory motor plasticity through varied and fixed interval intermittent hypoxia. A. L. SILVERSTEIN*; K. J. RITTER; D. R. STOLTZ; L. E. HAGER; C. M. CALULOT; R. S. J. MAGGARD; E. E. HUFFMAN; W. S. WITT; W. J. ALILAIN. *Univ. of Kentucky.*

10:00 V8 **297.19** Human apolipoprotein e (apoe) isoforms differentially influence neurite outgrowth and regeneration. R. S. MAGGARD*; C. M. CALULOT; L. E. HAGER; K. J. RITTER; B. N. TURBA; J. D. HOFFMAN; A. LIN; L. A. JOHNSON; W. ALILAIN. *Univ. of Kentucky, Univ. of Kentucky.*

11:00 V9 **297.20** ▲ Balancing neuroprotection with functional recovery: The role of the perineuronal net in preventing excitotoxicity after spinal cord injury. D. R. STOLTZ*; K. J. RITTER; E. E. HUFFMAN; A. L. SILVERSTEIN; W. J. ALILAIN. *Univ. of Kentucky.*

8:00 V10 **297.21** Apolipoprotein E4 as a barrier to respiratory motor plasticity. L. HAGER*; R. S. J. MAGGARD; D. R. STOLTZ; K. J. RITTER; E. E. HUFFMAN; B. N. TURBA; C. CALULOT; A. L. SILVERSTEIN; W. J. ALILAIN. *Univ. of Kentucky.*

9:00 V11 **297.22** Harnessing spinal electrical stimulation to modulate autonomic function after spinal cord injury. J. SQUAIR*; N. CHO; K. BARTHOLDI; S. ANIL; M. ANDERSON; J. GANDAR; A. ROWALD; C. KATHE; Z. K. SARAFIS; M. GAUTIER; X. KANG; N. VACHICOURAS; S. LACOUR; Q. BARRAUD; G. COURTINE; A. A. PHILLIPS. *Swiss Federal Inst. of Technol. (EPFL), Univ. of British Columbia, Univ. of Calgary, Swiss Federal Inst. of Technol. (EPFL), Swiss Federal Inst. of Technology (EPFL), Univ. Hosp. Lausanne.*

10:00 V12 **297.23** ● Mechanisms through which epidural electrical stimulation restores locomotion after spinal cord injury. K. BARTHOLDI; Q. BARRAUD*; E. FORMENTO; A. ROWALD; N. D. JAMES; N. CHO; C. KATHE; L. BAUD; T. H. HUTSON; S. MICERA; S. DI GIOVANNI; P. MUSIENKO; M. CAPOGROSSO; G. COURTINE. *EPFL - Ctr. For Neuroprosthetics, EPFL - Ctr. For Neuroprosthetics and Inst. of Bioengineering, Imperial Col. London, The BioRobotics Institute, Scuola Superiore Sant'Anna, St. Petersburg State Univ., Univ. of Fribourg.*

11:00 V13 **297.24** Cortico-reticulo-spinal circuit reorganization reverses paralysis after severe spinal cord contusion. C. KATHE*; L. ASBOTH; L. F. FRIEDLI; J. BEAUPARLANT; C. MARTINEZ-GONZALEZ; S. ANIL; E. REY; L. BAUD; G. PIDPRUZHNYKOVA; M. ANDERSON; P. SHKORBATOVA; J. A. KREIDER; B. L. SCHNEIDER; Q. BARRAUD; G. COURTINE. *École Polytechnique Fédérale De Lausanne, École Polytechnique Fédérale De Lausanne.*

8:00 V14 **297.25** Subcutaneous maturation of neural stem cell-seeded scaffolds to treat spinal cord injury. T. R. HAM*; D. D. PUKALE; N. D. LEIPZIG. *Univ. of Akron, Univ. of Akron.*

9:00 V15 **297.26** Understanding the underlying neuronal circuitry and spatial specificity of epidural cervical spinal cord stimulation. N. D. JAMES*; S. ODOUARD; B. BARRA; N. GREINER; N. CHO; M. CAPOGROSSO; G. COURTINE. *EPFL, Univ. of Fribourg, Univ. of Fribourg, EPFL.*

POSTER

298. Spinal Cord Injury and Plasticity: Neurophysiology I

Theme C: Neurodegenerative Disorders and Injury

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 V16 **298.01** Anatomical asymmetries in the injured human spinal cord. Y. LEI; M. OUDEGA; M. A. PEREZ*. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

9:00 W1 **298.02** Contralesional hindlimb motor response induced by unilateral brain injury: Evidence for extra spinal mechanism. G. Y. BAKALKIN*; L. CARVALHO; H. WATANABE; M. ZHANG; D. SARKISYAN; O. KONONENKO; I. BAZOV; T. IAKOVLEVA; J. SCHOUENBORG; N. LUKOYANOV. *Dept. of Pharmaceut. Biosciences, Uppsala Univ., Inst. de Investigação e Inovação em Saúde, Inst. de Biologia Mol. e Celular, Dept. de Biomedicina da Faculdade de Medicina da Univ. do Porto, Univ. of Southern Denmark, Neuronano Res. Ctr.*

10:00 W2 **298.03** Enhancement of plasticity for functional recovery after spinal cord injury. S. F. IRVINE*; S. GIGOUT; P. M. WARREN; J. C. F. KWOK. *Univ. of Leeds, Kings Col. London, The Czech Acad. of 7 Sci.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 W3 **298.04** Self-tracing human neural stem cells to map transplant integration. P. CHAN*; C. S. AHUJA; M. KHAZAEI; M. G. FEHLINGS. *Univ. of Toronto, Krembil Res. Inst., Toronto Western Hosp.*

8:00 W4 **298.05** Molecular determinants of macrophages with a proregenerative phenotype supporting axonal growth. E. KIM*. *Ajou Univ. Sch. of Med.*

9:00 W5 **298.06** Subtle changes in intrinsic properties of V1 and V0c interneurons after spinal cord injury. K. M. LETT*; B. R. JOHNSON; R. M. HARRIS-WARRICK. *Cornell Univ.*

10:00 W6 **298.07** Long-term effects of spike-timing dependent plasticity in humans with severe paralysis due to spinal cord injury. A. WILSON*; H. JO; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

11:00 W7 **298.08** Arm cycling increases corticospinal excitability of trunk muscles in spinal cord injured subjects. S. CHIOU; A. GALL; P. H. STRUTTON*. *Imperial Col. London, Univ. of Birmingham, Royal Natl. Orthopaedic Hosp.*

8:00 W8 **298.09** Cervical excitatory interneurons sustain breathing after spinal cord injury. K. SATKUNENDRARAJAH*; S. K. KARADIMAS; A. M. LALIBERTE; G. MONTANDON; M. FEHLINGS. *Toronto Western Res. Inst., Univ. of Toronto, Krembil Res. Inst., Keenan Res. Ctr. for Biomed. Sci., Krembil Res. Inst.*

9:00 W9 **298.10** Cholinergic modulation of postnatal cell proliferation in the spinal cord. N. ALTUWAIJRI*; S. A. DEUCHARS. *Univ. of Leeds.*

10:00 W10 **298.11** Sleep-disordered breathing following experimental cervical spinal cord injury. T. BEZDUDNAYA*; A. OSHOBAJO; V. MARCHENKO; M. A. LANE. *Drexel Univ. Col. of Med.*

11:00 W11 **298.12** Combined administration of electro-magnetic stimulation (EMS) at spinal level and at leg muscles to modulate neurophysiological properties at spino-muscular circuitry in healthy and SCI humans. V. L. ARVANIAN*; H. A. PETROSYAN; A. TESFA; M. FAHMY; C. ZOU; S. SISTO. *Norhtport VAMC, StonyBrook Univ., Univ. of Buffalo.*

8:00 W12 **298.13** Viral-mediated gene therapy targeting Rac1 alleviates spasticity after SCI. C. BENSON*; M. HILL; S. LIU; L. AKIN; S. G. WAXMAN; A. M. TAN. *Yale Univ., Ctr. for Neurosci. and Regeneration Research, VA Connecticut.*

9:00 W13 **298.14** ● Edonerpic maleate boosts motor function recovery from spinal cord injury. M. SATO*; S. JITSUKI; H. MASUYAMA; H. MURATA; T. YAMAMOTO; T. TAKAHASHI. *Yokohama City Univ., Toyama Chem. Co.*

POSTER

299. Nociceptors

Theme D: Sensory Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 W14 **299.01** TRESK background K^+ channel regulates sensory neuron excitability and contributes to mechanical and cold pain. A. CASTELLANOS; A. ANDRES-BILBE; A. NEGM; G. CALLEJO; N. COMES; D. SOTO; A. GUAL; J. NOËL; X. GASULL*. *Univ. de Barcelona, Inst. of Neurosciences (UB), IDIBAPS, Inst. de Pharmacologie Moléculaire et Cellulaire, Univ. Côte d'Azur, LabEx Ion Channel Sci. and Therapeut.*

9:00 W15 **299.02** Sodium channel $Na_v1.9$ enables ongoing activity in single mouse C-fibres during zero extracellular potassium. C. WEIDNER; T. HOFFMANN; K. KISTNER; J. PAKALNISKIS; R. DE COL; K. MESSLINGER; M. A. NASSAR; P. W. REEH; R. W. CARR*. *FAU Erlangen-Nuremberg, FAU Erlangen-Nuremberg, Heidelberg Univ., Univ. of Sheffield, Heidelberg Univ.*

10:00 W16 **299.03** Mapping the functional expression profile of Kv7 channels in somatosensory neurons of different sensory modalities. F. P. JONES*; N. GAMPER. *Univ. of Leeds.*

11:00 W17 **299.04** ● Examination of the role of Nav1.7 and Nav1.8 in the generation of action potentials both *in vivo* and *in vitro*. L. H. DENG; V. JOSEPH; K. L. STARK; S. LARDELL; R. WEIMER; P. KARILA; D. H. HACKOS*. *Genentech Inc, Genentech Inc, Cellectricon AB.*

8:00 W18 **299.05** The landscape of nascent protein synthesis in the DRG at single codon resolution. P. BARRAGAN-IGLESIAS*; T. LOU; J. B. DE LA PEÑA; A. WANGZHOU; B. J. BLACK; S. MEGAT; J. K. MOY; P. RAY; J. J. PANCRAZIO; T. J. PRICE; Z. T. CAMPBELL. *Univ. of Texas At Dallas, Univ. of Texas At Dallas, Univ. of Texas At Dallas.*

9:00 X1 **299.06** ▲ Nociceptive stimuli suppress reactions of somatosensory stimuli regardless the location. N. TAKEUCHI*. *Aichi Med. Univ.*

10:00 X2 **299.07** Influence of repeated mechanical stimuli on pain threshold of nociceptor. S. NAGAHAMA*. *Teikyo Heisei Univ.*

11:00 X3 **299.08** Interferon gamma acutely evokes action potential discharge from vagal c-fibers in mouse lungs. M. J. PATIL*; M. KOLLARIK; F. RU; B. J. UNDEM. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Asthma Ctr.*

8:00 X4 **299.09** Characterization of dental pulp innervation using transgenic reporter mice. O. AUSTAH*; K. METWALLI; S. RUPAREL; A. R. DIOGENES. *UT Hlth. San Antonio, Univ. of Texas Hlth. San Antonio, Univ. of Texas Hlth. Sci. Ctr. at San Antonio, Univ. Texs Hlth. Sci. Ctr.*

9:00 X5 **299.10** Induced pluripotent stem cells generated from skin fibroblasts of a female patient with Fabry disease are susceptible to cell death during nociceptive differentiation. T. KLEIN; K. GÜNTHER; J. SCHLEGEL; F. EDENHOFER; M. SAUER; N. ÜÇEYLER*. *Univ. of Würzburg, Univ. of Würzburg.*

10:00 X6 **299.11** DNA methylation as a regulator of nociceptive sensitization in Manduca sexta. J. KIM*; M. FUSE. *San Francisco State Univ., San Francisco State Univ.*

11:00 X7 **299.12** Effects of bupivacaine-encapsulated PLGA nanoparticles on the compressed dorsal root ganglion in mice. T. WANG*; J. TAO; F. LIU; Y. FANG; W. QIU; C. MA. *Inst. of Basic Med. Sciences, Chinese Acade, Inst. of Basic Med. Sci. CAMS PUMC, Inst. of Basic Med. Sciences, CAMS&PUMC.*

8:00 X8 **299.13** Dexmedetomidine inhibits voltage-gated sodium channels via α2-adrenoceptors in trigeminal ganglion neurons. Y. KIM*; S. IM; S. HWANG. *Gachon Univ., Gachon Univ., Gachon Univ.*

9:00 X9 **299.14** Identification of a population of peripheral sensory neurons projecting to blood vessels. C. MORELLI*; L. CASTALDI; S. BROWN; A. WEBSDALE; B. CERRETI; A. BARENGHI; P. A. HEPPENSTALL. *EMBL Rome.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 X10 **299.15** Cellular and behavioral requirements for calcium induced calcium release mechanisms in cold nociception. A. A. PATEL*; N. J. HIMMEL; J. J. YANG; D. N. COX. *Georgia State Univ., Georgia State Univ., Georgia State Univ.*

11:00 X11 **299.16** Different coding strategies for heat and cold by primary sensory afferents. F. WANG*; E. BÉLANGER; S. L. CÔTÉ; P. DESROSIERS; S. A. PRESCOTT; D. C. CÔTÉ; Y. DE KONINCK. *CERVO Brain Res. Ctr., Ctr. for Optics, Photonics and Lasers (COPL), Univ. Laval, Dept. of Physics, Physical Engineering, and Optics, Univ. Laval, Neurosciences and Mental Health, The Hosp. for Sick Children, Dept. of Physiol. and the Inst. of Biomaterials and Biomed. Engineering, Univ. of Toronto, Dept. of Psychiatry and Neuroscience, Univ. Laval.*

8:00 X12 **299.17** Conserved strategy for nociceptive stimulation by animal venom. Y. L. YANG; T. W. LAI*. *China Med. Univ., China Med. Univ., China Med. Univ., China Med. Univ. Hosp.*

9:00 X13 **299.18** Immunohistochemical characterization of sensory neurons surrounded by postganglionic sympathetic baskets in the mouse trigeminal ganglia. H. ALSAADI*; N. GHASEMLOU; M. D. KAWAJA. *Queen's Univ., Queen's Univ., Queen's Univ.*

10:00 X14 **299.19** Functional and molecular characterisation of cold-responsive DRG neurons *in vivo* using GCaMP. E. EMERY*; A. P. LUIZ; D. I. MACDONALD; J. N. WOOD. *Univ. Col. London, WIBR/University Col. London, UCL.*

11:00 Y1 **299.20** Effect of high omega-6 diet on sensory neuron excitability and pain behavior. J. T. BOYD*; S. RUPAREL; K. M. HARGREAVES. *UT Hlth. - San Antonio, Univ. of Texas Hlth. Sci. Ctr. at San Antonio, Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*

8:00 Y2 **299.21** Touch device for accurate detection of acute mechanical pain stimulus. J. A. DALE*; J. WANG. *New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

9:00 Y3 **299.22** Phenotyping of somatosensory afferents mediating cold and cold pain sensations. S. YAMAKI*; S. ONGUN; C. WEI; D. D. MCKEMY. *USC, USC, USC.*

10:00 Y4 **299.23** Identification of pyruvate dehydrogenase as a target of prostaglandin E2-induced Epac signaling in mouse dorsal root ganglion neurons. D. J. GOODE*; R. GEGUCHADZE; D. C. MOLLIVER. *Univ. of New England.*

11:00 Y5 **299.24** DRG cell-type enriched TSS usage and alternative splicing in humans and mouse implicate important sensory genes. P. R. RAY*; J. KHAN; A. WANGZHOU; S. MEGAT; V. RAJESH; T. J. PRICE. *The Univ. of Texas at Dallas.*

8:00 Y6 **299.25** ▲ Palmitic acid induces pain behavior via toll-like receptor-4 (TLR4) on sensory neurons. J. TIERNEY*; T. SZABO-PARDI; H. S. JEONG; M. D. BURTON. *Univ. of Texas at Dallas.*

9:00 Y7 **299.26** Characterizing YPEL3 gene function in *Drosophila melanogaster.* A. J. LOPEZ*; H. LEE; B. BOSSE; B. YE; J. KIM. *Univ. of Nevada, Reno, Univ. of Michigan, Univ. of Nevada, Reno.*

10:00 Y8 **299.27** Effects of the VGF-derived peptide TLQP-62 on primary afferent neurons. A. G. J. SKORPUT; R. GORE; M. S. RIEDL; J. L. COOK; E. MARRON FERNANDEZ DE VELASCO; W. LIN; S. R. SALTON; L. VULCHANOVA*. *Univ. of Minnesota, Univ. of Minnesota, Univ. Minnesota, Univ. of Minnesota, Univ. of Minnesota, Sun Yat-Sen Univ., Icahn Sch. of Med. at Mount Sinai, Univ. of Minnesota Dept. of Neurosci.*

11:00 Y9 **299.28** GABAergic system in the spinal sensory ganglia. R. RAMLI*; H. HAN; J. DEUCHARS; X. DU; H. ZHANG; N. GAMPER. *Univ. of Leeds, Universiti Sains Malaysia, Hebei Med. Univ.*

8:00 Y10 **299.29** Failure of somatic spike invasion in primary afferent neurons. D. AL-BASHA*; S. A. PRESCOTT. *The Hosp. For Sick Children, Univ. of Toronto, The Hosp. For Sick Children, Univ. of Toronto.*

9:00 Y11 **299.30** ▲ Identifying the molecular components of cold nociception in *Drosophila melanogaster.* R. M. BARBOREK*; K. COMBS; A. NEIGHBORS; M. KNICK; S. HALSELL. *James Madison Univ., James Madison Univ.*

POSTER

300. Pain Models: Behavior

Theme D: Sensory Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 Y12 **300.01** TRPV1 and TRPV4 involvement in cinnamaldehyde-evoked itch in female and male mice. T. FOLLANSBEE; M. IODI CARSTENS; T. NGUYEN; A. NGUYEN; M. CHEN; D. DOMOCOS; E. E. CARSTENS*. *Univ. of California, Davis, Univ. of California Davis.*

9:00 Y13 **300.02** ▲ Novel morphine delivery technique with rat pain model -subpial injection-. K. KAWAMITSU; K. KAMIZATO*; M. KAKINOHANA. *Univ. of the Ryukyus, Univ. of the Ryukyus.*

10:00 Y14 **300.03** Does behaviour in rats change over the time course of MIA induced osteoarthritis? C. MONTAGUT-BORDAS*; A. FISHER; A. H. DICKENSON. *Univ. Col. London, Transpharmation Ltd.*

11:00 Y15 **300.04** Task switching impairment under chronic neuropathic pain: Role of the intralaminar thalamus. E. PERRUSQUIA-HERNÁNDEZ; A. HERRERA-VALDIVIA; I. PÉREZ-MARTÍNEZ; C. D. MONTES-ANGELES*. *Univ. Nacional Autónoma de México, Univ. Nacional Autonoma de Mexico.*

8:00 Y16 **300.05** Evaluation of novel kappa opioid receptor agonists 16-ethynyl salvinorin A and 16-bromo salvinorin A in preclinical models of acute and chronic pain. B. M. KIVELL*; K. PATON; A. CULVERHOUSE; S. WILLIAMSON; T. E. PRISINZANO. *Victoria Univ. of Wellington, Univ. of Kansas.*

9:00 Y17 **300.06** ▲ Pain-like withdrawal responses to conditioned auditory cues associated with repeated von Frey stimuli in two rat models of neuropathic pain. B. R. BERKEMEIER*; Q. R. SHIM; W. XIE; J. A. STRONG; J. ZHANG. *Univ. of Cincinanti.*

10:00 Y18 **300.07** ● Paraventricular hypothalamic stimulation restores spontaneous day/night activity in rats with neuropathic pain through spinal oxytocin receptors activation. A. D. MANZANO GARCÍA*; A. GÓNZALEZ HERNÁNDEZ; A. ESPINOSA DE LOS MONTERO ZÚÑIGA; G. MARTÍNEZ LORENZANA; M. CONDÉS LARA. *Univ. Nacional Autónoma De México.*

11:00 Z1 **300.08** Probing roles of sensory neuron subtypes in nociception via chemo-optogenetics. B. JIANG*; C. CHEN; S. LIN; C. LEE. *Inst. of Biomed. Sciences, Academia Sinica, Academia Sinica, Inst. of Biomed. Sciences, Academia Sinica, Inst. of Biomed. Sci. Academia Sinica.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 Z2 **300.09** Perturbation of central amygdala neuron excitability reduces pain- and anxiety- like behaviors. Y. LIN*; C. LIEN. *Inst. of Neuroscience, Natl. Yang Ming Univ., Natl. Yang-Ming Univ.*

9:00 Z3 **300.10** Antinociceptive action of achillea biebersteinii methanolic flower extract is mediated by interaction with cholinergic receptor in mouse pain model. S. M. JAFFAL*; M. ABBAS. *The Univ. of Jordan, Al-Ahliyya Amman Univ.*

10:00 Z4 **300.11** Behavioral changes after sieve type neural electrode implantation in sciatic nerve injured rats. J. HONG; W. CHOI; M. KWON; H. PARK; J. KIM; J. KIM*. *Korea Univ. Grad. Sch., Korea Inst. of Sci. and Technol., Korea Univ., Korea Univ., Yonsei Univ., Korea Univ. Grad. Sch., Korea Univ. Col. of Hlth. Sci.*

11:00 Z5 **300.12** Haploinsufficiency of the brain-derived neurotrophic factor (BDNF) gene causes reduced pain sensitivity in an animal model and humans with the WAGR copy number variant. M. R. SAPIO*; M. J. IADAROLA; A. J. MANNES; J. C. HAN. *NIH, Univ. of Tennesee Hlth. Sci. Ctr.*

8:00 Z6 **300.13** D2-like agonist enhances the antinociceptive effect of spinal mu-opioid agonist in inflammatory and neuropathic pain. J. I. MERCADO REYES*; A. ALMANZA-GUTIERREZ; P. SEGURA-CHAMA; F. PELLICER; F. MERCADO. *Inst. Nacional de Psiquiatria Ramon de la Fuen, Inst. Nacional De Psiquiatría Ramón De La Fuente Muñiz, Inst. Nacional de Psiquiatría Ramón de la Fuente Muñiz, INPRFM.*

9:00 Z7 **300.14** ● Behavioral scaling of the intensity of mechanical and heat stimulation of the cheek in mice. N. M. MALEWICZ; Z. ZHANG; N. KUMOWSKI; O. HURWITZ; S. G. SHIMADA; H. NIE; R. H. LAMOTTE*. *Yale Univ. Sch. Med., Col. of Pharmacy, Jinan Univ.*

10:00 Z8 **300.15** ▲ Mental nerve injury induces novelty-seeking behavior leading to increasing ethanol intake in wistar rats. E. PERRUSQUIA; R. C. ACEVEDO; C. D. MONTES-ANGELES; I. O. PEREZ-MARTINEZ*. *Lab. of Neurobio. of Oral Sensations.*

11:00 Z9 **300.16** Spinal mobilization mitigates NGF induced reduction of rat exploratory behavior. W. R. REED*; J. W. LITTLE; T. J. NESS; R. E. SORGE; P. LI. *Univ. of Alabama at Birmingham, St. Louis Univ. Sch. of Med., Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*

8:00 Z10 **300.17** Sex-dependent age-differences in response to an acute model of post-surgical pain. N. DOS SANTOS*; L. T. THOMPSON; M. D. BURTON. *Univ. of Texas At Dallas.*

9:00 Z11 **300.18** ▲ A low dose of quercetin modifies the antialodynic effects of BD-1063. J. ESPINOSA*; O. A. JARAMILLO-MORALES; L. MENA-VALDEZ; A. ALEJO-MARTÍNEZ; F. J. LÓPEZ-MUÑOZ. *Cinvestav-Ipn, Cinvestav, Cinvestav-IPN.*

10:00 Z12 **300.19** Losartan, an angiotensin II type 1 receptor antagonist, alleviates mechanical hyperalgesia in a rat model of chemotherapy-induced neuropathic pain by inhibiting inflammatory cytokines in the dorsal root ganglia. E. KIM*; H. KIM; S. HWANG; H. KIM; S. ABDI. *Pusan Natl. Univ., MD Anderson Cancer Ctr.*

11:00 Z13 **300.20** Investigating the comorbidity of chronic pain and depression. V. MICHAILIDIS*; C. CHO; M. SIVASELVACHANDRAN; E. ACLAND; N. LIDHAR; C. CHAN; L. J. MARTIN. *Univ. of Toronto.*

8:00 Z14 **300.21** A mechanistic study of cmt2b peripheral sensory neuropathy. C. WU*; K. J. SUNG; W. YANG; H. LIU; C. JOLIVALT; N. CALCUTT. *UCSD Sch. of Med., Univ. of California San Diego, Dept. of Neurology, Ruijin Hosp., Univ. of California San Diego.*

POSTER

301. Pain Models: Physiology

Theme D: Sensory Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 Z15 **301.01** Involvement of spinal Src homology-2 domain-containing protein tyrosine phosphatase-2 and brain-derived neurotrophic factor in neonatal incision-induced exacerbation of incisional pain in adult rats. X. DING*; W. YANG; X. LIU; X. YANG; H. WANG; J. TAI. *Beijing Children'S Hosp., Natl. Ctr. for Children's Hlth., Beijing Children's Hospital, Capital Med. University, Natl. Ctr. for Children's Hlth., Peking Univ., Beijing Children's Hospital, Capital Med. University, Natl. Ctr. for Children's Hlth., Beijing Children's Hospital, Capital Med. University, Natl. Ctr. for Children's Hlth.*

9:00 Z16 **301.02** Electrophysiological characterisation of nociceptive lamina I spinoparabrachial neurons in the anesthetized mouse. J. ALLARD*. *E-Phys.*

10:00 Z17 **301.03** Reduced muscle growth hormone levels regulate peripheral sensitization after incision through macrophage-dependent sequestering. A. J. DOURSON*; C. E. MCCROSSAN; Z. K. FORD; M. C. HOFFMAN; M. P. JANKOWSKI. *Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati, Col. of Med.*

11:00 Z18 **301.04** Alterations in cerebellar neuropeptide expression and astrocyte activation in a repetitive acidic saline exposure jaw pain model. J. MORRIS-WIMAN*; C. G. WIDMER. *West Virginia Sch. of Osteo. Med., Univ. of Florida.*

8:00 AA1 **301.05** Spinal lamina I projection neurons play distinct roles in nociception. N. V. VOITENKO*; K. AGASHKOV; V. KROTOV; M. KRASNIAKOVA; Y. ZABENKO; B. V. SAFRONOV; P. BELAN. *Bogomoletz Inst. of Physiol., Kyiv Academic Univ., Bogomoletz Inst. of Physiol., Bogomoletz Inst. of Physiol., IBMC.*

9:00 AA2 **301.06** Evidence of direct interactions between somatic sensory afferents and pre-ganglionic sympathetic neurons and their modification by peripheral nerve injury. W. XIE*; J. A. STRONG; J. ZHANG. *Univ. Cincinnati Coll Med.*

10:00 AA3 **301.07** Different effects of deletion of the serine racemase gene on nociceptive behavior among different models of neuropathic and inflammatory pain. E. KATO*; T. FUKUSHIMA; M. MAEKAWA; Y. HORI. *Dept Physiol & Biol Inf, Dokkyo Med. Univ.*

11:00 AA4 **301.08** TLR4 knockout rats show reduced signs of paclitaxel-related chemotherapy induced peripheral neuropathy. P. M. DOUGHERTY*; Y. LI. *Howard Hughes Med. Inst. - Univ. of Texas MD Anderson Cancer Ctr.*

8:00 AA5 **301.09** Contribution of peripheral brain-derived neurotrophic factor (bdnf) signaling in oral cancer pain. D. ARRIS*; M. GRAYSON; V. VALENZUELA; S. RUPAREL. *Univ. of Texas Hlth. Sci. Ctr. At San.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 AA6 **301.10** Modeling Nav1.7 channelopathies using CRISPR/Cas9. J. SHIM*; Y. CHENG; C. LAEDERMANN; E. BUTTERMORE; C. HERMAWAN; D. DOU; N. WIMALASENA; A. SNAVELY; Y. YANG; M. A. MIS; L. BARRETT; S. D. DIB-HAJJ; S. G. WAXMAN; C. J. WOOLF. *Boston Children's Hospital/Harvard Med. Sch., VA CT Healthcare Syst., Yale Univ., Yale Sch. of Med. and VAMC, Yale University, Neurosci. and Regeneration Res. Ctr., Children's Hosp. Boston.*

10:00 AA7 **301.11** The effect of an insect pyrokinin on nociceptive sensitization of the defensive strike response in larval Manduca sexta. M. FUSE*; A. D. RICE. *San Francisco State Univ.*

11:00 AA8 **301.12** A cortical gain control mechanism for pain. J. WANG*; J. A. DALE; H. ZHOU; Q. ZHANG; E. MARTINEZ; Z. W. CHEN. *New York Univ. Sch. of Med., New York Univ. Sch. of Med., NYU Sch. of Med., New York Univ.*

8:00 AA9 **301.13** ● *Ex vivo* human models of inflammatory and neuropathic pain states for enabling translational research and drug discovery. A. GHETTI*; Y. MIRON; A. TON; T. INDERSMITTEN; N. NGUYEN; P. RATCHADA; A. ALAMILLO; K. SWEAT; I. TAPIA; G. PAGE; P. E. MILLER. *Anabios Corp.*

9:00 AA10 **301.14** Neural oscillations and biomarkers of chronic pain in the rat. A. KELLER*; C. RAVER; D. SEMINOWICZ; A. FURMAN. *Univ. of Maryland Sch. of Med.*

10:00 AA11 **301.15** ▲ Cannabis for chronic pain results in decreased alpha frequency activity in the left frontal lobe measured by electroencephalogram. K. P. SEYMOUR*; T. W. BROWN; C. M. BOTELLO; A. L. HARRIS BOZER. *Tarleton State Univ., Tarleton State Univ., Tarleton State Univ.*

11:00 BB1 **301.16** ▲ EEG alpha power decreases during approach of pain for reward in participants with chronic pain. C. M. BOTELLO*; T. W. BROWN; A. L. HARRIS BOZER. *Tarleton State Univ., Tarleton State Univ.*

8:00 BB2 **301.17** Ensembles of change-point detectors for real-time acute pain detections. Z. XIAO*; S. HU; Q. ZHANG; J. WANG; Z. CHEN. *New York Univ. Sch. of Med., Zhejiang Univ., New York Univ. Sch. of Med.*

9:00 BB3 **301.18** ● The relationship between experimental thermal pain and autonomic nervous response in the parameters including pulse oximeter. M. MIYAMAE; T. SOSHI; Y. TSUGITA; R. URABE; Y. MINEGISHI; K. NAKAI; A. NAKAE*; T. YANAGIDA. *Univ. of Fukui Hosp., Osaka Univ. Grad. Sch. of Frontier Biosc.*

10:00 BB4 **301.19** Protein distributionand functional characterization of CASK-interacting protein 1 (Caskin1) in mice. T. KATANO*; K. TAKAO; M. ABE; M. YAMAZAKI; M. WATANABE; T. MIYAKAWA; K. SAKIMURA; S. ITO. *Kansai Med. Univ., Univ. of Toyama, Cell. Neurobiol, Brain Res. Inst, Niigata Univ., Univ. of California, Hokkaido Univ. Sch. Med., Fujita Hlth. University, ICMS, Div. Syst. Med., Brain Res. Ins Niigata Univ.*

POSTER

302. Inflammatory Pain

Theme D: Sensory Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 BB5 **302.01** Neuropeptide regulation of adaptive immunity in the tibia fracture model of complex regional pain syndrome. W. LI*; T. GUO; X. SHI; F. BIRKLEIN; T. SCHLERETH; W. S. KINGERY; J. D. CLARK. *Stanford Univ., Veterans Affairs Palo Alto Hlth. Care Syst., Palo Alto Veterans Inst. for Res., Univ. Med. Ctr., DKD Helios Klinik Wiesbaden.*

9:00 BB6 **302.02** Inhibition of nerve growth factor specific receptor, tropomyosin receptor kinase A, modulates glutaminase production in rat dorsal root ganglion during inflammation. V. GUJAR*; K. E. MILLER. *Oklahoma State University, Ctr. For Hlth. Scien.*

10:00 BB7 **302.03** Imaging large scale brain networks alterations in arthritic rats using functional ultrasound imaging. L. RAHAL*; M. THIBAUT; M. TANTER; S. PEZET. *PSL Res. Univ., CNRS UMR 7587, INSERM U 979, Lab. of Brain Plasticity, ESPCI Paris, PSL Res. Univ., CNRS UMR 8249.*

11:00 BB8 **302.04** Nerve growth factor and pain-related neuropeptide up-regulated by macrophage-derived inflammatory cytokines in degenerated human intervertebral discs. M. MIYAGI*; K. UCHIDA; S. TAKANO; M. NAKAWAKI; J. AIKAWA; H. SEKIGUCHI; G. INOUE; T. NAKAZAWA; T. IMURA; W. SAITO; E. SHIRASAWA; M. TAKASO. *Kitasato Univ.*

8:00 BB9 **302.05** Serotonin attenuates endotoxin-induced nociception by inhibiting IKKα/β in the dorsal root ganglia and GSK3α/β, CREB, and IKKα/β in the spinal cord dorsal horn. C. M. MOTA*; C. RODRIGUES-SANTOS; C. R. A. LEITE-PANISSI; L. G. S. BRANCO. *Univ. of Sao Paulo, Univ. of Sao Paulo.*

9:00 BB10 **302.06** An intra-articular injection of PAT4, a peptide antagonist of TLR4, attenuates monoiodoacetate-induced osteoarthritis pain in the knee joint of rats. H. PARK*; Y. YIN; J. SHIN; J. KIM; J. BEOM; J. HONG; D. KIM. *Chungnam Natl. Univ. Col. of Med., Brain Res. Institute, Chungnam Natl. Univ. Col. of Med., Dept. of Intrnl. medicine, Chungnam Natl. Univ. Col. of Medicine, Hosp., Dept. of Physical Med. and Rehabilitation, Chung-Ang Univ. Col. of Med.*

10:00 BB11 **302.07** Pain in experimental autoimmune encephalomyelitis is mediated through neuronal interleukin-1 receptor signaling. B. MAILHOT*; C. SOTOUDEH; G. SCHERRER; S. LACROIX. *Ctr. De Recherche Du CHU De Québec (CHUL), Med. Faculty, Laval Univ., Dept. of Anesthesiology, Perioperative and Pain Medicine,Department of Neurosurgery, Stanford Neurosciences Institute, Stanford Univ., New York Stem Cell Foundation, Robertson Investigator.*

11:00 BB12 **302.08** ● Alterations in pain behavior and physiology in a mouse model of palmoplantar keratoderma. R. WEINBERG*; Z. PANG; B. PAN; L. QU; S. YOUNG; M. POLYDEFKIS; M. CATERINA. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., UCLA, Johns Hopkins Univ. Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 BB13 **302.09** The role of inflamm-aging in the hyperalgesic priming state of aged mice. H. WANG*; C. ZHAO; C. ZOU; C. SHI; Y. SUN. *Shanghai Univ. of Med. & Hlth. Sci., Natl. Clin. Res. Ctr. for Aging and Medicine, Huashan Hospital, Fudan Univ., Huashan Hospital, Fudan Univ.*

9:00 BB14 **302.10** Differential regulation of the glucocorticoid receptor in rat models of inflammatory pain. S. IBRAHIM*; J. A. STRONG; J. ZHANG. *Univ. of Cincinnati.*

10:00 BB15 **302.11** Cardiac sympathetic nerve activity changes induced by mechanical pressure stimulation of a calf are augmented by acute muscle inflammation in isoflurane-anesthetized rats. N. WATANABE*; H. HOTTA. *Tokyo Metropolitan Inst. of Gerontology.*

11:00 BB16 **302.12** ▲ Pain control by two types of dental laser irradiation using an animal pain model induced by experimental tooth movement. T. TSUCHIYA*; A. SASAKI; M. YUGAWA; N. HASEGAWA; N. SUDA; K. ADACHI. *Meikai Univ. Sch. of Dent., Meikai Univ. Sch. of Dent.*

8:00 BB17 **302.13** *In vivo* tracing of single neuron activity with $Ca2^+$ imaging of primary somatosensory cortex in mouse models of postoperative pain and inflammatory pain. T. OKADA*; Y. TACHIBANA; Y. NOMURA; N. OBATA; S. MIZOBUCHI; H. WAKE. *Kobe Univ. Grad. Sch. of Med.*

9:00 CC1 **302.14** Experimental inflammation and inflammatory pain reduced by ketogenic diet. D. N. RUSKIN*; L. S. WYSS; S. A. MASINO. *Trinity Col.*

10:00 CC2 **302.15** The expression of aspartate aminotransferase and glutaminase in rat dorsal root ganglion treated with peripheral glutaminase inhibitor during adjuvant induced arthritis. R. PANDE*; K. E. MILLER. *Oklahoma State Univ. Ctr. for Hlth. Sci., Oklahoma State Univ. Ctr. for Hlth. Sci.*

11:00 CC3 **302.16** Characterizing the pathological effects of prenatal alcohol exposure on spinal neuroimmune mechanisms that result in neuropathic touch sensitivity. J. SANCHEZ*; J. E. SANCHEZ; S. DAVIES; D. D. SAVAGE; E. D. MILLIGAN. *Univ. of New Mexico.*

8:00 CC4 **302.17** Neuronal FcγRI contributes to antigen-induced inflammatory pain in the rat. F. LIU*; T. WANG; B. YUAN; W. QIU; C. MA. *Inst. of Basic Med. Sciences, CAMS PUMC, Inst. of Basic Med. Sciences, Neurosci. Center, Chinese Acad. of Med. Sciences; Sch. of Basic Medicine, Peking Union Med. Col.*

9:00 CC5 **302.18** Increased corneal sensitivity and corneal nerve fiber activity is associated with peripheral and central neuroinflammation in a novel mouse model of dry eye disease. D. FAKIH*; Z. ZHAO; P. NICOLLE; F. JOUBERT; E. REBOUSSIN; A. LABBE; C. BAUDOIN; S. MELIK PARSADANINANTZ; A. RÉAUX LE GOAZIGO. *Inst. de la Vision, F-75012, Thea, R&D Dept., Sorbonne Université, INSERM, CNRS, Inst. de la Vision, F-75012, Dept. of Ophthalmology III, Quinze-Vingts Natl. Ophthalmology Hospital, F-75012, Quinze-Vingts Natl. Ophthalmology Hospital, DHU Sight Restore, INSERM-DGOS CIC 1423, F-75012, Dept. of Ophthalmology, Ambroise Paré Hospital, APHP, Univ. of Versailles Saint-Quentin en Yvelines, F-92100.*

10:00 CC6 **302.19** Chronic stress induces nociceptive hypersensitivity in rats via down-regulation of KCC2. E. CURIEL*; A. B. SALINA ABARCA; J. MURBARTIAN; V. GRANADOS-SOTO. *Cinvestav Unidad Coapa, Cinvestav, Cinvestav, Sede Sur, Dept. de Farmacobiologia, Cinvestav, Coapa.*

11:00 CC7 **302.20** GPR37 regulates macrophage phagocytosis and resolution of inflammatory pain. S. BANG*; Y. XIE; Z. ZHANG; Z. WANG; Z. XU; R. JI. *Duke Univ. Med. Ctr., Zhejiang Univ. Sch. of Med.*

8:00 CC8 **302.21** Blockade of Toll-like receptor 2 partially suppresses mycoplasma superantigen triggered arthritis pain in a mouse mode of autoimmune disease. J. ZHANG*; X. LU; C. J. MEANEY; X. WANG; R. HUGHEN; A. R. LIGHT; H. MU. *Univ. of Utah Sch. of Med., Univ. of Utah Sch. of Med.*

9:00 CC9 **302.22** ▲ Endogenous peripheral pain regulatory systems in orofacial pain patients. C. ESPITIA*; A. AL SHUJAA; Q. LI; M. J. PATIL; N. B. RUPAREL. *Uthscsa, Univ. of Texas Hlth. Sci. Ctr. at San Antonio, Univ. of Texas Hlth. Sci. Ctr. at San Antonio, Johns Hopkins Univ., Univ. of Texas Hlth. Sci. Cntr at San Antonio.*

10:00 CC10 **302.23** Epigenetic regulation of glutaminase expression in tnbs-induced colitis model of neuro-inflammatory pain. S. DAS*; K. E. MILLER. *Ctr. for Hlth. Sci, Oklahoma State Univ.*

11:00 CC11 **302.24** Investigating the expression and function of galanin in colonic sensory neurones. T. S. TAYLOR*; J. R. F. HOCKLEY; E. S. SMITH. *Univ. of Cambridge.*

8:00 CC12 **302.25** Role of transient receptor potential (TRP) channels in acute inflammatory knee pain. S. CHAKRABARTI*; L. A. PATTISON; G. CALLEJO; K. SINGHAL; J. R. F. HOCKLEY; E. S. J. SMITH. *Univ. of Cambridge.*

9:00 CC13 **302.26** General anesthesia activates a central circuit that functions to suppress pain. T. HUA*; K. SAKURAI; Y. CHEN; S. ZHAO; B. HAN; F. WANG. *Duke Univ., Tohoku Univ.*

10:00 CC14 **302.27** ● Paclitaxel chemotherapy induced neuropathic pain: Mechanism and neurocircuitry of adult rat brain. P. P. KULKARNI*; X. CAI; T. POTTALA; K. CRUITE; T. KNOX; S. NODINE; A. G. HOHMANN; C. FERRIS. *Northeastern Univ. Dept. of Psychology, Northeastern Univ., Indiana Univ.*

11:00 CC15 **302.28** Altered gray matter microarchitecture following early adolescent chemotherapeutic treatment. S. IRIAH*; T. KNOX; I. KEHOE; K. CRUITE; O. OMETORUWA; R. SLIVICKI; I. ALKISLAR; D. PANOZ-BROWN; I. SOMETH; T. MORRISON; A. G. HOHMANN; P. KULKARNI; C. FERRIS. *Northeastern Univ., Indiana Univ., Northeastern.*

8:00 CC16 **302.29** Effect of the Pha1b toxin on spinal cord glia in CFA-induced inflammatory pain. H. TENZA FERRER*; J. DA SILVA; L. A. V. MAGNO; M. V. GOMEZ. *Univ. Federal De Minas Gerais, Inst. de Ensino e Pesquisa da Santa Casa de Belo Horizonte.*

POSTER

303. Somatosensation: Central Mechanisms of Neuropathic Pain

Theme D: Sensory Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 DD1 **303.01** Pain modulation by delivering $gaba_a$ agents across the blood-brain barrier through focused ultrasound. K. WANG*; T. HE; W. XIONG; X. YU; C. TSAI; X. LI; H. LIU; H. LAI. *Zhejiang Univ., Zhejiang Univ., Zhejiang Univ., Chang Gung Univ.*

Mon. AM

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 DD2 **303.02** ▲ The effect of electroacupuncture on cord dorsum potentials produced by sural nerve stimulation in the diabetic rat. S. QUIROZ-GONZÁLEZ*; G. VERÓNICA BEATRIZ; Y. GARCIA-PICENO; R. LÓPEZ-GÓMEZ; B. SEGURA-ALEGRÍA; I. JIMÉNEZ-ESTRADA. *Univ. Estatal Del Valle De Ecatepec, Univ. Nacional Autonóma de México, Ctr. de Investigación y de Estudios avanzados del IPN (CINVESTAV).*

10:00 DD3 **303.03** Alterations of spinal inhibitory and excitatory nociceptive transmission in VGAT-ChR2-eYFP mice in different pain models. P. ADAMEK*; M. HELES; J. PALECEK. *Inst. of Physiol. of the Czech Acad. of Sc, Fac. of Science, Charles Univ.*

11:00 DD4 **303.04** ● AIBP selectively regulates lipid rafts and inhibits neuroinflammation. Y. MILLER*; S. CHOI; S. WOLLER; T. YAKSH. *UC San Diego.*

8:00 DD5 **303.05** Active turnover of synaptic protein NCAM1 regulates synaptic reorganization after peripheral nerve injury. H. KO*; J. CHOI; D. PARK; S. KANG; C. LIM; S. SIM; J. KIM; S. KIM; S. YE; J. LEE; P. PARK; S. KIM; M. ISLAM; H. KIM; C. TURCK; G. L. COLLINGRIDGE; M. ZHUO; B. KAANG. *Seoul Natl. Univ., Max Planck Inst. of Psychiatry, Seoul Natl. Univ., Mt. Sinai Hosp., Univ. Toronto.*

9:00 DD6 **303.06** Exploration of sensory integration for nociceptive and tactile inputs in primary somatosensory cortex of rats. H. KANDA*; J. G. GU. *Univ. of Alabama At Birmingham.*

10:00 DD7 **303.07** The effect of baclofen on mechanical sensitivity following nerve injury. R. C. LENNERTZ*, III; M. BANKS. *UW - Madison.*

11:00 DD8 **303.08** Probing the spinal mechanisms of pain in human diabetic neuropathy. A. WORTHINGTON*; N. CALCUTT; R. MALIK; A. MARSHALL. *Univ. of Manchester, Univ. of California San Diego, Weill Cornell, Salford Royal Hosp. Fndn. Trust.*

8:00 DD9 **303.09** ● Comparing the firing patterns of superficial dorsal horn neurons evoked by robotically automated and human manual brushing. D. C. LEE*; J. E. LEE; K. LEE; Z. KAGAN; K. BRADLEY. *Nevro, ANC Robotics, Nevro Corp, Nevro.*

9:00 DD10 **303.10** Cytochrome P450scc and P450c17 increase the production of D-serine in the development of neuropathic mechanical allodynia. S. CHOI; H. CHOI; H. HAN; J. LEE*. *BK21 PLUS Program for Creative Vet. Sci. Research, Res. Inst. for Vet. Sci. and Col. of Vet. Medicine, Seoul Natl. Univ., Seoul Natl. Univ.*

10:00 DD11 **303.11** Anterior nucleus of paraventricular thalamus (PVA) mediates mechanical hyperalgesia in neuropathic and inflammatory pain models. C. CHEN*; Y. CHANG; W. CHEN; A. C. C. SHIH. *Inst. of Biomed. Sciences/Academia Sinica, Taiwan Intl. Grad. Program in Mol. Medicine, Natl. Yang-Ming Univ. and Academia Sinica, Inst. of Biomed. Sciences, Academia Sinica, Inst. of Information Science, Academia Sinica.*

11:00 DD12 **303.12** Effect of neuropathic pain on the optogenetically activated feedforward inhibition in the central amygdala of rats. Y. TAKAHASHI*; T. ONOZATO; Y. K. SUGIMURA; F. KATO. *Jikei Univ. Sch. Med.*

8:00 DD13 **303.13** Facilitation of touch and tactile neuropathic pain sensations by corticospinal projections. Y. LIU*; A. LATREMOLIERE; X. LI; Z. ZHANG; M. CHEN; X. WANG; C. FANG; C. ALEXANDRE; K. H. WANG; C. WOOLF; Z. HE. *Children's Hosp. At Boston, Harvard Med. Sch., NIH, Beth Israel Deaconess Med. Ctr.*

9:00 DD14 **303.14** ● Deconstructing the role of interneurons in spinal sensory processing. A. ALLAWALA*; C. J. BLACK; C. Y. SAAB; D. BORTON. *Brown Univ., Brown Univ.*

10:00 DD15 **303.15** Bee venom acupuncture suppresses paclitaxel-induced mechanical hyperalgesia through spinal α2-adrenergic activity in rats. J. LEE*; W. KIM; G. CHUNG; H. YOON; S. KIM. *Col. of Korean Med. Kyung Hee Univ., Grad. Sch. Kyung Hee Univ.*

11:00 DD16 **303.16** Dorsal hippocampal activation suppresses neuropathic pain behaviors: Chronic pain as extinction-resistant pain-related memory traces. M. V. CENTENO*; X. WEI; W. REN; D. PROCISSI; T. XU; R. JABAKHANJI; A. BORRUTO; M. MARTINA; J. M. RADULOVIC; D. SURMEIER; A. V. APKARIAN. *Northwestern Univ., Zhongshan Sch. of Medicine, Sun Yat-Sen Univ., Northwestern Univ., Northwestern Radiology, Inst. of Neurosci. of the Second Affiliated, Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ., Northwestern Univ. Med. Sch., Northwestern Univ., Northwestern Univ. Dept. of Physiol., Northwestern Univ. Feinberg Sch. of Med.*

8:00 DD17 **303.17** Collateral projections of lumbar spinoparabrachial neurons in mouse. N. J. STACHOWSKI*; L. YAO; M. R. DETLOFF; K. J. DOUGHERTY. *Drexel Univ. Col. of Med.*

9:00 DD18 **303.18** Time-course of the effect of continuous theta burst stimulation over primary somatosensory cortex on pain perception. N. RAO*; Y. CHEN; S. LI; P. J. PARIKH. *Univ. of Houston, UT Hlth., Univ. of Texas Hlth. Sci. Ctr. - Houston, Univ. of Houston.*

10:00 EE1 **303.19** Microglial contributions to multidimensional behaviors in neuropathic pain. M. J. LACAGNINA*; P. M. GRACE. *Univ. of Texas MD Anderson Cancer Ctr.*

11:00 EE2 **303.20** Generalization of sensory modalities in dorsal root ganglion neurons under neuropathic pain in awake mice. L. SUN*; G. YANG. *New York Univ. Sch. of Med.*

POSTER

304. Visceral and Musculoskeletal Pain

Theme D: Sensory Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 EE3 **304.01** Adenylyl cyclase 1 (AC1) in anterior cinglutate cortex and spinal cord in contributed to the pain-related behavior of two fibromyalgia model rats. Y. SAKURAI*; R. TAMANO; S. YONEDA; T. TSUKAMOTO; M. OYAMA; Y. MASAGO; I. NANCHI; M. FUJITA; E. KASAI; T. OKUDA; T. ASAKI. *Shionogi & CO., LTD.*

9:00 EE4 **304.02** Compositional changes in gut microbiome of rats with stress-induced comorbid visceral pain. J. ASGAR*; J. YANG; R. TRAUB; J. RAVEL; W. GUO; S. ZOU; R. DUBNER; K. REN; F. WEI. *Univ. of Maryland Sch. of Dent., Inst. for Genome Sci.*

10:00 EE5 **304.03** Exercise effects on osteoarthritis joint pain: Impact of sex and site in a rat model of osteoarthritis. T. E. KING*; S. SANNAJUST. *Univ. of New England, Univ. of New England.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 EE6 **304.04** Ceftriaxone inhibits stress-induced hyperalgesia and alters cerebral micturition and nociceptive circuits in the rat: A multidisciplinary approach to the study of urologic chronic pelvic pain syndrome (MAPP) research network study. D. P. HOLSCHNEIDER*; Z. WANG; H. H. CHANG; R. ZHANG; J. MAO; Y. GUO; L. V. RODRIGUEZ. *USC, USC.*

8:00 EE7 **304.05** Evidence for role of KCC2 and NKCC1 in reserpine-induced nociceptive hypersensitivity. E. J. RODRIGUEZ-PALMA*; Y. E. DE LA LUZ-CUELLAR; V. GRANADOS-SOTO. *Cinvestav Coapa.*

9:00 EE8 **304.06** Inhibition of cerebral pain-related gamma oscillations by counter-stimulation and selective attention is abolished in patients with irritable bowel syndrome. A. WAGENAAR-TISON*; N. RUSTAMOV; E. DOYER; M. PICHÉ. *Univ. Du Québec À Trois-Rivières, Groupe de Recherche CogNAC.*

10:00 EE9 **304.07** The α_5-$GABA_A$ receptors contribute to nociception in a rat model of fibromyalgia. Y. E. DE LA LUZ-CUELLAR*; A. SALINAS-ABARCA; R. DELGADO-LEZAMA; V. GRANADOS-SOTO. *Ctr. de Investigación Y de Estudios Avanzados, Ctr. de Investigación y de Estudios Avanzados.*

11:00 EE10 **304.08** ● Sex differences in visceral hypersensitivity in the Dextran Sodium Sulfate model of colitis in mice. S. MARTINEZ GONZALEZ*; C. PICHARDO; Y. CARRASQUILLO. *NIH, NIH, NIH.*

8:00 EE11 **304.09** Somatosensory behavioral alterations in a rat low back pain model. N. R. REED; M. K. SYRETT; A. FROLOV; W. R. REED; J. LITTLE*. *St. Louis Univ. Sch. of Med., Univ. of Alabama Birmingham, St. Louis Univ.*

9:00 EE12 **304.10** The role of transient receptor potential vanilloid 1 channel in chronic pelvic pain. K. M. ROMAN*; C. HALL; A. J. SCHAEFFER; P. THUMBIKAT. *Northwestern Univ., Northwestern Univ.*

10:00 EE13 **304.11** Separation of roles for nociceptor populations in cancer-induced ongoing and hindpaw movement evoked pain. J. J. HAVELIN*; T. E. KING. *Univ. of New England.*

POSTER

305. Olfaction: Information Processing in Higher Order Circuits

Theme D: Sensory Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 EE14 **305.01** Functional analysis of top-down projections to the zebrafish olfactory bulb. C. SATOU*; K. HUANG; R. NEVE; R. W. FRIEDRICH. *Friedrich Miescher Inst. For Biomed. Resear, Friedrich Miescher Inst. for Biomed. Res., Gene delivery Technol. Core Massachusetts Gen. Hosp., Friedrich-Miescher-Institute For Biomed Res.*

9:00 FF1 **305.02** A computational model of across-individual stereotypy in the responses of mushroom body output neurons. A. M. MITTAL; N. GUPTA*. *Indian Inst. of Technol. Kanpur.*

8:00 DP05/FF2 **305.03** (Dynamic Poster) Communication from learned to innate olfactory processing centers is required for memory retrieval in *Drosophila.* G. JEFFERIS*; M. DOLAN; G. BELLIART-GUERIN; A. BATES; P. HUOVIALA; F. LOVE; S. FRECHTER; Z. MITREVICA; R. ROBERTS; P. SCHLEGEL; Y. ASO; G. M. RUBIN; D. BOCK; M. COSTA; T. PREAT; P. PLACAIS. *MRC Lab. of Mol. Biol., HHMI Janelia Res. Campus, ESPCI Paris, Univ. of Cambridge.*

11:00 FF3 **305.04** Integrating information from both nostrils - random or not? J. F. GRIMAUD*; V. N. MURTHY. *Harvard Univ.*

8:00 FF4 **305.05** Learned modulation of innate odor-driven behavior requires the orbitofrontal cortex. K. MIYAMOTO*; A. LIMARY; J. VICTORIANO; M. KATHROTIA; C. M. ROOT. *UC San Diego.*

9:00 FF5 **305.06** Value-coding of dopamine neurons in olfactory processing. K. P. SIJU*; V. STIH; R. PORTUGUES; I. C. GRUNWALD KADOW. *Tech. Univ. of Munich, Max Planck Inst. of Neurobio.*

10:00 FF6 **305.07** Inhibitory circuits that gate associative synaptic plasticity in olfactory cortex. M. CANTO-BUSTOS*; E. KAMBOUROGLOS; A. M. OSWALD. *Univ. of Pittsburgh.*

8:00 DP06/FF7 **305.08** (Dynamic Poster) Hierarchical and invariant representations of odor space in cortex. S. PASHKOVSKI*; G. IURILLI; D. CHICARRO; K. DRUMMEY; S. PANZERI; S. R. DATTTA. *Harvard Med. Sch., Harvard Med. Sch., Italian Inst. of Technol.*

8:00 FF8 **305.09** Robust cortical sensory coding across distinct activity regimes. K. A. BOLDING*; K. M. FRANKS. *Duke Univ., Duke Univ.*

9:00 FF9 **305.10** Modulation of neural response in olfactory cortex by novelty and familiarity. S. HAESLER*; C. AYDIN; M. BROUX; S. LIBBRECHT; J. NOUTEL; J. ESQUIVELZETA RABELL. *Neuroelectronics Res. Flanders, imec.*

10:00 FF10 **305.11** Principles of distributed circuits. S. SRINIVASAN*; K. POSTON; M. BROWN; C. F. STEVENS. *Salk Inst. and KIBM, UCSD, Kavli Inst., Brown Univ., Salk Inst.*

11:00 FF11 **305.12** Functional characterization of odor-driven modulation of olfactory perception by basal forebrain nuclei. M. MÜLLER*; I. SCHWARZ; I. PAVLOVA; M. MITTAG; M. K. SCHWARZ; M. FUHRMANN. *German Ctr. For Neurodegenerative Dis. DZNE, Inst. of Exptl. Epileptology and Cognition Res.*

8:00 FF12 **305.13** Distinct cortical amygdala circuits mediate approach and avoidance behaviors. C. CHAN*; J. H. LEE; M. H. BASSETT; A. J. FAULKS; C. M. ROOT. *Univ. of California San Diego, Univ. of California San Diego.*

9:00 FF13 **305.14** Characterization of prefrontal local field potential (LFP) in olfaction by using olfactory oddball paradigm with mouse model of olfactory deficit. J. KUM*; J. KIM; H. HAN; J. YOON; J. CHOI. *Korea Inst. of Sci. and Technol., Korea Univ. of Sci. and Technol. (UST), Yonsei Univ., Korea Advanced Inst. of Sci. and Technol.*

10:00 FF14 **305.15** NMDA spikes mediated amplification of odor pathway information in the piriform cortex. A. KUMAR*; O. SCHIFF; E. BARKAI; B. MEL; A. POLEG-POLSKY; J. SCHILLER. *Technion, Univ. of Haifa, USC, Univ. of Colorado Sch. of Med.*

11:00 FF15 **305.16** Coding of odor mixtures in cortical feedback projections to the olfactory bulb. J. D. ZAK*; V. N. MURTHY. *Harvard Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 FF16 **305.17** Odor processing by distinct classes of principal neurons in piriform cortex. S. NAGAPPAN*; B. HAN; F. WANG; K. M. FRANKS. *Duke Univ.*

9:00 FF17 **305.18** Pattern completion and separation via modulation of synchrony in the interplay between olfactory bulb and cortex. G. TAVONI*; D. KERSEN; V. BALASUBRAMANIAN. *Univ. of Pennsylvania.*

10:00 GG1 **305.19** Sharp wave-associated activity pattern of olfactory cortical neurons in the mouse piriform cortex. K. KATORI*; H. MANABE; A. NAKASHIMA; E. DUNFU; T. SASAKI; Y. IKEGAYA; H. TAKEUCHI. *The Univ. of Tokyo, Lab. of Neural Information, Dept. of Syst. Neuroscience, Grad. Sch. of Brain Science, Doshisha Univ.*

POSTER

306. Visual Cortex: Circuits and Populations I

Theme D: Sensory Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 GG2 **306.01** An integrated model linking structural and dynamical properties of local cortical circuits. P. GONG*; Y. GU. *The Univ. of Sydney.*

9:00 GG3 **306.02** Building and simulating a biophysically detailed network model of the mouse primary visual cortex. Y. N. BILLEH*; S. L. GRATIY; K. DAI; R. IYER; N. W. GOUWENS; S. MIHALAS; C. KOCH; A. ARKHIPOV. *Allen Inst.*

10:00 GG4 **306.03** Characterization of transgenic mouse lines for Allen Brain Observatory pipeline data collection. A. WILLIFORD; S. CALDEJON; L. CASAL; T. L. DAIGLE; N. DOTSON; J. LARKIN; R. LARSEN; T. NGUYEN; R. NICOVICH; M. ROBERTSON; B. TASIC; H. ZENG; C. L. THOMPSON*; J. LECOQ; P. A. GROBLEWSKI. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst.*

11:00 GG5 **306.04** Nonlinear models of mouse visual cortex. M. D. OLIVER*; M. A. BUICE; P. LEDOCHOWITSCH; N. H. CAIN; G. K. OCKER; S. E. DEVRIES; D. MILLMAN. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

8:00 GG6 **306.05** Matching cells across two photon images of multiple optical physiology experiments. F. LONG*; M. GARRETT; S. DE VRIES; J. LECOQ; L. KUAN; C. THOMPSON; D. FENG; W. WAKEMAN; J. GALBRAITH; L. NG. *Allen Inst. for Brain Sci.*

9:00 GG7 **306.06** Testing the astronomical observatory model in systems neuroscience: The allen brain observatory - openscope. J. LECOQ*; C. L. THOMPSON; G. K. OCKER; M. VALLEY; Y. N. BILLEH; J. PERKINS; S. NAYLOR; P. A. GROBLEWSKI; S. R. OLSEN; C. KOCH. *Allen Inst., Allen Inst. for Brain Sci., Allen Inst., Allen Inst. For Brain Sci.*

10:00 GG8 **306.07** Functional interrogation of claustrum involvement in a visual change detection task. D. R. OLLERENSHAW*; A. M. SHELTON; J. DAVIS; Y. WANG; H. ZENG; S. R. OLSEN; C. KOCH. *Allen Inst. for Brain Sci., Allen Inst., Allen Inst. for Brain Sci.*

11:00 GG9 **306.08** Large-scale calcium imaging reveals cell class specific roles in a visual change detection task. M. GARRETT*; P. A. GROBLEWSKI; J. KIGGINS; D. R. OLLERENSHAW; L. CASAL; A. CHO; A. LEON; K. MACE; S. MANAVI; K. ROLL; C. THOMPSON; A. WILLIFORD; S. R. OLSEN. *Allen Inst. for Brain Sci., Allen Inst. For Brain Sci., Allen Inst. for Brain Sci.*

8:00 GG10 **306.09** Ca^{2+} imaging favors bursty neurons. P. LEDOCHOWITSCH*; N. CAIN; J. H. SIEGLE; X. JIA; G. K. OCKER; M. D. OLIVER; S. R. OLSEN; S. E. DEVRIES; M. A. BUICE. *Allen Inst. for Brain Sci., Allen Inst., UC Berkeley.*

9:00 GG11 **306.10** Stimulus and state-dependence of interactions between vip and sst cells in mouse primary visual cortex. D. MILLMAN*; G. K. OCKER; N. H. CAIN; P. LEDOCHOWITSCH; R. S. LARSEN; M. D. OLIVER; R. REID; M. A. BUICE; S. E. DEVRIES. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

10:00 GG12 **306.11** Cellular resolution mesoscale study on correlation structure during visual encoding. Y. YU*; S. L. SMITH. *Univ. of North Carolina at Chapel Hill.*

11:00 GG13 **306.12** Detecting information-limiting correlations experimentally. J. S. MONTIJN; R. G. LIU; A. POUGET*; P. E. LATHAM. *Univ. of Geneva, Gatsby Computat. Neurosci Unit.*

8:00 GG14 **306.13** Unraveling the hidden lamination of the avian visual DVR. S. FERNANDEZ; C. WEISS; M. D. FERNÁNDEZ; J. MPODOZIS*. *Univ. of Chile.*

9:00 GG15 **306.14** Beyond gratings: Flow stimuli reveal ecologically-appropriate responses in mouse visual cortex. M. HOSEINI*; L. DYBALLA; M. C. DADARLAT; S. ZUCKER; M. P. STRYKER. *Univ. of California, Yale Univ., Yale Univ.*

10:00 GG16 **306.15** Flow stimuli reveal hidden dimensions in mouse visual cortex. L. DYBALLA*; M. HOSEINI; M. P. STRYKER; S. W. ZUCKER. *Yale Univ., Univ. of California, San Francisco, Yale Univ., Yale Univ.*

11:00 GG17 **306.16** A hallucinogenic serotonin-2A receptor agonist reduces visual response gain and alters temporal dynamics in awake mouse V1 neurons. A. MICHAIEL*; P. R. L. PARKER; C. M. NIELL. *Univ. of Oregon.*

8:00 HH1 **306.17** Impact of behavioral sources of noise correlation on population coding across the mouse visual system. G. K. OCKER*; N. H. CAIN; P. LEDOCHOWITSCH; D. MILLMAN; M. D. OLIVER; S. E. DEVRIES; M. A. BUICE. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

9:00 HH2 **306.18** Time-dependence of sensory cortical neural fluctuations in awake mice performing a visual discrimination task. M. EBRAHIMI*; J. A. LECOQ; O. I. RUMYANTSEV; C. IRIMIA; M. J. SCHNITZER. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

10:00 HH3 **306.19** Registration of multiple cortical layers across individuals improves the relative positioning of neurons. C. LEE*; R. DALLEY; A. MUKORA; D. SANDMAN; G. WILLIAMS; S. KEBEDE; S. SORENSEN; U. SÜMBÜL. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

11:00 HH4 **306.20** Eye movement information in V1 is carried through feedback projections. S. MIURA*; M. SCANZIANI. *Univ. of California San Francisco, Univ. of California, San Francisco.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 HH5 **306.21** Parvalbumin-positive interneuron ensemble dynamics in the primary visual cortex during mouse visual detection. A. I. MORE*; C. A. DEISTER; C. I. MOORE. *Brown Univ., Carney Inst. for Brain Sci.*

9:00 HH6 **306.22** Representation of concurrent stimuli by population activity in mouse primary visual cortex. D. L. RINGACH*. *UCLA.*

10:00 HH7 **306.23** All-optical interrogation of functional connectivity in mouse visual cortex during behaviour. L. E. RUSSELL*; A. M. PACKER; M. HAUSSER. *Univ. Col. London, Univ. Col. London, UCL.*

11:00 HH8 **306.24** Somatostatin interneurons exhibit divisive inhibitory influence on nonlinear synaptic integration in layer 2/3 pyramidal neurons of the visual cortex. C. DORSETT*; I. T. SMITH; S. L. SMITH. *Univ. of North Carolina - Chapel Hill, UNC Sch. of Med.*

8:00 HH9 **306.25** ● A sparse unreliable distributed code underlies the limits of behavioral discrimination. B. SRIRAM*; L. LI; A. CRUZ-MARTIN; A. GHOSH. *Biogen, Univ. of California San Diego Section of Neurobio., Boston Univ.*

9:00 HH10 **306.26** Synaptic mechanism of orientation selectivity in layer 4 of mouse visual cortex. Y. CHEN*; T. SATO; B. SONG; A. KONNERTH. *Inst. of Neuroscience, TUM.*

10:00 HH11 **306.27** Predicting excitatory-inhibitory dynamics in the corticothalamic network. I. LIN*; M. OKUN; M. CARANDINI; K. D. HARRIS. *Univ. Col. London, Univ. of Leicester.*

11:00 HH12 **306.28** The effect of basal forebrain activation on the trial to trial variability of neuron's subthreshold response in mice primary visual cortex (v1). P. GHADERI*; S. ROSTAMI; M. SAFARI. *Neurosci. Res. Ctr.*

8:00 HH13 **306.29** Cell-class-specific census of synapses in mouse visual cortex. F. C. COLLMAN*; M. M. NAUGLE; S. SESHAMANI; R. SERAFIN; O. GLIKO; J. SCHARDT; S. DAVIS; L. ELABBADY; H. ZENG; S. J. SMITH. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

POSTER

307. Vision: Representation of Faces and Bodies

Theme D: Sensory Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 HH14 **307.01** Does CNN explain the properties of the middle face patch area of primate? R. RAMAN*; H. HOSOYA. *Advanced Telecommunications Res. Inst. Int.*

9:00 HH15 **307.02** Perceptual and mnemonic mechanisms underlying the other-race effect. J. YAROS*, ESQ; D. A. SALAMA; B. A. MIRADA; M. S. LARSON; M. A. YASSA. *UC Irvine, Ctr. for the Neurobio. of Learning and Memory.*

10:00 HH16 **307.03** Effect of familiarity on neural dynamics of face selective cells in monkey inferior temporal cortex during a demanding face discrimination task. W. DANG*; D. L. SHEINBERG. *Brown Univ.*

11:00 HH17 **307.04** Human MT+ is sensitive to the dynamics of motion of a single dot representing or violating the biological motion of real human walkers. J. V. DUARTE*; B. ARAGÃO; J. A. SANTOS; M. CASTELO-BRANCO. *CIBIT-ICNAS, Univ. of Coimbra, Ctr. Algoritmi - Sch. of Engineering, Univ. of Minho.*

8:00 II1 **307.05** Color responses of face cells in alert macaque monkey. I. ROSENTHAL; J. FULLER-DEETS; T. HAILE; S. C. EASTMAN; T. GRUEN; L. TELLO; B. R. CONWAY*. *Natl. Eye Inst., Natl. Inst. of Mental Hlth.*

9:00 II2 **307.06** Neural responses to internal versus contextual face information in two anterior face patches. E. WAIDMANN*; K. W. KOYANO; J. J. HONG; B. E. RUSS; D. A. LEOPOLD. *Natl. Inst. of Mental Hlth., Nathan Kline Inst.*

10:00 II3 **307.07** Examining the content of neural representations of faces and voices: Which brain regions represent perceptual and social information? M. S. TSANTANI*; N. KRIEGESKORTE; A. WILLIAMS; C. MCGETTIGAN; L. GARRIDO. *Brunel Univ. London, Zuckerman Mind Brain Behavior Institute, Columbia Univ., Royal Holloway, Univ. of London.*

11:00 II4 **307.08** Receptive-field characteristics of neurons which temporally code global/fine information of faces in area TE. K. HAYASHI*; N. MATSUMOTO; K. MATSUDA; K. KAWANO; Y. SUGASE-MIYAMOTO. *AIST.*

8:00 II5 **307.09** Evaluating approaches for reconstructing face images from distributed patterns of fMRI activity. M. L. DRASCHER*; H. LEE; B. A. KUHL. *Univ. of Oregon, New York Univ.*

9:00 II6 **307.10** MEG decoding reveals early representations of face identity, age and gender that are enhanced by familiarity. K. DOBS*; L. ISIK; D. PANTAZIS; N. KANWISHER. *MIT.*

10:00 II7 **307.11** Selectivity for individual body parts within body selective visual cortex. A. BRATCH*; L. VIZIOLI; E. YACOUB; S. A. ENGEL; P. C. BURTON; D. J. KERSTEN. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

11:00 II8 **307.12** Face coding in the macaque perirhinal face patch. L. SHE*; D. Y. TSAO. *Caltech.*

8:00 II9 **307.13** Reflexive gaze following in common marmoset monkeys. S. SPADACENTA*; P. DICKE; P. THIER. *Hertie Inst. for Clin. Brain Res.*

9:00 II10 **307.14** Investigating fine-scale functional diversity in face-processing network with 7T MRI and correlation-based clustering analysis. J. ZHANG*; Y. WANG; S. HE. *Chinese Acad. of Sci., Univ. of Minnesota.*

10:00 II11 **307.15** The top-down processing of faces in occipital-temporal cortex. X. FAN*; H. SHAO; F. WANG; S. HE. *Chinese Acad. of Sci., Univ. of Minnesota.*

11:00 II12 **307.16** Effects of experience on face and body selective neurons in macaque IT. P. F. SCHADE*; M. J. ARCARO; M. S. LIVINGSTONE. *Harvard Med. Sch.*

8:00 II13 **307.17** Effect of electrical microstimulation of the anterior Superior Temporal Sulcus body patch on visual categorization tasks. S. KUMAR*; E. MERGAN; R. VOGELS. *KU Leuven.*

9:00 II14 **307.18** Binocular rivalry in macaque without active report. J. K. HESSE*; D. Y. TSAO. *Caltech.*

10:00 II15 **307.19** A framework of robust sensory processing. R. RAJ*; D. DAHLEN; K. DUYCK; C. YU. *Stowers Inst. for Med. Res.*

11:00 II16 **307.20** The representation of orientation and identity in human ventral face processing areas as measured by intracranial electroencephalography. A. ALREJA*; M. J. WARD; M. RICHARDSON; A. S. GHUMAN. *Carnegie Mellon Univ., Univ. of Pittsburgh.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 II17 **307.21** Whole-brain fMRI analysis of face-selective neurons in cortex and thalamus. S. PARK*; K. W. KOYANO; B. E. RUSS; A. P. MURPHY; R. A. BERMAN; D. A. LEOPOLD. *SCNI, Lab. of Neuropsychology, NIMH, NIH, Nathan S. Kline Inst. for Psychiatric Res., Neurophysiol. Imaging Facility, NIMH / NINDS / NEI, NIH.*

9:00 II18 **307.22** What is the contribution of faces to the representations of animate and inanimate objects in the ventral temporal cortex? D. PROKLOVA*; M. A. GOODALE. *The Brain and Mind Institute, Western Univ., The Univ. of Western Ontario.*

10:00 JJ1 **307.23** Predictive coding account of action perception: Evidence from effective connectivity. A. P. SAYGIN*; B. A. URGEN. *Univ. of California San Diego, UCSD, Univ. of Parma.*

POSTER

308. Voluntary Movements: Reaching Control: Motor Learning: Human I

Theme E: Motor Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 JJ2 **308.01** Not movement duration but movement velocity is altered by implicit adaptation to movement-amplitude perturbation in self-paced reaching task. T. HAYASHI*; K. TAKIYAMA. *Tokyo Univ. of Agr. and Technol.*

9:00 JJ3 **308.02** Different eye-hand coordination forms distinct motor memories in visuomotor adaptation. N. ABEKAWA*; H. GOMI. *NTT Communication Sci. Labs.*

10:00 JJ4 **308.03** Effect of offline transcranial alternating current stimulation at alpha and beta frequencies on visuomotor learning task. T. HARADA*; M. HARA; K. MATSUSHITA; K. KAWAKAMI; H. SUGATA. *Oita Univ., Saitama Univ., Gifu Univ., Oita Univ.*

11:00 JJ5 **308.04** The effects of subjective value for meta-learning in visuomotor transformation. T. SUGIYAMA*; N. SCHWEIGHOFER; J. IZAWA. *Univ. of Tsukuba, USC, Univ. of Tsukuba.*

8:00 JJ6 **308.05** Select changes in the fast and slow adaptive processes based on learning context. S. K. COLTMAN*; J. G. CASHABACK; P. L. GRIBBLE. *Univ. of Western Ontario, Univ. of Calgary, Western University, Canada.*

9:00 JJ7 **308.06** Adaptation and de novo learning can be distinguished by the presence of aftereffects: A system identification approach. C. YANG*; N. J. COWAN; A. HAITH. *Johns Hopkins Sch. of Med., Johns Hopkins Univ. Dept. of Mechanical Engin., Johns Hopkins Sch. of Med.*

10:00 JJ8 **308.07** The influences of a switching cue on aftereffects in visuomotor adaptation. Y. ITAGUCHI*; C. YAMADA; K. FUKUZAWA. *Keio Univ., Waseda Univ.*

11:00 KK1 **308.08** Distinct effects of motor adaptation and proprioceptive recalibration in visual error clamp tasks. E. POH*; J. A. TAYLOR. *Princeton Univ.*

8:00 KK2 **308.09** Transfer of implicit and explicit learning components of sensorimotor adaptation. X. XING*; J. SAUNDERS. *The Univ. of Hong Kong.*

9:00 KK3 **308.10** Handedness influences how limb motion is used to compensate for arbitrary dynamical perturbations. W. ZHOU*; M. DICKERSON; C. DENNIS; S. KELLY; W. M. JOINER. *George Mason Univ., George Mason Univ.*

10:00 KK4 **308.11** M1 beta oscillation control over learning rates in sensorimotor adaptation. J. M. FINE*; K. UEHARA; M. SANTELLO. *Arizona State Univ., Arizona State Univ.*

11:00 KK5 **308.12** Task practice intensity estimation in individuals with traumatic brain injury. S. K. SUBRAMANIAN*; J. J. BARELA; L. A. LANDRY; B. D. SHEFFIELD; P. A. RIVERA; E. A. KOYLE; J. W. NEELEY; K. AULTMAN; R. GRANDHI. *UT Hlth. San Antonio, Univ. Hosp. - Univ. Hlth. Syst., UT Hlth. San Antonio, UT Hlth. San Antonio, UT Hlth. San Antonio, Univ. Hosp. - Univ. Hlth. Syst.*

8:00 KK6 **308.13** Short-term structural change in fractional anisotropy correlates rapid performance improvement. M. KODAMA*; T. ONO; F. YAMASHITA; H. EBATA; M. LIU; S. KASUGA; J. USHIBA. *Keio Univ., Saiseikai Higashikanagawa Rehabil. Hosp., Iwate Med. Univ., Keio Univ. Sch. of Med., Queen's Univ., Keio Univ.*

9:00 KK7 **308.14** Gradual and abrupt virtual surgeries elicit two different muscle activation adaptation strategies. V. BARRADAS PATINO*; T. KAWASE; Y. KOIKE; N. SCHWEIGHOFER. *USC, Tokyo Med. and Dent. Univ., Tokyo Inst. Tech., USC.*

10:00 KK8 **308.15** Interlimb transfer of newly learned motor skills. G. YADAV*; P. MUTHA. *Indian Inst. of Technol.*

11:00 KK9 **308.16** Functional coupling between the basal ganglia and cerebellum during visuomotor adaptation learning. C. ARESHENKOFF*; J. Y. NASHED; D. STANDAGE; J. P. GALLIVAN. *Queens Univ., Queen's Univ., Queen's Univ.*

8:00 KK10 **308.17** Muscle-based perturbation using electrical stimulation revealed sensorimotor coordination in multiple muscles during motor adaptation. S. HAGIO*; D. NOZAKI. *The Univ. of Tokyo, Res. Fellow of the Japan Society for the Promotion of Sci.*

9:00 KK11 **308.18** Age-related decline in motor cortical GABA promotes retention of sensorimotor adaptation. G. SPITZ*; P. PETITET; H. JOHANSEN-BERG; J. O'SHEA. *Univ. of Oxford, Monash Univ., Radbound Univ.*

10:00 KK12 **308.19** The effect of task-irrelevant outcome on implicit sensorimotor adaptation. G. AVRAHAM*; D. E. PARVIN; H. E. KIM; R. IVRY. *Univ. of California, Berkeley, Univ. of California, Berkeley.*

11:00 LL1 **308.20** Learning of kinematic and dynamic transformations after spinal cord injury. Y. LEI*; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

8:00 LL2 **308.21** Individual patterns of sensorimotor adaptation to novel mechanical loads and visuomotor rotations. R. T. MOORE*; T. CLUFF. *Univ. of Calgary.*

9:00 LL3 **308.22** Reaching movements in force-fields simulated by a motor control-learning model without desired trajectory. H. KAMBARA*; H. SHIMIZU; T. KAWASE; A. TAKAGI; N. YOSHIMURA; Y. KOIKE. *Tokyo Inst. Technol.*

10:00 LL4 **308.23** Implicit adaptation is sensitive to relevance of multiple cursors. D. E. PARVIN*; J. R. MOREHEAD; K. V. DANG; A. R. STOVER; R. B. IVRY. *UC Berkeley, Harvard Univ., Univ. of California, Berkeley.*

11:00 LL5 **308.24** Neural substrates of reward and sensory error based reach adaptation. D. PALIDIS*; P. L. GRIBBLE. *Univ. of Western Ontario, Western University, Canada.*

8:00 LL6 **308.25** ▲ Value of segmental kinematic information for learning external locomotor dynamics. P. F. JALILI; S. E. GOODMAN; C. J. HASSON*. *Northeastern Univ., Northeastern Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 LL7 **308.26** Quantification of active phase corticosterone during baseline, oral nicotine, and withdrawal conditions. A. ALVARADO*; H. MATTHEWS; J. STITZEL. *Univ. of Colorado Boulder.*

10:00 LL8 **308.27** Thalamus modulates cortical gamma oscillations via a chain of phase coupling and phase amplitude coupling. S. NIKETEGHAD*; M. MALEKMOHAMMADI; E. TSOLAKI; H. SPARKS; N. POURATIAN. *Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles.*

POSTER

309. Voluntary Movements: Reaching Control: Motor Learning: Human II

Theme E: Motor Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 LL9 **309.01** The relationship between implicit and explicit visuomotor task learning in hippocampus and parietal cortex. R. LIENKÄMPER*; M. SAIF-UR-REHMAN; Y. PARPALEY; J. WELLMER; C. KLAES. *Knappschaftskrankenhaus Bochum.*

9:00 LL10 **309.02** Effects of distance control practice of lower limb on motor skill learning and transfer in patients with cerebellar disease. J. PARK*. *Korea Univ.*

10:00 LL11 **309.03** Interlimb generalization of learned bayesian prior occurs in extrinsic coordinates. C. L. HEWITSON; P. F. SOWMAN; D. M. KAPLAN*. *Macquarie Univ., Macquarie Univ.*

11:00 LL12 **309.04** Perception and visuomotor adaptation share the same psychological space. C. CAMPAGNOLI*; J. A. TAYLOR. *Princeton Univ.*

8:00 LL13 **309.05** Searching for sensitization to visuomotor errors with task-irrelevant clamped feedback. J. R. MOREHEAD*; H. E. KIM; D. E. PARVIN; R. IVRY; M. A. SMITH. *Harvard Univ., Univ. of California, Berkeley, UC Berkeley, Univ. California, Harvard Univ.*

9:00 LL14 **309.06** Suppression of lateral prefrontal cortex impairs somatosensory working memory. A. SIDARTA*; N. KUMAR; T. F. MANNING; D. J. OSTRY. *McGill Univ., Indian Inst. of Technol. Gandhinagar, Haskins Labs.*

10:00 MM1 **309.07** Somatosensory but not primary motor cortex is involved in the consolidation of motor memory. N. KUMAR*; T. F. MANNING; A. SIDARTA; D. J. OSTRY. *Indian Inst. of Technol. Gandhinagar, McGill Univ., Haskins Labs.*

11:00 MM2 **309.08** Environmental compliance modulates the rate of motor learning. L. ALHUSSEIN*; A. E. BRENNAN; M. A. SMITH. *Harvard Univ., Harvard Univ., Harvard Univ.*

8:00 MM3 **309.09** Force production during holding suggests presence of a neural integrator for reaching. S. T. ALBERT*; R. SHADMEHR. *Johns Hopkins Sch. of Med.*

9:00 MM4 **309.10** Movement history biases action planning more than action execution. H. E. KIM*; D. E. PARVIN; R. IVRY. *Univ. of California, Berkeley, UC Berkeley, Univ. California.*

10:00 MM5 **309.11** Time course of structural plasticity induced by different types of motor learning. F. JACOBACCI*; G. LERNER; A. BORÉ; M. R. HIDALGO-MARQUES; K. TAVERNA-CHAIM; E. AMARO, Jr.; J. ARMONY; J. JOVICICH; J. DOYON; V. DELLA MAGGIORE. *Sch. of Medicine, Univ. of Buenos Aires, Natl. Council for Scientific and Tech. Res. (CONICET), CRIUGM - Univ. of Montreal, PISA, Faculdade de Medicina FMUSP, Univ. de Sao Paulo, McGill Univ., Ctr. for Mind/Brain Sci. (CIMEC), Univ. of Trento, BIC, MNI, McGill Univ.*

11:00 MM6 **309.12** Role of attention in motor performance on a novel functional upper extremity task: Evidence from aging and implications for motor learning. P. WANG; D. S. PETERSON; S. Y. SCHAEFER*. *Arizona State Univ., Arizona State Univ.*

8:00 MM7 **309.13** Visuomotor adaptation increases the number of spindles associated with slow oscillation during NREM sleep. A. SOLANO; L. A. RIQUELME; V. M. DELLA MAGGIORE*. *IFIBIO Houssay, Sch. of Medicine, UBA.*

9:00 MM8 **309.14** The effects of limb-based visual feedback on human's reaching movements. F. ZAHED*; M. BERNIKER. *Univ. of Illinois at Chicago.*

10:00 MM9 **309.15** Modulation of the task-related functional connectivity during motor adaptation. J. C. MIEHLBRADT*; C. PIERELLA; C. GIANG; N. KINANY; E. PIRONDINI; M. COSCIA; S. MICERA. *EPFL STI CPN TNE, Ecole Polytechnique Federale de Lausanne, Ecole Polytechnique Fédérale de Lausanne, Wyss Ctr. for Bio and Neuroenrineering, Scuola Superiore Sant'Anna.*

11:00 MM10 **309.16** Generalization of visuomotor skill learning across movement directions. P. N. PARMAR*; J. L. PATTON. *Shirley Ryan Ability Lab., Shirley Ryan Ability Lab.*

8:00 MM11 **309.17** Neural basis for learning novel sensorimotor maps. F. T. VAN VUGT*; Y. ZENG; D. J. OSTRY. *McGill Univ., McGill Univ.*

9:00 MM12 **309.18** Impact of baseline reaching performance on motor adaptation across age. K. VANDEVOORDE*; J. ORBAN DE XIVRY. *KU Leuven.*

10:00 MM13 **309.19** Implicit adaptation does not decline with aging as revealed by measures of spontaneous recovery. P. HERMANS*; Y. LAM; K. VANDEVOORDE; J. ORBAN DE XIVRY. *KU Leuven.*

11:00 MM14 **309.20** Motor practice under transcranially induced variable brain states improves the retention of motor memories. M. TAKEMI*; D. NOZAKI. *The Univ. of Tokyo.*

8:00 NN1 **309.21** Variety of target position in force-field reaching task affects retention of the motor skill. T. OGASAWARA*; M. TAKEMI; D. NOZAKI. *Grad. Sch. of Education, Univ. of Tokyo.*

9:00 NN2 **309.22** Looking for a sign of failures: Reaching error triggered by slowing down of movement in the preceding trials. T. KOBAYASHI*; M. TAKEMI; D. NOZAKI. *Univ. of Tokyo.*

10:00 NN3 **309.23** Do movement sequences and consequences facilitate dual adaptation to opposing visuomotor rotations? M. N. AYALA*; D. Y. HENRIQUES. *York Univ., York Univ.*

11:00 NN4 **309.24** The fast and slow process differ with feedback but not age. J. E. RUTTLE*; B. M. 'T HART; A. STÄUBLE; T. EGGERT; D. Y. HENRIQUES. *York Univ., York Univ., Univ. of Zurich, Ludwig-Maximilians Univ. München/ Dept. of Neurol., York Univserity.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 NN5 **309.25** Proprioception and prediction do not optimally integrate in hand localization. B. M. 'T HART*; M. N. AYALA; D. Y. HENRIQUES. *York Univ., York Univ., York Univ.*

POSTER

310. Voluntary Movements: Cortical Planning and Execution: Neurophysiology: Animal I

Theme E: Motor Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 NN6 **310.01** Adaptations of motor cortex activity in the planning and execution of sensory selection. K. ARULJOTHI; E. ZAGHA*. *Univ. of California Riverside.*

9:00 NN7 **310.02** Functional plasticity of motor cortex in a lateralized whisker detection task. B. ZAREIAN*; Z. ZHANG; E. ZAGHA. *Univ. of California Riverside, Univ. of California, Riverside.*

10:00 NN8 **310.03** Investigating kinesthesia in the primate somatosensory cortex. R. DARIE*; D. A. BORTON. *Brown Univ., Brown Univ., Carney Inst. for Brain Sci., Dept. of Veterans Affairs, Providence Med. Center, Ctr. for Neurorestoration and Neurotechnology.*

11:00 NN9 **310.04** Motor cortical correlates of obstacle avoidance during locomotion in non-human primates. D. Y. XING*; D. A. BORTON. *Brown Univ., Brown Univ., Providence Med. Ctr., Ctr. for Neurorestoration and Neurotechnology.*

8:00 NN10 **310.05** The supplementary motor area, but not motor cortex, produces neural trajectories consistent with a network that can autonomously generate long-timescale sequences. A. A. RUSSO*; R. KHAJEH; S. R. BITTNER; S. PERKINS; J. CUNNINGHAM; L. ABBOTT; M. M. CHURCHLAND. *Columbia Univ., Columbia Univ., Columbia Univ.*

9:00 NN11 **310.06** Preparation of movement sequences in motor cortex. A. J. ZIMNIK*; M. M. CHURCHLAND. *Columbia Univ., Columbia Univ.*

10:00 NN12 **310.07** LFP signature of an optimal preparatory subspace in primate reaching and grasping motor networks. J. B. HYNES*; C. E. VARGAS-IRWIN; J. P. DONOGHUE. *Brown.*

11:00 NN13 **310.08** Stability of single-unit and ensemble-level tuning in primate primary motor and premotor cortex through extensive practice of a motor skill. K. PAROO*; C. E. VARGAS-IRWIN; L. FRANQUEMONT; J. P. DONOGHUE. *Brown Univ., Brown Univ., Wyss Ctr. for Bio and Neuro Engin.*

8:00 NN14 **310.09** Premotor cortex contributes to the planning of visually-guided gait modifications in the cat. T. NAKAJIMA*; N. FORTIER-LEBEL; N. YAHIAOUI; T. DREW. *Asahikawa Med. Univ., Univ. Montreal.*

9:00 NN15 **310.10** Long trains of stimulation applied to the cat's premotor cortex during locomotion modify gait. N. FORTIER LEBEL*; T. DREW. *Univ. Montreal.*

10:00 NN16 **310.11** Neural activity during corrective, precise arm movements displays cyclic dynamics. A. G. ROUSE*. *Univ. of Rochester.*

11:00 OO1 **310.12** Neurons in somatosensory and motor cortices encode hand postures, not joint velocities. J. GOODMAN*, JR; A. S. LEE; E. V. OKOROKOVA; A. K. SURESH; N. G. HATSOPOULOS; S. J. BENSMAIA. *Univ. of Chicago.*

8:00 OO2 **310.13** Parallel motor pathways in the neocortex of tree shrews and monkeys. M. K. BALDWIN*; L. A. KRUBITZER. *Univ. of California Davis, UC Davis.*

9:00 OO3 **310.14** Decoding hand kinematics from neuronal populations in primary motor and somatosensory cortices during grasping. E. OKOROKOVA*; J. GOODMAN; S. LEE; G. TABOT; A. RAJAN; N. G. HATSOPOULOS; S. J. BENSMAIA. *Univ. of Chicago, Univ. of Chicago, Quadrant Biosci., Univ. of Chicago.*

POSTER

311. Voluntary Movements: Cortical Planning and Execution: Neuroimaging

Theme E: Motor Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 OO4 **311.01** Size of the spatial correlation between ECoG and fMRI activity. G. PIANTONI*; D. HERMES; N. F. RAMSEY; N. PETRIDOU. *Univ. Med. Ctr. Utrecht, Stanford Univ., Univ. Med. Ctr. Utrecht.*

9:00 OO5 **311.02** Changes in corticospinal excitability reflect hand preferences for reaching during whole-body motion. L. OOSTWOUD WIJDENES; S. C. WYNN; B. ROESINK; D. J. L. G. SCHUTTER; L. P. SELEN; W. MEDENDORP*. *Radboud Univ., Radboud Univ. Nijmegen.*

10:00 OO6 **311.03** Delineation of effector-specific representations in M1 using ultra-high resolution (7T) imaging. J. GOOIJERS*; A. KAAS; A. ROEBROECK; S. P. SWINNEN. *KU Leuven, Maastricht Univ.*

11:00 OO7 **311.04** Cognitive-motor integration performance and its association with white matter integrity in females. J. M. HURTUBISE; D. J. GORBET*; L. E. SERGIO. *York Univ., York Univ., York Univ.*

8:00 OO8 **311.05** Exploring changes in motor network physiology and complexity with HD-tDCS and fMRI. S. LEFEBVRE*; K. JANN; A. SCHMIESING; K. ITO; M. JOG; N. SCHWEIGHOFER; D. J. J. WANG; S. LIEW. *USC, USC, USC.*

9:00 OO9 **311.06** Effect of the viewpoint on motor learning and brain activity. H. KADOTA*; S. SAWADA. *Kochi Univ. of Technol.*

10:00 OO10 **311.07** Receptor architecture of the macaque monkey superior parietal lobule. D. IMPIERI; K. ZILLES; M. NIU; L. JANKOVIC-RAPAN; C. GALLETTI; N. PALOMERO-GALLAGHER*. *Univ. of Bologna, Res. Ctr. Juelich.*

11:00 OO11 **311.08** Test-retest reliability of corticospinal tract integrity in chronic stroke. A. F. LEWIS*; M. K. MYERS; J. HEISER; M. B. KOLAR; J. C. STEWART. *Univ. of South Carolina.*

8:00 OO12 **311.09** Dissociation of neural substrates for motor planning and execution in learning multiple visuomotor mappings. S. KIM*; K. LIM. *Inst. of Basic Sci.*

9:00 OO13 **311.10** Interactions between auditory and motor networks during command-driven actions. D. GALE*; C. H. HONDA; I. S. JOHNSRUDE; J. R. FLANAGAN; J. P. GALLIVAN. *Queen's Univ., Univ. of Western Ontario.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 OO14 **311.11** Stability of cortical muscle representations: TMS motor mapping test-retest study. V. MOISEEVA*; M. NAZAROVA; P. NOVIKOV; E. IVANINA; K. KOZLOVA; V. NIKULIN. *HSE, Max Planck Inst.*

11:00 OO15 **311.12** The role of the interaction between action generation and hand identity in self-other distinction. L. UHLMANN*; M. PAZEN; B. VAN KEMENADE; T. KIRCHER; B. STRAUBE. *Philipps Univ. Marburg.*

8:00 OO16 **311.13** ● Single trial investigation of flash-cued hand clenching through scalp EEG and source localization. Y. ZHANG*; T. T. NGUYEN; T. POTTER; R. G. GROSSMAN. *Univ. of Houston, Univ. of Houston, Houston Methodist Hosp.*

9:00 OO17 **311.14** Mesoscopic imaging of the mouse cerebral cortical network dynamics during spontaneous behavior. S. WEST*; L. S. POPA; R. E. CARTER; G. CHEN; J. D. ARONSON; L. GHANBARI; S. B. KODANDARAMAIAH; T. J. EBNER. *Univ. of Minnesota Twin Cities, Univ. of Minnesota Twin Cities.*

10:00 OO18 **311.15** Craniobot: An open source robotic neurosurgery platform for automated craniotomies in small animals. M. L. RYNES; L. GHANBARI; J. J. HU; D. SOUSA SCHULMAN; M. LAROQUE; G. JOHNSON; G. SHULL; S. B. KODANDARAMAIAH*. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota Twin Cities.*

11:00 PP1 **311.16** Functional interactions within the mouse cerebral cortical network during spontaneous behavior. L. S. POPA*, Mr; S. WEST; R. E. CARTER; G. CHEN; J. D. ARONSON; L. GHANBARI; S. B. KODANDARAMAIAH; T. J. EBNER. *Univ. of Minnesota, Univ. of Minnesota.*

8:00 PP2 **311.17** Therapeutic and neurophysiological effect of combining physical and mental practice in breast cancer survivors. S. H. SALEH*; D. ALLEXANDRE; A. HOXHA; G. H. YUE. *Kessler Fndn., Rutgers Univ.*

9:00 PP3 **311.18** EEG source-space connectivity during motor imagery versus motor practice in breast cancer survivors. D. ALLEXANDRE*; A. HOXHA; V. SHENOY; S. H. SALEH; G. H. YUE. *Kessler Fndn.*

10:00 PP4 **311.19** ● Understanding the neural dynamics of Traumatic Brain Injury participants during the lower limb balance dysfunction task: An EEG source-space connectivity study. V. SHENOY HANDIRU*; A. HOXHA; S. SALEH; G. YUE; D. ALLEXANDRE. *Kessler Fndn., Rutgers Biomed. Hlth. Sci., Kessler Foundation.*

POSTER

312. Brain-Machine Interface: Reaching Movements

Theme E: Motor Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 PP5 **312.01** Expanding the reach of upper-limb prosthetics: Restoring sensorimotor function after complex regional pain syndrome, long-term hand disuse and an elective transradial amputation. J. A. GEORGE*; M. R. BRINTON; T. S. DAVIS; M. D. PASKETT; D. T. KLUGER; C. C. DUNCAN; D. T. HUTCHINSON; G. A. CLARK. *Univ. of Utah, Univ. of Utah, Univ. of Utah, Univ. of Utah.*

9:00 PP6 **312.02** A robust emg-based hand gesture classifier controlling a 3d-printed bionic arm actuator. A. MOIN*; A. ZHOU; A. RAHIMI; S. BENATTI; A. MENON; S. TAMAKLOE; J. TING; N. YAMAMOTO; Y. KHAN; F. BURGHARDT; L. BENINI; A. C. ARIAS; A. ARAUJO; J. M. RABAEY. *Univ. of California, Berkeley, ETH Zurich, Univ. of Bologna, Univ. Politécnica de Madrid.*

10:00 PP7 **312.03** ● Development of a portable take-home system for control of advanced prostheses. M. BRINTON*; E. L. BARCIKOWSKI; T. S. DAVIS; M. D. PASKETT; J. G. NIEVEEN; D. T. KLUGER; J. A. GEORGE; C. C. DUNCAN; D. J. WARREN; G. A. CLARK. *Univ. of Utah, Ripple, Univ. of Utah, Univ. of Utah, Univ. of Utah.*

11:00 PP8 **312.04** Representation and performance of multiple effectors in closed-loop cortical control recorded from a single array in human posterior parietal cortex. C. Y. ZHANG*; T. AFLALO; D. OUELLETTE; E. ROSARIO; N. POURATIAN; R. A. ANDERSEN. *Caltech, Caltech, Casa Colina Hosp. and Centers for Healthcare, Casa Colina Hosp. and Centers For Healthcare, Univ. of California Los Angeles, Calif Inst. of Technol.*

8:00 PP9 **312.05** Separability of neural population structures in human motor cortex during gross and fine upper limb movements. D. A. ROYSTON*; A. P. BATISTA; E. C. TYLER-KABARA; M. L. BONINGER; R. A. GAUNT; J. L. COLLINGER. *Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, VA Pittsburgh Healthcare Syst.*

9:00 PP10 **312.06** Biomimetic intraneural sensory encoding enhances sensation naturalness, tactile sensitivity and manual dexterity in a bidirectional prosthesis. G. VALLE*; A. MAZZONI; F. IBERITE; E. D'ANNA; I. STRAUSS; G. GRANATA; M. CONTROZZI; F. CLEMENTE; G. ROGNINI; C. CIPRIANI; T. STIEGLITZ; F. M. PETRINI; P. M. ROSSINI; S. MICERA. *Scuola Superiore Sant'Anna, EPFL, Universita' Cattolica del Sacro Cuore, Univ. of Freiburg.*

10:00 PP11 **312.07** Modeling neural ensemble dynamics in motor cortex leads to improved EMG decoding of multiple muscles in goal-directed reaching tasks. L. N. WIMALASENA*; A. CHERIAN; L. E. MILLER; C. PANDARINATH. *Emory Univ. / Georgia Tech., Northwestern Univ., Emory Univ.*

11:00 PP12 **312.08** Neural control strategies of a kinematically redundant brain-machine interface. A. YOU*; V. ATHALYE; S. GOWDA; H. G. MOORMAN; J. M. CARMENA. *The UC Berkeley - UCSF Grad. Program in Bioengi, Columbia Univ., UC Berkeley, UC Berkeley, UC Berkeley.*

8:00 PP13 **312.09** Optimizing parameters for model-based control of prosthetic limbs. C. BERINGER*, III; M. MANSOURI; A. SOBINOV; M. BOOTS; V. GRITSENKO; D. WEIR; T. SIMPSON; L. E. FISHER; J. L. COLLINGER; M. C. MUNIN; M. L. BONINGER; R. A. GAUNT. *Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition, Univ. of Pittsburgh, West Virginia Univ., Univ. of Pittsburgh.*

9:00 PP14 **312.10** Clinical training platform for ECoG-based motor BCI control of multi-degrees of freedom effectors. G. CHARVET*; S. COKGUNGOR; T. AKSENOVA; A. ELISEYEV; A. VERNEY; T. COSTECALDE; A. BENABID. *Univ. Grenoble Alpes, CEA, LETI, CLINATEC, MINATEC, Univ. Grenoble Alpes, CEA, LIST, CLINATEC, MINATEC.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 PP15 **312.11** A novel brain-machine-interface system for severely impaired stroke patients. A. RAMOS MURGUIALDAY*; P. KHANNA; A. SARASOLA-SANZ; N. IRASTORZA-LANDA; J. KLEIN; J. HYUNG; C. CHUECA; L. SANTISTEBAN; A. BENGOETXEA; I. POMPOSO; A. LOPEZ DE MUNAIN; E. RAMOS; N. BIRBAUMER; J. M. CARMENA. *Univ. of Tubingen, Techalia, UC Berkeley - Helen Wills Neurosci. Inst., Univ. of Tubingen, TECNALIA, Je Hyung, Biodonostia, Basque Country Univ., Univ. Libre de Bruxelles, Cruces Univ. Hosp., Biodonostia, Biodonostia, Niels, UC Berkeley.*

11:00 PP16 **312.12** Interference of overt movements with BCI control in a human with tetraplegia. K. M. QUICK*; B. L. BURGER; A. J. HERRERA; J. M. WEISS; M. L. BONINGER; R. A. GAUNT; J. L. COLLINGER. *Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition, Univ. of Pittsburgh, Dept. of Veterans Affairs Med. Ctr., McGowan Inst. for Regenerative Med., Clin. and Translational Sci. Inst.*

8:00 PP17 **312.13** Restoring forelimb movement after spinal cord injury with cortical-local field potential control of epidural spinal stimulation. S. SAMEJIMA*; A. KHORASANI; A. BOISSENIN; N. M. TOLLEY; V. RANGANATHAN; J. R. SMITH; C. T. MORITZ. *Univ. of Washington, The Ctr. for Sensorimotor Neural Engineering, An NSF Engin. Res. Ctr., Univ. of Washington Inst. for Neural Engin., Washington State Spinal Cord Injury Consortium, Iran Univ. of Sci. and Technol., Univ. of Washington, Univ. of Washington, Univ. of Washington.*

9:00 PP18 **312.14** Coordinate frames in human cortex during an imagined reaching task. M. JAFARI*; T. AFLALO; S. KELLIS; S. CHIVUKULA; M. ARMENTA SALAS; L. BASHFORD; H. JO; E. ROSARIO; D. OUELLETTE; K. PEJSA; B. LEE; N. POURATIAN; C. LIU; R. A. ANDERSEN. *Caltech, Casa Colina Hosp. and Centers For Healthcare, USC, UCLA.*

10:00 PP19 **312.15** Temporal stabilized arm movement for efficient neuroprosthetic control by individuals with tetraplegia. I. IOSSIFIDIS*; M. A. HUSSAIN; C. KLAES. *Ruhr West Univ. of Applied Sci., Ruhr West Univ. of Applied Sci., Ruhr Univ. Bochum.*

11:00 PP20 **312.16** Decoding trajectory of a robot arm viewed in simulation from ecog recording. J. A. PALMER*; M. HIRATA. *Osaka Univ., Osaka Univ.*

8:00 PP21 **312.17** Networking properties of primary motor cortical neurons can predict decoding performance of upper limb movements in advance. M. KIM*; J. SOHN; S. KIM. *UNIST, Daegu-Gyeongbuk Med. Innovation Fndn., Ulsan Natl. Inst. of Sci. and Technol.*

9:00 PP22 **312.18** ● Neural features of intrinsic error recognition in human motor cortex during intracortical brain-computer interface use. C. DUNLAP; N. SKOMROCK; H. TRIVEDI; N. ANNETTA; M. SCHWEMMER; S. COLACHIS IV; G. SHARMA; D. FRIEDENBERG; P. D. GANZER; M. A. BOCKBRADER*. *Ohio State Univ., Battelle Mem. Inst., Ohio State Univ. Col. of Med.*

10:00 QQ1 **312.19** Neural signal stabilization improves human intracortical BCI control. A. J. HERRERA*; A. D. DEGENHART; W. E. BISHOP; E. R. OBY; E. C. TYLER-KABARA; S. M. CHASE; A. P. BATISTA; B. M. YU; J. L. COLLINGER. *Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition, Univ. of Pittsburgh, Carnegie Mellon Univ., Univ. of Pittsburgh, Univ. of Pittsburgh, McGowan Inst. for Regenerative Med., Carnegie Mellon Univ., Carnegie Mellon Univ., DVA.*

11:00 QQ2 **312.20** Neural modulation in other cortical areas while a BCI is controlled with M1 units. Z. LIU*; M. H. SCHIEBER. *Univ. of Rochester, Univ. of Rochester.*

8:00 QQ3 **312.21** Decoding sustained cyclic movements from low-dimensional neural states. S. M. PERKINS*; K. E. SCHROEDER; Q. WANG; M. M. CHURCHLAND. *Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ.*

POSTER

313. Rhythmic Motor Pattern Generation: Stability and Variability

Theme E: Motor Systems

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 QQ4 **313.01** Mechanisms of temperature robustness and signatures of animal-to-animal variability in a rhythmic motor circuit. H. D. RODGERS*; L. M. ALONSO; E. MARDER. *Brandeis Univ.*

9:00 QQ5 **313.02** The dynamics of ionic currents in conductance based models of neural activity during normal function and failure. L. M. ALONSO*; E. MARDER. *Brandeis Univ., Volen Ctr.*

10:00 QQ6 **313.03** ▲ Exploring robustness in small circuits of conductance based model neurons using landscape optimization. N. GUZMAN*; L. M. ALONSO; E. MARDER. *Brandeis Univ., Brandeis Univ.*

11:00 QQ7 **313.04** Network degeneracy and dynamics of task switching in the feeding circuit in *Aplysia.* Y. WANG*; K. R. WEISS; E. C. CROPPER. *Icahn Sch. of Med. At Mount Sinai.*

8:00 QQ8 **313.05** Dynamic changes in the character of a motor program may be determined by the complement of projection neurons activated. C. G. EVANS*; M. A. BARRY; M. H. PERKINS; J. JING; K. R. WEISS; E. C. CROPPER. *Icahn Sch. of Med. At Mount Sinai, Nanjing Univ.*

9:00 QQ9 **313.06** Robustness of neuromechanical model with two layer CPGs and muscle synergies. A. J. HUNT; K. DENG; R. D. QUINN*. *Portland State Univ., Case Western Reserve Univ.*

10:00 QQ10 **313.07** Circuit and computational analyses reveal specific contributions of synaptic strengths and noise to motor variability in a feedforward network. G. ZHANG*; K. YU; T. WANG; T. CHEN; W. YUAN; F. YANG; Z. LE; S. CHEN; F. LIU; E. C. CROPPER; K. R. WEISS; J. JING. *Nanjing Univ., Nanjing Univ., Mt Sinai Sch. Med.*

11:00 QQ11 **313.08** Cellular switches orchestrate rhythmic circuits. A. FRANCI*; G. DRION; R. SEPULCHRE. *Dep. Matematicas, Facultad De Ciencias, UNAM, Univ. of Liege, Univ. of Cambridge.*

8:00 QQ12 **313.09** ▲ Adaptation of neurons in the crab stomatogastric ganglion to changes in extracellular potassium concentrations. L. HE*; E. MOROZOVA; M. RUE; D. J. POWELL; E. MARDER. *Brandeis Univ.*

9:00 QQ13 **313.10** Characterizing conductance variations in model crab cardiac ganglion networks. J. WANG; P. SAMARTH; T. BANKS; D. R. KICK; D. J. SCHULZ; S. S. NAIR*. *Univ. of Missouri Columbia, Univ. of Missouri Columbia, Univ. of Missouri Columbia.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 DP07/QQ14 **313.11** (Dynamic Poster) Similarities and distinctions among electroconvulsion- and proconvulsant-induced seizure discharges and native motor patterns during flight and grooming: Quantitative analysis of spike firing patterns in *Drosophila* flight muscles. A. IYENGAR*; J. LEE; C. WU. *Univ. of Iowa.*

11:00 QQ15 **313.12** Balanced interaction of the Na/K pump and persistent sodium current as a robust mechanism of bursting activity. G. S. CYMBALYUK*; C. ERXLEBEN; A. WENNING; R. L. CALABRESE. *Georgia State Univ., Emory Univ.*

8:00 QQ16 **313.13** Neuromodulation of component variability and circuit output variability. A. C. SCHNEIDER*; D. M. BUCHER; F. NADIM. *New Jersey Inst. of Technol., NJIT & Rutgers U-Newark.*

POSTER

314. Behavioral Neuroendocrinology: Hormones and Cognition I

Theme F: Integrative Physiology and Behavior

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 QQ17 **314.01** Monitoring fluctuations in brain extracellular estradiol levels in freely-moving female rats. S. AJAYI*; A. AMER; P. GOLD; D. KOROL. *Syracuse Univ.*

9:00 QQ18 **314.02** Estradiol modulates extracellular hippocampal glucose and lactate during spatial working memory in female rats. W. WANG*; D. L. KOROL. *Syracuse Univ.*

10:00 QQ19 **314.03** The rapid effects of hippocampally-synthesized estrogens on recognition and spatial learning in ovariectomized mice. T. MARTIN; L. KING; M. KLEMENS; R. ROSE; E. CHOLERIS. *Univ. of Guelph.*

11:00 QQ20 **314.04** The role of androgen receptors and hippocampal estradiol synthesis in memory consolidation in male mice. W. A. KOSS*; R. L. ALF; J. J. TUSCHER; K. M. FRICK. *Univ. of Wisconsin-Milwaukee.*

8:00 QQ21 **314.05** Development of a novel estrogen receptor beta agonist for enhancing memory consolidation in female mice. J. KIM*; A. M. HANSON; I. S. PERERA; W. A. DONALDSON; D. S. SEM; K. M. FRICK. *Univ. of Wisconsin-Milwaukee, Concordia Univ. Wisconsin, Marquette Univ.*

9:00 QQ22 **314.06** The interplay between gonadal sex hormones and dorsal hippocampus D2-type dopamine receptors in the mediation of social learning in mice. N. BASS*; J. ANTHONYPILLAI; R. MATTA; E. CHOLERIS. *Univ. of Guelph.*

10:00 QQ23 **314.07** Behavioral effects of 17B-estradiol and progesterone on the OVX female rat response to ketamine. C. GAGNE*; S. BENKETIRA; V. BOULOS; M. HERON; J. LACASSE; N. TITO; W. BRAKE. *Concordia Univ.*

11:00 QQ24 **314.08** The role of APOE genotype, sex, and 17-beta estradiol in a mouse model of Alzheimer's disease. L. TAXIER*; S. M. PHILIPPI; J. M. YORK; M. LADU; K. M. FRICK. *Univ. of Wisconsin-Milwaukee, Univ. of Illinois at Chicago Dept. of Anat. and Cell Biol., Univ. of Illinois, Chicago, Univ. of Wisconsin-Milwaukee.*

8:00 QQ25 **314.09** Time-dependent effects of bisphenol A and hop extracts exposure during adolescence on testosterone and corticosterone secretion in male Wistar rats. A. MORIN*; E. L. PERSON; L. VAN DE BEECK; H. PLAMONDON. *Univ. of Ottawa, Univ. Ottawa.*

9:00 QQ26 **314.10** Effects of Bisphenol A and hop extract exposure during adolescence on anxiety- and depressive-like behaviors, memory, and social interaction in adult male rats. E. L. PERSON*; A. MORIN; L. VAN DE BEECK; H. PLAMONDON. *Univ. of Ottawa, Univ. Ottawa.*

10:00 RR1 **314.11** Impact of gonadal hormone exposure on measures of sex differences in impulsivity in adult rats. J. S. DARLING*; L. DARTEZ; J. TAYLOR; A. MEHROTRA; W. SMITH; J. M. DANIEL. *Tulane Univ., Tulane Brain Inst., Tulane Psychology Dept.*

11:00 RR2 **314.12** Chronic immobilization stress primes the hippocampal opioid system for oxycodone associated learning in female but not male rats. B. REICH; Y. ZHOU; E. GOLDSTEIN; S. S. SRIVATS; N. H. CONTOREGGI; J. F. KOGAN; K. T. BEN; B. S. MCEWEN; M. J. KREEK; T. A. MILNER*; J. D. GRAY. *Weill Cornell Med., The Rockefeller Univ., The Rockefeller Univ.*

8:00 RR3 **314.13** The effects of continuous and previous estradiol exposure on nuclear and membrane estrogen receptor α in the hippocampus of aging ovariectomized rats. N. E. BAUMGARTNER*; M. E. SCHOENBERG; M. A. MODI; J. M. DANIEL. *Tulane Univ., Tulane Univ., Tulane Univ.*

9:00 RR4 **314.14** Determining which estrogen receptor rapidly interacts with oxytocin to mediate social recognition. P. PALETTA*; A. C. COLLINS; E. CHOLERIS. *Univ. of Guelph, Univ. of Guelph.*

10:00 RR5 **314.15** Progestogens impact cognition during the transition to menopause: Dissociation of progestogen- and memory- type. V. L. PENA*; S. V. KOEBELE; S. NORTHUP-SMITH; V. E. WONER; R. MELIKIAN; S. PATEL; H. L. BULEN; D. LADWIG; C. A. DYER; L. P. MAYER; H. A. BIMONTE-NELSON. *Arizona State Univ., Arizona Alzheimer's Consortium, Senestech, Inc.*

11:00 RR6 **314.16** Behavior and brain: Uncovering relationships between 17-beta-estradiol dose, spatial memory performance, and protein expression in the brain of middle-aged ovariectomized rats. A. V. PRAKAPENKA*; R. NEELEY; C. BERNS-LEONE; S. NORTHUP-SMITH; V. L. PEÑA; A. A. GEORGE; R. MELIKIAN; S. PATEL; D. S. LADWIG; R. HIROI; A. L. MANN; M. J. VALENZUELA SANCHEZ; R. W. SIRIANNI; H. A. BIMONTE-NELSON. *Arizona State Univ., Arizona Alzheimer's Consortium, Barrow Neurolog. Inst., Arizona State Univ., Red Mountain High Sch.*

8:00 RR7 **314.17** Hysterectomy with ovarian conservation uniquely impacts cognition and serum hormone profiles in a rat model. S. V. KOEBELE*; J. M. PALMER; B. HADDER; R. MELIKIAN; C. FOX; I. M. STROUSE; D. DENARDO; C. GEORGE; E. DAUNIS; H. A. BIMONTE-NELSON. *Arizona State Univ., Arizona Alzheimer's Consortium, Arizona State Univ., Senestech Inc.*

9:00 RR8 **314.18** An evaluation of short-term and long-term ovarian hormone deprivation in the APP/PS1 mouse model of Alzheimer's disease. V. E. WONER*; J. M. PALMER; S. V. KOEBELE; I. M. STROUSE; M. N. WILLEMAN; V. L. PENA; W. WINSLOW; A. CACCAMO; S. ODDO; H. A. BIMONTE-NELSON. *Arizona State Univ., Arizona Alzheimer's Consortium, Translational Genomics Res. Inst., Biodesign Inst., Arizona State Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 RR9 **314.19** Sex differences in olfaction and executive function among young adults. A. A. WALF*; D. Z. TAYLOR; A. KHAN; L. D. REID. *Rensselaer Polytechnic Inst.*

11:00 RR10 **314.20** ▲ The effects of olfactory deficits on executive function among human subjects. D. TAYLOR*; A. KHAN; L. REID; A. A. WALF. *Rensselaer Polytechnic Inst.*

POSTER

315. Stress and the Brain: Cellular Actions

Theme F: Integrative Physiology and Behavior

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 RR11 **315.01** ▲ Sex diferences in central activation of protooncogene c-fos after exposition to environmental noise. D. FERNANDEZ-QUEZADA; S. LUQUIN; A. GARCÍA-ZAMUDIO; J. GARCIA-ESTRADA; Y. RUVALCABA-DELGADILLO; J. FERNANDO*. *Univ. De Guadalajara, Univ. de Guadalajara.*

9:00 RR12 **315.02** Stress elicits contrasting effects on astrocytes not only in the hippocampus versus amygdala, but also between neurons and astrocytes within the amygdala. S. NASKAR*; S. CHATTARJI. *Natl. Ctr. For Biol. Sci., Ctr. for Brain Develop. and Repair, Inst. for Stem Cell Biol. and Regenerative Med., Ctr. for Integrative Physiology, Deanery of Biol. Sciences, Univ. of Edinburgh.*

10:00 RR13 **315.03** Identification of molecular mechanisms of stress-induced changes in human emotion processing. M. MEIJER; A. KEO; J. M. C. VAN LEEUWEN; O. C. MEIJER; C. H. VINKERS; A. MAHFOUZ*. *Leiden Univ. Med. Ctr., Univ. Med. Ctr. Utrecht.*

11:00 RR14 **315.04** Impaired epinephrine responses to acute insulin-induced hypoglycemia in germ free mice. B. B. NANKOVA*; P. GIRI; F. HU; E. F. LA GAMMA. *New York Med. College, BCHP, New York Med. College/Maria Fareri Children's Hosp., New York Med. College, Boston Children's Hlth. Physicians, Maria Fareri Children's Hosp.*

8:00 SS1 **315.05** Aberrant CRH expression in the nucleus accumbens of adolescent mice after early-life adversity: A mechanism of anhedonia? Y. CHEN*; C. A. ITOGA; A. K. SHORT; J. L. BOLTON; X. XU; T. Z. BARAM. *Univ. of California Irvine, Univ. of California Irvine, Univ. of California Irvine.*

9:00 SS2 **315.06** Molecular alterations induced by yersinia pestis, dengue virus, and staphylococcus enterotoxin b under the background of battlefield-like stress. S. MUHIE*; R. CAMPBELL; A. GAUTAM; R. HAMMAMIEH; C. CUMMINGS; D. YANG; M. JETT. *Systems Biol. Program/ Genevausa, Advanced Biomed. Computing Center, NCI, USACEHR, Private Consulting, Georgetown Univ., US Army Med. Res. & MC, CEHR.*

10:00 SS3 **315.07** Sex differences in amyloid-beta monomer distribution and neuronal injury in the coeruleo-cortical circuit of mice conditionally overexpressing corticotropin releasing factor in the forebrain. J. A. ROSS*; B. A. S. REYES; V. B. RISBROUGH; E. J. VAN BOCKSTAELE. *Drexel Univ. Col. of Med., Univ. of California San Diego.*

11:00 SS4 **315.08** ▲ Examining genetic differences in binge drinking at baseline and in response to stress. E. DIMITRATOS*; B. SACHS. *Villanova Univ., Villanova Univ.*

8:00 SS5 **315.09** Dendritic spine densities in hippocampus and amygdala reflect individual differences in aggressive and violent behavior in wild derived male rats. S. ANILKUMAR*; D. PATEL; B. BUWALDA; S. CHATTARJI. *Natl. Ctr. for Biol. Sci., Manipal Univ., Inst. for Stem Cell Biol. and Regenerative Med., Groningen Inst. for Evolutionary Life Sci., Univ. of Edinburgh.*

9:00 SS6 **315.10** Hippocampal and amygdalar cell-specific translation is similar soon after stress but diverge over time. J. S. MADAN*; K. GUPTA; S. CHATTARJI; A. BHATTACHARYA. *Natl. Ctr. for Biol. Sci., Inst. for Stem Cell Biol. and Regenerative Med., Deanery of Biomed. Sciences, Univ. of Edinburgh.*

10:00 SS7 **315.11** Regulation of brain-specific splicing of Eef1d and activity control of its nuclear variant, eEF1BδL by stress-induced dephosphorylation. T. KAITSUKA*; M. MATSUSHITA. *Kumamoto University, Fac. of Life Sci., Univ. of the Ryukyus, Grad. Sch. of Med.*

11:00 SS8 **315.12** Sympathetic regulation of visceral adiposity and metabolism in a rat model of stress induced by sleep restriction. L. E. AZUARA ALVAREZ*; A. BÁEZ-RUIZ; O. RAMÍREZ-PLASCENCIA; S. CÁRDENAS-ROMERO; N. SADERI; R. SALGADO-DELGADO. *Univ. Autónoma De San Luis Potosí.*

8:00 SS9 **315.13** ● Multi-OMIC analyses of brain and serum from chronically stressed mice reveal network disruptions in purine metabolism, fatty acid beta-oxidation, and antioxidant function that can be ameliorated upon antidepressant treatment. P. J. HAMILTON; E. Y. CHEN; V. TOLSTIKOV; C. J. PENA; A. N. STRAT; P. SHAH; K. PANAGOPOULOS; D. M. WALKER; Z. S. LORSCH; S. GESTA; N. MERVOSH; D. KIRALY; R. SARANGARAJAN; N. R. NARAIN; M. A. KIEBISH; E. J. NESTLER*. *Icahn Sch. of Med. at Mount Sinai, BERG LLC, Icahn Sch. Med. At Mount Sinai.*

9:00 SS10 **315.14** The dimorphic role of apontic in olfaction and ethanol sedation in *Drosophila.* N. REGER; F. J. VONHOFF*. *Univ. of Maryland Baltimore County.*

10:00 SS11 **315.15** Sex-specific behavioral endocrinology of BDNF Val66Met mice maintained on chronic oral corticosterone. J. MARROCCO*; N. R. EINHORN; G. H. PETTY; C. LE FLOCH; I. N. KARATSOREOS; F. S. LEE; B. S. MCEWEN. *The Rockefeller Univ., Washington State Univ., Weill Cornell Med. Col.*

11:00 SS12 **315.16** Cross-species epigenetic signature of stress-related psychiatric disorders. N. R. EINHORN*; H. LI; K. F. BERMAN; D. GOLDMAN; F. S. LEE; P. J. SCHMIDT; B. S. MCEWEN; J. MARROCCO. *The Rockefeller Univ., Natl. Inst. of Mental Hlth., NIH/National Inst. of Mental Hlth., Natl. Inst. on Alcohol Abuse and Alcoholism Lab. of Neurogenetics, Weill Cornell Med. Col., Natl. Inst. of Mental Hlth.*

POSTER

316. Stress-Modulated Pathways: Cortex and Striatum

Theme F: Integrative Physiology and Behavior

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 SS13 **316.01** Control over stress engages a corticostriatal projection for the production of long-term stress resilience. M. V. BARATTA*; S. D. DOLZANI; I. P. FALLON; N. R. LESLIE; J. AMAT; G. D. TRAHAN; R. A. LAYNES; L. R. WATKINS; S. F. MAIER. *Univ. of Colorado Boulder.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 SS14 **316.02** Role of Akt in JAK2-mediated regulation of Arc expression in the orbitofrontal cortex- effects on reversal learning. M. GIROTTI*; J. D. SILVA; D. A. MORIALK. *Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*

10:00 TT1 **316.03** The role of the insula in anxiety. J. STEHBERG*; S. LINSAMBARTH; F. PEÑA; P. MUÑOZ; T. BAHAMONDE; D. QUINTANA. *Univ. Andres Bello, Univ. Andrés Bello, Univ. de Valparaiso.*

11:00 TT2 **316.04** Chronic stress causes circuit specific loss of inputs to the posterior parietal cortex. G. LUR*; Y. LIBOVNER; D. TABBA; M. HOLLEARN. *Univ. of California, Irvine, California State Long Beach.*

8:00 TT3 **316.05** Exercise-induced neuronal activation differs following acute and chronic exposure to wheel running. T. Y. YANG*; J. C. GARDNER; N. LIANG. *Univ. of Illinois-Urbana Champaign.*

9:00 TT4 **316.06** Dynamic change of resting-state functional connectivity associated with acute stress. M. KITAWAKI*; M. R. DELGADO; M. HARUNO. *Grad. Sch. of Frintier Biosci. Osaka Univ., Rutgers Univ. Newark, Natl. Inst. of Information and Communication Technol.*

10:00 TT5 **316.07** Effects of adverse maternal care on prefrontal cortex, hippocampal, and amygdalar development in rhesus monkeys: Relationship with brain serotonin function. A. RATLIFF*; K. KUITCHOUA; B. KOCHOIAN; E. L. MORIN; B. R. HOWELL; Z. KOVACS-BALINT; M. STYNER; M. SANCHEZ. *Emory Univ. Sch. Med., Emory Univ., Emory Univ., Univ. of Minnesota, Univ. of North Carolina.*

11:00 TT6 **316.08** ● DTI-identified cerebral microstructural changes in mice overexpressing CRF in the forebrain. J. DESLAURIERS*; M. TOTH; M. SCADENG; R. RISSMAN; V. RISBROUGH; G. BROWN. *Univ. of California San Diego, Veterans Affairs Ctr. of Excellence for Stress and Mental Hlth., Univ. of California San Diego, Univ. of California San Diego.*

8:00 TT7 **316.09** Inhibition of prefrontal monoacylglycerol lipase promotes stress resilience. N. B. WORLEY*; J. A. VARELA; G. P. GAILLARDETZ; M. N. HILL; J. P. CHRISTIANSON. *Boston Col., Univ. of Calgary.*

9:00 TT8 **316.10** A prefrontal-bed nucleus circuit limits both HPA output and passive coping behaviors. S. B. JOHNSON*; R. T. LINGG; E. B. EMMONS; R. M. ANDERSON; S. A. R. ROMIG-MARTIN; R. T. LALUMIERE; N. S. NARAYANAN; J. J. RADLEY. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa, Univ. of Iowa.*

10:00 TT9 **316.11** Enhanced activity of a vmPFC-DRN neural circuit in resistance to acute social defeat stress. A. GRIZZELL*; T. CLARITY; B. N. DULKA; M. A. COOPER. *Univ. of Tennessee, Univ. of Tennessee.*

11:00 TT10 **316.12** ▲ Neuroendocrine correlates of dominance relationships in female Syrian hamsters. A. L. LOEWEN; B. N. DULKA; J. A. GRIZZELL; A. V. CAMPBELL; M. A. COOPER*. *Univ. of Tennessee.*

8:00 TT11 **316.13** The link between dominance status and passive and active coping strategies. M. CANNON*; E. L. GRAHAM; M. D. BURZINSKI; M. A. COOPER. *Univ. of Tennessee.*

9:00 TT12 **316.14** Chemogenetic activation of an infralimbic cortex to basolateral amygdala neural projection and resistance to conditioned defeat. B. N. DULKA*; E. D. BAGETALAS; K. S. BRESS; M. A. COOPER. *Univ. of Tennessee.*

10:00 TT13 **316.15** Exploring the effects of locus coeruleus corticotropin-releasing factor on cortical network activity. S. BATES*; J. ARNER; A. L. CURTIS; S. BHATNAGAR. *CHOP, Children's Hosp. of Philadelphia, Children's Hosp. Philadelphia, Univ. Pennsylvania, Children's Hosp Philadelphia.*

11:00 TT14 **316.16** Examining coherence between locus coeruleus and cortical network activity. J. ARNER*; S. BATES; A. L. CURTIS; S. BHATNAGAR. *Children's Hosp. of Philadelphia, CHOP, Children's Hosp. Philadelphia, Univ. Pennsylvania, Children's Hosp Philadelphia.*

8:00 TT15 **316.17** Acute restraint stress alters reward-related VTA and NAc activity. D. C. LOWES*; E. S. HOLT; J. A. GORDON; A. HARRIS. *Columbia Univ., Barnard Col., Natl. Inst. of Mental Hlth., Columbia Univ.*

9:00 TT16 **316.18** ▲ Effect of WAY 100,635 on the behavioral indicators of anxiety and anhedonia after exposure to chronic stress. I. GONZALEZ RIVERA*; O. GALICIA-CASTILLO; H. SANCHEZ-CASTILLO. *Univ. Nacional Autonoma de Mexico, Univ. Iberoamericana, Univ. Nacional Autonoma de Mexico. Fac Psicologia.*

10:00 TT17 **316.19** Social defeat stress induces similar transcriptional profile changes in California mice as compared to patients with depression in reward-related brain regions. A. V. WILLIAMS*; C. J. PENA; B. LABONTÉ; S. RAMOS-MACIEL; E. J. NESTLER; B. C. TRAINOR. *Univ. of California Davis, Icahn Sch. of Med. at Mount Sinai, Laval Univ., Icahn Sch. Med. at Mount Sinai, Univ. of California -Davis.*

11:00 TT18 **316.20** Propranolol-mediated inhibition of the priming effect of acute social defeat stress to increased susceptibility to subsequent social defeat stress. J. Y. ZHANG*; C. FILLINGER; Y. S. GROSSMAN; D. DUMITRIU. *Icahn Sch. of Med. at Mount Sinai.*

8:00 TT19 **316.21** ▲ Understanding the role of CRF receptor in the development of anxiety-like behaviors and obesity using diet manipulations in selectively-bred rat populations. J. HAAN*; P. J. VOLLBRECHT. *Hope Col., Hope Col.*

POSTER

317. Stress-Modulated Pathways: Hippocampus

Theme F: Integrative Physiology and Behavior

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 TT20 **317.01** A potential screening paradigm for antidepressants using the nest building evaluation after acute social defeat stress (ASDS). H. OTABI*; T. OKAYAMA; D. KOHARI; A. TOYODA. *Tokyo Univ. of Agr. and Technol., Ibaraki Univ.*

9:00 TT21 **317.02** Stress effects on neuronal connectivity in the orbitofrontal cortex. S. M. ADLER*; S. E. BULIN; M. GIROTTI; D. A. MORILAK. *Univ. of Texas Hlth. At San Antonio.*

10:00 TT22 **317.03** ▲ Effects of repeated and acute stress on expression of Arc/Arg3.1 in the rat hippocampus and prefrontal cortex. A. MOGUL*; E. TAYLOR-YEREMEEVA; A. KHAN; H. WANG; S. ROBINSON. *Hamilton Col., CUNY Sch. of Med.*

Mon. AM

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 TT23 **317.04** Chronic social defeat stress increases ventral hippocampal - prefrontal synchrony. A. HARRIS*; L. A. CHAMBERLIN; L. KRETSGE; D. C. LOWES; M. A. TOPIWALA; A. I. ABBAS; A. J. PARK; P. ATSAK; E. D. LEONARDO; R. HEN; J. A. GORDON. *Columbia Univ., Res. Fndn. Mental Hygiene, Inc, Natl. Inst. of Mental Hlth.*

8:00 TT24 **317.05** Chronic variable stress and nursing demand interact to alter depression-like behavior and hippocampal neurogenesis in postpartum rats. J. MEDINA*; R. M. DEGUZMAN; A. I. SAULSBERY; K. W. UNGER; E. CEBALLOS; J. L. WORKMAN. *Univ. at Albany, State Univ. of New York, The Ohio State Univ., Ctr. for Neurosci. Res.*

9:00 UU1 **317.06** Physical exercise-elicited adiponectin increase affects hippocampal neuronal plasticity and attenuates behavioral despairs in stressed mice. A. LI*; P. WANG; K. SO; P. YU. *Jinan Univ.*

10:00 UU2 **317.07** Membrane and cytosolic corticosterone receptors in the ventral hippocampus contribute to stress-induced alterations of accumbal dopamine output in control and amphetamine withdrawn rats. B. BRAY*; K. A. CLEMENT; M. A. WEBER; G. L. FORSTER. *Univ. of South Dakota, Sanford Sch. of Med., Ctr. for Brain and Behavior Res., Univ. of Otago.*

11:00 UU3 **317.08** ● Role of reproductive status on tau phosphorylation induced by chronic stress in the hippocampus of the female rat. D. MUNOZ-MAYORGA*; R. A. RISSMAN; T. MORALES. *Inst. For Neurobio. UNAM, UCSD Sch. Med.*

8:00 UU4 **317.09** Hippocampal RNA editing mediates the long-term effects of prenatal stress. G. BRISTOW; A. SEGISMUNDO; M. S. SODHI*. *Lancaster Univ., Loyola Univ. Chicago, Loyola Univ. Chicago.*

9:00 UU5 **317.10** PKA phosphorylation of the L-type, voltage-gated calcium channel $Ca_V1.2$ positively regulates learning and anxiety behaviors. K. E. IRETON*; A. GROVER; J. HELL. *UC Davis.*

10:00 UU6 **317.11** Understanding neural mechanisms of resilience to stress: Role of hippocampal brain-derived neurotrophic factor. M. JODEIRI-FARSHBAF; H. BLAKLEY; J. BLAKLEY; D. CHERKOWSKY; E. X. LEE; D. J. SMITH; K. ALVINA*. *Texas Tech. Univ.*

11:00 UU7 **317.12** Experience of wheel-running and food restriction in adolescent female rats results in increased GABA response and mIPSC frequency in hippocampal pyramidal neurons despite fewer GABAergic axo-somatic synapses. T. G. CHOWDHURY; Y. CHEN; G. S. WABLE; K. TATEYAMA; I. YU; J. WANG; A. D. REYES; C. J. AOKI*. *New York Univ., New York Univ.*

8:00 UU8 **317.13** ▲ Epigenetic regulation of retrotransposons by corticosterone mediates NLRP3 inflammasome complex activation in the rat hippocampus. M. J. CLARK*; A. A. BARTLETT; R. G. HUNTER. *Univ. of Massachusetts Boston, Univ. of Massachusetts Boston.*

9:00 UU9 **317.14** 7,8-Dihydroxyflavone reduces anxiety and ameliorates GABAergic abnormalities in a mouse model of Gulf War Illness. I. CARRERAS*; T. J. MELLOTT; N. AYTAN; J. CHOI; A. LIU; C. M. TOGNONI; J. K. BLUSZTAJN; B. G. JENKINS; A. DEDEOGLU. *VA Boston Healthcare Syst., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Massachusetts Gen. Hosp. and Harvard Med. Sch.*

10:00 UU10 **317.15** MircoRNA regulation by stress and estradiol in the hippocampus of the mouse. K. C. NICHOLSON*; C. E. CREIGHTON; E. R. MARTIN; J. LAMARRE; N. J. MACLUSKY. *Univ. of Guelph, Univ. of Guelph, Univ. of Guelph.*

11:00 UU11 **317.16** Role for mGlu2 receptors in a circuit signaling mechanism underlying rapid behavioral responses to LAC. B. BIGIO*; J. DOBBIN; P. DE ANGELIS; H. M. CATES; O. ISSLER; E. J. NESTLER; B. S. MCEWEN; C. NASCA. *Rockefeller Univ., Mount Sinai Sch. of Med., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. Med. at Mount Sinai.*

8:00 UU12 **317.17** Acetyl-L-carnitine deficiency in patients with major depressive disorder: Implications for treatment resistant depression. C. NASCA*; B. BIGIO; F. LEE; S. YOUNG; M. KAUTZ; A. COCHRAN; J. BEASLEY; A. A. MATHE; J. KOCSIS; J. MURROUGH; B. S. MCEWEN; N. L. RASGON. *The Rockefeller Univ., Weill Cornell Med. Col., Duke Univ. Hlth. Syst., Icahn Sch. of Med. at Mount Sinai, NY, USA, Karolinska Institutet, Stanford Univ. Sch. of Med.*

9:00 UU13 **317.18** Rapid behavioral responses to treatment with ketamine or acetyl-L-carnitine in males and females. J. DOBBIN*; B. BIGIO; P. DE ANGELIS; D. ZELLI; T. LAU; B. S. MCEWEN; C. NASCA. *The Rockefeller Univ.*

10:00 UU14 **317.19** The fast antidepressant actions of MRK-016 on anhedonia and synaptic function are mediated by binding at the benzodiazepine site of the $GABA_A$R. T. TROPPOLI*; P. ZANOS; T. GOULD; S. THOMPSON. *Univ. of Maryland Baltimore, Univ. of Maryland Baltimore, Univ. of Maryland Baltimore.*

11:00 UU15 **317.20** The antidepressant effects of the alpha5 subunit-selective negative allosteric modulators of GABA-A receptors in rodent models of depression. A. M. BAILEY*; K. BELL; J. LYNN; M. MADDEN; M. STEYERT; S. ZHANG; S. M. THOMPSON. *St. Mary's Col. of Maryland, Univ. of Maryland Baltimore.*

8:00 UU16 **317.21** Inhibiting ventral dentate gyrus activity reduces anxiety-like behavior. C. ANACKER*; V. M. LUNA; G. STEVENS; A. MILETTE; R. SHORES; B. CHEN; R. HEN. *Columbia Univ., Columbia Univ.*

9:00 UU17 **317.22** Maternal separation induces inflammation, microglia activation and changes in actin-binding proteins in the hippocampus of rats Maternal separation induces inflammation, microglia activation and changes in actin-binding proteins in the hippocampus of rats. A. J. BETZ*; M. MIRRIONE; K. JONES; L. TELISKA; M. SZAHAJ; D. MATINHO; T. ZARIN; J. SCHURICK. *Quinnipiac Univ., Quinnipiac Univ., Quinnipiac Univ.*

10:00 UU18 **317.23** ● Strengthening of hippocampus-nucleus accumbens synapses underlies reward behavior and is deficient in depression. T. A. LEGATES*; M. D. KVARTA; J. R. TOOLEY; T. C. FRANCIS; M. LOBO; M. CREED; S. M. THOMPSON. *Univ. of Maryland Sch. of Med., Univ. of Maryland Med. Ctr., Univ. of Maryland, Univ. of Maryland, Baltimore, Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Baltimore.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

318. Brain Blood Flow

Theme F: Integrative Physiology and Behavior

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 UU19 **318.01** Contribution of the nucleus basalis of Meynert to cerebral blood flow responses in the ipsilateral but not controlateral primary somatosensory cortex during nociceptive processing. T. PAQUETTE*; R. TOKUNAGA; H. LEBLOND; M. PICHÉ. *Univ. du Quebec a Trois-Rivieres, CogNAC research Group (Cognition, Neurosciences, Affect et Comportement), Univ. du Quebec a Trois-Rivieres.*

9:00 UU20 **318.02** Bilateral common carotid artery stenosis impairs glymphatic function. M. LI*; A. KITAMURA; J. BEVERLEY; J. KOUDELKA; J. DUNCOMBE; R. N. KALARIA; R. O. CARARE; J. J. ILIFF; K. HORSBURGH. *Univ. of Edinburgh, Kyoto Univ., Newcastle Univ., Univ. of Southampton, Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*

10:00 UU21 **318.03** Noradrenergic modulation of neurovascular coupling in awake behaving mice. Q. ZHANG*; K. W. GHERES; P. J. DREW. *The Pennsylvania State Univ., The Pennsylvania State Univ., The Pennsylvania State Univ., The Pennsylvania State Univ.*

11:00 UU22 **318.04** Quantifying the neural and non-neuronal components of inter-hemispheric hemodynamic correlations. K. L. TURNER*; A. T. WINDER; P. J. DREW. *Pennsylvania State Univ., Pennsylvania State Univ., Pennsylvania State Univ.*

8:00 VV1 **318.05** Pericyte structural plasticity in the adult mouse brain. A. Y. SHIH*; D. HARTMANN; A. BERTHIAUME. *Seattle Children's Res. Inst., Med. Univ. of South Carolina, Med. Univ. of South Carolina, Seattle Children's Res. Inst.*

9:00 VV2 **318.06** A chronic blood-flow imaging device for a small animal's brain in a behavior experiment. M. HARUTA*; Y. KURAUCHI; A. KIMURA; Y. OHTA; T. NODA; K. SASAGAWA; T. TOKUDA; H. KATSUKI; J. OHTA. *Nara Inst. of Sci. and Technol., Kumamoto Univ., Nara Inst. of Sci. and Technol., Nara Institue of Sci. and Technol., Nara Inst. of Sci. and Technol., Kumamoto Univ., Nara Institue of Sci. and Technol.*

8:00 DP08/VV3 **318.07** (Dynamic Poster) A new model for molecule delivery and clearance in brain microvascular system: Consequences of capillary occlusions in Alzheimer's disease. M. BERG*; O. BRACKO; Y. DAVIT; M. QUINTARD; N. NISHIMURA; C. B. SCHAFFER; S. LORTHOIS. *CNRS, Cornell Univ.*

11:00 VV4 **318.08** Head-down tilt as a model for intracranial pressure changes during spaceflight. C. A. FULLER*; E. L. ROBINSON; A. L. MCELROY; H. GOMPF; T. M. HOBAN-HIGGINS. *Univ. of California.*

8:00 DP09/VV5 **318.09** (Dynamic Poster) Regulating pericytes with optogenetics. A. R. NELSON*; Y. WANG; Z. ZHAO; B. ZLOKOVIC. *USC.*

9:00 VV6 **318.10** ▲ Development and validation of an open source software for brain perfusion imaging in rodents. J. PRINCE*; K. SHAH; M. D. SWEENEY; S. BARNES; M. T. HUUSKONEN; R. E. JACOBS; A. MONTAGNE; B. V. ZLOKOVIC. *USC, Loma Linda Univ.*

10:00 VV7 **318.11** Development of neural activity and neurovascular coupling in the somatosensory cortex of the awake mouse. K. W. GHERES*; P. J. DREW. *Pennsylvania State Univ. Univ. Park, Pennsylvania State Univ.*

11:00 VV8 **318.12** Extreme vasodynamics in cortex accompany REM sleep. C. MATEO*; D. KLEINFELD. *UCSD, Univ. of California at San Diego.*

8:00 VV9 **318.13** ▲ Effects of acute aerobic exercise on behavioral and prefrontal hemodynamic responses to a fatiguing cognitive task. C. AUSENHUS*; G. GOEBEL; K. HALLDIN; D. C. MONROE; B. HUNT; N. THOM. *Wheaton Col., UC Irvine, Wheaton Col.*

9:00 VV10 **318.14** Label-free measurement of flow speed in cortical blood vessels in mice using third harmonic generation microscopy. N. RUIZ*; S. AHN; C. B. SCHAFFER. *Cornell Univ., Cornell Univ.*

10:00 VV11 **318.15** Tonic and bidirectional regulation of arteriole tone by astrocyte steady-state Ca^{2+}. J. HAIDEY*; G. R. GORDON. *Univ. of Calgary.*

11:00 VV12 **318.16** GIRK channel direct activation with ML297 depresses a capsaicin-induced increase in microcirculatory blood perfusion in the rat cheek. X. S. XIE*; K. XIAO; C. PASCUAL; B. ZOU; W. CAO; C. LINDSLEY; C. WEAVER. *Afasci Res. Laboratories, Afasci, Inc., Vanderbilt Univ.*

8:00 VV13 **318.17** Precapillary sphincters on penetrating arterioles regulate brain capillary flow. S. GRUBB*; C. CAI; L. KHENNOUF; B. O. HALD; S. ZAMBACH; M. J. LAURITZEN. *Univ. of Copenhagen.*

9:00 VV14 **318.18** *In vivo* micro-puffing of ATP-sensitive potassium channel opener leads to brain capillary vasodilation. S. A. ZAMBACH*; C. CAI; M. LAURITZEN. *Dept. of Neuroscience, Univ. of Copenhagen.*

10:00 VV15 **318.19** Investigating neurovascular coupling in the visual cortex and hippocampus of behaving mice using two-photon imaging. K. SHAW*; D. M. GRIJSEELS; O. BONNAR; K. BOYD; C. N. HALL. *Univ. of Sussex, Univ. of Sussex.*

11:00 VV16 **318.20** Visual cortex neurons driving neurovascular coupling during visual stimulation and locomotion. K. BOYD*; K. SHAW; D. M. GRIJSEELS; C. N. HALL. *Univ. of Sussex.*

8:00 VV17 **318.21** Characterization of neurotransmitter receptors that mediate retinal neurovascular coupling. A. L. GARCIA*; M. N. TAPIA; D. MULLER; D. PELAEZ; S. K. BHATTACHARYA; L. E. VAZQUEZ. *Univ. of Miami - Bascom Palmer Eye Inst.*

9:00 VV18 **318.22** Dissecting the neural control of baseline and evoked vascular tone in the brain. C. ECHAGARRUGA*; P. DREW. *The Pennsylvania State Univ.*

10:00 VV19 **318.23** Neurovascular coupling can provide a driving force for glymphatic flow. R. KEDARASETTI*; C. ECHAGARRUGA; B. GLUCKMAN; F. COSTANZO; P. J. DREW. *The Pennsylvania State Univ., The Pennsylvania State Univ., The Pennsylvania State Univ., The Pennsylvania State Univ.*

11:00 VV20 **318.24** Cerebral blood flow dynamics of the hemodynamic response function in human visual cortex. J. KIM*; A. TAYLOR; D. RESS. *Baylor Col. of Med.*

8:00 VV21 **318.25** Endothelial NMDA receptors are critical mediators of neurovascular coupling in awake behaving mice. A. D. HOGAN-CANN*; P. LU; C. ANDERSON. *Univ. of Manitoba, Kleysen Inst. for Advanced Med.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 VV22 **318.26** Spatiotemporal dynamics of mural cell Ca^{2+} and tissue oxygenation in awake, behaving mice. G. PERINGOD*; L. YU; K. MURARI; G. R. GORDON. *Hotchkiss Brain Institute, Univ. of Calgary, Schulich Sch. of Engineering, Univ. of Calgary, Hotchkiss Brain Institute, Univ. of Calgary.*

10:00 WW1 **318.27** Cerebrovascular morphology and mechanics in rodent models of hypertension and heart failure. C. ACOSTA*; C. M. ANDERSON; H. ANDERSON. *Univ. of Manitoba.*

POSTER

319. Food Intake and Energy Balance: Integration of Peripheral Signals

Theme F: Integrative Physiology and Behavior

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 WW2 **319.01** Effects of food maternal restriction on palatable food consumption of the offspring in preadolescence and adulthood in rats. E. BARRIOS DE TOMASI*; A. E. MARTÍNEZ-MARTÍNEZ; J. JUAREZ. *Inst. De Neurociencias.*

9:00 WW3 **319.02** Selenoprotein M promotes hypothalamic leptin signaling and thioredoxin antioxidant activity. T. GONG*; A. C. HASHIMOTO; V. S. KHADKA; M. J. BERRY; M. W. PITTS. *Univ. of Hawaii JABSOM, Univ. of Hawaii.*

10:00 WW4 **319.03** Pigment epithelium-derived factor regulates energy balance via adipose triglyceride lipase in the brain of mice. M. SONG; H. KIM; B. JIN; N. HA; H. LEE; S. CHOI; D. KIM*. *Korea Univ. Col. of Med., Korea Univ. Col. of Med.*

11:00 WW5 **319.04** Why do mice overeat high-fat diets? how high-fat diet alters the regulation of daily caloric intake in mice. J. A. LICHOLAI*; K. P. NGUYEN; W. C. FOBBS; C. J. SCHUSTER; M. A. ALI; A. V. KRAVITZ. *NIDDK, Natl. Inst. of Hlth., Carnegie Mellon Univ., NIH, Washington State Univ., Natl. Inst. of Hlth.*

8:00 WW6 **319.05** Central effects of peripherally administered oleoylethanolamide in rats subjected to surgicalsubdiaphragmatic vagal deafferentation. J. B. KOCZWARA*; A. ROMANO; C. A. GALLELLI; E. K. AZARI; A. MANSOURI; M. ARNOLD; S. GAETANI. *Sapienza Univ. of Rome, Sanford Burnham Prebys Med. Discovery Inst., ETH Zurich.*

9:00 WW7 **319.06** Leptin receptor-expressing neurons in the nucleus of the solitary tract receive input from capsaicin-sensitive C-type vagal afferents. D. NEYENS*; S. M. APPLEYARD. *Washington State Univ., Washington State Univ.*

8:00 DP10/WW8 **319.07** ● (Dynamic Poster) High-throughput analysis of nodose ganglion cell responses to abdominal stimuli in the ferret. D. M. MILLER*; A. C. NANIVADEKAR; S. FULTON; A. A. MCCALL; L. WONG; J. OGREN; G. CHITNIS; B. MCLAUGHLIN; L. E. FISHER; B. J. YATES; C. C. HORN. *Univ. of Pittsburgh, Univ. of Pittsburgh, Stephanie Fulton, Micro-Leads Inc, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh Sch. of Med.*

11:00 WW9 **319.08** Human hypothalamic microglia and POMC neurons are differently affected by anti-diabetic treatment in type 2 diabetic patients. M. KALSBEEK*; S. E. C. WOLFF; I. V. MILANOVA; N. L. KORPEL; C. YI. *Academic Med. Center, Amsterdam.*

8:00 WW10 **319.09** ▲ Insulin contributes to the development of hyperalgesia in overweight ovariectomized rats. O. A. JARAMILLO-MORALES*; J. V. ESPINOSA-JUÁREZ; A. ALEJO-MARTÍNEZ; L. MENA-VALDÉS; F. J. LÓPEZ-MUÑOZ. *Cinvestav, Cinvestav-Unidad Coapa, CInvestav-Unidad Coapa.*

9:00 WW11 **319.10** ▲ Characterization of the relationship between phenotype, diet, and mitochondrial function in a *Drosophila model of epilepsy.* S. GENEUS; A. CAREY; E. R. REYNOLDS*. *Lafayette Col.*

10:00 WW12 **319.11** Precision medicine: Genetic predisposition to fructose consumption in diverse mouse strains. Z. YING*; G. ZHANG; H. BYUN; Y. ZHAO; X. YANG; F. GOMEZ-PINILLA. *UCLA, UCLA.*

11:00 WW13 **319.12** Expression of functional leptin receptors in the anterior insular cortex: Sexually dimorphic behavioral and metabolic correlates. S. R. SPIERLING*; S. N. PUCCI; D. KIRSON; A. L. SCOTT; S. T. M. REHAN; C. A. WILLIAMS; S. Y. FANG; M. ROBERTO; E. P. ZORRILLA. *The Scripps Res. Inst., The Scripps Res. Inst., The Scripps Res. Inst.*

8:00 WW14 **319.13** Taste preferences in male and female rats after soda consumption. K. S. CURTIS*; D. SISCO; M. JACOBS. *Oklahoma State Univ. Ctr. for Hlth. Sci.*

9:00 XX1 **319.14** Role of selenium utilization in hypothalamic control of energy metabolism. D. TORRES*; M. W. PITTS; A. C. HASHIMOTO; M. J. BERRY. *Univ. of Hawai'i at Manoa Dept. of Cell and Mol. Biol.*

10:00 XX2 **319.15** Characterization of leptin-receptor expressing cells of the arcuate nucleus of hypothalamus during sexual maturation. T. T. ZAMPIERI*; T. M. BOHLEN; L. C. LANA; R. FRAZÃO. *Univ. of Sao Paulo.*

11:00 XX3 **319.16** Inhibition of mitochondrial fission in the dorsal vagal complex of the brain prevents hyperphagia in high fat diet fed rats. B. PATEL*; L. NEW; J. DEUCHARS; B. FILIPPI. *Univ. of Leeds.*

8:00 XX4 **319.17** Hypothalamic neuronal circuits regulating hunger-induced taste modification. O. FU; Y. IWAI; T. MISAKA*; Y. MINOKOSHI; K. NAKAJIMA. *The Univ. of Tokyo, Natl. Inst. for Physiological Sci.*

9:00 XX5 **319.18** Roux-en-Y and vagotomy increase DNA fragmentation in vagal afferent neurons of rats within 24h. D. M. MINAYA CABA*; A. TURLEJ; S. C. FARUQUE; V. LACMANOVIC; A. JOSHI; A. HAJNAL; P. M. DI LORENZO; K. CZAJA. *Univ. of Georgia, Penn State Univ., Binghamton Univ.*

10:00 XX6 **319.19** ▲ The physiological effects of PYY is dependent upon time of day. M. J. MARONI; K. M. CAPRI; A. V. CUSHMAN; I. K. MONTEIRO DE PINA; M. H. CHASSE; J. A. SEGGIO*. *Bridgewater State Univ.*

11:00 XX7 **319.20** Sex differences and similarities in stress-induced eating behavior. N. CLAUSS*. *Oklahoma State Univ.*

8:00 XX8 **319.21** single cell resolution hindbrain neuronal dynamics reveal convergent appetitive and consummatory processes in both hunger and thirst. R. GONG*; S. M. STERNSON. *Janelia Res. Campus, HHMI.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 XX9 **319.22** Mast cells-derived histamine regulates liver ketone body production via oleoylethanolamide-mediated signaling. A. MISTO*; A. BASIT; G. PROVENSI; V. VOZELLA; M. PASSANI; D. PIOMELLI. *Fondazione Inst. Italiano Di Tecnologia, Fondazione Inst. Italiano di Tecnologia, Dept. of Neuroscience, Psychology, Drug Res. and Child Hlth. (NEUROFARBA), Dept. of Hlth. Science, Univ. of Florence, Departments of Anat. and Neurobiology, Biol. Chem. and Pharmacology, Sch. of Medicine, Univ. of California.*

10:00 XX10 **319.23** Ventral hippocampus ghrelin elevates meal size via interactions with gut-derived satiation signals. A. N. SUAREZ*; C. LIU; E. NOBLE; A. CORTELLA; S. E. KANOSKI. *USC, USC, UCLA.*

11:00 XX11 **319.24** Basal forebrain excitatory neurons suppress appetite. J. PATEL*; K. UNG; J. SWANSON; A. M. HERMAN; E. HANSON; B. R. ARENKIEL. *Jan and Dan Duncan Neurolog. Res. Inst., Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med.*

8:00 XX12 **319.25** Essential and sex-specific effects of mGluR5 in the ventromedial hypothalamus facilitating glucose and lipid homeostasis. M. RIOS*; M. PANESSITI; D. AMEROSO; A. N. ROCK; J. L. MAGUIRE. *Tufts Univ. Sch. of Med., Tufts Univ. Sch. of Med., Tufts Univ., Tufts Univ. Sackler Sch. of Grad. Biomed, MIT, Tufts Univ. Sch. of Med.*

9:00 XX13 **319.26** PTP1B deficiency enhances leptin action to improve glucose homeostasis in IDDM. Y. ITO*; R. BANNO; H. YAGINUMA; K. TAKI; A. MIZOGUCHI; M. SUGIYAMA; T. TSUNEKAWA; H. TAKAGI; H. ARIMA. *Nagoya Univ. Grad. Sch. of Med., Nagoya Univ. Grad. Sch. of Med., Nagoya Univ.*

10:00 XX14 **319.27** A fully implantable, closed-loop wireless recording and stimulation system for the treatment of obesity. W. KIM; C. CAMPOS; R. D. PALMITER; S. PARK*. *Texas A&M Univ., Univ. of Washington.*

11:00 YY1 **319.28** Regulation of pancreatic islet oxytocin by autonomic nervous system agonists. J. S. WESTWRIGHT; A. SZETO; A. HELLER*; P. M. MCCABE; A. J. MENDEZ. *Univ. of Miami, Univ. of Miami, Univ. of Miami Miller Sch. of Med.*

8:00 YY2 **319.29** The comparative study on anatomical and functional innervation between parasympathetic nervous system and liver in mouse and human. D. CHEON*; C. NAMKOONG; H. J. CHOI. *Seoul Natl. Univ. Col. of Med.*

POSTER

320. Depression and Bipolar Disorders: Depression: Human Imaging and Behavioral Studies

Theme G: Motivation and Emotion

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 YY3 **320.01** Metabolomic and structural brain connectomic evidence validating traditional Chinese medicine diagnostic classification of major depressive disorder. Z. ZHANG*; L. LIU; H. ZHANG; X. XU. *The Univ. of Hong Kong, Tongde Hosp. of Zhejiang Province, Zhejiang Acad. of Traditional Chinese Med., The Univ. of Hong Kong.*

9:00 YY4 **320.02** A genetic insight into the pathogenesis of depression from gene set enrichment analysis. D. DAI*; N. MA; Q. ZHOU; Z. LIU; J. FENG. *Fudan Univ., Inst. of Sci. and Technol. for Brain-Inspired Intelligence, Dept. of Computer Sci.*

10:00 YY5 **320.03** ● Frontoinsular network markers of current and future adolescent mood health. E. PETERSON*; M. KANG; R. CLEGG; J. VAN DER FEEN; D. A. PIZZAGALLI; R. KAISER. *Univ. of California Los Angeles, McLean Hosp., Univ. at Albany, SUNY, McLean Hosp., UCLA.*

11:00 YY6 **320.04** Impaired reinforcement learning signal representation in depression. S. HEO*; Y. KIM; Y. SUNG; E. KANG; S. LEE. *KAIST, Seoul Natl. Univ., KAIST.*

8:00 YY7 **320.05** Distribution and quantification of neuropeptide processing enzyme mRNA in the hippocampus of postmortem depressed subjects. M. WASELUS*; A. MEDINA; C. A. TURNER; W. E. BUNNEY, Jr; R. M. MYERS; A. F. SCHATZBERG; J. D. BARCHAS; F. S. LEE; H. AKIL; S. J. WATSON, Jr. *Univ. of Michigan, Univ. of California Irvine Dept. of Psychiatry and Human Behavior, HudsonAlpha Inst. for Biotech., Stanford Univ., Weill Cornell Med. Col.*

9:00 YY8 **320.06** ▲ Depression and brain network profiles of the hippocampus and the prefrontal cortex in patients with borderline personality disorder: A focus on episodic memory. T. J. ATTISHA*; T. D. MERAM; A. Z. CHOWDURY; E. KALLABAT; P. SOLOFF; V. A. DIWADKAR. *Wayne State Univ. Sch. of Med., Univ. of Pittsburgh Sch. of Med.*

10:00 YY9 **320.07** Association between depression and perseveration during reversal learning across samples of healthy individuals and psychiatric patients. S. C. BROLSMA*; J. N. VRIJSEN; E. VASSENA; A. H. SCHENE; R. COOLS. *Donders Inst., Radboud Univ. Med. Ctr.*

11:00 YY10 **320.08** Luxotonic signals in human frontal-polar cortex: A possible substrate for effects of light on mood. S. SABBAH; R. WAUGH; M. S. WORDEN; D. M. BERSON; J. N. SANES*. *Brown Univ., Brown Univ., Providence VA Med. Ctr.*

8:00 YY11 **320.09** Connectivity differences with subgenual anterior cingulate cortex during self-referential processing in depressed and healthy participants. L. HIMES*; N. HUBBARD; M. P. TURNER; B. P. RYPMA. *Univ. of Texas at Dallas, MIT, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas Southwestern Med. Ctr.*

9:00 YY12 **320.10** Towards a more useful heritability scale for genetic studies in depressive disorders: Comparison of trait and state depression scales in depressed and healthy men and women in a human population isolate. M. KVARTA*; E. HONG. *Univ. of Maryland Sch. of Med., Maryland Psychiatric Res. Ctr.*

8:00 DP11/YY13 **320.11** (Dynamic Poster) Habenula connectivity in adolescent mental illness. B. A. ELY*; J. G. XU; V. GABBAY. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Nathan S. Kline Inst. for Psychiatric Res.*

11:00 YY14 **320.12** ● An EEG-fMRI-TMS system for investigating BOLD response to alpha phase-locked TMS. Y. LIN*; J. FALLER; J. DOOSE; G. T. SABER; J. R. MCINTOSH; R. I. GOLDMAN; M. S. GEORGE; P. SAJDA; T. R. BROWN. *Columbia Univ., Med. Univ. of South Carolina, Univ. of Wisconsin–Madison, Med. Univ. of South Carolina, Ralph H. Johnson VA Med. Ctr.*

8:00 YY15 **320.13** ● Resting state oscillatory power and amotivation in depressed patients. C. S. GALIANO*; J. R. GILBERT; A. C. NUGENT; E. D. BALLARD; C. A. ZARATE. *Natl. Inst. of Mental Hlth.*

9:00 YY16 **320.14** Neural signatures of genetic and socioeconomic risk for psychiatric illness. M. A. COLLINS*; K. M. ANDERSON; R. CHIN; A. J. HOLMES. *Yale Univ.*

Mon. AM

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

10:00 YY17 **320.15** Latent cytomegalovirus infection associated with white matter abnormalities: A diffusion tensor imaging study. M. BERGAMINO*; B. N. FORD; K. TEAGUE; J. BODURKA; C. J. JARRETT; R. H. YOLKEN; M. P. PAULUS; J. SAVITZ. *Laureate Inst. for Brain Res., The Univ. of Tulsa, Univ. of Oklahoma Sch. of Community Med., Univ. of Oklahoma, Johns Hopkins Univ., The Univ. of Tulsa.*

11:00 YY18 **320.16** Both medicated and unmedicated subjects with Mood and Anxiety Disorders show dysregulated interoceptive processing. R. KUPLICKI*; K. BURROWS; W. K. SIMMONS; M. P. PAULUS. *Laureate Inst. for Brain Res., Janssen Res. & Development, LLC.*

8:00 YY19 **320.17** ● Attentional Bias Modification alters fMRI response towards negative stimuli in depression. E. G. HILLAND*; N. LANDRØ; C. HARMER; M. BROWNING; L. MAGLANOC; R. JONASSEN. *Diakonhjemmet Hosp., Univ. of Oslo, Univ. of Oxford.*

9:00 YY20 **320.18** ● Computational phenotyping of brain-behavioral relationships underlying approach-avoidance decision making in major depressive disorder. M. L. PEDERSEN*; M. IRONSIDE; C. L. MCGRATH; K. AMEMORI; M. KANG; A. M. GRAYBIEL; M. J. FRANK; D. A. PIZZAGALLI. *Brown Univ., Univ. of Oxford, McLean Hosp., Kyoto Univ., McLean Hosp., MIT, Brown Inst. for Brain Sci.*

10:00 YY21 **320.19** Cortical reorganizations for the recovery from depressive state after spinal decompression surgery. M. SAWADA*; T. NAKAE; T. MUNEMITSU; M. HOJO. *Shiga Med. Ctr. for Adults.*

11:00 YY22 **320.20** ▲ Resting state cortical frequencies in human EEG are differentially associated with negative cognition in adults with and without a history of major depressive disorder. A. ALARIO*; J. LABRADA; R. STEWART; N. R. GRIFFIN; J. J. ALLEN; C. BEEVERS; D. M. SCHNYER. *The Univ. of Texas at Austin, Univ. of Texas at Austin, The Univ. of Texas at Austin, Univ. Arizona, Univ. of Texas, Austin.*

8:00 YY23 **320.21** Investigation of the effect of electroconvulsive therapy on monoamine oxidase A expression in treatment resistant depression using positron emission tomography. G. GRYGLEWSKI*; P. BALDINGER-MELICH; C. PHILIPPE; G. M. JAMES; C. VRAKA; L. SILBERBAUER; L. NICS; T. VANICEK; A. HAHN; M. MITTERHAUSER; W. WADSAK; M. HACKER; S. KASPER; R. FREY; R. LANZENBERGER. *Med. Univ. of Vienna.*

8:00 DP12/YY24 **320.22** ● (Dynamic Poster) Prediction of rTMS treatment outcome in depression: A machine learning approach. J. CORLIER*; A. C. WILSON; I. A. COOK; A. F. LEUCHTER. *Univ. of California Los Angeles.*

8:00 DP13/ZZ1 **320.23** ● (Dynamic Poster) The relationship among individual alpha frequency, stimulation frequency, and clinical outcome of repetitive transcranial magnetic stimulation (rTMS) treatment of major depressive disorder. A. LEUCHTER*; J. CORLIER; A. C. WILSON; I. COOK; L. L. CARPENTER. *Univ. of California Los Angeles, Brown Univ.*

11:00 ZZ2 **320.24** Different patterns of functional connectivity between sensorimotor network, thalamus, and neurotransmitter-related nuclei in psychomotor excitation and inhibition: A resting state fMRI study in manic and depressive phases of bipolar disorder. M. MARTINO*; P. MAGIONCALDA; B. CONIO; M. AMORE; M. INGLESE; G. NORTHOFF. *Univ. of Genoa, Icahn Sch. of Med. at Mount Sinai, Univ. of Ottawa Inst. of Mental Hlth. Res.*

8:00 ZZ3 **320.25** Bipolar disorder can be predicted by neural network and logistic regression analyses of facial principal components derived from images of self-declared bipolar and control individuals. J. CANNON*; T. M. BIELINSKI; C. ANZULEWICZ; A. LAU. *Univ. of Scranton, Univ. of Scranton.*

POSTER

321. Depression and Bipolar Disorders: Ketamine and Other Rapid Antidepressants II

Theme G: Motivation and Emotion

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 ZZ4 **321.01** Astroglial Kir4.1 in the lateral habenula drives neuronal bursts in depression. Y. CUI*; Y. YANG; Z. NI; Y. DONG; G. CAI; A. FONCELLE; S. MA; K. SANG; S. TANG; Y. LI; Y. SHEN; H. BERRY; S. WU; H. HU. *Ctr. of Neuroscience,Zhejiang Univ., Dept. of Neurobiology, Fourth Military Med. Univ., INRIA.*

9:00 ZZ5 **321.02** ● Rapid-acting antidepressants evoke rebound slow EEG oscillations which coincide with TrkB signaling. S. KOHTALA*; W. THEILMANN; M. ROSENHOLM; L. PENNA; G. KARABULUT; S. UUSITALO; K. JÄRVENTAUSTA; A. YLI-HANKALA; I. YALCIN; N. MATSUI; H. WIGREN; T. RANTAMÄKI. *Univ. of Helsinki, Univ. de Strasbourg, Gazi Univ., Tampere Univ. Hosp., Fac. of Med. and Life Sci., Dept. of Anaesthesia, Tokushima Bunri Univ., Univ. of Helsinki.*

10:00 ZZ6 **321.03** ● Ketamine and attentional bias to threat: MEG correlates of stimulus-evoked neural response. J. R. GILBERT*; C. GALIANO; A. NUGENT; C. ZARATE. *Natl. Inst. of Mental Hlth.*

11:00 ZZ7 **321.04** Ketamine normalizes lateral habenula excitability and reduces depressive-like behavior following maternal deprivation. R. D. SHEPARD*; L. D. LANGLOIS; C. A. BROWNE; M. E. AUTHEMENT; A. BERENJI; I. LUCKI; F. S. NUGENT. *Uniformed Services Univ., Uniformed Services Univ. of the Hlth. Scienc, Uniformed Services Univ., Old Dominion Univ., Uniformed Services Univ. of the Hlth. Scienc.*

8:00 ZZ8 **321.05** ● Signaling pathways connected to rapid antidepressant responses of ketamine are activated by hypnotic-sedative drugs but not hydroxynorketamine. M. ROSENHOLM*; S. KOHTALA; W. THEILMANN; L. PENNA; P. KIURU; J. YLI-KAUHALUOMA; A. B. KLEIN; N. MATSUI; T. RANTAMAKI. *Univ. of Helsinki, Univ. of Copenhagen, Tokushima Bunri Univ.*

9:00 ZZ9 **321.06** ● Ketamine and rapastinel alter synaptic components of inhibitory and excitatory circuits in the prefrontal cortex. C. H. DUMAN*; S. POTHULA; R. LIU; R. TERWILLIGER; S. GHOSAL; R. S. DUMAN. *Yale Univ., Brain Mind Institute, Swiss Fed. Inst.of Technol.*

10:00 ZZ10 **321.07** Role of GABAergic interneuron GluN2B subunits on the antidepressant actions of ketamine in male and female mice. D. M. GERHARD*; R. S. DUMAN. *Yale Univ., Yale Univ. Sch. Med.*

11:00 ZZ11 **321.08** ● Sestrin2 Modulator NV-5138, shows ketamine-like rapid antidepressant effects via direct activation of mTORC1 and BDNF signaling. R. S. DUMAN*; S. POTHULA; T. KATO; R. LIU; C. DUMAN; R. TERWILLIGER; G. P. VLASUK; E. SAIAH; S. HAHM. *Yale Univ. Sch. Med., Sumitomo Dainippon Pharma Co., Ltd, Navitor Pharmaceuticals, Inc.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 ZZ12 **321.09** Projection-specific optogenetic stimulation of medial prefrontal cortex neurons expressing dopamine D1 receptors produces rapid antidepressant effects. R. SHINOHARA*; B. D. HARE; S. POTHULA; R. S. DUMAN. *Yale Univ. Sch. of Med.*

9:00 ZZ13 **321.10** ● NMDA receptor inhibition is not a determinant for the antidepressant effects of the ketamine metabolite (2R,6R)-hydroxynorketamine. E. W. LUMSDEN*; T. A. TROPPOLI; S. J. MYERS; P. ZANOS; S. KIM; Y. ARACAVA; J. KEHR; F. WANG; S. SCHMIDT; C. E. JENNE; M. LANE; R. MOADDEL; P. J. MORRIS; C. THOMAS; S. TRAYNELIS; E. F. R. PEREIRA; S. M. THOMPSON; E. X. ALBUQUERQUE; T. D. GOULD. *Univ. of Maryland, Baltimore, Emory Univ., Pronexus Analytical AB, NIH, NIH.*

10:00 ZZ14 **321.11** ● Comparative phosphoproteomic analysis using frontal cortices from type 3 adenylyl cyclase knockout and wild-type mice. Y. ZHOU*; L. QIU; F. CHU; X. CHEN. *Univ. of New Hampshire.*

11:00 ZZ15 **321.12** ▲ CD1 and BALB/c mice did not differ in the additive influence of ZMA, & ketamine (1 mg/kg) on the anti-depressive index, “swimming time” produced during the forced swimming test. V. J. MEDINA ARANDA*; A. L. ROSADO PEREZ; S. A. VILLALOBOS CETINA, JR; M. A. VILLALOBOS CETINA, JR; J. PINEDA; J. HERRERA. *Univ. Autonoma de Yucatan, Univ. Autonoma de Yucatan, Univ. Autonoma de Yucatán, Univ. Autonoma de Yucatan.*

8:00 ZZ16 **321.13** Ketamine blocks bursting in the lateral habenula to rapidly relieve depression. Y. YANG*; Y. CUI; K. SANG; Y. DONG; Z. NI; S. MA; H. HU. *Ctr. of Neuroscience, Zhejiang Univ., Ctr. of Neurosci.*

9:00 ZZ17 **321.14** Discriminative stimulus properties of the ketamine metabolite (2R, 6R)-hydroxynorketamine (HNK) and ketamine enantiomers in C57BL/6 mice. R. RICE*; F. ZHANG; H. NANGUNURI; A. N. BALDWIN; J. H. PORTER. *Virginia Commonwealth Univ.*

10:00 ZZ18 **321.15** Rapid antidepressant response to ketamine is mediated by Drd1 expressing principal neurons in the medial prefrontal cortex. B. D. HARE*; R. J. LIU; R. SHINOHARA; S. POTHULA; R. J. DILEONE; R. S. DUMAN. *Yale Sch. of Med.*

11:00 ZZ19 **321.16** ● Cellular target and downstream signaling mechanisms underlying the rapid antidepressant actions of rapastinel. S. POTHULA*; T. KATO; D. GERHARD; P. BANERJEE; R. S. DUMAN. *Yale Univ., Allergan Inc.*

8:00 ZZ20 **321.17** Role of cortical somatostatin and parvalbumin interneurons in the rapid antidepressant actions of scopolamine. M. FOGACA*; R. DUMAN. *Yale Sch. of Med.*

POSTER

322. Depression and Bipolar Disorders: Animal Models: Behavioral Mechanism II

Theme G: Motivation and Emotion

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 ZZ21 **322.01** Behavioral deficits caused by inescapable shock. A. STEPHENS*; D. A. MORILAK; D. J. LODGE; A. FRAZER; F. R. CARRENO. *UT Hlth. San Antonio, Ctr. for Biomed. Neurosci., South Texas Veterans Hlth. Care Syst.*

9:00 ZZ22 **322.02** Chronic stress induces elevated levels of neuronal activity in the prefrontal cortex and ventral hippocampus that correlates with depressive- and anxiety-like behaviors in mice. C. J. FEE*; T. D. PREVOT; K. A. MISQUITTA; M. BANASR; E. SIBILLE. *Ctr. for Addiction and Mental Hlth., Univ. of Toronto, Ctr. for Addiction and Mental Hlth., CAMH / Univ. of Tonto, CAMH - Univ. of Toronto, Univ. of Toronto.*

10:00 ZZ23 **322.03** The impact of binding on crayfish aggression. S. GARRETT-RUFFIN*; B. SIZEMORE. *Bowling Green State Univ.*

11:00 ZZ24 **322.04** Experimentally induced glioblastoma and its treatment with rapamycin alters neurobehavioral functioning in rats. M. HADAMITZKY*; A. HERRING; L. LÜCKEMANN; E. M. MARTINEZ-GOMEZ; I. BENDIX; U. SURE; M. SCHEDLOWSKI; M. UNTEROBERDÖRSTER. *Univ. of Essen, Sch. of Med., Univ. of Essen, Sch. of Med., Univ. of Essen, Sch. of Med., Univ. of Essen, Sch. of Med.*

8:00 ZZ25 **322.05** Antidepressant effect of pramipexole in a dexamethasone induced depressive-like behavior model. L. C. SOUZA*; M. M. MUNOZ; J. M. TURNES; E. L. MOURA; R. ANDREATINI; M. A. B. F. VITAL. *Univ. Federal do Parana.*

9:00 ZZ26 **322.06** Purinergic receptors gene expression in the brain of male adolescent mice submitted to chronic social defeat stress. S. CHIAVEGATTO*; H. ULRICH; J. C. CORRÊA-VELLOSO. *Biomed. Sci. Inst. - Univ. of Sao Paulo, Chem. Inst.*

10:00 AAA1 **322.07** ▲ Behavioral and biochemical analyses of C57BL/6J mice with available voluntary exercise: Considerations for enrichment in laboratory rodents. M. A. MARTINEZ*, JR; J. M. FLINN; C. L. C. NEELY. *George Mason Univ., George Mason Univ.*

11:00 AAA2 **322.08** Elevation of O-GlcNAcylation induces antidepressant-like phenotype and synaptic deficit. Y. CHO*; H. HWANG; C. CHUNG; H. RHIM. *Korea Inst. of Sci. and Technol. (KIST), KIST School, Korea Univ. of Sci. and Technol. (UST), Konkuk Univ.*

8:00 AAA3 **322.09** Chlorogenic acid from hawthorn berry (crataegus pinnatifida fruit) prevents stress hormone-induced depressive behavior, through monoamine oxidase B-reactive oxygen species signaling in hippocampal astrocytes of mice. M. UM*; J. LEE. *Korea Food Res. Inst., Korea Food Res. Inst.*

9:00 AAA4 **322.10** Changes in affective behaviors associated with a lack of creatine. Z. I. ABDULLA*; J. L. PENNINGTON; A. GUTIERREZ; M. R. SKELTON. *Cincinnati Children’s Res. Fndn., The Scripps Res. Inst.*

10:00 AAA5 **322.11** Deletion of CRTC1 is associated with strong neuroenergetic dysfunctions in a mouse model of mood disorders. A. CHERIX*; G. DONATI; C. POITRY-YAMATE; J. CARDINAUX; R. GRUETTER. *Ecole Polytechnique Fédérale de Lausanne, Ctr. for Psychiatric Neurosciences, Univ. Hosp. of Lausanne CHUV, Univ. of Geneva, Univ. of Lausanne.*

11:00 AAA6 **322.12** Chronic social defeat stress induces social avoidance and changes the plasma cytokines levels in mice. Y. NAKATAKE*; M. YAMADA; H. FURUIE; H. KUNIISHI; M. UKEZONO; K. YOSHIZAWA; M. YAMADA. *Tokyo Univ. of Sci., Natl. Ctr. of Neurol. and Psychiatry, RIKEN.*

8:00 AAA7 **322.13** Ankyrin-G heterozygous conditional knockout mice display increased sensitivity to social defeat stress. S. ZHU*; C. A. ZACHARY; S. KHAMBADKONE; J. XIONG; C. A. ROSS. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*

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* Indicates abstract’s submitting author

9:00 AAA8 **322.14** Behavioral phenotyping of a Wolfram syndrome transgenic mouse model showed cognitive alteration and anxiety disorder. B. DELPRAT*; L. CROUZIER; C. DELETTRE; T. MAURICE. *Inserm U1198, Inserm U1051.*

10:00 AAA9 **322.15** Sex-specific role for long non-coding RNAs in stress susceptibility and resilience. O. ISSLER*; Y. Y. VAN DER ZEE; I. PURUSHOTHAMAN; Y. E. LOH; A. RAMAKRISHNAN; W. JUNSHI; D. M. WALKER; Z. S. LORSCH; P. J. HAMILTON; C. C. PEÑA; B. J. HARTLEY; E. FLAHERTY; B. T. ANGÉLICA; E. M. PARISE; H. KRONMAN; A. N. START; E. S. CALIPARI; B. LABONTE; K. BRENNAND; Y. DONG; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Univ. of Pittsburgh.*

11:00 AAA10 **322.16** Glutamate-glutamine transfer and chronic stress-induced sex differences in cocaine responses. A. SHIMAMOTO*; T. FARRIS; H. MUNJAL; C. MOORE; C. DAVIS; A. WILSON; M. EDWARDS; C. REYNOLDS; V. RAPPENEAU; C. K. MESHUL. *Meharry Med. Col., Oregon Hlth. and Sci. Univ., VA Med. Ctr.*

8:00 AAA11 **322.17** Sex specific role for slit1 in regulating susceptibility to chronic stress. Y. VAN DER ZEE*; O. ISSLER; E. M. PARISE; A. TORRES BERRÍO; C. J. PEÑA; B. LABONTÉ; B. P. RUTTEN; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Laval Univ., Maastricht Univ. Med. Ctr.*

9:00 AAA12 **322.18** Sex differences in hippocampal physiology: Circuit-specific mechanisms underlying stress susceptibility. E. S. WILLIAMS*; A. L. EAGLE; C. MANNING; A. ROBISON. *Michigan State Univ., Michigan State Univ., Michigan State Univ., Michigan State Univ.*

10:00 AAA13 **322.19** Human experimenter modulates mouse behavioral responses to stress and to the antidepressant ketamine. P. GEORGIOU*; P. ZANOS; D. GERHARD; C. JENNE; J. N. HIGHLAND; D. LOESCH; P. YUAN; S. M. CLARK; L. H. TONELLI; R. MOADDEL; C. A. ZARATE, JR; R. S. DUMAN; T. D. GOULD. *Univ. of Maryland, Baltimore, Univ. of Maryland, Yale Univ., Univ. of Maryland Sch. of Med., Natl. Inst. of Mental Hlth., Univ. of Maryland Sch. of Med., Univ. of Maryland Baltimore, Natl. Inst. on Aging, Natl. Inst. of Hlth., NIMH, Yale Univ. Sch. Med., Univ. of Maryland Sch. of Med.*

POSTER

323. Depression and Bipolar Disorders: Animal Models of Therapeutics

Theme G: Motivation and Emotion

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 AAA14 **323.01** A novel cross-species neurophysiological assay of cognitive control: Development of a touchscreen-based rodent Flanker task. M. A. ROBBLE*; S. NICKELS; B. D. KANGAS; L. WOOLDRIDGE; E. CÁRDENAS; S. PERLO; J. BERGMAN; W. A. CARLEZON, Jr; D. A. PIZZAGALLI. *McLean Hospital, Harvard Med. Sch.*

9:00 AAA15 **323.02** Pharmacological and genetic studies of effort-related decision making using mouse touchscreen procedures: Effects of dopamine antagonism and humanized catechol-o-methyltransferase variants. J. YANG*; R. E. PRESBY; A. A. JARVIE; R. A. ROTOLO; R. FITCH; M. CORREA; J. D. SALAMONE. *Univ. of Connecticut, Psicobiologia. Univ. Jaume I.*

10:00 AAA16 **323.03** The novel atypical dopamine uptake inhibitor S-CE-123 partially reverses the effort-related effects of the dopamine depleting agent tetrabenazine. R. A. ROTOLO*; R. SCHWARTZ; V. DRAGACEVIC; P. KALABA; E. URBAN; M. ZEHL; J. WACKERLIG; T. LANGER; R. E. PRESBY; J. YANG; M. CORREA; G. LUBEC; J. D. SALAMONE. *Univ. of Connecticut, Univ. of Vienna, Univ. of Vienna, Psicobiologia. Univ. Jaume I, Paracelsus Med. Univ.*

11:00 AAA17 **323.04** ● The novel atypical dopamine transport inhibitors CT-005094 and CT-005404 reverse the effort-related motivational effects of the dopamine depleting agent tetrabenazine. J. D. SALAMONE*; R. A. ROTOLO; F. MURRAY; B. MCNAMARA; R. E. PRESBY; J. YANG; M. CORREA. *Univ. of Connecticut, Chronos Therapeut., Univ. of Jaume I.*

8:00 AAA18 **323.05** Dopamine D1 receptor activation in the dentate gyrus enhances antidepressant effects of an SSRI, fluoxetine in a mouse model of depression. T. SHUTO*; M. KUROIWA; N. SOTOGAKU; Y. KAWAHARA; Y. OHNISHI; Y. HANADA; A. NISHI. *Kurume Univ. Sch. of Med.*

9:00 AAA19 **323.06** Intracerebral infusion of beta-hydroxybutyrate, an endogenic NLRP3 inflammasome inhibitor, produces antidepressant like effects in a rodent model of depression. N. KAJITANI*; M. IWATA; T. YAMANASHI; K. TSUNETOMI; A. MIURA; T. NISHIGUCHI; R. S. DUMAN; K. KANEKO. *Tottori Univ., Yale Univ. Sch. Med.*

10:00 AAA20 **323.07** Beta-hydroxybutyrate ameliorates depressive like behavior induced by social defeat stress. K. TSUNETOMI*; M. IWATA; T. YAMANASHI; N. KAJITANI; A. MIURA; M. NAGATA; R. MATSUO; T. NISHIGUCHI; R. S. DUMAN; K. KANEKO. *Tottori Univ., Yale Univ. Sch. Med.*

11:00 AAA21 **323.08** Age-dependency of effects of enriched environment treatment on depression-like behavior and BDNF expression in normal and promoter IV-BDNF deficient mice. S. JHA*; B. DONG; Y. XUE; K. SAKATA. *SASTRA Deemed Univ., Univ. of Tennessee Hlth. Sci. Ctr.*

8:00 AAA22 **323.09** ▲ Seizures as a side effect of deep brain stimulation of the dorsal peduncular subregion of the prefrontal cortex in a rat model of experimental depression. M. ROET*; A. JAHANSHAHI; S. POL; F. L. W. V. SCHAPER; Y. TEMEL. *Maastricht Univ., Maastricht Univ., Radboud Univ. Med. Ctr.*

9:00 AAA23 **323.10** Evaluation of antidepressant-like activity of kiwifruit (actinidia deliciosa) extract in mice. C. M. MARZO*; M. BIANCONI; M. COMMISSO; C. CHIAMULERA; F. GUZZO. *Univ. of Verona, Univ. of Verona.*

10:00 AAA24 **323.11** Peripheral reelin administration rescues neurochemical alterations and depression-like behavior in a preclinical model of depression. J. ALLEN; R. ROMAY-TALLON; K. BRYMER; M. MITCHELL; L. E. KALYNCHUK; H. J. CARUNCHO*. *Univ. of Victoria, Univ. of Saskatchewan.*

11:00 AAA25 **323.12** Methamphetamine administration impedes the expected antidepressant-like effect induced by repeated electroconvulsive shock in adult rats. R. GARCIA-CABRERIZO*; C. BIS-HUMBERT; J. GARCIA-FUSTER. *IUNICS. Univ. of the Balearic Islands.*

8:00 AAA26 **323.13** B cell deficiency is associated with depressive-like behavior in mice. E. B. ENGLER-CHIURAZZI*; J. M. POVROZNIK; X. REN; D. DOLL; H. HU; J. W. SIMPKINS. *West Virginia Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 BBB1 **323.14** ● TMS to LPFC initiates electrophysiological changes in sgACC. G. K. ADAMS*; A. C. DALLSTREAM; K. M. SHARIKA; N. GOSWAMI; A. PETERCHEV; J. I. GOLD; M. L. PLATT. *Univ. of Pennsylvania, Duke Univ., Univ. Pennsylvania.*

10:00 BBB2 **323.15** The effects of the antidepressant drugs on matrix metalleoprteinases release and the proteolysis of the perineuronal nets. S. S. ALAIYED*; M. MCCANN; M. LARA; K. KELLAR; K. CONANT. *Georgetown Univ. Med. Ctr., Georgetown Univ. Med. Ctr.*

11:00 BBB3 **323.16** Differential effects of monoamine uptake inhibitors on effort-related choice behavior and DARPP-32 phosphorilation patterns. C. CARRATALÁ-ROS*; R. OLIVARES-GARCÍA; P. IBÁÑEZ-MARÍN; A. MARTÍNEZ-VERDÚ; J. D. SALAMONE; M. CORREA. *Univ. Jaume I, Univ. Jaume I, Univ. of Conneticut.*

8:00 BBB4 **323.17** Pharmacological inhibition of cell proliferation prevents the antidepressant and increased neurogenic effects induced by repeated electroconvulsive shock treatment in rats. J. GARCIA-FUSTER*; R. GARCIA-CABRERIZO. *IUNICS. Univ. of the Balearic Islands.*

9:00 BBB5 **323.18** ▲ Effects of chronic lithium exposure in a ketamine-induced hyperactivity model of mania. J. KRUG; A. KLEIN; E. M. PURVIS; K. AYALA; M. MAYES; L. COLLINS; M. P. A. FISHER; A. ETTENBERG*. *Univ. of California, Univ. of California, Univ. of California.*

10:00 BBB6 **323.19** Characterization of corticotropin-releasing hormone expressing cells in the anterior cingulate cortex of human subjects. H. OH*; D. A. LEWIS; E. SIBILLE. *CAMH, Univ. Pittsburgh, CAMH - Univ. of Toronto.*

11:00 BBB7 **323.20** Distinct roles for 5-ht1b and 5-ht2a in antidepressant response. Y. SAGI*; L. MEDRIHAN; Z. INDE; O. KRUPA; C. DANIELS; A. PEYRACHE; P. GREENGARD. *Rockefeller Univ., Rockefeller Univ., McGill Univ., Rockefeller Univ.*

8:00 BBB8 **323.21** ● Combined therapeutics: Anxiolytic, antidepressant and pro-cognitive properties of novel positive allosteric modulators at α5-containing GABAA receptors. T. D. PREVOT*; G. LI; A. VIDOJEVIC; K. A. MISQUITTA; A. SANTRAC; D. KNUTSON; M. R. STEPHEN; R. KODALI; N. M. ZAHN; L. A. ARNOLD; P. SCHOLZE; J. L. FISHER; M. BANASR; J. M. COOK; M. SAVIC; E. SIBILLE. *Ctr. For Addiction and Mental Hlth., Univ. of Wisconsin, Univ. of Belgrade, Ctr. for Addiction and Mental Hlth., Med. Univ. Vienna, Univ. So Carolina Sch. Med., CAMH / Univ. of Tonto, Univ. WI-Milwaukee, CAMH - Univ. of Toronto.*

9:00 BBB9 **323.22** Characterization of high-fat-diet-induced treatment-resistant depressive-like brain state: Neural hyperexcitability and responsiveness to the anticonvulsant retigabine. M. FENG*; N. A. CROWLEY; A. PATEL; Y. GUO; S. E. BUGNI; F. K. MALDONADO; B. LUSCHER. *Penn State Univ., Penn State Univ., Penn State Univ.*

10:00 BBB10 **323.23** Effects of the serotonin transport inhibitor fluoxetine on effort-related decision making in male and female rats. E. HURLEY*; R. ROTOLO; R. PRESBY; H. MCMULLEN; B. YE; M. FLYNN; J. YANG; M. CORREA; J. D. SALAMONE. *Univ. of Connecticut, Psicobiologia. Univ. Jaume I, Univ. of Connecticut.*

11:00 BBB11 **323.24** Sex differences in duloxetine efficacy for depression: Estrogen dependency study in transgenic mouse models. R. LI*; Y. XU; L. MA; Y. LI; G. WANG. *Roskamp Inst., Beijing Anding Hospital, Capital Med. Univ., Beijing Inst. for Brain Disorders,Capital Med. Univ.*

8:00 BBB12 **323.25** Escitalopram in the endoplasmic reticulum. A. L. NICHOLS*; P. M. BORDEN; A. V. SHIVANGE; A. KAMAJAYA; A. K. MUTHUSAMY; L. LUEBBERT; J. S. MARVIN; L. L. LOOGER; H. A. LESTER. *Caltech, Janelia Res. Campus, Howard Hughes Med. Inst., Caltech, Leiden Univ.*

9:00 BBB13 **323.26** Effects of selective depletion of CREB in serotonergic neurons on neurotrophin expression after fluoxetine treatment. K. RAFA-ZABLOCKA*; G. KREINER; M. BAGINSKA; I. NALEPA. *Inst. of Pharmacology, PAS.*

10:00 BBB14 **323.27** Comparison between male and female mice in behavioral activation and effort-related decision-making: Involvement of dopamine related markers. M. CORREA*; C. CARRATALA-ROS; A. MARTÍNEZ-VERDÚ; P. IBÁÑEZ-MARÍN; R. OLIVARES-GARCÍA; S. PORRU; J. D. SALAMONE. *Psicobiologia. Univ. Jaume I, Univ. of Connecticut.*

11:00 CCC1 **323.28** Transcriptional coregulators LIM domain-binding protein 1(Ldb1) and LIM-domain-only protein 1(LMO1) modulate Lmx1b-mediated activation of the human tryptophan hydroxylase-2 promoter. H. KANEKO; Y. NAWA; M. TSUBONOYA; T. HIROI; R. TAKAHASHI; H. MATSUI*. *Inst. RI Res, St. Marianna Univ. Grad Sch. Med., Dept Biochem, Fac Pharm Sci, Toho Univ., Dept Mol Behav Neurosci, St. Marianna Univ. Grad Sch. Med.*

8:00 CCC2 **323.29** Repeated assessment of anxiety-like behavior in mice: A new tool with increased reliability and consistency. K. A. MISQUITTA*; T. D. PREVOT; C. J. FEE; D. F. NEWTON; D. CHATTERJEE; E. SIBILLE; M. BANASR. *Ctr. for Addiction and Mental Hlth., Ctr. for Addiction and Mental Hlth., Univ. of Toronto, CAMH - Univ. of Toronto, Univ. of Toronto, CAMH / Univ. of Tonto.*

9:00 CCC3 **323.30** Investigating the neurobiological correlates of antidepressant treatment response: Findings from a novel rat model of treatment resistant depression. C. AYDIN*; P. BLANDINO; E. HEBDA-BAUER; H. AKIL. *Universty of Michigan.*

POSTER

324. Mechanisms of Episodic and Episodic-Like Memory

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 CCC4 **324.01** Brainstem nucleus incertus controls contextual memory formation. A. SZONYI*; K. E. SOS; R. NYILAS; D. SCHLINGLOFF; A. DOMONKOS; V. T. TAKACS; J. PRIESTLEY; B. POSFAI; P. HEGEDUS; Z. BARDÓCZI; A. L. GUNDLACH; V. VARGA; A. I. GULYAS; A. LOSONCZY; T. F. FREUND; G. NYIRI. *Inst. of Exptl. Med. - HAS, Mortimer Zuckerman Mind Brain and Behavior Institute, Columbia Univ., The Florey Inst. of Neurosci. and Mental Hlth.*

9:00 CCC5 **324.02** New mouse object-in-place recognition task for *in vivo* two-photon calcium imaging in themobile home cage. O. I. IVASHKINA*; K. TOROPOVA; A. GRUZDEVA; E. KULIKOVA; K. ANOKHIN. *NRC Kurchatov Institute, NBICS-Center, Lomonosov Moscow State Univ., Moscow Inst. of Physics and Technol., PK Anokhin Inst. of Normal Physiol.*

10:00 CCC6 **324.03** ▲ Permanent damage or chemogenetic inactivation of the postrhinal cortex impairs two forms of higher order conditioning. T. L. CHAKOMA*; E. K. DONAHUE; A. E. DENNEY; S. ROBINSON. *Hamilton Col.*

Mon. AM

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 CCC7 **324.04** ▲ The social context is a cognitive enhancer for episodic-like memory in Wistar rats. P. E. MARINHO*; M. A. S. FRANÇA; R. V. C. B. MOURÃO; F. F. BARBOSA. *Univ. Federal da Paraíba, Univ. Federal da Paraíba.*

8:00 CCC8 **324.05** VGlut1-expressing hippocampal neurons mediate stress-induced generalization of context memories. L. Y. REN*; J. M. RADULOVIC. *Northwestern Univ. - Chicago, Northwestern Univ.*

9:00 CCC9 **324.06** ● SUVN-502: A pure and selective 5-HT_6 antagonist alleviates phenytoin and topiramate induced cognitive impairments. R. ABRAHAM*; J. FERNANDES; V. REBALLI; R. NIROGI. *Suven Life Sci.*

10:00 CCC10 **324.07** ● SUVN-D4010 (5-HT_4 receptor partial agonist) shows promising therapeutic potential for aged post-menopause state associated dementia and Alzheimer's disease. G. VENKATA RAMALINGAYYA; J. TADIPARTHI; N. GANUGA; H. TALAKANTI; P. JAYARAJAN; S. PANDRINKI; N. PATIBANDLA; N. MUDDANA*; A. RASHEED MOHAMMED; R. NIROGI. *Suven Life Sci. Ltd.*

11:00 CCC11 **324.08** Resting-state functional connectivity is correlated to memory performance in the developing brain. A. BOUYEURE; D. BEKHA; R. CHAUVIN; D. GERMANAUD; V. DELATTRE; G. VAROQUAUX; C. CHIRON; L. HERTZ-PANNIER; M. NOULHIANE*. *Neurospin CEA-Saclay & INSERM, Donders Institute, Radboud Univ., INRIA, INSERM, INSERM U663 LBIOM / Neurospin I2BM DSV CEA.*

8:00 CCC12 **324.09** Identification of hippocampal subfields responsible for components of episodic memory. B. M. COX*; A. A. LE; B. G. GUNN; C. D. COX; N. R. HADIDI; J. QUINTANILLA; G. LYNCH; C. M. GALL. *Univ. California Irvine, Univ. California Irvine.*

9:00 CCC13 **324.10** Hippocampal replay of distinct contextual versions of the same sensory experience. B. R. LUSTIG*; Y. WANG; A. K. LEE; E. PASTALKOVA; S. ROMANI. *Janelia Res. Campus, Univ. of Chicago.*

10:00 CCC14 **324.11** Replay of episodic memories in the rat. D. PANOZ-BROWN*; V. IYER; L. M. CAREY, IV; A. G. HOHMANN; J. D. CRYSTAL. *Indiana Univ. Bloomington.*

11:00 DDD1 **324.12** Hippocampus-dependent acquisition and rapid systems consolidation of new learning through elemental second-order conditioning during remote retrieval of contextual memories. A. SINGH*; S. KUNDU; V. SINGH; S. SAUMITRA; J. BALAJI. *Indian Inst. of Sci.*

8:00 DDD2 **324.13** Structural correlates of NMDAR independent learning in retrosplenial cortex. S. KUMAR*; M. PRABOD KUMAR; S. SAUMITRA; B. JAYAPRAKASH. *Indian Inst. of Sci., Indian Inst. of Sci., Indian Inst. of Sci., Indian Inst. of Sci. Malleshwaram Bangalore.*

9:00 DDD3 **324.14** Prior schema assists in acquiring complex multitude of information and acts as a substrate for emergence of novel solution through schema completion. V. SINGH*; S. KUNDU; B. JAYAPRAKASH; R. BHATT; S. RAMANADHAN; S. SHRIDHAR. *Indian Inst. of Sci., Indian Inst. of Sci.*

10:00 DDD4 **324.15** Demonstration of high dynamic range two photon microscopy using single detector. S. NA*, SR; N. GURUSHANKAR; S. KUMAR; J. BALAJI. *Indian Inst. of Sci., Indian Inst. of Sci.*

11:00 DDD5 **324.16** Generalization of temporal memory. S. SHRIDHAR*; V. P. SINGH; S. KUNDU; R. BHATT; J. BALAJI. *Indian Inst. of Science, Bengaluru, Indian Inst. of Sci.*

8:00 DDD6 **324.17** Chemogenetic inhibition of episodic memory replay in rats. V. IYER*; D. PANOZ-BROWN; L. M. CAREY, IV; A. G. HOHMANN; J. D. CRYSTAL. *Indiana Univ.*

9:00 DDD7 **324.18** Patterns of axonal collateralization of single neurons in layer III of the rat presubiculum. Y. HONDA*; T. FURUTA. *Dept. Anatomy, Tokyo Women's Medical.Univ., Grad. Sch. of Dentistry, Osaka Univ.*

10:00 DDD8 **324.19** Identification and segregation of neuronal ensembles of multiple memories using temporal expression dynamics of a single immediate early gene shows related memories are encoded in overlapping population. M. PRABOD KUMAR*; S. KUMAR; J. BALAJI. *Indian Inst. of Sci., Indian Inst. of Sci., Indian Inst. of Sci. Malleshwaram Bangalore.*

11:00 DDD9 **324.20** Negative emotion disrupts the coherence of episodic memories. J. A. BISBY*; N. BURGESS. *UCL Inst. of Cognitive Neurosci., UCL.*

8:00 DDD10 **324.21** The ontogeny of spatial memory consolidation during sleep. L. MUESSIG; M. LASEK; F. CACUCCI; T. WILLS*. *Univ. Col. London.*

9:00 DDD11 **324.22** After watching traumatic videos, wakeful rest and hippocampal activity have opposing effects on subsequent intrusive thoughts vs deliberate memory. L. D. HORLYCK; J. A. BISBY; N. BURGESS*. *Univ. Col. London, UCL Inst. of Cognitive Neurosci., UCL.*

10:00 DDD12 **324.23** Functional populations in the pyramidal cell layer of hippocampal area CA1. D. M. GRIJSEELS*; K. SHAW; C. BARRY; C. N. HALL. *Univ. of Sussex, Univ. Col. London.*

11:00 DDD13 **324.24** Recall memory in the object recognition task is dependent of the care given by the mothers. L. DÍAZ*; M. D. DORANTES-NIETO; A. UGARTE; A. TRUJILLO; C. CORTES; J. EGUIBAR. *Benemérita Univ. Autónoma De Puebla, Benemerita Univ. Autonoma de Puebla, Benemerita Univ. Autonoma de Puebla, B. Univ. Autonoma de Puebla, Benemerita Univ. Autonoma De Puebla.*

POSTER

325. Animal Cognition and Behavior: Decision Making: Orbitofrontal Cortex

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 DDD14 **325.01** Orbitofrontal cortex lesions disrupt anticipatory autonomic responses to reward magnitude in macaque monkeys. J. HWANG*; P. L. NOBLE; E. A. MURRAY. *Lab. of Neuropsychology, NIMH/NIH.*

9:00 DDD15 **325.02** Orbital cortex activity encoding of associative information underlying goal-directed actions. C. CAZARES*; C. GREMEL. *Univ. of California San Diego, Univ. of California San Diego.*

10:00 DDD16 **325.03** Nodal perturbation disrupts value representations and coherent neural dynamics across the fronto-striatal network. J. I. SEDILLO*; S. QIAO; B. PESARAN. *NYU.*

11:00 DDD17 **325.04** Withdrawn

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 DDD18 **325.05** Value based decision making across ventro-medial Prefrontal Cortices in monkey. E. C. LEVY*; E. CHAVRET-RECULON; C. I. JAHN; S. BOURET. *Inst. du Cerveau et de la Moelle Epiniere, INSERM U1127, Inst. du Cerveau et de la Moelle Epiniere, Inst. du Cerveau et de la Moelle Epiniere, CNRS.*

9:00 DDD19 **325.06** Optogenetic inactivation of medial orbitofrontal cortex fails to affect economic choice in well-trained rats. M. P. GARDNER*; J. C. CONROY; C. V. STYER; T. HUYNH; G. SCHOENBAUM. *NIDA IRP, Natl. Inst. on Drug Abuse Intramural Res. Program.*

10:00 DDD20 **325.07** Functional influence of mediodorsal thalamic projections onto mouse lateral orbitofrontal cortex. E. YALCINBAS*; C. GREMEL. *UCSD, UCSD, UCSD.*

11:00 DDD21 **325.08** Inactivation of the orbitofrontal cortex, basolateral amygdala, or mediodorsal thalamus during training impairs performance on a multiple-response/ multiple-reinforcer operant devaluation task in rats. H. FISHER*; A. PAJSER; S. FOX; C. LONG; S. GILBERT; C. L. PICKENS. *Kansas State Univ.*

8:00 DDD22 **325.09** Noradrenergic modulation of the orbitofrontal cortex mediates flexibility of goal-directed behavior. J. CERPA*; A. R. MARCHAND; M. WOLFF; S. L. PARKES; E. COUTUREAU. *Univ. de Bordeaux, CNRS, UMR 5287.*

9:00 DDD23 **325.10** Orbitofrontal neurons represent confidence irrespective of sensory modality and predict confidence-guided time investments. T. OTT*; P. MASSET; J. HIROKAWA; A. KEPECS. *Cold Spring Harbor Lab., Doshisha Univ.*

10:00 DDD24 **325.11** Influence of DLPFC on OFC representation during decision-making. Z. BALEWSKI*; J. D. WALLIS. *UC Berkeley, Univ. of California Berkeley.*

11:00 EEE1 **325.12** Orbitofrontal-hippocampal interactions underlying reinforcement learning. E. B. KNUDSEN*; J. D. WALLIS. *Univ. of California Berkeley, Univ. of California Berkeley.*

8:00 EEE2 **325.13** Value representations in the orbitofrontal cortex drive learning, not choice. K. J. MILLER*; M. M. BOTVINICK; C. D. BRODY. *Princeton Univ., DeepMind, HHMI / Princeton Univ.*

POSTER

326. Animal Cognition and Behavior: Executive Function: Learning and Memory II

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 EEE3 **326.01** Adolescent exposure to THC alters mean diffusivity in adult rat brain regions associated with learning and emotion. R. J. DRAGONE*; S. L. BLAES; S. C. WALL; M. M. BRUNER; L. M. COLON-PEREZ; A. W. BRUIJNZEEL; B. SETLOW; M. FEBO. *Univ. of Florida, UF, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

9:00 EEE4 **326.02** ▲ Contributions of the perirhinal cortex to spatial delay discounting. M. KREHER*; S. A. JOHNSON; J. MIZELL; D. K. CHETRAM; D. T. GUENTHER; S. D. LOVETT; B. SETLOW; J. L. BIZON; S. N. BURKE; A. P. MAURER. *Univ. of Florida, Univ. of Florida, Univ. of Arizona, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida McKnight Brain Inst., Univ. of Florida.*

10:00 EEE5 **326.03** Sex differences in the relationship between risk-taking preference and escalation of cocaine self-administration in rats. C. A. ORSINI*; S. L. BLAES; J. L. BIZON; B. SETLOW. *Univ. of Florida, Univ. of Florida McKnight Brain Inst., Univ. of Florida.*

11:00 EEE6 **326.04** ▲ Development of the spatial gradient along the dorsal-ventral axis of the hippocampus. S. H. NEAL*; D. T. GUENTHER; S. D. LOVETT; B. A. SULAMAN; K. N. LUBKE; M. V. GUEVARA; S. N. BURKE; A. P. MAURER. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

8:00 EEE7 **326.05** ▲ Dissociable effects of advanced age on prefrontal cortical and medial temporal lobe ensemble activity. L. M. TRUCKENBROD*; A. R. HERNANDEZ; J. E. REASOR; K. T. CAMPOS; Q. P. FEDERICO; K. E. FERTAL; K. N. LUBKE; S. A. JOHNSON; B. J. CLARK; A. P. MAURER; S. N. BURKE. *Univ. of Florida, McKnight Brain Institute, Univ. of Florida, Univ. of Florida, Univ. of New Mexico, Univ. of Florida, Univ. of Florida.*

9:00 EEE8 **326.06** ▲ Female rats show greater impulsive choice than males in an intertemporal choice task. A. WHEELER*; C. M. HERNANDEZ; C. A. ORSINI; T. W. TEN EYCK; C. C. LABISTE; B. SETLOW; J. L. BIZON. *Univ. of Florida, Neurosci., Psychiatry.*

10:00 EEE9 **326.07** ▲ Altered $GABA_B$ receptor signaling in basolateral amygdala may contribute to age- associated differences in intertemporal choice. T. W. TEN EYCK*; C. M. HERNANDEZ, III; J. A. MCQUAIL; M. M. BRUNER; S. GHAY; C. C. LABISTE; A. WHEELER; B. SETLOW; J. L. BIZON. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

11:00 EEE10 **326.08** ▲ Targeting GABAergic mechanisms to improve prefrontal cortical-mediated cognitive flexibility in a novel touchscreen-based reversal learning task. L. ALTIDOR*; T. S. GARMAN; S. RAMIREZ; A. M. CRIDER; D. G. LAMB; M. M. BRUNER; A. M. FINNER; E. W. DIRR; F. DELGADO; K. P. OLCZAK; A. P. MAURER; K. J. OTTO; S. N. BURKE; B. SETLOW; J. L. BIZON. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

8:00 EEE11 **326.09** Acute vagus nerve stimulation attenuates novelty-induced arc transcription in dorsal CA1. S. N. BURKE*; A. CRIDER; K. P. OLCZAK; E. W. DIRR; K. N. LUBKE; J. NICK; B. MCLAURIN; E. ATKINSON; K. J. OTTO; A. P. MAURER; D. G. LAMB; B. SETLOW; J. L. BIZON. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Malcom Randall VAMC, Univ. of Florida, Univ. of Florida McKnight Brain Inst.*

9:00 EEE12 **326.10** Hippocampal, perirhinal, and lateral entorhinal contributions to mnemonic discrimination in young and aged rats. S. A. JOHNSON*; S. M. TURNER; K. N. LUBKE; K. E. FERTAL; A. P. MAURER; J. L. BIZON; S. N. BURKE. *Univ. of Florida, Evelyn F. McKnight Brain Inst., Univ. of Florida, Univ. of Florida.*

10:00 EEE13 **326.11** ▲ Laminar differences in velocity modulation of hippocampal local field potential. S. D. LOVETT*; J. P. KENNEDY; Y. ZHOU; Y. QIN; S. N. BURKE; A. SHEREMET; A. P. MAURER. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

11:00 EEE14 **326.12** Aged rats do not use basolateral amygdala during outcome evaluation in an intertemporal choice task. C. M. HERNANDEZ*, III; C. A. ORSINI; C. C. LABISTE; A. WHEELER; T. W. TEN EYCK; M. M. BRUNER; S. M. SINGHAL; C. J. FRAZIER; B. SETLOW; J. L. BIZON. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 EEE15 **326.13** Effects of vagus nerve stimulation on selective attention in Brown Norway rats. D. G. LAMB*; T. S. GARMAN; S. RAMIREZ; A. CRIDER; M. M. BRUNER; E. W. DIRR; F. DELGADO; K. P. OLCZAK; A. P. MAURER; K. J. OTTO; S. N. BURKE; B. SETLOW; J. L. BIZON. *Univ. of Florida, Malcom Randall VAMC, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

9:00 EEE16 **326.14** Perforant path fiber loss results in mnemonic similarity task deficits in rats. S. M. TURNER*; S. A. JOHNSON; J. J. FLINT; K. L. ROBERTSON; J. A. NICK; S. D. LOVETT; J. L. BIZON; S. N. BURKE; A. P. MAURER. *Univ. of Florida, Univ. of Florida McKnight Brain Inst.*

10:00 EEE17 **326.15** Normal aging increases susceptibility to human wild type tau in transentorhinal cortex. J. A. MCQUAIL*; S. A. JOHNSON; M. N. LITENSKI; S. GHAY; S. L. ROSSI; P. CHAKRABARTY; B. I. GIASSON; S. N. BURKE; P. R. RAPP; J. L. BIZON. *Univ. of Florida, NIH, Natl. Inst. on Aging.*

11:00 EEE18 **326.16** Effects of inactivation of the lateral habenula on risky decision making. S. L. BLAES*; C. A. ORSINI; H. HOLIK; J. L. BIZON; B. SETLOW. *Univ. of Florida, Univ. of Florida McKnight Brain Inst., Univ. of Florida.*

8:00 EEE19 **326.17** A mechanistic model of memory and schema consolidation for preventing catastrophic interference in neural networks. T. J. HWU*; J. L. KRICHMAR. *Univ. of California, Irvine, Univ. of California, Irvine.*

9:00 EEE20 **326.18** Systemic administration of 5-HT_6 receptor agonist and antagonists at active and sub-active doses during memory consolidation and amnesia. A. MENESES*; L. APARICIO-NAVA. *Cinvestav - IPN.*

10:00 EEE21 **326.19** Neural activity suppression in the mediodorsal thalamus precedes the occurrence of hippocampal ripples. M. YANG*; N. LOGOTHETIS; O. ESCHENKO. *Max Planck Inst. For Biol. Cybernetics.*

11:00 EEE22 **326.20** Triggering k-complexes and spindles during NREM sleep in rats by electrical stimulation of deep cortex. K. IYER*; M. J. ECKERT; M. TATSUNO; D. R. EUSTON. *Canadian Ctr. For Behavioural Neurosci.*

8:00 EEE23 **326.21** Modelling the influence of reward on offline activity: Replay of hippocampal-accumbens activity supports learning in a stochastic reinforcement learning task. E. ROSCOW*; N. F. LEPORA; M. W. JONES. *Univ. of Bristol.*

9:00 EEE24 **326.22** Effects of optogenetic activation of the locus coeruleus during sleep on hippocampal replay. B. A. GROSS*; K. SWIFT; M. FRAZER; M. MAHONEY; G. R. POE. *UCLA, Univ. of Michigan, Univ. of Vermont.*

10:00 EEE25 **326.23** Parahippocampal feedback input to layer 1 gates dendrite-dependent learning in cortex. G. DORON*; J. SHIN; C. BOCKLISCH; M. VON HEIMENDAHL; M. BRECHT; M. LARKUM. *Humboldt Univ. of Berlin.*

11:00 EEE26 **326.24** Ca^{2+} imaging of network mechanisms of long-term memory consolidation. A. D. GROSMARK*; F. T. SPARKS; M. J. DAVIS; J. ZHANG; A. LOSONCZY. *Columbia Univ., New York Univ., The Univ. of Texas At Austin.*

8:00 FFF1 **326.25** CA1 maintains working memory representation of stimulus identity during trace conditioning. J. L. KLEE*; F. P. BATTAGLIA. *Radboud Univ. Nijmegen, Radboud Univ.*

9:00 FFF2 **326.26** Dissecting brain plasticity patterns of alcohol-memory dynamics - Formation, reconsolidation and extinction. S. BARAK*; H. LAUFER; Y. ASSAF. *Tel Aviv Univ., Tel Aviv Univ., Tel Aviv Univ.*

10:00 FFF3 **326.27** Function of the adult-born neurons in memory consolidation during sleep. D. KUMAR*; I. KOYANAGI; A. C. RUIZ; P. VERGARA; Y. SUGAYA; S. SRINIVASAN; M. KASUYA; T. YU; K. VOGT; M. MURATANI; T. OHNISHI; S. SINGH; C. M. TEIXEIRA; P. NONDHALEE; T. NAOI; T. J. MCHUGH; S. G. KERNIE; M. KANO; T. SAKURAI; M. YANAGISAWA; M. SAKAGUCHI. *Univ. Tsukuba, WPI-IIIS, Dept. of Neurophysiology, Grad. Sch. of Medicine, The Univ. of Tokyo, Departments of Pediatrics and Pathology and Cell Biology, Columbia Univ. Col. of Physicians and Surgeons, Emotional Brain Institute, Nathan Kline Inst., RIKEN Ctr. for Brain Sci.*

POSTER

327. Behavioral Aspects of Memory (Re)Consolidation

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 FFF4 **327.01** Memory interactions across wakefulness and sleep: Consolidation and reconsolidation of auditory classification learning in a songbird. T. P. BRAWN*; H. C. NUSBAUM; D. MARGOLIASH. *MIT, Univ. of Chicago Dept. of Psychology, Univ. of Chicago Dept. of Organismal Biol. and Anat.*

9:00 FFF5 **327.02** ▲ Targeted memory reactivation during sleep facilitates spatial memory consolidation in rats. E. E. HOWARD*; M. CONTRERAS; B. HARPER; E. ARMSTRONG; R. PADGETT; J. FELLOUS. *Univ. of Arizona.*

10:00 FFF6 **327.03** Can we erase fearful memories? A role of sleep. R. SHARMA*; P. SAHOTA; M. THAKKAR. *Truman VA Med. Center/University of Missouri.*

11:00 FFF7 **327.04** ▲ The effects of sleep deprivation on stress granules in *Caenorhabditis elegans.* M. K. DOUGHERTY*; C. SAUL; M. NELSON; J. C. TUDOR. *St. Joseph's Univ.*

8:00 FFF8 **327.05** Low acetylcholine during early sleep is crucial for motor memory consolidation: Support for the synaptic homeostasis theory. S. INAYAT*; .. QANDEEL; M. NAZARIAHANGARKOLAEE; S. SINGH; I. Q. WHISHAW; M. MOHAJERANI. *Univ. of Lethbridge.*

9:00 FFF9 **327.06** A single episode of binge alcohol drinking causes sleep disturbance, disrupts sleep homeostasis and downregulates equilibrative nucleoside transporter 1. M. M. THAKKAR*; P. SAHOTA; R. SHARMA. *HSTMV Hospital/ University of Missouri, Univ. of Missouri Columbia Sch. of Med.*

10:00 FFF10 **327.07** Reconsolidation of appetitive memory and sleep: Functional connectomics and plasticity. L. PADOVANI*; C. TESORIERO; A. L. VYSSOTSKI; M. BENTIVOGLIO; C. V. CHIAMULERA. *Univ. of Verona, Univ. of Verona, Inst. of Neuroinformatics, Univ. of Zurich and ETH Zurich.*

11:00 FFF11 **327.08** ▲ Early consolidation window is vulnerable to induction of state dependent memory by amnesic drugs. A. HERNANDEZ-MATIAS*; D. OSORIO-GÓMEZ; F. BERMUDEZ-RATTONI. *Inst. de Fisiología Celular - UNAM.*

8:00 FFF12 **327.09** Simultaneous assessment of cognitive function, circadian rhythm and spontaneous activity in aging mice. S. LOGAN*; D. OWEN; S. CHEN; W. CHEN; Z. UNGVARI; J. FARLEY; A. CSISZAR; A. SHARPE; M. LOOS; B. KOOPMANS; A. RICHARDSON; W. E. SONNTAG. *Univ. of Oklahoma HSC, Univ. of Oklahoma HSC, Univ. of Oklahoma HSC, Sylics.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 FFF13 **327.10** A memorytrace built in conjunction with a stressor is privileged: Reconsolidation-resistant memories in the crab neohelice. A. DELORENZI*; V. A. MOLINA; P. N. FERNÁNDEZ LARROSA1; F. J. MAZA; L. BLOISE; H. GONZALEZ. *Lab. De Neurobiología De La Memoria, Univ. Nacional de Córdoba, Córdoba, Argentina.*

10:00 FFF14 **327.11** Behavioural tagging: A general approach to understand the mechanism of long term memory formation. M. NASEEM*; S. PARVEZ. *Jamia Hamdard, Hamdard Univ.*

11:00 FFF15 **327.12** Experience-specific anterograde amnesia: Impairment of memory consolidation prevents its subsequent reacquisition in young chicks. K. ANOKHIN*; D. BEZRIADNOV; D. GAEVA; A. TIUNOVA. *NRC Kurchatov Inst., P.K.Anokhin Inst. of Normal Physiol., Lomonosov Moscow State Univ.*

8:00 FFF16 **327.13** Maintenance of contextual fear memories and context discrimination acquired in the absence of the hippocampus. D. C. GIDYK; R. J. MCDONALD; R. J. SUTHERLAND*. *Univ. Lethbridge.*

9:00 FFF17 **327.14** Role of the posterior parietal cortex in fear recovery after extinction. B. JOO*; S. LEE; J. KOO. *Korea Brain Res. Inst.*

10:00 FFF18 **327.15** Overtraining transforms the role of the perirhinal cortex in object recognition memory. H. LEHMANN*; J. MACKENZIE. *Trent Univ.*

11:00 FFF19 **327.16** ▲ Effect of classical music on the extinction of fear memory in rats. P. H. OLIVEIRA*; D. H. PIETROBON; L. L. S. LEMOS; A. C. D. DE ANDRADE; C. M. F. TRZESNIAK; C. R. SARTORI; D. A. R. MOREIRA; R. S. FARIA. *Faculdade de Medicina de Itajubá, Univ. Estadual de Campinas.*

8:00 FFF20 **327.17** The effects of diet manipulation on learning, memory and anxiety. K. PEDEMONTE*; C. M. HERNANDEZ; J. M. FLINN. *George Mason Univ.*

9:00 FFF21 **327.18** Laparoscopic sleeve gastrectomy induced structural connectivity changes between dorsolateral prefrontal cortex and anterior cingulate cortex. Y. HU*; G. LI; M. XU; L. LIU; Q. JIN; Y. NIE; G. JI; G. WANG; Y. ZHANG*. *Sch. of Life Sci. and Technology, Xidian Univ., The Fourth Military Med. Univ.*

POSTER

328. Molecular Mechanisms of Memory (Re)Consolidation

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 FFF22 **328.01** The histone chaperone Anp32E regulates H2A.Z eviction and turnover and regulates memory formation in the hippocampus. G. STEFANELLI*; M. BRIMBLE; K. NARKAJ; A. M. DAVIDOFF; B. J. WALTERS; I. B. ZOVKIC. *Univ. of Toronto Mississauga, St. Jude research Hosp., Univ. of Toronto Mississauga, Hosp. For Sick Children, Univ. of Toronto Mississauga.*

9:00 FFF23 **328.02** ▲ Targeting dna methylation to treat intellectual disability. H. SMITH; A. H. HOWARD; A. R. BOITNOTT; A. REDA; B. MALACHOWSKY; A. J. KENNEDY*. *Bates Col.*

10:00 FFF24 **328.03** Memory reconsolidation requires de novo synthesis of PKMζ. M. BERNABO*; K. NADER. *McGill Univ., McGill Univ.*

11:00 GGG1 **328.04** The induction of a labile state during memory reconsolidation requires beta-adrenergic signaling. C. LIM*; J. KIM; C. KWAK; J. LEE; E. JANG; J. OH; B. KAANG. *Dept of Pharmacol, Wonkwang Univ. Sch. of Med., Seoul Natl. Univ., Ulsan Natl. Inst. of Sci. and Technol. (UNIST).*

8:00 GGG2 **328.05** Deletion of PDE11A improves remote long-term social memory despite blocking recent long-term memory for that same event. K. N. PILARZYK*; J. KLETT; M. P. KELLY. *Univ. of South Carolina- Sch. of Med., Univ. of South Carolina- Sch. of Med.*

9:00 GGG3 **328.06** c-Fos expression in amygdala after moderate and intense inhibitory avoidance training. C. X. RUIZ-LOPEZ*; A. C. MEDINA; P. BELLO-MEDINA; G. L. QUIRARTE; R. A. PRADO-ALCALA. *Inst. de Neurobiología-UNAM.*

10:00 GGG4 **328.07** Model and remodel the trace: Actin cytoskeleton's role in different memory processes. C. MEDINA*; V. DE LA FUENTE; A. ROMANO. *IFIBYNE - CONICET, DFBMC - UBA.*

11:00 GGG5 **328.08** Effects of garcinol administration on microtubule dynamics following cocaine-cue memory retrieval. M. S. MONSEY*; A. N. FRANKLIN; S. G. RUIZ; T. T. LAM; A. C. NAIRN; J. R. TAYLOR. *Yale Univ. Sch. of Med., Yale Univ., Yale Univ. Sch. of Med., Yale Univ., Yale Univ. Sch. Med.*

8:00 GGG6 **328.09** Glutamate NMDA receptors in thalamic nucleus reuniens have a subtype-specific role in memory destabilization and reconsolidation. F. TROYNER*; L. J. BERTOGLIO. *Univ. Federal de Santa Catarina.*

9:00 GGG7 **328.10** Insular cortex glutamatergic NMDA receptors participate in the maintenance of addictive memory. E. GIL LIEVANA*; J. LUIS ISLAS; R. GUTIERREZ; A. BONCI; R. A. MCDEVITT; F. BERMUDEZ-RATTONI; P. MORENO-CASTILLA. *Univ. Nacional Autonoma de Mexico, CINVESTAV - IPN, Natl. Inst. on Drug Abuse, NIA, Inst. de Fisiología Celular - UNAM.*

10:00 GGG8 **328.11** Developmental features of AMPAR trafficking-dependent memory. M. OPENDAK; R. ZANCA; R. M. SULLIVAN*; P. A. SERRANO. *New York Univ., Hunter College, CUNY, NKI & NYU Sch. of Med., Hunter Col. and City Univ. of New York.*

11:00 GGG9 **328.12** Overexpression of GluN2B(E1479Q) within the basal and lateral amygdala enables the modification of a strong fear memory via reconsolidation. C. A. DE SOLIS*; M. GALDAMEZ; C. U. GONZALEZ; S. W. WOODARD; C. E. SALINAS; J. N. MILLER; J. M. PERISH; O. H. PINEDA; R. HOLEHONNUR; A. SANDOVAL; J. E. PLOSKI. *Univ. of Texas At Dallas, The Univ. of Texas at Dallas, The Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas At Dallas.*

8:00 GGG10 **328.13** The pre- and postsynaptic compartments of *Aplysia* sensorimotor neuron synapses form positive feedback loops and act as one functional unit during consolidation of learning-related facilitation by 5HT. I. JIN*; E. R. KANDEL; R. D. HAWKINS. *Columbia Univ.*

9:00 GGG11 **328.14** Behavioral tagging and capture: Memory persistence and memory-activated neuronal ensembles in old age. S. WANG*; A. GROS; A. LIM; V. HOHENDORF; N. WHITE. *Univ. of Edinburgh.*

10:00 GGG12 **328.15** Dorsal hippocampal kappa opioid receptors modulate contextual fear memory reconsolidation in rats. F. VANZ*; V. F. LINARTEVICHI; M. GIACHERO; T. C. M. DE LIMA; L. J. BERTOGLIO. *Univ. Federal De Santa Catarina.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 GGG13 **328.16** Protein kinase C activity in prelimbic cortex is necessary for reconsolidation and persistence of a reactivated contextual fear memory in rats. T. R. DA SILVA*; A. SEGANTINE; A. RAIMUNDY; L. BERTOGLIO; R. ANDREATINI; C. STERN. *UFPR, UFSC.*

8:00 GGG14 **328.17** Interleukin-13 signaling influences long-term potentiation of spatial learning. M. SCIBIOREK*; J. WOMERSLEY; O. TAMGUE; T. BROMBACHER; F. BROMBACHER. *ICGEB, Univ. of Cape Town.*

9:00 GGG15 **328.18** Examining the role of AKT isoforms on spatial learning and memory in AKT mutant mice. D. J. PETERSON*; J. LEVENGA; H. WONG; C. HOEFFER. *Univ. of Colorado - Boulder, Univ. of Colorado - Boulder.*

POSTER

329. Animal Cognition and Behavior: Learning and Memory: Cortical-Hippocampal Interactions I

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 GGG16 **329.01** Seizure-induced cognitive impairment in pregnancy and preeclampsia: Effects of prolonged seizures and anti-seizure treatments. A. C. JOHNSON*; M. J. CIPOLLA. *Univ. of Vermont Larner Col. of Med.*

9:00 GGG17 **329.02** Structural and functional reorganisation in the brain of macaques following fornix transection. V. PELEKANOS*; S. CHAKRABORTY; S. MASON; E. PREMEREUR; D. J. MITCHELL; A. H. BELL; A. C. LEE; A. S. MITCHELL. *Univ. of Oxford, Univ. Col. London, KU Leuven, Univ. of Cambridge, Univ. of Toronto.*

10:00 GGG18 **329.03** Behavioral strategies and source of directional signal for reorientation in sighted and blind animals. C. M. GAGLIARDI*; M. R. LOPEZ; M. C. GARZA; T. I. ERESANARA; I. A. MUZZIO. *Univ. of Texas At San Antonio.*

11:00 GGG19 **329.04** Hippocampus-retrosplenial cortex interaction for memory formation and retrieval. A. N. OPALKA*; J. LIU; H. LIANG; D. V. WANG. *Drexel Univ., Drexel Univ.*

8:00 GGG20 **329.05** Optogenetic silencing of retrosplenial cortex disrupts sensory associative memory. A. BOTTURA DE BARROS*; T. LEE; V. SAMBORSKA; M. PANAYI; T. AKAM; D. M. BANNERMAN; M. M. KOHL. *Univ. of Oxford, Univ. of Oxford, Univ. of Oxford.*

9:00 GGG21 **329.06** Comparative dynamics of activity patterns in the retrosplenial cortex, visual cortex and hippocampus across sleep-wake states. F. YANG*; M. GHOSH; V. HETRICK; D. SIU; O. J. AHMED. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

10:00 GGG22 **329.07** A visual cue-dependent memory circuit for place navigation. H. QIN; L. FU; B. HU; X. LIAO; H. JIA; B. ZOTT; A. A. KONNERTH*; X. CHEN. *Third Military Med. Univ., Huazhong Univ. of Sci. and Technol., Suzhou Inst. of Biomed. Engin. and Technol., Tech. Univ. of Munich, Munich Cluster for Systems Neurol., Tech. Univ. Munich.*

11:00 GGG23 **329.08** The basal forebrain may provide a link between locomotion and learning. K. SVIATKÓ*; A. SZÉLL; P. HEGEDÜS; A. BÁNHIDI; B. HANGYA. *Inst. of Exptl. Med. Hungarian Acade, Dept. of Measurement and Information Systems, Budapest Univ. of Technol. and Econ.*

8:00 GGG24 **329.09** Distinct ripple-triggered cortical activity during natural sleep and wakefulness. J. KARIMI ABADCHI*; M. NAZARIAHANGARKOLAEE; T. KNOPFEL; B. L. MCNAUGHTON; M. H. MOHAJERANI. *CCBN/University of Lethbridge, CCBN, Univ. of Lethbridge, Imperial Col. London, The Univ. of Lethbridge, Univ. of Lethbridge.*

9:00 GGG25 **329.10** Coherent theta and respiratory oscillations between sensory systems and the hippocampus. A. SHERIFF*; S. ZHENG; V. NGUYEN; L. M. KAY. *The Univ. of Chicago, Inst. for Mind and Biol., Univ. of Chicago.*

10:00 GGG26 **329.11** Renewal following extinction of remotely acquired conditioning depends on the postrhinal cortex. N. E. DEANGELI*; D. J. BUCCI; T. P. TODD. *Dartmouth Col.*

11:00 GGG27 **329.12** The retrosplenial cortex is necessary for contextual fear memory even when rats are over-trained. D. FOURNIER*; M. EDDY; T. TODD; D. J. BUCCI. *Dartmouth Col., Dartmouth Col.*

8:00 HHH1 **329.13** ▲ Effects of retrosplenial cortex damage on negative and positive patterning discrimination tasks. A. TAVAKKOLI*; D. I. FOURNIER; T. P. TODD; D. J. BUCCI. *Dartmouth Col., Dartmouth Col., Dartmouth Col.*

9:00 HHH2 **329.14** Characteristics and interactions in the local field potential of the perirhinal and postrhinal cortices. S. G. TRETTEL*; I. TOMAS PEREIRA; V. R. HEIMER-MCGINN; R. D. BURWELL. *Brown Univ., Brown Univ.*

10:00 HHH3 **329.15** Neuronal correlates in the rat retrosplenial cortex and the postrhinal cortex during performance on a visuospatial attention task. E. HWANG*; F. YANG; T. K. JACOBSON; R. D. BURWELL. *Brown Univ., Univ. of Michigan, Brown Univ.*

11:00 HHH4 **329.16** Control of perirhinal-dependent novelty exploration in rats by optogenetic modulation of prefrontal cortex. A. E. IOANNOU*; D. L. POETA; R. D. BURWELL. *Brown Univ., Brown Univ., Brown Univ.*

8:00 HHH5 **329.17** Characterizing representations in the postrhinal cortex during a location bi-conditional spatial memory task. V. J. ESTELA*; R. D. BURWELL. *Brown Univ., Brown Univ.*

9:00 HHH6 **329.18** Impaired spatial reorientation and amyloidosis in the dorsal hippocampus of the 3xTg-AD mouse model of Alzheimer's disease. A. C. STIMMELL*; S. C. MOSELEY; V. LAPOINTE; L. MESINA; L. F. SANTOS-MOLINA; B. N. CRAFTON; B. L. MCNAUGHTON; A. A. WILBER. *Florida State Univ., Univ. of Lethbridge, Univ. of California, Irvine.*

10:00 HHH7 **329.19** Parietal contributions to context-dependent spatial sequence learning. C. SIMMONS*; H. BOWLEY; M. KIRLAN; M. BAIAMONTE; A. A. WILBER. *Florida State Univ.*

11:00 HHH8 **329.20** Impaired spatial orientation and memory reactivation in a mouse model of Alzheimer's disease. S. C. MOSELEY; S. D. BENTHEM; I. SKELIN; A. MELILLI; A. C. STIMMELL; B. L. MCNAUGHTON; A. A. WILBER*. *Florida State Univ., Florida State Univ., Univ. of Lethbridge, Univ. of California, Irvine, The Univ. of Lethbridge.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

330. Animal Cognition and Behavior: Learning and Memory: Cortical-Hippocampal Interactions II

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 HHH9 **330.01** Head-scan firing cells in hippocampal subregion CA3 of aged rats. G. RAO*; H. LEE; N. LUKISH; A. TILLEKERATNE; M. GALLAGHER; J. J. KNIERIM. *Johns Hopkins Univ., Johns Hopkins Univ.*

9:00 HHH10 **330.02** Aged rats with intact memory show additional recruitment in cortical regions relative to young adults in a cue mismatch task. R. P. HABERMAN*; A. BRANCH; A. MONASTERIO; M. GALLAGHER. *Johns Hopkins Univ.*

10:00 HHH11 **330.03** Age does not increase the magnitude of afterhyperpolarization in CA1 pyramidal cells of a behaviorally characterized Long-Evans rat model of aging. A. KIRKWOOD*; D. SEVERIN; M. GALLAGHER. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ. Dept. of Psychological and Brain Sci.*

11:00 HHH12 **330.04** Local-global reference frame control in the CA3 region of aged rats. H. LEE*; N. LUKISH; A. TILLEKERATNE; M. GALLAGHER; J. J. KNIERIM. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Sch. of Med.*

8:00 HHH13 **330.05** Firing rate modulations may encode surface texture cues within the place cell map of hippocampal CA1 neurons. W. HOCKEIMER*; J. J. KNIERIM. *Johns Hopkins Univ., Johns Hopkins Univ.*

9:00 HHH14 **330.06** Spatial firing properties of the lateral entorhinal cortex on a one-dimensional track. C. WANG*; H. LEE; G. RAO; J. J. KNIERIM. *Zanvyl Krieger Mind/ Brain Inst, Johns Hopkins Univ., Solomon H Snyder Dept of Neuroscience, Johns Hopkins Univ. Sch. of Med.*

10:00 HHH15 **330.07** Responses of granule cells, mossy cells, and proximal CA3 cells to local/global cue mismatch indicate a shared role in pattern separation. D. GOODSMITH*; H. LEE; J. P. NEUNUEBEL; J. J. KNIERIM. *Johns Hopkins Univ., Univ. of Delaware, Johns Hopkins Univ.*

11:00 HHH16 **330.08** Hippocampal place fields from modular and distorted entorhinal grid inputs via synaptic plasticity in environments of varying size: A model. F. SAVELLI*; J. J. KNIERIM. *Johns Hopkins Univ., Johns Hopkins Univ.*

8:00 HHH17 **330.09** Robust tracking of neuronal spatial dynamics enables discovery of recalibration of the path integrator in hippocampal place cells. R. P. JAYAKUMAR*; M. S. MADHAV; F. SAVELLI; H. T. BLAIR; J. J. KNIERIM; N. J. COWAN. *Johns Hopkins Univ., Johns Hopkins Univ., UCLA.*

9:00 HHH18 **330.10** Is theta a traveling wave in the medial entorhinal cortex? J. HERNÁNDEZ*; K. COOPER; E. NEWMAN. *Indiana Univ.*

10:00 HHH19 **330.11** Dorsal hippocampus not necessary in a delayed spatial win-shift radial arm maze task. D. M. LAYFIELD*; N. SIDELL; A. ABDULLAHI; E. L. NEWMAN. *Indiana Univ., Indiana Univ. Bloomington.*

11:00 HHH20 **330.12** Decoding the elements of neural computation. S. P. FABER*; N. M. TIMME; J. M. BEGGS; E. L. NEWMAN. *Indiana Univ., IUPUI.*

8:00 HHH21 **330.13** A nonspatial auditory task to investigate the memory for sequences of events across timescales. S. M. GIL*; G. A. ELIAS; S. MESA; R. METHERATE; N. J. FORTIN. *UCI - Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California Irvine Dept. of Neurobio. and Behavior, UC Irvine.*

9:00 HHH22 **330.14** Prefrontal neurons represent task-relevant information about upcoming events. G. A. ELIAS*; S. MESA; M. GIRCZYC; M. MCDERMOTT; A. T. GUDMUNDSON; J. D. LUONG; G. G. K. GOLLA; N. J. FORTIN. *Univ. of California, Irvine.*

10:00 HHH23 **330.15** Sequential activation of upcoming nonspatial item representations in hippocampal activity. N. J. FORTIN*; G. A. ELIAS; L. LI; F. AGOSTINELLI; P. BALDI; B. SHAHBABA. *UC Irvine, UC Irvine, UC Irvine.*

POSTER

331. Animal Cognition and Behavior: Learning and Memory: Hippocampal Circuits III

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 HHH24 **331.01** ● Optimising a behavioural protocol for an animal model of everyday memory. T. TAKEUCHI*; N. J. BROADBENT; B. MASATSUGU; M. CORCOLES-PARADA; A. AYRES; D. TSE; M. PETERS; R. G. MORRIS. *Aarhus Univ., The Univ. of Edinburgh, Dart NeuroScience LLC.*

9:00 HHH25 **331.02** Biphasic hippocampal activation by unconditional stimulus shapes contextual memory and memory generalization. J. GUO*; D. TRUONG; A. SAMUEL; A. BARREIRO; E. KAVALALI; D. LIN; W. XU. *UT Southwestern Med. Ctr., Southern Methodist Univ., NIH NIDA IRP.*

10:00 HHH26 **331.03** Effect of time and speed on hippocampal theta rhythm in freely behaving mice. R. PATERNO*; T. LI; S. C. BARABAN. *Epilepsy Res. Lab. and Weill Inst., Epilepsy Res. Lab. and Weill Inst. for Neuroscience, Dept. of Neurolog. Surgery, Univ. of California, San Francisco, Univ. California San Francisco.*

11:00 HHH27 **331.04** Oscillatory and single-unit activity in the amygdala-hippocampus circuit in response to optogenetic stimulation of the amygdala. N. S. AHLGRIM*; D. S. REIS; S. A. SWARNA; J. R. MANNS. *Emory Univ., Emory Univ., Emory Univ.*

8:00 HHH28 **331.05** Intracellular dynamics of hippocampal CA3 pyramidal cells in relation to brain state in awake head-fixed mice. A. L. KEES*; M. MALÉZIEUX; C. MULLE. *Univ. de Bordeaux.*

9:00 HHH29 **331.06** Stability and disruption of hippocampal spiking sequences encoding odors and time during working-memory. J. TAXIDIS*; A. L. MYLAVARAPU; E. PNEVMATIKAKIS; P. GOLSHANI. *UCLA, Simons Fndn., UCLA Dept. of Neurol.*

10:00 HHH30 **331.07** Phase decoding of replay events in the rodent hippocampus. S. MACKESEY*; F. T. SOMMER. *Univ. of California Berkeley, Helen Wills Neurosci. Inst.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 HHH31 **331.08** Structurally and functionally dissociable hippocampal outputs via distinct classes of subiculum neurons. M. S. CEMBROWSKI*; M. G. PHILLIPS; S. F. DILISIO; B. C. SHIELDS; J. WINNUBST; J. V. CHANDRASHEKAR; E. BAS; N. P. SPRUSTON. *Howard Hughes Med. Inst., UCL Sainsbury Wellcome Ctr. for Neural Circuits and Behaviour, Howard Hughes Med. Inst., Duke Univ., HHMI Janelia Res. Campus, Janelia Res. Campus, HHMI, Howard Hughes Med. Insitute, HHMI Janelia Res. Campus.*

8:00 HHH32 **331.09** GABAergic inhibition coincident with sharp wave-ripples broadcasts within and beyond the hippocampal formation. G. G. SZABO*; I. GULSEVER; B. DUDOK; C. VARGA; M. OIJALA; I. SOLTESZ. *Stanford Univ., Univ. of Pecs, Stanford Univ.*

9:00 HHH33 **331.10** Task specific roles of distinct hypothalamic-hippocampal circuits. L. HE*; S. CHEN; A. J. Y. HUANG; X. WANG; R. BOEHRINGER; D. POLYGALOV; M. E. WINTZER; Y. TAO; M. GU; H. HAMA; K. NAMIKI; A. MIYAWAKI; V. ROBERT; L. THERREAU; R. A. PISKOROWSKI; T. J. MCHUGH. *RIKEN Ctr. for Brain Sci., The Univ. of Tokyo, RIKEN Ctr. for Brain Sci., CNRS UMR8118, Inserm U894 - Inst. of Psychiatry and Neurosci. of Paris, Inserm U894, Univ. Paris Descartes.*

10:00 HHH34 **331.11** Experience-dependent changes in CA1 place cell spatial information and CA1 network activity are disrupted in Fmr1 KO rats. A. ASIMINAS*; E. A. M. A. ALLISON; P. C. KIND; E. R. WOOD. *The Univ. of Edinburgh, Simons Initiative for the Developing Brain, The Patrick Wild Ctr., The Univ. of Edinburgh, Ctr. for Brain Develop. and Repair.*

11:00 HHH35 **331.12** The effects of the inducible transcription factor, Npas4, on place cell characteristics in CA1 of freely behaving mice. A. PAYNE*; A. HARTZELL BRIGIDI; C. QUIRK; S. LEUTGEB; B. BLOODGOOD. *UCSD.*

8:00 HHH36 **331.13** Altered hippocampal replay is associated with memory impairment in mice heterozygous for the SCN2A gene. S. J. MIDDLETON*; E. M. KNELLER; S. CHEN; I. OGIWARA; M. MONTAL; K. YAMAKAWA; T. J. MCHUGH. *Riken Brain Sci. Inst., RIKEN Ctr. for Brain Sci., UCSD, RIKEN, BSI, Lab. for Neurogenetics, RIKEN Ctr. for Brain Sci.*

9:00 HHH37 **331.14** Differential effects of rottlerin and MK-801 on aversive memory: Involvement of different signaling molecules in the hippocampus. S. HU*; M. HSIUNG. *Dept of Psychology, Natl. Cheng Kung Univ., Natl. Cheng Kung Univ.*

10:00 HHH38 **331.15** Vortioxetine reverses the cognitive impairments associated with hippocampal-dependent visuospatial memory induced in a rodent model of androgen deprivation therapy for prostate cancer. A. SHARP*; S. LERTPHINYOWONG; J. GELFOND; T. JOHNSON-PAIS; R. LEACH; M. LISS; A. SULLIVAN; I. THOMPSON; D. A. MORILAK. *UT Hlth. San Antonio, UT Hlth. San Antonio, UT Hlth. San Antonio.*

11:00 HHH39 **331.16** Effect of bilateral lesions of hippocampus and nidopallium caudolaterale (NCL) on discrimination of temporal order in pigeons. O. F. LAZAREVA*; K. M. POGATETZ; M. FLAIM; V. P. BINGMAN; M. J. ACERBO. *Drake Univ., Bowling Green State Univ., Iowa State Univ.*

8:00 HHH40 **331.17** Avian sharp wave-ripples reveal link to ancestral sleep circuits. J. M. ONDRACEK*. *Tech. Univ. Munich.*

9:00 HHH41 **331.18** HippoBellum: Cerebellar modulation of hippocampal functioning. Z. ZEIDLER*; M. BRANDT-FONTAINE; Z. MONTES; E. I. KROOK-MAGNUSON. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota Syst.*

10:00 HHH42 **331.19** Functional left/right asymmetry of rat hippocampus depending on short/long-term memory. Y. SAKAGUCHI*; Y. SAKURAI. *Doshisha Univ.*

11:00 HHH43 **331.20** Learning and memory in split-brain mice. J. JORDAN*; Y. TONG; C. L. PYTTE. *Grad. Center, The City Univ. of New York, Queens Col., Queens Col.*

8:00 HHH44 **331.21** The effects of continuous versus intermittent access to a western style diet on short-term object and place recognition memory in rats. M. D. KENDIG*; R. F. WESTBROOK; M. J. MORRIS. *Univ. of New South Wales, Univ. of New South Wales.*

9:00 HHH45 **331.22** Effects of paternal obesity on behavior and hippocampus CB1-R in offspring. G. SINDI*; Y. SLYVKA; Y. ZHANG; F. V. NOWAK. *Ohio Univ., Ohio Univ.*

10:00 HHH46 **331.23** Modulation of low-frequency pulsed magnetic field on hippocampal neural oscillation in depression rats. J. YANG*; L. WANG; D. MING. *Tianjin Univ.*

11:00 HHH47 **331.24** Serotonergic neuromodulation in dorsal CA1 shapes reward receiving behavior. A. LUCHETTI*; A. BOTA; T. ISLAM; A. TASHIRO; Y. HAYASHI. *NTU, RIKEN Brain Sci. Inst., RIKEN Brain Sci. Inst., Kyoto University, Grad. Sch. of Med., Grad. Sch. of Sci. and Engin., Nanyang Technological Univ., Kyoto Univ. Grad. Sch. of Med., Brain and Body Syst. Sci. Inst., Sch. of Life Sci.*

8:00 HHH48 **331.25** Functional segregation along the proximo-distal axis of CA1. Y. OTA*; B. J. WILTGEN. *Univ. of California, Davis, Univ. of California, Davis, Univ. of California, Davis.*

9:00 HHH49 **331.26** Altered immediate early gene expression in fos-tTA transgenic mice. J. H. WILMOT*; J. A. GRAHAM; M. M. LAFRENIERE; K. PUHGER; B. J. WILTGEN. *UC Davis, UC Davis.*

10:00 HHH50 **331.27** Increases in hippocampal activity are more detrimental to memory retrieval than decreases. J. N. KRUEGER*; J. H. WILMOT; K. R. PUHGER; S. E. NEMES; B. J. WILTGEN. *Univ. of California Davis, Univ. of California, Davis, Univ. of California, Davis.*

11:00 HHH51 **331.28** Mechanisms of memory impairment following optogenetic disruption of the ventral hippocampus. J. A. GRAHAM*; N. VISHWAKARMA; B. J. WILTGEN. *UC Davis, UC Davis.*

8:00 HHH52 **331.29** Neural circuits underlying trace fear conditioning. K. PUHGER*; J. WILMOT; B. WILTGEN. *UC Davis, UC Davis.*

POSTER

332. Animal Cognition and Behavior: Learning and Memory: Gamma and Theta Rhythms

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 HHH53 **332.01** ● The use of EEG evoked responses for the identification of cognitive enhancers in rodents. V. DUVEAU*; A. WOźNIAK-KWAśNIEWSKA; A. EVRARD; C. RUGGIERO; C. ROUCARD; Y. ROCHE. *Synapcell SAS.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 HHH54 **332.02** Control of fear and extinction memory retrieval via manipulation of BLA-PFC oscillatory network state. M. OZAWA*; P. DAVIS; T. PAPOUIN; J. MAGUIRE; L. REIJMERS. *Tufts Univ., Tufts Univ.*

10:00 HHH55 **332.03** Amygdala central nucleus inactivation impairs learning-related spike activity and local field potentials in the basilar pontine nucleus. J. KIM*; S. J. FARLEY; J. H. FREEMAN. *Univ. of Iowa, Iowa Neurosci. Inst.*

11:00 HHH56 **332.04** Interplay of resonant and synchronizing generators in a hippocampal theta model. V. GUNTU*; A. M. HUMMOS; S. S. NAIR. *Univ. of Missouri, Univ. of Missouri.*

8:00 HHH57 **332.05** Do ethological differences between species shape neural mechanisms in the hippocampus? S. L. DUNN*; S. M. TOWN; J. K. BIZLEY; D. BENDOR. *UCL, UCL.*

9:00 HHH58 **332.06** Discrete structure of the brain rhythms. Y. A. DABAGHIAN*; L. PEROTTI. *Univ. of Texas at Houston, McGovern Med. S, Texas Southern Univ.*

10:00 HHH59 **332.07** Cortico-hippocampal gene expression following rTMS in rats is dependent on age and cognitive status. M. WEILER; K. C. STIEGER; J. M. LONG*; E. LEHRMANN; Y. ZHANG; K. G. BECKER; P. R. RAPP. *NIH, NIH.*

11:00 HHH60 **332.08** D-cycloserine enhances location specificity of CA1 place cells by enhancing signal-to-noise ratios and transiently increasing theta cell activity. P. J. NGUYEN-LEE*; C. HACKER; L. T. THOMPSON. *Univ. of Texas At Dallas, Univ. of Texas At Dallas.*

8:00 HHH61 **332.09** Hippocampal slow and fast gamma rhythms correlate differentially with successful memory performance in a goal-directed spatial memory task. C. ZHENG*; L. L. COLGIN. *Tianjin Univ., Tianjin Univ., Univ. of Texas at Austin, Univ. of Texas at Austin, Univ. of Texas at Austin.*

9:00 III1 **332.10** Preferential reactivation of CA3 place cells representing a novel experience during post-learning sleep. E. HWAUN*; L. L. COLGIN. *UT Austin.*

10:00 III2 **332.11** CA2 place cells remap in response to social olfactory stimuli. A. J. MABLY*; L. T. HEWITT; L. L. COLGIN. *Univ. of Texas at Austin, Univ. of Texas at Austin, Univ. of Texas at Austin.*

11:00 III3 **332.12** Persistent co-activity patterns of neurons in the medial entorhinal cortex across waking and sleep states are not explained by similar patterns of place cell co-activity. J. B. TRIMPER*; S. G. TRETTEL; E. HWAUN; I. R. FIETE; L. L. COLGIN. *The Univ. of Texas At Austin, Univ. of Texas at Austin, UT Austin, UT Austin, Univ. of Texas At Austin.*

8:00 III4 **332.13** Maturation of hippocampal oscillatory activities during Barnes maze navigation in the juvenile rat. D. G. MCHAIL*; R. H. OGOE; C. KIMBALL; T. C. DUMAS. *George Mason Univ., George Mason Univ.*

9:00 III5 **332.14** Thalamic reticular nucleus controls the gain of the head-direction signal. A. J. DUSZKIEWICZ*; E. BROWN; M. YAMASAKI; M. WATANABE; A. PEYRACHE. *McGill Univ., Hokkaido Univ., Hokkaido Univ. Sch. Med., McGill Univ.*

10:00 III6 **332.15** Thalamic nuclei are specifically entrained to hippocampal oscillatory dynamics. G. VIEJO*; G. BUZSAKI; A. PEYRACHE. *Univ. McGill, New York University, Sch. of Med., McGill Univ.*

POSTER

333. Decision Making I

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 III7 **333.01** Psychophysics of political preferences mediated by information. B. LU*; J. ZIMMERMANN; P. W. GLIMCHER. *New York Univ.*

9:00 III8 **333.02** Psychosocial stressors promote opioid use by sharpening the neural representation of subjective value. A. B. KONOVA*; S. LOPEZ-GUZMAN; C. IFRAH; N. BANAVAR; K. LOUIE; J. ROTROSEN; P. W. GLIMCHER. *New York Univ., New York Univ., Univ. del Rosario, Univ. of Pennsylvania, New York Univ. Sch. of Med.*

10:00 III9 **333.03** Stress causes distinct time-dependent increases in reward valuation in the presence versus absence of explicit temptation. C. M. RAIO*; A. B. KONOVA; N. V. BANAVAR; P. W. GLIMCHER. *New York Univ.*

11:00 III10 **333.04** Collaboration and optimization in the personality game. K. MOGI*. *Sony Comp Sci. Lab.*

8:00 III11 **333.05** Neural mechanism underlying value conversion of others' reward to decision. H. FUKUDA*; N. MA; S. SUZUKI; N. HARASAWA; K. UENO; J. L. GARDNER; N. ICHINOHE; M. HARUNO; K. CHENG; H. NAKAHARA. *RIKEN, Ctr. For Brain Sci., Univ. of Tokyo, Tohoku Univ., Tohoku Univ., Ctr. For Brain Science, RIKEN, Stanford Univ., RIKEN BSI, Natl. Ctr. of Neurol. and Psychiatry, Natl. Inst. of Information and Communication Technol., RIKEN, Ctr. For Brain Sci., Kyoto Univ.*

9:00 III12 **333.06** A model of reaching movements as a reflection of ongoing decision making. N. J. WISPINSKI*; C. S. CHAPMAN. *Univ. of Alberta, Univ. of Alberta.*

10:00 III13 **333.07** Estimating the costs of cognitive control: Theoretical validation and potential pitfalls. S. MUSSLICK*; J. D. COHEN; A. SHENHAV. *Princeton Univ., Brown Univ.*

11:00 III14 **333.08** Smooth pursuit eye movements as dynamic readout of reward-based target selection in healthy and Parkinson's disease participants. A. MONTAGNINI*; J. DAMASSE; G. K. MANN; C. B. JONES; M. J. MCKEOWN; M. SPERING. *CNRS & Aix-Marseille Univ., CNRS and Aix-Marseille Univ., Univ. of British Columbia, Univ. of British Columbia.*

8:00 III15 **333.09** learning from reward feedback in high-dimensional environments. S. FARASHAHI*; V. NOMOF; Z. ASLAMI; A. SOLTANI. *Dartmouth Col.*

9:00 III16 **333.10** Towards a neurometric-based construct validity of trust. P. A. CHEN*; D. S. FARERI; B. GÜROğLU; M. R. DELGADO; L. J. CHANG. *Dartmouth Col., Adelphi Univ., 3Leiden Univ., Rutgers Univ. Newark, Dartmouth Col.*

10:00 III17 **333.11** Behavioral and neural evidence for quantum reinforcement learning during decision making. J. LI; Z. WEI; X. ZHANG*. *Univ. of Sci. & Technol. of China.*

11:00 III18 **333.12** Dynamic modulation of brain network integration and arousal during exploration and exploitation. N. TARDIFF*; S. L. THOMPSON-SCHILL. *Univ. of Pennsylvania.*

8:00 III19 **333.13** Expectations about the source of surprise dictate the relationship between feedback-related eeg signals and learning. M. R. NASSAR*; R. BRUCKNER; M. J. FRANK. *Brown Univ., Freie Univ. Berlin, Brown Inst. for Brain Sci.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 III20 **333.14** A visual bandit task in mice reveals a female-specific strategy associated with enhanced acquisition of the optimal choice. S. CHEN*; B. EBITZ; J. JEONG; M. CHU; Z. MAHAMED; S. BINDAS; B. HAYDEN; N. GRISSOM. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Grinnell Col.*

10:00 III21 **333.15** Leaky-integrating dynamics, approximating Bayesian assumption of environmental non-stationarity (change points), outperform Q-learning (delta rule) in accounting for human prediction and choice behavior. C. K. RYALI*; A. J. YU. *UC San Diego, UC San Diego.*

11:00 III22 **333.16** Effective learning is accompanied by high dimensional and efficient representations of neural activity. E. TANG*; M. G. MATTAR; C. GIUSTI; S. L. THOMPSON-SCHILL; D. S. BASSETT. *Univ. of Pennsylvania, Princeton Univ., Univ. of Delaware, Univ. of Pennsylvania.*

8:00 III23 **333.17** Reaction time in speeded decision processing: How stimulus predictability affects the emergence of 1/f noise. P. ALEFANTIS*; C. SIETTOS; N. P. SMYRNIS. *Univ. Mental Hlth. Res. Inst., Sch. of Applied Mathematics and Physical Sciences, Natl. Tech. Univ. of Athens, Natl. and Kapodistrian Univesrity of Athens Med.*

9:00 III24 **333.18** Data-driven mapping of over 100 naturalistic tasks in the human brain. T. NAKAI*; S. NISHIMOTO. *NICT, Grad. Sch. of Frontier Biosciences, Osaka Univ., Grad. Sch. of Medicine, Osaka Univ.*

10:00 III25 **333.19** Neuro-computational mechanisms for deciding with predicting others. N. MA*; N. HARASAWA; K. UENO; N. ICHINOHE; M. HARUNO; K. CHENG; H. NAKAHARA. *RIKEN, Ctr. For Brain Sci., RIKEN Ctr. for Brain Sci., Natl. Ctr. of Neurol. and Psychiatry, Natl. Inst. of Information and Communication Technol., RIKEN Ctr. for Brain Sci.*

11:00 III26 **333.20** Withdrawn

8:00 III27 **333.21** Dissociating conflict and uncertainty- An evidence accumulation model. A. MANDALI*; V. VOON. *Univ. of Cambridge.*

9:00 III28 **333.22** A divisive model of evidence accumulation explains unequal weighting of evidence over time in an auditory perceptual decision making task. W. KEUNG*; T. A. HAGEN; R. C. WILSON. *Univ. of Arizona.*

10:00 III29 **333.23** ● A Bayesian model explains how individual and mutual properties of action and outcome affect sense of agency. R. LEGASPI*; T. TOYOIZUMI. *RIKEN Ctr. for Brain Sci.*

11:00 III30 **333.24** Decomposing Simon task BOLD activation using a drift-diffusion model framework. J. R. MCINTOSH*; P. SAJDA. *Columbia Univ.*

8:00 III31 **333.25** Model-based quantitative analysis of two 'guilt aversion's. S. NUMANO*; M. HARUNO. *Grad. Sch. of Frontier Biosciences, Osaka Uni, Natl. Inst. of Information and Communication Technol.*

9:00 III32 **333.26** Graph theory measures of functional connectivity in divergent and convergent thinking in "Big-C" creativity. K. JAPARDI*; A. ANDERSON; K. KNUDSEN; S. BOOKHEIMER; R. BILDER. *UCLA.*

10:00 III33 **333.27** Does seeing the world from the perspective of an autonomous vehicle alter the view of autonomous vehicles? J. PAK*; C. WILLEY; N. AKRAM; U. MAOZ. *Brain Inst., UCLA, UCLA.*

11:00 III34 **333.28** Belief updating and demand for instrumental information. N. M. SINGLETARY*; G. HORGA; J. GOTTLIEB. *Columbia Univ., Columbia Univ.*

8:00 III35 **333.29** Application of entropy, information gain, and decision trees for intelligent decision making and data fusion. H. C. YUAN*; M. CHAO. *Independent Lab., Independent Lab.*

9:00 III36 **333.30** Increased curiosity enhances memory in older adults. E. TEDESCHI*; C. MARVIN; E. LANG; D. VARATHAN; D. SHOHAMY. *Columbia Univ.*

POSTER

334. Human Cognition and Behavior: Human Learning: Feedback, Reinforcement, and Reward

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 III37 **334.01** ▲ Multimodal ERP analysis of mental arithmetic processing performance and its relationship to selective attention, and fatigue. M. N. BAKER; C. SHEN; S. J. PANZENHAGEN; B. CLARK; D. H. HUGHES; A. W. CHIU*. *Rose-Hulman Inst. of Technol.*

9:00 III38 **334.02** The modified law of effect and the partial reinforcement extinction effect. A. P. BLAISDELL*; B. M. SEITZ; C. INDUDHARA. *UCLA.*

10:00 III39 **334.03** Action in auctions: Neural and computational learning mechanisms of repeated bidding. M. MARTINEZ-SAITO*; R. KONOVALOV; M. PIRADOV; A. SHESTAKOVA; B. S. GUTKIN; V. KLUCHAREV. *Higher Sch. of Econ., Res. Ctr. of Neurol., Higher Sch. of Econ., Group For Neural Theory, LNC INSERM U960, Ecole Normale Superieure, The Natl. Res. Univ. Higher Sch. of.*

11:00 III40 **334.04** Option transfer in humans enables faster exploration. L. XIA*; A. G. COLLINS. *Univ. of California Berkeley, Univ. of California, Berkeley.*

8:00 III41 **334.05** Credit assignment in reinforcement learning is impaired in individuals with obsessive-compulsive and schizotypal traits. S. SUZUKI*; K. KATAHIRA; Y. YAMASHITA. *Tohoku Univ., Nagoya Univ., Natl. Ctr. of Neurol. and Psychiatry.*

9:00 III42 **334.06** Transcranial direct current stimulation over the prefrontal cortex alters performance in trial-and-error behavioral learning. T. KAWAGUCHI; A. MATSUNAGA; M. SUZUKI; S. SHIMIZU; K. SHIBATA; A. WATANABE; M. WATANABE; H. AKITA; M. FUKUDA; H. ISHIBASHI*. *Kitasato Univ., Grad. Sch. of Med. Sciences, Kitasato Univ., Fac. of Hlth. Sciences, Tokyo Kasei Univ., Sch. of Allied Hlth. Sciences, Kitasato Univ., Dept Physiol Sch. Allied Helth Sci, Kitasato Univ., Kitasato Univ, Sch. Allied Hlth. Sci.*

10:00 III43 **334.07** Cortical thickness and volume of the right posterior parietal cortex predict individual learning rate in healthy adults. M. CHAWLA*; P. HOMAN; C. GORDON; E. FELTHAM; I. HARPAZ-ROTEM; D. SCHILLER; I. LEVY. *Yale Sch. of Med., Icahn Sch. of Med. At Mount Sinai.*

11:00 III44 **334.08** ● A randomized controlled trial of neurofeedback-augmented meditation training. R. VAN LUTTERVELD*; A. ROY; P. PAL; J. BREWER. *Univ. of Massachusetts.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

8:00 III45 **334.09** Impairment of cognitive alteration for duration production in Parkinson's disease. M. HONMA*; Y. MASAOKA; S. KOYAMA; T. KURODA; A. FUTAMURA; A. SHIROMARU; Y. TERAO; K. ONO; M. KAWAMURA. *Kyorin Univ. Sch. of Med., Showa Univ. Sch. of Med., Univ. of Tsukuba, Showa Univ. Sch. of Med., Kyorin Univ. Sch. of Med.*

9:00 III46 **334.10** Development of a framework to improve neurofeedback self-regulation performance and provide new insights to the inefficacy problem. N. M. C. DA COSTA*; E. BICHO; N. S. DIAS. *Sch. of Engineering, Univ. of Minho, Sch. of Medicine, Univ. of Minho, ICVS/3B's - PT Government Associate Lab., MIT Portugal Program in Bioengineering Systems, 2Ai – Polytechnic Inst. of Cávado and Ave.*

10:00 III47 **334.11** Elucidating cross-modal integration in the superior temporal sulcus via representational similarity analysis. C. W. KORN*; J. P. GLAESCHER. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Med. Ctr. Hamburg-Eppendorf.*

11:00 III48 **334.12** The signal for good news and value of information in human choice behavior. J. SAWALHA*; M. L. SPETCH; C. S. CHAPMAN. *Univ. of Alberta, Univ. of Alberta, Univ. of Alberta.*

8:00 III49 **334.13** Learning to learn: Lateral frontal and cingulo-opercular cortex support the learning and transfer of hierarchical task structure. A. EICHENBAUM*; J. SCIMECA; M. D'ESPOSITO. *Univ. of California.*

9:00 III50 **334.14** Hippocampal GABA differences based on video game genre preferences. K. PRENA*; H. CHENG; S. D. NEWMAN. *Indiana Univ.*

10:00 III51 **334.15** Computations of volatility in complex, uncertain environments. M. RAKHSHAN*; B. Y. HAYDEN; A. IZQUIERDO; A. SOLTANI. *Dartmouth Col., Univ. of Minnesota, UCLA.*

11:00 III52 **334.16** Separable attention processes constrain multidimensional reinforcement learning. A. RADULESCU*; Y. NIV. *Princeton Univ., Princeton Univ.*

8:00 III53 **334.17** Establishing targets for fMRI neurofeedback in sensorimotor cortex. E. OBLAK*; J. S. SULZER; J. A. LEWIS-PEACOCK. *Univ. of Texas at Austin, Univ. of Texas at Austin.*

9:00 III54 **334.18** Confidence modulates feedback processing during human probabilistic learning. M. BEN YEHUDA*; R. A. MURPHY; N. YEUNG. *Univ. of Oxford.*

10:00 III55 **334.19** Mesolimbic connectivity during neurofeedback training predicts learning to volitionally activate the ventral tegmental area. J. N. THORP; S. HAKIMI*; K. C. DICKERSON; J. J. MACINNES; R. A. ADCOCK. *Duke Univ., Univ. of Washington.*

11:00 III56 **334.20** ▲ Reinforcer inflation in humans using inter-trial interval alterations as reinforcers. C. LONG*; C. L. PICKENS. *Kansas State Univ.*

8:00 III57 **334.21** ▲ The effects of tyrosine supplementation on classical conditioning. T. N. OCHOA; A. BICCUM; E. BARKLEY-LEVENSON*. *Hofstra Univ., Hofstra Univ.*

9:00 III58 **334.22** Working memory contributions to probabilistic reinforcement learning. W. RYAN*; A. G. E. COLLINS. *Univ. of California, Berkeley, Univ. of California, Berkeley.*

10:00 III59 **334.23** Out-of-the-box decoding of error-related brain signals with deep learning. J. BEHNCKE*; R. SCHIRRMEISTER; W. BURGARD; T. BALL. *Univ. Med. Ctr. Freiburg, Albert-Ludwigs-University.*

11:00 III60 **334.24** ● ▲ Improving face recognition in older adults with real-time magnetoencephalography (MEG) neurofeedback. M. HAMADA*; R. FUKUMA; M. P. TAKAHASHI; T. YANAGISAWA. *Osaka Univ. Grad. Sch. of Med., Osaka Univ. Grad. Sch. of Med., Osaka Univ. Grad. Sch. of Med., Osaka Univ. Grad. Sch. of Med., Osaka Univ., Osaka Univ., JST PRESTO.*

8:00 III61 **334.25** Adolescent-specific attenuation of Pavlovian biases on motivated behaviors. H. A. RAAB*; S. HIRALALL; C. A. HARTLEY. *New York Univ.*

9:00 III62 **334.26** Brain network dynamics of arbitrary visuomotor learning. A. BROVELLI*; R. BASANISI; B. L. GIORDANO; S. PANZERI. *Inst. de Neurosciences de la Timone (INT), Inst. Italiano Di Tecnologia.*

10:00 III63 **334.27** Targeted non-invasive stimulation of human orbitofrontal networks disrupts outcome-guided behavior. J. D. HOWARD*; R. REYNOLDS; D. SMITH; J. L. VOSS; G. SCHOENBAUM; T. KAHNT. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Northwestern Univ., Natl. Inst. on Drug Abuse Intramural Res. Program, Northwestern Univ.*

Mon. AM

POSTER

335. Human Cognition and Behavior: Human Long-Term Memory: Encoding

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 III64 **335.01** ● Pupil size predicts memory performance and is correlated with high gamma activity in humans. M. T. KUCEWICZ*; J. DOLEZAL; V. KREMEN; B. M. BERRY; L. R. MILLER; A. L. MAGEE; V. FABIAN; G. A. WORRELL. *Mayo Clin., Czech Tech. Univ. in Prague.*

9:00 III65 **335.02** Hippocampal representations of temporal statistics predict subsequent reasoning. A. PUDHIYIDATH*; A. C. SCHAPIRO; R. J. MOLITOR; A. R. PRESTON. *The Univ. of Texas at Austin, Beth Israel Deaconess Med. Ctr. / Harvard Med.*

10:00 III66 **335.03** Subsequent memory and hippocampal activation in borderline personality disorder. D. CARCONE*; A. C. LEE; A. C. RUOCCO. *Univ. of Toronto.*

11:00 III67 **335.04** Selectivity in knowledge acquisition effectively confers productivity: Behavioral experiments and neural network simulation. H. KURASHIGE*; Y. YAMASHITA; T. HANAKAWA; M. HONDA. *The Univ. of Electro-Communications, Natl. Ctr. of Neurol. and Psychiatry.*

8:00 III68 **335.05** Tracking the development of specific and generalized representations during concept learning. C. R. BOWMAN*; D. ZEITHAMOVA. *Univ. of Oregon.*

9:00 JJJ1 **335.06** Exploring event structure in music perception. J. A. WILLIAMS*; C. BALDASSANO; J. CHEN; U. HASSON; K. NORMAN. *Princeton Univ., Johns Hopkins Univ.*

10:00 JJJ2 **335.07** Effects of transcranial direct current stimulation (tDCS) on episodic memory: A systematic review and meta-analysis. G. GALLI*; M. VADILLO; M. SIROTA; M. FEURRA; A. MEDVEDEVA. *Kingston Univ., Univ. Autónoma de Madrid, Univ. of Essex, Natl. Res. University, Higher Sch. of Ec.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

11:00 JJJ3 **335.08** Neural pattern similarity during encoding tracks subsequent memory in young, but not older, adults. J. D. KOEN*; N. HAUCK; M. D. RUGG. *Univ. of Texas at Dallas, Univ. of Texas At Dallas, Univ. of Texas at Dallas Ctr. for Vital Longevity.*

8:00 JJJ4 **335.09** Split sleep is superior to consolidated nocturnal sleep for the retention of factual knowledge. J. N. COUSINS*; E. VAN RIJN; K. WONG; T. TEO; M. W. L. CHEE. *Duke-Nus Med. Sch.*

9:00 JJJ5 **335.10** ▲ Prefrontal - temporal interactions underlie successful long-term memory encoding: A meta-analytic functional co-activation mapping study. S. E. DUARTE; K. K. CHENG; R. S. BLUMENFELD*. *California State Polytechnic Univ. Pomona.*

10:00 JJJ6 **335.11** Theta oscillaton is associated with the amount of successful context encoded. U. CABALLERO SANCHEZ*; T. ROMAN-LOPEZ; C. SANCHEZ-GACUZ; M. MENDEZ-DIAZ; O. PROSPERO-GARCIA; A. RUIZ-CONTRERAS. *Univ. Nacional Autónoma de México.*

11:00 JJJ7 **335.12** Memory integration and separation during learning are mediated by distinct hippocampal and cortical networks. M. L. MACK*; B. C. LOVE; A. R. PRESTON. *Univ. of Toronto, Univ. Col. London, The Univ. of Texas at Austin.*

8:00 JJJ8 **335.13** Differential modulation of reward on memory encoding for objects and scenes is reflected in functional connectivity patterns. J. YOO*; H. SCHULTZ; D. MESHI; S. HAN; H. HEEKEREN. *Yonsei Univ., Freie Univ. Berlin, Univ. of Birmingham, Michigan State Univ.*

9:00 JJJ9 **335.14** The hippocampus and early visual regions are functionally connected during spatial memory encoding. B. M. JEYE*; S. D. SLOTNICK. *Boston Col.*

10:00 JJJ10 **335.15** Event segmentation of repeated information. O. BEIN*; L. DAVACHI. *NYU.*

11:00 JJJ11 **335.16** Novelty processing associated with neural beta oscillations improves recognition memory across the lifespan. T. K. STEIGER*; A. SOBCZAK; R. REINEKE; N. BUNZECK. *Univ. of Luebeck.*

8:00 JJJ12 **335.17** Across-episode memory formation is facilitated by their conceptually-related overlapping content. B. NICOLÁS BERENGUER*; D. CUCURELL; L. FUENTEMILLA. *Univ. de Barcelona.*

9:00 JJJ13 **335.18** Selective attention to perceptual versus semantic features at encoding impacts neural engagement and memory behaviour. S. VIJAYARAJAH*; M. L. SCHLICHTING. *Univ. of Toronto.*

10:00 JJJ14 **335.19** ● Disruption of verbal episodic memory encoding by epileptiform discharges is greatest in the left perirhinal and entorhinal cortex. L. CAMARILLO-RODRIGUEZ*; Z. J. WALDMAN; D. RUBINSTEIN; A. SHARAN; R. GORNIAK; J. TRACEY; G. A. WORRELL; B. C. LEGA; R. E. GROSS; K. DAVIS; B. C. JOBST; S. A. SHETH; K. A. ZAGHLOUL; J. M. STEIN; S. DAS; P. A. WANDA; M. SPERLING; S. A. WEISS. *Thomas Jefferson Univ., Thomas Jefferson Univ., Mayo Clin., UT Southwestern Med. Ctr., Emory Univ. Sch. Med., Hosp. of the Univ. of Pennsylvania, Dartmouth-Hitchcock Med. Ctr., Baylor Col. of Med., Natl. Inst. of Neurolog. Disorders and Stroke, NIH, Hosp. of the Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania, Thomas Jefferson Univ. Hosp.*

11:00 JJJ15 **335.20** Functional-anatomical alignment between brains using a naturalistic stimulus in healthy individuals and a hippocampal amnesic. X. ZUO*; M. D. BARENSE; C. J. HONEY; J. CHEN. *Johns Hopkins Univ., Univ. of Toronto, Johns Hopkins Univ., Johns Hopkins Univ.*

8:00 JJJ16 **335.21** Curious connections: White matter microstructure correlates of types of curiosity. A. VALJI*; A. COSTIGAN; C. J. HODGETTS; M. READ; K. S. GRAHAM; A. LAWRENCE; M. GRUBER. *Cardiff Univ., Cardiff Univ.*

9:00 JJJ17 **335.22** Theta coherent ensembles in the human anterior temporal lobe mediate episodic memory encoding. R. HAQUE*; S. INATI; K. A. ZAGHLOUL. *Natl. Inst. of Hlth., Natl. Inst. of Neurolog. Disorders and Stroke, NIH, Natl. Inst. of Neurolog. Disorders and Stroke, NIH.*

10:00 JJJ18 **335.23** ● Imaging the consolidation of distressing memories: Dissociating voluntary versus involuntary recall. R. M. VISSER*; R. N. HENSON; E. A. HOLMES. *MRC CBU, Univ. of Cambridge, Univ. of Amsterdam, Karolinska Institutet.*

11:00 JJJ19 **335.24** Medial prefrontal cortex has a causal role in selectively enhanced consolidation of emotional memories: A TMS-EEG study. N. YEH*; S. Y. KIM; J. PAYNE; N. S. ROSE. *Univ. of Notre Dame, Univ. of Notre Dame, Univ. of Notre Dame Dept. of Psychology, Univ. of Notre Dame.*

8:00 JJJ20 **335.25** Neural correlates underlying the effect of value on recognition memory encoding. B. ELLIOTT*; C. BLAIS; S. M. MCCLURE; G. A. BREWER. *Arizona State Univ.*

9:00 JJJ21 **335.26** Facilitating memory: Individualized prosthetic stimulation for memory categories. R. E. HAMPSON*; B. M. ROEDER; C. A. JOHNSON; A. S. DAKOS; X. SHE; D. SONG; T. W. BERGER; S. A. DEADWYLER. *Wake Forest Sch. of Med., USC.*

10:00 JJJ22 **335.27** Facilitating memory: Shared codes for prosthetic stimulation of memory categories. B. M. ROEDER*; C. JOHNSON; A. S. DAKOS; X. SHE; D. SONG; T. W. BERGER; S. A. DEADWYLER; R. E. HAMPSON. *Wake Forest Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med., USC.*

11:00 JJJ23 **335.28** Facilitating memory: An ensemble sparse classification model for decoding memory categories and features from hippocampal spike patterns recorded in epilepsy patients. X. SHE*; D. SONG; R. E. HAMPSON; G. NUNE; B. LEE; C. N. HECK; C. Y. LIU; V. Z. MARMARELIS; S. A. DEADWYLER; T. W. BERGER. *USC, Wake Forest Sch. of Med., USC.*

8:00 JJJ24 **335.29** Facilitating memory: Enhancing human memory function with endogenous hippocampal neural code predicted by a closed-loop nonlinear dynamical model. D. SONG*; X. SHE; R. E. HAMPSON; G. NUNE; B. LEE; C. N. HECK; C. Y. LIU; V. Z. MARMARELIS; S. A. DEADWYLER; T. W. BERGER. *USC, Wake Forest Sch. of Med., USC.*

9:00 JJJ25 **335.30** Facilitating memory: Localization of ensembles and neural correlates of encoding contributing to a neural prosthetic for human memory. S. A. DEADWYLER*; B. M. ROEDER; C. JOHNSON; A. S. DAKOS; R. T. WICKS; D. E. COUTURE; A. W. LAXTON; G. POPLI; C. T. WHITLOW; R. E. HAMPSON. *Wake Forest Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

336. Schizophrenia: Behavior and Symptoms

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 JJJ26 **336.01** Multivariate pattern analysis in psychotic-like experiences. M. GUPTA*; A. MOYETT; M. BLAIR; A. BARBER; K. KARLSGODT. *UCLA, Feinstein Inst. for Med. Res.*

9:00 JJJ27 **336.02** ● Neuro-behavioral relationshipns in dimensional geometric embedding. J. JI*; B. ADKINSON; A. KOLOBARIC; M. FLYNN; R. A. ADAMS; J. B. BURT; A. SAVIC; J. D. MURRAY; A. ANTICEVIC. *Yale Univ., UCL, Univ. of Zagreb.*

10:00 JJJ28 **336.03** Reduced mismatch negativity reflects impaired deviance detection in schizophrenia. D. KOSHIYAMA*; K. KIRIHARA; M. TADA; T. NAGAI; M. FUJIOKA; K. USUI; T. ARAKI; K. KASAI. *The Univ. of Tokyo.*

11:00 JJJ29 **336.04** Evaluating a potential marker of plasticity in schizophrenia: Perceptual learning in visual search. E. A. REAVIS*; A. MCCLEERY; J. K. WYNN; M. F. GREEN. *UCLA, VA Greater Los Angeles Healthcare Syst.*

8:00 JJJ30 **336.05** Pyridoxamine, a novel treatment for negative symptoms of schizophrenia. M. ARAI*; M. MIYASHITA; K. TORIUMI; Y. HORIUCHI; A. KOBORI; M. ITOKAWA. *Tokyo Metropolitan Inst. of Med. Science,, Tokyo Metoropolitan Inst. of Med. Sci., Tokyo Metropolitan Inst. of Med. Sci., Tokyo Metropolitan Inst. of Med. Sci.*

9:00 JJJ31 **336.06** ● White matter integrity correlates with measures of insight in first-episode schizophrenia: A diffusion tensor imaging study. T. A. TISHLER*; M. DANIEL; G. BARTZOKIS; G. S. HELLEMANN; B. M. ELLINGSON; D. C. WOODWORTH; L. R. TURNER; N. R. DETORE; J. VENTURA; K. H. NUECHTERLEIN; K. L. SUBOTNIK. *UCLA Semel Inst., UCLA, UCLA.*

10:00 JJJ32 **336.07** Redox dysregulation: A link between childhood trauma and poorer clinical outcome in early psychosis patients. I. KHADIMALLAH*; M. FOURNIER; L. ALAMEDA; A. GRIFFA; M. CLEUSIX; R. JENNI; C. FERRARI; P. KLAUSER; P. S. BAUMANN; M. CUENOD; P. HAGMANN; P. CONUS; K. Q. DO. *Ctr. For Psychiatric Neuroscience, CHUV, Lausanne Univ. Hosp. (CHUV), Inst. of Psychiatry, Psychology and Neuroscience, King's Col., Ecole Polytechnique Fédérale de Lausanne, Lausanne Univ. Hosp. (CHUV), Univ. of Lausanne.*

11:00 JJJ33 **336.08** Dysrupted modulation of thalamus activation and thalamocortical connectivity during task performance in schizophrenia. A. S. HUANG*; B. P. ROGERS; N. D. WOODWARD. *Vanderbilt Univ. Med. Ctr., Vanderbilt Univ.*

8:00 JJJ34 **336.09** Schizophrenia and semantic processing: Cognitive state and brain electrical activity. L. R. ROMERO; V. VALDEZ VELASCO; D. L. CANELA; A. LARA ZARAGOZA; F. A. ROBLES*. *Lab. de Neurociencia Cognitiva, Integral Ctr. of Mental Hlth., Univ. of California.*

9:00 JJJ35 **336.10** Update on a longitudinal pilot study to assess the effects of gamma neurofeedback on cognitive function in schizophrenia patients. Z. YANG; J. PINEDA; I. SHU; J. ONTON; A. RIVAS; N. ZHEN; L. RING; M. BORDYUG; E. HERRERA; F. SINGH*. *UCSD, UCSD, UCSD, UCSD, Univ. of California at San Diego.*

POSTER

337. Schizophrenia: Circuits and Systems

Theme H: Cognition

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 JJJ36 **337.01** Bayesian inference explains frequency perception in humans: Neural correlates and relationship to psychosis. E. LAGACHE*; G. HORGA. *New York State Psychiatric Inst., Columbia Univ. Med. Ctr.*

9:00 JJJ37 **337.02** Thalamo-cortical structural connectivity in schizophrenia and bipolar disorder. J. CHO*; J. C. THOMPSON. *George Mason Univ., George Mason Univ.*

10:00 JJJ38 **337.03** KCNH2-3.1 impairs neural connections between hippocampus and mPFC. F. YANG*; Z. HU; M. REN; D. R. WEINBERGER. *Lieber Inst. For Brain Develop.*

11:00 JJJ39 **337.04** ▲ Schizophrenia is characterized by reduced functional connectivity between memory and reward circuits during learning. S. HASAN*; M. HUQ; A. Z. CHOWDURY; J. A. STANLEY; A. ROBISON; K. N. THAKKAR; V. A. DIWADKAR. *Wayne State Univ. Sch. of Med., Michigan State Univ., Michigan State Univ.*

8:00 JJJ40 **337.05** Recovery of theta-gamma phase-amplitude coupling following single dose administration of amphetamine in patients with schizophrenia. N. MURPHY*; N. R. POLIZZOTTO; C. P. WALKER; N. RAMAKRISHNAN; R. Y. CHO. *Baylor Col. of Med., UTHealth.*

9:00 JJJ41 **337.06** Resting state functional connectivity abnormalities in schizophrenia. E. SEFIK*; A. ABBAS; S. KEILHOLZ. *Emory Univ., Georgia Inst. of Technol.*

10:00 JJJ42 **337.07** The prefrontal cortex follows the respiration-coupled rhythm during waking and REM-sleep, but not during slow-wave sleep. R. MOFLEH*; B. KOCSIS. *Harvard Med. Sch.*

11:00 JJJ43 **337.08** Loss of dendritic inhibition in pharmacological and genetic mouse models related to schizophrenia. F. ALI*; D. M. GERHARD; R. S. DUMAN; A. C. KWAN. *Yale Sch. of Med.*

8:00 JJJ44 **337.09** Maternal immune activation alters cortical catecholaminergic function and induces cognitive impairment in offspring. B. PEREZ-PALOMAR*; J. E. ORTEGA; J. J. MEANA; J. G. MCCALL. *Washington Univ. in St. Louis, The Univ. of the Basque Country, Washington Univ. in St. Louis.*

9:00 JJJ45 **337.10** ● Adolescent stress during critical periods alters the developmental trajectory of hippocampal parvalbumin (PV) interneurons and recapitulates circuit dysfunction implicated in schizophrenia. X. ZHU*; F. V. GOMES; A. A. GRACE. *Univ. of Pittsburgh, Univ. of Pittsburgh Dept. of Neurosci.*

10:00 JJJ46 **337.11** M4 muscarinic acetylcholine receptor leads to antipsychotic and precognitive efficacy in rodents. M. POPIOLEK; A. ROSSI; Y. MANDELBLAT-CERF*; D. YOUNG; S. LOTARSKI; L. ZHANG; C. BUTLER; R. KOZAK. *Sage Therapeut., Pfizer, Biogen, Biogen.*

11:00 JJJ47 **337.12** Adeno-associated virus mediated inhibition of 14-3-3 proteins in the hippocampus induces schizophrenia-like behaviors in mice. J. ZHANG*; K. GRAHAM; H. QIAO; Y. WU; Y. ZHOU. *Florida State Univ., Shaanxi Univ. of Chinese Med.*

8:00 JJJ48 **337.13** *In vivo* electrophysiology in the 14-3-3 functional knockout mouse model of schizophrenia. Z. B. JONES*; J. ZHANG; Y. WU; Y. ZHOU. *Florida State Univ.*

Mon. AM

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* Indicates abstract's submitting author

9:00 JJJ49 **337.14** Brain morphological abnormality in schizophrenia: Voxel-based morphometry and surface-based morphometry using CAT12. Y. KYURAGI*; N. ORIBE; S. FUKUSHIMA; N. NAKAYAMA; R. HAYASHIDA; Y. MIYAKE; K. OTA; T. UENO. *Natl. Hosp. Organization Hizen Psychiatric C.*

10:00 JJJ50 **337.15** Severe symptomatic schizophrenia showed smaller local gray matter volume. T. UENO*; Y. KYURAGI; R. HAYASHIDA; N. ORIBE; N. NAKAYAMA; K. KAWAKAMI; M. ONOUE; H. KUGA; S. FUKUSHIMA; Y. MIYAKE; T. YUZURIHA. *Hizen Seishin Iryo Ctr., Hizen Seishin Iryo Ctr., Johns Hopkins Univ. Sch. of Publ. Hlth., Kouseikai Michinoo Hosp.*

11:00 JJJ51 **337.16** Abnormal diffusion across the brain in schizophrenia compared to autism. S. M. HAIGH*; S. M. EACK; T. KELLER; N. J. MINSHEW; M. BEHRMANN. *Carnegie Mellon Univ., Univ. of Pittsburgh, Univ. of Pittsburgh Sch. of Med.*

8:00 JJJ52 **337.17** The effects of oral tryptophan challenge on blood kynurenines, cerebral blood flow, and cognition in schizophrenia. L. M. ROWLAND*; R. W. BUCHANAN; D. L. KELLY; C. F. KILDAY; F. M. NOTARANGELO; M. A. R. THOMAS; R. SCHWARCZ. *Univ. of Maryland Sch. of Med.*

POSTER

338. Physiological Methods: Optical Methodology: Development I

Theme I: Techniques

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 JJJ53 **338.01** Dual-color volumetric imaging of neural activity of cortical columns *in vivo.* S. HAN*; W. YANG; R. YUSTE. *Columbia Univ., Univ. of California, Davis.*

9:00 JJJ54 **338.02** Improving quality of optical fiber-based endoscopy for *in vivo* brain imaging. T. TUCKOVA*; M. HONS; P. JAKL; M. SILER; E. DRAZANOVA; L. KRATKA; J. TRÄGÅRDH; T. PIKALEK; S. SIMPSON; T. TYC; H. UHLIROVA; T. CIZMAR. *Inst. of Scientific Instruments of the CAS.*

10:00 JJJ55 **338.03** ▲ A new method for measuring GABA using enzymatic reactors and fluorometric detection. C. M. PÉREZ*; A. A. RUÍZ-GARCÍA; A. MORALES-VILLAGRÁN; J. C. SALAZAR-SÁNCHEZ. *Univ. De Guadalajara, Univ. De Guadalajara.*

11:00 JJJ56 **338.04** Cortex wide, multi-modal, cellular resolution neural interfacing via transparent polymer prostheses. L. GHANBARI*; R. E. CARTER; M. RYNES; J. DOMINGUEZ; J. HU; N. MOSSAZGHI; M. LAROQUE; T. J. EBNER; S. B. KODANDARAMAIAH. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

8:00 JJJ57 **338.05** *In vivo* imaging of experience dependent CREB activity in the mammalian brain. T. LAVIV*; B. SCHOLL; P. PARA BUENO; B. FOOTE; C. ZHANG; L. YAN; D. FITZPATRICK; J. CHU; R. YASUDA. *Max Planck Florida Inst., Inst. of Biomed. and Hlth. Engineering, Shenzhen Inst. of Advanced Technology, Chinese Acad. of Sci.*

9:00 JJJ58 **338.06** Design and demonstration of a GRINtrode: A movable GRIN lens & tetrode drive for head-mounted microscopy. C. M. MCCULLOUGH*; D. RAMIREZ-GORDILLO; E. GIBSON; D. RESTREPO. *Univ. of Colorado, Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus.*

10:00 JJJ59 **338.07** Light in the dark! Shedding light on the suitability of novel BOPIDY dyes for voltage sensitive imaging of neurons in the stomatogastric ganglion of cancer pagurus. J. BUTCHER*; J. A. TICKLE; D. SIRBU; A. C. BENNISTON; P. E. ANDRAS. *Keele Univ., Keele Univ., Newcastle Univ., Keele Univ.*

11:00 JJJ60 **338.08** Light collection properties of flat-cleaved optical fibers measured with a two-photon microscopy approach. M. PISANELLO*; F. PISANO; M. HYUN; E. MAGLIE; A. BALENA; B. SPAGNOLO; E. BELLISTRI; L. SILEO; M. DE VITTORIO; F. PISANELLO; B. L. SABATINI. *Inst. Italiano Di Tecnologia, Harvard Med. Sch. Dept. of Neurobio., Univ. del Salento.*

8:00 JJJ61 **338.09** Dynamic ratio-metric imaging of cytosolic free Ca^{2+} in skeletal muscle cells using 340/380 nm light emitting diode illuminators. M. CHENCHILIYAN*; A. DEUTSCH; E. PEWZNER; D. FIXLER. *Bar-Ilan Univ., Prizmatix Ltd.*

9:00 JJJ62 **338.10** Improved automated imaging of mouse mesoscale cortical circuits and behavioral analysis. T. H. MURPHY*; J. BOYD; J. LEDUE; F. BOLANOS; M. BALBI; M. P. VANNI. *Univ. British Columbia, Univ. of British Columbia, UBC, Univ. of British Columbia, Univ. of British Columbia.*

8:00 DP14/JJJ63 **338.11** (Dynamic Poster) Brainwide optical circuit interrogation at the cellular level guided by online analysis of neuronal function. C. WANG*; N. VLADIMIROV; B. HOECKENDORF; Y. MU; M. TANIMOTO; J. WITTENBACH; J. FREEMAN; S. PREIBISCH; P. KELLER; M. AHRENS. *Janelia Res. Campus, Chan Zuckerberg Initiative, Berlin Inst. of Med. Systems Biol.*

11:00 JJJ64 **338.12** Stable, flexible positioning for *in vivo* imaging of neural activity in the awake macaque monkey. J. CHOI*; V. GONCHAROV; J. KLEINBART; A. L. ORSBORN; B. PESARAN. *New York Univ., Janelia Res. Campus; Howard Hughes Med. Insitute, New York Univ.*

8:00 JJJ65 **338.13** Simple low cost system for optical intrinsic signal imaging of the mouse cortex. H. E. LOPEZ-VALDES*; C. NOLLA-SALTIEL; H. MARTÍNEZ-CORIA; M. X. MENDOZA-ROJAS; J. F. MENDOZA-VICTORINO. *Univ. Nacional Autonoma de Mexico, Inst. Nacional de Neurología y Neurocirugía, Inst. Nacional de Neurología y Neurocirugía.*

9:00 JJJ66 **338.14** ● Single-step implants for microendoscopic calcium imaging - enabling higher yield experiments with more consistent and standardized imaging performance. J. J. NASSI*; D. CHENG; M. J. SCHACHTER; M. TRULSON; S. MALANOWSKI; A. TAJIK; K. VISSCHER; S. L. OTTE. *Inscopix, Inc.*

10:00 JJJ67 **338.15** ● Z-scanning in volumetric 2P-microscopy with a fast voice coil driven remote focus system. F. HUHN; C. SCHULZE; T. G. OERTNER*; G. RAPP. *Rapp OptoElectronic GmbH, Inst. for Synaptic Physiol.*

11:00 JJJ68 **338.16** Reconstruction of single neuron resolution spiking activity from simulated diamond nitrogen-vacancy center vector magnetometric maps. M. PARASHAR*; K. SAHA; S. BANDYOPADHYAY. *Indian Inst. of Technol. Kharagpur, Indian Inst. of Technol. Bombay, Indian Inst. of Technol. Kharagpur.*

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

8:00 JJJ69 **338.17** Facilitating the adoption of oxygen partial pressure imaging with two-photon microscopy. S. SAKADZIC*; T. V. ESIPOVA; M. A. YASEEN; A. DEVOR; S. A. VINOGRADOV; D. A. BOAS. *Massachusetts Gen. Hosp., Univ. of Pennsylvania, Univ. of California San Diego, Boston Univ.*

9:00 JJJ70 **338.18** ● Diverse applications and extensions of SCAPE microscopy for high-speed volumetric neuroimaging. E. M. HILLMAN*; W. LI; V. VOLETI; H. YU; K. PATEL; C. PEREZ-CAMPOS; G. LEE; Y. CHEN; W. B. GRUEBER; R. VAADIA; S. J. FIRESTEIN; L. XU; E. S. SCHAFFER; N. MISHRA; R. BEHNIA; S. BENEZRA; R. M. BRUNO; D. SCHOPPIK; D. E. EHRLICH; E. S. BOYDEN; D. M. COSIO; E. HOSSEINI; O. T. CELIKER; E. PNEVMATIKAKIS; L. PANINSKI; T. ZHENG. *Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ., New York Univ. Langone Med. Ctr., NYU Langone Med. Ctr., MIT, MIT, MIT, MIT, Simons Fndn.*

10:00 LLL1 **338.19** SLM-based rapidly configurable light sheet microscopy platform. B. A. MADRUGA*; J. CARMONA, Jr.; S. MENDOZA; L. BENTOLILA; K. ARISAKA. *UCLA, UCLA, California NanoSystems Inst., UCLA.*

11:00 LLL2 **338.20** An expanded open-source toolbox for widefield calcium imaging in freely behaving animals. D. P. LEMAN*; I. A. CHEN; W. W. YEN; A. CRUZ-MARTIN; N. PERKINS; W. A. LIBERTI; T. J. GARDNER; T. M. OTCHY; I. G. DAVISON. *Boston Univ., Boston Univ., Boston Univ., UC Berkeley, Boston Univ.*

8:00 LLL3 **338.21** OpenCortex: An integrated platform of cortex-wide imaging and deep-brain modulation for measuring cellular functional connectivity in behaving mice. B. S. HUANG*; L. GROSENICK; T. SPELLMAN; N. YADAV; A. TOADER; C. LISTON. *Weill Cornell Med. Col., Columbia Univ., Simons Fndn.*

9:00 LLL4 **338.22** Visualization of neuromodulation action at single synapse resolution. S. KRUESSEL*; D. LEE; J. HYUN; H. KWON. *Max Planck Florida, Korea Univ.*

10:00 LLL5 **338.23** Volumetric imaging of neural activity using a fast-switching spatial light modulator. R. LIU*; N. BALL; J. BROCKILL; J. ZHUANG; L. KUAN; C. WHITE; A. LEON; D. SULLIVAN; C. SLAUGHTERBECK; C. FARRELL; P. SAGGAU. *Allen Inst. for Brain Sci.*

11:00 LLL6 **338.24** Non-degenerate 2-photon microscopy for deep tissue imaging. S. SADEGH*; M. YANG; C. G. L. FERRI; M. THUNEMANN; P. H. L. NGUYEN; P. SAISAN; E. RODRIQUEZ; S. R. ADAMS; S. VINOGRADOV; Y. FAINMAN; A. DEVOR. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, UCSD, Univ. of California San Diego, Univ. of Pennsylvania, UCSD.*

8:00 LLL7 **338.25** ● Gradient light interference microscopy for label-free quantitative assessment of brain slices. M. E. KANDEL*; S. JOUNG; G. NASERI KOUZEHGARANI; M. U. GILLETTE; C. A. POPESCU; G. POPESCU. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, UIUC, Univ. of Illinois at Urbana-Champaign.*

9:00 LLL8 **338.26** Virtual manipulation of model organisms with rapid volumetric and neural activity feedback. J. CARMONA*, JR; B. A. MADRUGA; A. C. ROBERTS; K. ARISAKA. *UCLA, UCLA, CSUF.*

10:00 LLL9 **338.27** Multi-plane two-photon imaging of the piriform cortex in freely-behaving mice. B. OZBAY*; G. L. FUTIA; M. MA; D. RESTREPO; E. A. GIBSON. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus.*

11:00 LLL10 **338.28** Two-photon calcium imaging of the hippocampus in transgenic rats under voluntary head fixation. P. D. RICH*; B. B. SCOTT; S. Y. THIBERGE; A. SONG; C. GUO; D. G. TERVO; C. D. BRODY; A. Y. KARPOVA; N. D. DAW; D. W. TANK. *Princeton Neurosci. Inst., Bezos Ctr. for Neural Circuit Dynamics, Princeton Univ., HHMI/ Janelia Res. Campus.*

POSTER

339. Computation, Modeling, and Simulation: Network Models: Theory I

Theme I: Techniques

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 LLL11 **339.01** Neuromorphic neural networks: Converging globally, acting locally. D. GARDNER*. *Joan and Sanford I Weill Med. Col. of Cornell Univ.*

9:00 LLL12 **339.02** Achieving context-dependent processing in neural networks through human-level continual learning. Y. CHEN*, JR; G. ZENG; B. CUI; S. YU. *Inst. of Automation, Chinese Acad. of Scienc, Inst. of Automation, Chinese Acad. of Sci., Inst. of Automation Chinese Acad. of Sci., Inst. of Automation, Chinese Acad. of Sci.*

10:00 LLL13 **339.03** A mechanism for synaptic copy between neural circuits. L. TAO*; B. WANG; Y. SHAO; A. T. SORNBORGER. *Peking Univ., Peking Univ., Los Alamos Natl. Lab.*

11:00 LLL14 **339.04** Hierarchical selective recruitment: A control-theoretic framework for goal-driven selective attention. E. NOZARI*; J. CORTES. *Univ. of California San Diego, Univ. of California, San Deigo.*

8:00 LLL15 **339.05** A roadmap for multi-scale and multi-subject analysis of human functional brain networks. R. BETZEL*; M. A. BERTOLERO; D. S. BASSETT. *Univ. of Pennsylvania.*

9:00 LLL16 **339.06** A neural network model of predictive smooth pursuit eye movement in primates. H. J. KASHYAP*; G. DETORAKIS; N. DUTT; J. L. KRICHMAR; E. NEFTCI. *Univ. of California, Irvine, Univ. of California, Irvine.*

10:00 LLL17 **339.07** Enhancing computational model discovery via network visualization and analysis. T. M. MORSE*; R. A. MCDOUGAL. *Yale Univ. Sch. Med., Yale Univ.*

11:00 LLL18 **339.08** Drift-diffusion balance generates asynchronous irregular activity in networks of conductance-based neurons. A. SANZENI*; M. H. HISTED; N. BRUNEL. *NIH/NIMH, Duke Univ.*

8:00 LLL19 **339.09** The role of striatal tonically active neurons in reinforcement learning: A modeling study. T. KIM; K. C. HAMADE; W. H. BARNETT; R. A. CAPPS; E. M. LATASH; S. N. MARKIN; I. A. RYBAK*; Y. I. MOLKOV. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med., Georgia State Univ., Georgia State Univ., Georgia State Univ., Drexel Univ. Col. of Med.*

Mon. AM

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

9:00 LLL20 **339.10** A computational analysis of the voltage sensitive dye imaging data of the rodent hippocampus. J. KANG*; K. JUNG; H. BAHNG; H. PARK. *Yonsei Univ. Col. of Med., Yonsei Univ., Yonsei Univ. Col. of Med.*

10:00 LLL21 **339.11** An optimization principle for the emergence of the grid cell system. T. MA*; I. FIETE. *Univ. of Texas At Austin.*

11:00 LLL22 **339.12** Converting correlation codes into firing rate codes via nonlinear dendritic integration. R. GRGURICH*; H. T. BLAIR, IV. *UCLA, UCLA.*

8:00 LLL23 **339.13** ▲ Deriving binocular spontaneous neural activity by optimizing depth perception in an innate learning model of visual development. S. SENDELBACH*; M. V. ALBERT. *Loyola Univ. Chicago, Loyola Univ. Chicago.*

9:00 LLL24 **339.14** A software framework for simulating large-scale population dynamics of growth transform spiking neural network. D. MEHTA*; A. GANGOPADHYAY; J. HA; K. AONO; S. CHAKRABARTTY. *Washington Univ. In St Louis.*

10:00 LLL25 **339.15** Addressing analysis questions for a nonlinear synaptic system as a model for ictogenesis. S. KARAMINTZIOU*; K. J. STALEY. *Harvard Med. School/Mgh.*

11:00 LLL26 **339.16** Models of recurrent networks in hippocampus encode temporal order. C. D. COX*; B. G. GUNN; G. LYNCH. *Univ. of California Irvine.*

8:00 LLL27 **339.17** ● A method of online learning with neuromorphic computing network. R. SCORCIONI*; Q. JANG; S. SKORHEIM; N. STEPP; V. DE SAPIO; P. PILLY. *HRL Labs.*

9:00 LLL28 **339.18** ● Neural coding via spike-timing self-information. M. LI*; K. XIE; J. LIU; D. WANG; G. FOX; F. ZHAO; J. Z. TSIEN. *Harvard Univ., Augusta Univ., Drexel Univ. Col. of Med.*

POSTER

340. Computation, Modeling, and Simulation: Human Network Models

Theme I: Techniques

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 LLL29 **340.01** Pairwise interactions among different brain regions organize large scale neural networks for information processing. W. NIU*; X. HUANG; K. XU; T. JIANG; S. YU. *Inst. of Automation,Chinese Acad. of Sci., Inst. of Automation,Chinese Acad. of Sci., Inst. of Automation,Chinese Acad. of Sci., Inst. of Automation, Chinese Acad. of Sci., Inst. of Automation, Chinese Acad. of Sci.*

9:00 LLL30 **340.02** White matter network architecture guides direct electrical stimulation through optimal state transitions. J. STISO*; A. N. KHAMBHATI; T. MENARA; A. E. KAHN; J. M. STEIN; S. DAS; R. GORNIAK; B. LITT; K. A. DAVIS; F. PASQUALETTI; J. TRACY; T. H. LUCAS; D. S. BASSETT. *Univ. of Pennsylvania, Univ. of California Riverside, Jefferson Univ., Jefferson Univ.*

10:00 LLL31 **340.03** A circuit-level model of reward learning under uncertainty. A. SOLTANI*; S. FARASHAHI; A. IZQUIERDO. *Dartmouth Col., Dartmouth Col., UCLA.*

11:00 LLL32 **340.04** The GABAA receptor binding SCN is more related to ion channel activity-related TBN than cortical thickness SCN. F. WONG*; N. W. DUNCAN. *Taipei Med. Univ., GIMBC, Taipei Med. Univ.*

8:00 LLL33 **340.05** The underlying mechanism of the alteration of il-bla connectivity by stimulation:A computational perspective. Z. CHEN*; F. FENG; E. BLACKWOOD; M. LO; A. S. WIDGE; S. NAIR. *Univ. of Missouri Columbia, Massachusetts Gen. Hosp.*

9:00 LLL34 **340.06** Precision neurology: Cellular mechanisms of Alzheimer's disease. J. ZIMMERMANN; V. K. JIRSA; A. R. MCINTOSH; P. RITTER; M. J. BREAKSPEAR; A. SOLODKIN*. *Rotman Res. Inst., Inst. De Neurosciences Des Systemes, Baycrest Ctr., Charite, Univ. Med. Berlin, Queensland Inst. of Med. Res., UC Irvine Hlth.*

10:00 LLL35 **340.07** Modeling brain dynamics in brain tumor patients using the virtual brain. D. MARINAZZO*; H. AERTS; M. SCHIRNER; B. JEURISSEN; D. VAN ROOST; E. ACHTEN; P. RITTER. *Ghent Univ., Ghent Univ., Freie Univ. Berlin, Univ. of Antwerp, Charite, Univ. Med. Berlin.*

11:00 LLL36 **340.08** Toward a standard network model of musical improvisation. S. E. FABER*; A. R. I. MCINTOSH. *Univ. of Toronto.*

8:00 LLL37 **340.09** Characterization of interictal epileptogenic brain networks: Mechanistic insights from large-scale computational modeling using the virtual brain. J. COURTIOL*; S. PETKOSKI; V. K. JIRSA. *Inst. de Neurosciences des Systèmes, Charité, Univ. Med. Berlin.*

9:00 LLL38 **340.10** ● Effects of fMRI preprocessing choices on functional connectivity in children and adolescents with and without autism spectrum disorder. A. K. EASSON*; S. C. STROTHER; A. R. MCINTOSH. *Baycrest Hlth. Sci.*

10:00 LLL39 **340.11** ▲ The neurodegenerative virtual brain. L. STEFANOVSKI*; P. TRIEBKORN; A. SPIEGLER; M. H. MOHAJERANI; A. SOLODKIN; V. K. JIRSA; A. R. MCINTOSH; P. RITTER. *Charité - Univ. Med. Berlin, Berlin Inst. of Hlth., Univ. of Lethbridge, UC Irvine Hlth., Inst. De Neurosciences Des Systemes UMR1106, Baycrest Hlth. Sci., Bernstein Ctr. for Computat. Neurosci.*

11:00 LLL40 **340.12** Creating a macaque connectome for large-scale network simulations in TheVirtualBrain. K. SHEN*; S. EVERLING; A. R. MCINTOSH. *Baycrest Ctr., Univ. Western Ontario.*

8:00 LLL41 **340.13** Disentangling the effects of aging related network changes for unimanual motor learning - An fMRI/EEG study. S. CHETTOUF*; J. ZIMMERMANN; A. DAFFERTSHOFER; P. RITTER. *Brainmodes Group, Rotman Res. Inst., Amsterdam Movement Sci. & Inst. for Brain and Behavior Amsterdam, Bernstein Ctr. for Computat. Neurosci., Berlin Inst. of Hlth. (BIH).*

9:00 LLL42 **340.14** How brain oscillations shape perceptual learning - Empirical observations and computational modeling. P. TRIEBKORN*; D. ROY; R. SIGALA; F. FREYER; A. R. MCINTOSH; H. R. DINSE; P. RITTER. *Charité, Intl. Inst. of Information Technol., Berlin Inst. of Hlth., Univ. of Toronto, Ruhr Univ. Bochum, BG Univ. Hosp. Bergmannsheil, Bernstein Ctr. for Computat. Neurosci.*

10:00 LLL43 **340.15** Automatically generating HPC-optimized code for simulations using neural mass models. A. PEYSER*; S. DIAZ; M. WOODMAN; V. K. JIRSA. *Forschungszentrum Juelich, Inst. de Neurosciences des Systemes UMR1106.*

11:00 LLL44 **340.16** Optimal surgical options considering inoperable zones for epilepsy patients: A computational approach using the virtual brain. S. AN*; F. BARTOLOMEI; M. GUYE; V. JIRSA. *Aix Marseille Univ, INSERM, INS, Inst. Neurosci Sys, CNRS, CRMBM UMR 7339, Aix Marseille Univ.*

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* Indicates abstract's submitting author

8:00 LLL45 **340.17** Explaining seizure onset patterns by computational modeling of a seizure spread on a cortical surface in The Virtual Brain. V. SIP*; M. GUYE; F. BARTOLOMEI; V. K. JIRSA. *Aix Marseille Univ, INSERM, INS, Inst. Neurosci Sys, Aix Marseille Univ, CNRS, CRMBM, Assistance Publique – Hôpitaux de Marseille, Hôpital de la Timone, CEMEREM, Pôle d'Imagerie Médicale, CHU, Assistance Publique – Hôpitaux de Marseille, Hôpital de la Timone, Service de Neurophysiologie Clinique, CHU.*

9:00 LLL46 **340.18** TVB-epilepsy: A software tool extending the virtual brain to predict patient specific seizure propagation. D. PERDIKIS*; M. M. WOODMAN; P. POPA; L. DOMIDE; J. MERSMANN; V. K. JIRSA. *Aix-Marseille Univ. Faculté de Médecine, S.C. Codemart S.R.L., Codebox Computerdienste GmbH.*

10:00 LLL47 **340.19** Relationship of EEG and music features through low dimensional manifolds. S. SHAKIL*; S. FABER; A. R. MCCULLOCH; T. M. BROWN; K. SHEN; A. R. MCINTOSH. *Baycrest Hlth. Sci.*

11:00 LLL48 **340.20** Decoding music induced emotions. A. GHANI; J. ZHANG; A. MCLNTOSH; K. MÜLLER; P. RITTER*. *Charite, Univ. Med. Berlin, Rotman Res. Inst., TU Berlin.*

8:00 LLL49 **340.21** The virtual brain to characterize brain dynamics before and after MR guided interstitial thermal ablation for childhood epilepsy. M. M. VANDEWOUW*; A. G. WEIL; G. M. IBRAHIM. *Sickkids Res. Inst., Univ. de Montréal, Hosp. for Sick Children.*

9:00 LLL50 **340.22** Measuring causality in simulations of large scale brain networks using the virtual brain. M. MANNINO*; S. L. BRESSLER. *Florida Atlantic Univ., Florida Atlantic Univ.*

POSTER

341. Data Analysis and Statistics: Human Data: Neuroimaging

Theme I: Techniques

Mon. 8:00 AM – *San Diego Convention Center*, SDCC Halls B-H

8:00 LLL51 **341.01** Multivariate distance correlation features of functional connectivity improve the reliability and power of connectome-based predictive modeling. K. R. YOO*; M. D. ROSENBERG; S. M. NOBLE; D. SCHEINOST; R. T. CONSTABLE; M. M. CHUN. *Yale Univ., Yale Univ., Yale Univ., Yale Univ., Yale Univ.*

9:00 LLL52 **341.02** Blast-related mild traumatic brain injury in chronic phase: A diffusion tensor imaging study with machine learning. P. HSU*; R. THEILMANN; A. ANGELES-QUINTO; A. ROBB-SWAN; S. NICHOLS; D. HARRINGTON; A. DRAKE; T. SONG; M. DIWAKAR; R. CLIFFORD; R. LEE; C. CHENG; A. MANDELL; D. BAKER; M. HUANG. *Univ. of California San Diego, UCSD, Cedar Sinai Med. Group, Univ. of California, San Francisco, UCSD.*

10:00 LLL53 **341.03** Scan path modeling using marked point processes. R. SHIBUE*; M. YONEYA. *NTT Communication Sci. Labs.*

11:00 LLL54 **341.04** Pseudo-quantitative deconvolution of neuronal-related BOLD events with unknown timing. J. GONZALEZ CASTILLO*; C. CABALLERO-GAUDES; P. BANDETTINI. *SFIM/LBC/NIMH/NIH, Basque Ctr. for Brain, Cognition and Language, NIMH-NIH.*

8:00 LLL55 **341.05** Classification of schizophrenia patients and healthy controls based on gray matter volumes using support vector machines. M. YAMAMOTO*; E. BAGARINAO; I. KUSHIMA; R. SUZUKI; A. BRANKO; T. INADA; T. IIDAKA; N. OZAKI. *Nagoya Univ., Brain and Mind Res. Ctr., Inst. for Advanced Research, Nagoya Univ.*

9:00 LLL56 **341.06** Comparison of univariate and multivariate lesion symptom mapping methods for the analysis of brain-behavioral relationships. T. J. HERRON*; M. V. IVANOVA; N. F. DRONKERS; B. CURRAN; C. LUDY; A. ZHONG; A. U. TURKEN; J. V. BALDO. *VA Northern California Hlth. Care Syst., US Dept. of Veterans Affairs.*

10:00 LLL57 **341.07** Alternation in hemispheric asymmetry of morphological brain network for Alzheimer's disease. Y. CHOI*; S. BANG; J. LEE. *Dept. of Biomed. Engineering, Hanyang Universit.*

11:00 LLL58 **341.08** Using simulations to investigate the prevalence of false positives in data-driven forms of partial least squares analysis. R. P. ROBERTS*; D. R. ADDIS. *The Univ. of Auckland.*

8:00 LLL59 **341.09** MEG estimates of connection stationarity differ between schizophrenic and normal control subjects. S. E. ROBINSON*; A. J. MANDELL. *NIH/NIMH, Univ. of California San Diego.*

9:00 LLL60 **341.10** Studying genetic influences on brain structure and functional connectivity using twin brains. G. HWANG*; A. KULKARNI; V. A. NAIR; B. B. BENDLIN; V. PRABHAKARAN; E. MEYERAND. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

10:00 LLL61 **341.11** Interhemispheric similarities between diffusion measures of human brain white matter tracts. G. LERMA-USABIAGA*; T. GLOZMAN; B. A. WANDELL. *Stanford Univ., Stanford Univ.*

11:00 MMM1 **341.12** Consistency across brain normalization algorithms in DTI analyses. H. YEH*; M. BERGAMINO; S. KHALSA; M. PAULUS. *Laureate Inst. for Brain Res., Univ. of Tulsa.*

8:00 MMM2 **341.13** Robust fMRI hyperalignment based on repeated movie stimuli. H. MANDELKOW*; J. DE ZWART; J. DUYN. *NIH / NINDS / LFMI / AMRI.*

9:00 MMM3 **341.14** Cluster failure or power failure? Balancing the scale with sensitivity. S. M. NOBLE*; D. SCHEINOST; R. T. CONSTABLE. *Yale Univ., Yale Univ.*

10:00 MMM4 **341.15** Links between brain connectivity and cognitive performance in temporal lobe epilepsy. R. RODRÍGUEZ CRUCES*. *Natl. Autonomous Univ. of Mexico.*

11:00 MMM5 **341.16** Network analysis in disorders of consciousness: Four problems and one proposed solution (exponential randomgraph models). J. DELL' HALIA*; M. JOHNSON; M. M. MONTI. *UCLA.*

8:00 MMM6 **341.17** A method for conducting fMRI-guided, electric field optimized transcranial magnetic stimulation at any cortical site. N. L. BALDERSTON*; C. ROBERTS; E. MASI; Z. DENG; T. RADMAN; B. LUBER; S. H. LISANBY; M. ERNST; C. GRILLON. *NIH.*

9:00 MMM7 **341.18** Testing emotional attachment and mutuality (team) fmri task for studying dyadic interactions. K. BURROWS*; K. L. KERR; D. C. DEVILLE; E. L. RATLIFF; K. T. COSGROVE; J. BODURKA; M. P. PAULUS; A. S. MORRIS; W. K. SIMMONS. *Laureate Inst. for Brain Res., Oklahoma State Univ., The Univ. of Tulsa, Univ. of Oklahoma, Janssen Res. & Development, LLC.*

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10:00 MMM8 **341.19** Transcription and coding of dyadic interactions for fmri hyperscanning. A. MOORE*; K. L. KERR; M. J. JOHNSON; E. L. RATLIFF; D. C. DEVILLE; K. T. COSGROVE; K. BURROWS; J. BODURKA; W. K. SIMMONS; A. S. MORRIS. *Laureate Inst. for Brain Res., Oklahoma State Univ., Univ. of Tulsa, Oklahoma State Univ., Jansen Res. and Develop.*

11:00 MMM9 **341.20** A free-speech paradigm for studying dyadic interactions with fMRI hyperscanning. K. L. KERR*; A. J. MOORE; M. MISAKI; E. L. RATLIFF; K. T. COSGROVE; D. C. DEVILLE; K. BURROWS; S. F. TAPERT; W. K. SIMMONS; J. BODURKA; A. S. MORRIS. *Oklahoma State Univ., Laureate Inst. for Brain Res., The Univ. of Tulsa, UCSD, Janssen Res. & Develop., The Univ. of Oklahoma.*

8:00 MMM10 **341.21** Multi-scale topological impairments of brain networks characterized by centralities in SCD, aMCI and AD. L. JIANG*; K. QIAO; Y. HAN; X. ZUO, SR. *Inst. of Psychology Chinese Acad. of Sci., Inst. of Psychology Chinese Acad. of Sci., XuanWu Hosp. of Capital Med. Univ.*

8:00 DP15/MMM11 **341.22** (Dynamic Poster) Individual brain charting, a high-resolution fMRI dataset for cognitive mapping of the human brain. A. L. PINHO*; B. THIRION. *INRIA Saclay.*

10:00 MMM12 **341.23** Topological brain network changes in psychiatric disorders. P. RAZAEINIA; R. M. CARTER*. *Univ. of California San Diego, Univ. of Colorado Boulder.*

11:00 MMM13 **341.24** Deep gray matter volume and intrinsic functional connectivity following complex perioperative critical care for noncardiac congenital anomalies: Pilot study. C. R. L. MONGERSON; D. J. HODKINSON; D. ZURAKOWSKI; R. W. JENNINGS; D. BAJIC*. *Boston Children's Hosp., Boston Children's Hosp., Harvard Med. Sch., Boston Children's Hosp.*

8:00 MMM14 **341.25** Explainable deep learning of neuroimaging reveals key structural deficits in schizophrenia. A. YANG*; C. PENG; C. LIN; S. TSAI. *Beth Israel Deaconess Med. Ctr., Beth Israel Deaconess Med. Center, Boston, Natl. Yang-Ming Univ., Taipei Veterans Gen. Hosp.*

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DUAL PERSPECTIVES SESSION *San Diego Convention Center*

343. DUAL PERSPECTIVES: Gamma – Fumes or Fundamental

Mon. 1:00 PM - 2:00 PM — SDCC 10

Organizer: M. L. SHAPIRO, *Mt. Sinai Sch. Med.*

Speakers: J. A. CARDIN, *Yale University*; V. S. SOHAL, *U. California, San Francisco*

SYMPOSIUM *San Diego Convention Center*

344. Extracellular Vesicles: Insights Into Cell-to-Cell Communication in the Nervous System — CME

Mon. 1:30 PM - 4:00 PM — SDCC 6A

Chair: J. D. SHEPHERD, *University of Utah*

Cells communicate and signal between each other in multiple ways. Emerging evidence suggests that extracellular vesicles (EVs) mediate intercellular signaling in the nervous system. Moreover, EVs have been implicated in the pathology of various neurodegenerative disorders, as several pathogenic proteins are released from cells associated with EVs. This symposium will highlight the biogenesis of EVs in neurons and the role EVs play in synaptic plasticity and neural circuit development.

1:30 **344.01** Introduction.

1:35 **344.02** Exosome-mediated signaling during neural circuit development. H. T. CLINE. *The Scripps Res. Inst.*

2:10 **344.03** Trafficking mechanisms for extracellular vesicle cargoes. A. RODAL. *Brandeis Univ.*

2:45 **344.04** Viral-Like mechanisms of neuronal extracellular vesicle biogenesis. J. D. SHEPHERD. *Univ. of Utah.*

3:20 **344.05** RNA sorting into exosomes secreted by human cells. R. SCHEKMAN. *Univ. of California at Berkeley.*

3:55 **344.06** Closing Remarks.

SYMPOSIUM *San Diego Convention Center*

345. Global Efforts to Build More Predictive Animal Models of Neurodegenerative Disease — CME

Mon. 1:30 PM - 4:00 PM — SDCC 6B

Chair: B. T. LAMB, *Indiana University School of Medicine*
Co-Chair: R. E. TANZI, *Massachusetts General Hospital, Harvard Medical School*

Neurodegenerative diseases are an increasingly common form of disability and death. Despite intensive efforts, no effective therapeutic strategies have been developed, perhaps in part due to inadequate animal models. This symposium will highlight global initiatives to develop and characterize novel animal models of Alzheimer's disease using state-of-the-art technologies, including genome editing, that will be critical for building animal models more predictive for therapeutic efficacy.

1:30 **345.01** Introduction.

1:35 **345.02** ● Modified Abeta-species in Alzheimer's disease reveal pathways for generating better predictive mouse models. H. CYNIS. *Fraunhofer IZI-MWT.*

2:10 **345.03** UK DRI: Improving and characterizing mouse models of dementia. F. A. EDWARDS. *Dept Neurosci Physiol Pharmacol.*

2:45 **345.04** Novel insights into Alzheimer's disease through the MODEL-AD consortium. B. T. LAMB. *Indiana Univ. Sch. of Med.*

3:20 **345.05** The Cure Alzheimer's Fund Genes to Therapies Program: Using novel mouse models to translate GWAS hits into disease insights. W. WASCO. *Massachusetts Gen. Hospital, Harvard Med. Sch.*

3:55 **345.06** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

346. Sex Differences in Risk and Resilience: Stress Effects on the Neural Substrates of Emotion and Motivation — CME

Mon. 1:30 PM - 4:00 PM — SDCC 6C

Chair: C. L. WELLMAN, *Indiana University*

Corticolimbic dysfunction is a hallmark of stress-linked psychological disorders, risk for which differs markedly in men and women. Understanding how the effects of stress differ in males and females is critical for determining the etiologies of stress-linked disorders. This minisymposium will describe sex-specific effects of stress on neural structure and function of brain regions involved in emotion, motivation, and cognition, highlighting possible neural mechanisms underlying sex-biased disorders.

1:30 **346.01** Introduction.

1:35 **346.02** Sex differences in stress regulation of arousal and cognition. D. A. BANGASSER. *Temple Univ.*

1:55 **346.03** Sex differences in stress and corticosterone modulation of amygdala neurochemistry and alcohol drinking. M. L. LOGRIP. *Indiana University-Purdue Univ. Indianapolis.*

2:15 **346.04** Sex- and sex hormone- dependent effects of stress on microglia in medial prefrontal cortex. J. L. BOLLINGER. *Univ. of Cincinnati Sch. of Med.*

2:35 **346.05** Age- and sex-dependent impact of repeated social stress on function and morphology of the rat prefrontal cortex. K. R. URBAN. *Children's Hosp. of Philadelphia.*

2:55 **346.06** Sex differences in sensitivity to stress of the prefrontal parvalbumin system. L. COUTELLIER. *Ohio State Univ.*

3:15 **346.07** When it's over, is it really over?: Sex differences in the lasting effects of chronic stress on rat medial prefrontal cortex. K. M. MOENCH. *Indiana Univ.*

3:35 **346.08** Closing Remarks.

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MINISYMPOSIUM *San Diego Convention Center*

347. Social Motivation Across the Lifespan — CME

Mon. 1:30 PM - 4:00 PM — SDCC 6E

Chair: B. C. TRAINOR, *University of California, Davis*
Co-Chair: A. H. VEENEMA, *Michigan State University*

Social behavior and motivation have historically been considered different behavioral processes modulated by different neural circuits. Multiple lines of evidence, however, indicate significant overlap and communication among these circuits. This minisymposium will highlight recent discoveries in the neural mechanisms modulating normal and abnormal social behavior using a variety of genetic, cellular, neuroanatomical, electrophysiological, and pharmacological approaches.

1:30 **347.01** Introduction.

1:35 **347.02** Deconstructing preoptic and midbrain circuits that regulate social motivation. J. A. MCHENRY. *Duke Univ.*

1:55 **347.03** Synaptic basis of social motivation: Implication for Autism Spectrum Disorder. C. BELLONE. *Univ. de Geneve.*

2:15 **347.04** Neural substrates underlying social motivation in juvenile rats. C. J. REPPUCCI. *Michigan State Univ.*

2:35 **347.05** Dynamic representation of sensory cues for social behavior. J. BERGAN. *U Mass Amherst.*

2:55 **347.06** Oxytocin circuits in the bed nucleus of the stria terminalis: Modulators of social anxiety. N. DUQUE-WILCKENS. *Univ. of California, Davis.*

3:15 **347.07** Neural circuity of appetitive aggression seeking and relapse in mice. S. A. GOLDEN. *Natl. Inst. on Drug Abuse.*

3:35 **347.08** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

348. Innovative Approaches for Monitoring Neuromodulation With Light — CME

Mon. 1:30 PM - 4:00 PM — SDCC 28A

Chair: Y. LI, *Peking University*
Co-Chair: M. R. BANGHART, *University of California San Diego*

Neuromodulators are essential signaling molecules that regulate many neural processes through their influence on brain circuits. Monitoring neuromodulator dynamics and untangling their underlying circuits is critical for understanding the function of the brain. This minisymposium will present state-of-the-art optical techniques that enable rapid, sensitive, cell-specific monitoring of important neuromodulators and cutting-edge tools for labeling neural circuits involved in neuromodulation.

1:30 **348.01** Introduction.

1:35 **348.02** *In vivo* imaging of neuromodulator transmission in learning using cell-based neurotransmitter fluorescent engineered reporters. A. LOZADA. *Univ. California San Diego.*

1:55 **348.03** Imaging dopamine dynamics with a genetically encoded indicator *in vivo.* L. TIAN. *Univ. of California, Davis.*

2:15 **348.04** Quantitative analysis of endogenous GPCR signaling with optical sensors of intracellular signals. Y. CHEN. *Harvard Med. Sch.*

2:35 **348.05** Spying acetylcholine- and norepinephrine-mediated neuromodulation by novel genetically-encoded sensors. Y. LI. *Peking Univ.*

2:55 **348.06** Dopamine release during social behaviors and its hypothalamic control. D. LIN. *New York Univ. Sch. of Med.*

3:15 **348.07** Dissecting behaviorally-relevant neuromodulation circuits at cellular resolution. H. KWON. *Max Planck Florida Inst.*

3:35 **348.08** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

349. Multidimensional Neuronal Cell Type Classification in the Cerebral Cortex — CME

Mon. 1:30 PM - 4:00 PM — SDCC 29D

Chair: J. F. STAIGER, *Georg-August-University Göttingen*
Co-Chair: S. A. SORENSEN, *NIH/NIDA*

There is general agreement in the field that meaningful cell type classification requires multimodal descriptors. These descriptors come from data modalities including morphology, physiology, molecular biology, and connectivity and are ideally linked to a circuit function. This minisymposium will present six recent studies using different multimodal approaches, ranging from molecular to functional, to objectively and systematically describe neuronal cell types in the rodent and human neocortex.

1:30 **349.01** Introduction.

1:35 **349.02** Morphological, electrophysiological and transcriptional descriptions of cell types in mouse visual cortex. S. A. SORENSEN. *Allen Inst. for Brain Sci.*

1:55 **349.03** (Mis)using VIP neurons to build an observer-independent cell type classification pipeline. J. F. STAIGER. *Georg-August-University Göttingen.*

2:15 **349.04** Layer-specific modulation of neocortical dendritic inhibition during active wakefulness. B. RUDY. *New York Univ.*

2:35 **349.05** Distinct descending motor cortex pathways and their roles in movement. S. VISWANATHAN. *Janelia Res. Campus.*

2:55 **349.06** Relationships between structure, *in vivo* function, and long-range axonal target of cortical neurons. M. OBERLAENDER. *Ctr. of Advanced European Studies and Res.*

3:15 **349.07** Reconstruction and simulation of neocortical microcircuitry. J. DEFELIPE. *Inst. Cajal (CSIC).*

3:35 **349.08** Closing Remarks.

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BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE *San Diego Convention Center*

350. ● Rapid Antidepressant Action: Synaptic Mechanisms and Clinical Aspects — CME

Mon. 1:30 PM - 4:00 PM — SDCC 30E

Organizer: E. T. KAVALALI

Speakers: R. MALINOW, H. S. MAYBERG, J. H. KRYSTAL

The discovery of rapidly acting antidepressant treatments has generated tremendous enthusiasm. Ketamine, a glutamate receptor antagonist, produces rapid and sustained antidepressant responses in patients. Deep brain stimulation has also shown promise for the treatment of depression. The mechanisms underlying rapid antidepressant responses provide novel perspectives into mood disorders and their treatment. This panel will discuss these novel treatments and the mechanisms underlying their action.

LECTURE *San Diego Convention Center*

351. ALBERT AND ELLEN GRASS LECTURE: Neural Sequences in Memory and Cognition

Mon. 3:15 PM - 4:25 PM — SDCC Ballroom 20

Speaker: D. W. TANK*, Princeton Univ.*

The BRAIN Initiative is transforming neuroscience through improved methods for large-scale neural recording at cellular resolution. The application of these methods during working memory, decision-making, and navigation tasks has repeatedly demonstrated sequences of activity across the recorded neural population that tile the behavior. New analysis and modeling efforts are providing clues as to the functional roles and mechanisms of this widely observed form of neural circuit dynamics.

LECTURE *San Diego Convention Center*

352. PRESIDENTIAL SPECIAL LECTURE: From Nanoscale Dynamic Organization to Plasticity of Excitatory Synapses and Learning

Mon. 5:15 PM - 6:30 PM — SDCC Ballroom 20

Speaker: D. CHOQUET*, CNRS, Univ. of Bordeaux.*

Regulation of receptor trafficking has emerged as a key mechanism for activity-dependent plasticity of synaptic transmission, a process important for learning and memory. The advent of super-resolution microscopy and single-molecule tracking has helped to uncover the intimacy of synapse dynamic organization at the nanoscale. Using new tools for further understanding the link between receptor dynamics and synapse plasticity is unveiling some of the molecular mechanisms of learning in the healthy and diseased brain.

NANOSYMPOSIUM

353. Current Perspectives on Neural Circuit Assembly and Reorganization

Theme A: Development

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 24

1:00 **353.01** Synapse-specific control of circuit maturation and plasticity by SynCAM 1. A. RIBIC*; M. C. CRAIR; T. BIEDERER. *Tufts Univ. Sch. of Med., Yale Univ.*

1:15 **353.02** Unexpected role for neuronal non-classical MHCI Qa-1 in activity-dependent plasticity. I. A. MARIN*; A. Y. WEI; K. S. CHEW; C. J. SHATZ. *Stanford Univ., Stanford Univ.*

1:30 **353.03** Diverse developmental trajectories of single identified pyramidal neurons during the critical period in the visual cortex. L. TAN*; S. L. ZIPURSKY; J. T. TRACHTENBERG; D. L. RINGACH. *UCLA, UCLA, UCLA.*

1:45 **353.04** Pten signaling regulates apoptosis in cortical GABAergic interneurons during development. D. T. PAGE*; J. SEJOURNE; O. COHEN; A. ZUCCA. *The Scripps Res. Inst.*

2:00 **353.05** To be, or not to be - Neuronal death during development. K. BERCSENYI*; F. K. WONG; V. SREENIVASAN; A. PORTALÉS; M. FERNÁNDEZ-OTERO; O. MARÍN. *King's Col. London, King's Col. London.*

2:15 **353.06** GABA transmission necessary for transplantation induced visual plasticity. R. PRIYA*; J. SPATAZZA; M. KANEKO; M. STRYKER; G. J. FISHELL; A. A. BUYLLA. *Univ. of California, San Francisco, UCSF, Harvard Med. Sch.*

2:30 **353.07** Abnormal corticostriatal development underlies the onset of behavioral deficits in Shank3B$^{-/-}$ mice. R. PEIXOTO*; L. CHANTRANUPONG; J. LEVASSEUR; W. WANG; T. MERCHANT; K. GORMAN; B. BUDNIK; B. L. SABATINI. *Harvard Med. Sch., Harvard Univ., Harvard Med. Sch. Dept. of Neurobio.*

NANOSYMPOSIUM

354. Brain Wellness and Aging: Systemic Factors and Brain Function

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 33

1:00 **354.01** Brain-heart interactions underlying traditional tibetan buddhist meditation. H. JIANG*; B. HE; X. GUO; X. WANG; M. GUO; Z. WANG; T. XUE; H. LI; T. XU; S. YE; D. SUMA; S. TONG; D. CUI. *Carnegie Mellon Univ., Shanghai Jiao Tong Univ.*

1:15 **354.02** Cognitive SuperAgers are protected from cholinergic axonal abnormalities in prefrontal cortex. S. JADIDI; G. KIM; A. REZVANIAN; T. GEFEN; S. WEINTRAUB*; E. H. BIGIO; E. ROGALSKI; M. MESULAM; C. GEULA. *Northwestern University, Feinberg Sch. of Medici.*

1:30 **354.03** Selective effects of healthy aging on corpus callosum microstructure: A diffusion tensor imaging tractography study. N. V. MALYKHIN*; W. PIETRASIK; I. CRIBBEN; Y. HUANG; F. OLSEN. *Univ. of Alberta, Alberta Sch. of Business, Univ. of Alberta.*

1:45 **354.04** Human leukocyte antigen drb1*13 protects against age-related brain changes. L. JAMES*; P. CHRISTOVA; A. P. GEORGOPOULOS. *Univ. of Minnesota/Minneapolis VAHCS, Univ. of Minnesota, Univ. Minnesota.*

2:00 **354.05** Enhanced skeletal muscle proteostasis as a determinant of CNS protein quality control and neural function in the aging brain. C. J. CORTES*; A. GROMOVA; A. R. LA SPADA. *Duke Univ., Univ. of California San Diego, Duke Univ.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:15 **354.06** ● Multi-modal impact of treatment with a human plasma protein fraction to enhance CNS function. E. CZIRR*; I. D. GALLAGER; M. K. CAMPBELL; C. TUN; S. REGE; R. R. ALCANTARA-LEE; A. T. LIU; H. HACKBART; M. CASTRO; R. ESTRADA; V. KHEIFETS; S. P. BRAITHWAITE; S. S. MINAMI. *Alkahest Inc.*

2:30 **354.07** ● Identification and characterization of a beneficial plasma fraction with long term efficacy in the CNS. V. KHEIFETS*; I. GALLAGER; S. MINAMI; E. CZIRR; N. HUBER; R. ALCANTARA-LEE; M. CASTRO; S. REGE; H. HACKBART; C. TUN; R. ESTRADA; S. P. BRAITHWAITE. *Alkahest, Alkahest.*

NANOSYMPOSIUM

355. Motor Neuron and Other Neuromuscular Diseases: *In Vitro* Studies

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 30B

1:00 **355.01** From bench to bedside: Gene therapy for Batten (CLN6) disease. S. B. LIKHITE*; J. T. CAIN; K. A. WHITE; D. J. TIMM; S. DAVIS; T. JOHNSON; C. DENNYS-RIVERS; F. RINALDI; D. MOTTI; S. CORCORAN; P. MORALES; B. K. KASPAR; J. WEIMER; K. MEYER. *Res. Inst. at Nationwide Childrens Hosp., Sanford Res., Res. Inst. at Nationwide Childrens Hosp., The Mannheimer Foundation, Inc.*

1:15 **355.02** Development of central nervous system 3D *in vitro* models to study molecular mechanisms and develop therapeutic strategies for motor neuron diseases. P. RINCHETTI*; I. FARAVELLI; L. MAPELLI; S. TAMANINI; C. CORDIGLIERI; M. RIZZUTI; G. FOROTTI; N. BRESOLIN; G. P. COMI; M. NIZZARDO; S. CORTI. *Univ. of Milan, Univ. of Milan, Univ. of Pavia, Inst. Nazionale Genetica Medica (INGM).*

1:30 **355.03** Phenotypic characterization of human iPSCs-derived SOD1(G93A) motor neurons for identifying and investigating novel ALS targets. S. KEILANI*; P. HUTSON; I. REYNOLDS; S. RISSO. *Teva Pharmaceuticals, Teva Pharmaceuticals.*

1:45 **355.04** An *in vitro* human neuromuscular connection as a model to study amyotrophic lateral sclerosis. Q. DING*; T. TRACEY; P. THAKRE; E. WIMBERGER; A. RUSSELL; R. KANJHAN; M. BELLINGHAM; L. JEFFEREE; M. COLDITZ; R. HENDERSON; P. MCCOMBE; K. FORREST; M. DEVINE; M. HILLIARD; E. WOLVETANG; S. NGO; P. G. NOAKES. *Univ. of Queensland - St. Lucia Campus, Deakin Univ., Royal Brisbane & Women's Hosp.*

2:00 **355.05** Correlation between cellular markers, astrocyte toxicity and disease progression in ALS patients. C. N. DENNYS*; S. B. LIKHITE; A. HUFFENBERGER; S. J. KOLB; B. K. KASPAR; K. C. MEYER. *Nationwide Children's Hosp., Res. Inst. at Nationwide Childrens Hosp., Nationwide Children's Hosp., The Ohio State Univ. Wexner Med. Ctr., Res. Inst. at Nationwide Childrens Hosp., Res. Inst. Nationwide Childrens Hosp.*

2:15 **355.06** C9orf72 RAN-translated poly-GA dipeptide results in perturbed signaling events and altered machinery required for synaptic transmission. B. K. JENSEN*; X. WEN; T. WESTERGARD; K. J. MCAVOY; K. KRISHNAMURTHY; M. H. SCHULDI; D. EDBAUER; A. HAEUSLER; P. PASINELLI; D. TROTTI. *Thomas Jefferson Univ., German Ctr. for Neurodegenerative Dis. (DZNE).*

2:30 **355.07** Poly-GR expression in a novel mouse model of C9orf72-ALS. B. A. MORRIS*; X. WEN; T. WESTERGARD; K. A. RUSSELL; A. R. HAEUSLER; D. TROTTI; P. PASINELLI. *Thomas Jefferson Univ., Jefferson Weinberg ALS Ctr.*

2:45 **355.08** tRNA requirements for C9orf72 RAN translation. A. NELSON*; H. GAMPER; S. MAHARJAN; A. LOWE; A. R. HAEUSLER; Y. HOU; D. TROTTI. *Thomas Jefferson Univ., Thomas Jefferson Univ., Thomas Jefferson Univ., Dept. of Neurosci.*

3:00 **355.09** The structural basis of reversible fibril involved in phase separation and neurodegenerative diseases. D. LI*; X. GUI; Y. LI; F. LUO; C. LIU. *Bio-X Institutes, Key Lab. For the Genet., Chinese Acad. of Sci.*

3:15 **355.10** Role of USP7 in the pathogenicity of spinal and bulbar muscular atrophy. A. PLUCIENNIK*; D. MERRY; G. MARSH; S. TODI. *Thomas Jefferson Univ., Wayne State Univ. Sch. of Med.*

3:30 **355.11** Impaired nuclear export of polyglutamine-expanded androgen receptor contributes to toxicity in spinal and bulbar muscular atrophy. F. ARNOLD*; A. PLUCIENNIK; D. E. MERRY. *Thomas Jefferson Univ.*

3:45 **355.12** Tmem184b loss causes motor and sensory impairment. M. R. BHATTACHARYA*; J. FENG; C. JARVIS; E. M. FRENCH; H. HU. *Univ. of Arizona, Washington Univ. in St. Louis.*

NANOSYMPOSIUM

356. Spinal Cord Injury: Factors Influencing Recovery

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 7

1:00 **356.01** Ketogenic diet reduces inflammation after spinal cord injury. K. L. KOLEHMAINEN*; O. SEIRA; I. BEATTIE; R. PATEL; N. ALAEIILKHCHI; T. MATZINGER; J. LIU; W. TETZLAFF. *Univ. of British Columbia, ICORD, Franzens Univ. Innsbruck.*

1:15 **356.02** Cortical spinal tract stimulation induces white matter remodeling in spinal cord injured rats. B. KONDILES*; R. ROBINSON; A. ZHANG; T. LEE; S. I. PERLMUTTER; P. J. HORNER. *Univ. of Washington, Houston Methodist Res. Inst.*

1:30 **356.03** Paired brain and spinal cord stimulation strengthens spared spinal circuits after injury. A. PAL*; A. GARCIA-SANDOVAL; S. RATNADURAI-GIRIDHARAN; Q. YANG; T. BETHEA; A. RAMAMURTHY; T. WEN; W. VOIT; J. B. CARMEL. *Burke Neurolog. Inst., The Univ. of Texas at Dallas, Weill Cornell Medicine, New York.*

1:45 **356.04** Motor cortex and cervical spinal cord electrical stimulation promotes forelimb motor function after spinal cord injury in rats. Q. YANG*; A. RAMAMURTHY; S. LALL; J. SANTOS; N. ZAREEN; H. ALEXANDER; D. F. RYAN; J. H. MARTIN; J. B. CARMEL. *Burke Neurolog. Inst. Weill Cornell Med., The City Col. of the City Univ. of NY.*

2:00 **356.05** Characteristics of lower limb EMG activity and standing ability in individuals with motor complete spinal cord injury using spinal cord epidural stimulation. E. REJC*; F. GONNELLI; S. MESBAH; C. A. ANGELI; S. J. HARKEMA. *Univ. of Louisville, Kentucky Spinal Cord Injury Res. Ctr., Frazier Rehab Inst., Univ. Louisville, Frazier Rehab Inst, KSCIRC.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:15 **356.06** ● Tessla: Transcutaneous electrical spinal stimulation for lower urinary tract functional augmentation. P. GAD*; E. KREYDIN; H. ZHONG; K. LATACK; V. EDGERTON. *Univ. of California Los Angeles, USC, UCLA, Univ. of California Los Angeles.*

2:30 **356.07** Recovery of walking overground after chronic motor complete spinal cord injury. C. A. ANGELI*; M. BOAKYE; R. MORTON; J. VOGT; K. BENTON; Y. CHEN; C. FERREIRA; S. J. HARKEMA. *Frazier Rehab Inst., Univ. of Louisville, Univ. of Louisville.*

NANOSYMPOSIUM

357. Cerebellum: Local and Long-Range Functions

Theme E: Motor Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 4

1:00 **357.01** Adaptive behavior in the face of uncertainty: Predictive timing activity in dentate nucleus. V. PREVOSTO*; M. A. SOMMER. *Duke Univ., Duke Univ., Duke Univ.*

1:15 **357.02** Low-frequency oscillations correlate with plastic changes in deep cerebellar nuclei induced by theta-patterned tactile stimulation *in vivo.* I. MONTAGNA*; L. MOSCATO; L. DE PROPRIS; S. TRITTO; L. MAPELLI; E. D'ANGELO. *Univ. of Pavia, Inst. Neurologico IRCCS Fondazione C. Mondino.*

1:30 **357.03** Learning deficit associated with a selective and cell-type specific impairment of intrinsic plasticity in cerebellar Purkinje cells. G. GRASSELLI*; H. BOELE; H. K. TITLEY; N. BRADFORD; L. VAN BEERS; L. JAY; C. I. DE ZEEUW; M. SCHONEWILLE; C. HANSEL. *Univ. of Chicago, Erasmus MC, Netherlands Inst. for Neurosci.*

1:45 **357.04** Intrinsic plasticity of the cerebellar Purkinje cells is required for cerebellar-dependent motor memory formation. H. SHIM; D. JANG; C. RYU; S. KIM*. *Seoul Natl. Univ. Col. of Med.*

2:00 **357.05** The richness of cerebellar granule cell firing properties captured by modeling optimization procedures. M. TOGNOLINA*; S. MASOLI; E. D'ANGELO. *Univ. of Pavia, C. Mondino.*

2:15 **357.06** Motor context shapes output from Purkinje cell functional regions to establish cerebellar internal models. L. D. KNOGLER*; A. M. KIST; R. PORTUGUES. *Max Planck Inst. of Neurobio.*

2:30 **357.07** Graded and bidirectional control of real-time reach kinematics by the cerebellum. M. I. BECKER*; A. L. PERSON. *Univ. of Colorado Sch. of Med., Univ. of Colorado Sch. of Med.*

2:45 **357.08** Reconstructing and simulating functional cerebellar network. C. MEDINI*; C. CASELLATO; S. CASALI; E. MARENZI; S. MASOLI; E. D'ANGELO. *Univ. of Pavia, Univ. of Pavia, Univ. of Pavia, Univ. of Pavia.*

3:00 **357.09** A computational model of the cortico-cerebello-thalamo-cortical pathway under essential tremor and cerebellar stimulation. S. SANTANIELLO*; X. ZHANG. *University of Connecticut, University of Connecticut.*

3:15 **357.10** Detection of eye-blink conditioning signals in the human cerebellum with optically-pumped magnetometers. R. C. MIALL*; C. LIN; T. M. TIERNEY; N. HOLMES; E. BOTO; J. LEGGETT; S. BESTMANN; R. BOWTELL; M. BROOKES; G. R. BARNES. *Univ. of Birmingham, Univ. Col. London, Univ. of Nottingham, Univ. Col. London.*

3:30 **357.11** Modeling of NMDAr-dependent mechanism of cerebellar granular layer hyperfunctioning in the IB2 KO mouse model of autism. T. SODA*; L. MAPELLI; F. LOCATELLI; S. CASALI; L. BOTTA; M. GOLDFARB; F. PRESTORI; E. D'ANGELO. *Univ. of Pavia, Hunter Col.*

NANOSYMPOSIUM

358. Emotion: Circuits and Mechanisms

Theme G: Motivation and Emotion

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 5

1:00 **358.01** Odor blocking effects on stress. E. LEE*; L. R. SARAIVA; L. B. BUCK. *Fred Hutchinson Cancer Res. Ctr., Sidra Med.*

1:15 **358.02** Neural pathway supposedly mediating the descending autonomic information from the dorsomedial hypothalamus to the ventral medullary cardiorespiratory regions. Y. OKADA*; Y. KONO; Y. ARIMA; S. YOKOTA; H. ONIMARU; I. FUKUSHI; K. KOIZUMI; Y. HASEBE; M. YOSHIZAWA; H. KISE; T. TODA. *Murayama Med. Ctr., Univ. of Yamanashi, Shimane Univ. Sch. of Med., Showa Univ. Sch. of Med.*

1:30 **358.03** Chronic chemogenetic activation of forebrain excitatory neurons in postnatal life evokes long-lasting changes in mood-related behavior. S. PATI*; S. SALVI; P. TIWARI; T. BANERJEE; S. MUKHOPADHYAY; V. A. VAIDYA. *Tata Inst. of Fundamental Res., The Scripps Res. Inst.*

1:45 **358.04** Zona incerta modulates fear responses in mice. A. VENKATARAMAN*; N. BRODY; P. REDDI; B. G. DIAS. *Emory Univ., Emory Univ., Emory Univ., Yerkes Natl. Primate Res. Ctr., Emory Univ. Sch. of Med.*

2:00 **358.05** CTRND05 is a high affinity corticotropin releasing hormone antibody that blocks the metabolic, immunologic, and neural sequelae of chronic stress. H. S. FUTCH*; M. Z. KUHN; B. D. MOORE; Y. LEVITES; C. G. JANUS; P. CHAKRABARTY; M. R. SHAPIRO; T. M. BRUSKO; E. G. KRAUSE; T. E. GOLDE. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Col. of Medicine, Univ. of Florida.*

2:15 **358.06** Virus-assisted single-cell transcriptomics for the genetic dissection of neural circuits. N. K. HANCHATE*; E. LEE; A. ELLIS; K. KONDOH; X. YE; R. BASOM; C. TRAPNELL; L. BUCK. *Fred Hutchinson Cancer Reserach Ctr., Univ. of Washington, Natl. Inst. for Physiological Sci., Fred Hutchinson Cancer Reserach Ctr.*

2:30 **358.07** Projections from medial prefrontal cortex to amygdala are involved in social familiarity induced anxiolysis (sofia). S. MAJUMDAR*; A. ABREU; E. A. LUNGWITZ; N. BHARADWAJ; A. D. DIETRICH; K. D. ANDREWS; W. A. TRUITT. *Indiana Univ. Sch. of Med.*

2:45 **358.08** 2510002D24Rik, a 22q11 deletion syndrome gene candidate for CA2-dependent social memory deficit. P. DEVARAJU*; J. YU; D. EDDINS; S. HAN; K. KAVDIA; D. KAMINSKI; J. PENG; S. ZAKHARENKO. *St. Jude Children's Res. Hosp., St. Jude Children's Res. Hosp.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

NANOSYMPOSIUM

359. Animal Cognition and Behavior: Decision Making: Prefrontal Cortex II

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 25

1:00 **359.01** Imaging cortical dynamics from millimeter to micron scale during evidence based decision making in rats. B. B. SCOTT*; S. THIBERGE; C. GUO; D. G. TERVO; C. BRODY; A. Y. KARPOVA; D. W. TANK. *Princeton Neurosci. Inst., Princeton Univ., Janelia Res. Campus, Howard Hughes Med. Inst. Janelia Farm Res. Campus, HHMI/ Janelia Res. Campus.*

1:15 **359.02** Urgency-related neural population dynamics in the dorsal premotor cortex during a reach reaction time decision-making task. C. CHANDRASEKARAN*; K. V. SHENOY. *Stanford Univ., Howard Hughes Med. Inst. - Stanford Univers.*

1:30 **359.03** Reversible and non-invasive manipulation of activity in deep and subcortical brain structures using focused ultrasound neuromodulation. D. FOLLONI*; L. VERHAGEN; R. B. MARS; E. FOURAGNAN; J. AUBRY; M. F. S. RUSHWORTH; J. SALLET. *Univ. of Oxford, Univ. of Oxford, Radboud Univ. Nijmegen, Inst. du Cerveau et de la Moelle épinière, Univ. of Virginia.*

1:45 **359.04** A population code in area LIP for decisions spanning several eye movements. N. SO*; M. N. SHADLEN. *Columbia Univ. Zuckerman Inst., Howard Hughes Med. Inst. - Columbia Univ., Zuckerman Insitute.*

2:00 **359.05** Population dynamics of choice representation in dorsal premotor and primary motor cortex. D. PEIXOTO*; R. KIANI; C. CHANDRASEKARAN; S. RYU; K. V. SHENOY; W. T. NEWSOME III. *Stanford Univ. Sch. of Med., Champalimaud Neurosci. Programme, New York Univ., Stanford Univ., Palo Alto Med. Fndn., Howard Hughes Med. Inst. - Stanford Univers, Stanford Univ. Sch. Med.*

2:15 **359.06** A cortico-basal ganglia network for dynamic decision-making. D. THURA*; P. CISEK. *Univ. Montreal.*

2:30 **359.07** Cortical computation of an economic reference point. C. M. CONSTANTINOPLE*; A. PIET; P. BIBAWI; C. D. KOPEC; C. D. BRODY. *Princeton Univ., Princeton Univ., HHMI / Princeton Univ.*

2:45 **359.08** Local and global neural correlates of a decision-making task in the mouse brain. N. A. STEINMETZ*; P. ZATKA-HAAS; M. CARANDINI; K. D. HARRIS. *Univ. Col. London.*

3:00 **359.09** Recapitulating decision-related neural activity in premotor cortex using recurrent neural networks. J. C. KAO*; C. CHANDRASEKARAN. *UCLA, Stanford Univ.*

3:15 **359.10** Multi-dimensional, dynamic encoding, decoding, and decision making in prefrontal cortex. M. C. AOI*; V. MANTE; J. W. PILLOW. *Princeton Univ., Inst. of Neuroinformatics, Princeton Neurosci. Inst.*

3:30 **359.11** Adaptive choice stochasticity is a function of adapting value sensitivity in monkey orbitofrontal cortex. J. ZIMMERMANN*; P. W. GLIMCHER; K. LOUIE. *New York Univ., New York Univ. Ctr. for Neural Sci., New York Univ.*

NANOSYMPOSIUM

360. Animal Cognition and Behavior: Learning and Memory: Cortical-Hippocampal Interactions I

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 31C

1:00 **360.01** Prospective goal state representation in monkey OFC and RSC in a 3D virtual reality foraging task. M. WANG*; B. Y. HAYDEN. *Univ. of Rochester, Univ. of Minnesota.*

1:15 **360.02** FMRI evidence for the successor representation in human value computation. E. RUSSEK*; I. MOMENNEJAD; M. M. BOTVINICK; S. J. GERSHMAN; N. D. DAW. *New York Univ., Princeton Univ., DeepMind, Univ. Col. London, Harvard.*

1:30 **360.03** The role of episodic memory in model-based planning. O. M. VIKBLADH*; D. SHOHAMY; N. DAW. *New York Univ., Columbia Univ., Princeton Univ.*

1:45 **360.04** The hippocampal formation facilitates social decision-making by transforming reference frames. R. KAPLAN*; K. J. FRISTON. *Univ. Col. London, UCL Wellcome Ctr. for Human Neuroimaging.*

2:00 **360.05** Single-neuron and population encoding of objects and space in hippocampus and dorsolateral prefrontal cortex during virtual navigation. R. A. GULLI*; L. DUONG; B. W. CORRIGAN; G. DOUCET; J. C. MARTINEZ-TRUJILLO. *Western Univ., McGill Univ., McGill Univ., Univ. of Western Ontario.*

2:15 **360.06** Examining outcome and location representations in orbitofrontal cortex. A. M. WIKENHEISER*; M. P. GARDNER; L. E. MUELLER; G. SCHOENBAUM. *Natl. Inst. on Drug Abuse, Natl. Inst. on Drug Abuse Intramural Res. Program.*

2:30 **360.07** Representation of environmental structure by the orbitofrontal cortex and hippocampus within an odor sequence task. J. ZHOU*; M. GARDNER; T. STALNAKER; S. RAMUS; A. WIKENHEISER; M. MONTESINOS-CARTAGENA; Y. NIV; G. SCHOENBAUM. *Natl. Inst. on Drug Abuse, IRP, Bowdoin Col., Princeton Univ.*

2:45 **360.08** Hippocampal and neocortical correlates of goal-directed activity in freely-behaving macaques. O. TALAKOUB; P. SAYEGH; T. WOMELSDORF*; P. FRIES; C. M. LEWIS; K. L. HOFFMAN. *York Univ., Vanderbilt Univ., Ernst Struengmann Inst. (ESI), Ernst Strüngmann Inst. (ESI), Vanderbilt Univ.*

3:00 **360.09** Role of hippocampal place cells and reactivation/ replay in optimal path-finding. É. DUVELLE; E. HEW; N. ATEşYAKAR; W. PARRY-JONES; R. M. GRIEVES; A. RAWSON; G. MAKDAH; K. J. JEFFERY*. *Univ. Col. London.*

3:15 **360.10** Characterization of exploration patterns and hippocampal-prefrontal network oscillations during emergence of free exploration. B. SI; H. CHEN; T. SIT; C. T. GROSS; Y. ZHAN*. *Chinese Acad. of Sci., Shenzhen Inst. of Advanced Technology, CAS, EMBL.*

3:30 **360.11** Episodic caching assists model free control in reinforcement learning tasks with changing reward contingencies. A. CARSON*; B. A. RICHARDS. *Univ. of Toronto Scarborough.*

3:45 **360.12** BDNF Met66 prodomain eliminates spines and synapses in developing fear extinction circuitry thus changing circuit adaptation abilities and consequently the behavior. J. GIZA*; F. S. LEE; B. L. HEMPSTEAD; J. KIM. *Weill Cornell Med. Col., Weill Cornell Med.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

NANOSYMPOSIUM

361. Human Cognition and Behavior: Human Long-Term Memory: Encoding and Retrieval

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 32

1:00 **361.01** Neurodevelopmental correlates of the testing effect. J. ARNAEZ-TELLERIA*; M. CARREIRAS; P. M. PAZ-ALONSO. *Basque Ctr. On Cognition, Brain and Language, IKERBASQUE, Basque Fndn. for Sci.*

1:15 **361.02** Fundamental scaling law of memory recall. M. V. TSODYKS*; M. KATKOV. *Weizmann Inst. of Sci.*

1:30 **361.03** ● Dopaminergic enhancement of associative memory in healthy humans. E. K. BRAUN*; K. D. DUNCAN; R. GIRGIS; S. WOOD; M. SHARP; C. VAN GEEN; A. ABI-DARGHAM; D. SHOHAMY. *Columbia Univ., Univ. of Toronto, Columbia Univ., New York State Psychiatric Inst., McGill Univ., Stony Brook Univ.*

1:45 **361.04** ● Distinct cortical systems reinstate content and context information during memory search. J. E. KRAGEL*; G. A. WORRELL; M. R. SPERLING; R. E. GROSS; B. C. LEGA; B. C. JOBST; S. A. SHETH; K. A. ZAGHLOUL; J. M. STEIN; R. GORNIAK; M. J. KAHANA. *Univ. of Pennsylvania, Mayo Clin., Thomas Jefferson Univ., Emory Univ. Sch. of Med., UT Southwestern Med. Ctr., Dartmouth-Hitchcock Med. Ctr., Baylor Col. of Med., Natl. Inst. of Neurolog. Disorders and Stroke, NIH, Hosp. of the Univ. of Pennsylvania, Thomas Jefferson Univ.*

2:00 **361.05** ● Connectivity-guided choice of intracranial stimulation targets for optimal cognitive enhancement. E. A. SOLOMON*; R. E. GROSS; B. C. LEGA; M. R. SPERLING; G. A. WORRELL; S. A. SHETH; K. A. ZAGHLOUL; B. C. JOBST; J. M. STEIN; S. DAS; R. GORNIAK; C. S. INMAN; S. E. SEGER; J. E. KRAGEL; D. S. RIZZUTO; M. J. KAHANA. *Univ. of Pennsylvania, Emory Univ. Sch. Med., UT Southwestern Med. Ctr., Thomas Jefferson Univ. Hosp., Mayo Clin., Baylor Col. of Med., Natl. Inst. of Neurolog. Disorders and Stroke, NIH, Dartmouth-Hitchcock Med. Ctr., Univ. of Pennsylvania, Univ. of Pennsylvania, Thomas Jefferson Univ. Hosp., Emory Univ., Univ. of Texas Southwestern, Univ. of Pennsylvania.*

2:15 **361.06** Fast timescale network dynamics underlying episodic encoding and retrieval. L. L. OWEN*; M. SPERLING; B. C. LEGA; G. A. WORRELL; R. E. GROSS; B. C. JOBST; K. DAVIS; K. A. ZAGHLOUL; S. SHETH; J. STEIN; S. DAS; R. GORNIAK; J. R. MANNING. *Dartmouth Col., Thomas Jefferson Univ. Hosp., UT Southwestern Med. Ctr., Mayo Clin., Emory Univ. Sch. Med., Dartmouth-Hitchcock Med. Ctr., Hosp. of the Univ. of Pennsylvania, Natl. Inst. of Neurolog. Disorders and Stroke, NIH, Columbia Univ., Hosp. of the Univ. of Pennsylvania, Hosp. of the Univ. of Pennsylvania, Thomas Jefferson Univ. Hosp.*

2:30 **361.07** Separable oscillatory state in human temporal lobe underlies cued but not free recall. M. M. EL-KALLINY*; T. SHEEHAN; V. SREEKUMAR; J. H. WITTIG, JR; M. SPERLING; B. C. LEGA; G. A. WORRELL; R. E. GROSS; B. C. JOBST; K. DAVIS; Y. EZZYAT; J. STEIN; S. DAS; R. GORNIAK; S. INATI; M. J. KAHANA; K. A. ZAGHLOUL. *NINDS, Natl. Inst. of Hlth., UCSD, Dept. of Neurology, Thomas Jefferson Univ. Hosp., UT Southwestern Med. Ctr., Mayo Clin., Emory Univ. Sch. Med., Dartmouth-Hitchcock Med. Ctr., Hosp. of the Univ. of Pennsylvania, Univ. of Pennsylvania, Dept. of Radiology, Hosp. of the Univ. of Pennsylvania, Dept. of Radiology, Thomas Jefferson Univ. Hosp., Office of the Clin. Director, NINDS.*

2:45 **361.08** Sleep consolidates emotional meaning through diverging effects on automatic and cognitive emotional responses in children. K. ZINKE*; E. M. BOLINGER; J. BORN. *Univ. of Tübingen, Ctr. for Integrative Neurosci.*

3:00 **361.09** The dynamic changes in narrative understanding represented in the regional- and network-level state of the human brain. H. SONG*; B. PARK; J. HAN; H. PARK; W. SHIM. *Ctr. for Neurosci. Imaging Research, IBS, Dept. of Biomed. Engineering, Sungkyunkwan Univ. (SKKU), Dept. of Electronic, Electrical and Computer Engineering, Sungkyunkwan Univ. (SKKU), Sch. of Electronic and Electrical Engineering, Sungkyunkwan Univ. (SKKU).*

3:15 **361.10** Low-frequency memory-related oscillations in the human neocortex. J. MILLER; H. ZHANG; M. SPERLING; B. C. LEGA; G. A. WORRELL; R. E. GROSS; B. C. JOBST; K. DAVIS; K. A. ZAGHLOUL; S. A. SHETH; J. STEIN; S. DAS; R. GORNIAK; J. JACOBS*. *Columbia Univ., Thomas Jefferson Univ., UT Southwestern Med. Ctr., Mayo Clin., Emory Univ. Sch. Med., Dartmouth-Hitchcock Med. Ctr., Hosp. of the Univ. of Pennsylvania, Natl. Inst. of Neurolog. Disorders and Stroke, NIH, Baylor Col. of Med., Univ. of Pennsylvania.*

3:30 **361.11** Hippocampal functional distinctions in memory processing. J. LIN*; S. E. SEGER; B. C. LEGA. *Univ. of Texas Southwestern Med. Ctr.*

3:45 **361.12** Comparison of fMRI and intracranial EEG metrics of successful memory encoding. P. F. HILL*; S. E. SEGER; D. R. KING; B. C. LEGA; M. D. RUGG. *Univ. of Texas at Dallas, UT Southwestern Med. Ctr.*

4:00 **361.13** Deep brain stimulation of the human posterior cingulate cortex during episodic memory processing. V. S. NATU*; J. LIN; A. BURKS; A. ARORA; M. D. RUGG; B. LEGA. *Univ. of Texas Southwestern Med. Ctr., Univ. of Texas at Dallas Ctr. for Vital Longevity.*

NANOSYMPOSIUM

362. Human Cognition and Behavior: Language and Communication

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 23

1:00 **362.01** Infant and adult brains are coupled to the dynamics of social behavior during real-life communication. E. A. PIAZZA*; L. HASENFRATZ; U. HASSON; C. LEW-WILLIAMS. *Princeton Univ.*

1:15 **362.02** Intersubject correlation for social and non-social videos in the default mode network. M. STRACCIA*; A. GORDON; M. LIEBERMAN. *UCLA, UCLA.*

1:30 **362.03** Endogenous variation in ventromedial prefrontal cortex state dynamics. L. CHANG*; J. CHEONG; P. CHEN; K. RAPUANO; E. JOLLY. *Dartmouth Col., Yale Univ.*

1:45 **362.04** Thinking ahead: Using ECoG to map the spatiotemporal dynamics of prediction during natural language comprehension. A. R. PRICE*; L. HASENFRATZ; A. ZADBOOD; D. FRIEDMAN; P. DUGAN; W. DOYLE; O. DEVINSKY; L. MELLONI; A. FLINKER; U. HASSON. *Princeton Univ., NYU, Max Planck For Empirical Aesthetics.*

2:00 **362.05** Cortical tracking reveals how the brain forms hierarchical representations based on linguistics and memory. G. DEGANO*; U. NOPPENEY. *Univ. of Birmingham.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:15 **362.06** An integrated analysis of language networks using CSM and DTI. P. ROLLO*; K. FORSETH; C. M. KADIPASAOGLU; C. DONOS; N. TANDON. *UTHSC at Houston, UT Hlth. Sci. Ctr. in Houston, Univ. of Texas Med. Sch. at Houston, Univ. of Texas Hlth. Sci. Ctr. at Houst, Univ. of Texas Med. Sch. at Houston.*

2:30 **362.07** Using auditory steady state response and visual gamma band response in eeg/meg to test embodied theories of semantics. O. HAUK*; M. KEEMINK; R. FARAHIBOZORG; G. PERRY; S. CHENNU. *Univ. of Cambridge, Cardiff Univ., Univ. of Kent.*

2:45 **362.08** Semantic processing in the dorsal stream. A. G. LIUZZI*; P. DUPONT; R. PEETERS; S. DE DEYNE; G. STORMS; R. R. VANDENBERGHE. *KU Leuven / Lab. for Cognitive Neurol., KU LEUVEN, Univ. Hosp., Lab. for Exptl. Psychology, Univ. Hosp Gasthuisberg.*

3:00 **362.09** Functionally-defined white-matter shows segregated pathways for math and reading in the human brain. M. GROTHEER*; K. GRILL-SPECTOR. *Stanford Univ., Stanford Univ.*

3:15 **362.10** Dissecting the hidden neural states of overt language production. K. FORSETH*; A. GIAHI SARAVANI; X. S. PITKOW; N. TANDON. *UT Hlth. Sci. Ctr. in Houston, Baylor Col. of Med., Univ. of Texas Med. Sch. at Houston.*

3:30 **362.11** Neural population structure for action verbs and visually observed actions in human posterior parietal cortex. T. AFLALO*; G. A. ORBAN; C. Y. ZHANG; E. ROSARIO; N. POURATIAN; R. A. ANDERSEN. *Caltech, Univ. of Parma, Caltech, Casa Colina Hosp. and Centers for Healthcare, UCLA, Calif Inst. of Technol.*

3:45 **362.12** Left versus right arcuate fasciculi make unique contributions to reading skill across languages. Y. GAO*; J. R. BOOTH; L. LIU; X. MENG. *Beijing Normal Univ., Vanderbilt Univ., Peking Univ.*

4:00 **362.13** Note-taking and language interference in monolingual and bilingual brains. M. ORKODASHVILI*. *Vanderbilt Univ.*

4:15 **362.14** Sex differences in brain functional organization for semantic processing and pragmatic language. M. BENDERSKY; C. F. LOMLODJIAN; J. SABATTE; M. GARGIULO; S. F. KOCHEN; L. M. ALBA-FERRARA*. *Univ. de Buenos Aires, ENyS-CONICET, Hosp. Rivadavia, Univ. de Austral.*

NANOSYMPOSIUM

363. Schizophrenia: Circuits and Systems

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 2

1:00 **363.01** ● Human thalamus gene-expression highlights functional nodes in thalamocortical circuits vulnerable in schizophrenia. R. CALZAVARA*; H. AKIL; J. D. BARCHAS; W. E. BUNNEY; F. S. LEE; R. M. MYERS; A. F. SCHATZBERG; S. J. WATSON. *Univ. of Michigan Med. Sch., Weill Cornell Med. Col., Univ. of California Irvine, Hudson Alpha Inst. for Biotech., Stanford Univ.*

1:15 **363.02** Structural and functional characteristics of the default mode network in bipolar disorder and schizophrenia: A multimodal neuroimaging study. M. E. PAULING*; C. HENRY; J. HOUENOU. *Neurospin (CEA), INSERM, UPEC, Hôpitaux Universitaires Mondor.*

1:30 **363.03** Functional fractionation of default network in first episode schizophrenia: Small graph, big brain. F. FAN*; Y. TAN; Z. WANG; F. YANG; H. FAN; H. XIANG; H. GUO; E. HONG; S. TAN; X. ZUO, SR. *Beijing Huilongguan Hosp., Chongqing Three Gorges Central Hosp., Zhumadian Psychiatry Hosp., Maryland Psychiatric Res. Ctr., Inst. of Psychology, Chinese Acad. of Sci.*

1:45 **363.04** Using machine learning to identify novel neuroimaging phenotypes associated with cognitive dysfunction in schizophrenia. V. SADASHIVAIAH*; A. GOLDMAN; B. ULRICH; E. RADULESCU; K. F. BERMAN; V. S. MATTAY; D. R. WEINBERGER; Q. CHEN. *Lieber Inst. for Brain Develop., NIH/National Inst. of Mental Hlth.*

2:00 **363.05** Abnormal functional connectivity of amygdala subregions and the dysconnectivity correlation with positive symptom in first episode schizophrenia. M. ZHANG; F. FAN; Z. WANG; X. HONG; F. YANG; Y. TAN; S. TAN*. *Beijing Huilongguan Hosp., Chongqing San Xia Central Hosp.*

2:15 **363.06** Mapping of postnatal neurodevelopment in response to early and late prenatal maternal immune activation in mice. E. GUMA*; C. ANASTASSIADIS; J. GERMANN; D. R. GALLINO; G. AYRANCI; G. A. DEVENYI; M. CHAKRAVARTY. *McGill Univ. Douglas Res. Ctr., Douglas Res. Ctr., McGill Univ. Douglas Res. Ctr.*

2:30 **363.07** Synaptic phospholipids as a new target for cortical hyperexcitability and E/I-balance in psychiatric disorders. G. HORTA*; C. THALMAN; I. TEGEDER; K. RADYUSHKIN; T. SIGURDSSON; R. NITSCH; J. VOGT. *Inst. of Microscopic Anat. and Neurobio., Goethe-Universität Frankfurt a. Main, Mouse Behavior Unit, Goethe Univ. Frankfurt.*

2:45 **363.08** Nonlinear dynamics underlying auditory mismatch detection reveals previously unidentified subgroups in large cohorts of schizophrenia patients and healthy participants. R. KIM*; C. LAINSCSEK; A. L. SAMPSON; M. L. THOMAS; T. COGS INVESTIGATORS; T. J. SEJNOWSKI; G. A. LIGHT. *Salk Inst. For Biol. Studies, UCSD, Inst. for Neural Computation, UCSD, UCSD.*

3:00 **363.09** ● Breakdown of functional connectivity in cerebellar-prefrontal network underlies negative symptoms in schizophrenia. R. O. BRADY*, JR; I. GONSALVEZ; D. ÖNGÜR; J. D. SCHMAHMANN; S. EACK; M. KESHAVAN; A. PASCUAL-LEONE; M. A. HALKO. *Beth-Israel Deaconess Med. Ctr., St. Elizabeth's Med. Center,, McLean Hosp., Massachusetts Gen. Hosp., irenegonsalvez@gmail.com, Beth Israel Deaconess Med. Cente, Harvard Med. Sch. / Beth Israel Deaconess Med.*

3:15 **363.10** Mechanism of a gene to neural circuit pathology driving social dysfunction. I. KIM*; N. KIM; K. TODA; C. CATAVERO; H. YIN; S. SODERLING. *Duke Med. Ctr., Duke Univ., Duke Med. Ctr.*

3:30 **363.11** Circuit-based therapies rescue social memory performance in a 22q11.2 deletion mouse model. J. B. KAHN*; R. G. PORT; S. A. ANDERSON; D. A. COULTER. *Univ. of Pennsylvania, Univ. of Pennsylvania, Children's Hosp. of Philadelphia/Upenn Sch. Med., Children's Hosp. of Philadelphia.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

NANOSYMPOSIUM

364. The Marmoset Brain: Brain Mapping and Circuit Tracing

Theme I: Techniques

Mon. 1:00 PM – *San Diego Convention Center*, SDCC 1

1:00 **364.01** Towards a mesoscale connectivity map of the common marmoset: A partial connectivity matrix and an online data portal. M. LIN*; M. HANADA; B. C. LEE; J. NAGASHIMA; Y. S. TAKAHASHI; B. HUO; X. LI; K. RAM; B. SHI; M. I. MILLER; M. G. ROSA; H. OKANO; P. P. MITRA. *Riken, Johns Hopkins Univ., Cold Spring Harbor Lab., Indian Inst. of Technologies Madras, Monash Univ., Keio Univ. Sch. of Med.*

1:15 **364.02** Prefrontal projection mapping of the common marmoset. A. WATAKABE*; J. WANG; M. TAKAJI; H. MIZUKAMI; A. WOODWARD; H. SKIBBE; K. NAKAE; Y. YAMAGUCHI; S. ISHII; T. YAMAMORI. *RIKEN, Jichi Med. Univ., Kyoto Univ.*

1:30 **364.03** NIH marmoset brain atlas v2.0: Using ultra-high-resolution diffusion MRI and a cortical tracing database to map white matter pathways. C. LIU*; F. YE; C. YEN; J. D. NEWMAN; D. GLEN; P. MAJKA; D. SZCZUPAK; J. GUY; S. HA; D. A. LEOPOLD; M. G. ROSA; A. C. SILVA. *NIMH/NIH, NINDS/NIH, NICHD/NIH, Nencki Inst. of Exptl. Biol., Monash Univ.*

1:45 **364.04** ● Trajectories and milestones of cortical and subcortical development of the marmoset brain from infancy to adulthood. A. C. ROBERTS*; S. SAWIAK; Y. SHIBA; L. OIKONOMIDIS; C. WINDLE; A. SANTANGELO; H. GRYDELAND; G. COCKCROFT; E. BULLMORE. *Univ. of Cambridge, Univ. of Oslo, Univ. of Cambridge.*

2:00 **364.05** ● Dynamic muscle representations in marmoset motor cortex: Static lower limb position modulates upper limb motor somatotopy. A. IRIKI*; M. TAKEMI; B. TIA; A. KOSUGI; E. CASTAGNOLA; D. RICCI; L. FADIGA; J. USHIBA. *RIKEN Ctr. For Biosystems Dynamics Res., RIKEN Brain Sci. Inst., Univ. of Tokyo, Grad. Sch. of Sci. and Technology, Keio Univ., Ctr. for Translational Neurophysiology, Inst. Italiano di Tecnologia, Ctr. for Sensorimotor Neural Engineering, San Diego State Univ., Keio Inst. of Pure and Applied Sciences, Keio Univ.*

2:15 **364.06** Cortical connections of marmoset dorsal lateral geniculate nucleus and inferior pulvinar nuclei. B. HUO*; N. ZEATER; M. LIN; Y. S. TAKAHASHI; M. HANADA; J. NAGASHIMA; B. C. LEE; U. GRUNERT; M. I. MILLER; M. G. ROSA; H. OKANO; P. R. MARTIN; P. P. MITRA. *RIKEN, The Univ. of Sydney, The Univ. of Sydney, Johns Hopkins Univ., Monash Univ., Keio Univ. Sch. of Med., Cold Spring Harbor Lab.*

2:30 **364.07** Generation and analysis of Rett syndrome model marmosets. N. KISHI*; K. SATO; M. OKUNO; T. ITOU; H. J. OKANO; E. SASAKI; H. OKANO. *RIKEN CBS, CIEA, Jikei Univ. Sch. of Med.*

2:45 **364.08** Neuronal density across the cerebral cortex of the marmoset monkey (callithrix jacchus). N. ATAPOUR*; P. MAJKA; I. H. WOLKOWICZ; D. MALAMANOVA; K. WORTHY; M. ROSA. *Monash Univ., Australian Res. Council, Ctr. of Excellence for Integrative Brain Function, Monash Univ. Node, Lab. of Neuroinformatics, Dept. of Neurophysiology, Nencki Inst. of Exptl. Biol. of Polish Acad. of Sci.*

3:00 **364.09** An MRI-guided atlas-mapping of marmoset brain histology by and automatic registration method. B. C. LEE*; M. LIN; M. HANADA; J. NAGASHIMA; Y. FU; J. HATA; B. HUO; Y. TAKAHASHI; K. K. RAM; H. OKANO; P. P. MITRA; M. I. MILLER. *Johns Hopkins Univ., RIKEN Ctr. for Brain Sci., Shanghai Jiaotong Univ., Indian Inst. of Technol. Madras, Keio Univ. Sch. of Med., Cold Spring Harbor Lab.*

3:15 **364.10** Transgenic marmoset as a novel non-human primate model of Parkinson's disease. R. KOBAYASHI*; S. SHIOZAWA; J. OKAHARA; C. YOKOYAMA; T. KONDO; A. KOSUGI; J. USHIBA; D. KUMAR; M. SAKAGUCHI; J. TAKAHASHI-FUJIGASAKI; T. INOUE; C. HARA-MIYAUCHI; H. J. OKANO; E. SASAKI; H. OKANO. *Keio Univ. Sch. of Med., RIKEN Ctr. for Brain Sci., Central Inst. for Exptl. Animals, RIKEN Ctr. for Life Sci. Technologies (CLST), Keio Univ., Keio Univ., Univ. Tsukuba, WPI-IIIS, Tokyo Metropolitan Inst. of Gerontology, Jikei Univ. Sch. of Med.*

3:30 **364.11** Axonal projections from area MT in the common marmoset. H. ABE*; T. TANI; H. MASHIKO; N. KITAMURA; K. SAKAI; T. HAYAMI; S. WATANABE; W. SUZUKI; H. MIZUKAMI; A. WATAKABE; T. YAMAMORI; N. ICHINOHE. *RIKEN Ctr. for Brain Sci., Natl. Inst. of Neuroscience, Natl. Ctr. of Neurol. and Psychiatry, Jichi Med. Univ., RIKEN Ctr. for Brain Sci.*

3:45 **364.12** ● Brain mapping of the neural circuitry underlying conspecific call perception in marmosets. C. YOKOYAMA*; M. KATO; A. KAWASAKI; C. TAKEDA; T. KOIKE; H. ONOE; A. IRIKI. *RIKEN Ctr. for Biosystems Dynamics Res., RIKEN Ctr. for Life Sci. Technologies, Brain Sci. Inst., Hokkaido Univ., Human Brain Res. Center, Kyoto Univ. Grad. Sch. of Med., Lee Kong Chian Sch. of Med. and RIKEN-NTU Res. Ctr. for Human Biol.*

4:00 **364.13** Mapping of afferent projections to superior colliculus in common marmoset. D. MATROV*; C. CHEN; K. ISA; T. ISA. *Grad. Sch. of Medicine, Kyoto Univ.*

POSTER

365. Postnatal Neurogenesis: Environmental and Pharmacological Regulation

Theme A: Development

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 A1 **365.01** Permanent whisker removal reduces the expression of calcium-related proteins, disrupts hippocampal neurogenesis, and affects spatial memory. O. GONZALEZ-PEREZ*; N. IBARRA-CASTANEDA; V. LOPEZ-VIRGEN; J. GUZMAN-MUNIZ; N. MOY-LOPEZ. *Psicologia/University of Colima.*

2:00 A2 **365.02** Nutrient-sensing pathways in ageing models of hippocampal progenitor cells. C. DE LUCIA*; T. MURPHY; C. STEVES; R. DOBSON; S. THURET. *King's Col. London, King's Col. London, King's Col. London.*

3:00 A3 **365.03** Multiple neonatal anesthesia exposures suppress neuronal proliferation in the adult rodent hippocampus. R. MAKARYUS*; M. YU; K. CHEN; M. BOYD; G. ENIKOLOPOV. *Stony Brook Med., Stony Brook Univ.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 A4 **365.04** Age and experience-dependent hippocampal neurogenesis is regulated by sphingosine 1-phosphate. A. P. CHEN*; G. W. KIRSCHEN; J. SCHRANDT; A. AHAMAD; N. U. SCHWARTZ; L. M. OBEID; C. MAO; S. GE. *State Univ. of New York At Stony Brook, State Univ. of New York At Stony Brook, State Univ. of New York At Stony Brook, State Univ. of New York At Stony Brook, State Univ. of New York At Stony Brook.*

1:00 A5 **365.05** Hippocampal neurogenesis induced by single or multiple sessions of thalamic electrical stimulation. F. CHAMAA*; Z. NAHAS; N. E. SAADE; W. ABOU-KHEIR. *American Univ. of Beirut, Univ. of Minnesota, American Univ. of Beirut, American Univ. of Beirut.*

2:00 A6 **365.06** Mode of action of memantine on adult hippocampal neurogenesis. S. ITAMAN*; O. PODGORNY; G. N. ENIKOLOPOV. *Stony Brook Univ., Stony Brook Univ.*

3:00 A7 **365.07** Postnatal neurogenesis after cardiopulmonary bypass in a juvenile porcine model. C. LEONETTI; Z. DHARI; L. KOROTCOVA; R. A. JONAS*; N. ISHIBASHI. *Children's Natl. Med. Ctr., Children's Natl. Hosp., Children's Natl. Med. Ctr., Children's Natl. Hlth. Syst.*

4:00 A8 **365.08** Social isolation stress alters the expression of hippocampal neurogenesis in adolescent animals prenatally exposed to alcohol. S. L. BAGLOT*; P. UBI; E. MORGAN; S. E. LIEBLICH; W. YU; J. WEINBERG; L. A. M. GALEA. *The Univ. of British Columbia, Univ. of British Columbia.*

1:00 A9 **365.09** WM-CLICK: The effects of memantine on adult brain cell proliferation in 3D. A. LAZUTKIN*; S. SHUVAEV; R. KIRYANOV; K. ANOKHIN; A. KOULAKOV; G. N. ENIKOLOPOV. *Moscow Inst. of Physics and Technol., Cold Spring Harbor Lab., Brain Stem Cell Lab., NRC, Cold Spring Harbor Lab., Stony Brook Univ.*

2:00 A10 **365.10** Adult neurogenesis in turtles increases when they learn a visual discrim. A. S. POWERS*. *Stony Brook Univ.*

3:00 A11 **365.11** Antioxidant (aox) mediated allteration incalbindin expression within cerebellar purkinje cells of rat pups exposed to sodium arsenite. P. DHAR*; P. KUMAR; P. KAUSHAL. *All India Inst. of Med. Sci., AIIMS, All India Institue of Med. Sci.*

4:00 A12 **365.12** Age-mediated effects of short-term environmental enrichment on neuroplasticity. K. CHANDLER*; H. DOSSO; L. LAIRD; C. A. RUDYK; N. SALMASO. *Carleton Univ., Carleton Univ.*

1:00 A13 **365.13** The effects of androgen deprivation therapy on the adult hippocampal neurogenesis and cognition in mice. T. ALKAM*; K. A. ATKINSON; J. JO; J. CHAN; E. SMITH; R. N. PECHNICK. *Western Univ. of Hlth. Sci.*

2:00 A14 **365.14** Do new neurons affect motivation in a barrier T-maze task? K. B. HUNTZICKER*; R. KARLSSON; H. A. CAMERON. *Natl. Inst. of Mental Hlth., Natl. Inst. of Hlth. (NIH), NIH.*

3:00 A15 **365.15** Actions of a novel glucocorticoid in the neonatal rat brain. E. M. BARGERSTOCK*; J. D. JAUMOTTE; S. G. WENDELL; D. B. DEFRANCO. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

4:00 A16 **365.16** Neonatal phlebotomy-induced anemia, PIA, in developing mice increases expression of immune response genes in the hippocampus and is associated with behavioral and social deficits. T. MATVEEVA*; G. SINGH; T. GISSLEN; P. V. TRAN; J. C. GEWIRTZ; M. GEORGIEFF. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota Dept. of Psychology.*

1:00 A17 **365.17** Mild traumatic brain injury in the mouse results in transient increase of neurogenesis but sustained survival of newborn neurons. K. L. CLARK*; S. YUN; H. E. METHENY; A. S. COHEN; A. J. EISCH. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania.*

2:00 A18 **365.18** ● Oxycodone in the female rat: Development of an oral self-administration protocol and effects on infant behavior and communication. G. ZANNI*; M. J. DESALLE; A. A. DOUGHER; J. CHANDAR; H. M. DEUTSCH; G. A. BARR; A. J. EISCH. *The Children´S Hosp. of Philadelphia (CHOP).*

3:00 A19 **365.19** GABAergic entorhinal cortex control of hippocampal function in stress-related behavior: Cellular and circuitry mechanisms. S. YUN*; R. P. REYNOLDS; M. SUAREZ; A. D. GIBSON; M. J. DESALLE; A. J. EISCH. *Univ. of Pennsylvania, The Children's Hosp. of Philadelphia Res. Inst.*

POSTER

366. Stem Cells and Disease Modeling II

Theme A: Development

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 A20 **366.01** Impaired BDNF-TrkB signaling in human Angelman syndrome neurons. J. J. FINK; E. S. LEVINE*. *Univ. of Connecticut Sch. of Med.*

2:00 A21 **366.02** Effect of altered glucose levels on the activity of human Dup 15q syndrome neurons. M. ELAMIN*; T. M. ROBINSON; J. J. FINK; E. S. LEVINE. *Univ. of Connecticut Sch. of Med.*

3:00 A22 **366.03** Rapid production of stem cell-derived human neural progenitors for the study of Zika virus neuropathogenesis. M. F. WELLS*; M. R. SALICK; E. J. HILL; M. SIEKMANN; A. KAYKAS; K. EGGAN. *Harvard Univ., Broad Inst., Novartis Inst. for Biomed. Res., Novartis Institutes for Biomed. Res.*

4:00 A23 **366.04** CRISPR/Cas9-mediated homologous direct repair disease modeling and lentiviral gene therapy strategies for CDKL5 deficiency disorder. T. NGUYEN*; J. HALMAI; J. WALDO; D. CAMERON; S. CAMPO ; J. CARTER; P. DENG; J. NOLTA; K. FINK; D. SEGAL. *California State University, Sacramento, Stem Cell Program and Inst. for Regenerative Cures, Univ. of California Davis Hlth. Systems, Univ. of California Davis Hlth. Systems.*

1:00 A24 **366.05** ● Understanding neurological disease by utilizing high-throughput assays and CRISPR KO iPSC-derived cell types as an approach to functional genomic studies. J. A. DIZON*; E. WILLEMS; C. REVANKAR; X. LIANG; D. PIPER. *Thermo Fisher Scientific Inc Carlsbad.*

2:00 A25 **366.06** Neurons derived from human induced pluripotent stem cells as a viable alternative to rodents' embryonic primary neurons for safety and drug discovery studies. P. KITCHENER*; D. HESS; F. SIMON. *Fluofarma, Ncardia.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 A26 **366.07** Transplantation and functional integration of human stem cell derived 3D forebrain spheroids into the rodent cortex. O. REVAH*; T. A. KAHN; N. SAKAI; J. ANDERSEN; J. R. HUGUENARD; S. P. PASCA. *Stanford Univ.*

4:00 A27 **366.08** ▲ Human cerebrospinal fluid induces an increase in proliferation of glioblastoma cells *in vitro and in vivo.* P. S. MEADE*; A. CARRANO; J. PHILLIPS; M. LARA-VELAZQUEZ; N. ZARCO; S. JEANNERET; H. GUERRERO-CAZARES. *Univ. Anáuac México Norte, Mayo Clin., UNAM, The Univ. of Texas Austin.*

1:00 A28 **366.09** Creating a fluorescent knock-in reporter for midbrain dopaminergic neurons using CRISPR/Cas9 with hiPSCs. C. ÜBERBACHER*; J. OBERGASTEIGER; S. VENEZIA; M. VOLTA; D. BECCANO-KELLY; M. ZOLI; A. A. HICKS; P. P. PRAMSTALLER; S. COWLEY; C. CORTI. *Eurac Res., Univ. of Oxford, Univ. of Modena and Reggio Emilia, Univ. of Oxford.*

2:00 A29 **366.10** Establishment of stable iPS-derived human neural stem cells lines suitable for cell therapies and neurological diseases modeling. J. D. ROSATI; D. FERRARI; F. ALTIERI; S. TARDIVO; C. RICCIOLINI; C. FUSILLI; C. ZALFA; D. C. PROFICO; L. BERNARDINI; G. LAMORTE; T. MAZZA; M. CARELLA; M. GELATI; E. VALENTE; A. SIMEONE; A. L. VESCOVI*. *IRCCS Casa Sollievo della Sofferenza, Univ. of Milan Bicocca, IRCCS Santa Lucia Fndn., Hosp. Santa Maria, IRCCS Casa Sollievo della Sofferenza, IRCCS Casa Sollievo della Sofferenza, IRCCS Casa Sollievo della Sofferenza, Inst. of Genet. and Biophysics.*

3:00 A30 **366.11** ● Generation of Parkinson's disease models through CRISPR/Cas9 editing in human induced pluripotent stem cells. R. E. LACAMBACAL*; E. WILLEMS; T. GOKIRMAK; C. REVANKAR; J. A. DIZON; X. LIANG; R. NEWMAN; D. KUNINGER; D. R. PIPER. *Thermo Fisher Scientific, Thermo Fisher Scientific, Thermo Fisher Scientific.*

4:00 A31 **366.12** Intrinsic differences between cranial and spinal motor neurons as a route to ALS gene therapy. D. E. IANNITELLI*; D. AN; E. O. MAZZONI. *New York Univ., New York Univ.*

1:00 A32 **366.13** Multiplication of the SNCA locus exacerbates neuronal nuclear aging in hiPSC-derived neuronal models of Parkinson's and dementia with Lewy bodies. O. CHIBA-FALEK*; L. TAGLIAFIERRO; M. E. ZAMORA. *Duke Med.*

2:00 A33 **366.14** Modeling PICALM Alzheimer's disease variants in human iPSC-derived cells. E. J. LAWSON*; E. J. LAWSON*; E. J. LAWSON*; Z. DAI; X. XIE; S. A. BAZZI; A. P. SAGARE; Z. ZHAO; R. E. TANZI; B. V. ZLOKOVIC. *USC, Massachusetts Gen Hosp, Harvard Med. Sch.*

3:00 A34 **366.15** Efficient derivation of distinct dopaminergic neuronal subpopulations from mouse and human pluripotent stem cells. P. GARCAO; E. MOLES-GARCIA; T. OOSTERVEEN; C. SOLEILHAVOUP; K. PATRICK; L. PANMAN*. *Med. Res. Council.*

4:00 B1 **366.16** Stem Cell derived human central nervous system lineages and models of neurodegenerative diseases. M. CARNA*; V. POZO DEVOTO; M. FEOLE; V. LACOVICH; G. STOKIN. *Intl. Clin. Res. Ctr. FNUSA-ICRC.*

1:00 B2 **366.17** Characterization of neural cells derived from human dental pulp stem cells. Y. ARIMURA*; T. KIKUCHI; R. YAMANAKA; Y. SHINDO; K. HOTTA; M. MOCHIZUKI; T. NAKAHARA; K. OKA. *Keio Univercity Sch. of Fundamental Sci. and, Keio Univercity Sch. of Fundamental Sci., KEIO UNIVERSITY, Keio Univ, Yokohama, Dept. of Developmental and Regenerative Dentistry, The Nippon Dent. Univ. Sch. of Life Dent. at Tokyo, Keio Univ.*

2:00 B3 **366.18** Generation of cholinergic neurons in hPSC-derived organoids. K. FANG*; F. YUAN; X. TANG; Y. HU; M. XU; Y. LIU. *Nanjing Med. Univ.*

3:00 B4 **366.19** A GEFS+ SCN1A mutation causes cell type-specific and temperature-dependent defects in neurons derived from isogenic hiPSC pairs. Y. XIE*; N. N. NG; O. S. SAFRINA; C. M. RAMOS; K. C. ESS; P. H. SCHWARTZ; D. K. O'DOWD. *Univ. of California, Irvine, Vanderbilt Univ., Children's Hosp. of Orange County.*

4:00 B5 **366.20** Loss-of-function mutation in inositol monophosphatase 1 (IMPA1) causes severe intellectual disability and schizophrenia-like/bipolar-like behaviors: A human model to study inositol pathway. T. FIGUEIREDO*; G. KOBAYASHI; D. MOREIRA; D. OLIVEIRA; E. GOULART; A. MENDES; F. KOK; S. SANTOS; R. Y. CHO; C. MARCHETTO; F. H. GAGE; M. ZATZ. *Univ. of Sao Paulo, Salk Inst., State Univ. of Paraiba, Baylor Col. of Med.*

1:00 B6 **366.21** new methods for studying network activity in human induced-pluripotent stem cell (ipsc) derived neural cultures for modeling diseases. K. PADMANABHAN*; C. MARCHETTO; R. SANTOS; F. H. GAGE. *Univ. of Rochester, Salk Inst., INSERM U894 - Univ. Paris Descartes, Salk Inst.*

2:00 B7 **366.22** Altered neural calcium signaling in human iPSC-derived cortical organoids with cytomegalovirus infection. A. D. EBERT*; A. JOHNSON; S. L. SISON; S. S. TERHUNE. *Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin.*

3:00 B8 **366.23** ● An epilepsy-associated Slack mutation increases K_{Na} currents and enhances excitability of human iPSC-derived neurons. I. H. QURAISHI*; K. P. MANGAN; Y. ZHANG; M. MERCIER; S. STERN; M. C. MARCHETTO; F. H. GAGE; L. K. KACZMAREK. *Yale Sch. of Med., Cell. Dynamics, Intl., Yale Sch. of Med., Yale Sch. of Med., Salk Inst., Yale Sch. of Med.*

4:00 B9 **366.24** Brian organoid-based approach to the pathogenesis of ketamine-induced neurodevelopmental disorders. C. XU*; L. JIANG. *Shanghai Jiaotong Univ. Sch. of Med., Dept. of Anesthesiol. and Surgical Intensive Care Unit, Xinhua Hospital, Shanghai Jiaotong Univ. Sch. of Med.*

1:00 B10 **366.25** Neuroinflammation could be associated with autism risk increase in infants born with congenital Zika syndrome. P. BELTRÃO-BRAGA*; C. M. Y. OHKI; F. B. R. RUSSO; P. E. C. LEITE; V. V. LINDEN. *USP, Univ. of São Paulo, Federal Univ. of Rio de Janeiro.*

2:00 B11 **366.26** Disruption of GRIN2B impairs differentiation in human neurons. G. MAUSSION*; S. C. BELL; M. JEFRI; H. PENG; J. THEROUX; H. SILVEIRA; V. SOUBANNIER; H. WU; E. GALAT; S. G. TORRES-PLATAS; C. BOUDREAU-PINSONNEAULT; L. O'LEARY; V. GALAT; G. TURECKI; T. M. DURCAN; E. A. FON; N. MECHAWAR; C. ERNST. *Montreal Neurolog. Inst., McGill Univ., Northwestern Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

367. Axon Growth and Guidance

Theme A: Development

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 B12 **367.01** Biogenesis of sonic hedgehog in the developing brain. A. RIVELL*; P. J. YAO; M. P. MATTSON; R. S. PETRALIA; Y. WANG. *Natl. Inst. on Aging, NIDCD/NIH.*

2:00 B13 **367.02** Growth cone turning on soft-substrate environments requires paxillin-drebrin interaction. C. CHEN*; R. LIN; T. CHANG; P. CHENG. *Inst. of Mol. Biol. Academia Sinica.*

3:00 B14 **367.03** Guiding retinal ganglion cell axons to brain visual centres: Is Pax6 the key molecule? L. SOUNDARARAJAN*; V. MEERA; S. SURYA; R. ANN PAUL; S. PARVATHY; B. BASU; A. BHATTACHARJEE; N. M. ABRAHAM; J. JAMES. *Rajiv Gandhi Ctr. For Biotech., Indian Inst. of Sci. Educ. and Res.*

4:00 B15 **367.04** PlexinA1 is crucial for the midline crossing of callosal axons during corpus callosum development in BALB/c mice. M. HOSSAIN*; T. ITO; T. TSUZUKI; F. IMAIZUMI; I. TAKAHASHI; T. NEGISHI; K. YUKAWA. *Meijo Univ., Aichi Med. Univ.*

1:00 B16 **367.05** Nerve growth factor induces mitochondria fission that is required for axon branching. L. ARMIJO WEINGART*; A. KETSCHEK; R. SAINATH; A. PACHECO; G. GALLO. *Temple Univ., Temple Univ.*

2:00 B17 **367.06** Controlling nerve growth using an electric field induced indirectly in transparent conductive substrates. A. M. RAJNICEK*; Z. ZHAO; J. MORAL-VICO; A. CRUZ; C. MCCAIG; N. CASAN-PASTOR. *Univ. Aberdeen, Campus de la Univ. Autonoma de Barcelona.*

3:00 B18 **367.07** ▲ Birthdate and muscle target in chick oculomotor axons. J. P. SCHWARTZ*; B. M. BJORKE. *Carleton Col., Carelton Col.*

4:00 B19 **367.08** Early trigeminal ganglion afferents enter the cerebellum before the purkinje cells are born and target the nuclear transitory zone. H. MARZBAN*; M. RAHIMI-BALAEI; R. HAWKES. *Univ. of Manitoba, Univ. of Manitoba, Univ. of Calgary.*

1:00 B20 **367.09** Core PCP proteins direct peripheral axon guidance in the developing cochlea through a non-autonomous signaling mechanism. M. R. DEANS*; S. R. GHIMIRE. *Univ. of Utah, Univ. of Utah.*

2:00 B21 **367.10** The E3 ligase SIAH regulates ubiquitination and degradation of Akt3. B. KIM*; H. KO; J. AHN. *Sungkyunkwan Univ. Sch. of Med., Single Cell Network Res. Center, Sungkyunkwan Univ. Sch. of Med.*

3:00 B22 **367.11** Transcription factor c-Jun regulates perineuronal inflammatory activation in dorsal root ganglia following peripheral nerve injury. Y. OH*. *Ajou Univ.*

4:00 B23 **367.12** Disruption of neural circuitry in the mouse model of pediatric dysphagia. Z. MOTAHARI*; A. S. POPRATILOFF; S. A. MOODY; A. S. LAMANTIA. *George Washington Univ., Inst. for Neurosci., Nanofabrication and Imaging Ctr.*

1:00 DP01/B24 **367.13** (Dynamic Poster) Mapping neural function in DCC mutation carriers with and without mirror movements. D. E. VOSBERG*; V. BEAULÉ; A. TORRES-BERRÍO; D. COOKE; A. CHALUPA; N. JAWORSKA; S. M. L. COX; K. LARCHER; D. ALLARD; F. DURAND; R. LA PIANA; D. TAMPIERI; A. DAGHER; C. BENKELFAT; M. SROUR; R. JOOBER; F. LEPORE; G. ROULEAU; A. PASCUAL-LEONE; M. FOX; C. FLORES; H. THEORET; M. LEYTON. *McGill Univ., Univ. de Montréal, Icahn Sch. of Med. at Mount Sinai, Harvard Univ., Univ. of Ottawa, Univ. Montreal, Beth Israel Deaconess Med. Cente, McGill Univ., McGill Univ.*

POSTER

368. Behavioral Analyses of Autism in Humans and Rodent Models

Theme A: Development

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 B25 **368.01** Antioxidants and autism: Teacher perceptions of behavior change. A. SADEK*; L. S. BERK; K. MAINESS; N. S. DAHER. *Loma Linda Univ. Sch. of Allied Hlth. Prof, Loma Linda Univ. Sch. of Allied Hlth. Professions, Loma Linda Univ. Sch. of Allied Hlth. Professions.*

2:00 B26 **368.02** Report of a parents survey of medical cannabis use in treatment autism. G. M. LEWITUS*; B. YELLIN; A. DAR; S. IMBERMAN; P. BERMAN; D. MEIRI. *Technion.*

3:00 B27 **368.03** Unable to Attend Social emotions in adults with autism spectrum disorder: A neuroanatomical study of envy and Schadenfreude. S. FITTIPALDI*; S. BÁEZ; L. SEDEÑO; A. M. GARCÍA; A. IBÁÑEZ. *Inst. of Cognitive and Translational Neuroscie, Inst. of Cognitive and Translational Neurosci., Univ. de los Andes, Natl. Scientific and Tech. Res. Council (CONICET), Univ. Autónoma del Caribe, Univ. Adolfo Ibáñez, Ctr. of Excellence in Cognition and its Disorders, Australian Res. Council (ACR).*

4:00 B28 **368.04** ▲ Design and use of an ipad application to improvide reading and writing in children with autism. R. AGUILAR*; L. I. GARCIA; G. CORIA; R. TOLEDO; M. HERNANDEZ; J. MANZO. *Univ. Veracruzana.*

1:00 B29 **368.05** Evaluation of naringenin & its surface modified nanocarriers as neurotherapeutic in autism spectrum disorders (asd). R. BHANDARI*; A. KUHAD; J. PALIWAL. *Panjab Univ.*

2:00 B30 **368.06** Improvement of cardiorespiratory parameters following music stimulation in children with autism. L. NUÑEZ-ARCOS; I. FERNANDEZ-LECHUGA; P. CARRILLO; R. TOLEDO; M. HERNANDEZ*; J. MANZO. *Doctorado en Investigaciones Cerebrales, Univ. Veracruzana, Univ. Veracruzana.*

3:00 B31 **368.07** Increased skin sensibility induced by different sensory stimuli in kids with autism. A. FERNANDEZ-LECHUGA; L. NUÑEZ-ARCOS; P. CARRILLO; L. I. GARCIA; G. A. CORIA-AVILA; J. MANZO*. *Doctorado Inv. Cerebrales, Univ. Veracruzana.*

4:00 B32 **368.08** Cerebrospinal fluid vasopressin, diagnostic classification, and symptom severity in children with autism. O. OZTAN*; J. P. GARNER; S. PARTAP; E. H. SHERR; A. Y. HARDAN; C. A. FARMER; A. THURM; S. E. SWEDO; K. J. PARKER. *Stanford Univ., UCSF, Natl. Inst. of Mental Hlth.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 C1 **368.09** Effect of different types of distractors over selective attention in children diagnosed with autism spectrum disorders. P. A. BATIZ FLORES*; S. MENESES-ORTEGA. *Inst. de Neurociencias - Univ. de Guadal, Univ. de Guadalajara.*

2:00 C2 **368.10** The effect of difference of autism-spectrum quotient scores on role adaptation in interpersonal motor coordination. K. MUKAI*; A. MIURA; K. KUDO; S. TSUTSUI. *The Univ. of Tokyo, The Univ. of Tokyo, Tokai Gakuen Univ.*

3:00 C3 **368.11** Autism diagnosis using rewards experiments task-based functional-mri. M. ALI*; O. DEKHIL; A. SHALABY; R. KEYNTON; M. GHAZAL; A. EL BAZ; G. N. BARNES. *Univ. of Louisville, Univ. of Louisville, Univ. of Louisville Sch. of Med.*

4:00 C4 **368.12** Cortical surface architecture endophenotype and correlates of clinical diagnosis of autism spectrum disorder. Y. AOKI*; B. YAMAGATA; T. ITAHASHI; J. FUJINO; H. OHTA; O. TAKASHIO; M. NAKAMURA; N. KATO; M. MIMURA; R. HASHIMOTO. *Showa Univesity, Keio Univ. Sch. of Med., Showa Univ., Tokyo Metropolitan Univ.*

1:00 C5 **368.13** Withdrawn

2:00 C6 **368.14** Adolescents and young adult with autism spectrum disorder show specific impairments in cognition. R. M. GEDDERT*; M. K. KRUG; V. P. REINHARDT; J. P. HOGEVEEN; E. FERRER; M. SOLOMON. *Univ. of California, Davis, Univ. of California, Davis.*

3:00 C7 **368.15** Exploring the relationship between prosodic control and social skills in children with and without ASD. N. SCHEERER*; J. A. JONES; G. IAROCCI. *Simon Fraser Univ., Wilfrid Laurier Univ.*

4:00 C8 **368.16** Communicative misalignment in autism spectrum disorder. I. TONI*; H. WADGE; R. BREWER; G. BIRD; A. STOLK. *Donders Inst., Univ. of California, Berkeley, Royal Holloway, Univ. of London, Univ. of Oxford, Helen Wills Neurosci. Institute, UC Berkeley.*

1:00 C9 **368.17** Gesture processing and production in autism spectrum disorder. E. FOURIE*; E. R. PALSER; J. J. POKORNY; M. NEFF; S. M. RIVERA. *Univ. of California Davis, Univ. of California, Davis, Univ. Col. London, Univ. Col. London, Univ. of California, Davis, Univ. of California, Davis, Univ. of California, Davis.*

2:00 C10 **368.18** Quantifying fine motor dependencies in autism spectrum disorder. T. F. QUATIERI*; J. O'ROURKE; L. NOWINSKI; D. HANNON; A. LAMMERT; J. WILLIAMSON; E. THIRY; J. PALMER; C. STAMM; M. MODY; C. MCDOUGLE. *MIT Lincoln Lab., MGH Lurie Ctr. for Autism.*

3:00 C11 **368.19** ▲ Similarities in limbic system connectivity at resting state in autism and social anxiety disorder. A. KIRKPATRICK*; L. ANTEZANA; C. BROWN; N. LY; M. MAURIN; J. VOYACK; J. RICHEY; M. COFFMAN. *Virginia Tech.*

4:00 C12 **368.20** Detecting visual-motor challenges in autism using a robotically guided drawing task. A. H. MASON*; M. ZINN; G. SUBRAMANI; A. FISHER; S. JACQUOT; B. TRAVERS. *Univ. of Wisconsin - Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

1:00 C13 **368.21** Distinct patterns of impaired contextual learning in autism spectrum disorders. B. TRAVERS*; A. SUNKARA; B. KIM; T. CHANG; H. JIANG; O. SURGENT; K. SABEL; S. JACQUOT; A. DINGES; A. ROSENBERG. *Univ. of Wisconsin-Madison, Stanford Univ., Univ. of Wisconsin - Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

2:00 C14 **368.22** Classification of autism spectrum disorder improves with addition of motor and sensory components to the research domain criteria (RDoC) framework. L. A. HARRISON*; E. KILROY; C. BUTERA; C. ZEISLER; L. AZIZ-ZADEH. *USC.*

3:00 C15 **368.23** Monkey see monkey do: Decreased spontaneous entrainment to rhythmical movement in children with autism. B. TUNCGENC; S. H. MOSTOFSKY*. *Johns Hopkins Univ. Sch. of Med., Kennedy Krieger Inst., Kennedy Krieger Institute, Johns Hopkins Univ. Sch. of Med.*

4:00 C16 **368.24** Acoustic properties of early life ultrasonic vocalizations are altered in the valproic acid rat model of autism. M. L. MCNAIR*; T. M. HENNESSEY; C. E. BARRETT; H. WALUM; D. RAINNIE. *Yale Univ., Emory Univ., Dept. of Psych. and Beh. Disorders, Emory Univ., Emory Univ.*

1:00 C17 **368.25** Age- and sex-specificity of deficits in the Pcdh10 mouse model relevant to autism. S. L. FERRI*; H. DOW; E. S. BRODKIN; T. ABEL. *Univ. of Iowa, Univ. of Iowa, Univ. of PA Sch. of Med.*

2:00 C18 **368.26** Sensorimotor gating and social behavior in adolescent ratsexposed to poly i:c maternal immune activation at mid-gestation. F. HADDAD*; L. LU; C. DE OLIVEIRA; S. SCHMID. *Univ. of Western Ontario, Univ. of Western Ontario.*

3:00 C19 **368.27** The kynurenine pathway: A link between prenatal inflammation and disruption of offspring behavior in mice. D. S. COELHO*; A. TRAN; J. O'CONNOR. *Univ. of Texas Hlth. Sci. Ctr. at San A.*

4:00 C20 **368.28** Deficits in learning are common across multiple mouse models of autism. J. F. LYNCH*, III; T. ABEL; T. NICKL-JOCKSCHAT; N. M. GRISSOM; S. E. MCKEE; H. SCHOCH; L. WALSH; T. M. REYES. *Univ. of Iowa, Univ. of Minnesota, Unknown, Univ. of California Irvine, Unknown, Univ. of Cincinnati.*

1:00 C21 **368.29** Fluoxetine alleviates effects of stress in pregnant mice but increases repetitive behaviors and reduces hippocampal synaptic plasticity in adult male and female offspring. A. L. ARZUAGA*; M. E. RAGOZZINO; J. LARSON. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*

2:00 C22 **368.30** Effect of gluten on social behavior in rats. P. MICHENER*; S. N. MYERS; R. A. RICHARDSON; O. M. FAHR; M. L. FEIGEN; T. R. SCHACHTMAN. *Univ. of Missouri, Univ. of Missouri.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

369. Mechanisms of Developmental Disorders: Animal Models

Theme A: Development

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 C23 **369.01** HuD regulates the biogenesis of synaptic plasticity and development-related circular RNAs. M. DELL'ORCO*; N. I. PERRONE-BIZZOZERO. *Univ. of New Mexico HSC.*

2:00 C24 **369.02** RNA binding proteins and circular RNAs are linked to nucleus accumbens gene expression changes during environmental enrichment following prolonged abstinence from cocaine self-administration. N. PERRONE-BIZZOZERO*; M. DELL'ORCO; G. L. POWELL; A. VANNAN; R. J. OLIVER, JR; S. SEKAR; W. S. LIANG; J. L. NEISEWANDER. *Univ. of New Mexico HSC, Arizona State Univ., Arizona State Univ., VA San Diego, Translational Genomics Res. Inst., Translational Genomics, Arizona State Univ.*

3:00 C25 **369.03** Chronic prenatal interleukin-17 is sufficient to cause sex-specific ASD-phenotypes in a mouse model. S. B. GUMUSOGLU*; A. S. CHILUKURI; S. HAIDER; B. W. HING; H. E. STEVENS. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa.*

4:00 C26 **369.04** Investigation of Foxp2 function in layer 6 corticothalamic neurons. M. CO*; A. KULKARNI; N. USUI; M. HARPER; G. KONOPKA. *Univ. of Texas Southwestern Med. Ctr., Osaka Univ.*

1:00 C27 **369.05** USP9X missense variants associated with neurodevelopmental disorders disrupt signalling pathways critical to brain development. L. JOLLY*; #. THE USP9X NEURODEVELOPMENTAL DISORDER CONSORTIUM; B. V. JOHNSON; R. SHARMA; T. KLEEFSTRA; T. BURNE; S. WOOD; T. PIERSON; M. PIPER; J. GECZ. *Robinson Institute, The Univ. of Adelaide, Dept. of Human Genetics, Radboud Univ. Med. Ctr., Queensland Brain Institute, Univ. of Queensland, Griffith Unversity, Cedars-Sinai Med. Ctr., Sch. of Biomed. Sciences, Univ. of Queensland.*

2:00 C28 **369.06** Chd2 is necessary for neural circuit development and long-term memory. Y. KIM*; S. KHOSHKHOO; S. ABBASI; J. C. FRANKOWSKI; S. LEE; B. ZHU; Y. E. WU; R. F. HUNT. *Univ. of California Irvine, Univ. of California, San Francisco, Univ. of California, Irvine, Univ. of California Irvine, UC Irvine, Univ. of California, Irvine, UCLA.*

3:00 C29 **369.07** Late stage embryonic disruption of Dnmt3a activity in pyramidal neurons alters glutamatergic transmission in frontal cortex. A. PINTO-DUARTE*; J. LI; C. LAI; C. LUO; J. LUCERO; T. J. SEJNOWSKI; E. A. MUKAMEL; S. B. POWELL; J. R. ECKER; M. M. BEHRENS. *Salk Inst. For Biol. Studies, Univ. of California San Diego, The Salk Inst. For Biol. Studies, Univ. of California San Diego, Howard Hughes Med. Inst.*

4:00 C30 **369.08** Dysfunction of RNA-binding protein Sfpq causes long-gene transcriptopathy in the brain. A. TAKEUCHI*; K. IIDA; M. HAGIWARA. *Grad. Sch. of Medicine, Kyoto Univ.*

1:00 C31 **369.09** Perturbation of overall activity of mTOR pathway in mouse model of focal cortical dysplasia. J. KIM*; S. BAEK. *Pohang Univ. of Sci. and Technol., Pohang university of Sci. of Technol.*

2:00 C32 **369.10** FOXP1 regulates cell-type specific molecular pathways and function within striatal projection neurons. A. ANDERSON*; A. KULKARNI; S. CAVALIER; J. GIBSON; G. KONOPKA. *UT Southwestern.*

3:00 C33 **369.11** Role of Sirt2 in oligodendrogenesis in white matter after neonatal hypoxia. B. JABLONSKA*; L. CHEW; M. REIBNER; V. GALLO. *Children's Natl. Med. Ctr.*

4:00 C34 **369.12** Neonatal death of conventional adenylyl cyclase 3 knockout pups. M. R. STROBEL*; R. LEBEL; X. CHEN. *Univ. of New Hampshire, Univ. of New Hampshire, Univ. of New Hampshire.*

1:00 C35 **369.13** De novo mutations cause West syndrome and their pathophysiological effects. K. NAGATA*; N. HAMADA; S. OGAYA; M. NAKASHIMA; T. NISHIJO; Y. SUGAWARA; I. IWAMOTO; H. ITO; Y. MAKI; K. SHIRAI; S. BABA; K. MARUYAMA; H. SAITSU; M. KATO; N. MATSUMOTO; T. MOMIYAMA. *Inst. For Developmental Research, Aichi Human Service Ctr., Inst. for Developmental Research, Aichi Human Service Ctr., Central Hospital, Aichi Human Service Ctr., Yokohama City Univ. Grad. Sch. of Med., Jikei Univ. Sch. of Med., Soka Municipal Hosp., Tsuchiura Kyodo Hosp., Comprehensive Epilepsy Ctr., Hamamatsu Univ. Sch. of Med., Showa Univ. Sch. of Med.*

2:00 C36 **369.14** A genetic screen by transposon-mediated somatic mutagenesis in the mouse brain identifies genes associated with malformations of cortical development. I. LU*; J. TSAI. *Natl. Yang-Ming Univ.*

3:00 C37 **369.15** Mouse B3glct knockout a new model for hydrocephalus. J. GOTO*; P. SHULTZ; R. C. GRADY; C. SHULA; D. C. CAMERON; F. T. MANGANO; R. S. HALTIWANGER; B. C. HOLDENER. *Cincinnati Children's Hosp., Stony Brook Univ., Univ. of Georgia.*

4:00 C38 **369.16** Dysregulation of mTORC2, but not mTORC1, underlies the neurophysiological and behavior abnormalities in Pten-deficient mouse model of ASD and epilepsy. C. CHEN*; M. SGRITTA; J. MAYS; J. NOEBELS; M. COSTA-MATTIOLI. *Baylor Col. of Med., Baylor Col. of Med.*

1:00 D1 **369.17** Optogenetic stimulation of the subthalamic nucleus reduces repetitive behavior in C58 mice. A. M. MUEHLMANN*; L. CURRY-POCHY; J. HART; M. SMELTZER; E. G. KRAUSE; M. H. LEWIS. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

2:00 D2 **369.18** Altered inhibitory synaptic plasticity in the Neuroligin3-R451C mouse model of autism. E. PETRINI*; S. H. STANCHEVA; F. COLACI; L. MANNINO; A. BARBERIS. *Inst. Italiano di Tecnologia.*

3:00 D3 **369.19** Defects in sensory information processing in the neocortex in a mouse model for fragile x syndrome — from ion channels to cell types and circuits. A. A. FRICK*; A. A. BHASKARAN; G. BONY; K. LE CORF; R. PROVILLE. *INSERM U1215, INSERM U1215, INSERM U1215.*

4:00 D5 **369.20** ▲ Developmental mechanisms of sebaceous nevus syndrome caused by dysregulation of RAS/MAPK pathway. Y. KIM*; S. BAEK. *Pohang Univ. of Sci. and Technol., Pohang Univ. of Sci. and Technology(POSTECH).*

1:00 D4 **369.21** Sex differences in microglia-neural signaling and learning following early-life immune activation in the juvenile rat. B. OSBORNE*; J. M. SCHWARZ. *Univ. of Delaware.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

370. NMDA Receptors

Theme B: Neural Excitability, Synapses, and Glia

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 D6 **370.01** Subtype-specific sensitivity of NMDA receptors to neuropsychiatric lupus autoantibodies. K. CHAN*; C. KOWAL; B. DIAMOND; L. P. WOLLMUTH. *Stony Brook Univ., Feinstein Inst. for Med. Res., Stony Brook Univ.*

2:00 D7 **370.02** Characterisation of intrinsic and synaptic properties of hippocampal CA1 pyramidal neurons in Grin2a$^{+/-}$ and Grin2a$^{-/-}$ rats. F. YASMIN*; S. A. BOOKER; R. LOUREIRO; K. F. M. MARWICK; G. E. HARDINGHAM; P. C. KIND; D. J. WYLLIE. *Univ. of Edinburgh.*

3:00 D8 **370.03** Site of action of brain neurosteroid, pregnenolone sulfate, at the N-methyl-D-aspartate receptor. L. -. VYKLICKY JR*; B. KRAUSOVA; B. KYSILOV; J. CERNY; V. VYKLICKY; M. LADISLAV; T. SMAJKALOVA; H. CHODOUNSKA; E. KUDOVA. *Inst. of Physiol. ASCR, Inst. of Physiol. CAS, Inst. of Organic Chem. and Biochem. CAS.*

4:00 D9 **370.04** GluN2D-containing NMDARs modulate the excitatory activity of CRF neurons within the BNST and influence changes in anxiety and depressive-like behaviors. G. J. SALIMANDO*; T. A. WILLS; A. J. BAUCUM II; D. G. WINDER. *Vanderbilt Univ., LSUHSC, Indiana University-Purdue Univ. Indianapolis.*

1:00 D10 **370.05** GluN3 containing triheteromeric NMDA receptor subunit interactions in the rat medial entorhinal area. S. BEESLEY*; S. S. KUMAR. *Florida State Univ.*

2:00 D11 **370.06** Sorting Nexin 27 controls the exocytosis of NMDA receptors. V. ANGGONO*; T. WANG; X. YU; M. VIEIRA; X. L. H. YONG; S. E. JANG; B. M. COLLINS; K. W. ROCHE. *The Univ. of Queensland, The Univ. of Queensland, NIH, The Univ. of Queensland.*

3:00 D12 **370.07** Facilitation of synaptic, but not extrasynaptic, NMDA Currents CA1 pyramidal neurons by adenosine A_{2A} receptors in young adult rats. A. M. SEBASTIAO*; F. MOURO; D. M. ROMBO; R. B. DIAS; J. A. RIBEIRO. *Sch. of Med. and Inst. of Mol. Medi.*

4:00 D13 **370.08** Zinc transporter ZnT1 regulates zinc inhibition of NMDARs. R. F. KRALL*; A. MOUTAL; R. KHANNA; M. HERSHFINKEL; E. AIZENMAN; T. TZOUNOPOULOS. *Univ. of Pittsburgh, Col. of Med. Univ. of Arizona, Ben-Gurion Univ. of the Negev.*

1:00 D14 **370.09** ▲ Neuromophological characterization of CA1 pyramidal cells expressing chimeric NMDAR GluN2 subunits: Changes during hippocampal development. M. J. KEITH*; J. REEVES; D. CHEN; R. E. KEITH; T. DUMAS. *Northern Virginia Community Col., George Mason Univ.*

2:00 D15 **370.10** ● Discovery of a novel antagonist selective for GluN2A-containing NMDA receptors. S. SIMAVORIAN; T. LOVENBERG; R. NEFF*. *Janssen Res. and Develop. La Jolla.*

3:00 D16 **370.11** Ketamine trapping inside of NMDA channels affects spiking dynamics in Hodgkin-Huxley-like models. M. M. KOWALSKI*; M. M. MCCARTHY; N. KOPELL. *Boston Univ.*

4:00 D17 **370.12** Control astrocyte proliferation through manipulating NMDA receptor signaling in mouse brain. Y. GENG*; C. FU; Q. WANG; J. KAMINKER; M. H. SHENG; Y. CHEN. *IRCBC, SIOC, Chinese Acad. of Sci., Genentech.*

1:00 D18 **370.13** Synaptic network dysfunction in neurological disorders: Understanding the impact of rare genetic variants of NMDAR subunits in autism-spectrum disorders and epilepsy. M. M. VIEIRA*; S. LIU; K. W. ROCHE. *NINDS, Building 35, GeneDx, NIH.*

2:00 D19 **370.14** Neurobeachin-mediated regulation of NMDA receptors and PSD-95 family members. E. FINGLETON*; K. W. ROCHE. *NIH, NIH.*

3:00 D20 **370.15** Non-ionotropic signaling through presynaptic NMDA receptors promotes neurotransmitter release in the developing retinotectal system. M. VAN HORN*; V. HIGENELL; E. S. RUTHAZER. *McGill Univ.*

4:00 D21 **370.16** A hydrophobic path allows drug access to the NMDA receptor channel. M. WILCOX*; N. G. GLASGOW; S. MESBAHI-VASEY; A. NIGAM; M. B. PHILLIPS; A. L. TURCU; C. NARANGODA; M. G. KURNIKOVA; S. VAZQUEZ; J. W. JOHNSON. *Univ. of Pittsburgh, Univ. of Pittsburgh, Carnegie Mellon Univ., Univ. of Barcelona.*

1:00 D22 **370.17** Expression of GluN2C subunit in parvalbumin positive neurons and astrocytes: Relevance to schizophrenia. P. J. GANDHI*; G. SHELKAR; R. PAVULURI; J. LIU; S. DRAVID. *Creighton Univ. Sch. of Med.*

2:00 D23 **370.18** Comparison of memantine and ketamine binding sites in the NMDA receptor channel. M. B. PHILLIPS*; C. NARANGODA; M. R. WILCOX; S. MESBAHI-VASEY; A. NIGAM; M. G. KURNIKOVA; J. W. JOHNSON. *Univ. of Pittsburgh, Carnegie Mellon Univ.*

3:00 D24 **370.19** ● Novel positive allosteric modulators for nmdars demonstrate enantiomer-specific actions. S. F. TRAYNELIS*; K. L. STRONG; M. P. EPPLIN; K. K. OGDEN; H. KUSUMOTO; S. BHATTACHARYA; G. SHAULSKY; R. E. PERSZYK; D. MENALDINO; K. B. HANSEN; T. J. WILDING; C. R. CAMP; M. J. MCDANIEL; J. ZHANG; P. LE; J. E. HUETTNER; D. C. LIOTTA. *Emory Univ. Sch. of Med., Emory Univ. Sch. of Med., Scripps Florida, Univ. of Montana, Washington Univ. Med. Sch.*

4:00 D25 **370.20** ● Grin2a knockout promotes hyperexcitability in the mouse hippocampus: A model to understand epileptic activity in grin2a lof variants. C. R. CAMP*; S. F. TRAYNELIS. *Emory Univ.*

1:00 D26 **370.21** ● Selective expression of triheteromeric NMDA receptors reveals unique properties. S. BHATTACHARYA*; F. YI; A. H. KHATRI; S. A. SWANGER; H. YUAN; K. B. HANSEN; S. F. TRAYNELIS. *Emory Univ., Univ. of Montana.*

2:00 D27 **370.22** Alternative splicing of GluN1 tunes synaptic plasticity and learning in mice. A. S. SENGAR*; H. LI; W. ZHANG; C. LEUNG; N. M. SAW; V. WANG; Y. TU; Z. JIA; M. W. SALTER. *The Hosp. for Sick Children, The Univ. of Toronto.*

3:00 D28 **370.23** GluN1 N1-cassette regulates glycine-primed internalization and NMDA channel activity in hippocampal CA1 pyramidal neurons. V. RAJANI*; H. LI; A. S. SENGAR; D. CHUNG; L. HAN; M. W. SALTER. *The Hosp. for Sick Children.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

371. Non-NMDA Receptors

Theme B: Neural Excitability, Synapses, and Glia

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 D29 **371.01** Phosphorylation of GluA1-S845 regulates clathrin-mediated endocytosis of AMPA receptors. M. F. SATHLER*; L. KHATRI; R. KUBRUSLY; S. KIM; E. ZIFF. *Colorado State Univ., NYU Sch. of Med., Univ. Federal Fluminense.*

2:00 D30 **371.02** Photoactive unnatural amino acids reveal functional modules of the AMPA receptor membrane domain. A. POSHTIBAN*; M. H. POULSEN; V. GHISI; A. PLESTED. *Leibniz-Institute For Mol. Pharmacol. (FMP), Univ. of Copenhage, Humboldt Univ. zu Berlin.*

1:00 DP02/D31 **371.03** ● (Dynamic Poster) Role of synaptic plasticity in AMPA receptor intracellular trafficking. F. COUSSEN*; E. HANGEN; F. CORDELIÈRES; J. PETERSEN; D. CHOQUET. *Interdisciplinary Inst. of Neurosci. (IINS), Interdisciplinary Inst. for Neurosci., Bordeaux Imaging Ctr., UMR 5297 CNRS Univ. Bordeaux.*

4:00 D32 **371.04** APP phosphorylation and internalization regulates synaptic removal of AMPARs. S. N. GARCIA DUBAR*; D. CASTELLANO; M. ABDEL-GHANI; A. SCHNEEWEIS; E. ANDRE; S. VICINI; D. T. PAK. *Georgetown Univ., Georgetown Univ. Med. Ctr., Georgetown Univ. Med. Sch.*

1:00 D33 **371.05** Subunit-specific regulation of synaptic AMPARs by $step_{61}$. S. WON*; S. INCONTRO; Y. LI; R. A. NICOLL; K. W. ROCHE. *NIH, UCSF, UCSF, NIH.*

2:00 D34 **371.06** Regulation of AMPA receptor stability and trafficking by acetylation in Alzheimer's disease. M. O'CONNOR*; Y. SHENTU; G. WANG; Y. ZHANG; R. LIU; H. MAN. *Boston Univ., TongJi Med. Col.*

3:00 D35 **371.07** Claudins: A novel group of α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptor (AMPAR) auxiliary proteins and a stepping stone to understanding transmembrane AMPAR regulatory protein function. S. OBST*; S. HAERING; A. KUZULU; M. HOLLMANN. *Ruhr-Universitat Bochum, Grad. Sch. of Chem. and Biochem., Res. Sch. of the Ruhr Univ. Bochum, Johannes Gutenberg-Universität.*

4:00 D36 **371.08** Subunit organization in heteromeric AMPA receptors - Rules and functional consequences. I. H. GREGER*; H. HO; O. CAIS; B. HERGUEDAS; J. F. WATSON; B. KOHEGYI. *MRC LMB.*

1:00 D37 **371.09** ● Pharmacology of AMPA receptors expressed in cell lines and stem cell-derived neurons. C. T. BOT; A. R. OBERGRUSSBERGER*; N. BRINKWIRTH; I. RINKE-WEIß; N. BECKER; T. A. GOETZE; P. MUMM; S. STOELZLE-FEIX; T. STRASSMAIER; M. GEORGE; A. BRÜGGEMANN; N. FERTIG. *Nanion Technologies Inc, Nanion Technologies GmbH.*

2:00 D38 **371.10** Susd4, a tether for hect ubiquitin ligases, controls ampa receptor turnover, synaptic transmission and plasticity. I. GONZÁLEZ-CALVO*; K. IYER; A. KHAYACHI; F. A. GIULIANI; J. VINCENT; S. M. SIGOILLOT; Y. NADJAR; A. DUMOULIN; A. TRILLER; J. BESSEREAU; L. RONDI-REIG; P. ISOPE; F. SELIMI. *Cirb-Collège De France, INCI, Univ. de Strasbourg - CNRS, IBPS, Univ. Paris VI, IBENS, Ecole Normale Supérieure, INMG, Univ. Claude Bernard.*

3:00 D39 **371.11** The phosphatase PTP-3/LAR regulates transport of AMPARs in the nematode *C. elegans.* D. PIERCE*; B. PULFORD; F. J. HOERNDLI. *Colorado State Univ., Colorado State Univ.*

4:00 D40 **371.12** Effects of cornichon homolog-3 (CNIH3) knockdown on hippocampal AMPA receptors and synaptic morphology. H. E. FRYE*; C. TROUSDALE; S. B. WILLIAMS; J. D. DOUGHERTY; E. C. NELSON; J. MORON-CONCEPCION. *Washington Univ. Sch. of Med., Washington Univ. In St Louis, Washington Univ., Washington Univ. Sch. of Med., Washington Univ. in St. Louis.*

POSTER

372. Neurotransmitter Release: Vesicle Dynamics

Theme B: Neural Excitability, Synapses, and Glia

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 D41 **372.01** Different molecular species of alpha-synuclein produce distinct effects on synaptic vesicle trafficking *in vivo.* A. T. MEDEIROS*; J. B. SANDERSON; H. JIANG; D. J. SELKOE; T. BARTELS; J. R. MORGAN. *Marine Biol. Lab., Harvard Med. Sch., Brigham & Women's Hosp.*

2:00 D42 **372.02** Synapsin and alpha-synuclein co-regulate synaptic transmission in cultured hippocampal neurons. D. GITLER*; M. ATIAS; Y. TEVET; A. STAVSKY; S. TAL; J. KAHN; S. ROY. *Ben-Gurion Univ. of the Negev, Univ. of Wisconsin-Madison.*

3:00 D43 **372.03** Hsc70 is an *in vivo* target of excess α-synuclein at synapses. M. MCQUILLAN*; A. T. MEDEIROS; S. M. L. BANKS; I. TESSARI; L. BUBACCO; R. SOUSA; E. M. LAFER; J. R. MORGAN. *Marine Biol. Lab., Florida Southern Col., Univ. of Padova, Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*

4:00 D44 **372.04** Endocytosis is the primary target for short-term overexpression of alpha-synuclein. X. WU; T. LIN; W. JANG; H. YUE; J. XU*. *Augusta Univ., Med. Col. of Georgia At Augusta Univ., Med. Col. of Georgia, Augusta Univ.*

1:00 D45 **372.05** SAX-7 and MPK-1/Erk promote coordinated locomotion. S. SHEORAN*; M. MOSELEY-ALLDREDGE; H. YOO; C. O'KEEFE; J. RICHMOND; L. CHEN. *Univ. of Illinois at Chicago, Univ. of Minnesota.*

2:00 D46 **372.06** Acute photoinactivation of a cGMP-dependent protein kinase reveals multiple synaptic functions at the *Drosophila* larval neuromuscular junction. J. S. DASON*; A. M. ALLEN; O. E. VASQUEZ; M. B. SOKOLOWSKI. *Univ. of Windsor, Univ. of Oxford, Univ. of Toronto.*

3:00 D47 **372.07** The effect of acute ATP depletion on synaptic vesicle endocytosis visualized at the ultrastructural level. Q. GAN*; S. WATANABE. *Johns Hopkins Sch. of Med., Johns Hopkins Univ.*

4:00 D48 **372.08** Differential effects of the neurotoxin taipoxin on distinct forms of endocytosis at central nerve terminals. W. JANG*; T. LIN; H. YUE; S. LI; J. XU. *Med. Col. of Georgia, Augusta Univ.*

1:00 D49 **372.09** Selective cleavage of synaptobrevin by botulinum toxins reveals the prefusion state of the SNARE complex. J. BRADY*; A. VASIN; M. BYKHOVSKAIA. *Wayne State Univ. Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 D50 **372.10** Isoflurane inhibits presynaptic vesicle fusion machinery, thereby preferentially blocking high frequency excitatory neurotransmission. H. WANG*; K. EGUCHI; T. TAKAHASHI. *Inst. of Sci. and Technol. Austria, Okinawa Inst. of Sci. and Technol. Grad. Univ.*

3:00 D51 **372.11** Neonatal exposure to anesthesia inhibits key protein regulators of synaptic vesicles docking and fusion. N. ATLURI; B. FERRARESE; H. OSURU; C. KELLER; R. SICA; Z. ZUO; N. LUNARDI*. *Univ. of Virginia Hlth. Syst.*

4:00 E1 **372.12** Synaptotagmin III regulates exosome export through calcium binding to the C2AB domains. N. YU; Y. TSAI; H. YANG; C. WANG*. *Natl. Taiwan Univ., Natl. Taiwan Univ. and Academia Sinica, Natl. Taiwan Univ., Natl. Taiwan Univ.*

1:00 E2 **372.13** Age-related cognitive impairment: Role of reduced synaptobrevin-2 levels in the decline of learning and memory. F. DEAK*. *Univ. of Oklahoma, Oklahoma Ctr. for Neurosci., Univ. Oklahoma Hlth. Sci. Ctr.*

2:00 E3 **372.14** Epac interacts with rim1α and acts on presynaptic long-term potentiation in the cerebellum. W. XIN-TAI*; F. XU; Y. SHEN. *Zhejiang Univ. Sch. of Med., Zhejiang Univ. Sch. of Med., Zhejiang Univ. Sch. Med.*

3:00 E4 **372.15** The novel neuronal protein APache is implicated in synaptic vesicle and autophagosome trafficking. F. C. GUARNIERI*; A. PICCINI; M. BRAMINI; E. CASTROFLORIO; P. VALENTE; B. PINTO; B. PARISI; J. D. WREN; F. VALTORTA; F. BENFENATI; S. GIOVEDÌ. *San Raffaele Scientific Inst., Vita-Salute San Raffaele Univ., Dept. of Exptl. Medicine, Univ. of Genova, Ctr. for Synaptic Neurosci. and Technology, Inst. Italiano di Tecnologia, Local Micro-environment and Brain Develop. Laboratory, Inst. Italiano di Tecnologia, Dept. of Arthritis & Clin. Immunology, Oklahoma Med. Res. Fndn.*

4:00 E5 **372.16** ▲ Dynamin-1 restrains vesicular catecholamine release to a sub-quantal mode in mammalian adrenal chromaffin cells. Q. ZHANG*; Q. WU; B. LIU; Y. LI; X. WU; F. ZHU; Z. ZHOU. *Peking Univ. Inst. of Mol. Med.*

1:00 E6 **372.17** Characterization of Neuro-2a cells as a model of neuronal catecholamine and ATP co-release. B. KIM*; D. POBURKO. *Simon Fraser Univ.*

2:00 E7 **372.18** Endocytosis helps to clear release sites and maintain the pool of releasable vesicles in a mature glutamatergic synapse. A. A. DAGOSTIN*; H. VON GERSDORFF. *Oregon Hlth. and Sci. Univ.*

3:00 E8 **372.19** Synaptophysin and synaptogyrin regulate fusion pore kinetics during Ca^{2+}-triggered exocytosis in chromaffin cells. Y. HSIAO*; C. CHANG; M. B. JACKSON. *Univ. of Wisconsin-Madison, Univ. of California.*

4:00 E9 **372.20** Visualization of membrane pore in live cells reveals a dynamic-pore theory governing fusion and endocytosis. W. SHIN*; L. GE; G. ARPINO; S. VILLARREAL; E. HAMID; H. LIU; W. ZHAO; P. WEN; H. CHIANG; L. WU. *NINDS, NIH.*

POSTER

373. Epilepsy: Experimental Therapeutics

Theme B: Neural Excitability, Synapses, and Glia

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 E10 **373.01** Influence of a cooling compound, icilin, on penicillin G-induced epileptiform discharges in a rat model: Validation of focal cortical cooling effects by TRPM8 activation. H. MORIYAMA*; S. NOMURA; H. KIDA; T. INOUE; H. IMOTO; Y. MARUTA; Y. FUJIYAMA; D. MITSUSHIMA; M. SUZUKI. *Grad. Sch. of Medicine, Yamaguchi Univ., Grad. Sch. of Medicine, Yamaguchi Univ.*

2:00 E11 **373.02** Effect of ketogenic diet on KCC2 expression in rat dentate gyrus. L. GRANADOS-ROJAS*; K. JERÓNIMO-CRUZ; G. HERNANDEZ-HERNANDEZ; T. JUÁREZ-ZEPEDA; A. VÁZQUEZ-VEGA; M. TAPIA-RODRÍGUEZ; P. DURAN; L. CARMONA-APARICIO. *Inst. Naciona de Pediatría, IIB-UNAM, Facultad de Ciencias, UNAM.*

3:00 E12 **373.03** Molecular imaging reveals pro- and anti-inflammatory effects of fingolimod in a mouse model of epileptogenesis. B. J. WOLF*; P. BASCUÑANA; I. LEITER; L. B. N. LANGER; T. L. ROSS; F. M. BENGEL; J. P. BANKSTAHL; M. BANKSTAHL. *Hannover Med. Sch., Univ. of Vet. Med. Hannover.*

4:00 E13 **373.04** Antioxidative and antiapoptotic effect of dehydroepiandrosterone on iron-induced epilepsy model. C. PRAKASH*; M. MISHRA; P. KUMAR; D. SHARMA. *Jawaharlal Nehru University, New Delhi.*

1:00 E14 **373.05** ▲ Exploring the role of mycophenolate mofetil on neurohistopathological changes and gene expression in rat model of lithium pilocarpine induced spontaneous recurrent seizures. A. G. MAZUMDER*; V. PATIAL; D. SINGH. *CSIR-Institute of Himalayan Bioresource Technol.*

2:00 E15 **373.06** The ketogenic diet increases serotonin levels in the mouse brain. F. A. TERAN*; Y. KIM; G. B. RICHERSON. *Univ. of Iowa.*

3:00 E16 **373.07** Phenylamides as anticonvulsants. S. E. MEZA TOLEDO*; A. L. SILVA-RAMÍREZ; N. ALVAREZ-JUÁREZ; E. BURGUEÑO TAPIA; M. SUÁREZ QUEZADA. *Inst. Politécnico Nacional, Esc.Nac.Cien.Biol.*

4:00 E17 **373.08** Sulfasalazine as a treatment for acquired epilepsy. O. ALCOREZA; S. L. CAMPBELL*; H. SONTHEIMER. *Virginia Tech. Carilion Res. Inst., Virginia Polytechnic Inst. and State Universit, Virginia Tech. Sch. of Neurosci.*

1:00 E18 **373.09** Dusp4: An endogenous anti-epileptogenic inhibitor of map kinase signaling. A. KIRCHNER*; S. BAGLA; F. DACHET; J. A. LOEB. *Wayne State Univ., Univ. of Illinois at Chicago Col. of Med.*

2:00 E19 **373.10** ● Assessment of antiseizure and neuroprotective effects of novel compounds in a delayed-treatment rat model of organophosphate (OP) exposure. J. SPAMPANATO*; M. SMOLIK; F. DUDEK. *Univ. of Utah.*

3:00 E20 **373.11** Transcranial focal stimulation augments the effects of anticonvulsant drugs in rats. D. PEREZ-PEREZ; L. L. ROCHA*; W. BESIO; J. SOTELO. *Natl. Autonomous Univ. of Mexico, Plan of Combined Studies in Med., CINVESTAV, Univ. of Rhode Island, Natl. Inst. of Neurol. and Neurosurg. of Mexico.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 E21 **373.12** ● Cannabidiol decreases the excitability of pyramidal neurons and increases inhibitory drive in hippocampal area CA1. S. CHAMBERLAND*; E. C. ROSENBERG; O. DEVINSKY; R. W. TSIEN. *NYU, NYU.*

1:00 E22 **373.13** ● An investigation of the discriminative stimulus and reinforcing effects of cannabidiol in rats. D. J. HEAL*; S. HOLLAND; J. GOSDEN; R. A. GRAY; S. SMITH. *RenaSci Ltd, GW Pharmaceuticals.*

2:00 E23 **373.14** ● Screening for anti-epileptic compounds with an *in vitro* epilepsy model based on the human ipsc-derived microbrain® 3D platform. O. GUICHERIT*; C. CARROMEU; S. DEA; N. SODHI; F. ZANELLA; C. ANDERSEN; B. C. GAY; J. M. ANDRESEN; G. R. STEWART. *Stemonix, Pairnomix LLC.*

3:00 E24 **373.15** ● Morphological and functional evaluation of compound activity using human iPSC -derived neuronal 3D cultures. C. ANDERSEN*; O. SIRENKO; G. CHANDY; M. HAMMER; C. CRITTENDEN; S. VARGAS-HURLSTON; F. PARHAM; K. RYAN; R. GORDON; F. ZANELLA; O. GUICHERIT; C. CARROMEU. *Stemonix, Mol. Devices LLC, NIH/National Inst. of Envrn. Hlth. Sci. (NIEHS).*

POSTER

374. LTP: Kinases and Intracellular Signaling

Theme B: Neural Excitability, Synapses, and Glia

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 E25 **374.01** ATF4 is downregulated during synaptic plasticity potentially to maintain depression or reset potentiation. F. AMAR*; C. CORONA; J. LIU; E. GRAEFF; L. GREENE; M. L. SHELANSKI. *Columbia Univ. Med. Ctr., Columbia Univ., Columbia Univ. Press, AgroParisTech.*

2:00 E26 **374.02** Generation of a ATF4 conditional KO mouse line for elucidating the role of ATF4 in learning and memory. C. CORONA*; F. AMAR; C. LIN; L. GREENE; M. L. SHELANSKI. *Columbia Univ., Columbia Univ. Med. Ctr., Columbia Univ., Columbia Univ. Press.*

3:00 E27 **374.03** ● Intracellular regulation of calcium-calmodulin dependent protein kinase type II function by NMDA receptor subunit GluN2B. L. K*; M. M; A. R C; R. RAJU; A. ANIRUDHAN; O. R V. *Rajiv Gandhi Ctr. for Biotech., Sree Chitra Tirunal Inst. for Med. Sci. and Technol.*

4:00 E28 **374.04** Dissecting the contribution of beta-adrenergic signaling to hippocampal synaptic plasticity using biased ligands. M. S. SHETTY*; K. T. BLACKWELL; T. ABEL. *Univ. of Iowa, Univ. of Iowa, George Mason Univ.*

1:00 E29 **374.05** Multiple compensatory mechanisms in tamoxifen-inducible/CreERT2 conditional PKMζ knockout mice. P. TSOKAS*; C. HSIEH; A. TCHEREPANOV; A. A. FENTON; S. GHOSH; T. C. SACKTOR. *SUNY Downstate Med. Ctr. Col. of Med., SUNY Downstate Med. Ctr., New York Univ., Yale Univ. Sch. of Med., SUNY Downstate Med. Ctr.*

2:00 E30 **374.06** P18 is critical for lysosomal Ragulator-Rag complex assembling and synaptic plasticity in hippocampal neurons. J. SUN*; Y. LIU; X. HAO; W. LIN; B. DIEP; E. CHIANG; M. BAUDRY; X. BI. *Western Univ. of Hlth. Sci., Western Univ. of Hlth. Sci.*

3:00 E31 **374.07** Rabphilin 3A modulates structural and functional synaptic plasticity through interaction with GluN2A/PSD-95 complex. F. GARDONI*; J. STANIC; L. FRANCHINI; M. MELLONE; S. MUSARDO; E. ZIANNI; G. OLIVERO; A. PITTALUGA; C. RACCA; C. BELLONE; E. MARCELLO; M. DI LUCA. *Univ. Milan, Neurocentre Magendie, Univ. of Geneva, Univ. of Genova, Sch. of Med. and Pharma, Newcastle Univ.*

4:00 E32 **374.08** Drebrin binds to CaMKIIβ and forms activity-dependent tripartite interaction between drebrin, CaMKII and F-actin in dendritic spines. T. SHIRAO*; H. YAMAZAKI; Y. SEKINO. *Gunma Univ. Grad Sch. Med., Univ. of Tokyo, Grad Sch. Pharma Sci.*

1:00 E33 **374.09** ▲ Increased sucrose experience prevents sucrose-induced increases in glutamate AMPA receptor phosphorylation in dorsal hippocampal neurons. N. BARNETT; A. P. ROSS; A. D. FAULKNER; R. C. HANNAPEL; M. B. PARENT*. *Georgia State Univ., Univ. of Michigan.*

2:00 E34 **374.10** LTP-induced translocation of MAP2 into dendritic spines. Y. KIM*; Y. JANG; N. KIM; S. NOH; J. KIM; R. BELLMORE; H. PARK; J. MUN; J. RAH; D. T. PAK; K. LEE. *Korea Brain Res. Inst., Georgetown Univ. Med. Ctr.*

3:00 E35 **374.11** The impact of PKA-dependent phosphorylation of GluN2B at Ser1166 on hippocampal plasticity and cognition. M. W. PORCH*; J. HWANG; A. E. CHAVEZ; R. S. ZUKIN. *Albert Einstein Col. of Med., Univ. De Valparaiso.*

4:00 E36 **374.12** Characterization of PP1 isoforms in CA1 post-synaptic plasticity. K. F. FOLEY*; J. ZHANG; H. HOU; A. C. NAIRN; H. XIA. *Univ. of Rochester Med. Ctr., Univ. of Rochester Med. Ctr., Yale Univ.*

1:00 E37 **374.13** Spatiotemporal analysis of calcium transients in dendritic spines. M. BELL*; T. BARTOL; T. J. SEJNOWSKI; P. RANGAMANI. *Univ. of California San Diego, Salk Inst.*

2:00 E38 **374.14** Mechanisms of hippocampal long-term potentiation (LTP) are sexually dimorphic in rodents. A. A. LE; W. WANG; C. D. COX; J. C. LAUTERBORN; E. R. LEVIN; G. LYNCH; C. M. GALL*. *Univ. of California, Univ. of California, Univ. of California.*

3:00 E39 **374.15** AKAP150 palmitoylation regulates synaptic incorporation of Ca^{2+}-permeable AMPARs basally and during LTP. A. M. PURKEY*; K. M. WOOLFREY; K. C. CROSBY; D. G. STICH; W. S. CHICK; J. AOTO; M. L. DELL'ACQUA. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Anschutz Med. Campus.*

4:00 E40 **374.16** Competitive tuning of Ca^{2+}/calmodulin activated proteins provides a homeostatic effect in synaptic plasticity. M. C. PHARRIS*; N. M. PATEL; D. R. ROMANO; T. L. KINZER-URSEM. *Purdue Univ.*

1:00 DP03/E41 **374.17** (Dynamic Poster) Integration of spatiotemporally distinct signals by PKCα during synaptic plasticity. L. A. COLGAN*; M. HU; J. A. MISLER; P. PARRA-BUENO; C. M. MORAN; M. LEITGES; R. YASUDA. *Max Planck Florida Inst., Univ. of Oslo.*

2:00 E42 **374.18** Unified biochemical model for long-term synaptic plasticity in the cortex - What are the essential pathways? T. MÄKI-MARTTUNEN*; K. T. BLACKWELL; A. G. EDWARDS. *Simula Res. Lab., George Mason Univ., Simula Res. Lab. AS.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 E43 **374.19** Adult-selective deletion of KIBRA reduces long-term potentiation and increases sharp wave ripples. M. L. MENDOZA*; L. D. QUIGLEY; R. PENDRY; B. E. PFEIFFER; L. J. VOLK. *UT Southwestern Med. Ctr.*

4:00 E44 **374.20** Evidence for a sex difference in the requirement of PKA to induce long-term potentiation in the hippocampus. A. JAIN*; C. S. WOOLLEY. *Northwestern Univ.*

POSTER

375. Intrinsic Membrane Properties: Neural Oscillators and Dendritic Properties

Theme B: Neural Excitability, Synapses, and Glia

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 E45 **375.01** Modification of ion channel gene expression regulates the expression of multiple ionic currents. J. P. GOLOWASCH*; D. H. DAUDELIN; H. G. ROTSTEIN; D. J. SCHULZ. *NJIT, NJIT, Univ. of Missouri-Columbia.*

2:00 E46 **375.02** Frequency-dependent coupling between neuronal activity and mitochondrial Ca^{2+} dynamics *in situ.* C. J. GROTEN*; A. NELSON; B. A. MACVICAR. *Univ. of British Columbia, Univ. of British Columbia.*

3:00 E47 **375.03** Differential current accumulation from antidromic action potentials modulates stimulus encoding. M. DEMAEGD*; W. STEIN. *Illinois State Univ.*

4:00 E48 **375.04** The electrical impact of axon initial segment plasticity. S. GOETHALS*; R. BRETTE. *Sorbonne Univ., INSERM, CNRS, Inst. De La Vision.*

1:00 E49 **375.05** Burst firing of hippocampal mossy fibers by local blockade of axonal potassium channels. H. KAMIYA*. *Hokkaido Univ. Grad. Sch. of Med.*

2:00 E50 **375.06** Pedunculopontine intrinsic gamma oscillations are blocked by histone deacetylase inhibitors. E. E. GARCIA-RILL*; V. BISAGNO; F. J. URBANO. *Ctr. for Translational Neurosci, ININFA-CONICET, IFIBYNE-CONICET.*

3:00 E51 **375.07** a7 nAChR in hippocampal theta generation. Z. GU*; J. L. YAKEL. *NIEHS/NIH.*

4:00 F1 **375.08** Computational modeling of synaptic plasticity induced by repeated dysinhibition. I. GUERREIRO; Z. GU; J. L. YAKEL; B. S. GUTKIN*. *Ecole Normale Superieure, NIEHS/NIH, Natl. Inst. of Envrn. Hlth. Sci., Group for Neural Theory, LNC INSERM U960, Ecole Normale Superieure, NRU Higher Sch. of Econ.*

1:00 F2 **375.09** Intrinsic mechanisms of frequency selectivity in the proximal dendrites of CA1 pyramidal neurons. C. L. COMBE*; C. C. CANAVIER; S. GASPARINI. *Louisiana State Univ. Hlth. Sci. Ctr., Louisiana State Univ. Hlth. Sci. Ctr.*

2:00 F3 **375.10** Data-driven biophysical models of hippocampal CA3 pyramidal cell-types to investigate cellular mechanisms of sharp-wave generation. D. L. HUNT*; N. P. SPRUSTON; D. LINARO. *Janelia Res. Campus, HHMI Janelia Res. Campus, Univ. of Antwerp.*

3:00 F4 **375.11** Interacting resonances in neuronal systems. H. G. ROTSTEIN*; A. STETSENKO; T. ITO; S. LI; E. STARK. *NJIT, Rutgers Univ., Shanghai Jiao Tong Univ., Tel Aviv Univ.*

4:00 F5 **375.12** Withdrawn

1:00 F6 **375.13** Monitoring dendritic excitability during behavior using neuropixels silicon probes. A. ROTH*; N. A. STEINMETZ; V. CHEREPANOVA; M. CARANDINI; K. D. HARRIS; M. HAUSSER. *Univ. Col. London.*

2:00 F7 **375.14** Fear learning modulates neural and dendritic activity in the auditory cortex. L. GODENZINI*; L. M. PALMER. *Florey Inst. of Neurosci. and Mental Hlth.*

3:00 F8 **375.15** Voltage and calcium signals in dendrites of medium spiny neurons. J. JANG*; S. D. ANTIC. *Univ. of Connecticut Hlth., UConn Hlth.*

4:00 F9 **375.16** Estrous cycle-dependent sex differences in rat dorsal striatal medium spiny neuron excitability. J. WILLETT*; A. JOHNSON; O. PATEL; D. DORRIS; J. MEITZEN. *North Carolina State Univ.*

1:00 F10 **375.17** Estrous cycle-induced sex differences in medium spiny neuron excitatory synaptic transmission and intrinsic excitability in adult rat nucleus accumbens core. S. PROANO*; H. MORRIS; L. KUNZ; J. MEITZEN. *North Carolina State Univ.*

2:00 F11 **375.18** Effect of neonatal hormone exposure on electrophysiological properties of striatal medium spiny neurons in prepubertal rats. J. CAO*; J. MEITZEN. *North Carolina State Univ.*

3:00 F12 **375.19** Response propagation through photoreceptors that mediate high-acuity vision. G. S. BRYMAN; A. LIU; M. H. DO*. *Harvard Med. Sch., Boston Children's Hosp., Harvard Med. Sch.*

4:00 F13 **375.20** Oscillatory activity in local cortical networks during drug-induced loss of consciousness. F. J. FLORES*; S. B. KODANDARAMAIAH; J. AN; E. S. BOYDEN; C. FOREST; E. N. BROWN. *Massachusetts Gen. Hosp., Harvard Univ., MIT, Univ. of Minnesota Twin Cities, MIT, MIT, MIT, MIT, Georgia Tech., Massachusets Insititute of Technolgy, Harvard Univ., Massachusetts Gen. Hosp.*

1:00 F14 **375.21** Dynamics of ketamine-induced loss of consciousness and return of consciousness across primate neocortex. J. J. BALLESTEROS*; J. BRISCOE; S. R. PATEL; P. HUANG; E. N. BROWN; E. N. ESKANDAR; Y. ISHIZAWA. *Massachusetts Gen. Hospital, Harvard Med. Sc, MIT, Massachusetts Gen. Hospital, Harvard Med. Sc, Massachusetts Gen. Hospital, Harvard Med. Sc, Albert Einstein Col. of Med. of Yeshiva Univ.*

2:00 F15 **375.22** Similitudes and differences in the functional properties of membrane proteins between species. D. C. BERTRAND*; S. BERTRAND; K. KAMBARA. *Hiqscreen.*

POSTER

376. Glial Mechanisms in Neurological Disorders

Theme B: Neural Excitability, Synapses, and Glia

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 F16 **376.01** Astrocyte thrombospondin-1 expression is altered in Fragile X syndrome following treatment with exogenous UTP. K. E. REYNOLDS*; A. L. SCOTT; L. C. DOERING. *McMaster Univ.*

Mon. PM

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 F17 **376.02** ● Aberrant calcium channel expression is associated with reactive astrocytosis in optic nerve head astrocytes. A. K. GHOSH*; V. R. RAO; Y. NAUMCHUK; V. B. MAKSYMENKO; E. B. STUBBS, Jr.; S. KAJA. *Loyola Univ. Chicago, Loyola Univ. Chicago, Loyola Univ. Chicago, Natl. Tech. Univ. of Ukraine Igor Sigorsky Kyiv Polytechnic Inst., Edward Hines Jr. VA Hosp.*

3:00 F18 **376.03** Scutellarin promotes microglia mediated astrogliosis in ischemia injury in rats and astrocytic reaction *in vitro.* Y. YUAN*; M. FANG; J. LU; H. LI; M. ZHAO; C. WU; E. LING. *Kunming Med. Univ., Guangdong Gen. Hosp., Defence Med. and Envrn. Res. Inst., Yong Loo Lin Sch. of Med.*

4:00 F19 **376.04** Fstl1 is involved in polyI:C-induced neuronal impairment. N. ITOH*; S. YAMADA; T. NAGAI; D. IBI; A. NAKAJIMA; T. NABESHIMA; K. YAMADA. *Nagoya Univ., Grad. Sch. of Med., Meijo Univ., Hirosaki Univ., Fujita Hlth. Univ., Grad. Sch. of Hlth. Sci.*

1:00 F20 **376.05** ● Immediate early astrocytes (ieAstrocytes): A transition state between quiescent and reactive astrocytes during neuroinflammation. Y. KIHARA*; A. GROVES; D. JONNALAGADDA; R. RIVERA; G. KENNEDY; M. R. MAYFORD; J. CHUN. *Sanford Burnham Prebys Med. Discovery Inst., Sanford Burnham Prebys Med. Discovery Inst., Sanford Burnham Prebys Med. Discovery Inst., Univ. of California San Diego.*

2:00 F21 **376.06** ● Vitamin B_{12}ameliorates disease in animal model of multiple sclerosis through astrocytic sphingosine 1-phosphate signaling. D. JONNALAGADDA*; A. GROVES; Y. KIHARA; R. RIVERA; G. KENNEDY; E. QUADROS; M. MAYFORD; J. CHUN. *Sanford Burnham Prebys Med. Discovery Inst., UCLA, SUNY-Downstate Med. Ctr., UCSD, Sanford Burnham Med. Discovery Inst.*

3:00 F22 **376.07** Gene expression in the frontopolar cortex in schizophrenia. A. MEDINA*, MD; M. WASELUS DAVENPORT; D. M. KROLEWSKI; J. D. BARCHAS; A. SCHATZBERG; R. MYERS; H. AKIL; S. J. WATSON, Jr. *Univ. Michigan, Univ. of Michigan, Weill Cornell Med. Col., Stanford Univ., HudsonAlpha Inst. for Biotech.*

4:00 F23 **376.08** The microRNA and mRNA profile of Müller glia after light damage. S. G. WOHL*; E. BERCAW; A. BAEK; I. MOUNT; T. A. REH. *Univ. of Washington, State Univ. of New York, Col. of Optometry.*

1:00 F24 **376.09** Peripheral inflammation alters the morphological and functional properties of medullary dorsal horn astrocytes. S. MOUNTADEM*; M. ANTRI; R. DALLEL. *Inserm/Neurodol U1107.*

2:00 F25 **376.10** Astrocytes in the ventromedial hypothalamus mediate anxiety in mice. Y. LIU; J. SHAO; L. ZHANG; D. GAO; X. ZHOU; Q. XIAO; N. HU; X. ZHANG; J. TU; F. YANG*. *Shenzhen Inst. of Advanced Technology,CAS, Univ. of Chinese Acad. of Sci., Univ. of Hong Kong, Shenzhen People's Hospital,Second Clin. Med. College, Jinan Univ.*

3:00 F26 **376.11** Production and characterization of human iPSC-derived reactive astrocyte phenotype. S. HAGMAN*; T. HYVÄRINEN; S. NARKILAHTI; A. PELKONEN. *Univ. of Tampere.*

4:00 G1 **376.12** SRF regulates the generation of neuroprotective reactive astrocytes in the mouse brain. M. JAIN*; P. Y. LU; S. C. R. THUMU; S. SOMAN; V. VERMA; D. GUTMANN; J. C. CHELLIAH; T. V. ARUMUGAM; N. RAMANAN. *Indian Inst. of Sci., Jiangsu Hengrui Med., Jawaharlal Nehru Ctr. for Advanced Scientific Res., Washington Univ. Sch. of Med., Natl. Univ. of Singapore.*

1:00 G2 **376.13** Identification of astrocytic dopamine D2 receptor signaling pathways that modulate neuroinflammation in a mouse model of multiple sclerosis. Y. WU*; S. YIN; S. LU; Y. GUO; Y. YIN; Y. LI; J. HOU; J. ZHOU. *Inst. of Neuroscience, Chinese Acad. of Scie.*

2:00 G3 **376.14** Disc1 knockdown in mature astrocytes suppresses expression of the glutamate transporters, GLAST and GLT-1, and impairs cognitive function in mice. A. V. SHEVELKIN*; C. TERRILLION; V. MISHENEVA; Y. JOUROUKHIN; S. KIM; D. FUKUDOME; A. SAWA; A. KAMIYA; M. V. PLETNIKOV. *P.K.Anokhin Inst. Norm Physiol, Johns Hopkins University, Sch. of Med., Johns Hopkins University, Sch. of Med.*

3:00 G4 **376.15** The cytokine IL-27 shapes the properties of human astrocytes and neurons in the context of multiple sclerosis. F. LEMAITRE*; A. CARMENA MORATALLA; N. FARZAM-KIA; E. HADDAD; N. ARBOUR. *Crchum, CHU St-Justine.*

4:00 G5 **376.16** Human neurons and astrocytes express NKG2D ligands and are susceptible to NKG2D-mediated immune responses. A. CARMENA MORATALLA*; L. LEGROUX; F. LEMAÎTRE; N. FARZAM-KIA; E. HADDAD; A. PRAT; N. ARBOUR. *CRCHUM, Univ. de Montréal, CHU Sainte-Justine.*

1:00 G6 **376.17** ● α7 nicotinic acetylcholine receptor signaling modulates fetal sheep brain astrocytes transcriptome in response to endotoxin stress: Comparison to microglial transcriptome. H. L. LIU; M. CAO; J. W. MACDONALD; M. CORTES; L. D. DUROSIER; P. BURNS; G. FECTEAU; A. DESCROCHERS; J. SCHULKIN; M. C. ANTONELLI; M. DORSCHNER; T. K. BAMMLER; M. G. FRASCH*. *McGill Univ., CHU Ste-Justine Res. Ctr., Univ. of Washington, Univ. de Montréal, Univ. de Montréal, Univ. de Montréal, Georgetown Univ., Inst. de Biologia Celular y Neurociencia, Univ. of Washington, Univ. of Washington.*

2:00 G7 **376.18** Transcriptional regulators of astrocyte reactivity. J. E. BURDA*; A. ROGERS; T. M. O'SHEA; J. KIM; Y. AO; R. KAWAGUCHI; G. COPPOLA; M. V. SOFRONIEW. *UCLA, Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles.*

3:00 G8 **376.19** Astrocyte dysfunction leads to neuronal network hyperexcitability in the leukodystrophy MLC. R. MIN*; M. DUBEY; E. BROUWERS; E. M. C. HAMILTON; O. STIEDL; M. BUGIANI; H. KOCH; M. H. KOLE; U. BOSCHERT; R. C. WYKES; H. MANSVELDER; M. S. VAN DER KNAAP. *VU Univ. & VU Univ. Med. Ctr., VU Univ. Med. Ctr., Vrije Univ. Amsterdam, Vrije Univ. Amsterdam, VU Univ. Med. Ctr., Univ. of Tübingen, Netherlands Inst. for Neurosci., EMD Serono Res. & Develop. Inst., Univ. Col. London.*

4:00 G9 **376.20** Regulation of the astrocytic response to neural injury by LZK. M. CHEN*; C. G. GEOFFROY; J. MEVES; A. NARANG; Y. LI; M. NGUYEN; V. KHAI; X. KONG; C. STEINKE; L. ELZIERE; M. GOLDBERG; Y. JIN; B. ZHENG. *Univ. of Texas Southwestern Med. Ctr., Univ. of California, San Diego, UCSD.*

1:00 G10 **376.21** Beneficial effects of low alcohol exposure, but adverse effects of high alcohol intake on glymphatic function. I. LUNDGAARD*; W. WANG; A. EBERHARDT; H. VINITSKY; B. REEVES; S. PENG; N. LOU; R. HUSSAIN; M. NEDERGAARD. *Univ. of Lund, Univ. of Rochester, Univ. of Copenhagen.*

2:00 G11 **376.22** Reactive astrocyte heterogeneity after stroke: Identifying new targets for neural repair. A. J. GLEICHMAN*; R. KAWAGUCHI; M. V. SOFRONIEW; G. COPPOLA; S. CARMICHAEL. *UCLA, UCLA, UCLA Schl Med., UCLA Sch. Med.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 G12 **376.23** Role of Orai1 in LPS-mediated cytokine production. J. JIANG*; H. HU. *Drexel Univ.*

4:00 H1 **376.24** Modeling neuroinflammatory states associated with astrocyte function. Z. S. JORDAN*; A. M. MAROOF; K. THANGAMANI; C. HUTCHINSON; L. JOHNSON; M. C. VARELA; K. MEYER; A. KHAN; S. ALI. *Univ. of Texas at San Antonio, Univ. of Texas at San Antonio, Univ. of Texas San Antonio, The Univ. of Texas at San Antonio.*

1:00 H2 **376.25** Synaptic refinement and glial engulfment in a mouse model of fragile X syndrome. M. A. LEE*; M. WEISENHAUS; P. JURAKHAN; M. SHIRASU-HIZA; C. MASON. *Columbia Univ., Columbia Univ., Barnard Col., Columbia Univ.*

2:00 H3 **376.26** Acute sensitivity of astrocytes in the Substantia Nigra to oxygen and glucose deprivation compared to the hippocampal CA1 region. J. LIPSKI*; R. N. KARUNASINGHE. *Univ. Auckland.*

3:00 H4 **376.27** Effects of iron and tumor necrosis factor-alpha on astrocyte iron and glutamate homeostasis. S. MUKEM*; W. CHAIYANA; C. L. CHEEPSUNTHORN; P. CHEEPSUNTHORN. *Grad. School-Interdisciplinary Program, Sch. of Medicine, Walailak Univ., Chulalongkorn Univ., Chulalongkorn Univ.*

4:00 H5 **376.28** Automated detection of markers of astrocyte activation. L. G. FRANKLE*; D. CARLYN; A. KOOTHAL; C. LU; R. CLEMENTS. *Kent State Univ.*

POSTER

377. Parkinson's Disease: L-DOPA Induced Dyskinesia

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 H6 **377.01** ● The effects of medication on both non stepping and compensatory stepping responses to progressive external postural disturbances in individuals with Parkinson's disease. D. J. KUHMAN; H. C. WALKER; C. P. HURT*. *Univ. of Alabama at Birmingahm, UAB, Univ. of Alabama at Birmingham.*

2:00 H7 **377.02** Dopamine d_1r or d_3r agonist exposure induces cross-receptor behavioral sensitization: Functional implications of d_1r-d_3r interactions. K. E. LANZA*; S. M. MEADOWS; K. CHEMAKIN; B. TOPPING; N. E. CHAMBERS; C. SAITO; C. R. BISHOP. *Binghamton Univ.*

3:00 H8 **377.03** Cholinergic neurons in the rostral pedunculopontine nucleus contribute to dyskinesia in the hemi-parkinsonian rat. N. E. CHAMBERS*; J. SERGIO; M. COYLE; B. TOPPING; C. SAITO; K. E. LANZA; S. CLARK; C. R. BISHOP. *Binghamton Univ., Univ. at Buffalo - The State Univ. of New York, Binghamton Univ.*

4:00 H9 **377.04** Optogenetic and chemogenetic induction of unilateral hemiparkinsonism is not associated with the risk of levodopa induced dyskinesias. K. M. LE*; S. CHINNIAH; V. IYER; N. PATEL; C. LIEU; M. PENNOCK; E. HANDLEY; A. ZENEROWITZ; E. DICKEY; S. SAVALIYA; T. SUBRAMANIAN; K. VENKITESWARAN. *Penn State Col. of Med., Penn State Col. of Med.*

1:00 H10 **377.05** Muscarinic but not nicotinic agonists prevent increase in dyskinesias with optogenetic activation of striatal D1 medium spiny neurons in parkinsonian mice. X. A. PEREZ*; T. BORDIA. *SRI Intl., SRI Intl.*

2:00 H11 **377.06** The kappa opioid receptor antagonist nor-BNI accelerates development of L-DOPA-induced dyskinesia in a model of mild Parkinson's disease. R. NAVA*; A. J. FLORES; M. J. BARTLETT; M. R. SEXAUER; J. SIEGENTHALER; M. L. HEIEN; S. J. SHERMAN; F. PORRECA; T. FALK. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

3:00 H12 **377.07** Striatal ΔFosB gene silencing reduces abnormal involuntary movements induced by L-DOPA in hemiparkinsonian rats. G. BECK*; J. ZHANG; K. FONG; M. M. MOURADIAN; S. M. PAPA. *Post Briarcliff, Rutgers, Yerkes Natl. Primate Res. Ctr., Rutgers-Robert Wood Johnson Med. Sch., Emory Univ.*

4:00 H13 **377.08** Effect of sodium nitroprusside and 7-nitroindazole on cyclic nucleotides in a rat model of L-DOPA-induced dysinesia. K. B. SANTOS*; M. DOS SANTOS PEREIRA; V. CASTANIA; M. BORTOLANZA; E. DEL BEL. *Univ. de São Paulo, Univ. de São Paulo, Univ. of São Paulo, Univ. of Sao Paulo- Ribeirao Preto Dent. Sch.*

1:00 H14 **377.09** The lack of Manf in the central nervous system causes activation of unfolded protein response without an effect on the dopamine system in mice. E. PAKARINEN*; V. VÕIKAR; P. PIEPPONEN; M. SAARMA; M. LINDAHL. *Univ. of Helsinki, Univ. of Helsinki, Univ. of Helsinki.*

2:00 H15 **377.10** Neurotransmitter alterations in Parkinson's disease and L-DOPA-induced dyskinesia analyzed by molecular-specific mass spectrometry imaging. P. E. ANDREN*; E. FRIDJONSDOTTIR; A. NILSSON; M. SHARIATGORJI; T. VALLIANATOU; Q. LI; M. THIOLAT; P. FERNAGUT; P. SVENNINGSSON; E. BEZARD. *Uppsala Univ., Motac Neurosci., Inst. of Neurodegenerative Dis., Karolinska Institutet.*

POSTER

378. Dystonia, Tremor, and Other Movement Disorders

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 H16 **378.01** Microexon inclusion is associated with distinct expression patterns and subcellular localization of the disease gene TAF1. J. R. CRITTENDEN*; B. R. GALLAGHER; M. M. ONDIK; S. CAPPONI; B. J. BLENCOWE; M. H. T. TIMMERS; A. M. GRAYBIEL. *MIT, German Cancer Consortium (DKTK) and German Cancer Res. Ctr. (DKFZ), Univ. Med. Ctr., Donnelly Centre, Univ. of Toronto.*

2:00 H17 **378.02** Validation of a torsinA cerebellar knockdown model of DYT1 dystonia. Y. LI*; Y. LIU; E. RODRIGUEZ-LEBRON. *Univ. of Florida, Univ. of Florida.*

3:00 H18 **378.03** The role of BTBD9 in the pathogenesis of restless legs syndrome (RLS): Cortical and dopaminergic neurons. S. LYU*; A. DOROODCHI; Y. SHENG; K. DEXTER; B. SALVATO; M. DEANDRADE; M. MILLER; M. FEBO; R. XIAO; Y. LI. *Univ. of Florida, Harward Univ., Univ. of Alabama at Birmingham.*

4:00 I1 **378.04** ▲ Changes in motor cortical electrophysiological and two-photon Ca^{2+} responses during episodic dystonia in the tottering (tg/tg) mouse. A. NAIK; M. GRAY; R. CARTER*; L. GHANBARI; S. KODANDARAMAIAH; T. EBNER. *Univ. of Minnesota, Univ. of Minnesota.*

Mon. PM

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 I2 **378.05** Abnormal firing of Purkinje cells contributes to the pathogenesis of DYT1 dystonia. Y. LIU*; H. XING; F. YOKOI; H. CHEN; S. ROPER; Y. LI. *Univ. of Florida Col. of Med., Univ. of Florida, Univ. of Florida Col. of Med.*

2:00 I3 **378.06** Findings of myotonic dystrophy type I by diffusion tensor imaging. M. M. LOPEZ-TITLA*; J. FERNANDEZ; M. MARTINEZ; C. HERNANDEZ; R. DIAZ; L. MARQUEZ; L. BELTRAN; J. MAGAÑA. *INPRFM, Univ. Veracruzana, Univ. Nacional Autonoma de Mexico, Inst. Nacional de Psiquiatría, Univ. Nacional Autonoma de Mexico, Inst. Nacional de Rehabilitacion.*

3:00 I4 **378.07** ▲ Phenotyping cervical dystonia: using clinical video recordings and computer vision to capture triaxial head posture. Z. ZHANG; J. P. VU; Q. CHEN; E. CISNEROS; C. N. BENADOF; T. J. SEJNOWSKI; J. S. PERLMUTTER; G. T. STEBBINS; C. COMELLA; D. A. PETERSON*. *UCSD, Salk Inst., Washington Univ. Sch. Med., Rush Univ. Med. Ctr., Salk Inst. CNL-S.*

4:00 I5 **378.08** A dystonia mouse model with dysregulated pontine plasticity. D. LAM*; R. H. WILLIAMS; E. LUJAN; K. TANABE; N. L. SAW; G. HUBER; J. MERL-PHAM; M. J. PLASTINI; M. ZECH; A. GEERLOF; M. SHAMLOO; S. HAUCK; M. WERNIG; J. WINKELMANN. *Helmholtz Zentrum München, Stanford Univ., Stanford Univ., Helmholtz Zentrum München, Helmholtz Zentrum München, Stanford Univ.*

1:00 I6 **378.09** The effect of EMG-based sensory feedback training of a trajectory-constrained self-feeding task on motor control for adolescents with secondary dystonia. S. AMANO*; E. AMBROSINI; E. BIFFI; A. GALBIATI; C. CASELLATO; A. PEDROCCHI; T. D. SANGER. *USC, Politecnico di Milano, Scientific Inst. IRCCS Eugenio Medea, Univ. of Pavia.*

2:00 I7 **378.10** Characterization of the stress response in the P/Q-type calcium channel knockout mouse model quirky. M. GRÖMMKE*; S. HERLITZE; M. D. MARK. *Ruhr-Universität Bochum, Ruhr-University Bochum, Ruhr Univ. Bochum.*

3:00 I8 **378.11** Chronic multi-electrode recordings of the basal ganglia-thalamocortical circuitry in children with generalized dystonia reveal functional mechanisms of deep brain stimulation. E. ARGUELLES*; M. ABOLFATH-BEYGI; R. DESHPANDE; D. FERMAN; T. D. SANGER. *USC, USC.*

4:00 I9 **378.12** Intracranial microelectrode recordings during deep brain stimulation correlate with sensory nerve evoked potentials to facilitate targeting. R. DESHPANDE*; E. ARGUELLES; D. FERMAN; T. D. SANGER. *USC, USC, Children's Hosp. of Los Angeles, USC.*

1:00 I10 **378.13** Functional studies of the candidate gene, CACNA1G identified in essential tremor families. S. SONTI*; Z. ODGEREL; E. LOUIS; L. CLARK. *Columbia Univ. Med. Ctr., Yale Sch. of Med., Yale Sch. of Publ. Hlth., Yale Sch. of Med., Columbia Univ.*

2:00 I11 **378.14** Behavioral and electrophysiological characterization of harmaline-tremor in non-human primates. E. M. BELLO*; J. K. DAO; F. GUEDES; M. D. JOHNSON. *Univ. of Minnesota, Univ. of Minnesota.*

3:00 I12 **378.15** ● Measuring tremor continuously and in real-world contexts using a wearable device during an essential tremor clinical trial. B. J. FARLEY*; A. E. BULLOCK; I. KAUL; D. P. NGUYEN; S. J. KANES; J. J. DOHERTY; M. C. QUIRK. *Sage Therapeut.*

4:00 I13 **378.16** Deep brain stimulation in essential tremor: Tremor and dysmetria in the upper and lower limb. A. CASAMENTO MORAN*; S. DELMAS; S. L. BRACKSIECK; B. YACOUBI; M. S. OKUN; A. W. SHUKLA; D. E. VAILLANCOURT; E. A. CHRISTOU. *Univ. of Florida.*

1:00 I14 **378.17** Towards a wearable sensor driven closed-loop deep brain stimulation paradigm for Tourette syndrome. S. CERNERA*; J. CAGLE; W. DEEB; M. OKUN; A. GUNDUZ. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

2:00 I15 **378.18** Electrophsiology-guided deep brain stimulation targeting in tourette syndrome complements anatomical targets for improved outcomes. J. CAGLE*; E. OPRI; R. S. EISINGER; K. D. F. FOOTE; M. S. F. OKUN; A. GUNDUZ. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

3:00 I16 **378.19** Changes in joint coordination during gait in individuals with cerebral palsy. J. PARK*; P. PATHAK; K. KIM; D. XU. *Seoul Natl. Univ.*

4:00 I17 **378.20** EEG study on chronic tic disorder patients. M. MIYAKOSHI*; K. TUNG; E. LLOYD; S. MAKEIG; S. LOO. *Swartz Ctr. For Computat. Neuroscience, INC, UCSD, Univ. of California Los Angeles.*

1:00 J1 **378.21** PRRT2 mutations lead to loss of function in the pathogenesis of paroxysmal kinesigenic dyskinesia. Y. PAN*; Q. LIU; Y. YANG; X. LI; S. LI. *Emory Univ. Sch. of Med., Emory Univ. Sch. of Med., Emory Univ., Emory Univ.*

2:00 J2 **378.22** Tracking ABCD1 expression using HA-tagged ABCD1 following intrathecal AAV9 delivery. Y. GONG*; A. BERENSON; F. LAHEJI; A. VOLAK; C. MAGUIRE; F. EICHLER. *Massachusetts Gen. Hosp., Massachusetts Gen. hospital, Massachusetts Gen. Hosptial | Harvard Med. Sch.*

1:00 DP04/J3 **378.23** (Dynamic Poster) Multidimensional analysis and detection of informative features in diffusion MRI measurements of human white matter. A. RICHIE-HALFORD; J. D. YEATMAN; N. SIMON; A. S. ROKEM*. *The Univ. of Washington, Univ. of Washington.*

4:00 J4 **378.24** Time-varying phase synchronization network within sensorimotor area in a patient with amyotrophic lateral sclerosis. Y. FUJIMOTO*; M. HIRATA. *Global Ctr. for Med. Engin. and Informat, Kobe Univ., Osaka Univ. Clin. Neuroeng.*

POSTER

379. ALS Mechanisms

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 J5 **379.01** Mapping neuron- and glia-specific non-coding gene regulatory elements in motor cortex of ALS patients. M. K. JAISWAL*; P. APONTES; A. KOZLENKOV; W. BYNE; R. SATTLER; V. BELZIL; S. DRACHEVA. *Icahn Sch. of Med. At Mount Sinai, James J. Peters VA Med. Ctr., Barrow Neurolog. Institute, St. Joseph's Hosp. and Med. Ctr., Mayo Clin.*

2:00 J6 **379.02** The stress granule response of wild-type and ALS FUS-mutant neurons to somatic and axonal stressors. M. P. BENTHAM*; N. BIRSA; C. BODO; C. MADURO; A. DEVOY; E. M. FISHER; G. SCHIAVO; P. FRATTA. *UCL.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 J7 **379.03** Key role of SMN/SYNCRIP and RNA-motif 7 in spinal muscular atrophy (SMA): RNASeq and motif analysis of human motor neurons. F. RIZZO; M. NIZZARDO; S. VASHISHT; E. MOLTENI; V. MELZI; I. FARAVELLI; S. SALANI; M. BUCCHIA; M. TAIANA; A. BORDONI; N. BRESOLIN; G. P. COMI*; U. POZZOLI; S. CORTI. *Univ. of Milan, IRCCS E. Medea, Univ. of Milan, Ospedale Maggiore Policlinico.*

4:00 J8 **379.04** Proteomic analysis of cerebrospinal fluid from patients with C9orf72 hexanucleotide repeat expansion. P. BARSCHKE*; P. OECKL; P. STEINACKER; A. LUDOLPH; M. OTTO. *Neurol.*

1:00 J9 **379.05** An MRI-based structural covariance network approach to candidate gene discovery in motor neuron disorders. C. J. HUANG; M. FLOETER*. *NINDS, NIH, NIH.*

2:00 J10 **379.06** DNA methylation in amyotrophic lateral sclerosis. C. APPLEBY-MALLINDER*; P. R. HEATH; R. HIGHLEY. *Univ. of Sheffield, Univ. of Sheffield.*

3:00 J11 **379.07** Transforming growth factor beta signaling in SOD1^{G93A} ALS. C. BRAINE*; D. CASTRO; T. MANIATIS; H. PHATNANI. *Columbia Univ., NEW YORK UNIVERSITY, COLUMBIA UNIVERSITY, NEW YORK GENOME CENTER.*

4:00 J12 **379.08** Altered oxidative signaling impairs intracellular calcium dynamics in human ALS astrocytes. V. GRANATIERO*; C. KONRAD; K. BREDVIK; G. MANFREDI; H. KAWAMATA. *Weill Cornell Med. Col.*

1:00 J13 **379.09** The NINDS repository: Publicly available DNA and cell lines sampled from individuals diagnosed with neurological disorders. L. SCHEINFELDT*; S. HEIL; J. SANTANA; A. GREEN; A. AMBERSON; A. RESCH; R. ZHANG. *Coriell Inst. For Med. Res., NIH.*

2:00 J14 **379.10** The role of the cytoskeleton in modulating nucleocytoplasmic transport in ALS. A. GIAMPETRUZZI; E. DANIELSON; V. GUMINA; J. LANDERS; C. FALLINI*. *Univ. of Massachusetts Med. Sch. Dept. of Neurol., IRCCS Inst. Auxologico Italiano, Univ. degli Studi di Milano.*

3:00 K1 **379.11** ADAR2 mislocalization and widespread RNA editing aberrations in C9orf72 mediated ALS. S. P. MOORE*; A. STARR; I. LORENZINI; E. MENDEZ; J. LEVY; C. BURCIU; J. CHEW; V. BELZIL; J. ROBERTSON; E. ALSOP; L. PETRUCELLI; K. JENSEN; R. G. SATTLER. *Barrow Neurolog. Inst., Arizona State Univ., Mayo Clin., Univ. of Toronto, The Translation Genomics Res. Inst.*

4:00 K2 **379.12** Dysregulation of Mdm2 and Mdm4 alternative splicing underlies motor neuron death in spinal muscular atrophy. M. VAN ALSTYNE*; C. M. SIMON; P. SARDI; L. S. SHIHABUDDIN; G. Z. MENTIS; L. PELLIZZONI. *Columbia Univ., Sanofi.*

1:00 K3 **379.13** Short interference peptides as blockers for TDP-43 phosphorylation prevent TDP-43 aggregation and cell death. J. ZHU*; W. JIA; M. S. CYNADER. *Univ. of British Columbia, The Univ. of British Columbia, and.*

2:00 K4 **379.14** Synaptic deficits in c9orf72-als/ftd patient-derived human stem cell differentiated neurons and *in vivo* models of c9orf72. I. LORENZINI*; L. GHAFFARI; D. LALL; J. LEVY; C. BURCIU; D. BHATIA; N. TWISHIME; D. SHENOY; R. H. BALOH; R. G. SATTLER. *Barrow Neurolog. Inst., Cedars-Sinai Med. Ctr.*

3:00 K5 **379.15** RAN translation of hexanucleotide repeats in C9ORF72-ALS/FTD. S. SUN*; W. CHENG; S. WANG. *The Johns Hopkins Univ. Sch. of Med.*

4:00 K6 **379.16** Distinct autoimmune antibody responses towards TDP-43 in amyotrophic lateral sclerosis. A. KALLEHAUGE NIELSEN; J. FOLKE; S. OWCZAREK; K. SVENSTRUP; K. WINGE; B. PAKKENBERG; S. AZNAR; T. BRUDEK*. *Res. Lab. for Stereology and Neurosci., Rigshospitalet, Bispebjerg-Frederiksberg Hosp., Univ. of Copenhagen, Bispebjerg Hosp.*

1:00 K7 **379.17** Strategy for personalized medicine based on ALS patient-derived stem cells using CRISPR/Cas9-mediated genome editing. Y. YUN*; D. BAEK; J. KIM; S. BAE; Y. HA. *Yonsei Univ., Stem Cell Res. Ctr., Hanyang Univ.*

2:00 K8 **379.18** ● Role of neurodegeneration causative genes SMN and C9orf72 in genome instability. E. KARYKA; C. WALKER; S. HERRANZ-MARTIN; S. EL-KHAMISY; M. AZZOUZ*. *Univ. of Sheffield, The Univ. of Sheffield.*

1:00 DP05/K9 **379.19** (Dynamic Poster) ALS Cell Atlas: An online resource to infer gene activity in nine major CNS cell types in ALS patients and mouse models. N. SKENE; M. ALABRUDZINSKA; P. LÖNNERBERG; A. DOMANIKU; S. A. LEWANDOWSKI*. *Karolinska Institutet, Bahcesehir Univ., Karolinska Institutet.*

4:00 K10 **379.20** Determining the potential roles of G4 Resolvase1 in ALS. A. E. CHAMBERS*; A. E. RICHARDSON; S. N. SANDWITH; D. W. SAUNDERS; H. M. RAIMER; J. P. VAUGHN; Y. WANG; M. A. SMALDINO; P. J. SMALDINO. *Ball State Univ., Ball State Univ., Univ. of Virginia, Nanomedica, Inc.*

1:00 K11 **379.21** ALS associated mutations in Matrin 3 alter protein-protein interactions and impede mRNA nuclear export. A. BOEHRINGER*; D. MEDINA; K. GARCIA-MANSFIELD; N. BAKKAR; P. PIRROTTE; R. BOWSER. *Barrow Neurolog. Inst., Translational Genomics Inst.*

2:00 K12 **379.22** Identification of a genetic mutation in microvilli protein EBP50, a new cause of hereditary peripheral neuropathy. G. SONG*; D. P. GUPTA; M. RAHMAN; H. PARK; M. LEE; K. SUK. *Catholic Kwangdong Univerity, Kyungpook Natl. Univ. Sch. of Med., Col. of Med, Dong-A Univ.*

3:00 K13 **379.23** Dysfunction of VEGF-mediated mechanisms at different disease stages of SOD1^{G93A} mice model. N. REI*; J. A. RIBEIRO; S. H. VAZ; C. VALENTE; A. M. SEBASTIAO. *Inst. De Medicina Mol. João Lobo Antunes, Inst. de Farmacologia e Neurociências, Faculdade de Medicina da Univ. de Lisboa.*

4:00 K14 **379.24** Optogenetic enhancement of TDP-43 intermolecular interaction triggers its cytoplasmic mislocalization and inhibits axon outgrowth of spinal motor neurons. K. ASAKAWA*; K. KAWAKAMI. *Natl. Inst. of Genet., SOKENDAI, SOKENDAI.*

1:00 K15 **379.25** Oligodendrocyte dysfunction and c9orf72 als. J. C. GLATZER*; A. N. COYNE; D. HEO; K. ZHANG; T. PHILIPS; B. M. MORRISON; D. E. BERGLES; J. D. ROTHSTEIN. *Johns Hopkins Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ. Sch. Med., Johns Hopkins Univ.*

2:00 K16 **379.26** Macrophages accumulate at neuromuscular junctions coincident with denervation in the SOD1^{G93A} mouse model of amyotrophic lateral sclerosis. M. LYON*; P. AROUNLEUT; C. MILLIGAN. *Wake Forest Univ. Grad. Sch.*

Mon. PM

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 K17 **379.27** Network aberrations in iTDP-43^{A315T} mouse model of ALS/FTD. A. VAN HUMMEL*; L. M. ITTNER; M. BI; B. CHIENG; J. MULLER; Y. D. KE. *Univ. of New South Wales, Univ. of New South Wales, Macquarie Univ., Univ. of New South Wales, Univ. of Oxford.*

4:00 K18 **379.28** Mechanisms underlying neuronal dysfunction in *C. elegans* single-copy/knock-in models for FUS ALS. S. N. BASKOYLU*; N. CHAPKIS; K. SCHUCH; B. UNSAL; J. SIMON; D. SAVAS; A. C. HART. *Brown Univ., Brown Univ.*

1:00 L1 **379.29** Sonic hedgehog signalling pathway during regenerative processes in a mouse model of spinal motoneuronal loss. M. GULISANO*; N. VICARIO; A. COSTANTINO; M. A. S. GIUNTA; F. M. SPITALE; R. PARENTI; R. GULINO. *Univ. of Catania, Univ. of Catania, Univ. of Catania.*

2:00 L2 **379.30** Autophagolysosome disruption in *Drosophila* models of ALS/FTD caused by C9orf72 expansion mutations. K. CUNNINGHAM*; K. ZHANG; H. SUNG; J. T. PHAM; M. SENTURK; K. MAULDING; J. D. ROTHSTEIN; H. J. BELLEN; T. E. LLOYD. *Johns Hopkins Univ. Sch. of Med., The Johns Hopkins Sch. of Med., Baylor Col. of Med., Johns Hopkins Univ., Howard Hughes Med. Inst.*

POSTER

380. Neuromuscular Diseases: Other Neuromuscular Diseases

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 L3 **380.01** Herpes zoster induced brachial plexopathy affecting whole branches, a case report. S. KANG*. *Chung-Ang Univ. Col. of Med.*

2:00 L4 **380.02** Mitochondrial hyperfusion connects GDAP1 pathophysiology in Charcot-Marie-Tooth disease with MNF2. A. METHNER*; C. WOLF; A. POUYA; A. PFEIFFER; D. BUENO; H. VON PEIN; J. SCHWIRZ; K. REHBACH; M. PEITZ; O. BRÜSTLE. *Johannes Gutenberg Univ. Mainz, IMB, Inst. of Reconstructive Neurobio.*

3:00 L5 **380.03** *In vivo* translational profiling of motor neurons in mouse models of Charcot-Marie-Tooth type 2D. E. L. SPAULDING*; R. W. BURGESS. *The Jackson Lab., Univ. of Maine.*

4:00 L6 **380.04** Investigating the role of a mitochondrial deacetylase in spinal and bulbar muscular atrophy. J. MAZUK; E. HEINE; K. HAN; D. SIMPSON; D. EXLER; D. GARCIA-CASTRO; H. L. MONTIE*. *Philadelphia Col. of Osteo. Med.*

1:00 L7 **380.05** Efficacy of gene therapy using allele-specific RNAi in a precision humaninzed model of a dominantly-inherited peripheral neuropathy. K. H. MORELLI; L. B. GRIFFIN; N. K. PYNE; L. M. WALLACE; A. M. FOWLER; A. ANTONELLIS; S. Q. HARPER; R. W. BURGESS*. *The Jackson Lab., The Univ. of Michigan, Nationwide Children's Hosp., Jackson Lab.*

2:00 L8 **380.06** Disturbances of the homeostasis of the neuro-muscular complex in contractures of individuals with Cerebral Palsy. J. PINGEL*; J. B. NIELSEN. *Univ. of Copenhagen, Univ. Copenhagen.*

3:00 L9 **380.07** Abnormal motor axon potassium currents in a mouse model of hereditary neuropathy. C. KRARUP*; S. ALVAREZ; D. KLEIN; R. MARTINI; M. MOLDOVAN. *Rigshospitalet, Univ. of Wuerzburg.*

4:00 L10 **380.08** Mir-486 is an epigenetic regulator of duchenne muscular dystrophy disease pathology. R. HIGHTOWER*; G. V. HALADE; M. S. ALEXANDER. *The Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Children's of Alabama.*

1:00 L11 **380.09** Neuro-Cardio-Autonomic modulations in children with Duchenne muscular dystrophy. T. N. SATHYAPRABHA*; M. ADOOR; P. VEERAMANI; A. JOHN; K. POLAVARAPU; S. NASHI; P. PRATHUYSHA; A. NALINI; T. RAJU. *NIMHANS, NIMHANS, NIMHANS, NIMHANS, NIMHANS.*

2:00 L12 **380.10** Characterizing chemotherapy-related somatosensory impairment. J. HOLST-WOLF*; L. TURCOTTE; J. KONCZAK. *Univ. of Minnesota.*

3:00 L13 **380.11** MitCHAP-60 and SPG13 arise from an inactive hsp60 chaperonin that fails to fold the ATP synthase b-subunit. J. M. BHATT*; J. WANG; A. ENRIQUEZ; J. LI; R. BERNAL. *Univ. of Texas At El Paso.*

4:00 L14 **380.12** *In vitro* recapitulation of the dysfunctional neuromuscular junction in Charcot-Marie-Tooth disease. R. R. BESSER*; R. MACIEL; I. CLAURE; A. ALASSAF; D. CARBONERO; M. SAPORTA; A. AGARWAL. *Univ. of Miami.*

1:00 L15 **380.13** The homeostatic adjustment of intrinsic excitability plasticity & spontaneous presynaptic neurotransmitter release in motor neurons and interneurons of severe spinal muscular atrophy mice. J. SUN*; M. A. HARRINGTON. *Delaware State Univ.*

2:00 L16 **380.14** Cytoskeletal alterations in motor neurons derived from inducedcytoskeletal alterations in motoneurons derived from induced pluripotent stem cells (iPSCs) of patients with Brown-Vialetto-Van Laere (BVVL) syndrome can be rescued by riboflavin and N-acetyl-cysteine treatments. A. NICEFORO*; S. PETRINI; F. COLASUONNO; E. BERTINI; S. MORENO; C. COMPAGNUCCI. *Univ. Roma Tre, Bambino Gesù Children's Hosp., Bambino Gesù Children's Hosp.*

3:00 L17 **380.15** Modeling hereditary spastic paraplegias with patient-specific stem cell-derived cortical and spinal neuron co-cultures. Y. MOU*; Y. DONG; S. ZHANG; X. LI. *Univ. of Illinois, Univ. of Wisconsin, Univ. of Illinois, Univ. of Illinois.*

POSTER

381. Neurotoxicity, Inflammation, and Neuroprotection: Mechanisms of Neurodegeneration II

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 L18 **381.01** RGMa inhibition ameliorates the severity of localized model of neuromyelitis optica. K. HARADA*; Y. FUJITA; T. OKUNO; S. TANABE; Y. KOYAMA; H. MOCHIZUKI; T. YAMASHITA. *Grad. Sch. of Medicine, Osaka Univ., Res. Inst. for Microbial Diseases, Osaka Univ., WPI Immunol. Fronteir Res. Center, Osaka Univ., Grad. Sch. of Medicine, Osaka Univ., Grad. Sch. of Medicine, Osaka Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 M1 **381.02** The polyglutamine protein FAM171B localizes to neuronal cytoplasm. D. RAJAGURU; M. BAUER; D. S. SHARLIN; G. M. GOELLNER*. *Minnesota State Univ-Mankato.*

3:00 M2 **381.03** Hippocampal granule cell loss in human chronic alcohol abusers. T. WARDI LE MAITRE*; G. DHANABALAN; N. BOGDANOVIC; K. ALKASS; H. DRUID. *Karolinska Institutet, Karolinska Inst., Neurogeriatric Clin., Forensic Medicine, Karolinska Institutet.*

4:00 M3 **381.04** Electrophysiological impairment and K^+ dyshomeostasis in retinal ganglion cell axonopathy. R. A. FISCHER*; M. L. RISNER; A. L. ROUX; R. M. SAPPINGTON. *Vanderbilt Univ., Vanderbilt Univ. Med. Ctr.*

1:00 M4 **381.05** Loss of neuritin accelerates RGC loss and retinal degeneration in adult mice following optic nerve injury. Y. AZUCHI*; K. NAMEKATA; T. SHIMADA; X. GUO; A. KIMURA; C. HARADA; A. NISHIGAKI; K. YAMAGATA; T. HARADA. *Tokyo Metropolitan Inst. of Med. Sci., Grad. Sch. of Science, Toho Univ., Tokyo Metropolitan Inst. of Med. Sci.*

2:00 M5 **381.06** Possible involvement of vwc2l, a constituent of the AMPA receptor complex, in the functioning of neuronal and non-neuronal tissues. S. I. TOMAREV*; N. NAKAYA; A. SULTANA; J. SCHWENK; B. FAKLER. *NEI, NIH, Natl. Eye Inst., NIH, Inst. of Physiology, Univ. of Freiburg, Inst. of Physiol.*

3:00 M6 **381.07** Temporal tracking of microglia subtypes in HIV associated neurocognitive disorders by single-cell RNA sequencing. J. ZHENG*; W. RU; J. R. ADOLACION; R. X. LIANG; J. DONG; A. POTTER; S. S. POTTER; N. VARADARAJAN; S. TANG. *The Univ. of Texas Med. Br. At Galvesto, Univ. of Houston, The Univ. of Texas Med. Br. At Galvesto, Children's Hosp. Med. Ctr.*

4:00 M7 **381.08** Increased chemokines and chemokine receptors contribute to neurodegeneration in postmortem human alcoholic brain. L. QIN*; R. P. VETRENO; F. T. CREWS. *Univ. North Carolina, Sch. Med.*

1:00 M8 **381.09** Axonal damage in spinal cord is associated with gray matter atrophy in sensorimotor cortex in mice with experimental autoimmune encephalomyelitis. C. E. MEYER*; J. L. GAO; J. CHENG; M. OBEROI; H. JOHNSONBAUGH; S. LEPORE; F. KURTH; M. J. THURSTON; N. ITOH; R. VOSKUHL; A. MACKENZIE-GRAHAM. *UCLA, UCLA, UCLA, UCLA.*

2:00 M9 **381.10** Sphingosine kinase 1-associated autophagy differs between neurons and astrocytes. J. F. MORUNO MANCHON*; N. UZOR; C. R. AMBATI; V. SHETTY; N. PUTLURI; C. JAGANNATH; L. D. MCCULLOUGH; A. S. TSVETKOV. *Univ. of Texas Med. Sch., Univ. of Texas Grad. Sch. of Biomed. Sci., Baylor Col. of Med., Univ. of Texas McGovern Med. Sch., Univ. of Texas McGovern Med. Sch., Consortium on Aging, Univ. of Texas Hlth. Sci. at Houston.*

3:00 M10 **381.11** Characterization of the brain innate immune system in an animal model of Wernicke-Korsakoff syndrome. B. GARCIA-BUENO*; M. MOYA; A. BALLESTA; A. RODRIGUEZ GONZALEZ; M. SANCIO; D. SAN FELIPE; M. LOPEZ-GALLARDO; R. GOMEZ DE HERAS; F. RODRIGUEZ DE FONSECA; E. M. MARCO; L. ORIO. *Univ. Complutense Madrid, Univ. Complutense de Madrid, Univ. Complutense De Madrid.*

4:00 M11 **381.12** Lead exposure during lactation increases the levels of quinolinic acid in blood and quinolinic acid immunoreactive cells in the brain of young rats. K. M. KHAN*; M. S. RAO; A. RAHMAN. *Kuwait Univ. Fac. of Med., Kuwait Univ. Fac. of Med., Kuwait Univ., Kuwait Univ.*

1:00 M12 **381.13** C9ORF72 poly-GA inclusions promote phosphorylated TDP-43 aggregation *in vitro* and *in vivo.* T. NONAKA*; M. HASEGAWA. *Tokyo Metropolitan Inst. of Med. Sci.*

2:00 M13 **381.14** Neuroprotective role of sigma-1 receptors in amyotrophic lateral sclerosis relevant to nucleocytoplasmic transport. P. LEE*; T. SU. *IRP/NIDA/NIH, NIDA-IRP, NIH.*

3:00 M14 **381.15** Carboxypeptidase E/neurotrophic factor-α1 is a novel neuroprotective protein functioning independently of its prohormone processing enzymatic activity. L. XIAO*; X. YANG; V. K. SHARMA; D. ABEBE; A. PELTEKIAN; Y. P. LOH. *Section on Cell. Neurobiology, NICHD, NIH.*

4:00 M15 **381.16** Layer-dependent time course of neuronal death following ultraviolet light irradiation of the cerebral cortex. M. NAKATA*; M. SHIMODA; S. YAMAMOTO. *AIST, JSPS Res. fellow, Dept. of Pathology, Keio Univ.*

1:00 M16 **381.17** ● Attenuation of excitotoxicty induced molecular changes by NMDAR inhibitors. M. KUMAR*; S. PAUL; M. JOHN; M. MAYADEVI; J. JAMES; R. V. OMKUMAR. *Rajiv Gandhi Ctr. for Biotech., Rajiv Gandhi Ctr. for Biotech.*

2:00 M17 **381.18** Molecular mechanisms of neurodegeneration through the altered circadian clock. Y. CHANG*; M. CHOI; J. KIM. *Cityu of Hong Kong.*

3:00 M18 **381.19** ● Image-based profiling of synaptic connectivity in primary neuronal culture. P. VERSTRAELEN*; M. VERSCHUUREN; R. NUYDENS; P. LARSEN; J. TIMMERMANS; W. H. DE VOS. *Univ. of Antwerp, Janssen Res. & Development, A Div. of Janssen Pharmaceutica NV.*

4:00 N1 **381.20** PICALM has crucial role in embryonal development. D. LAZIC*; Z. ZHAO; A. MONTAGNE; A. P. SAGARE; T. MAEDA; B. V. ZLOKOVIC. *USC, Inst. for Biol. Research, Univ. of Belgrade, Brigham and Women's Hospital, Harvard Med. Sch.*

1:00 N2 **381.21** Smcr8 depletion disrupts lysosome function and induces inflammation in the immune system and nervous system. C. LIANG*; M. YANG; Q. SHAO; L. MA; J. LEE; J. CHEN. *Univ. of Georgia, USC.*

2:00 N3 **381.22** Transcriptomics analysis highlights the sexually dimorphic mechanical pain hypersensitivity mechanisms. A. CHERNOV*; S. K. HULLUGUNDI; K. A. EDDINGER; J. DOLKAS; A. G. REMACLE; M. ANGERT; B. JAMES; T. L. YAKSH; A. Y. STRONGIN; V. I. SHUBAYEV. *Sanford-burnham-Prebys Med. Res. Inst., Univ. of California San Diego.*

3:00 N4 **381.23** Regulation of microglial function in aging brains by CSF-1 and GM-CSF. V. CHITU*; P. WANG; D. ZHENG; H. KETCHUM; E. R. STANLEY. *Albert Einstein Col. of Med.*

4:00 N5 **381.24** ▲ Functional characterization of TMEM163 single nucleotide polymorphisms. V. B. SANCHEZ; S. ALI; M. P. CUAJUNGCO*. *California State Univ. Fullerton.*

1:00 N6 **381.25** LncRNA NEAT1 in ethanol induced neuronal cell death. L. SHI; B. ZHENG; Y. MO; J. WANG*. *Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr.*

2:00 N7 **381.26** Contribution of the neuronal and microglial lineages to the behavioral phenotypes of $Csf1r^{+/-}$ ALSP mice. F. BIUNDO*; V. CHITU; G. S. SHLAGER; E. S. PARK; M. E. GULINELLO; K. SAHA; H. KETCHUM; E. R. STANLEY. *Albert Einstein Col. of Med., Albert Einstein Col. of Med.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 N8 **381.27** Microglial TREM2 mediatesTDP-43 protein aggregate clearance & neuroprotection in a mouse model of ALS. M. XIE*; Y. LIU; M. P. MATTSON; L. WU. *Mayo Clin., Lab. of Neurosciences, NIA Biomedial Res. Ctr.*

POSTER

382. Neurotoxicity, Neuroinflammation, HIV, and Infections I

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 N9 **382.01** Extracellular vesicular transport in HIV-1 Tat protein and morphine directed microRNA changes in astrocytes on HIV-associated neurocognitive disorders (HAND). K. CHEN*; L. SARDO; S. MITA; Z. A. KLASE. *Univ. of the Sci., Philadelphia Col. of Osteo. Med.*

2:00 N10 **382.02** Targeting glutamate metabolism for the treatment of hiv-associated neurocognitive disorders. L. E. LOVELL*; M. NEDELCOVYCH; L. TENORA; B. KIM; J. KELSCHENBACH; W. CHAO; A. JANCARIK; E. PRCHALOVA; R. DASH; A. GADIANO; J. ALT; P. MAJER; D. VOLSKY; R. RAIS; B. S. SLUSHER. *Johns Hopkins Sch. of Med., Johns Hopkins Drug Discovery, Inst. of Organic Chem. and Biochem. Acad. of Sci. of the Czech Republic, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Johns Hopkins Drug Discovery, Johns Hopkins Univ., Annenberg Bldg., 21-42.*

3:00 N11 **382.03** HIV-1 and HIV proteins interact with morphine to induce loss of KCC2 and GABAergic dysfunction in primary human neurons in a NMDAR and CCR5 dependent manner. A. J. BARBOUR*; J. M. BALINANG; A. R. MCQUISTON; K. F. HAUSER; P. E. KNAPP. *Virginia Commonwealth Univ., Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

4:00 N12 **382.04** $GABA_A$ signaling reduces morphine and tat-induced intracellular calcium spikes in hippocampal neurons through AMPAR-dependent mechanism. V. D. MCLANE*; M. D. DENTON; P. VO; P. E. KNAPP; K. F. HAUSER. *Virginia Commonwealth Univ., Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

1:00 O1 **382.05** Role of dopamine in the modulation of macrophage-mediated inflammation: Implications for NeuroHIV and neurodegenerative disorders. R. NOLAN*; R. MUIR; S. MATT; E. NICKOLOFF; K. RUNNER; E. K. HADDAD; P. J. GASKILL. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*

2:00 O2 **382.06** Dopamine increases macrophage susceptibility to HIV infection through activation of non-canonical signaling pathway. P. J. GASKIL*; E. A. NICKOLOFF; R. NOLAN; K. RUNNER. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*

3:00 O3 **382.07** ▲ Effects of S-Equol on norepinephrine and dopamine receptor mRNA expression in the HIV-1 transgenic rat prefrontal cortex. A. K. COOK*; K. A. MCLAURIN; H. LI; C. F. MACTUTUS; R. M. BOOZE. *Univ. of South Carolina, Univ. of South Carolina, Univ. of South Carolina, Univ. of South Carolina Dept. of Psychology, Univ. South Carolina.*

4:00 O4 **382.08** HIV-associated cognitive deficits; sex and regional specific outcomes correlate with changes in activity-regulated cytoskeleton (Arc) expression. Y. K. HAHN*; W. D. MARKS; S. R. NASS; S. KIM; J. J. PARIS; K. F. HAUSER; P. E. KNAPP. *Virginia Commonwealth Universi, Virginia Commonwealth Universi, Univ. of Mississippi.*

1:00 O5 **382.09** Sexual dimorphism in the gene expression of cerebrocortical neurotransmitter systems in hiv gp120 transgenic mice. N. Y. YUAN*; A. B. SANCHEZ; M. KAUL. *UCR Sch. of Med., Univ. of California San Diego, SOM, Univ. of California Riverside, Sanford Burnham Prebys.*

2:00 O6 **382.10** Homeostatic changes in CA1 pyramidal neurons of the hippocampus from HIV transgenic rats. I. V. SOKOLOVA*; A. SZÜCS; P. P. SANNA. *The Scripps Res. Inst., UCSD, Scripps Res. Inst.*

3:00 O7 **382.11** Voltammetric analysis of escitalopram treatment in the HIV-1 transgenic rat: Implications for comorbid HIV and depression. A. DENTON*; S. BERGER; C. F. MACTUTUS; S. B. HARROD; P. HASHEMI; R. M. BOOZE. *Univ. of South Carolina, Univ. of South Carolina, Univ. of South Carolina Dept. of Psychology, Univ. South Carolina, Univ. South Carolina.*

4:00 O8 **382.12** Disruption of timing: NeuroHIV progression in the post-cART era. K. A. MCLAURIN*; H. LI; R. M. BOOZE; C. F. MACTUTUS. *Univ. of South Carolina.*

1:00 O9 **382.13** ▲ Impaired neurogenesis in the HIV-1 transgenic rat and recovery with physical activity. J. LAPOINTE; M. CRANSTON; V. MADORMO; C. MACTUTUS; S. HARROD; R. M. BOOZE*. *Univ. South Carolina.*

2:00 O10 **382.14** ▲ Behavioral analysis of escitalopram treatment in the HIV-1 transgenic rat. A. U. LATEEF; A. K. COOK; N. G. QUAN; A. R. DENTON; C. F. MACTUTUS*; S. B. HARROD; R. M. BOOZE. *Univ. of South Carolina.*

3:00 O11 **382.15** HIV-1 Tat alters anterior cingulate cortex morphology and executive functioning in a transgenic mouse model of neuro-HIV. S. R. NASS*; Y. HAHN; N. VARSHNEYA; P. E. KNAPP; K. F. HAUSER. *Virginia Commonwealth Univ. Hlth. Syst., Virginia Commonwealth Univ., Virginia Commonwealth Univ.*

POSTER

383. Ischemia II

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 O12 **383.01** Association of SERPINE1 gene polymorphism, haplotype and aneurysmal subarachnoid hemorrhage. M. LIN*; C. GRIESSENAUER; R. STARKE; P. FOREMAN; P. HENDRIX; M. HARRIGAN; W. FISHER; N. VYAS; B. WALTERS; J. PITTET; M. MATHRU; R. H. LIPSKY. *Krasnow/GMU, INOVA Hlth. Syst., Harvard Med. Sch., Univ. of Miami, Univ. of Alabama at Birmingham, Saarland Univ. Med. Ctr. and Saarland Univ., Inova Ctr. for Personalized Hlth., George Mason Univ.*

2:00 O13 **383.02** Gene expression profiling in whole blood of patients with ischemic stroke and cigarette smoking. X. CHENG*; F. HAMADE; N. SHROFF; H. HULL; G. JICKLING; B. ANDER; B. STAMOVA; F. SHARP. *UC Davis.*

3:00 O14 **383.03** Nicotine & e-Cig exposure alters brain glucose utilization in ischemic stroke. A. E. SIFAT*; B. VAIDYA; M. A. KAISAR; L. CUCULLO; T. J. ABBRUSCATO. *Texas Tech. Univ. Hlth. Sci. Ctr.*

4:00 O15 **383.04** Influence of the cerebral and spinal nicotine signaling in the development of central post-stroke pain. S. TOKUYAMA*; W. MATSUURA; S. HARADA. *Kobe Gakuin Univ., Kobe Gakuin Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 O16 **383.05** Method to characterize leukocyte populations in rat; verification in a model of ischemic stroke. M. C. BOSHUIZEN*; Y. ZATULOVSKAIA; J. ROSS; F. DU; T. BLISS; G. K. STEINBERG. *Stanford Univ.*

2:00 P1 **383.06** CD36 deficiency alters the composition of monocyte-derived macrophages in the brain following ischemic stroke. K. PARK*; M. WOO; M. BALKAYA; J. YANG; M. FEBBRAIO; S. CHO. *Burke-Cornell Med. Res. Inst., Univ. of Alberta.*

3:00 P2 **383.07** TRIM9-mediated resolution of neuroinflammation confers neuroprotection against ischemic stroke in mice. J. ZENG*; Y. WANG; Z. LUO; L. CHANG; X. XIE; B. DEVERMAN; V. GRADINARU; S. GUPTON; B. ZLOKOVIC; Z. ZHAO; J. JUNG. *USC, USC, USC, USC, Caltech, Univ. of North Carolina at Chapel Hill, Chapel Hill.*

4:00 P3 **383.08** Specific action mediated by spinal HMGB1 signaling in the ischemic stress-induced mechanical allodynia in mice. W. MATSUURA*; S. HARADA; K. LIU; M. NISHIBORI; S. TOKUYAMA. *Kobe Gakuin Univ., Okayama Univ.*

1:00 P4 **383.09** Study the meningeal vessels and neuroinflammation after stroke in the intact transparent organisms by using panoptic imaging. C. PAN*; R. CAI; A. GHASEMIGHARAGOZ; M. I. TODOROV; B. FÖRSTERA; S. ZHAO; A. XAVIER; B. KRESS; C. BENAKIS; A. LIESZ; M. NEDERGAARD; A. ERTÜRK. *LMU - Inst. für Schlaganfall-Und Demenzforschu, Grad. Sch. of Neurosci. (GSN), LMU, Ctr. for Translational Neuromedicine, Univ. of Rochester, Ctr. for Translational Neuromedicine, Faculties of Hlth. and Med. Sciences, Univ. of Copenhagen, Munich Cluster for Syst. Neurol. (SyNergy).*

2:00 P5 **383.10** Pericyte contribution to scar after stroke. T. PHAM*; S. CARMICHAEL. *Univ. of California Los Angeles.*

3:00 P6 **383.11** Inhibition of miR-34b/c rescues hippocampal CA1 neurons and memory deficits in global ischemia. J. HWANG*; H. BYUN; F. PONTARELLI; M. PORCH; B. L. COURT VAZQUEZ; R. S. ZUKIN. *Albert Einstein Col. Med.*

4:00 P7 **383.12** miRNA miR-7a-5p ameliorates ischemic brain damage by targeting alpha-synuclein. T. KIM*; S. MEHTA; M. LOPEZ; R. SULLIVAN; K. MORRIS-BLANCO; H. KIM; C. KIM; R. VEMUGANTI. *Univ. of Wisconsin Madison, Univ. of Wisconsin Madison.*

1:00 P8 **383.13** The microRNA-210/TET2 axis mediates neuroinflammation in neonatal hypoxic-ischemic brain injury. Q. MA*; C. DASGUPTA; L. ZHANG. *Loma Linda Univ.*

2:00 P9 **383.14** Do microRNAs change expression in oligodendrocytes after perinatal hypoxia ischemia in mice? M. H. BASHIR; S. C. CHAPMAN; R. W. DETTMAN*; M. L. V. DIZON. *Northwestern Univ., US Naval Hosp. Okinawa, Anne and Robert H Lurie Children's Hosp., Anne and Robert H Lurie Children's Hosp.*

3:00 P10 **383.15** Anti-cancer drugs (CX-4945 and MS-275) protective of WM against ischemic injury differentially regulate miRNA expression. S. BRUNET*; C. BASTIAN; S. BALTAN. *Cleveland Clin. Fndn., Cleveland Clin.*

4:00 P11 **383.16** Adrenergic receptor antagonism induces neuroprotection and facilitates recovery from acute ischemic stroke. H. MONAI*; K. YAHAGI; X. WANG; N. LOU; H. MESTRE; Q. XU; Y. ABE; M. YASUI; Y. IWAI; M. NEDERGAARD; H. HIRASE. *RIKEN BSI, Ochanomizu Univ., RIKEN Ctr. for Brain Sci., Univ. of Rochester Med. Ctr., Sch. of Medicine, Keio Univ., Univ. of Copenhagen.*

1:00 P12 **383.17** Multiscale simulation of spreading depolarization in ischemic stroke. A. NEWTON*; A. H. SEIDENSTEIN; M. L. HINES; R. A. MCDOUGAL; W. W. LYTTON. *Yale Sch. of Med., State Univ. of New York Downstate Med. Ctr., NYU, Yale Univ., Kings County Hosp. Ctr., State Univ. of New York Downstate Med. Ctr.*

2:00 P13 **383.18** Zn^{2+} entry through the mitochondrial calcium uniporter (MCU): Critical role in mitochondrial dysfunction and neurodegeneration after neuronal Zn^{2+} loading and during ischemia. S. G. JI*; Y. V. MEDVEDEVA; J. H. WEISS. *Univ. of California, Irvine.*

3:00 P14 **383.19** Transient global ischemia induces early progressive Zn^{2+} accumulation in CA1 mitochondria that may contribute to mitochondrial structural disruption and neurodegeneration. H. WANG; H. Z. YIN; G. TIAN; S. G. JI; Y. V. MEDVEDEVA; A. BAZRAFKAN; N. MAKI; Y. AKBARI; J. H. WEISS*. *Univ. of California Irvine.*

4:00 P15 **383.20** The role of mitochondrial fission in neurons post cardiac arrest. K. MAHERAS*; A. R. ANZELL; T. H. SANDERSON. *Univ. of Michigan, Wayne State Univ., The Univ. of Michigan.*

1:00 Q1 **383.21** Disruption of mitochondrial quality control following ischemic brain injury. T. H. SANDERSON*; K. MAHERAS; A. ANZELL; J. WIDER. *The Univ. of Michigan.*

2:00 Q2 **383.22** Pharmacological calcium/calmodulin-dependent kinase (CAMKII) inhibition protects against Purkinje cell damage following cardiac arrest and cardiopulmonary resuscitation in mice. N. QUILLINAN*; N. CHALMERS; O. PATSOS; K. STEKLAC; P. S. HERSON. *Univ. of Colorado, Colgate Univ., UC Denver.*

3:00 Q3 **383.23** Contribution of large-conductance Ca^{2+}-activated potassium (BK) channels to the evolution of spreading and anoxic depolarization. R. FRANK*; Á. MENYHÁRT; F. BARI; E. FARKAS. *Univ. of Szeged.*

4:00 Q4 **383.24** Altered expression pattern of gene associated with retinoid-interferon induced mortality-19 (GRIM-19) following transient global cerebral ischemia in the mouse hippocampus. S. HWANG; J. KIM; M. LEE*; S. KIM. *Catholic Univ. Med. Col., Catholic Univ. Med. Col., Catholic Univ. Med. Col.*

1:00 Q5 **383.25** TrkB activation attenuates gephyrin misfolding induced by activity blockade and hypoxia ischemia in developing neurons. C. HUNG; S. HSU; W. CHIEN; C. LEE; Y. GAN; Y. LEE*. *Natl. Yang-Ming Univ.*

2:00 Q6 **383.26** Neuronal activity associated with hypoxic-ischemic injury in neonatal mice. D. SKWARZYNSKA*; P. WAGLEY; J. KAPUR; J. BURNSED. *Univ. of Virginia, Univ. Virginai Hlth. Sci. Ctr., Univ. of Virginia.*

3:00 Q7 **383.27** Hyperglycemia drives increased superoxide production by peri-lesional microglia after permanent ischemia. S. WON*; S. GHOSH; A. HUYNH; R. A. SWANSON. *UCSF and SFVAMC.*

4:00 Q8 **383.28** ● Intranasal insulin attenuates hypoxic-ischemic brain damage and sensorimotor behavioral disturbances in neonatal rats. C. P. TALATI; J. W. LEE; S. LU; N. B. OJEDA; Y. PANG; A. J. BHATT*; L. FAN. *Univ. of Mississippi Med. Ctr.*

1:00 Q9 **383.29** Endothelial activation of caspase-9 during hypoxia-ischemia regulates vascular integrity and neuronal survival. M. I. AVRUTSKY*; Y. Y. JEAN; C. W. CHEN; A. J. WHITE; S. K. YUEN; J. M. LAWSON; F. N. MORALES; A. M. POTENSKI; E. CANEPA; S. SNIPAS; G. S. SALVESEN; C. M. TROY. *Columbia Univ., Sanford Burnham Prebys Med. Discovery Inst., Columbia Univ. Medl Ctr.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

384. Stroke Recovery: Pharmacological Approaches to Therapy

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 Q10 **384.01** Temporal therapeutic window for calcium release-activated calcium (CRAC) channel inhibition in experimental stroke. R. KACIMI*; A. MIZUMA; K. KURISU; K. STAUDERMAN; M. J. DUNN; S. HEBBAR; M. A. YENARI. *Univ. of California San Francisco, Univ. of California, San Francisco and Veterans Affairs, CalciMedica.*

2:00 Q11 **384.02** Suppression of inflammation by a novel calcium release-activated calcium (CRAC) channel inhibitor improves outcome in female mice exposed to experimental stroke. A. MIZUMA*; R. KACIMI; K. STAUDERMAN; M. J. DUNN; S. HEBBAR; M. A. YENARI. *Neurol. UCSF and VAMC, Univ. of California San Francisco, CalciMedica.*

3:00 Q12 **384.03** Regional responses of the brain water accumulation and blood-brain barrier disruption to conivaptan treatment after experimental stroke in mice. E. ZEYNALOV*; S. M. JONES; J. ELLIOTT. *Swedish Med. Ctr., Colorado Brain and Spine Inst.*

4:00 Q13 **384.04** Circular RNA TLK1 aggravates brain infarction and long-term neuronal dysfunction via miR-335-3p/TIPARP after ischemic stroke. F. WU*; B. HAN; S. WU; H. YAO. *Sch. of Medicine, Southeast Univ.*

1:00 Q14 **384.05** A novel mouse model with motor and cognitive deficit. M. MORENO GARCIA*; O. PATSOS; C. SCHROEDER; N. QUILLINAN. *Univ. of Colorado Denver Anschutz Med. Cam.*

2:00 R1 **384.06** Targeting PTPσ enhances axonal regeneration, remyelination and functional recovery after intracerebral hemorrhage in mice. H. SUN*; M. YAO; H. LAI; S. RUXANDRA BADEA; Y. GAO; J. HUANG; G. K. LEUNG; W. WU. *The Univ. of Hong Kong, Zhujiang Hospital, Southern Med. Univ., The Univ. of Hong Kong, The Univ. of Hong Kong.*

3:00 R2 **384.07** Nitrosonifedipine ameliorates neurological symptoms and prolongs the surival in malignant stroke-prone spontaneously hypertensive rats. Y. IZAWA-ISHIZAWA*; M. IMANISHI; Y. ZAMAMI; K. TAKECHI; T. TAMAKI; K. ISHIZAWA. *Tokushima Univ.*

4:00 R3 **384.08** ▲ Effects of glibenclamide against early brain injury after subarachnoid hemorrhage. R. KAJIMOTO*; T. IGARASHI; N. MORO; H. OSHIMA; T. SUMA; A. YOSHINO. *Itabashi Hosp., Nihon Univ. Sch. of Medicine., Nihon Univ. Sch. of Med., Nihon Univ. Sch. of Med., Nihon Univ. Sch. Med.*

1:00 R4 **384.09** Treating cerebral ischemia and reperfusion induced neuronal injury with a cysteine precursor in mice. Y. LIU; J. MIN; K. SUBEDI; H. WANG*. *Univ. of South Dakota.*

2:00 R5 **384.10** The AVP antagonist conivaptan prevents early inflammatory responses following stroke in mice. S. M. JONES*; E. ZEYNALOV; J. P. ELLIOTT. *Swedish Med. Ctr., Colorado Brain and Spine Inst.*

3:00 R6 **384.11** ● Limiting hematoma growth by red cell microparticles following intracerebral hemorrhage. K. DAVE*; A. K. REHNI; H. NAVARRO; C. BIDOT, Jr.; V. SHUKLA; S. KOCH; M. A. PEREZ-PINZON; Y. S. AHN; W. JY. *Univ. Miami Sch. Med., Univ. of Miami Sch. of Med., Univ. of Miami, Univ. of Miami Sch. of Med.*

4:00 R7 **384.12** Dual-function injectable angiogenic biomaterial for the repair of brain tissue following stroke. L. R. NIH*; S. CARMICHAEL; T. SEGURA. *Univ. of Los Angeles, California, UCLA Sch. Med., Duke Univ.*

1:00 R8 **384.13** Liposomal formulation of novel dual cox-lox inhibitor protects brain from cerebral ischemia induced neuronal injury. V. GUPTA*; A. KUMAR. *Panjab Univ.*

2:00 R9 **384.14** Robotic rehabilitation and chemogenetic activation of serotonergic neurons for post stroke functional recovery. S. CONTI*; C. SPALLETTI; N. GIORDANO; S. LAI; A. GIORGI; M. PASQUINI; M. PASQUALETTI; M. CALEO; S. MICERA. *Scuola Superiore Sant'Anna, CNR, Univ. di Pisa, École Polytechnique Fédérale de Lausanne.*

3:00 R10 **384.15** RNA sequencing analysis revealed a distinct motor cortex transcriptome in spontaneously-recovered mice after stroke. M. Y. CHENG*; M. ITO; M. ASWENDT; A. G. LEE; S. ISHIZAKA; Z. CAO; E. WANG; S. LEVY; D. L. SMERIN; J. A. MCNAB; M. M. ZEINEH; C. LEUZE; M. GOUBRAN; G. K. STEINBERG. *Stanford Univ., Dept. of Neurosurgery, Stanford Univ., Univ. Hosp. Cologne, Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ. Dept. of Radiology, Stanford Univ., Stanford Univ. Dept. of Radiology.*

4:00 R11 **384.16** Targeting antibodies to the CNS: A comparative study of intrathecal, intravenous and subcutaneous antibody treatment after stroke. D. CORREA*; A. S. WAHL; S. IMOBERSTEG; M. MAURER; M. E. SCHWAB. *Brain Res. Inst.*

1:00 R12 **384.17** The neuroprotective effects of non-competitive ampa receptor antagonist (perampanel) and a2a receptor antagonist (istradefylline) in a small vessel stroke model. M. ZAKI*; F. S. CAYABYAB. *Col. of Med. Univ. of Saskatchewan, Fac. of Pharm., Univ. of Saskatchewan.*

2:00 R13 **384.18** Quercetin prevents the ischemic brain injury-induced decrease of neuronal calcium sensor protein, hippocalcin. P. KOH*; D. PARK; M. SHAH; M. KIM. *Gyeongsang Natl. Univ., Gyeongsang Natl. Univ.*

3:00 R14 **384.19** Enhancements of intracellular cGMP as a potential therapeutic effector following mild ischemic stroke. J. KANG*; Y. YU; K. LEE; D. YOO; I. HWANG; D. PAKR; K. PARK; M. LEE; J. OH; D. KIM. *Soonchunhyang Univ., Col. of Vet. Med. and Res. Inst. for Vet. Sci., Soonchunhyang Inst. of Medi-bio Sci., Soonchunhyang Univ. Cheonan Hosp.*

4:00 R15 **384.20** ● Removing the brakes on brain recovery after stroke by metabotropic glutamate receptor 5 negative allosteric modulators. J. HAKON; J. QUATTROMANI; F. MASTROIACOVO; E. ENGLUND; C. SJÖLUND; L. DI MENNA; K. BEIRUP; S. MOYANOVA; K. RUSCHER; F. NICOLETTI; A. Q. BAUER; T. W. WIELOCH*. *Lund Univ., IRCCS Neuromed, Sapienza Univ., Washington Univ.*

1:00 R16 **384.21** Coadministration of metformin and the dpp-4 inhibitor evogliptin counteracts stroke in diabetic rat brain. S. LEE*; B. YOON; J. HONG; J. LEE. *Ajou Univ. Med. Ctr., Ajou Univ. Grad. Sch., Ajou Univ., Ajou Universityu Med. Ctr.*

2:00 R17 **384.22** ▲ Hypothermia but not MK801 protects against brain infarction caused by distal middle cerebral arterial occlusion. C. LIU*; C. H. TSENG; K. HUNG; T. W. LAI. *China Med. Univ., China Med. Univ.*

3:00 R18 **384.23** Identification and characterization of bioactive component which contributes to the beneficial extract of clinacanthus nutans against ischemia-reperfusion injury. J. WU*; M. KAO; H. TSAI; W. CHEUNG; T. LIN. *Neurosci. Division, IBMS Academia Sinica.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 S1 **384.24** ● Mir363 treatment improves depressive-like behavioral phenotype and rescues retrograde degeneration of meso-striatal projections in middle aged female rats. A. PANTA*; S. PANDEY; I. DUNCAN; S. DUHAMEL; F. SOHRABJI. *Texas A & M Hlth. Sci. Ctr.*

1:00 S2 **384.25** Identifying the cellular basis for early and delayed metformin-induced recovery in a model of neonatal stroke. J. LIVINGSTON-THOMAS*; J. ANUPOL; T. SAYED; R. RUDDY; C. MORSHEAD. *Univ. of Toronto.*

2:00 S3 **384.26** Gpr37 regulates proliferation of reactive astrocytes in peri-infarct region after ischemic stroke in adult mice. C. QU*; S. S. ZOU; S. OWINO; X. H. GU; Z. Z. WEI; L. WEI; R. A. HALL; S. P. YU. *Emory Univ., Col. of Life Science, Liaoning Normal Univ., Emory Univ.*

3:00 S4 **384.27** Role of DNA repair gene in estrogen receptor alpha expression following neonatal hypoxic ischemic encephalopathy. V. CHANANA; D. ZAFER; D. HANALIOGLU; M. SEREBIN; K. M. AMBORN; M. FROBER; M. B. HACKETT; P. FERRAZZANO; A. P. AUGER; J. E. LEVINE; P. CENGIZ*. *Waisman Center, Univ. of Wisconsin, Dept. Pediatrics and Waisman Center, Univ. of Wisconsin-Madison, Dept. of Psychology, Univ. of Wisconsin, Wisconsin Natl. Primate Res. Ctr.*

4:00 S5 **384.28** Advanced theranostic nanocarrier-mediated delivery of NGF in a combination therapy stimulates recovery after stroke. S. ANSAR*; K. ARKELIUS; T. FECZKO; F. BLIXT; M. WACKER. *Lund University, Dept. of Clin. Sci., Univ. Hosp. Frankfurt, Frauenhofer.*

1:00 S6 **384.29** Age- and sex-dependent effects of metformin on neural precursor cell activation and cognitive recovery in a model of neonatal stroke. R. M. RUDDY*; K. ADAMS; B. DONVILLE; C. M. MORSHEAD. *Univ. of Toronto, Univ. of Toronto, Univ. of Toronto.*

2:00 S7 **384.30** ● Edonerpic maleate enhances motor function recovery from the internal capsule hemorrhage in primates. W. NAKAJIMA*; H. ABE; Y. MURATA; N. HIGO; T. OKUDA; T. TAKAHASHI. *Yokohama City Univ., Hum. Technol. Res. Inst., AIST, Human Informatics Res. Inst, AIST, Toyama Chem. Co., Ltd., Yokohama City Univ.*

POSTER

385. Stroke Rehabilitation Movement Manipulation, Diagnostics, and White Matter

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 S8 **385.01** Non-invasive treatment of spasticity in patients with chronic stroke using trans-spinal direct current stimulation with peripheral nerve stimulation. A. PAGET-BLANC; J. CHANG; M. SAUL; R. LIN; N. YAGHOUBI; Z. AHMED; B. T. VOLPE*. *Feinstein Inst. For Med. Res., Pathmaker Neurosystems Inc., Col. of Staten Island.*

2:00 S9 **385.02** Time and use dependent effects of constraint induced movement therapy (CIMT) on functional recovery and neural network remodeling after severe stroke in rats. N. OKABE*; N. HIMI; E. NAKUMURA-MARUYAMA; N. HAYASHI; I. SAKAMOTO; O. MIYAMOTO. *Kawasaki Med. Univ.*

3:00 S10 **385.03** Functional reorganization of the peri-infarct sensorimotor cortex to compensate for fine motor skill impairment. A. WAHL*; C. VON ACHENBACH; A. SCHROETER; L. SUMANOVSKI; W. OMLOR; F. HELMCHEN. *Univ. of Heidelberg, Univ. and ETH Zurich, ETH Zurich, Univ. of Zurich.*

4:00 S11 **385.04** Can reaching training alter cortical connectivity from the affected and unaffected hemisphere early after stroke? U. HAMMERBECK*; P. SAMRAJ; K. L. HOLLANDS; S. TYSON; J. C. ROTHWELL. *Univ. of Manchester, Salford Royal NHS Fndn. Trust, Univ. of Salford, Inst. Neurol.*

1:00 S12 **385.05** ▲ Exploring the mechanisms of motor rehabilitation-induced recovery after white matter stroke. T. G. MENGISTU*; M. A. MARIN; T. S. CARMICHAEL. *Univ. of California, Los Angeles, UCLA.*

2:00 S13 **385.06** Three-dimensional kinematic evaluation of motor deficit in a rat model of photochemically induced focal stroke. A. YOSHIKAWA*; S. MORISHITA; K. HOKAMURA; K. UMEMURA; M. IZUMIZAKI; T. KUMADA. *Showa University, Sch. of Med., Dept. Pharmacol., Hamamatsu Univ. Sch. Med., Fac. Health. Promo. Sci., Tokoha Univ., Dept. Med. Edu., Hamamatsu Univ. Sch. Med., Fac. Health. Med. Sci., Tokoha Univ.*

3:00 S14 **385.07** Non-paretic forelimb training does not interfere with recovery of paretic forelimb strength after experimental middle cerebral artery occlusion. K. S. VALENZUELA*; M. BLAKER; N. COHEN; B. COOK; D. BHANDARI; T. A. JONES; T. SCHALLERT. *The Univ. of Texas At Austin.*

4:00 S15 **385.08** Interaction between cortico-rubral tract and cortico-reticular tract in rehabilitation-induced functional recovery after capsular hemorrhage. A. ISHIDA*; K. KOBAYASHI; T. ISA; H. HIDA. *Nagoya City Univ. Grad. Sch. of Med. Sci., Natl. Inst. For Physiological Sci., Kyoto Univ.*

1:00 S16 **385.09** Elucidating the mechanisms of activity dependent remyelination after stroke. M. A. MARIN*; K. NG; R. KAWAGUCHI; G. COPPOLA; S. T. CARMICHAEL. *UCLA, UC Davis.*

2:00 S17 **385.10** Mental imagery as a tool to change muscle coordination patterns in chronic stroke survivors. S. JAYASINGHE*; R. RANGANATHAN. *Michigan State university.*

3:00 S18 **385.11** Heterozygous deletion of ephrinA5 does not affect functional motor performance after experimental stroke in mice. A. DE BOER; A. STORM; L. RUÉ; W. ROBBERECHT; R. LEMMENS*. *KU Leuven, VIB, Ctr. for Brain & Dis. Res., KU Leuven - UZ Leuven.*

4:00 T1 **385.12** Exploring the temporal profile of myelination changes after stroke in relation to function remapping. E. WENDLANDT*; I. R. WINSHIP. *Univ. of Alberta, Univ. of Alberta, Univ. Alberta.*

1:00 T2 **385.13** Characterizing blood-brain barrier disruption in degenerative thalamus after cortical ischemic stroke. S. HARVEY*; Z. CAO; M. Y. CHENG; G. K. STEINBERG. *Stanford Univ.*

2:00 T3 **385.14** Detection of altered network function after stroke is task-dependent. S. M. SCHINDLER-IVENS*; B. D. SCHMIT; K. VINEHOUT. *Marquette Univ., Marquette Univ. Dept. of Biomed. Engin., Marqutte Univ.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

386. Spinal Cord Injury and Plasticity: Training, Rehabilitation, and Repair: Human

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 T4 **386.01** The effect of physical exercise participation on Brain-Derived neurotrophic factor among people with SCI. A. A. ALGHAMDI*; A. M. WILLIAMS; M. POORMASJEDI-MEIBOD; G. EGINYAN; T. LAM. *Intl. Collaboration On Repair Discoveries, Univ. of British Columbia.*

2:00 T5 **386.02** Exploring pelvic floor muscle sparing in spinal cord injured individuals using transcranial magnetic stimulation, targeted exercises, and exoskeleton walking. A. M. M. WILLIAMS*; G. EGINYAN; A. E. CHISHOLM; T. LAM. *Univ. of British Columbia, Intl. Collaboration on Repair Discoveries.*

3:00 T6 **386.03** Gains in overground walking performance following low oxygen therapy are not accompanied by reductions in intralimb kinematic variability in persons with iSCI. A. Q. TAN*; W. SOHN; L. WAN; R. TRUMBOWER. *Harvard Med. Sch., Spaulding Rehabil. Hosp., Northeastern Univ.*

4:00 T7 **386.04** Dose-dependent effects of whole body vibration on spasticity in individuals with spinal cord injury. J. HOPE*; S. P. ESTES; J. A. IDDINGS; N. J. KIRK-SANCHEZ; E. C. FIELD-FOTE. *Emory Laney Grad. Sch., Shepherd Ctr. - Crawford Res. Inst., Univ. of Miami-Miller Sch. of Med., Emory University-School of Medicine, Div. of Physical Therapy.*

1:00 T8 **386.05** Pediatric constraint induced movement therapy for children with brachial plexus palsy: Using the Shriners Hospital upper extremity evaluation tool to assess performance. T. KARAKOSTAS*; S. HSIANG; E. C. KING. *Rehabil. Inst. of Chicago, Univ. of North Carolina, Lurie Childrens Hosp. of Chicago, Northwestern Univ.*

2:00 T9 **386.06** ● Spatiotemporal neuromodulation of the spinal cord combined with robot-assisted training in humans with spinal cord injury (STIMO): Long-term recovery of walking. C. G. LE GOFF-MIGNARDOT*; J. MIGNARDOT; F. B. WAGNER; M. CAPOGROSSO; S. KOMI; R. DEMESMAEKER; I. SEÁÑEZ; M. VAT; L. A. MCCRACKEN; M. CABAN; A. WATRIN; A. ROWALD; K. VAN DEN KEYBUS; G. EBERLE; B. SCHURCH; S. CARDA; E. PRALONG; M. BOLLIGER; J. VON ZITZEWITZ; M. BAKX; R. BUSCHMAN; N. BUSE; V. DELATTRE; T. DENISON; H. LAMBERT; A. CURT; K. MINASSIAN; J. BLOCH; G. COURTINE. *Swiss Federal Inst. of Technol. (EPFL), Univ. Hosp. of Vaud (CHUV), Univ. of Fribourg, Univ. Hosp. of Vaud (CHUV), GTX medical, Swiss Federal Inst. of Technol. (EPFL), Univ. Hosp. of Vaud (CHUV), Balgrist Univ. Hosp., Medtronic.*

3:00 T10 **386.07** ● Spatiotemporal neuromodulation of the spinal cord combined with robot-assisted training in humans with spinal cord injury (STIMO): Immediate recovery of walking. F. B. WAGNER*; J. MIGNARDOT; C. G. LE GOFF-MIGNARDOT; M. CAPOGROSSO; S. KOMI; R. DEMESMAEKER; I. SEÁÑEZ; M. VAT; L. A. MCCRACKEN; M. CABAN; A. WATRIN; A. ROWALD; K. VAN DEN KEYBUS; G. EBERLE; B. SCHURCH; S. CARDA; E. PRALONG; M. BOLLIGER; J. VON ZITZEWITZ; M. BAKX; R. BUSCHMAN; N. BUSE; V. DELATTRE; T. DENISON; H. LAMBERT; A. CURT; K. MINASSIAN; J. BLOCH; G. COURTINE. *Swiss Federal Inst. of Technol. (EPFL), Dept. of Clin. Neuroscience, Univ. Hosp. of Vaud (CHUV), Univ. of Fribourg, Neurosurgery, Univ. Hosp. of Vaud (CHUV), GTX Med., Swiss Federal Inst. of Technol. (EPFL), Inst. of Bioengineering, Sch. of Engin., Neuro-urology, Univ. Hosp. of Vaud (CHUV), Balgrist Univ. Hosp., Medtronic.*

4:00 T11 **386.08** Locomotor training combined with transspinal and transcortical paired associative stimulation reorganizes spinal neural function after spinal cord injury. T. S. PULVERENTI*; M. A. ISLAM; L. M. MURRAY; M. KNIKOU. *CUNY Col. of Staten Island, City Univ. of New York.*

1:00 T12 **386.09** Time to first urinary tract infection after traumatic spinal cord injury predicts subsequent infection incidence; A Western Australian inpatient cohort study. S. A. DUNLOP*; G. SIMPSON; K. MURRAY; P. BOAN; A. WATTS; J. BARDSLEY; C. HARTSHORN; J. THAVASEELAN; A. REA; L. M. GOODES. *The Univ. of Western Australia, The Univ. of Western Australia, The Univ. of Western Australia, Fiona Stanley Hosp., Fiona Stanley Hosp., Fiona Stanley Hosp., Perth Urology Clin., The Univ. of Western Australia.*

2:00 T13 **386.10** ● Computational models steering the personalization of targeted spinal cord stimulation to restore motor function in humans with spinal cord injury. A. ROWALD*; E. NEUFELD; E. PAOLES; S. MANDIJA; M. FROELING; B. LLOYD; J. BAKKER; K. MINASSIAN; F. WAGNER; V. DELATTRE; C. A. T. VAN DEN BERG; N. KUSTER; J. BLOCH; G. COURTINE; M. CAPOGROSSO. *Swiss Federal Inst. of Technol. (EPFL), Univ. of Fribourg, IT'IS Fndn., GTX Med., Univ. Med. Ctr. Utrecht, Univ. Hosp. Lausanne (CHUV).*

3:00 T14 **386.11** A novel task to measure lower limb coordination after spinal cord injury and its relation to proprioceptive sense. R. N. MALIK*; M. CHOW; G. EGINYAN; T. LAM. *Intl. Collaboration on Repair Discoveries, Univ. of British Columbia.*

4:00 T15 **386.12** ▲ Improvements in lower limb coordination following locomotor resistance training is related to improvements in skilled walking function, but not walking speed. G. EGINYAN*; R. N. MALIK; A. K. LYNN; T. LAM. *Intl. Collaboration On Repair Discoveries, Univ. of British Columbia (UBC).*

POSTER

387. Spinal Cord Injury and Plasticity: Neurophysiology II

Theme C: Neurodegenerative Disorders and Injury

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 T16 **387.01** Corticospinal and reticulospinal contributions to spasticity after human spinal cord injury. S. SANGARI*; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 T17 **387.02** Identifying cellular dynamics in mouse sympathetic neurons: A computational modeling approach. K. TIAN*; M. L. MCKINNON; S. HOCHMAN; A. A. PRINZ. *Emory Univ., Emory Univ., Emory Univ.*

3:00 T18 **387.03** Raising the threshold: A perturbation protocol to improve non-stepping responses to rapid surface translations. J. H. BARNES*; A. EFTEKHAR; T. T. FAKE; C. S. CARMACK; J. R. CRENSHAW; J. R. WOLPAW. *Wadsworth Center, NY State Dept. of Hlth., Univ. of Delaware, Stratton VA Med. Ctr.*

4:00 U1 **387.04** Bilateral asymmetries in spasticity following spinal cord injury. B. CHEN*; J. LORENTZEN; J. B. NIELSEN; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr., Univ. of Copenhagen.*

1:00 U2 **387.05** Corticospinal excitation and inhibition for the ankle dorsiflexor tibialis anterior: A mapping study. R. COTE*; A. K. THOMPSON. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*

2:00 U3 **387.06** Chronic stability of soleus stretch reflexes during standing in neurologically normal adults. A. OLIVIER*; A. LUNDGAARD; K. ORITA; B. A. POULIOT; J. B. ANDERSEN; A. K. THOMPSON. *Med. Univ. of South Carolina, Aalborg Univ., Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. of South Carolina.*

3:00 U4 **387.07** Plasticity of thoracic sympathetic post-ganglionic neuron after spinal cord injury. Y. LI*; M. L. MCKINNON; M. HALDER; S. HOCHMAN. *Emory Univ.*

4:00 U5 **387.08** Towards operant conditioning of the flexor carpi radialis: Methods and initial results. J. NORTON*; A. EFTEKHAR; S. HECKMAN; J. H. BARNES; L. MCCANE; J. R. WOLPAW. *Wadsworth Center, NY State Dept. of Hlth., Stratton VA Med. Ctr.*

1:00 U6 **387.09** Molecular basis of H-reflex operant conditioning: Methods development. B. HERRON*; J. S. W. CARP; Y. WANG; X. Y. CHEN; J. R. WOLPAW. *Wadsworth Center, NYSDOH, Stratton VA Med. Ctr.*

2:00 U7 **387.10** Multi-electrode arrays for automatic selection of recording and stimulation sites in spinal reflex operant conditioning protocols. A. EFTEKHAR*; J. J. S. NORTON; S. M. HECKMAN; A. K. THOMPSON; J. R. WOLPAW. *Wadsworth Center, NY State Dept. of Hlth., Med. Univ. of South Carolina, VA Med. Ctr.*

3:00 U8 **387.11** Soleus H-reflex up-conditioning promotes H-reflex recovery and improves locomotor kinematics in rats during or after regeneration of a transected sciatic nerve. L. CHEN*; Y. CHEN; X. YANG; Y. WANG; J. R. WOLPAW; X. Y. CHEN. *Wadsworth Center, NYSDOH, Stratton VA Med. Ctr.*

4:00 U9 **387.12** Combining H-reflex conditioning and locomotor training appears to enhance locomotor recovery in rats with incomplete spinal cord injury: Initial results. X. Y. CHEN*; L. CHEN; X. YANG; Y. WANG; Y. CHEN; J. R. WOLPAW. *Wadsworth Center, NYSDOH, Stratton VA Med. Ctr.*

1:00 U10 **387.13** ▲ Operant conditioning of the soleus H-reflex in people with and without chronic CNS injury. C. R. GILL*; Y. MAKIHARA; W. HAUG; R. L. SEGAL; J. R. WOLPAW; A. K. THOMPSON. *Med. Univ. of South Carolina, Intl. Univesity of Hlth. and Welfare, Loughborough Univ., Med. Univ. of South Carolina, Wadsworth Center, NY State Dept. of Hlth., VA Med. Ctr., Med. Univ. of South Carolina.*

2:00 U11 **387.14** Soleus H-reflex modulation during a double-legged drop landing task. M. A. LYLE*; M. MCLEOD; B. A. POULIOT; A. K. THOMPSON. *Emory Univ., Col. of Charleston, Med. Univ. of South Carolina, Med. Univ. of South Carolina.*

3:00 U12 **387.15** Lower leg EMG and H-reflex modulation during two-leg hopping. W. HAUG; A. K. THOMPSON*. *Loughborough Univ., Med. Univ. of South Carolina.*

4:00 V1 **387.16** Soleus H-reflex down-conditioning affects the motoneuron axon initial segment (AIS). Y. CHEN*; Y. WANG; L. CHEN; J. R. WOLPAW; X. Y. CHEN. *Wadsworth Center, NYSDOH, Stratton VA Med. Ctr.*

1:00 V2 **387.17** Soleus H-reflex up-conditioning increases soleus motoneuron ionotropic glutamate 1 (GluR1) receptor labeling. Y. WANG*; L. CHEN; Y. CHEN; J. R. WOLPAW; X. Y. CHEN. *Wadsworth Center, NYSDOH, Stratton VA Med. Ctr.*

POSTER

388. Molecular and Cellular Mechanisms of Itch and Touch Sensation

Theme D: Sensory Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 V3 **388.01** Piezo2 channel-Merkel cell signaling modulates the conversion of touch to itch. J. FENG*; J. LUO; P. YANG; J. DU; B. S. KIM; H. HU. *Washington Univ. In St. Louis, Univ. Texas Med. Br.*

2:00 V4 **388.02** Local input connections to GRPR expressing dorsal horn interneurons. F. B. FREITAG*; A. AHEMAITI; J. JAKOBSSON; M. LAGERSTRÖM. *Uppsala Univ.*

3:00 V5 **388.03** Characteristics of primary afferent nerve fibers elongated into the epidermis in dry skin with itch. T. ANDOH*; Y. ASAKAWA; Y. KURAISHI. *Univ. Toyama.*

4:00 V6 **388.04** Proenkephalin-derivged pruritogen, BAM8-22, and increased activity of MRGPRX1 are responsible for pruritus in cholestasis. B. SANJEL*; H. MAENG; W. SHIM. *Gachon Univ.*

1:00 V7 **388.05** Cortical representation of itch sensation. X. CHEN*; Y. SUN. *Inst. of Neuroscience, Chinese Acad. of Scie.*

2:00 V8 **388.06** Serotonin receptor subtypes involved in scratching behavior in the rat. D. T. DOMOCOS*; T. SELESCU; E. E. CARSTENS; M. IODI CARSTENS; A. BABES. *Fac. of Biology, Univ. of Bucharest, Univ. of California Davis.*

3:00 V9 **388.07** ● Effects of tofacitinib on psoriatic itch in mice. K. M. SANDERS*; T. HASHIMOTO; K. SAKAI; G. YOSIPOVITCH; T. AKIYAMA. *Univ. of Miami.*

4:00 V10 **388.08** Vesicular glutamate transporter 2-independent itch transmission from primary afferent neurons to spinal cord. L. CUI*; W. OLSON; M. MA; Q. LIU; W. LUO. *Univ. of Pennsylvania, The Washington Univ. Sch. of Med.*

1:00 V11 **388.09** Loss of TRESK enhances acute and chronic itch in mice. A. ANDRES-BILBE*; A. CASTELLANOS; L. CUENCA; A. PUJOL; N. COMES; D. SOTO; X. GASULL. *Univ. De Barcelona, Inst. of Neurosciences, Univ. de Barcelona, IDIBAPS.*

Mon. PM

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 V12 **388.10** Glucosylsphingosine activates a member of TRP ion channel. B. KIM*; W. LEE; W. SHIM. *Gachon Univ.*

3:00 V13 **388.11** Electrophysiological and behavioral analysis of a mouse model of atopic dermatitis. D. UTA*; T. ANDOH. *Dept. Applied Pharm, Univ. Toyama, Univ. Toyama.*

4:00 V14 **388.12** Anxiety-like behavior and Fos expression in amygdala elicited by itch mediators in mice. T. AKIYAMA*; K. M. SANDERS. *Univ. of Miami, Univ. of Miami.*

1:00 V15 **388.13** Scratching the surface of itch in fish: A cross-species model for selective pruritus via activation of TRPA1. K. ESANCY*; L. CONDON; J. FENG; C. KIMBALL; A. CURTRIGHT; A. DHAKA. *Univ. of Washington, Washington Univ. In St. Louis.*

2:00 V16 **388.14** Skin innervation patterns of itch neurons. J. WHEELER*; S. K. MISHRA. *North Carolina State Univ.*

3:00 W1 **388.15** Investigation of a mechanism for pruritic priming. Z. K. FORD*; S. DAVIDSON. *Univ. of Cincinnati.*

4:00 W2 **388.16** The adhesion-GPCR CIRL promotes mechanosensory signal discrimination. R. J. KITTEL*; S. DANNHÄUSER; H. HOFMANN; N. EHMANN. *Leipzig Univ.*

1:00 W3 **388.17** Pre exposure of noxious heat and painful sensation in mice induce antipruritic effect. R. KOPPARAJU*; C. CHEN. *Inst. of Biomed. Sci.*

POSTER

389. Central Mechanisms of Pain

Theme D: Sensory Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 W4 **389.01** ● An EEG method for measuring spontaneous pain in awake, freely behaving rodents. C. Y. SAAB*; S. KOYAMA; J. W. GU; S. R. JONES; J. LEVITT. *Brown/RIH, Brown Univ. / RIH / Asahi Kasei Pharma, Boston Scientific, Brown Univ., Brown Univ.*

2:00 W5 **389.02** A multi-modal approach to elucidate the spinal circuits mediating tactile allodynia. C. BLACK*; A. ALLAWALA; R. THORPE; C. Y. SAAB; S. R. JONES; D. A. BORTON. *Brown Univ., Brown/RIH, Brown Univ., Brown Univ.*

3:00 W6 **389.03** Characterization of circuit mechanisms underlying discriminatory EEG neural markers for pain perception in somatosensory cortex. R. THORPE*; C. J. BLACK; S. A. NEYMOTIN; C. Y. SAAB; D. A. BORTON; S. R. JONES. *Brown Univ., Brown Univ., Brown Univ., Rhode Island Hosp., Providence Med. Center, Ctr. for Neurorestoration and Neurotechnology.*

4:00 W7 **389.04** Nerve injury increases excitability of a subpopulation of Y1R-eGFP expressing dorsal horn neurons that exhibit Kv4.2 channel subunit mediated delayed firing. G. P. SINHA*; S. SCHMITT; L. ZHANG; B. K. TAYLOR. *UNIV OF Pittsburgh, Univ. of Kentucky.*

1:00 W8 **389.05** Possible involvement of spinal cannabinoid receptors in trigeminal nerve injury-induced mechanical hypersensitivity of rats. K. NAKAI*; A. NAKAE; Y. MINEGISHI; R. URABE; M. MIYAMAE; T. KUBO; K. HOSOKAWA. *Univ. of Fukui Hosp., Osaka Univ. Grad. Sch. of Frontier Biosci., Osaka Univ. Grad. Sch. of Med.*

2:00 W9 **389.06** Chiropractic spinal manipulation alters nociceptive processing at spinal and supraspinal levels. H. HAAVIK*; D. LELIC; I. NIAZI; K. HOLT; A. DREWES. *NewZealand CollegeChiropractic, Aalborg Univ. Hosp.*

3:00 W10 **389.07** Adenylyl cyclase activation induces substance P release in the rat spinal cord through protein kinase A and Epac. J. G. MARVIZON*; W. CHEN. *UCLA / VA GLA HS.*

4:00 W11 **389.08** The action of norepinephrine on lamina X in the spinal cord. N. OHASHI; M. OHASHI; H. BABA*. *Niigata Univ. Grad. Sch. of Med. and Dent. Sci., Niigata Univ. Grad. Sch. of Med. and, Niigata Univ, Sch. Med.*

1:00 W12 **389.09** Evans blue reduces neuropathic pain behavior by inhibiting spinal ATP release. Y. YIN*; J. HONG; J. SHIN; D. GWON; H. KWON; N. SHIN; H. SHIN; S. LEE; W. LEE; D. KIM. *Changnam Natl. Univ. Col. of Med., Chungnam Natl. Univ. Hosp., Brain Res. Institute, Chungnam Natl. Univ. Sch. of Med.*

2:00 W13 **389.10** A novel rat model of neuropathic pain established by clamping the sciatic nerve shows mechanical allodynia and microglial hyperplasia in the spinal cord. M. KUMAGAI*; T. MURAKAMI; H. OBATA; M. YAMAUCHI. *Tohoku Univ. Grad. Sch. of Med., Fukushima Med. Univ.*

3:00 W14 **389.11** p38 siRNA-encapsulated PLGA nanoparticles alleviate neuropathic pain behavior in rats by inhibiting microglia activation. J. SHIN*; Y. YIN; H. PARK; S. PARK; U. TRIANTAFILLU; Y. KIM; S. KIM; S. LEE; D. KIM; J. HONG; D. KIM. *Chungnam Natl. Univ. Col. of Med., The Univ. of Alabama, Inst. of Life Sci. & Biotechnology, Kyungpook Natl. Univ., Chungnam Natl. Univ. Hosp., Col. of Medicine, Konyang Univ., Brain Res. Institute, Chungnam Natl. Univ. Sch. of Med.*

4:00 W15 **389.12** Global transcriptomic analysis of the rat brain during chronic neuropathic pain development. J. L. CLIFFORD*; R. KUMAR; S. SRINIVASAN; G. DIMITROV; A. GAUTAM; R. YANG; E. WORKMAN; J. WILLIAMS; R. CHAVEZ; N. SOSANYA; B. CHEPPUDIRA; R. CHRISTY; R. HAMMAMIEH. *US Army Ctr. for Envrn. Hlth. Res., Frederick Natl. Lab. for Cancer Res., The Geneva Fndn., US Army Inst. of Surgical Res.*

1:00 W16 **389.13** Disrupting interaction of PSD95 with nNOS attenuates hemorrhage induced thalamic pain. W. CAI*; S. WU; Z. PAN; J. XIAO; Y. TAO. *Rutgers Biomed. and Hlth. Sci.*

2:00 W17 **389.14** ETA receptors contribute to sickle cell disease-associated pain via the NF-κB-triggered increase in $Na_v1.8$ in primary sensory neurons. S. WU*; B. M. LUTZ; A. BEKKER; Y. TAO. *Rutgers, The State Univ. of New Jersey, New Jersey Med. School, Rutgers, The State Univ. of New Jersey.*

3:00 W18 **389.15** Octamer transcription factor 1 in dorsal root ganglion contributs to neuropathic pain after peripheral nerve injury. Y. TAO*; J. YUAN; S. WU; A. BEKKER. *New Jersey Med. School, Rutgers, New Jersey Med. School, Rutgers, The State Univ. of New Jersey, Rutgers, The State Univ. of New Jersey.*

4:00 X1 **389.16** Endothelin-type A receptors mediate pain in a mouse model of sickle cell disease. J. XIAO*; B. LUTZ; S. WU; A. BEKKER; Y. TAO. *Rutgers, the State Univ. of New Jersey, NJMS, Rutgers, The State Univ. of New Jersey, Rutgers, The State Univ. of New Jersey, New Jersey Med. School, Rutgers.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 X2 **389.17** The mechanistic target of rapamycin (mTOR) pathway in dorsal root ganglion (DRG) neurons and spinal cord microglia differentially contributes to neuropathic pain. Y. HU*; L. CHEN. *Zhejiang Univ., Dept. of Orthopedic Surgery, First Affiliated HospitalCollege of Medicine, Zhejiang Univ.*

2:00 X3 **389.18** Nociceptive stimulation produces non random (structured) changes in the timing and direction of the information flowing between the dorsal horn neurons and the brainstem nuclei. N. PLAMENOV DONCHEV*; L. MORENO; A. RAMIREZ; D. CHAVEZ; E. HERNÁNDEZ; B. ÁLVAREZ; S. GLUSMAN; P. RUDOMIN. *CINVESTAV, Stroger Cook County Hosp., El Colegio Nacional.*

3:00 X4 **389.19** Neuronal atlas of the dorsal horn defines its architecture and links sensory input to transcriptional cell types. M. HAERING*; A. ZEISEL; H. HOCHGERNER; P. RINWA; J. E. T. JAKOBSSON; P. LÖNNERBERG; G. LA MANNO; N. SHARMA; L. BORGIUS; O. KIEHN; M. LAGERSTRÖM; S. LINNARSSON; P. ERNFORS. *Karolinska Institutet, Uppsala Univ.*

4:00 X5 **389.20** An optogenetic dissection of parvalbumin$^+$ interneuron mediated presynaptic and postsynaptic inhibition in spinal cord sensory circuits. M. A. GRADWELL*; R. J. CALLISTER; D. I. HUGHES; B. A. GRAHAM. *Univ. of Newcastle, Univ. of Glasgow.*

1:00 X6 **389.21** Interconnectivity between parvalbumin$^+$interneurons in the spinal cord: Implications for dorsal horn oscillations. B. A. GRAHAM*; R. J. CALLISTER; M. A. GRADWELL; D. I. HUGHES. *The Univ. of Newcastle, Univ. of Glasgow.*

POSTER

390. Pain: Descending Modulation

Theme D: Sensory Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 X7 **390.01** Modulatory effect of psychophysical stress on orofacial nociception at the rostral ventromedial medulla in the rats. M. KUROSE*; M. HASEGAWA; Y. NAKATANI; S. SHIMIZU; N. FUJII; K. YAMAMURA; K. OKAMOTO. *Niigata University, Grad. Sch. of Med. and, Med. and Dent. Hospital, Niigata Univ., Niigata University, Grad. Sch. of Med. and Dent. Sci., Niigata University, Grad. Sch. of Med. and Dent. Sci.*

2:00 X8 **390.02** Diverse cell types within the vlPAG exhibit unique adaptations to membrane firing properties after inflammation. K. B. MCPHERSON*; K. L. SUCHLAND; S. L. INGRAM. *Oregon Hlth. & Sci. Univ.*

3:00 X9 **390.03** D2-like receptor agonist inhibits high-voltage activated calcium-current in small IB4 positive dorsal root ganglion neurons and produces specific analgesia in mechanonociceptive test. F. MERCADO*; P. SEGURA-CHAMA; B. LEYVA-LÓPEZ; F. PELLICER; A. ALMANZA-GUTIÉRREZ. *INPRFM, CONACyT - INPRFM.*

4:00 X10 **390.04** Disinhibition of rostral insular cortex produces pronociceptive activity in brainstem pain-modulating neurons and behavioral hyperalgesia. Y. ZHANG*; M. M. HEINRICHER. *Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*

1:00 X11 **390.05** Parabrachial complex relays light-related information to brainstem pain-modulating circuitry. M. E. MARTENSON; E. E. HANSON; M. M. HEINRICHER*. *Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ., Oregon Hlth. and Sci. Univ. Dept. of Neurol.*

2:00 X12 **390.06** Altered brainstem pain modulation circuit connectivity in chronic pain. E. P. MILLS*; Z. ALSHELH; F. DI PIETRO; R. AKHTER; G. M. MURRAY; C. C. PECK; L. A. HENDERSON. *Univ. of Sydney, Univ. of Sydney.*

3:00 X13 **390.07** ▲ Dopaminergic regulation of the circadian rhythm of pain perception. C. PIÑA-LEYVA; L. RODRIGUEZ-SOSA; B. FLORÁN-GARDUÑO; J. A. GONZALEZ-BARRIOS*. *CINVESTAV, Univ. Nacional Autónoma de México, Hosp Regional Octubre, ISSSTE.*

4:00 X14 **390.08** The effect of transcranial direct current stimulation on conditioned pain modulation in healthy older adults. B. WIND*; A. MEEK; M. GODZA; Z. A. RILEY; K. M. NAUGLE. *IUPUI, IUPUI, UF.*

1:00 Y1 **390.09** Presynaptic inputs to serotonin-containing neurons of the mouse rostral ventromedial medulla. C. BIAN; R. HU; Y. DU; J. YANG; J. ASGAR; W. GUO; R. DUBNER; K. REN; F. WEI*. *Univ. of Maryland Sch. of Dent.*

2:00 Y2 **390.10** Analysis of the role of glutamatergic and GABAergic ventrolateral periaqueductal grant (vlPAG) neuronal subpopulations in a mouse model of persistent inflammatory pain. J. G. GRAJALES-REYES*; V. K. SAMINENI; B. A. COPITS; M. R. BRUCHAS; R. W. GEREAU, IV. *Washington Univ. Sch. of Med., Washington Univ., Washington Univ. Sch. of Med., Washington Univ., Washington Univ. Sch. Med.*

3:00 Y3 **390.11** Endogenous oxytocin release in periaqueductal gray eased inflammatory pain through long term suppression of pain perception neurons in the spinal cord. M. IWASAKI*; A. CHARLET. *Aarhus Univ., French Natl. Ctr. for Scientific Res.*

4:00 Y4 **390.12** KOR activation in the central amygdala increases spinal dorsal horn neuronal activity through an action on amygdala CRF neurons. G. JI*; E. NAVRATILOVA; F. PORRECA; V. NEUGEBAUER. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Univ. of Arizona.*

1:00 Y5 **390.13** Synaptic transmission in different amygdala neuronal cells types under normal condition and in a neuropathic pain model. T. KIRITOSHI*; V. A. YAKHNITSA; V. NEUGEBAUER. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*

2:00 Y6 **390.14** Group II metabotropic glutamate receptors, particularly mGluR2, in the amygdala regulate sensory and affective responses in a rodent model of arthritis pain. M. MAZZITELLI*; P. CONN; V. NEUGEBAUER. *Texas Tech. Univ. Hlth. Sci. Ctr., Vanderbilt Univ., Texas Tech. Univ. Hlth. Sci. Ctr.*

3:00 Y7 **390.15** Sex differences in fear extinction learning ability predicting pain behaviors. P. D. PRESTO*; G. JI; V. NEUGEBAUER. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*

4:00 Y8 **390.16** KOR activation in the central amygdala enhances pain behaviors through an action on amygdala CRF neurons. V. NEUGEBAUER*; P. PRESTO; E. NAVRATILOVA; F. PORRECA; G. JI. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Univ. of Arizona.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 Y9 **390.17** SK-channel function in different amygdala neuronal cell types under normal condition and in a neuropathic pain model. V. A. YAKHNITSA*; T. KIRITOSHI; V. NEUGEBAUER. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr.*

2:00 Y10 **390.18** Kappa opioid receptor mediated disinhibition of amygdala CRF neurons. M. HEIN*; V. YAKHNITSA; G. JI; E. NAVRATILOVA; F. PORRECA; V. NEUGEBAUER. *Texas Tech. Univ. Hlth. Sci. Ctr., Texas Tech. Univ. Hlth. Sci. Ctr., Univ. of Arizona.*

POSTER

391. Pain Imaging and Perception

Theme D: Sensory Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 Y11 **391.01** ● Changes in resting-state functional connectivity after cognitive behavioral therapy for chronic pain. A. YOSHINO*; Y. OKAMOTO; G. OKADA; S. YOKOYAMA; R. JINNIN; M. TAKAMURA; N. ICHIKAWA; S. YAMAWAKI. *Hiroshima Univ.*

2:00 Y12 **391.02** Daily caffeine consumption does not modulate acupuncture analgesia and fMRI signal changes evoked by acupuncture stimulation. J. CAO*; Y. TU; C. LANG; J. PARK; M. VANGEL; J. LIU; R. GOLLUB; J. KONG. *Massachusetts Gen. Hosp., Beijing Univ. of Chinese Med., Massachusetts Gen. Hosp.*

3:00 Y13 **391.03** ● *In vivo* imaging and recording of general anesthesia activated central analgesic neurons. B. CHEN*, JR; T. HUA; S. ZHAO; B. HAN; P. THOMPSON; L. JIANGXIE; J. LU; F. WANG. *Duke Neurobio.*

4:00 Y14 **391.04** Free water as a neural marker of trigeminal neuralgia. Q. ZHAO*; C. SPECTOR; I. B. H. SAMUEL; J. NEUBERT; M. DING. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

1:00 Y15 **391.05** Pain sensation induced by transcranial magnetic stimulation in human. K. TANI; S. TANAKA*. *Hamamatsu Univ. Sch. of Med.*

2:00 Y16 **391.06** Investigating brain network dynamics of pain perception using MEG measures of dynamic functional coupling. J. A. KIM*; R. L. BOSMA; K. S. HEMINGTON; N. R. OSBORNE; A. ROGACHOV; J. C. CHENG; B. DUNKLEY; K. D. DAVIS. *Krembil Res. Inst., Univ. of Toronto, The Hosp. For Sick Children.*

3:00 Y17 **391.07** ● Evaluation of temporal dynamics of pain using electrocorticogram in rat formalin-induced pain model. Y. TAKAHARA; M. MATSUO; R. TAMONO; T. ASAKI; K. OGAWA*. *Shionogi & Co., Ltd.*

4:00 Y18 **391.08** Predicting chronic pelvic pain symptom progression based on resting state functional connectivity. S. FENSKE*; J. J. KUTCH. *USC, USC.*

1:00 Z1 **391.09** A machine learning approach to establish an EEG-based marker of chronic pain. S. TA DINH; M. M. NICKEL; L. TIEMANN; E. S. MAY; H. HEITMANN; V. D. HOHN; G. EDENHARTER; D. UTPADEL-FISCHLER; T. R. TOELLE; J. GROSS; M. PLONER*. *TU Muenchen, TU Muenchen, Univ. of Münster.*

2:00 Z2 **391.10** Diffuse noxious inhibitory controls and brain networks are modulated in a testosterone-dependent manner in Sprague Dawley rats. J. SILVA*; Y. ZHANG; J. ASGAR; J. Y. RO; D. SEMINOWICZ. *Univ. of Maryland Baltimore.*

3:00 Z3 **391.11** Functional ultrasound neuroimaging of the trigeminal ganglion in the context of ocular pain. S. PEZET*; M. THIBAUT; L. RAHAL; F. JOUBERT; A. RÉAUX-LE-GOAZIGO; M. TANTER. *Lab. of Brain Plasticity, Inst. Langevin, Sorbonne Univ., INSERM.*

4:00 Z4 **391.12** Imaging of spinal cord functional activation and somatotopy in rats using functional ultrasound (fUS) imaging. J. CLARON*; L. RAHAL; V. HINGOT; M. THIBAUT; O. COUTURE; M. TANTER; S. PEZET. *ESPCI Paris, PSL Res. University,, ESPCI Paris, PSL Res. Univ.*

1:00 Z5 **391.13** physical pain modulates reward-related brain activities in medial prefrontal cortex. C. WANG*; J. GAO; X. DONG. *East China Normal Univ.*

2:00 Z6 **391.14** ▲ Thermal grill model of human pain perception facilitates late but not early somatosensory evoked potentials. F. SACADURA*; T. BROOKES; B. BECK; F. FARDO; P. HAGGARD. *Univ. Col. London, Univ. Col. London, Univ. Col. London.*

3:00 Z7 **391.15** Thalamus in chronic low back pain: Insights from vertex-based morphometry and connectivity-based diffusion tensor tractography. H. PENG*; J. G. CRAGGS; A. SMITH; K. BOLAND; D. VILCEANU; C. M. CIRSTEA. *Univ. of Missouri Columbia, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri.*

4:00 Z8 **391.16** Neural and behavioral correlates of noxious stimuli in a pain-insensitive patient: A case study. E. FRANGOS; J. LILJENCRANTZ; J. TUBBS; C. L. DABLE; B. WANG; D. SAADE; D. BHARUCHA-GOEBEL; C. BONNEMANN, MD; A. T. CHESLER; M. C. BUSHNELL*. *NCCIH, NIH, Univ. of Gothenburg, Sahlgrenska Univ. Hosp., NINDS, NIH, Children's Natl. Hlth. Syst., NIH/NCCIH, NCCIH/NIH.*

1:00 Z9 **391.17** Comparison of surfase-based cortical thickness and voxel-based morphometry in chronic pain patients. T. LI*; T. KAMMA; S. YANG; T. OTA; J. KURATA. *Tokyo Med. and Dent. Univ.*

2:00 Z10 **391.18** Sex-specific abnormalities in functional connectivity in the descending pain modulation system contribute to chronic pain. N. R. OSBORNE*; J. C. CHENG; R. L. BOSMA; K. S. HEMINGTON; A. ROGACHOV; J. A. KIM; R. D. INMAN; K. D. DAVIS. *Krembil Res. Inst.*

3:00 Z11 **391.19** Generalization in placebo analgesia. L. KAMPERMANN*; C. BUECHEL. *Univ. Med. Ctr. Hamburg-Eppendorf.*

4:00 Z12 **391.20** Topological changes in brain connectivity following visceral inflammation. L. M. COLON-PEREZ*; M. FEBO; R. M. CAUDLE; J. ZUO; Q. ZHOU. *Univ. of Florida, Univ. of Florida, UFCD, Malcom Randall VAMC.*

1:00 Z13 **391.21** The relationship of Sensorimotor Peak Alpha Frequency to regions across the brain is modulated by pain. A. FURMAN*; S. KRIMMEL; J. ZHANG; M. KEASER; R. GULLAPALLI; D. SEMINOWICZ. *Univ. of Maryland Baltimore.*

2:00 Z14 **391.22** Abnormal hippocampal and amygdalar volume in children with chronic pain. M. MOAYEDI*; S. LEE; L. J. AYOUB; J. VINALL; C. LEBEL; M. NOEL. *Univ. of Toronto, Univ. of Toronto, Univ. of Calgary, Alberta Children's Hosp.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 Z15 **391.23** A pivotal role for the cerebellum in connectomic plasticity of chronic pain patients. T. KAMMA; T. LI; T. OTA; S. YANG; E. SHINTO; K. YAMAMOTO; J. KURATA*. *Tokyo Med. and Dent. Univ., Tokyo Med. and Dent. Univ., Tokyo Med. and Dent. Univ. Hosp. of Med.*

4:00 Z16 **391.24** Pain modulation is associated with cingulate morphology in older adults with musculoskeletal pain. D. LUSSIER*; M. HORTA; E. C. PORGES; A. J. WOODS; R. COHEN; N. C. EBNER; Y. CRUZ-ALMEIDA. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Inst. on Aging, Univ. of Florida.*

1:00 Z17 **391.25** Associations of pain catastrophizing with pain-related brain structure in individuals from different race groups with or at risk for knee osteoarthritis. E. L. TERRY*; J. J. TANNER; J. S. CARDOSO; K. T. SIBILLE; S. LAI; H. DESHPANDE; G. DEUTSCH; B. R. GOODIN; L. A. BRADLEY; C. C. PRICE; R. B. FILLINGIM. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*

2:00 Z18 **391.26** Specific neural correlates underlie improved clinical outcomes in chronic pain patients following interdisciplinary pain management. R. JABAKHANJI*; C. M. GAGNON; P. SCHOLTEN; J. W. ATCHISON; M. N. BALIKI. *Northwestern Univ. Feinberg Sch. of Med., The Shirley Ryan AbilityLab.*

3:00 AA1 **391.27** Altered functional connectivity underlying time discounting in chronic pain. K. WAKAIZUMI*; R. JABAKHANJI; N. IHARA; S. KOSUGI; Y. TERASAWA; H. MORISAKI; M. OGAKI; M. N. BALIKI. *Northwestern Univ., Feinberg Sch. of Med., Shirley Ryan AbilityLab, Northwestern Univ. Feinberg Sch. of Med., Keio Univ. Sch. of Med., Keio Univ., Keio Univ.*

4:00 AA2 **391.28** Predicting placebo pills response in randomized controlled trials. E. VACHON-PRESSEAU; T. B. ABDULLAH; S. E. BERGER; L. HUANG; G. A. CECCHI; T. J. SCHNITZER; A. V. APKARIAN*. *Northwestern Univ., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med., IBM Res., Northwestern Univ. Feinberg Sch. of Med.*

POSTER

392. Somatosensation: Thalamic and Cortical Processing

Theme D: Sensory Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 AA3 **392.01** Cortical output is driven by transcolumnar pathways in deep layers. M. OBERLAENDER*; R. EGGER; R. T. NARAYANAN; A. BAST; D. UDVARY; C. P. J. DE KOCK. *Ctr. of Advanced European Studies and Res., NYU Med. Ctr., Ctr. for Neurogenomics and Cognitive Research, VU Amsterdam.*

2:00 AA4 **392.02** Towards a microcircuit-based understanding of multiplexed spike codes in the neocortex. M. TRAN*; L. PRINCE; D. GREY; H. CHASIOTIS; B. RICHARDS. *Univ. of Toronto.*

3:00 AA5 **392.03** Basal forebrain stimulation modulates vibrotactile responses of rat SI neurons based on cell type, layer, and in a time-dependent manner. B. VARDAR*; B. GÜÇLÜ. *Bogazici Univ.*

4:00 AA6 **392.04** The cellular composition and connectivity of neocortical layer 1. B. SCHUMAN*; R. MACHOLD; Y. HASHIKAWA; J. FUZIK; G. J. FISHELL; B. RUDY. *New York Univ. Sch. of Med., Harvard Med. Sch.*

1:00 AA7 **392.05** The missing piece of somatosensory evoked potentials (SSEPs): Difference between activation and phase resetting according to a stereo-EEG perspective. M. DEL VECCHIO*; F. CARUANA; I. SARTORI; V. PELLICCIA; G. LO RUSSO; G. RIZZOLATTI; P. AVANZINI. *Univ. Degli Studi Di Modena E Reggio Emilia, Univ. of Parma, Ctr. per la Chirurgia dell'Epilessia "Claudio Munari", Ospedale Ca' Granda– Niguarda, Milano, Italy.*

2:00 AA8 **392.06** The building blocks of first order thalamic nuclei. J. YI*; R. PERIN; Y. SHI; H. MARKRAM. *EPFL, Blue Brain Project.*

3:00 AA9 **392.07** Steady-state responses in the somatosensory system interact with intrinsic oscillatory activity. M. J. WÄLTI*; M. T. BÄCHINGER; N. WENDEROTH. *ETH Zürich, Neural Control of Movement Lab., Neural Control of Movement Lab, ETH Zurich.*

4:00 AA10 **392.08** Quantitative 3D analysis of ventral posteromedial and posterior nuclei thalamocortical synapses in the mouse primary somatosensory cortex. J. RODRIGUEZ MORENO*; A. ROLLENHAGEN; A. SANTUY; A. MARCHAN-PEREZ; J. DEFELIPE; J. LÜBKE; F. CASCA. *Autonoma Univ., Res. Ctr. Juelich, Lab. Cajal de Circuitos Corticales, CTB, Politecnica University,, Inst. Cajal (CSIC).*

1:00 AA11 **392.09** Population activity patterns in the ventral posteromedial nucleus of the thalamus across behavioral states. A. SATTIN; M. MORONI; A. ANTONINI; S. BOVETTI; A. FORLI; F. NESPOLI; A. BERTONCINI; C. LIBERALE; S. PANZERI; T. FELLIN*. *Inst. Italiano di Tecnologia, Inst. Italiano di Tecnologia, Inst. Italiano di Tecnologia, King Abdullah Univ. of Sci. and Technol. (KAUST), Inst. Italiano di Tecnologia.*

2:00 BB1 **392.10** Intracranial stereo-EEG reveals gamma-band modulation in the human somatosensory cortex during naturalistic gentle touch to the hairy skin. E. ERIKSSON HAGBERG*; D. KRÝSL; J. NILSSON; K. MALMGREN; B. RYDENHAG; J. WESSBERG. *Sahlgrenska Academy, Univ. of Gothenburg, Sahlgrenska Univ. Hosp., Dept. of Clin. Neurosci., Sahlgrenska Academy, Univ. of Gothenburg.*

3:00 BB2 **392.11** Ultrasonic vocalization and c-Fos expression in rats stimulated by 'affective' touch. E. TUNCKOL*; R. S. CANBEYLI; B. GUCLU. *Bogazici Univ., Istanbul Medipol Univ., Bogazici Univ.*

4:00 BB3 **392.12** Architectonic characteristics of the grizzly bear thalamus and superior colliculus. L. A. KRUBITZER*; M. K. BALDWIN; A. C. HALLEY; N. MARINELLI; H. T. JANSEN. *UC Davis, Univ. of California Davis, Univ. of California, Davis, Washington State Univ., Washington State Univ.*

1:00 BB4 **392.13** Cortical fNIRS hemodynamics during saltatory pneumotactile glabrous hand stimulation in neurotypical adults. J. GREENWOOD*; M. HOZAN; M. K. SULLIVAN; S. M. BARLOW. *Univ. of Nebraska-Lincoln, Univ. of Nebraska-Lincoln, Univ. of Nebraska-Lincoln.*

2:00 BB5 **392.14** Primary and higher order inputs are differentially integrated by distinct classes of thalamic reticular neurons. R. MARTINEZ-GARCIA*; B. VOELCKER; S. L. PATRICK; T. STEVENS; B. W. CONNORS; S. J. CRUIKSHANK. *Brown Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 BB6 **392.15** L4 SST function during near-threshold sensory detection. N. D. JOHNSON*; K. MANSON; I. KRUGLIKOV; B. RUDY. *NYU Langone Med. Ctr., New York Stem Cell Fndn.*

4:00 BB7 **392.16** Distinct firing properties of adult thalamic reticular neurons. J. O'MALLEY; F. SEIBT; M. BEIERLEIN*. *McGovern Med. Sch. at UTHealth, McGovern Med. Sch. At UTHealth, McGovern Med. Sch. At Uthealth.*

1:00 BB8 **392.17** ▲ A comparison of topography in projections from somatosensory thalamus to cortex. H. C. MACOMBER*; G. M. PIERCE; R. M. BRUNO. *Columbia Univ. in the City of New York, Columbia Univ., Mortimer B. Zuckerman Mind Brain Behavior Inst.*

2:00 BB9 **392.18** Systemic administration of cocaine, caffeine or their combination alters the pacemaker activity of somatosensory thalamic neurons in mice. M. C. RIVERO-ECHETO*; P. P. PERISSINOTTI; C. GÓNZALEZ-INCHAUSPE; J. L. CADET; E. E. GARCIA-RILL; V. BISAGNO; F. J. URBANO. *IFIBYNE, ININFA, IFIBYNE, NIH, Ctr. for Translational Neurosci, ININFA-CONICET, IFIBYNE-CONICET.*

3:00 BB10 **392.19** Focused ultrasound neuromodulation: Refining optimal parameters in a swine model. W. LEGON*; T. WANG; J. W. L. ELIAS. *Univ. of Virginia, Univ. of Virginia.*

4:00 BB11 **392.20** Multimodal validation of a thermal mechanism of transcranial focused ultrasound neuroinhibition. B. ELAHIAN*; D. DARROW; P. O'BRIEN; T. NETOFF; E. EBBINI. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

1:00 BB12 **392.21** Somatosensory cortical responses to Aristotle tactile illusions. K. JIHYUN*; K. JUNSUK; K. SUNG-PHIL. *UNIST, Ctr. for Neurosci. Imaging Research, Inst. for Basic Sci. (IBS), UNIST.*

2:00 BB13 **392.22** Central sulcus depth profiles of a large human cohort: Incidence of a divided central sulcus and description of the pli de passage fronto-parietal moyen. R. SCHWEIZER*; H. GRAETZ; J. STROPEL; J. FRAHM. *Biomedizinische NMR, Leibniz-ScienceCampus Primate Cognition.*

POSTER

393. Auditory Processing: Sound Localization and Binaural Interactions

Theme D: Sensory Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 BB14 **393.01** Selective attention enhances cortical processing of binaural gap. L. KONG*; M. WANG; Z. XIE; L. LU; T. QU; L. LI. *Beijing Language and Culture Univ., Beijing Normal Univ., Peking Univ., Peking Univ.*

2:00 BB15 **393.02** Loss of interaural time difference sensitivity in rabbit inferior colliculus neurons following noise-induced hearing loss. H. HARAGOPAL*; R. DORKOSKI; G. WHALEY; L. PALMER; M. DAY. *Ohio Univ.*

3:00 BB16 **393.03** EEG activity between right and left handed on a sound localization task: Pilot sex differences study. M. CASTRO GONZÁLEZ*; Y. DEL RÍO-PORTILLA. *Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México.*

4:00 BB17 **393.04** Decoding trajectories of multiple moving sound sources from EEG in cocktail party environment. A. BEDNAR*; E. C. LALOR. *Trinity Col. Dublin, Univ. of Rochester.*

1:00 CC1 **393.05** Population responses underlying statistical inference in a map of auditory space in the barn owl's midbrain. R. FERGER*; M. V. BECKERT; K. SHADRON; D. SANCULI; W. M. DEBELLO; B. J. FISCHER; J. L. PENA. *Albert Einstein Col. of Med., Univ. of California Davis, Seattle Univ.*

2:00 CC2 **393.06** Co-variability across the neural population in the map of auditory space of the barn owl. M. V. BECKERT*; R. FERGER; K. SHADRON; B. J. FISCHER; J. L. PENA. *Albert Einstein Col. of Med., Seattle Univ.*

3:00 CC3 **393.07** The effect of anticipated cue reliability on behavioral and neural adaptation in barn owls. K. SHADRON*; M. V. BECKERT; R. FERGER; J. L. PENA. *Albert Einstein Col. of Med.*

4:00 CC4 **393.08** Subthreshold oscillations underlie diverse firing phenotypes and impart graded sensitivity to envelopes in neurons of the medial superior olive. B. BONDY*; N. GOLDING. *Univ. of Texas at Austin, Univ. of Texas at Austin.*

1:00 CC5 **393.09** Alterations to the sound localization pathway in fragile X syndrome. E. MCCULLAGH*; M. M. HUNTSMAN; A. KLUG. *Univ. of Colorado at Denver - Anschutz Med. Campus, Univ. of Colorado Denver Dept. of Physiol. and Biophysics.*

2:00 CC6 **393.10** Investigate what makes it "new" in the old-plus-new strategy of auditory scene analysis in the auditory cortex of marmoset monkeys. Y. ZHOU*; J. BRAASCH. *Speech and Hearing Dept., Rensselaer Polytechnic Inst.*

3:00 CC7 **393.11** Characterization of auditory neurons in the mouse superior colliculus detected using virtual auditory space stimulation. S. ITO*; D. A. FELDHEIM; A. M. LITKE. *Univ. of California, Santa Cruz, Univ. of California, Santa Cruz.*

4:00 CC8 **393.12** Age-related changes in the total number of neurons and the GAD-immunoreactive neurons in human inferior colliculus: Stereological study. I. PAL*; P. KUMAR; T. G. JACOB; D. BHARDWAJ; T. S. ROY. *All India Inst. of Med. Sci., All India Inst. of Med. Sci.*

POSTER

394. Auditory Processing: Temporal, Frequency, and Spectral Processing

Theme D: Sensory Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 CC9 **394.01** Effects of deviance direction on frequency and duration mismatch fields: Hemispheric functional difference revealed by monaural presentation. T. MATSUBARA*; T. UEHARA; K. OGATA; T. MAEKAWA; S. TOBIMATSU. *Kyushu Univ., Amekudai Hosp.*

2:00 CC10 **394.02** Sequence sensitive processing in songbird auditory forebrain. M. DONG*; D. S. VICARIO. *Psychology, Rutgers Univ.*

3:00 CC11 **394.03** Cortical excitatory and inhibitory neurons differentially affect collicular responses to sound. J. BLACKWELL*; W. RAO; D. RIDOLFI-STARR; M. GEFFEN. *Univ. of Pennsylvania.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 CC12 **394.04** Alpha7 nAChR knockout mice exhibit degraded auditory processing. R. A. FELIX, II; D. NOVICIO; V. CHAVEZ; C. V. PORTFORS; B. J. MORLEY*. *Washington State Univ., Boys Town Natl. Res. Hosp.*

1:00 CC13 **394.05** Enhanced ability of detecting rat vocalization-in-noise by sound exposure during a critical period. N. Y. HOMMA*; C. E. SCHREINER. *Univ. of California, San Francisco, Univ. of California, San Francisco.*

2:00 CC14 **394.06** Two-photon imaging reveals "salt and pepper" tonotopy in ferret primary auditory cortex. K. WALKER*; Q. GAUCHER; M. PANNIELLO; A. IVANOV; J. DAHMEN; A. J. KING. *Univ. of Oxford.*

3:00 CC15 **394.07** Receptive field characterization using pure tones and broadband stimuli in the mouse primary auditory cortex. K. X. KIM*; C. A. ATENCIO; C. E. SCHREINER. *Univ. of California San Francisco.*

4:00 CC16 **394.08** Multi-scale mapping along the auditory hierarchy using high-resolution functional ultrasound in the awake ferret. Y. BOUBENEC*; C. BIMBARD; C. DEMENÉ; S. A. SHAMMA; M. TANTER. *Ecole Normale Superieure, Inst. Langevin, INSERM.*

1:00 DD1 **394.09** Processing of acoustic signals in the presence of background noise in adult rats exposed to noise as juveniles. D. SUTA*; N. RYBALKO; J. POPELAR; T. CHIU; J. SYKA. *CIIRC Czech Tech. Univ., Inst. Exp Med. CAS, Dept of Biol. Sci. and Technology, NCTU.*

2:00 DD2 **394.10** ● Preclinical and clinical development of OTO-311, a sustained-exposure formulation of the NMDA receptor antagonist gacyclidine, for the treatment of tinnitus. F. PIU*; N. TSIVKOVSKAIA; R. FERNANDEZ; X. WANG; J. ANDERSON; K. BISHOP. *Otonomy Inc.*

3:00 DD3 **394.11** Neurons in auditory cortex are sensitive to frequency pattern violation. L. GARAMI*; C. ANGELONI; K. C. WOOD; M. N. GEFFEN. *Univ. of Pennsylvania.*

4:00 DD4 **394.12** Dynamical properties of core vs. matrix thalamocortical networks in the auditory system. M. N. O'CONNELL*; A. BARCZAK; T. M. MCGINNIS; D. A. ROSS; J. SMILEY; P. LAKATOS. *Nathan S Kline Inst., Nathan Kline Inst., Nathan Kline, Nathan Kline Inst.*

1:00 DD5 **394.13** Assessing evoked and oscillatory components in cortical synchronization to music using computational models. K. DOELLING*; M. F. ASSANEO; J. ROWLAND; D. BEVILACQUA; B. PESARAN; D. POEPPEL. *New York Univ., New York Univ., New York Univ., New York Univ. Ctr. for Neural Sci., Max-Planck-Institute for Empirical Aesthetics.*

2:00 DD6 **394.14** Contributions of distinct types of auditory cortical inhibitory interneurons to spectral surround suppression. A. A. LAKUNINA*; Y. AHMADIAN; S. JARAMILLO. *Univ. of Oregon, Univ. of Oregon.*

3:00 DD7 **394.15** Investigation of pitch encoding neurons in the ferret auditory cortex. Q. GAUCHER*; A. Z. IVANOV; M. PANNIELLO; J. C. DAHMEN; B. WILLMORE; A. J. KING; K. M. M. WALKER. *Univ. of Oxford.*

4:00 DD8 **394.16** Opposite abnormalities in gap-in-noise sensitivity in the auditory midbrain and thalamus of a mouse model of developmental disorder. J. MATTLEY*; L. ANDERSON; J. F. LINDEN. *UCL Ear Inst., Univ. Col. London.*

1:00 DD9 **394.17** Auditory encoding of temporal and formal regularity in rhesus monkeys. M. SCHWARTZE*; H. MERCHANT; S. A. KOTZ. *Maastricht Univ., Inst. de Neurobiologia UNAM, UM, Fac. of Psychology and Neurosci.*

2:00 DD10 **394.18** Human screams' roughness and pitch synergistically and simultaneously contribute to trigger efficient neural and behavioral responses. L. H. ARNAL*; P. MÉGEVAND; A. GIRAUD. *Univ. of Geneva.*

3:00 DD11 **394.19** Auditory event related activity in children with Tuberous Sclerosis Complex. A. M. O'BRIEN*; L. BAYET; K. RILEY; C. A. NELSON; M. SAHIN; M. E. MODI. *Boston Children's Hosp., Boston Children's Hosp., Harvard Med. Sch., Boston Children's Hosp., Harvard Med. Sch., Harvard Univ., Harvard Med. Sch.*

4:00 DD12 **394.20** Spectral shape based adaptation unravels mechanisms underlying spectral contrast coding in the mouse auditory cortex (ACX). A. MUKHERJEE*; P. PATEL; A. MUKESH; M. MEHRA; S. BANDYOPADHYAY. *Indian Inst. of Technol., Indian Inst. of Technol., Indian Inst. of Technol., Indian Inst. of Technol., Indian Inst. of Technol.*

1:00 DD13 **394.21** Validation of advanced cochlear nucleus auditory prosthesis with 3d penetrating microelectrodoe arrays. M. HAN*; D. B. MCCREERY. *Univ. of Connecticut, Huntington Med. Res. Inst.*

2:00 DD14 **394.22** Exploring neural population dynamics in auditory processing from the macaque superior temporal gyrus. J. LEE*; L. LYNCH; D. M. BRANDMAN; A. NURMIKKO. *Brown Univ.*

3:00 DD15 **394.23** Sex differences in frequency tuning in the inner ear of African clawed frogs (Xenopus). A. COBO-CUAN*; P. M. NARINS. *Univ. of California Los Angeles.*

4:00 DD16 **394.24** Direct cortical localization of the meg auditory temporal response function: A non-convex optimization approach. P. DAS*; C. BRODBECK; J. Z. SIMON; B. BABADI. *Univ. of Maryland, Univ. of Maryland, Univ. of Maryland.*

1:00 DD17 **394.25** Functional organization of human perisylvian cortex in response to speech. B. KHALIGHINEJAD*; S. V. NORMAN-HAIGNERE; J. L. HERRERO; A. D. MEHTA; N. MESGARANI. *Dept. Electrical Engineering, Columbia Univ., Mortimer B. Zuckerman Mind Brain Behavior Institute, Columbia Univ., HHMI Postdoctoral Fellow of the Life Sci. Res. Fndn., Lab. des Sytèmes Perceptifs, Dept. d'Études Cognitives, École Normale Supérieure, PSL Res. University, CNRS, Dept. of Neurosurgery, Hofstra-Northwell Sch. of Med. and Feinstein Inst. for Med. Res., Feinstein Inst. for Med. Res.*

2:00 DD18 **394.26** A computational model of the underlying mechanisms of temporal coding in auditory cortex. J. LEE*; X. WANG; D. A. BENDOR. *Johns Hopkins Univ. Sch. Med., Univ. Col. London.*

3:00 EE1 **394.27** Synaptic mechanisms for bandwidth tuning in mouse primary auditory cortex. H. LI*; F. LIANG; W. ZHONG; L. YAN; L. MESIK; Z. XIAO; H. TAO; L. I. ZHANG. *USC, Southern Med. Univ., Southern Med. Univ., Zilkha Neurogenetic Inst., Southern Med. Univ., USC Keck Sch. Med.*

4:00 EE2 **394.28** Attention increases information flow between auditory cortex and subcortex. D. PRETE*; M. BAIN; L. J. TRAINOR. *McMaster Univ., McMaster Univ.*

1:00 EE3 **394.29** ▲ Cricket song temporal pattern recognition in two populations of ormia ochracea. A. T. KIRTLEY*; N. LEE; J. HAO; M. C. MASON. *St. Olaf, Univ. of Toronto Scarborough.*

2:00 EE4 **394.30** Composite receptive fields across neuronal populations in songbird auditory cortex. N. W. VAHIDI*; M. THEILK; T. GENTNER. *UCSD, UCSD.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

395. Retinal Circuitry

Theme D: Sensory Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 EE5 **395.01** Reconstitution of horizontal cell inhibitory feedback to cones in mouse retina with PSAM-GlyR, an orthogonal chemogenetic ligand-gated anion channel. J. C. GROVE; A. A. HIRANO; J. DE LOS SANTOS; S. C. PUROHIT; G. D. FIELD; N. C. BRECHA; S. A. BARNES*. *UCSF, David Geffen Sch. Med. At UCLA, David Geffen Sch. Medcine At UCLA, Duke Univ., Doheny Eye Inst., David Geffen Sch. Med. at UCLA, Dalhousie Univ.*

2:00 EE6 **395.02** ▲ Characteristics of ATP-induced extracellular acidification from retinal Müller (glial) cells. M. GONGWER; B. K. TCHERNOOKOVA; L. SHEPHERD; H. CARINGAL; B. GOEGLEIN; T. LEUSCHNER; R. P. MALCHOW; M. A. KREITZER*. *Indiana Wesleyan Univ., Univ. of Illinois at Chicago Dept. of Biol. Sci.*

3:00 EE7 **395.03** ▲ Differential infection pattern of AAVs in mouse retin. T. HORI*; M. FUKUTOME; C. MAEJIMA; S. MORITOH; K. KOBAYASHI; C. KOIKE. *Ritsumeikan Univ., Labolatory for Systems Neurosciences and Developmental Biol., Ritsumeikan Univ., Ritsumeikan Univ., Ritsumeikan Global Innovation Res. Organization (R-GIRO), Ritsumeikan Univ., Natl. Inst. for Physiological Sci., Grad. Sch. of Life Sciences, Ritsumaikan Univ., Ctr. for Systems Vision Science, Organization of Sci. and Technology, Ritsumeikan Univ.*

4:00 EE8 **395.04** How feedback at the first visual synapse shapes functional diversity in the retina. A. DRINNENBERG*; F. FRANKE; R. K. MORIKAWA; J. JÜTTNER; A. HIERLEMANN; R. A. D. SILVEIRA; B. ROSKA. *Friedrich Miescher Inst. For Biomed. Res., Inst. of Mol. and Clin. Ophthalmology, ETH Zurich, Ecole Normale Supérieure.*

1:00 EE9 **395.05** Molecular specification of cells in the primate fovea and peripheral retina. Y. PENG*; K. SHEKHAR; W. YAN; D. HERRMANN; G. S. BRYMAN; A. LIU; T. VAN ZYL; M. T. H. DO; A. REGEV; J. R. SANES. *Harvard Univ., Broad Inst. of Harvard and MIT, Boston Children's Hosp. and Harvard Med. Sch., Massachusetts Eye and Ear, Harvard Med. Sch., Howard Hughes Med. Institute, MIT.*

2:00 EE10 **395.06** An approaching motion selective RGC in the mouse retina. F. WANG*; Y. ZHANG. *Inst. of Neuroscience, Chinese Acad. of Sci.*

3:00 EE11 **395.07** Heterotypic electrical synapses retrogradely couple melanopsin signaling in retinal ganglion cells to a neuropeptidergic amacrine cell population. J. POTTACKAL*; P. RAHMANI; J. B. DEMB. *Yale Univ., Yale Univ., Yale Univ.*

4:00 EE12 **395.08** Functional diversity of wide-field amacrine cells with a common molecular marker. J. KIM*; M. INOUE; C. RAMAKRISHNAN; K. DEISSEROTH; S. A. BACCUS. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

1:00 EE13 **395.09** Contrast adaptation in the rod bipolar pathway. G. E. PERRIN*; J. B. DEMB; J. H. SINGER. *Univ. of Maryland, Col. Park, Yale Univ., Univ. of Maryland.*

2:00 EE14 **395.10** Info in a bottleneck: The compression of information in neural circuits. G. J. GUTIERREZ*; F. M. RIEKE; E. T. SHEA-BROWN. *Univ. of Washington.*

3:00 FF1 **395.11** Graphene based electrodes for retinal implants: An *in vivo* study on biocompatibility and functionality. D. N. NGUYEN*; M. VALET; J. DÉGARDIN; K. BLAIZE; R. CLAPETTE; D. VIANA; C. HEBERT; S. T. WALSTON; J. A. GARRIDO; S. PICAUD. *Inst. de la Vision, Catalan Inst. of Nanoscience and Nanotechnology (ICN2), Institució Catalana de Recerca i Estudis Avançats (ICREA).*

1:00 DP06/FF2 **395.12** (Dynamic Poster) Molecular survey of the vertebrate retina at single-cell resolution. K. SHEKHAR*; Y. PENG; I. E. WHITNEY; I. BENHAR; W. YAN; N. M. TRAN; A. JACOBI; M. LABOULAYE; E. MARTERSTECK; T. VAN ZYL; G. S. BRYMAN; H. BAIER; Z. HE; M. H. DO; A. REGEV; Y. KOELSCH; J. R. SANES. *Broad Inst. of MIT and Harvard, Harvard Univ., Harvard Univ., Broad Inst., Harvard Univ., Boston Children's Hospital, Harvard Med. Sch., Harvard Univ., Massachusetts Eye and Ear Infirmary, Boston Children's Hosp., Max Planck Inst. of Neurobio., Children's Hosp Boston.*

1:00 FF3 **395.13** Digital museum of retinal ganglion cells with dense anatomy and physiology. J. A. BAE*; S. MU; J. S. KIM; N. L. TURNER; I. TARTAVULL; N. KEMNITZ; C. S. JORDAN; A. D. NORTON; W. M. SILVERSMITH; R. PRENTKI; M. SOREK; C. DAVID; D. L. JONES; D. BLAND; A. L. R. STERLING; J. PARK; K. L. BRIGGMAN; H. S. SEUNG; T. EYEWIRERS. *Princeton Univ., Princeton Univ., Princeton Univ., WiredDifferently, Inc., KT Corp., Max Planck Inst. for Med. Res., Natl. Inst. of Neurolog. Disorders and Stroke, http://eyewire.org.*

2:00 FF4 **395.14** Study of horizontal cells following light-induced outer retinal cell damage in Sprague-Dawley rats. S. GUPTA*; T. C. NAG; T. S. ROY. *All India Inst. of Med. Sci.*

3:00 FF5 **395.15** Deletion of GD3 synthase modifies retinal structure and impairs visual function in adult mice. C. A. SANTANA*; L. C. T. PINHEIRO; A. JORDÃO; R. LANI; G. NASCIMENTO-DOS-SANTOS; J. F. VASQUES; R. MENDEZ-OTERO; M. F. SANTIAGO. *Inst. De Biofísica Carlos Chagas Filho, Univ. Federal do Rio de Janeiro.*

4:00 FF6 **395.16** Gap junction circuitry of aii and a8 amacrine cells in the mouse retina. S. YADAV*; S. TETENBORG; K. DEDEK. *Carl Von Ossietzky Univ. Oldenburg.*

1:00 FF7 **395.17** CaBP5 is essential for normal synaptic transmission from rod bipolar cells to AII amacrine cells. M. B. KOZHEMYAKIN*; R. HEIDELBERGER. *McGovern Med. Sch. of the Univ. of Texas, McGovern Med. Sch. of the Univ. of Texas Hlth. Sci. Ctr. at Houston (UTHealth).*

2:00 FF8 **395.18** Effects of Bmal1 gene deletion in GLAST positive cells on retinal morphology and physiology. F. BOI; S. RICCITELLI; D. LONARDONI; S. BISTI; O. BARCA-MAYO; D. DE PIETRI TONELLI; S. DI MARCO; L. BERDONDINI*. *Fondazione Inst. Italiano Di Tecnologia, Univ. dell'Aquila.*

3:00 FF9 **395.19** Motion anticipation of inhibitory transmission from amacrine cells. D. LEE*; S. A. BACCUS. *Stanford Univ., Stanford Univ.*

4:00 FF10 **395.20** Connectivity patterns of starburst amacrine cells in the mouse retina. S. MU*; N. L. TURNER; W. M. SILVERSMITH; J. S. KIM; H. SEUNG; EYEWIRERS. *Princeton Univ., Princeton Univ., Eyewire.org.*

1:00 FF11 **395.21** Why threshold modulation leads to sparse responses in the brain. W. HSU*; D. B. KASTNER; S. A. BACCUS; T. O. SHARPEE. *Salk Inst., UCSD, EPFL - LCN, Stanford Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 FF12 **395.22** Short-term plasticity and upregulation of biopolar-ganglion synapses can resolve the neural states both in the normal and the rd1 retinas. K. KITANO*; K. TANIGUCHI. *Ritsumeikan Univ., Grad. Sch. of Information Sci. and Engineering, Ritsumeikan Univ.*

3:00 FF13 **395.23** Retinal light adaptation and dopamine D4 receptor sensitivity is impaired at the ganglion cell level after six weeks of diabetes. M. FLOOD*; E. D. EGGERS. *Univ. of Arizona, Univ. of Arizona.*

4:00 FF14 **395.24** A much higher density of melanopsin-IR cells in two nocturnal microbat retinas than that in diurnal animals. M. JEONG; E. PARK; H. KIM; H. SONG; C. JEON*. *BK21 Plus KNU Creative Bioresearch Group, Kyungpoo, Kyungpook Nat'l Univ.*

1:00 FF15 **395.25** Identification of rod bipolar and dopaminergic cells in the bat retina. E. PARK*; J. JEON; E. LEE; C. JEON. *BK21 Plus KNU Creative Bioresearch Group, Kyungpoo.*

2:00 FF16 **395.26** Characterization of neuroinflammatory mechanisms associated with diabetic retinopathy using human transcriptomic. P. E. FORT*; Y. SHAN; J. E. ROGER. *Univ. of Michigan, Univ. of Michigan, CERTO.*

3:00 FF17 **395.27** The impact of light adaptation and cell type on correlated spiking and retinal population codes. K. RUDA*; J. W. PILLOW; G. D. FIELD. *Duke Univ., Princeton Neurosci. Inst.*

4:00 GG1 **395.28** Retinoic acid is the trigger for retinal ganglion cells pathophysiological remodeling during retinal degeneration. M. TELIAS*; Z. HELFT; B. DENLINGER; R. KRAMER. *Univ. of California Berkeley.*

POSTER

396. Visual Cortical Streams: Rodentia, Primate, and Carnivora

Theme D: Sensory Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 GG2 **396.01** Retinal stimulation through a DLP based projection system for studying visual cortex responses with voltage sensitive dye imaging. A. GROSS*; N. IVZAN; N. FARAH; Y. MANDEL. *Bar Ilan Univ.*

2:00 GG3 **396.02** A cortical visual area for processing collicular information. R. BELTRAMO*; M. SCANZIANI. *UCSF.*

3:00 GG4 **396.03** Functional segregation of eye-specific visual pathways in higher visual cortex. K. J. SALINAS*; J. H. ZEITOUN; H. KIM; S. P. GANDHI. *UC Irvine.*

4:00 GG5 **396.04** Layer-specific cortico-cortical loops in mouse visual cortex. H. YOUNG; B. BELBUT; L. T. PETREANU*. *Champalimaud Fndn.*

1:00 GG6 **396.05** Visual scene segmentation in the mouse. F. LUONGO*; L. LIU; D. Y. TSAO. *Caltech, Caltech, Howard Hughes Med. Inst.*

2:00 GG7 **396.06** Distinct roles of cortical interneuron subtypes in contrast-dependent surround suppression. D. P. MOSSING*; J. VEIT; H. ADESNIK. *Univ. of California, Berkeley, UC Berkeley, Univ. of California, Berkeley.*

3:00 GG8 **396.07** Neuronal population responses in the human ventral temporal and lateral parietal cortex during arithmetic processing with digits and number words. S. BAEK*; A. L. DAITCH; P. PINHEIRO-CHAGAS; S. SAHA; J. PARVIZI. *Princeton Univ., Stanford Univ.*

4:00 GG9 **396.08** Visual cortical area MT is crucial for development of the dorsal stream and normal reach and grasp behaviour. J. A. BOURNE*; C. CHANG; I. C. MUNDINANO; M. J. DE SOUZA; W. C. KWAN. *Aust. Reg. Med. Inst.*

1:00 GG10 **396.09** V1/V4 intercortical correlations evolve alongside binocular disparity selectivity at different time scales. J. E. SMITH*; A. J. PARKER. *Dept. of Phys., Anat. & Gen., Univ. of Oxford.*

2:00 GG11 **396.10** A novel pressure regulating brain imaging implant for ultra-large field-of view mesoscopic imaging in nhps. O. CABALLERO*; M. LEDO; S. KOLLA; S. MARTINEZ-CONDE; S. TANG; A. NANDY; A. YAZDAN-SHAHMORAD; E. CALLAWAY; J. REYNOLDS; M. AVERY; P. LI; E. SEIDEMANN; Y. Y. CHEN; S. MACKNIK. *SUNY Downstate Med. Ctr., SUNY Downstate Med. Ctr., SUNY Downstate Med. Ctr., Peking Univ., Yale Sch. of Med., Univ. of Washington-Seattle, The Salk Inst., Univ. of Texas at Austin.*

POSTER

397. Vision: Extrastriate Cortex

Theme D: Sensory Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 GG12 **397.01** Vertical occipital fiber tract in the common marmoset. H. TAKEMURA*; T. KANEKO; F. PESTILLI; A. C. SILVA; F. Q. YE; D. A. LEOPOLD. *Natl. Inst. of Information and Communicatio, Osaka Univ., RIKEN Ctr. for Brain Sci., Indiana Univ., NIH, NIH, NIMH.*

2:00 GG13 **397.02** ● Spiking noise in visual area V2 of infant monkeys shortly after experiencing monocular defocus. Y. WANG*; B. ZHANG; X. TAO; E. L. SMITH, 3rd; Y. M. CHINO. *Univ. of Houston, Nova Southeastern Univ. Col. of Optometry, Baylor college of Med.*

3:00 GG14 **397.03** Focal reversible inactivation of macaque inferior temporal (IT) cortex reveals a topographically selective causal role in primate core object recognition behavior. R. RAJALINGHAM*; J. J. DICARLO. *MIT, McGovern Inst. for Brain Res., Ctr. for Brains, Minds, and Machines.*

4:00 GG15 **397.04** Stripe-like organization of secondary visual cortex in tree shrew. K. LEE*; M. SEDIGH-SARVESTANI; N. C. SHULTZ; R. SATTERFIELD; J. W. SCHUMACHER; D. FITZPATRICK. *Max Planck Florida Inst.*

1:00 GG16 **397.05** Effective connectivity reveals an interconnected inferotemporal network for three-dimensional structure processing. E. PREMEREUR*; P. JANSSEN. *KU Leuven.*

2:00 GG17 **397.06** Asymmetries in the intrinsic 3D connectivity within dorsal and ventral parts of area LIP of macaque. B. AHMED*; M. RUESSELER; J. SMITH; A. J. PARKER; K. KRUG. *Univ. of Oxford.*

3:00 HH1 **397.07** Macaque MT neurons show a different specialization for horizontal disparity than V1 neurons. I. KANG; B. G. CUMMING*. *Natl. Eye Institute, NIH.*

Mon. PM

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

4:00 HH2 **397.08** Spatial generalization of repetition suppression in macaque inferotemporal cortex. N. P. WILLIAMS*; C. R. OLSON. *Carnegie Mellon Univ.*

1:00 HH3 **397.09** ▲ Developmental changes in parvalbumin expression in ferret primary and higher visual cortex. A. KAVUTURU; A. A. LEMPEL; K. J. NIELSEN*. *Johns Hopkins Univ., Johns Hopkins Univ.*

2:00 HH4 **397.10** A V1-recipient cortical area in the tree shrew contains direction selective neurons. M. SEDIGH-SARVESTANI*; J. SCHUMACHER; K. MAXIMOV; R. SATTERFIELD; N. SHULTZ; D. FITZPATRICK. *Max Planck Florida Inst. of Neurosci.*

3:00 HH5 **397.11** Clustering of 3D and 2D shape information in area V4. R. SRINATH*; K. J. NIELSEN; C. E. CONNOR. *Zanvyl Krieger Mind/Brain Inst., Johns Hopkins Univ., Johns Hopkins Univ.*

4:00 HH6 **397.12** Monotonic responses to numerosity and second-order contrast in early visual cortex. J. M. PAUL*; T. C. TEN CATE; B. M. HARVEY. *Utrecht Univ.*

1:00 HH7 **397.13** Theta rhythmic neuronal activation in primate areas V1, V4 and TE and negative BOLD responses in the presence of multiple nearby visual stimuli. B. AGAYBY*; M. AINSWORTH; R. KIENITZ; J. T. SCHMIEDT; M. ORTIZ-RIOS; A. BELL; M. C. SCHMID. *Newcastle Univ., Univ. of Cambridge, Goethe Univ. Frankfurt, Ernst Strüngmann Inst. for Neurosci., Univ. of Oxford.*

2:00 HH8 **397.14** Saccade-related activity in V4 varies with behavioral outcome in a change-detection task. K. ACAR*; M. A. SMITH. *Univ. of Pittsburgh, Ctr. for Neural Basis of Cognition, Univ. of Pittsburgh, Univ. of Pittsburgh.*

3:00 HH9 **397.15** ● Object representations in rodent visual cortex. J. Y. RHEE*; C. E. ECHAVARRIA; D. D. COX. *Harvard Univ.*

4:00 HH10 **397.16** The functional organization of area MT neurons revealed by 2-photon microscopy in awake marmosets. J. PATTADKAL*; B. V. ZEMELMAN; N. PRIEBE. *The Univ. of Texas at Austin.*

1:00 HH11 **397.17** Intrinsic physiology and synaptic integration in genetically targeted thick-tufted layer 5 pyramidal neurons in mouse secondary visual cortex. A. R. GALLONI*; E. A. RANCZ. *The Francis Crick Inst.*

2:00 HH12 **397.18** Whole brain input and output connectivity of layer 5 neuron subtypes in secondary visual cortex of the mouse. Z. YE*; E. A. RANCZ. *The Francis Crick Inst.*

POSTER

398. Eye Movements: Central Mechanism in Animal Models

Theme E: Motor Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 HH13 **398.01** Vestibular and optokinetic eye movement reflexes are both altered in nob mice. B. H. WINKELMAN*; M. KAMERMANS; C. I. DE ZEEUW. *Netherlands Inst. For Neurosci., Erasmus MC Univ., Academic Med. Ctr., Erasmus MC Univ.*

2:00 HH14 **398.02** Genetics reveal the modular organization of movement vectors in the mouse superior colliculus. L. MASULLO*; L. MARIOTTI; N. ALEXANDRE; M. TRIPODI. *MRC Lab. of Mol. Biol.*

3:00 HH15 **398.03** Properties of the signals that drive directional learning in smooth pursuit eye movements. D. J. HERZFELD*; M. TRINGIDES; D. SUBRAMANIAN; S. G. LISBERGER. *Duke Univ., Duke Univ., Duke Univ.*

4:00 HH16 **398.04** Sensorimotor gain control as a mechanism of movement prevention during modulation of preparatory activity. T. DARLINGTON*; S. G. LISBERGER. *Duke Univ.*

1:00 HH17 **398.05** The relative contributions of area MT and the frontal eye fields to the latency of smooth pursuit. J. MAYO*; S. G. LISBERGER. *Duke Univ., Duke Univ.*

2:00 II1 **398.06** Characteristics of saccades to moving targets. K. J. MOHSENIAN*; N. J. GANDHI. *Univ. of Pittsburgh, Ctr. for Neural Basis of Cognition, Univ. of Pittsburgh.*

3:00 II2 **398.07** A new tectal premotor input for the control of lens accommodation. P. J. MAY*; S. WARREN; I. BILLIG; J. J. QUINET; P. D. R. GAMLIN. *Univ. Mississippi Med. Ctr., Universsity of Pittsburgh Med. Ctr., Univ. of Alabama at Birmingham.*

4:00 II3 **398.08** Projection of the superior colliculus to the supraoculomotor area in macaque monkeys. S. WARREN*; P. MAY; A. K. HORN-BOCHTLER; S. UPADHYAYA; V. E. DAS. *Univ. of Mississippi Med. Ctr., Inst. of Anat. and Cell Biol. I, LMU, Univ. of Houston.*

1:00 II4 **398.09** Saccadic directional precision across the horizontal and vertical meridians. T. MALEVICH*; Z. M. HAFED. *Werner Reichardt Ctr. For Integrative Neurosci., Hertie Inst. for Clin. Brain Res.*

2:00 II5 **398.10** Testing egocentric vs allocentric models in the frontal eye field (FEF) during a cue-conflict task in head-unrestrained monkeys. V. BHARMAURIA*; A. SAJAD; X. YAN; H. WANG; J. D. CRAWFORD. *York Univ., Vanderbilt Univ.*

3:00 II6 **398.11** Microsaccades in blindsight monkeys. M. YOSHIDA*; Z. M. HAFED. *Natl. Inst. Physiol Sci., The Grad. Univ. for Advanced Studies, Werner Reichardt Ctr. For Integrative Neurosci.*

4:00 II7 **398.12** Saccade target selection in superior collicular neurons during a categorical search task with naturalistic images. B. M. COOPER*; R. M. MCPEEK. *State Univ. of New York Col. of Optometry, SUNY Col. of Optometry.*

1:00 II8 **398.13** Engaging spatial visual working memory expands superior colliculus neurons' response fields. K. F. WILLEKE*; A. BUONOCORE; X. TIAN; Z. M. HAFED. *Werner Reichardt Ctr. For Integrative Neurosci., Hertie Inst. for Clin. Brain Res.*

2:00 II9 **398.14** Immunohistochemistry is required to visualize virally-mediated fluorescent protein transgene expression in the neuronal visuomotor circuitry of non-human primates. M. O. BOHLEN*; H. G. EL-NAHAL; M. A. SOMMER. *Duke Univ. Hlth. Syst., Duke Univ.*

3:00 II10 **398.15** Muscarinic blockade modulates oscillatory activity in primate prefrontal cortex during rule-guided behaviour. A. J. MAJOR*; S. VIJAYRAGHAVAN; L. MA; S. EVERLING. *Western Univ.*

4:00 II11 **398.16** ▲ Central and peripheral correlates of eye movement planning. S. RUNGTA; A. N. MURTHY*. *Indian Inst. of Sci., Indian Inst. of Sci.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 II12 **398.17** Contextual changes in cortico-striatal transmission during time production in monkeys. T. W. SUZUKI*; M. TANAKA. *Hokkaido Univ. Sch. of Med., Hokkaido Univ. Sch. Med.*

2:00 II13 **398.18** Contribution of the thalamic pulvinar to saccade and reach behavior in humans and monkeys. M. WILKE*; C. SCHMIDT-SAMOA; P. DECHENT; K. MILOSERDOV; S. MAHDAVI; J. LIMAN; M. HOLZGRAEFE; A. U. DOMINGUEZ-VARGAS; K. WILLIAMS; I. KAGAN; M. BAEHR. *Univ. Med. Goettingen, Univ. Med. Goettingen, Univ. Med. Goettingen, Univ. Goettingen, Leibniz Inst. For Primate Res.*

3:00 II14 **398.19** Role of superior colliculus neurons in value-based decisions. A. GOPAL P A*; O. HIKOSAKA. *Natl. Eye Inst.*

4:00 II15 **398.20** Influence of reward on superior colliculus activity during spatial- and feature-based visual search. H. LIAO*; M. YANG; M. C. DORRIS. *Inst. of Neuroscience, Chinese Acad. of Scie.*

1:00 II16 **398.21** Tuned persistent activity in prefrontal cortex reliably follows every saccade. I. CALANGIU*; V. MANTE. *Inst. of Neuroinformatics.*

2:00 II17 **398.22** Ventral premotor control of head and eye movements. I. SMALIANCHUK*; N. J. GANDHI. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

3:00 II18 **398.23** A new computational model for decoding saccade-related activity in the frontal eye field. M. A. SMITH*; R. JOHNSTON; R. O. KONECKY. *Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition.*

4:00 JJ1 **398.24** Neural oscillations in the marmoset parietal cortex during a saccadic task. L. MA*; L. K. H. SCHAEFFER; K. JOHNSTON; S. EVERLING. *Univ. of Western Ontario, Univ. of Western Ontario, Univ. of Western Ontario.*

1:00 JJ2 **398.25** Oculomotor effects evoked by microstimulation of posterior parietal cortex in the common marmoset. K. D. JOHNSTON*; M. GHAHREMANI; L. SCHAEFFER; S. EVERLING. *Univ. of Western Ontario, Brain and Mind Inst., Robarts Res. Inst., Univ. Western Ontario.*

2:00 JJ3 **398.26** Comparison of saccadic behavior between common marmosets, rhesus macaques, and humans. C. CHEN*; D. MATROV; R. VEALE; M. YOSHIDA; K. MIURA; T. ISA. *Kyoto Univ., Natl. Inst. Physiol Sci., Grad. Schl Med, Kyoto Univ.*

POSTER

399. Eye Movements: Saccade Behavior and Psychophysics in Humans

Theme E: Motor Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 JJ4 **399.01** ● The paradox of leveraging eye movements: Ocular rotational axis varies with vergence. J. L. DEMER*; R. A. CLARK. *UCLA.*

2:00 JJ5 **399.02** Are vergence eye movements a myth? Observations from midline smooth pursuit. S. J. HEINEN*; A. CHANDRA; J. BADLER; S. N. WATAMANIUK. *Smith-Kettlewell Eye Res. Inst., Wright State Univ.*

3:00 JJ6 **399.03** Voluntary inhibition of saccadic adaptation depends on adaptation direction. M. LAPPE*; F. HEINS; A. MEERMEIER. *Inst. for Psychology.*

4:00 JJ7 **399.04** Early excitatory oculomotor processing encodes task information. D. H. KEHOE*; J. LEWIS; M. FALLAH. *York Univ., York Univ.*

1:00 JJ8 **399.05** Saccadic localization of moving objects is influenced by illusory perception. Z. MA*; S. J. HEINEN. *The Smith Kettlewell Eye Res. Inst.*

2:00 KK1 **399.06** Is saccade vigor modulated by subjective effort cost? C. KORBISCH*; A. A. AHMED. *Univ. of Colorado, Boulder, Univ. of Colorado.*

3:00 KK2 **399.07** Vigor of movements in a normative framework: An extension of the marginal value theorem. R. B. GEARY*; T. YOON; R. SHADMEHR. *Johns Hopkins Univ., Johns Hopkins Univ.*

4:00 KK3 **399.08** Movement vigor and decision-making in a patchy reward environment. T. YOON*; R. SHADMEHR; A. A. AHMED. *Johns Hopkins Med. Inst., Johns Hopkins Univ. Dept. of Biomed. Engin., Univ. of Colorado.*

1:00 KK4 **399.09** Dynamic overshoot in saccadic movement of pupil inside iris during pro- and anti-saccade tasks. S. YAMAGISHI*; M. YONEYA; S. FURUKAWA. *NTT Communication Sci. Labs.*

2:00 KK5 **399.10** Optimal feedback control of saccade trajectories can explain saccade variability. V. VASUDEVAN*; A. MURTHY; R. PADHI. *Indian Inst. of Sci.*

3:00 KK6 **399.11** Reward-prediction-error modulates learning from sensory-prediction-error. E. SEDAGHAT NEJAD*; D. HERZFELD; R. SHADMEHR. *Johns Hopkins Univ., Duke Univ.*

4:00 KK7 **399.12** Modeling the triggering of saccades, microsaccades and saccadic intrusionsModeling the triggering of saccades, microsaccades and saccadic intrusions. J. OTERO-MILLAN*; L. M. OPTICAN; S. L. MACKNIK; S. MARTINEZ-CONDE. *Johns Hopkins Unviversity, Natl. Eye Inst., SUNY Downstate Med. Ctr. Col. of Med., State Univ. of New York Downstate Med. Ctr.*

1:00 KK8 **399.13** Signatures of the fast and slow learning processes in the motor commands that move the eyes during a saccade. S. P. OROZCO*; D. J. HERZFELD; R. SHADMEHR. *Johns Hopkins Univ., Duke Univ., Johns Hopkins Univ. Dept. of Biomed. Engin.*

2:00 KK9 **399.14** A 10-minute bout of moderate to very-heavy intensity aerobic exercise improves executive function in older adults at risk for cognitive decline. A. PETRELLA*; M. HEATH. *The Univ. of Western Ontario.*

3:00 KK10 **399.15** The effect of normal ageing on minimally delayed oculomotor response (MDOR) task performance. P. C. KNOX*; N. PASUNURU. *Univ. Liverpool.*

4:00 KK11 **399.16** Voluntary saccade training in healthy adults. P. B. CAMACHO*; R. CARBONARI; S. SHEN; C. LOPEZ-ORTIZ. *Univ. of Illinois At Urbana Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign.*

1:00 KK12 **399.17** A study on characteristic of spontaneous eye blink and sustained attention between young and old adults while watching visual stimuli. Y. SHIN*; W. KIM; I. SHIN; D. CHOI; S. CHAE; K. KIM; D. JUNG. *Eulji Univ., Seongnam Senior Experience Complex, Eulji Univ., Seongnam Senior Experience Complex.*

Mon. PM

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 LL1 **399.18** The interaction of eye and hand movements in visual reaching task in hereditary spinocerebellar degeneration. S. INOMATA-TERADA*; S. TOKUSHIGE; S. MATSUDA; M. HAMADA; S. TSUJI; Y. UGAWA; Y. TERAO. *Kyorin Univ., NTT Med. center, The Univ. of Tokyo, Fukushima Med. Univ.*

3:00 LL2 **399.19** Eye and hand movement characteristics during rapid go/no-go decisions in Parkinson's disease. J. FOOKEN*; G. K. MANN; C. B. JONES; M. J. MCKEOWN; M. SPERING. *Univ. of British Columbia, Univ. of British Columbia.*

4:00 LL3 **399.20** Increased dependence on saccades for ocular tracking with low-dose alcohol. T. L. TYSON*; N. H. FEICK; P. F. CRAVALHO; T. TRAN; E. E. FLYNN-EVANS; L. S. STONE. *NASA Ames Res. Ctr., San José State Univ. Res. Fndn.*

1:00 LL4 **399.21** Changes in motor cost affect gaze-limb coordination. J. DOMINGUEZ-ZAMORA; D. S. MARIGOLD*. *Simon Fraser Univ.*

2:00 LL5 **399.22** Eye-hand coordination during motor learning in humans. Y. YANG*; D. SUN; T. ZHU. *Inst. of Biophysics, CAS, Univ. of Chinese Acad. of Sci.*

3:00 LL6 **399.23** ▲ To reach or not to reach: Coordination of eye, head and hand movements during visually guided reach. H. AL-TAHAN*; J. CRAWFORD. *York Univ., York Univ., York Univ., York Univ., York Univ.*

4:00 LL7 **399.24** Eye movements and their relation to motor performance during a simultaneous whole-body imitation task. P. I. BURGOS*; M. BOCAZ; K. MUÑOZ; J. MARIMAN. *Dept. de Kinesiología, Facultad de Medicina, Univ. de Chile.*

POSTER

400. Voluntary Movements: Reaching Control: Action and Sensation

Theme E: Motor Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 LL8 **400.01** Dynamic coding of sensory and motor information during hand movements directed to tactile targets. T. HEED*; W. MEDENDORP; J. BRANDES. *Bielefeld Univ., Radboud Univ. Nijmegen, Univ. of Hamburg.*

2:00 LL9 **400.02** Cerebellar outputs contribute to the activity of the primary motor cortex during arm-reaching movement in macaque monkeys. N. SANO*; Y. NAKAYAMA; E. HOSHI; S. CHIKEN; A. NAMBU; Y. NISHIMURA. *Tokyo Metropolitan Inst. of Med. Sci., Niigata Univ., Japan Society for the Promoting of Sci., NIPS, SOKENDAI.*

3:00 LL10 **400.03** Explicit sense of agency emerges from dynamic network of neural oscillations. Y. SAKURAGI; H. MIZUHARA*. *Kyoto Univ.*

4:00 LL11 **400.04** A comprehensive analysis of human wrist proprioception through robot-based assessment. F. MARINI*; P. MORASSO. *Inst. Italiano Di Tecnologia.*

1:00 LL12 **400.05** Information encoded by motor cortical neurons changes discretely during reaching. S. B. SUWAY*; A. B. SCHWARTZ. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

2:00 LL13 **400.06** The relationship between the sensory information and the awareness of action in reaching movement. J. RYU*; S. KIM. *Seoul Natl. Univ., Gachon Univ.*

3:00 LL14 **400.07** Spinal stretch reflexes show sophisticated tuning that supports hand control. J. WEILER*; P. L. GRIBBLE; A. PRUSZYNSKI. *Western Univ.*

4:00 MM1 **400.08** Out of sight, not out of reach: Activity in the superior colliculus associated with reaching for tactile targets. N. G. PRABHU*; M. HIMMELBACH. *Hertie Inst. for Clin. Brain Res., Intl. Max Planck Res. Sch. for Cognitive and Systems Neurosci.*

1:00 MM2 **400.09** Grip force in preparation for collisions. I. A. KULING*; P. LEFEVRE. *Univ. Catholique de Louvain, ICTEAM and Inst. of Neuroscience, Univ. Catholique de Louvain.*

2:00 MM3 **400.10** Divergent encoding of arm kinematics in the cuneate nucleus and primary somatosensory cortex. C. VERSTEEG*; E. R. GASPER; R. H. CHOWDHURY; T. TOMLINSON; L. E. MILLER. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Feinberg Sch. of Medicine, Northwestern Univ., Northwestern Univ.*

3:00 MM4 **400.11** Dynamic measures provide unique insights into motor dysfunction after stroke. A. B. THOMAS; E. V. OLESH; A. ADCOCK; V. GRITSENKO*. *West Virginia Univ.*

4:00 MM5 **400.12** Neurobehavioral effects of dissonant sensory feedback. J. T. JOHNSON*; F. L. HAMMOND; L. A. WHEATON. *Georgia Inst. of Technol., Georgia Inst. of Technol.*

POSTER

401. Voluntary Movements: Reaching Control: Movement Selection and Strategy

Theme E: Motor Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 MM6 **401.01** Control of arm movements during activities of daily living. N. DOUNSKAIA*; D. SANSGIRI; D. MARSHALL; J. SARBOLANDI; M. VIDT. *Arizona State Univ., Pennsylvania State Univ.*

2:00 MM7 **401.02** ● Co-contraction improves upper limb endpoint tracking in the presence of perturbations. C. M. SALIBA*; M. J. RAINBOW; W. S. SELBIE; K. J. DELUZIO; S. H. SCOTT. *Queen's Univ., C-Motion Inc, Queen's Univ.*

3:00 MM8 **401.03** An investigation of reach decision preferences during ongoing action control. J. MICHALSKI; A. M. GREEN; P. E. CISEK*. *Univ. of Montreal.*

4:00 MM9 **401.04** Effect of repeated explicit instructions on visuomotor adaptation and intermanual transfer. S. WERNER*; C. RICKERS; H. K. STRUEDER. *German Sport Univ.*

1:00 MM10 **401.05** Effect of practice and expertise on producing slow, smooth movements. J. FRIEDMAN*; L. NOY. *Tel Aviv Univ., Tel Aviv Univ., IDC (Interdisciplinary Center).*

2:00 MM11 **401.06** Dimensionality reduction in the control of quasi-static force production tasks in humans. N. C. SPEIDEL; P. CHEMBRAMMEL; R. N. MCNISH; S. N. MCKEEMAN; P. B. CAMACHO; C. LOPEZ-ORTIZ*. *Univ. of Illinois At Urbana Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana Champaign.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 MM12 **401.07** ▲ Control of forelimb joints during accurate stepping. H. N. ZUBAIR*; E. E. STOUT; I. N. BELOOZEROVA; N. DOUNSKAIA. *Barrow Neurolog. Inst., Arizona State Univ.*

4:00 MM13 **401.08** Scaling of muscle activation during 3D reach actions. C. R. SMITH*; A. HETHERINGTON; S. SILFIES; J. STEWART. *Univ. of South Carolina, Drexel Univ.*

1:00 MM14 **401.09** Aging and the neurocognitive mechanisms underlying corrective movements for obstacle collision avoidance. I. FLINT*; K. TREWARTHA. *Michigan Technological Univ., Michigan Technological Univ.*

2:00 NN1 **401.10** The effect of the flexion synergy on arm and hand kinematics in hemiparetic cerebral palsy: Preliminary results. N. M. HILL*; J. P. A. DEWALD. *Northwestern Univ.*

3:00 NN2 **401.11** Interaction with a complex object: Exploiting stability to render perturbations predictable. S. BAZZI; N. HOGAN; D. STERNAD*. *Northeastern Univ. Dept. of Biol., MIT.*

4:00 NN3 **401.12** Input shaping to control dynamically complex objects. H. GUANG; S. BAZZI; D. STERNAD; N. HOGAN*. *MIT, Northeastern Univ., Northeastern Univ. Dept. of Biol.*

1:00 NN4 **401.13** Modification of the control law in reaching movements induced by online target change. A. DE COMITE*; F. CREVECOEUR; P. LEFEVRE. *Catholic Univ. of Louvain, Univ. Catholique de Louvain, ICTEAM and Inst. of Neuroscience, Univ. Catholique de Louvain.*

2:00 NN5 **401.14** Fronto-parietal neural activity during multi-attribute decision-making with conflicting value information. A. NAKAHASHI*; T. LUSIGNAN; P. E. CISEK. *Univ. of Montreal.*

3:00 NN6 **401.15** ● Humans do not minimize muscle effort to control constrained motion. M. E. HUBER*; R. KOEPPEN; D. STERNAD; N. HOGAN. *MIT, Northeastern Univ. Dept. of Biol.*

4:00 NN7 **401.16** ● Small errors in movement paths can induce dramatic changes in musculotendon velocities. D. A. HAGEN*; C. M. LAINE; S. CHAKRAVARTHI RAJA; F. J. VALERO-CUEVAS. *USC, USC, USC.*

1:00 NN8 **401.17** Spatial averaging and inference of decision time in go-before-you-know tasks is not restricted to rapid movements. P. ULBRICH*; A. GAIL. *German Primate Ctr., Georg August Univ., Bernstein Ctr. for Computat. Neurosci.*

2:00 NN9 **401.18** Examining online adjustments to visual and somatosensory target perturbations. G. A. MANSON*; J. BLOUIN; D. MANZONE; A. KUMAWAT; V. CRAINIC; L. TREMBLAY. *Univ. of Toronto, Aix-Marseille Univ., Univ. of Toronto.*

3:00 NN10 **401.19** Estimating functional muscle parameters using high-density electromyography with a flexible array. R. L. HARDESTY*, JR; V. GRITSENKO; S. YAKOVENKO. *West Virginia Univ., West Virginia Univ., West Virginia Univ.*

4:00 NN11 **401.20** Neural correlates of kinematic planning and execution. V. N. THAKUR*; A. N. MURTHY. *Indian Inst. of Sci., Indian Inst. of Sci. Educ. and Res., Indian Inst. of Sci.*

1:00 NN12 **401.21** Motor planning associated with voluntary and involuntary movements occurs equally fast. R. L. HECKMAN*; D. LUDVIG; E. J. PERREAULT. *Northwestern Univ., Northwestern Univ.*

2:00 NN13 **401.22** BOLD representations of arm movement rate and speed in fMRI. S. SHIRINBAYAN*; A. DREYER; J. RIEGER. *Carl Von Ossietzky Univ. of Oldenburg.*

3:00 NN14 **401.23** There is an energetic cost to movement jerk during human reaching. J. D. WONG*; T. CLUFF; A. D. KUO. *Univ. of Calgary, Univ. of Calgary, Univ. of Calgary.*

POSTER

402. Voluntary Movements: Plasticity

Theme E: Motor Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 NN15 **402.01** The effects of biological sex and ovarian hormones on exercise-induced neuroplasticity. J. EL-SAYES*; C. V. TURCO; L. E. SKELLY; C. NICOLINI; M. FAHNESTOCK; M. GIBALA; A. J. NELSON. *McMaster Univ., McMaster Univ., McMaster Univ.*

2:00 NN16 **402.02** M1 tdcs does not influence performance of a fine-motor skill tweezer task. N. ZDANOWICZ; A. MEEK; D. GREENWELL; M. WOLFE; Z. A. RILEY*. *Indiana Univ. Purdue Univ. at Indianapolis.*

3:00 OO1 **402.03** Proprioceptive and sensorimotor neurophysiological changes associated with complex skill learning. J. L. MIRDAMADI*; C. R. SEIGEL; H. J. BLOCK. *Indiana Univ., Indiana Univ., Indiana Univ.*

4:00 OO2 **402.04** Slow oscillating transcranial alternating current stimulation applied during a motor learning task enhances the effectiveness of learning. M. V. SALE*; A. KUZOVINA. *Univ. of Queensland, The Univ. of Queensland.*

1:00 OO3 **402.05** Optimized 10-cage video system for automated mouse phenotyping with open-source software. P. CHARLES; A. ISTUDOR; A. SCHATZ; Y. WINTER*. *Humboldt Univ., Humboldt Univ. - Inst. Biologie.*

2:00 OO4 **402.06** ● Center-surround organization of short-term plasticity induced by transcranial static magnetic field stimulation of the human motor cortex. C. AMMANN*; M. DILEONE; A. OLIVIERO; G. FOFFANI. *Univ. Hosp. HM Puerta del Sur, Hosp. Los Madroños, Hosp. Nacional de Parapléjicos.*

3:00 OO5 **402.07** Corticospinal transmission in healthy humans is facilitated by repeated pairing of motor cortical and transcutaneous spinal stimulation. R. HANNAH*; P. BORGAS; L. DUFFELL; J. C. ROTHWELL. *UCL Inst. of Neurol., UCL.*

4:00 OO6 **402.08** Theta burst electrical stimulation of the motor cortex produces functional reorganization of the corticospinal system in rats. A. AMER*; A. SARKAR; E. HARA; A. KHAN; Z. MIYFA; K. REN; L. RAMEAU; J. H. MARTIN. *The Grad. Ctr. At CUNY, CUNY Sch. of Med., Ctr. of Discovery and Innovation of CCNY, Hunter Col.*

1:00 OO7 **402.09** Timing and intensity of vagus nerve stimulation influences motor cortex plasticity. R. A. MORRISON*; D. HULSEY; K. ADCOCK; Y. TSANG; A. KUO; J. JOHN; R. L. RENNAKER; M. P. KILGARD; S. A. HAYS. *Univ. of Texas At Dallas.*

2:00 OO8 **402.10** The use of tDCS to enhance learning of a dart throwing task. A. W. MEEK*; D. GREENWELL; M. WOLFE; B. J. POSTON; Z. A. RILEY. *Indiana University-Purdue Univ. Indianapolis, Univ. of Nevada Las Vegas.*

Mon. PM

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

3:00 OO9 **402.11** Kinesthetic illusion shapes motor cortex plasticity induced by action observation. M. BOVE*; M. BIGGIO; P. RUGGERI; L. AVANZINO; A. BISIO. *Univ. of Genoa.*

4:00 OO10 **402.12** Performance of a timing-based hand dexterity video game with M1 tDCS. M. WOLFE*; A. ZAKERESFAHANI; M. WILSON; A. W. MEEK; B. J. POSTON; Z. A. RILEY. *Indiana University-Purdue Univ. Indianapolis, Univ. of Nevada Las Vegas.*

1:00 OO11 **402.13** Movement-dependent electrical stimulation for promoting cortico-cortical plasticity. S. MOORJANI*; S. WALVEKAR; S. I. PERLMUTTER; E. E. FETZ. *Univ. of Washington.*

2:00 OO12 **402.14** Prevalence of BDNF polymorphism in musicians: Evidence for compensatory motor learning strategies in music? T. L. HENECHOWICZ*; J. L. CHEN; L. G. COHEN; M. H. THAUT. *Univ. of Toronto, Univ. of Toronto, NIH/NINDS, Univ. of Toronto.*

3:00 OO13 **402.15** Changes in spindle induced spiking activity after motor learning. D. B. SILVERSMITH*; D. RAMANATHAN; S. M. LEMKE; K. GANGULY. *Univ. of California San Francisco, Univ. of California San Francisco, Univ. of California, San Francisco, UCSF.*

4:00 OO14 **402.16** tDCS over dorsolateral prefrontal cortex does not affect prefrontal-to-M1 interhemispheric inhibition. S. UEHARA*; F. MAWASE; K. CHERRY-ALLEN; K. RUNNALLS; M. KHAN; P. CELNIK. *Johns Hopkins Univ., Fujita Hlth. Univ., Johns Hopkins Univ.*

1:00 OO15 **402.17** Neurophysiological correlates of maladaptive plasticity in the population code of the intact hemisphere of rats after an ischemic infarct of primary motor cortex. M. D. MURPHY*; A. R. PACK; D. T. BUNDY; S. BARBAY; D. J. GUGGENMOS; R. J. NUDO. *Univ. of Kansas, Univ. of Kansas Med. Ctr., Emory Univ., Univ. of Kansas Med. Ctr., Univ. Kansas Med. Ctr., Univ. of Kansas Med. Ctr.*

2:00 OO16 **402.18** Real-time fMRI neurofeedback for bi-directional modulation of ipsilateral sensorimotor cortex. Z. SANDERS*; C. SAMPAIO-BAPTISTA; K. DIOSI; M. LUEHRS; R. GOEBEL; H. JOHANSEN-BERG. *Oxford Univ., Maastricht Univ.*

3:00 OO17 **402.19** Brain-behavior relationship: Interhemispheric inhibition and bimanual coordination in skilled musicians. Y. KUO*; J. J. KUTCH; B. E. FISHER. *USC.*

4:00 OO18 **402.20** Changes in human white-matter architecture following sensorimotor adaptation. A. J. DE BROUWER*; J. Y. NASHED; D. STANDAGE; J. R. FLANAGAN; J. P. GALLIVAN. *Queen's Univ.*

1:00 PP1 **402.21** Pharmacological lesion of the rat motor cortex induces spinogenesis in spinal cord motor neurons. M. N. VÁZQUEZ HERNÁNDEZ*; N. G. MARTÍNEZ-TORRES; D. GONZÁLEZ-TAPIA; M. E. FLORES-SOTO; H. SALGADO-CEBALLOS; I. GONZÁLEZ-BURGOS. *Ctr. de Investigacion Biomedica de Occidente, Univ. de Guadalajara, Inst. Nacional de Ciencias de la Rehabilitación Integral, A.C., Inst. Mexicano del Seguro Social.*

2:00 PP2 **402.22** ▲ Targeted neuromodulation of interhemispheric connectivity after stroke. S. LIN; J. A. PALMER*; M. R. BORICH. *Emory Univ.*

3:00 PP3 **402.23** Is there an instrument-dependent effect on interhemispheric inhibition and bimanual coordination in musicians? Y. KUO; J. E. GORDON; C. J. WINSTEIN; J. J. KUTCH; S. S. KANTAK; B. E. FISHER*. *USC, Moss Rehabil. Hosp.*

4:00 PP4 **402.24** ▲ Changes in cortical excitability during ischaemic nerve block. S. NAULLS*; P. SARAI; P. H. STRUTTON. *Imperial Col. London.*

1:00 PP5 **402.25** ▲ Mechanisms underlying changes in cortical excitability following ischaemic nerve block of the upper limb. M. CONSTANTINESCU*; P. SARAI; P. H. STRUTTON. *Imperial Col. London, Imperial Col. London.*

2:00 PP6 **402.26** ▲ Use of ischaemic nerve block to assess the potential of transcranial magnetic stimulation to monitor spinal cord perfusion. A. M. WATSON*; P. SARAI; P. H. STRUTTON. *Imperial Col. London.*

3:00 PP7 **402.27** ● Effect of acute exposition to Toluene on cortical excitability, neuroplasticity, and cognitive functions in healthy humans. M. KUO*; F. YAVARI; C. VAN TRIEL; M. NITSCHE. *Leibniz Res. Ctr. For Working Envrn., Leibniz research Ctr. for Working Envrn. and Human Factors, Leibniz research Ctr. for Working Envrn. and Human Factors.*

4:00 PP8 **402.28** ● Titrating the neuroplastic effects of cathodal transcranial direct current stimulation (tDCS) over the primary motor cortex. M. A. NITSCHE*; M. KUO; D. AGBOADA; A. JAMIL; M. MOSAYEBI. *Leibniz Res. Ctr. for Working Envrn., Univ. Hosp. Bergmannsheil, Leibniz Res. Ctr. For Working Envrn. and Human Factors, Inst. of Biomed. Engin. and Informatics, Ilmenau Univ. of Technol.*

POSTER

403. Brain-Machine Interface: Grasp

Theme E: Motor Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 PP9 **403.01** Cortical representations of sensorimotor control of fine grasping in non-human primates. S. M. WURTH*; M. BADI; M. KAESER; B. BARRA; F. MOREILLON; G. COURTINE; M. CAPOGROSSO; J. BLOCH; E. M. ROUILLER; S. MICERA. *EPFL - Campus Biotech B3.04, Univ. of Fribourg, HEPIA, EPFL, CHUV, Scuola Superiore Sant'Anna.*

2:00 PP10 **403.02** Neuroanatomical, computational, and experimental evidences for the use of intraneural peripheral nerve stimulation to induce fine hand movements. M. BADI*; S. WURTH; M. KAESER; P. ČVANčARA; T. STIEGLITZ; G. COURTINE; M. CAPOGROSSO; J. BLOCH; E. ROUILLER; S. MICERA. *EPFL, Univ. of Fribourg, Lab. for Biomed. Microtechnology, Dept. of Microsystems Engin. - IMTEK, Univ. of Freiburg, EPFL, Ctr. Hospitalier Universitaire Vaudois (CHUV), Univ. of Fribourg, Ctr. Hospitalier Universitaire Vaudois (CHUV), Scuole Superiore Sant'Anna.*

3:00 PP11 **403.03** Probing the cortical sensorimotor network of nonhuman primates during reaching and grasping. M. G. PERICH*; S. CONTI; B. BARRA; M. KAESER; G. SCHIAVONE; N. GREINER; M. HARVEY; J. BLOCH; S. P. LACOUR; G. COURTINE; E. M. ROUILLER; M. CAPOGROSSO; T. MILEKOVIC. *Univ. of Geneva, Univ. of Fribourg, Ecole Polytechnique Federale de Lausanne (EPFL), Ecole Polytechnique Federale de Lausanne (EPFL), Ctr. Hospitalier Universitaire Vaudois (CHUV).*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 PP12 **403.04** Spinal reflexes elicited by continuous epidural electrical stimulation of the intact cervical spinal cord during reaching and grasping in awake non-human primates. B. BARRA*; S. CONTI; M. G. PERICH; M. KAESER; N. GREINER; G. SCHIAVONE; T. MILEKOVIC; J. BLOCH; S. P. LACOUR; G. COURTINE; E. M. ROUILLER; M. CAPOGROSSO. *Univ. of Fribourg, Univ. of Geneva, Ecole Polytechnique Federale de Lausanne (EPFL), Ecole Polytechnique Federale de Lausanne (EPFL), Ctr. Hospitalier Universitaire Vaudois (CHUV).*

1:00 PP13 **403.05** Three dimensional reaching to grasp task for brain machine interface in rhesus monkey. S. KIM*; S. HYUN; J. CHOI; I. JEONG; S. LEE; B. LEE; S. OH; B. KANG; J. SOHN. *Daegu-Gyeongbuk Med. Innovation Fndn.*

2:00 PP14 **403.06** Impact of macro and microanatomy of the cervical spinal cord on the recruitment of arm motoneurons in primates and humans. N. GREINER*; B. BARRA; G. SCHIAVONE; S. BORGOGNON; E. PRALONG; S. P. LACOUR; J. BLOCH; G. COURTINE; M. CAPOGROSSO. *Univ. of Fribourg, EPFL, EPFL, Ctr. Hospitalier Universitaire Vaudois (CHUV).*

3:00 PP15 **403.07** Grasp representation in posterior parietal cortex and premotor cortex in a tetraplegic human. S. K. WANDELT*; S. KELLIS; M. ARMENTA SALAS; L. BASHFORD; M. JAFARI; H. JO; K. PEJSA; D. KRAMER; B. LEE; C. LIU; R. A. ANDERSEN. *Caltech, Neurorestoration Ctr. and the Departments of Neurolog. Surgery, Univ. of Southern California.*

4:00 PP16 **403.08** ● Multiple grasp types can be reliably decoded from the precentral gyrus of people with ALS with progressive levels of motor impairment. K. T. HUANG*; D. M. BRANDMAN; J. SAAB; V. CHAVAKULA; C. E. VARGAS-IRWIN; S. E. FASOLI; C. H. BLABE; B. L. SORICE; B. JAROSIEWICZ; J. P. DONOGHUE; J. M. HENDERSON; K. V. SHENOY; L. R. HOCHBERG. *Brown Univ., Brown Univ., Brigham and Women's Hosp., Brown Univ., Dalhousie Univ., Brown Univ., Providence Veterans Affairs Med. Ctr., MGH Inst. of Hlth. Professions, Stanford Univ., Massachusetts Gen. Hosp., Present affiliation: NeuroPace, Inc., Wyss Ctr., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

1:00 PP17 **403.09** A feedback controller for sustained functional grasps using neuromuscular electrical stimulation. J. G. CIANCIBELLO*; S. PADMANABAN; K. KING; M. STRAKA; C. BOUTON. *Feinstein Inst., Feinstein Inst. for Med. Res., Feinstein Inst., Feinstein Inst., The Feinstein Inst. for Med. Res.*

2:00 PP18 **403.10** Behavioural and neurophysiological effects of concurrent transcranial direct current stimulation and motor training in young and older adults. R. A. MOONEY*; J. CIRILLO; W. D. BYBLOW. *Univ. of Auckland, Univ. of Auckland.*

3:00 PP19 **403.11** Using inertial measurements to automatically identify and calibrate neuromuscular stimulation patterns for restoring movement in paralysis. K. KING*; J. G. CIANCIBELLO; C. BOUTON; M. STRAKA. *Feinstein Inst.*

4:00 PP20 **403.12** Effects of a compliant surface on cognitive agency during hand grasp loading. R. NATARAJ*; S. SANFORD; A. SHAH. *Stevens Inst. of Technol.*

1:00 PP21 **403.13** The stabilization of M1 neural modes for the control of muscle activity through a Brain Computer Interface. X. MA*; J. A. GALLEGO; A. FARSHCHIAN; K. L. BODKIN; S. A. SOLLA; L. E. MILLER. *Northwestern Univ., Spanish Natl. Res. Council.*

2:00 PP22 **403.14** Electrocorticographic dissociation of alpha and beta rhythmic activity in the human sensorimotor system. A. STOLK*; L. BRINKMAN; M. VANSTEENSEL; E. J. AARNOUTSE; R. T. KNIGHT; F. LEIJTEN; C. DIJKERMAN; F. DE LANGE; I. TONI. *Helen Wills Neurosci. Institute, UC Berkeley, Radboud Univ. Nijmegen, Donders Inst. For Brain, Cognition & Behaviour, Utrecht Univ., Brain Ctr. Rudolf Magnus/University Med. Cent, UC Berkeley, Donders Insitute, Donders Inst.*

3:00 QQ1 **403.15** Spatiotemporal analysis of longitudinal spike recordings in human cortex. S. KELLIS*; L. BASHFORD; M. ARMENTA SALAS; M. JAFARI; H. JO; C. KLAES; B. LEE; C. LIU; R. A. ANDERSEN. *Caltech, Keck Sch. of Med. of USC, Tianqiao and Chrissy Chen Brain-Machine Interface Ctr. at Caltech, Neurorestoration Ctr. of USC, Ruhr Univ.*

POSTER

404. Brain-Machine Interface: Somatosensory

Theme E: Motor Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 QQ2 **404.01** Functional connectivity analysis of primary somatosensory cortex with posterior parietal cortex and ventral premotor cortex. H. JO*; S. KELLIS; M. ARMENTA SALAS; L. BASHFORD; M. JAFARI; K. PEJSA; D. J. KRAMER; B. LEE; C. LIU; E. E. FETZ; R. A. ANDERSEN. *Caltech, Keck Sch. of Med. of USC, Tianqiao and Chrissy Chen Brain-Machine Interface Ctr. at Caltech, Neurorestoration Ctr. of USC, Univ. of Washington.*

2:00 QQ3 **404.02** Effect of varying stimulation parameters on elicited sensation with intracortical microsimulation in human somatosensory cortex. L. BASHFORD*; M. ARMENTA SALAS; S. KELLIS; H. JO; M. JAFARI; K. PEJSA; B. LEE; C. LIU; R. A. ANDERSEN. *Caltech, Keck Sch. of Med. of USC.*

3:00 QQ4 **404.03** Spatiotemporally overlapping haptic and direct cortical stimulation in humans results in simultaneous perception with a range of delays predicted by the response time delay to cortical stimulation. D. J. CALDWELL*; J. A. CRONIN; K. E. WEAVER; A. L. KO; R. P. RAO; J. G. OJEMANN. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*

4:00 QQ5 **404.04** Perception of and parameters for direct cortical stimulation in human somatosensory cortex. J. A. CRONIN*; D. J. CALDWELL; G. M. BOYNTON; K. E. WEAVER; R. P. RAO; J. G. OJEMANN. *Univ. of Washington, Ctr. for Sensorimotor Neural Engin., Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*

1:00 QQ6 **404.05** Human perception of biomimetic intracortical microstimulation in somatosensory cortex. C. L. HUGHES*; J. M. WEISS; S. J. BENSMAIA; R. A. GAUNT. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Chicago.*

2:00 QQ7 **404.06** Sciatic intraneural stimulation evokes selective sensations from the phantom leg of trans-femoral amputees. F. M. PETRINI*; G. VALLE; M. BUMBASIREVIC; F. BARBERI; D. GUIRAUD; T. STIEGLITZ; S. MICERA; S. RASPOPOVIC. *EPFL, ETH, Scuola Superiore Sant'Anna, Clin. Ctr. of Serbia, Lirmm, Imtek.*

Mon. PM

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 QQ8 **404.07** A vision of touch. S. CHIVUKULA*; T. AFLALO; C. Y. ZHANG; M. JAFARI; E. ROSARIO; D. OUELLETTE; K. PEJSA; N. POURATIAN; R. A. ANDERSEN. *Caltech, Casa Colina Hosp. and Centers for Healthcare, Casa Colina Hosp. and Centers for Healthcare, UCLA.*

4:00 QQ9 **404.08** ● Representation of face, head and leg movements in "arm/hand" area of human motor cortex. F. WILLETT*; P. REZAII; L. R. HOCHBERG; J. M. HENDERSON; K. V. SHENOY. *Stanford Univ., Stanford Univ., Dept. of VA Med. Ctr., Brown Univ., Massachusetts Gen. Hosp., Harvard Med. Sch., Brown Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*

1:00 QQ10 **404.09** Assessment of functional benefits afforded by sensory-enabled prostheses to upper-limb amputees. J. J. ABBAS*; S. S. KUNTAEGOWDANAHALLI; K. HORCH; L. RINCON GONZALEZ; A. E. PENA; A. K. THOTA; B. K. HILLEN; D. AGUILAR; R. JUNG. *Arizona State Univ., Florida Intl. Univ.*

2:00 QQ11 **404.10** Neural-enabled prosthetic hand system to restore sensation in upper-limb amputees. R. JUNG*; S. S. KUNTAEGOWDANAHALLI; A. K. THOTA; A. E. PENA; K. W. HORCH; J. PATRICK; J. J. ABBAS. *Florida Intl. Univ., Cochlear Limited, Arizona State Univ.*

3:00 QQ12 **404.11** Acquisition of body schema to control a virtual tail via EEG-based brain-computer interface. S. KIMURA*; S. KASUGA; N. MIZUGUCHI; J. USHIBA. *Keio Univ., Queen's Univ., Keio Univ. Fac. of Sci. and Technol., Keio Inst. of Pure and Applied Sci. (KiPAS).*

POSTER

405. Sensory Input to Respiratory Control

Theme E: Motor Systems

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 DP07/QQ13 **405.01** (Dynamic Poster) Central circuits for CO_2 chemosensory regulation of breathing in freely behaving mice. A. M. BHANDARE*; R. T. R. HUCKSTEPP; N. E. DALE. *Univ. of Warwick.*

2:00 QQ14 **405.02** Cardiorespiratory regulation by glutamatergic neurons in the caudal solitary nucleus. S. YOKOTA*; K. TAKEDA; M. LAZARUS; Y. ARIMA; M. FUJITANI; Y. OKADA. *Shimane Univ., Fujita Hlth. Univ., Univ. of Tsukuba, Murayama Med. Ctr.*

3:00 QQ15 **405.03** Molecular and functional diversity of pulmonary sensory neurons revealed by single-cell RNA sequencing. Y. LIU*; A. DIAZ DE ARCE; M. A. KRASNOW. *Stanford Univ.*

4:00 QQ16 **405.04** Respiratory load compensation and perception during submaximal exercise in collegiate athletes. S. ADAMS*; D. C. MALLOY. *Pfeiffer Univ., Drexel Univ.*

1:00 QQ17 **405.05** Significance of astrocytic activation in hypoxic respiratory responsiveness in the *in vitro* medulla-spinal cord preparation of the newborn rat. I. FUKUSHI*; M. UCHIYAMA; Y. KURITA; I. YAZAWA; S. OKAZAKI; Y. HASEBE; Y. KONO; S. YOKOTA; K. TAKEDA; Y. MORI; H. ONIMARU; Y. OKADA. *Murayama Med. Ctr., Grad. Sch. of Engineering, Kyoto Univ., Hoshi Univ. Sch. of Pharm. & Pharmaceut. Sc, Waseda Univ., Sch. of Medicine,University of Yamanashi, Univ. of Yamanashi, Shimane Univ., Fujita Hlth. Univ., Kyoto Univ. Sch. of Engin., Showa Univ. Sch. of Med.*

2:00 QQ18 **405.06** PACAP expression in RTN chemosensory neurons contributes to CO_2-stimulated breathing. Y. SHI*; D. STORNETTA; A. SAHU; K. LI; Y. WABARA; A. DHAKAL; E. PEREZ-REYES; R. STRONETTA; P. GUYENET; D. BAYLISS. *Univ. of Virginia.*

3:00 QQ19 **405.07** Baseline activity and CO_2/H^+-sensitivity of neurons in the retrotrapezoid nucleus are increased in a mouse model of Rett syndrome. C. M. GONÇALVES*; M. L. OLSEN; D. K. MULKEY. *Univ. of Connecticut, Virginia Polytechnic and State Univ.*

4:00 QQ20 **405.08** Adenosine/A1 receptor modulation of chemosensitive neurons in the retrotrapezoid nucleus and *in vivo* in A1 receptor knockout mice. S. D. JAMES*; S. A. MASINO; D. N. RUSKIN; T. S. MOREIRA; D. K. MULKEY. *Univ. of Connecticut, Trinity Col., Trinity Col., Univ. of Sao Paulo, Univ. Connecticut.*

1:00 QQ21 **405.09** $P2Y_2$ receptors contribute to specialized CO_2/H^+ dependent regulation of arteriole tone in the retrotrapezoid nucleus. C. CLEARY*; D. MULKEY. *Univ. of Connecticut.*

2:00 QQ22 **405.10** A Trpm4-like subthreshold oscillation underlies repetitive firing in mouse chemosensitive RTN neurons. K. LI; Y. SHI; D. A. BAYLISS*. *Univ. of Virginia, Univ. of Virginia Dept. of Pharmacol.*

3:00 QQ23 **405.11** Metabolic inhibition of astrocytes reduces the respiratory response induced by hypercapnic acidosis of the raphe nucleus. M. J. OLIVARES*; S. BELTRAN-CASTILLO; J. L. EUGENÍN. *Univ. de Santiago de Chile, Pontificia Univ. Católica De Chile.*

4:00 QQ24 **405.12** Brainstem mechanisms of cardio-ventilatory coupling. W. H. BARNETT; R. CAPPS; E. LATASH; D. M. BAEKEY; T. E. DICK; J. PATON; Y. I. MOLKOV*. *Georgia State Univ., Univ. of Florida, Case Western Res. Univ., Univ. of Auckland.*

1:00 QQ25 **405.13** Effect of laryngeal adductor reflex and hypercapnia on the swallow-breathing relationship in cats. M. D. REED; A. HUFF; I. POLIACEK; D. C. BOLSER; T. PITTS*. *Univ. of Louisville, Univ. of Louisville Sch. of Med., Comunius Univ., Univ. of Florida, Univ. of Louisville.*

2:00 QQ26 **405.14** Anatomical characterization of Olfr78-expressing pulmonary sensory neurons. A. J. DIAZ DE ARCE*; Y. LIU; M. KRASNOW. *Stanford Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

406. Advances in the Neural Basis of Birdsong

Theme F: Integrative Physiology and Behavior

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 RR1 **406.01** Relation between song preference and song learning in male Bengalese finches. T. FUJII*; M. IKEBUCHI; K. OKANOYA. *The Univ. of Tokyo, JSPS, RIKEN.*

2:00 RR2 **406.02** Functional connectivity signatures accurately distinguish male zebra finches who have been isolated from song during the sensitive period for vocal learning. E. A. LAYDEN*; K. E. SCHERTZ; M. G. BERMAN; S. E. LONDON. *The Univ. of Chicago.*

3:00 RR3 **406.03** Correlation between song learning and perineuronal nets development in song control nuclei of juvenile canaries. G. CORNEZ; C. COLLIGNON; W. MÜLLER; G. F. BALL; C. A. CORNIL; J. H. BALTHAZART*. *Univ. of Liege, Univ. of Antwerp, Univ. of Maryland, Univ. of Liege.*

4:00 RR4 **406.04** Single cell resolution and seasonal distribution of neuronal phenotypes in the song control system of canaries. C. FRANKL-VILCHES; P. ALCAMI; S. LEITNER*; N. WILHELMI; A. BAKKER; M. L. GAHR. *Max Planck Inst. for Ornithology, Max Planck Inst. Ornithology.*

1:00 RR5 **406.05** Age and sex differences in vitamin A signaling across the songbird vocal circuit. C. R. OLSON*; V. PRASAD; R. M. POTTER. *Midwestern Univ.*

2:00 RR6 **406.06** Changes inSCN4B and the resurgent sodium current during a critical period may be important for the production of crystalized song in adult zebra finches. B. ZEMEL*; P. V. LOVELL; S. R. FRIEDRICH; C. V. MELLO; H. P. VON GERSDORFF. *Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ. Sch. of Med., Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*

3:00 RR7 **406.07** Cell type specific investigation of corticalstriatal premotor neurons in song learning. M. SÁNCHEZ-VALPUESTA; Y. SHIBATA; N. C. ASOGWA; K. WADA*. *Hokkaido Univ., Hokkaido Univ., Hokkaido Univ.*

4:00 RR8 **406.08** DNA methylation: A contributing mechanism for specializing vocal learning brain circuits. C. GILBERT*; G. GEDMAN; L. CANTIN; T. CARROLL; E. D. JARVIS. *Rockefeller Univ., Howard Hughes Med. Inst.*

1:00 RR9 **406.09** AAV-siRNA targeting miR-128 enhances learned vocal communication. C. M. AAMODT*; S. A. WHITE. *UCLA, Univ. of California Los Angeles.*

2:00 RR10 **406.10** "Enhancing" vocal learning: Gene regulatory specializations in song circuits. L. CANTIN*; M. WIRTHLIN; J. CAHILL; G. GEDMAN; C. GILBERT; A. PFENNING; E. D. JARVIS. *The Rockefeller Univ., Carnegie Mellon Univ., Howard Hughes Med. Inst.*

3:00 RR11 **406.11** A combined convolutional-recurrent deep neural network for accurate annotation of large birdsong datasets. D. A. NICHOLSON*; T. J. GARDNER; Y. COHEN. *Emory Univ., Boston Univ.*

4:00 RR12 **406.12** Redefining the convergent brain transcriptome for human speech and birdsong. P. V. LOVELL*; C. V. MELLO. *Oregon Hlth. and Sci. Univ. Sch. of Med.*

1:00 RR13 **406.13** NSF EDGE consortium transgenic songbird project: Developing gene manipulation tools and resources for a vocal learning species. T. VELHO*; A. KEYTE; A. Y. M. SOARES; M. T. BIEGLER; P. V. LOVELL; C. V. MELLO; C. LOIS; E. D. JARVIS. *CALTECH, Federal Univ. of Rio Grande do Norte, The Rockefeller Univ., Rockefeller Univ., Oregon Hlth. and Sci. Univ. Sch. of Med., Caltech.*

1:00 DP08/RR14 **406.14** (Dynamic Poster) Zebra finch Expression Brain Atlas (www.zebrafinchatlas.org): Update and recent analyses. C. V. MELLO*; P. V. LOVELL. *Oregon Hlth. and Sci. Univ. Sch. of Med.*

3:00 SS1 **406.15** Norepinephrine in auditory processing areas enhances auditory learning and responsiveness in developing songbirds. Y. CHEN*; S. YANAGIHARA; Y. YAZAKI-SUGIYAMA; J. T. SAKATA. *McGill Univ., Okinawa Inst. of Sci. and Technol. (OIST) Grad. Univ., McGill Univ.*

4:00 SS2 **406.16** Distribution and physiology of dopamine D1 receptors in the songbird secondary auditory cortex. M. MACEDO-LIMA*; H. BOYD; A. MCGRATH; L. REMAGE-HEALEY. *Univ. of Massachusetts Amherst, CAPES/Brazil.*

1:00 SS3 **406.17** Synchronized cortical activity in auditory perception in canaries. S. BOARI*; G. B. MINDLIN; A. AMADOR. *Univ. of Buenos Aires and IFIBA-CONICET.*

2:00 SS4 **406.18** Premotor control of coordinated vocalizations in zebra finches. J. BENICHOV*; S. WILCZEK; D. VALLENTIN. *Freie Univ. Berlin.*

3:00 SS5 **406.19** Roles of sensory and motor activity in coordinating a cooperative behavior between female and male wrens. M. J. COLEMAN*; N. F. DAY; P. RIVERA PARRA; E. S. FORTUNE. *Claremont McKenna, Pitzer and Scripps Colleges, Univ. of California Los Angeles, Escuela Politécnica Nacional, New Jersey Inst. of Technol.*

4:00 SS6 **406.20** Mating posture and female choice in songbirds. A. PERKES*; C. MESSIER; M. WILD; B. PFROMMER; M. F. SCHMIDT. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

1:00 SS7 **406.21** From perception to action: Sensory cortices and motor pathways underlying female mate choice. J. F. PRATHER*; K. S. LAWLEY; J. L. DUNNING. *Univ. of Wyoming, Vanderbilt Univ.*

2:00 SS8 **406.22** Monitoring of social interactions in western jackdaws by a 3D tracking system. A. L. VYSSOTSKI*; S. J. VAN HASSELT; G. MEKENKAMP; A. N. ABRAMCHUK; N. C. RATTENBORG; P. MEERLO. *Inst. of Neuroinformatics, Univ. of Zurich and ETH Zurich, Univ. of Groningen, Luxoft Ltd., Max Planck Inst. for Ornithology.*

3:00 SS9 **406.23** Immediate early gene response to gargle calls of intact and HVC-lesioned black-capped chickadees (Poecile atricapillus). S. K. MISCHLER*; R. A. FERNÁNDEZ; S. A. MACDOUGALL-SHACKLETON; C. B. STURDY. *Univ. of Alberta, Univ. Veracruzana, Univ. of Western Ontario.*

4:00 SS10 **406.24** Calcium imaging in canary (serinus canaria) HVC reveals latent states supporting behavioral sequencing with long range history dependence. Y. COHEN*; J. SHEN; D. SEMU; D. P. LEMAN; W. A. LIBERTI, III; N. PERKINS; T. J. GARDNER. *Boston Univ., UC Berkeley.*

1:00 SS11 **406.25** Combining light sheet and expansion microscopy for large scale, high resolution projectomics of the zebra finch brain. D. N. DÜRING*; M. ROCHA; F. DITTRICH; M. L. GAHR; R. H. HAHNLOSER. *ETH Zurich, Neurosci. Ctr. Zurich (ZNZ), Max Planck Inst. for Ornithology, Inst. of Neuroinformatics, Univ. of Zurich/ETH Zurich.*

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* Indicates abstract's submitting author

2:00 SS12 **406.26** Viral methods for reversible knockdown of speech-related genes in the songbird. L. XIAO*; M. CAO; F. GARCIA OSCOS; M. CO; G. KONOPKA; T. F. ROBERTS. *Univ. of Texas Southwestern Med. Ctr., UT Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr.*

3:00 SS13 **406.27** A neural circuit for renewed motor exploration in birdsong. D. ALAM*; T. F. ROBERTS. *UT Southwestern Med. Ctr., UT Southwestern Med. Ctr.*

4:00 SS14 **406.28** Reafferent thalamo-cortical pathway connects motor and auditory circuits important for song. M. Z. IKEDA*; T. F. ROBERTS. *UT Southwestern Med. Ctr., UT Southwestern Med. Ctr.*

1:00 TT1 **406.29** Inception of vocal memories for song syllable timing. W. ZHAO*; F. GARCIA OSCOS; T. F. ROBERTS. *UT Southwestern Med. Ctr., UT Southwestern Med. Ctr.*

2:00 TT2 **406.30** Precise neural sequences for birdsong emerge from functionally distinct networks of premotor neurons. V. K. DALIPARTHI*; B. G. COOPER; S. J. SOBER; T. F. ROBERTS. *Univ. of Texas Southwestern Med. Ctr., Texas Christian Univ., Emory Univ., UT Southwestern Med. Ctr.*

POSTER

407. Social Communication in Non-Avian Species

Theme F: Integrative Physiology and Behavior

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 TT3 **407.01** Forebrain control of behaviorally-driven social orienting in zebrafish. S. J. STEDNITZ*; E. MCDERMOTT; D. NCUBE; P. E. WASHBOURNE. *Univ. of Oregon, Univ. of Oregon`, Inst. of Neuroscience, Univ. of Oregon.*

2:00 TT4 **407.02** ▲ Understanding the cellular and genetic bases of sexually dimorphic vocal behaviors in the African clawed frog. T. STEELE*; C. J. WILSON; C. L. BARKAN; E. ZORNIK. *Reed Col., Reed Col.*

3:00 TT5 **407.03** Speech-related gene FOXP2 expression in the central vocal pathways of the African clawed frog. A. YAMAGUCHI*; D. J. WOLLER; K. MEREDITH; A. NGUYEN. *Univ. of Utah.*

4:00 TT6 **407.04** Dietary tuning of begging behavior in a social tadpole. L. A. O'CONNELL*; S. V. EDWARDS; K. SUMMERS. *Stanford Univ., Harvard Univ., East Carolina Univ.*

1:00 TT7 **407.05** Effects of acquisition and maintenance of social status on cytochrome oxidase activity in the preoptic area and amygdala in green anole lizards. D. SHUKLA; L. DUMANOWSKY; J. KIM; G. M. GUTZMAN; J. HONG; W. WILCZYNSKI*. *Georgia State Univ. Neurosci. Inst.*

2:00 TT8 **407.06** Epigenomic dissection of regulatory elements underlying the evolution of learned vocal behavior. M. WIRTHLIN*; L. CANTIN; S. ANNALDASULA; T. PARK; E. D. JARVIS; A. R. PFENNING. *Carnegie Mellon Univ., The Rockefeller Univ.*

3:00 TT9 **407.07** Neural adaptations for coding social communication in the presence of social noise. K. M. ALLEN*; G. T. SMITH; G. MARSAT. *West Virginia Univ., Indiana Univ.*

4:00 TT10 **407.08** A midbrain-to-hindbrain circuit for the control of vocalization. K. A. TSCHIDA*; V. MICHAEL; J. TAKATO; S. ZHAO; B. HAN; R. MOONEY; F. WANG. *Duke Univ.*

1:00 TT11 **407.09** A 'Go-signal' for vocal production in the brain of a developing vocal learning mammal. M. C. ROSE*; M. M. YARTSEV. *Univ. of California Berkeley, Univ. of California Berkeley.*

2:00 TT12 **407.10** A hypothalamic-to-midbrain circuit for the control of vocalization. V. C. MICHAEL*; K. A. TSCHIDA; S. ZHAO; F. WANG; R. D. MOONEY. *Duke, Duke Univ., Duke Univ., Duke Univ. Dept. of Neurobio.*

1:00 DP09/TT13 **407.11** ● (Dynamic Poster) DeepSqueak: A deep learning based system for quantification of ultrasonic vocalizations. R. MARX*; K. R. COFFEY; J. F. NEUMAIER. *Univ. of Washington.*

4:00 TT14 **407.12** Long-term and persistent vocal plasticity in adult bats. M. M. YARTSEV*; D. GENZEL. *Univ. of California Berkeley, Univ. of California.*

1:00 TT15 **407.13** Mapping vocal production circuits in a vocal learning mammal - the bat. T. A. SCHMID*; A. A. NEVUE; P. V. LOVELL; M. B. JI; V. A. SHVAREVA; C. V. PORTFORS; C. V. MELLO; M. M. YARTSEV. *Univ. of California Berkeley, OHSU, Oregon Hlth. and Sci. Univ. Sch. of Med., Univ. of California, Berkeley, Washington State Univ., Univ. of California Berkeley.*

2:00 TT16 **407.14** Investigating the role that social status plays in vocal courtship behavior using a sound source localization system. R. S. CLEIN*; D. T. SANGIAMO; J. P. NEUNUEBEL. *Univ. of Delaware, Univ. of Illinois, Urbana-Champaign, Univ. of Delaware.*

3:00 TT17 **407.15** Using a sound source localization system to quantify autism-like deficits in mice during naturalistic group interaction. M. R. WARREN*; J. P. NEUNUEBEL. *Univ. of Delaware, Univ. of Delaware.*

4:00 TT18 **407.16** Acoustic characteristics of vocal motor units in phee vocalizations of marmoset monkeys. C. RISUENO SEGOVIA*; S. R. HAGE. *Werner Reichardt Ctr. For Integrative Neuroscien, CIN, Univ. of Tubingen.*

1:00 TT19 **407.17** Does Limiting parental interaction interrupt or regress vocal development in marmoset monkeys? Y. GÜLTEKIN*; D. G. HILDEBRAND; S. R. HAGE. *Ctr. of Integrative Neurosci., Rockefeller Univ., CIN, Univ. of Tubingen.*

2:00 TT20 **407.18** Neurobehavioral and vocal development in marmoset infants. R. LANDMAN*; O. MEISNER; S. PARMAR; R. DESIMONE; G. FENG. *Broad Inst., MIT, McGovern Inst. Brain Res., MIT.*

3:00 TT21 **407.19** Operant conditioning of vocal behavior in marmoset monkeys. T. POMBERGER*; C. RISUENO-SEGOVIA; D. DOHMEN; Y. B. GULTEKIN; S. R. HAGE. *Werner Reichardt Ctr. For Integrative Neuroscien, Grad. Sch. of Neural & Behavioural Sci. - Intl. Max Planck Res. School, Univ. of Tübingen, Werner Reichardt Ctr. for Integrative Neuroscience, Univ. of Tübingen.*

4:00 TT22 **407.20** The anterior cingulate cortex as a nexus for vocal communication and energy allocation in marmoset monkeys. D. A. LIAO*; Y. S. ZHANG; D. Y. TAKAHASHI; A. EL HADY; A. A. GHAZANFAR. *Princeton Neurosci. Inst., Howard Hughes Med. Inst.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 TT23 **407.21** ● Dynamic functional ultrasound imaging of socio-vocal network in marmoset monkeys. D. Y. TAKAHASHI*; A. EL HADY; G. MONTALDO; A. URBAN; A. A. GHAZANFAR. *Princeton Neurosci. Inst., Princeton Neurosci. Inst., Howard Hughes Med. Inst., Neuro-Electronics Res. Flanders.*

2:00 TT24 **407.22** Neurovascular anatomy of the marmoset brain: Links to the default mode network. Y. S. ZHANG*; T. J. PISANO; D. Y. TAKAHASHI; A. EL HADY; D. A. LIAO; S. S. WANG; A. A. GHAZANFAR. *Princeton Neurosci. Inst., Rutgers-Robert Wood Johnson Med. Sch., Howard Hughes Med. Inst.*

3:00 UU1 **407.23** CRISPR/Cas9-based genome editing of the FoxP locus in *Drosophila.* A. E. ERIKSSON*; O. PALAZZO; B. BREMBS. *Univ. Regensburg.*

POSTER

408. Stress and the Brain: Neuroimmunology

Theme F: Integrative Physiology and Behavior

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 UU2 **408.01** Role of the anti-inflammatory cytokine IL-10 on anxiety and sickness-like behaviors in adult male rats. S. MUNSHI*; V. PARRILLI; J. A. ROSENKRANZ. *Rosalind Franklin Univ. of Med. & Sci., Rosalind Franklin Univ. of Med. & Sci., Rosalind Franklin Univ. of Med. & Sci.*

2:00 UU3 **408.02** Immunization with mycobacterium vaccae induces an anti-inflammatory milieu in the CNS: Attenuation of stress-induced microglial priming, alarmins and anxiety-like behavior. M. G. FRANK*; L. K. FONKEN; S. D. DOLZANI; J. L. ANNIS; P. H. SIEBLER; D. SCHMIDT; L. R. WATKINS; S. F. MAIER; C. A. LOWRY. *Univ. of Colorado Boulder, Univ. of Texas at Austin, Univ. of Colorado, Univ. of Colorado Anschutz Med. Campus, Denver Veterans Affairs Med. Ctr., Military and Veteran Microbiome Consortium for Res. and Educ.*

3:00 UU4 **408.03** ● Immunoregulatory effects of mycobacterium vaccae are dependent on the route of application. M. AMOROSO; T. ELESLAMBOULY; M. DANDAMUDI; E. KEMPTER; C. A. LOWRY; D. LANGGARTNER; S. O. REBER*. *Univ. Clin. Ulm, Univ. of Colorado Boulder.*

4:00 UU5 **408.04** Oral exposure to a neuroactive bacterial strain leads to acute activation of specific brain regions and modulates chronic social stress-induced behavioural deficits. A. BHARWANI*; K. CHAMPAGNE-JORGENSEN; F. M. MIAN; M. G. SURETTE; J. BIENENSTOCK; P. FORSYTHE. *McMaster Univ., McMaster Univ., McMaster Univ.*

1:00 UU6 **408.05** High dimensional characterization of immune compartments in a mouse model of social defeat stress. F. CATHOMAS*; K. CHAN; F. DESLAND; K. LECLAIR; H. ALEYASIN; A. RAHMAN; M. MERAD; S. J. RUSSO. *Icahn Sch. of Med. at Mount Sinai, Dept. of Oncological Sciences, Precision Immunol. Institute, Tisch Cancer Institute, Icahn Sch. of Med. at Mount Sinai.*

2:00 UU7 **408.06** Neural and peripheral inflammation markers in adult rats exposed to adolescent social stress. E. T. GRAACK; J. L. SCHOLL; M. A. WEBER; M. SATHYANESAN; G. L. FORSTER; S. S. NEWTON; M. J. WATT*. *Univ. of South Dakota, Univ. of Otago.*

3:00 UU8 **408.07** The effect of IL-1βin the BLA on enhanced fear memory. A. KULP*; B. LOWDEN; J. KRZOSKA; M. HAUCK; M. RUSS; D. MEHTA; D. BARNARD; J. D. JOHNSON. *Kent State Univ., Kent State Univ., Kent State Univ.*

4:00 UU9 **408.08** ▲ Gender-specific gene expression profiling of the prefrontal cortices of social defeat stress model mice. M. SAKAI*. *Grad. Sch. of Med. ,tohoku Univ.*

1:00 UU10 **408.09** ● Effects of immunization with the environmental bacterium mycobacterium vaccae and chronic circadian disruption on the microbiome and metabolome of inbred male C57BL6/N mice. C. L. CHO*; J. D. HEINZE; S. A. SAGO; D. M. KIENZLE; A. GONZÁLEZ; F. VARGAS; D. SCHMIDT; M. C. FLUX; D. G. SMITH; A. I. ELSAYED; D. A. DUGGAN; J. D. JONES; L. T. TRAN; P. H. SIEBLER; R. S. THOMPSON; M. H. VITATERNA; F. W. TUREK; M. FLESHNER; P. C. DORRESTEIN; R. KNIGHT; K. P. WRIGHT; C. A. LOWRY. *Univ. of Colorado Boulder, Univ. of California San Diego, Northwestern Univ.*

2:00 UU11 **408.10** Effects of a nootropic and immunomodulator drug in a mice model of social isolation. D. C. MELO MAGALHÃES*; M. MAMPAY; G. SHERIDAN; C. A. VALENTE; A. M. SEBASTIÃO. *Inst. de Medicina Mol., Faculdade de Medicina da Univ. de Lisboa, Univ. of Brighton.*

3:00 UU12 **408.11** How does the presence of exogenous opioids affect linear relationships between inflammatory cytokines and mu-opioid receptor availability? A. K. BAKER*; A. V. BAKIAN; P. R. BURGHARDT; E. L. GARLAND; J. ZUBIETA; T. LOVE. *Univ. of Utah, Wayne State Univ., Univ. of Utah.*

4:00 UU13 **408.12** Developing a radiation biodosimeter using exosomal miRNA isolated from murine brain tissue. F. OYEFESO*; N. NISHIYAMA; A. GONDA; N. WALL; M. PECAUT. *Loma Linda Univ., Loma Linda Univ.*

1:00 UU14 **408.13** The effects of early life stress on adult depressive-like behaviour, intestinal and blood-brain barrier permeability, and brain-immune interactions. J. SZYSZKOWICZ*; S. BARNETT BURNS; I. KIM; M. AUDET; G. TURECKI; G. N. LUHESHI. *Douglas Mental Hlth. Univ. Inst., McGill Univ., Ottawa Univ.*

2:00 UU15 **408.14** Phenotypic features of glucocorticoid receptor-deficient microglia in a mouse model exposed to chronic stress. K. PICARD*; K. BISHT; K. P. SHARMA; C. LIMATOLA; L. MAGGI; I. BRANCHI; M. TREMBLAY. *Univ. Laval, Sapienza Univ. of Rome, Inst. Superiore di Sanità.*

3:00 UU16 **408.15** Early life stress effects on mast cell degranulation and blood-brain barrier function depend on the severity and chronicity of stress. A. I. SAULSBERY*; C. E. PAGE; L. H. NELSON; C. M. DODSON; K. M. LENZ. *The Ohio State Univ., The Ohio State Univ.*

4:00 UU17 **408.16** Altered photoperiod exposure induces a neuroinflammatory response in mice. M. A. KWIATKOWSKI*; Z. A. COPE; J. DESLAURIERS; J. W. YOUNG. *UCSD, Univ. of California San Diego, Univ. of California San Diego, UCSD.*

1:00 UU18 **408.17** Chronic social defeat in male mice elicits long-lasting changes to intestinal barrier integrity and pro-inflammatory cytokine activation. A. D. SANTOS; N. D. OSBORNE; M. SEDRAK; H. ANISMAN; M. AUDET*. *Carleton Univ., The Royal Ottawa Mental Hlth. Ctr., Univ. of Ottawa, Univ. of Ottawa.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 UU19 **408.18** Regional examination of glucocorticoid receptors and endogenous opioid signaling genes in self injurious behavior. M. JACKSON*; B. FORET; J. FONTENOT; E. ROMERO; J. SMITH; D. HASSELSCHWERT; F. VILLINGER; K. M. SMITH. *Univ. of Louisiana At Lafayette, Univ. of Louisiana Lafayette, New Iberia Res. Ctr., Univ. of Louisiana At Lafayette.*

3:00 UU20 **408.19** Relationship between microbiome convergence and stress susceptibility. J. GIANUZZI*; M. LAMPETER; L. YUAN. *Des Moines Univ., Des Moines Univ.*

4:00 UU21 **408.20** Glutamatergic neuronal IL-1R1 is necessary for paired fighting stress-induced social withdrawal and working memory deficits. D. J. DISABATO*; D. NEMETH; X. LIU; B. OLIVER; J. GODBOUT; N. QUAN. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*

1:00 UU22 **408.21** Structural and functional cytoarchitecture of IL-1R1-expressing system in the brain. X. LIU*; D. NEMETH; D. B. MCKIM; O. BERDYSZ; G. GORANTLA; J. P. GODBOUT; J. F. SHERIDAN; L. ZHU; N. QUAN. *The Ohio State Univ., Inst. for Behavioral Med. Res., Ohio State Univ. Dept. of Neurosci., Ohio State Univ., Ohio State Univ.*

2:00 VV1 **408.22** Social defeat-induced interleukin 6-dependent behavioral changes in c57bl/6 mouse. M. ATZORI*; J. VARGAS-MIRELES; E. ESQUIVEL RENDON; P. ACOSTA-MARES; R. D. CUEVAS OLGUIN; M. MIRANDA-MORALES; G. RODRÍGUEZ-ESCOBEDO; S. ROSE-JOHN. *Univ. Autónoma de San Luis Potosí, UASLP, UASLP, Univ. Autonoma De San Luis Potosi, Christian Albrechts Universitet.*

3:00 VV2 **408.23** Revealing repair roles for inflammatory monocytes in neurovascular dysfunction caused by chronic social defeat. M. L. LEHMANN*; C. CROSSEN; S. L. KIGAR; M. HERKENHAM. *NIH, NIH, Natl. Inst. of Mental Hlth., NIMH.*

4:00 VV3 **408.24** Microglia are extrinsically primed by the aged microenvironment. S. M. O'NEIL*; K. G. WITCHER; D. B. MCKIM; J. P. GODBOUT. *The Ohio State Univ.*

1:00 VV4 **408.25** Social defeat of female mice recapitulates neuroimmune and behavioral responses detected in males. W. YIN*; D. B. MCKIM; N. R. GALLAGHER; Y. WANG; J. P. GODBOUT; J. F. SHERIDAN. *The Ohio State Univ.*

POSTER

409. Biological Rhythms and Sleep: Entrainment and Phase Shifts

Theme F: Integrative Physiology and Behavior

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 VV5 **409.01** Novel photoreceptors entrain the circadian clock and modulate uv light-evoked behaviors in *Drosophila.* L. BAIK*; J. NI; Y. RECINOS; J. A. CHEVEZ; C. MONTELL; T. C. HOLMES. *Universtiy of California Irvine, Harvard Med. Sch., UC Santa Barbara.*

2:00 VV6 **409.02** Temperature entrainment of two different circadian rhythms in the flesh fly. R. RAGSDALE*; K. JOPLIN; D. MOORE. *East Tennessee State Univ.*

3:00 VV7 **409.03** Social jet lag evokes *Drosophila* circadian neural network desynchrony. C. E. NAVE*; L. ROBERTS; J. D. ESTRELLA; N. PERVOLARAKIS; P. J. SHAW; T. L. LEISE; T. C. HOLMES. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine, Washington Univ. St. Louis, Amherst Col.*

4:00 VV8 **409.04** Social and environmental influences in circadian rhythmicity of electric behavior. A. MIGLIARO*; D. SIMON; A. SILVA. *Facultad de Ciencias, Univ. de La Republica, Inst. de Investigaciones Biológicas Clemente Estable, Facultad de Ciencias, Univ. de La Republica, Inst. de Investigaciones Biológicas Clemente Estable.*

1:00 VV9 **409.05** Two models of circadian disruption modify locomotor activity and circadian clock gene expression in the suprachiasmatic nucleus of male and female Long-Evans rats. K. HATCHER*; R. C. BALACHANDRAN; L. MOLINA; A. CHU; M. L. SIEG; Y. PATEL; P. EUBIG; M. M. MAHONEY. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*

2:00 VV10 **409.06** DNA methylation modulates period aftereffects of light entrainment without affecting transient phase shifts. S. KIM*; D. G. MCMAHON. *Vanderbilt Univ.*

3:00 VV11 **409.07** An animal model of social jetlag: The role of endogenous oscillators on hippocampal-dependent learning and memory. J. M. CLEARY; L. M. LEWIS; K. B. VIGUERS; K. A. JONES; A. W. NEWMAN; T. T. S. CASSELL; D. M. SKINNER; C. M. THORPE*. *Mem. Univ. of Newfoundland.*

4:00 VV12 **409.08** Recurring circadian disruption alters circadian clock sensitivity to resetting. M. E. HARRINGTON*; T. L. LEISE; A. GOLDBERG; J. MICHAEL; G. MONTOYA; S. SOLOW; P. MOLYNEUX; C. B. SAPER; R. VETRIVELAN. *Smith Col., Amherst Col., Smith Col., Harvard Med. Sch. Dept. of Neurol., Beth Israel Deaconess Med. Ctr.*

1:00 VV13 **409.09** Effect of circadian synchronization to a hedonic stimulus on the sleep pattern and memory of the adult rat. C. PEÑA-ESCUDERO*; S. PRIEGO-FERNÁNDEZ; A. A. CORONA-MORALES; F. GARCÍA-GARCÍA. *Univ. Veracruzana, Univ. Veracruzana.*

2:00 VV14 **409.10** Photoperiodic encoding in the SCN: Interaction between cycle length and photoperiod in altering circadian properties. M. TACKENBERG*; D. G. MCMAHON. *Vanderbilt Univ., Vanderbilt Univ.*

3:00 VV15 **409.11** The central clock synchronizes the liver under ad lib feeding conditions. M. P. BUTLER*; A. KUKINO; X. XIE; A. M. BERMAN; H. E. CALCAGNO. *Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ., Guangzhou Med. Univ.*

4:00 VV16 **409.12** Neural mechanisms linking hypernatremia and hyperthermia to circadian time. C. GIZOWSKI*; C. A. ZAELZER; C. W. BOURQUE. *McGill Univ. Hlth. Ctr., McGill Univ. Hlth. Ctr., McGill Univ.*

1:00 VV17 **409.13** The effect of photoperiod on the estrous cycle length and stability in the C57 mice. M. ORTEGA VILLEGAS*; M. FUENTES-CANO; P. DURAN. *Fac. of Sciences, Univ. Nacional Autónoma, Facultad De Ciencias, UNAM, Facultad De Ciencias, UNAM.*

2:00 VV18 **409.14** Maternal malnutrition impact entrainment in adult offspring for water intake and locomotor activity rhythms. D. J. BUSTAMANTE-VALDEZ; J. S. GONZALEZ-RUANO; M. FUENTES-CANO; P. DURAN*. *Facultad de Ciencias, UNAM, Facultad de Ciencias, UNAM.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 VV19 **409.15** Use of excitatory and inhibitory DREADDs to evaluate the role of raphe nuclei-to-infralimbic cortex projections in the circadian regulation of the infralimbic cortex. H. K. STRNAD*; J. RAVENEL; A. E. CONCHA; S. P. SHARMA; M. J. HARTSOCK; R. L. SPENCER. *Univ. of Colorado At Boulder.*

4:00 VV20 **409.16** ▲ Mixed mood state behaviors and circadian dysfunction following homocysteic acid treatment: Potential animal model for bipolar disorder. L. EVERT; G. MOYA; G. FOGO; N. ROZEMA; R. FELTON; S. PLOWMAN; T. STAUB; L. A. CHASE; A. J. GALL*. *Hope Col., Hope Col., Hope Col.*

1:00 VV21 **409.17** Approach to the circadian cycle regulation in c58 mice, a autism model. L. TÉLLEZ-AZTORGA*; E. IBARRA-CORONADO; I. OLIVER-DOMINGUEZ; J. C. ROJAS-CASTALLEDA; R. HARO VALENCIA; A. PÉREZ-TORRES; V. RODRÍGUEZ-MATA; J. HERNÁNDEZ-FALCON; K. MENDOZA-ANGELES; P. DURAN. *Facultad de Ciencias, UNAM, Facultad de Medicina, UNAM, Inst. Nacional de Pediatría, Inst. Mexicano de Medicina Integral de Sueño, Facultad de Medicina, UNAM, Facultad de Medicina, UNAM.*

2:00 VV22 **409.18** Evaluation of the circadian system in a VPA-induced model of autism spectrum disorder. S. FERRARO*; N. DE ZAVALIA; S. AMIR. *Concordia Univ.*

3:00 WW1 **409.19** Environmental light influences small intestine microbiota and metabolism through immune system. I. LEE*; S. CHEN. *NTU.*

4:00 WW2 **409.20** Light at night exacerbates metabolic dysfunction in a polygenic mouse model of type 2 diabetes mellitus. K. L. RUSSART*; S. CHBEIR; R. J. NELSON; U. MAGALANG. *Ohio State Univ., West Virginia Univ., Ohio State Univ.*

POSTER

410. Molecular Biology and Physiology of Clocks

Theme F: Integrative Physiology and Behavior

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 WW3 **410.01** Disruption of endogenous circadian rhythms by exposure to light at night accelerates pancreatic tumor growth in mice. S. CHBEIR*; K. L. G. RUSSAT; W. H. WALKER, II; D. M. PROCA; A. C. DEVRIES; R. J. NELSON. *The Ohio State Univ., The Ohio State Univ., West Virginia Univ., West Virginia Univ.*

2:00 WW4 **410.02** The loss of melatonin circadian rhythm promotes tumor growth and angiogenesis. S. CÁRDENAS ROMERO*; L. HERNÁNDEZ-TORRES; N. BOTELLO-ARAUJO; O. RAMÍREZ-PLASCENCIA; C. B. ESCOBAR; R. SALGADO-DELGADO; N. SADERI. *Univ. Autónoma de San Luis Potosí, Fac de Medicina UNAM.*

3:00 WW5 **410.03** Temporal control of metabolism in proliferative glioblastoma cancer cells with differential time-regulated chemotherapy susceptibility. M. E. GUIDO*; P. M. WAGNER; L. G. SOSA-ALDERETE. *Univ. Nacional Córdoba- CONICET, Univ. Nacional de Rio Cuarto (UNRC), CONICET.*

4:00 WW6 **410.04** ▲ Quantification of Ox2R mRNA during baseline, oral nicotine, and withdrawal conditions. S. AHMAD; H. L. MATHEWS; J. A. STITZEL*. *Univ. of Colorado, Univ. of Colorado Boulder, Univ. of Colorado Boulder.*

1:00 WW7 **410.05** Alcohol-drinking behaviour and preference in striatal Bmal1 knock-out mice. N. DE ZAVALIA*; P. SOLIS; S. FERRARO; K. SCHÖTTNER; M. BUTTON; J. GOLDSMITH; M. VALYEAR; N. CHAUDHRI; S. AMIR. *Concordia Univ.*

2:00 WW8 **410.06** Extended photoperiod alters the circadian rhythm and expression of synaptic plasticity-associated genes. The impact of blue-enriched light. A. R. MARTI*; S. SKREDE; J. MRDALJ; T. T. PEDERSEN; L. H. BJERRUM; J. WASLANDER; V. LYSNE; K. M. ERSLAND; T. E. G. HENRIKSEN; C. R. BRAMHAM; J. GRØNLI. *Univ. of Bergen, Bergen Clinics Fndn., Univ. of Groningen, Haukeland Univ. Hosp., Valen Hosp.*

3:00 WW9 **410.07** Gene expression in the SCN is altered during timed restricted feeding. T. D. NIEPOKNY*; A. RASTOGI; E. M. MINTZ. *Kent State Univ., Kent State Univ., Kent State Univ.*

4:00 WW10 **410.08** ▲ Identifying novel genes that regulate the circadian timing of sleep. K. PARK*; S. S. LEE; Q. LIU; I. D. BLUM; M. N. WU. *The Johns Hopkins Univ. Sch. of Med., The Johns Hopkins Univ. Sch. of Med.*

1:00 WW11 **410.09** The importance of diurnal corticosterone rhythms in regulating mood. D. M. MEHTA*; A. KULP; D. F. BARNARD; J. D. JOHNSON. *Kent State Univ., Kent State Univ., Kent State Univ.*

2:00 WW12 **410.10** The Na^+/H^+-exchanger NHE1 regulates extracellular and intracellular pH and $[Ca^{2+}]_i$ in the the rat suprachiasmatic nucleus. Y. CHEN; P. CHENG; H. LIN; R. CHENG; R. HUANG*. *Chang Gung Univ. Col. of Med., Chang Gung Univ.*

3:00 WW13 **410.11** Characterizing clock gene expression in the substantia nigra pars compacta. L. GOODE*; H. H. HUYNH; S. BOAS; J. R. PAUL; R. M. COWELL; K. L. GAMBLE. *Univ. of Alabama Birmingham, Univ. of Alabama Birmingham, Univ. of Alabama At Birmingham, Southern Res., UAB Med. Ctr.*

4:00 WW14 **410.12** Somatostatin regulates photoperiodic changes in circadian behavior and master clock function. D. A. MAY*; M. ARZBECKER; T. INDA; E. HERFF; J. A. EVANS. *Marquette Univ., Marquette Univ.*

1:00 XX1 **410.13** *In vivo* physiology of the perihabenular nucleus. L. LAZZERINI OSPRI*; H. ZHAO; S. HATTAR. *Johns Hopkins Univ., Natl. Inst. of Hlth.*

2:00 XX2 **410.14** vasopressin modulates circadian behavior by setting phase and period of scn neurons. K. E. ROHR*; J. EVANS. *Marquette Univ.*

3:00 XX3 **410.15** Circadian regulation of phosphoprotein enriched in astrocytes (PEA-15) expression and function within the mouse suprachiasmatic nucleus. K. WHEATON; S. ATEN; L. S. QUEIROZ; K. SULLIVAN; J. OBERDICK; K. OBRIETAN; K. R. HOYT*. *Ohio State Univ., Ohio State Univ.*

4:00 XX4 **410.16** Microglia dynamics in the suprachiasmatic nucleus across circadian time. L. G. CHASTAIN*; K. A. HALTER; R. A. PROSSER. *Univ. of Tennessee Knoxville.*

1:00 XX5 **410.17** Calcium-binding protein calreticulin is co-expressed with neurogenesis marker SOX2 in the adult mouse suprachiasmatic nucleus. T. M. BIRKHOLZ; D. H. BELIGALA; A. DE; M. E. GEUSZ*. *Bowling Green State Univ.*

2:00 XX6 **410.18** Circadian timekeeping in the brainstem: Ticking and talking in the area postrema and nucleus of the solitary tract. L. CHROBOK*; R. C. NORTHEAST; H. D. PIGGINS. *Univ. of Manchester, Univ. of Manchester.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 XX7 **410.19** Robust cycling of circadian clock genes in the area postrema/nucleus of the solitary tact complex accompanies daily changes in permeability to blood-borne signals. R. C. NORTHEAST; L. CHROBOK; H. PIGGINS*. *Univ. of Manchester, Univ. of Manchester, Univ. Manchester.*

4:00 XX8 **410.20** A Bmal1-ablation macaque monkey model for circadian-related disorders. H. CHANG*; Y. TANG. *Inst. of Neurosci., Shanghai Inst. for Biol. Sci.*

1:00 XX9 **410.21** ▲ Connectome of the mouse SCN: New insight into the relation of the peptides VIP to AVP. S. VARADARAJAN*; M. TAJIRI; R. JAIN; R. HOLT; Q. AHMED; J. LESAUTER; R. SILVER. *Barnard Col., Columbia Univ.*

POSTER

411. Sleep: Molecules Cells and Drugs

Theme F: Integrative Physiology and Behavior

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 XX10 **411.01** Adenosine receptors and recovery sleep in *C. elegans*. B. MAHAMA*; A. C. HART. *Brown Univ.*

2:00 XX11 **411.02** ▲ Sleep goes nuclear: Role of histone methylation/demethylation inhibition in sleep modulation. D. MORALES-LARA*; G. ARANKOWSKY-SANDOVAL; N. BARBOSA ROCHA; A. BARCIELA VERAS; S. MACHADO; H. BUDDE; E. MURILLO-RODRÍGUEZ. *Univ. Anáhuac Mayab, Escuela De Medicina, Ctr. de Investigaciones Regionales "Dr. Hideyo Noguchi" Univ. Autónoma de Yucatán., Intercontinental Neurosci. Res. Group, Hlth. School, Polytechnic Inst. of Porto, Univ. Catolica Dom Bosco. Campo Grande, Lab. of Panic and Respiration, Inst. of Psychiatry Federal Univ. of Rio de Janeiro, Salgado de Oliveira University., Physical Activity Neurosci. Laboratory, Physical Activity Sci. Postgraduate Program-Salgado de Oliveira Univ. (UNIVERSO), Fac. of Human Sciences, Med. Sch. Hamburg, Physical Activity, Physical Education, Hlth. and Sport Res. Ctr. (PAPESH), Sports Sci. Department, Sch. of Sci. and Engin. Reykjavik University., Lithuanian Sports Univ.*

3:00 XX12 **411.03** Sleep deprivation induces alterations in RNA splicing and changes in gene expression within the hippocampus. M. E. GAINE*; S. CHATTERJEE; E. BAHL; J. J. MICHAELSON; L. C. LYONS; T. ABEL. *Univ. of Iowa, Univ. of Iowa, Florida State Univ.*

4:00 XX13 **411.04** Sleep- related electrophysiological activity of cortical cultures on MEA. I. COLOMBI*; M. PACE; V. TUCCI; M. CHIAPPALONE. *Inst. Italiano di Tecnologia, Univ. degli Studi di Genova, Inst. Italiano di Tecnologia.*

1:00 XX14 **411.05** ▲ Cannabidiol enhances acetylcholine levels from basal forebrain in rats. K. M. ROMERO CORDERO*; G. ARANKOWSKY-SANDOVAL; N. BARBOSA ROCHA; A. BARCIELA VERAS; S. MACHADO; H. BUDDE; E. MURILLO-RODRIGUEZ. *Univ. Anahuac Mayab, Lab. de Neurociencias Moleculares e Integrativas. Escuela de Medicina División Ciencias de la Salud. Univ. Anáhuac Mayab, Ctr. de Investigaciones Regionales "Dr. Hideyo Noguchi" Univ. Autonoma de Yucatan, Intercontinental Neurosci. Res. Group, Hlth. School, Polytechnic Inst. of Porto, Univ. Catolica Dom Bosco. Campo Grande, Mato Grosso do Sul., Lab. of Panic and Respiration, Inst. of Psychiatry Federal Univ. of Rio de Janeiro., Salgado de Oliveira University., Physical Activity Neurosci. Laboratory, Physical Activity Sci. Postgraduate Program-Salgado de Oliveira Univ. (UNIVERSO), Fac. of Human Sciences, Med. Sch. Hamburg., Physical Activity, Physical Education, Hlth. and Sport Res. Ctr. (PAPESH), Sports Sci. Department, Sch. of Sci. and Engin. Reykjavik University., Lithuanian Sports Univ.*

2:00 YY1 **411.06** ● Does pitolisant suppress cataplexy through the H3 receptor? S. R. MORAIRTY*; S. PERREAU-LENZ; C. WONG; M. DEPASS; A. YAMANAKA; T. S. KILDUFF; P. H. HUTSON; R. HUDKINS; S. E. BROWNE. *SRI Int'l, SRI Intl., SRI Intl., Nagoya Univ., SRI Intl., Teva Pharmaceuticals, Teva Pharmaceuticals, TEVA Pharmaceuticals.*

3:00 YY2 **411.07** Brain state dependent modulation of neuronal firing and membrane potential dynamics in the somatosensory thalamus during natural sleep. N. L. URBAIN*; N. FOURCAUD-TROCMÉ; P. SALIN; L. GENTET. *CRNL INSERM U1028, CNRS UMR 5292, CRNL INSERM U1028.*

4:00 YY3 **411.08** Pontine neural ensemble dynamics during p-waves in mice. T. TSUNEMATSU*; S. SAKATA. *Tohoku Univ., Univ. of Strathclyde, SIPBS, Univ. of Strathclyde.*

1:00 YY4 **411.09** Subcortical Sox14 neurons are required for sleep-wake regulation. Ç. GELEGEN VAN EIJL*; O. BROCK; P. JAGER; S. BRICKLEY; G. MOORE; A. DELOGU. *King's Col. London, King's Col. London, Imperial Col. London.*

2:00 YY5 **411.10** ● The effects of sleep deprivation and caffeine on the rodent psychomotor vigilance task (rPVT). M. CREWE*; D. HOLT; J. DYCHE. *James Madison Univ.*

3:00 YY6 **411.11** Activation of adenosine A_{2A} receptors in the olfactory tubercle promotes sleep. R. LI*; Y. WANG; M. ZHANG; W. LIU; Y. CHERASSE; S. N. SCHIFFMANN; A. DE KERCHOVE D'EXAERDE; M. LAZARUS; Z. HUANG. *Fudan Univ., Fudan Univ., Univ. of Tsukuba, Univ. Libre de Bruxelles (ULB), Univ. Libre de Bruxelles, Univ. of Tsukuba.*

4:00 YY7 **411.12** *In vitro* model for the study of the role of the mesopontine region in rapid eye movement (REM) sleep and wakefulness. E. PINO*; H. KUNIZAWA; J. YAMUY; M. BORDE. *Facultad de Medicina - Univ. de la República, VA Greater Los Angeles Healthcare System; UCLA Sch. of Med.*

1:00 YY8 **411.13** Maternal-placental-fetal disruptions with acute prenatal sleep deprivation: Relating stress and placental immune responses to kynurenine pathway metabolism. A. BARATTA*; N. KANYUCH; J. DESLAURIERS; A. POCIVAVSEK. *Univ. of Maryland Sch. of Med., Univ. of California San Diego.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 YY9 **411.14** Ascending projections from parafacial zone to the medial parabrachial neurons. R. DE LUCA; P. M. FULLER; E. ARRIGONI*. *Beth Israel Deaconess Med. Ctr. - Harvard Med., Harvard Med. Sch., Harvard Med. Sch. Dept. of Neurol.*

3:00 YY10 **411.15** Chemogenetic silencing of corticotropin releasing hormone neurons in the paraventricular nucleus attenuates acute stress related sleep disturbance in mice. I. GVILIA; S. KUMAR; D. MCGINTY; R. S. SZYMUSIAK*. *V.A. Greater Los Angeles Healthcare Syst., VA Greater Los Angeles Healthcare Syst., UCLA/VA Greater Los Angeles.*

4:00 YY11 **411.16** ● CRISPR-cas9 genetic abscission *in vivo* reveals GABA-A receptors of the thalamic reticular nucleus regulate NREM delta oscillations. D. S. UYGUN*; C. YANG; H. MIWA; J. T. MCKENNA; F. KATSUKI; J. M. MCNALLY; R. E. STRECKER; R. E. BROWN; R. BASHEER. *Boston VA Med. Ctr. W Roxbury, Harvard Med. School/Va Boston Healthcare Syst., Harvard Med. Sch., VA Boston Healthcare System/Harvard Med. Sch., VA Boston Healthcare System/ Harvard Med. Sch., VABHS, Harvard Med. Sch., VABHS & Harvard Med. Sch., VA BHS & Harvard Med. Sch., VA Boston Healthcare System-Harvard Med. Sch.*

1:00 YY12 **411.17** Circuit deconstruction of the arousal-promoting ventral lateral hypothalamic GABA neurons. A. VENNER*; R. DELUCA; E. ARRIGONI; P. M. FULLER. *Harvard Med. Sch., Beth Israel Deaconess Med. Ctr.*

2:00 YY13 **411.18** Synaptic regulation of dorsal raphe neurons by prefrontal cortex in narcoleptic mice. N. E. MOLINA*; E. A. BERRY; M. ISHIBASHI; C. S. LEONARD. *New York Med. Col.*

3:00 YY14 **411.19** Estradiol action modulates adenosinergic sleep pressure. P. C. SMITH*; S. VIECHWEG; S. BUCK; A. POCIVAVSEK; J. A. MONG. *Univ. of Maryland SOM, Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*

4:00 YY15 **411.20** Effect of suvorexant on sleep in rats exposed to chronic intermittent ethanol vapor and protracted withdrawal. M. SANCHEZ-ALAVEZ*; J. BENEDICT; D. N. WILLS; C. L. EHLERS. *Scripps Res. Inst.*

1:00 YY16 **411.21** Intermittent hypoxia induces a fate switch in hippocampal neuroprogenitor cells. S. SULLERE*; T. NALLAMOTHU; M. A. KHUU; A. J. GARCIA, III. *The Univ. of Chicago, Univ. of Chicago, The Univ. of Chicago.*

2:00 YY17 **411.22** changes in human salivary proteome after six hours of sleep deprivation at night. A. A. BJORKUM*; I. FRICH MELING; B. KLUGE; K. ROSENDAHL. *Western Norway Univ. of Applied Sci., Univ. of Bergen, Univ. of Bergen.*

3:00 YY18 **411.23** ▲ Relation between total sleep duration, mRNA PPAR levels and overweight in a Mexican population. A. PAVON-ROSADO; K. MARCIANO-DIMAS; E. SÁNCHEZ-GARCÍA; M. BARRADAS-VAJONERO; C. PERALTA-VÁZQUEZ; S. MARTINEZ-MARTINEZ; M. ORGANISTA-ACUA; J. SANTIAGO-GARCIA; C. BARRIENTOS-SALCEDO; M. A. MELGAREJO-GUTIERREZ*. *Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana, Av. Medicos y Odontólogos SN.*

POSTER

412. Appetitive and Incentive Learning and Memory I

Theme G: Motivation and Emotion

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 YY19 **412.01** Redundant control of water intake by type-1 cannabinoid receptors. Z. ZHAO*; E. SORIA; M. VARILH; A. DUVEAU; A. CASTIGLIONE; A. CANNICH; L. BELLOCCHIO; A. BUSQUETS-GARCIA; G. MARSICANO. *INSERM 1215, Univ. of Bordeaux.*

2:00 YY20 **412.02** Cannabinoids, astroglial mitochondria and social behaviour. A. BUSQUETS-GARCIA*; D. JIMENEZ-BLASCO; E. HEBERT-CHATELAIN; R. SERRAT; C. VICENTE-GUTIERREZ; I. LOPEZ-FABUEL; M. RESCH; E. RESEL; D. SARASWAT; M. VARILH; L. BELLOCCHIO; A. CANNICH; I. BONILLA-DEL RIO; A. ALMEIDA; N. PUENTE; M. LOPEZ-RODRIGUEZ; B. LUTZ; P. PIAZZA; M. GUZMAN; A. BOUZIER-SORE; P. GRANDES; J. BOLANOS; G. MARSICANO. *INSERM 1215, Univ. of Salamanca, Univ. de Moncton, Neurocentre Magendie U1215-INSERM, Complutense Univ., Univ. Basque Country, Univ. of Mainz, CNRS-Université Bordeaux.*

3:00 YY21 **412.03** The endocannabinoid system controls olfactory processes in the anterior Piriform Cortex. G. TERRAL*; M. VARILH; A. CANNICH; L. BELLOCCHIO; A. PANATIER; F. MASSA; E. SORIA-GOMEZ; A. BUSQUETS-GARCIA; G. FERREIRA; G. MARSICANO. *INSERM U1215, INRA UMR 1286-NutriNeuro.*

4:00 YY22 **412.04** Role of the endocannabinoid system in wheel-running preference/motivation. B. REDON*; C. MUGURUZA; G. MARSICANO; F. CHAOULOFF. *INSERM U1215, Univ. de Bordeaux, Univ. of the Basque Country UPV/EHU.*

1:00 YY23 **412.05** ▲ Exercise-induced activation of the hypothalamic-pituitary-adrenal axis in male and female rats. J. DAVIS*; J. JAIME; M. K. TANNER; E. C. LOETZ; R. M. FORIGHT; B. N. GREENWOOD. *Univ. of Colorado Denver.*

2:00 YY24 **412.06** Sex- and duration- dependent neural circuit control of voluntary exercise behavior. M. K. TANNER*; N. HADDAD; J. JAIME; J. K. P. DAVIS; E. C. LOETZ; N. A. MOYA; B. N. GREENWOOD. *Univ. of Colorado Denver, Univ. of Colorado Denver, Univ. of Colorado Denver.*

3:00 ZZ1 **412.07** Lesions of ventrolateral striatum eliminates lose-shift but not win-stay behaviour in rats. R. THAPA*; A. J. GRUBER. *Univ. of Lethbridge, Univ. of Lethbridge.*

4:00 ZZ2 **412.08** Identifying the threshold of habitual responding in female long evans rats. H. SCHOENBERG*; E. X. SOLA; C. WINN; D. J. TOUFEXIS. *Univ. of Vermont.*

1:00 ZZ3 **412.09** Stress recruits dopamine in the ventrolateral striatum to promote goal-directed behaviors. C. STELLY*; G. HAUG; Y. RAFATI; M. WANAT. *Univ. of Texas At San Antonio, Univ. of Texas at San Antonio.*

2:00 ZZ4 **412.10** Neuronal correlates of reward vs. fear memory discrimination in the prelimbic cortex. J. A. FERNANDEZ-LEON*; D. S. ENGELKE; M. NAIM-RASHEED; A. B. TERZIAN; F. H. DO MONTE. *The Univ. of Texas Hlth. Sci. Ctr.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 ZZ5 **412.11** Balancing food seeking with the risk of predation recruits the paraventricular thalamus. D. S. ENGELKE*; J. A. FERNANDEZ-LEON; A. L. TERZIAN; M. NAIM-RASHEED; F. H. DO MONTE. *The Univ. of Texas Hlth. Sci. Ctr.*

4:00 ZZ6 **412.12** CRF neurons in the paraventricular thalamus reduce food-seeking behavior. A. B. TERZIAN*; D. S. ENGELKE; M. NAIM-RASHEED; S. LI; J. J. O'MALLEY; R. DASGUPTA; J. A. FERNANDEZ-LEON; N. J. JUSTICE; M. BEIERLEIN; G. J. KIROAC; F. H. DO-MONTE. *Univ. of São Paulo, The Univ. of Texas Hlth. Sci. Ctr., Univ. of Manitoba, Univ. of Texas, Houston.*

1:00 ZZ7 **412.13** Predictive coding by neural ensembles in the amygdala. L. K. QUINN*; V. H. MINCES*; I. M. RUSSELL; A. A. CHIBA*. *UCSD, Stanford Univ., UCSD.*

2:00 ZZ8 **412.14** Amygdala-cortical circuitry in reward-expectation guided behavior. N. T. LICHTENBERG*; L. SEPE-FORREST; Z. T. PENNINGTON; S. M. HOLLEY; V. Y. GREENFIELD; C. CEPEDA; M. S. LEVINE; K. M. WASSUM. *UCLA, UCLA, UCLA.*

3:00 ZZ9 **412.15** An intersectional approach to investigate the roles of central amygdala Htr2a-positive neurons in appetitive behaviors. F. FERMANI*; P. L. ALCALA MORALES; R. KLEIN. *Max Planck Neurobio., Max Planck Neurobio., Max-Planck Inst. Neurobiol.*

4:00 ZZ10 **412.16** A synthetic orexin agonist improves inflammation-induced immobility through activating the medullary raphe nucleus. S. UCHIDA*; Y. IRUKAYAMA-TOMOBE; Y. OGAWA; T. YAMAGUCHI; Y. ISHIKAWA; K. SAKURAI; S. SOYA; T. SAITO; H. NAGASE; M. YANAGISAWA; T. SAKURAI. *Univ. of Tsukuba.*

POSTER

413. Fear and Aversive Learning and Memory: Acquisition

Theme G: Motivation and Emotion

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 ZZ11 **413.01** Activation of NMDA receptors in the insular cortex alters aversive-appetitive stimuli association. M. J. OLVERA-CALTZONTZIN*; M. MIRANDA. *Univ. Nacional Autonoma de Mexico, Inst. Neurobiologia-UNAM.*

2:00 ZZ12 **413.02** Chemogenetic evidence for the protein synthesis requirement during memory consolidation. P. SHRESTHA*; P. AYATA; P. M. H. VIDAL; A. GASTONE; N. HEINTZ; E. KLANN. *NYU, Mount Sinai, Rockefeller Univ., New York Univ. Ctr. for Neural Sci.*

3:00 ZZ13 **413.03** Sex differences and neural correlates of safety learning. A. R. FOILB*; G. SANSARICQ; K. FERNANDO; J. P. CHRISTIANSON. *Boston Col.*

4:00 ZZ14 **413.04** Vitamin D attenuates retention of conditioned fear in low startle rats. L. W. AYERS; J. SCHULKIN; J. B. ROSEN*. *Widener Univ., Georgetown Univ., Univ. Delaware.*

1:00 ZZ15 **413.05** Amygdala lesions impaired fear conditioning under dexmedetomidine-induced anesthesia in rats. H. HSIAO*; D. CHEN. *Natl. Cheng Kung Univ.*

2:00 ZZ16 **413.06** Functional connectivity between the mediodorsal thalamic nucleus and frontal cortex accounts for the variability in fear memory acquired under dexmedetomidine. K. CHEN*; D. CHEN; K. LIANG. *Res. Inst. for the Humanities and Social S, Natl. Taiwan Univ., Dept Psychology, Natl. Cheng Kung Univ.*

3:00 ZZ17 **413.07** Bidirectional communication between the prelimbic cortex and the basolateral amygdala modulates the acquisition of trace fear memory. A. J. KIRRY*; M. R. HERBST; K. LEPAK; R. C. TWINING; M. R. GILMARTIN. *Marquette Univ.*

4:00 ZZ18 **413.08** Conditioned inhibition training results in reduced intracellular calcium signals in Hermissenda type B photoreceptors. J. FARLEY*; J. CAVALLO; J. B. ANDERSON. *Indiana Univ. Bloomington, Indiana Univ. Bloomington.*

1:00 ZZ19 **413.09** Aversive learning strengthens episodic memory in adolescents and adults. A. O. COHEN*; N. G. MATESE; A. FILIMONTSEVA; C. A. HARTLEY. *New York Univ.*

2:00 ZZ20 **413.10** Phosphorylation of mitogen-activated protein kinase in the medial prefrontal cortex is associated with individual variation in extinction recall in rats. A. S. RUSSO*; R. G. PARSONS. *Stony Brook Univ., Stony Brook Univ.*

3:00 ZZ21 **413.11** Manipulating the strength of initial fear learning does not affect the extent to which subsequent fear learning is facilitated. K. COLE*; J. LEE; R. G. PARSONS. *Stony Brook Univ., Stony Brook Univ.*

4:00 ZZ22 **413.12** Activation of the Mitogen-Activated Protein Kinase in female rats during the expression and extinction of fear. M. VOULO*; R. G. PARSONS. *Stony Brook Univ., Stony Brook Univ.*

1:00 ZZ23 **413.13** Chemogenetic inhibition of excitatory neurons in the basolateral amygdala disrupts the facilitation of subsequent fear learning. R. G. PARSONS*; J. LEE. *Stony Brook Univ.*

2:00 ZZ24 **413.14** ● Projection specific mechanisms of auditory sensitivity that contribute to enhanced fear after traumatic brain injury. A. N. HOFFMAN*; E. HSIEH; Z. T. PENNINGTON; S. WATSON; D. A. HOVDA; C. C. GIZA; M. S. FANSELOW. *UCLA, UCLA, UCLA, UCLA, Mattel Children's Hosp. UCLA, UCLA, UCLA.*

3:00 ZZ25 **413.15** Dissociation in effective treatment and behavioral phenotype between stress-enhanced fear learning and learned helplessness. M. A. CONOSCENTI*; T. U. NGUYEN; J. WOLLAM; V. L. TUTAJ; M. S. FANSELOW. *UCLA, UCLA, UCLA.*

4:00 ZZ26 **413.16** ● Differential modulation of fear behaviors in female mice with deletion of PAC1 receptors from the ventral intercalated cells and the basolateral amygdala. A. K. RAJBHANDARI*; J. CHAVEZ; L. NGUYEN; N. KECES; J. A. WASCHEK; M. S. FANSELOW. *Univ. of California Los Angeles, Staglin Ctr. for Brain and Behavioral Health, Univ. of California Los Angeles, Dept. of Psychiatry and Biobehavioral Sciences, Univ. of California Los Angeles.*

1:00 AAA1 **413.17** ● Blockade of corticotropin-releasing factor type 1 receptors in the basolateral amygdala decreases post-shock freezing but does not prevent stress-enhanced fear learning. S. GONZALEZ*; A. K. RAJBHANDARI; J. CHAVEZ; L. NGUYEN; N. KECES; M. S. FANSELOW. *Univ. of California Los Angeles.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 AAA2 **413.18** Brain structure and function relationships underlying differential fear conditioning in healthy women and men. F. LABRENZ*; A. ICENHOUR; M. FORSTING; N. AXMACHER; E. GENC; S. ELSENBRUCH. *Univ. Hosp. Essen, Univ. Hosp. Essen, Ruhr Univ. Bochum, Ruhr Univ. Bochum.*

3:00 AAA3 **413.19** Theta oscillations synchronize ventral/dorsal medial prefrontal cortex and amygdala during conditioned fear acquisition using human intracranial EEG. L. WANG*; S. CHEN; Z. TAN; W. XIA; W. ZHOU; S. LIANG. *Inst. of Psychology, Chinese Acad. of Sci., Univ. of Chinese Acad. of Sci., Tsinghua Univ. Yuquan Hosp., First Affiliated Hosp. of Gen. Hosp. of PLA.*

POSTER

414. Fear and Aversive Learning and Memory: Modulation

Theme G: Motivation and Emotion

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 AAA4 **414.01** Contribution of CRF and 5-HT in the anterodorsal BNST to phasic and sustained fear in freely behaving mice. T. SEIDENBECHER*; M. HESSEL. *Inst. for Physiol. I.*

2:00 AAA5 **414.02** Connection from granular to dysgranular retrosplenial cortex is required for contextual fear memory retrieval. S. DE OLMOS; E. L. SGWALD; N. E. PONCE; E. A. BIGNANTE; A. G. LORENZO*. *Inst. de Investigación Médica Mercedes y Martín Ferreyra, INIMEC-CONICET-Universidad Nacional de Córdoba, INIMEC-CONICET-UNC.*

3:00 AAA6 **414.03** Effects on fear versus safety discrimination by the partial NMDAR agonist D-cycloserine. A. ESCOBEDO*; E. M. SOWINSKI; R. HERAKOVICH; S. SANGHA. *Purdue Univ., Purdue Univ., Purdue Univ.*

4:00 AAA7 **414.04** Oxytocin receptor activation in the basolateral complex of the amygdala facilitates discrimination between stimuli and promotes configural processing of stimuli. J. FAM*; N. M. HOLMES; A. J. DELANEY; J. W. CRANE; R. F. WESTBROOK. *Univ. of New South Wales, Charles Sturt Univ., Univ. of Tasmania.*

1:00 AAA8 **414.05** Fear and reward intersect in the ventral pallidum. M. MOADDAB*; H. JEON; M. A. MCDANNALD. *Boston Col.*

2:00 AAA9 **414.06** Optogenetic inhibition of caudal substantia nigra globally inflates fear in multi-cue Pavlovian discrimination. K. M. WRIGHT*; S. CIESLEWSKI; M. A. MCDANNALD. *Boston Col.*

3:00 AAA10 **414.07** Cholinergic regulation of individual differences in fear extinction in rats. D. M. KELLIS*; K. F. KAIGLER; E. J. WITHERSPOON; J. R. FADEL; M. A. WILSON. *Univ. of South Carolina Sch. of Med., WJB Dorn VA Med. Ctr.*

4:00 AAA11 **414.08** ▲ Chronic alcohol intensifies fear memory generalization: A role for the medial prefrontal cortex. M. SCARLATA*; S. LEE; S. KANDIGIAN; K. LAWSON; I. SOLER; A. NG; J. BEZEK; H. BERGSTROM. *Vassar Col., Vassar Col.*

1:00 AAA12 **414.09** Increased feedforward inhibition to engram neurons required for precision of fear memory. S. LEE*; H. LEE; J. KIM. *Pohang Univ. of Sci. and Technol.*

2:00 AAA13 **414.10** Involvement of adenosine A_{2A} receptors in enhanced fear learning following traumatic brain injury. Y. NING; N. YANG; X. CHEN; F. LUO; Y. XU; Y. JIANG; H. TIAN; Y. ZHOU*. *Res. Inst. Surg and Daping Hospital, Army Med. Univ., the PLA No. 324 Hosp.*

3:00 AAA14 **414.11** Roles for the nucleus accumbens core, and its Gad1 subpopulation, in adaptive scaling of fear. M. H. RAY*; A. N. RUSS; E. K. ENABULELE; E. LEE; M. A. MCDANNALD. *Boston Col.*

4:00 AAA15 **414.12** ● Network dynamics of PSD95 and nNOS interactions in acquisition of conditioned fear. E. T. DUSTRUDE*; L. LI; S. FITZ; A. I. MOLOSH; Y. Y. LAI; A. SHEKHAR. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Bloomington, Anagin Inc., Indiana Univ. Sch. of Med.*

1:00 AAA16 **414.13** Chronic intermittent nicotine exposure attenuates conditioned fear: A therapeutic model of the nicotine patch. I. HOLLOWAY; M. A. ROBBLE; E. MELONI; R. DESAI; W. A. CARLEZON*, Jr. *McLean Hospital, Harvard Med. Sch., Harvard Med. Sch./Mclean Hosp.*

2:00 AAA17 **414.14** ▲ Cannabinoid and chronic mild stress modulation of hippocampal fear conditioning in adolescent female rats. L. J. BARON*; C. G. REICH. *Ramapo Col., Ramapo Col. of New Jersey.*

3:00 AAA18 **414.15** A novel rodent model to assess resistance to risk of punishment during reward seeking suggests dopamine related sex differences. D. S. JACOBS*; M. C. ALLEN; B. MOGHADDAM. *Oregon Hlth. and Sci. Univ. Sch. of Med., Oregon Hlth. and Sci. Univ., OHSU.*

4:00 AAA19 **414.16** Deletion of the prion-like domain of CPEB2 impairs long-term memory of one-trial inhibitory avoidance. M. L. HUFF*; B. A. EBNER; K. SI. *Stowers Inst. for Med. Res., Univ. of Kansas Med. Ctr., Stowers Inst. for Med. Reserach, Stowers Inst. for Med. Res., Univ. of Kansas Med. Ctr.*

1:00 AAA20 **414.17** Shifting from fear to safety through reconsolidation memory updating: Deconditioning as a novel approach to eliminate traumatic memories. L. O. ALVARES*; B. POPIK. *Federal Univ. Rio Grande do Sul, UFRGS.*

2:00 AAA21 **414.18** ●▲ Infralimbic inputs to the basal forebrain regulate consolidation of extinction. S. LEI*; M. B. HARNOIS; E. LIKHTIK. *CUNY Hunter Col., New York Univ., Hunter Col.*

3:00 AAA22 **414.19** ▲ Differential connectivity between the infralimbic and prelimbic cortices with the basal forebrain - amygdala circuit. R. ZHANG*; M. LABKOVICH; N. BURNEY; D. GOLDER; E. LIKHTIK. *Hunter College, CUNY, The Grad. Center, CUNY.*

4:00 AAA23 **414.20** ● Developing a safety learning paradigm as a therapeutic tool for high anxiety. I. NAHMOUD*; H. CHO; S. TALBOT; T. DENNIS-TIWARY; E. LIKHTIK. *Hunter Col., CUNY Grad. Ctr., Hunter Col., CUNY Grad. Ctr.*

1:00 AAA24 **414.21** Inhibition of protein synthesis in the dorsal hippocampus prevents reconsolidation of a covertly retrieved fear memory. R. RESSLER*; T. D. GOODE; S. KIM; S. MAREN. *Texas A&M University, Col. Station, TX 77840.*

2:00 AAA25 **414.22** NMDA receptors in the BNST are necessary for learning to fear ambiguous threats. T. D. GOODE*; R. RESSLER; C. EVEMY; K. FRENCH; S. MAREN. *Texas A&M Univ., Texas A&M Univ.*

3:00 AAA26 **414.23** Propranolol stabilizes shock-induced increases in spike firing in the basolateral amygdala: Implications for the immediate extinction deficit. T. F. GIUSTINO*; M. TOTTY; S. MAREN. *Texas A&M Univ., Texas A&M Univ.*

Mon. PM

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 BBB1 **414.24** Hormonal basis for state-dependent conditioned fear in naturally cycling female rats. N. WARREN; G. M. ACCA; B. TSAO; A. MATHEW; A. PHAN; N. CAYARD; J. JULIETTE; S. MAREN; N. NAGAYA*. *Texas A&M Univ., Texas A&M Univ.*

1:00 BBB2 **414.25** Does stress or event segmentation account for the immediate extinction deficit? M. TOTTY*; S. MAREN. *Texas A&M Univ.*

2:00 BBB3 **414.26** Nucleus reuniens inactivation impairs the acquisition and expression of contextual fear conditioning in rats. K. R. RAMANATHAN*; R. L. RESSLER; J. JIN; S. MAREN. *Texas A&M Univ., Texas A&M Univ.*

3:00 BBB4 **414.27** ▲ Sex-specific effects of endocannabinoid action on cued fear conditioning and extinction. M. MEJDELL; A. LI; J. LAPETINA-COLOM; B. BROWN; I. SHURNAYTE; A. WINTER; S. BEGLEY; J. ABETTAN; R. SHANSKY*. *Northeastern Univ., Northeastern Univ.*

4:00 BBB5 **414.28** ▲ A multifaceted approach for investigating sex-specific behavioral profiles during associative fear learning in rats. A. LI*; J. COLOM-LAPETINA; A. KIRUNDA; L. MILLER; R. SHANSKY. *Northeastern Univ.*

POSTER

415. Fear and Aversive Learning and Memory: Extinction

Theme G: Motivation and Emotion

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 BBB6 **415.01** Social buffering in fear memory extinction. T. GORKIEWICZ*; E. KNAPSKA. *Nencki Inst.*

2:00 BBB7 **415.02** ▲ Exposure to elevated levels of kynurenic acid impairs the extinction of conditioned fear: Implications for anxiety and stress disorders. C. H. PUSKAS; M. C. EDDY; N. E. DEANGELI; K. B. COCHRAN; D. J. BUCCI*. *Dartmouth Col.*

3:00 BBB8 **415.03** Diurnal examination of infralimbic prefrontal cortex neuronal activity: Encoding of distinct behaviors relevant to conditioned fear extinction learning. M. J. HARTSOCK*; J. R. RAVENEL; K. S. MCCONOMY; H. K. STRNAD; A. B. FAUSNAUGHT; M. P. SADDORIS; R. L. SPENCER. *Univ. of Colorado Boulder.*

4:00 BBB9 **415.04** ● The effects of pharmacological blockade of PPARs on formalin-evoked nociceptive behaviour, fear-conditioned analgesia and conditioned fear in the presence or absence of nociceptive tone. J. C. GASPAR*; B. OKINE; D. DINNEEN; A. LLORENTE-BERZAL; M. ROCHE; D. P. FINN. *Natl. Univ. of Ireland Galway, Galway Neurosci. Ctr., Ctr. for Pain Res., Natl. Univ. of Ireland.*

1:00 BBB10 **415.05** Selective manipulation of ventral hippocampus projections to the prelimbic cortex selectively facilitates fear extinction generalization. K. LEONG*; J. H. VASQUEZ; I. A. MUZZIO. *Univ. of Texas at San Antonio.*

2:00 BBB11 **415.06** ● ▲ Extinction-paired vagus nerve stimulation reduces avoidance of a conditioned odor. C. R. OLEKSIAK*; M. N. TABET; S. ARORA; M. P. SRIVASTAV; R. R. SOUZA; C. K. MCINTYRE. *Univ. of Texas At Dallas.*

3:00 BBB12 **415.07** Impact of chronic early life adversity on fear extinction in juvenile and adolescent rats. K. DRUMMOND*; M. BLEWITT; G. FAULKNER; J. H. KIM. *Florey Inst. of Neurosci. and Mental Hlth., The Univ. of Melbourne, Walter and Eliza Hall Inst., Translation Res. Inst., Univ. of Queensland.*

4:00 BBB13 **415.08** Learning not to fear: Mindfulness meditation improves retention of fear extinction. G. SEVINC*; B. HOLZEL; T. GARD; J. GREENBERG; J. A. HASHMI; M. R. MILAD; S. W. LAZAR. *Massachusetts Gen. Hosp., Tech. Univ. of Munich, Univ. Zurich, Dalhousie Univ., Univ. of Illinois at Chicago.*

1:00 BBB14 **415.09** Neural mechanisms underlying impaired extinction learning in a wild-type inbred mouse strain. V. A. CAZARES*; K. GORDON; G. G. MURPHY. *Univ. of Michigan, Kalamazoo Col., Univ. of Michigan.*

2:00 CCC1 **415.10** Dissecting the role of interoceptive insular cortical circuits in emotionally enhanced learning. A. S. KLEIN*; N. DOLENSEK; D. A. GEHRLACH; C. HERRY; N. GOGOLLA. *Max Planck Inst. of Neurobio., Neurocentre Magendie.*

3:00 CCC2 **415.11** Fear conditioning and exposure therapy benefit. A. ZLOMUZICA*; C. MERZ; D. ADOLPH; S. SCHNEIDER; J. MARGRAF; F. PREUSSER. *Ruhr-Universität Bochum.*

4:00 CCC3 **415.12** Neural and behavioural dynamics of pain learning. O. ZIKA*; B. CRITTENDEN; R. BOGACZ; K. WIECH. *Univ. of Oxford, Univ. of Oxford.*

1:00 CCC4 **415.13** A possible role for perirhinal cortex in fear extinction learning. N. POTTER*; C. A. CALUB; S. C. FURTAK. *California State University, Sacramento.*

2:00 CCC5 **415.14** Investigating the neural correlate of TMR-dependent fear extinction. I. C. HUTCHISON*; L. K. SHANAHAN; J. A. GOTTFRIED. *Northwestern Univ., Univ. of Pennsylvania.*

3:00 CCC6 **415.15** ▲ The role of mTOR signaling in enhanced fear extinction produced by acute, voluntary exercise. N. A. MOYA*; M. K. TANNER; J. JAIME; E. C. LOETZ; H. S. HAKE; B. N. GREENWOOD. *Univ. of Colorado Denver, Univ. of Colorado Denver.*

4:00 CCC7 **415.16** ▲ Effects of optogenetic activation on nucleus accumbens projecting ventral tegmental neurons during fear extinction on fear extinction memory and relapse. J. WISEMAN*; E. C. LOETZ; E. B. OLESON; B. N. GREENWOOD. *Univ. of Colorado Denver, Univ. of Colorado Denver.*

1:00 CCC8 **415.17** ▲ 3,4-methylenedioxymethamphetamine (MDMA) impairs the extinction and reconsolidation of fear memory in rats. R. R. WOOD*; H. HAKE; A. SANCHEZ; E. C. LOETZ; M. OSTROVSKYY; E. B. OLESON; J. GRIGSBY; R. DOBLIN; B. N. GREENWOOD. *Univ. of Colorado Denver, Multidisciplinary Assn. for Psychedelic Studies.*

2:00 CCC9 **415.18** ▲ Role of the dorsal striatum in fear extinction and relapse. J. JAIME*; M. K. TANNER; N. A. MOYA; J. DAVIS; E. C. LOETZ; B. N. GREENWOOD. *Univ. of Colorado Denver, Univ. of Colorado Denver.*

POSTER

416. Reward Neurophysiology

Theme G: Motivation and Emotion

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 CCC10 **416.01** OFC glutamate activity and reward processing: Implications for schizophrenia. S. BARNES*; J. W. YOUNG; D. RAMANATHAN; L. FAGET; D. DILLON; T. S. HNASKO; M. A. GEYER. *UCSD, VA San Diego Healthcare Syst., Harvard Med. Sch., UCSD.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 CCC11 **416.02** Modulation of endocannabinoid-mediated plasticity within the orbitofrontal cortex by a palatable diet. B. K. LAU*; C. MURPHY-ROYAL; G. R. GORDON; J. S. BAINS; S. L. BORGLAND. *Univ. of Calgary.*

3:00 CCC12 **416.03** Orexin inputs to GABAergic lateral habenula neurons control aggression valence. M. FLANIGAN*; H. ALEYASIN; K. LECLAIR; E. K. LUCAS; B. A. MATIKAINEN-ANKNEY; A. TAKAHASHI; C. MENARD; S. BOUCHARD; M. L. PFAU; S. A. GOLDEN; E. S. CALIPARI; E. J. NESTLER; R. J. DILEONE; A. YAMANAKA; G. W. HUNTLEY; R. L. CLEM; S. J. RUSSO. *Icahn Sch. of Med. At Mount Sinai, North Carolina State Univ., NIH, Univ. of Tsukuba, Natl. Inst. on Drug Abuse, Vanderbilt Univ. Sch. of Med., Yale Univ. Sch. Med., Res. Inst. of Envrn. Medicine, Nagoya Univ., Icahn Sch. of Med. At Mount Sinai.*

4:00 CCC13 **416.04** Chemogenetic activation of the PRAM pathway prevents light deprivation-induced augmentation of orexin/hypocretin expressing neurons and depressive-like behavior. H. E. BOWREY*; M. H. JAMES; G. S. ASTON-JONES. *Rutgers Univ., Brain Hlth. Inst.*

1:00 CCC14 **416.05** ▲ Signaling at the orexin/hypocretin-1 receptor mediates food motivation in female rats after excessive weight gain and binge-like eating. S. LIU*; M. H. JAMES; S. WALSH; H. E. BOWREY; N. T. BELLO; G. ASTON-JONES. *Rutgers, The State Univ. of New Jersey, Florey Inst. of Neurosci. and Mental Hlth., Save Sight Inst., Rutgers, The State Univ. of New Jersey.*

2:00 DDD1 **416.06** Variable episodic self-administration enhances economic demand for cocaine and sensitivity to the orexin/hypocretin receptor antagonist SB-334867. M. H. JAMES*; H. E. BOWREY; J. E. FRAGALE; G. ASTON-JONES. *Rutgers, The State Univ. of New Jersey, Florey Inst. for Neurosci. and Mental Hlth., Save Sight Inst.*

3:00 DDD2 **416.07** Intermittent access to fentanyl increases economic demand through an orexin/hypocretin mechanism. J. E. FRAGALE*; M. H. JAMES; V. BEHMAN; A. POLO; G. S. ASTON-JONES. *Rutgers Univ., Rutgers Univ.*

4:00 DDD3 **416.08** Cocaine self-administration disrupts the diurnal fluctuation in orexin (hypocretin) cell number and activity. A. CHANG*; M. H. JAMES; H. E. BOWREY; K. PENG; S. L. O'CONNOR; J. E. FRAGALE; G. ASTON-JONES. *Rutgers, The State Univ. of New Jersey, Florey Inst. for Neurosci. and Mental Hlth., Save Sight Inst.*

1:00 DDD4 **416.09** Temporal modulation of TANs and PANs in monkey ventral striatum related to reward size and delay to obtain it. R. FALCONE*; D. WEINTRAUB; B. RICHMOND. *NIMH, Northwell Hlth. Physician Partners Neurosci. Inst. a, NIMH.*

2:00 DDD5 **416.10** Attentional allocation predicts reward anticipation during appetitive Pavlovian conditioning. V. B. MCGINTY*; W. T. NEWSOME III. *Rutgers Univ. - Newark, Stanford Univ. Sch. Med.*

3:00 DDD6 **416.11** Neural correlates of intrinsic motivation and performance during training. A. D. PASSARO; A. H. OIKNINE*; P. KHOOSHABEH; K. A. POLLARD; B. T. FILES. *US Army Res. Lab., US Army Res. Lab. | DCS Corp.*

4:00 DDD7 **416.12** Modulation of motor resonance by the reward value associated with observed actions. N. WENDEROTH*; A. CRETU. *Neural Control of Movement Lab, ETH Zurich, Neural Control of Movement Lab.*

1:00 DDD8 **416.13** Dopamine regulation of A-type potassium channels underlies individual differences in motivation for reward. B. O'DONOVAN*; A. ADELUYI; S. A. SAMARANAYAKE; A. GALLOWAY; P. HASHEMI; J. R. TURNER; P. I. ORTINSKI. *Univ. of South Carolina, South Carolina Col. of Pharm. - Med. Univ. of South Carolina Campus, Univ. of South Carolina.*

2:00 DDD9 **416.14** Nucleus accumbens shell single-unit and local field potential activity encoding of outcome probability estimation. J. B. ARROYO*; E. FONSECA; R. GUTIERREZ. *UNAM, CINVESTAV-IPN, UNAM, CINVESTAV - IPN.*

3:00 DDD10 **416.15** Effort disutility measured in behaviour and dopamine neuron activity of non-human primates. M. H. BURRELL*; A. PASTOR-BERNIER; W. SCHULTZ. *Univ. of Cambridge.*

4:00 DDD11 **416.16** Satiety changes neuronal correlates of revealed preference in monkeys. A. PASTOR-BERNIER*; A. STASIAK; W. SCHULTZ. *Univ. of Cambridge, Univ. of Cambridge, Univ. Cambridge.*

1:00 DDD12 **416.17** Cell type-specific and non-specific mechanisms of cholinergic interneuron-mediated plasticity onto MSNs. W. T. FLEMING*; J. LEE; I. B. WITTEN. *Princeton Neurosci. Inst.*

2:00 DDD13 **416.18** Spatial segregation of movement and reward encoding across the basal forebrain cholinergic system. J. CHOI*; J. AU; H. JANG; E. A. ENGEL; I. B. WITTEN. *Princeton Univ., Princeton Univ., Princeton Univ.*

3:00 DDD14 **416.19** A neural pathway for information seeking: A cingulate-striatum-pallidum network predicts gaze shifts to objects associated with uncertain rewards. E. S. BROMBERG-MARTIN*; J. K. WHITE; K. ZHANG; J. PAI; I. E. MONOSOV. *Washington Univ. Sch. of Med., Washington Univ. in St. Louis, New York Univ.*

4:00 DDD15 **416.20** A neural pathway for information seeking: A cingulate-striatum-pallidum network predicts gaze shifts to objects associated with uncertain rewards. J. K. WHITE; E. S. BROMBERG-MARTIN; K. ZHANG; J. PAI; I. E. MONOSOV*. *Washington Univ. In St. Louis, Washington Univ. Sch. of Med., Washington Univ. in St. Louis, New York Univ.*

1:00 DDD16 **416.21** Corticotropin releasing factor (CRF) increases excitability of Dorsal Raphe glutamatergic neurons. J. A. MIRANDA-BARRIENTOS*; B. LIU; M. F. MORALES. *NIDA.*

2:00 DDD17 **416.22** Selective activation of GABAergic inputs from the pedunculopontine tegmental nucleus to the ventral tegmental area drives reward. H. WANG*; Q. SHEN; Y. ZHANG; M. F. MORALES. *IRP/NIDA/NIH.*

3:00 DDD18 **416.23** Monosynaptic inputs to rat GABA neurons of the ventral tegmental area or the rostromedial tegmental nucleus. C. MEJIAS-APONTE*; A. KUPPA; Z. H. FUSFELD; M. F. MORALES. *Natl. Inst. On Drug Abuse, Natl. Inst. on Drug Abuse, Natl. Inst. on Drug Abuse.*

4:00 DDD19 **416.24** Ventral tegmental area glutamate neurons drive reinforcement independent of dopamine. V. ZELL*; N. G. HOLLON; T. STEINKELLNER; E. SOUTER; L. FAGET; X. JIN; T. S. HNASKO. *UCSD, Salk Inst. for Biol. Studies.*

1:00 DDD20 **416.25** Distinct expression of calcium binding proteins in glutamatergic neurons in the ventral tegmental area. S. MONGIA*; T. YAMAGUCHI; H. WANG; J. MIRANDA-BARRIENTOS; B. LIU; M. MORALES. *NIDA/NIH, Dokkyo Med. Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 DDD21 **416.26** ▲ Ventral tegmental area glutamate neurons are functionally diverse. D. J. ESTRIN*; D. H. ROOT; M. MORALES. *Natl. Inst. On Drug Abuse, Univ. of Colorado Boulder.*

3:00 DDD22 **416.27** Opponent signals from the lateral preoptic utilize the heterogeneity of the ventral tegmental area to drive motivated behavior. D. J. BARKER*; R. JUZA; S. ZHANG; J. MIRANDA-BARRIENTOS; B. LIU; C. MEJIAS-APONTE; S. MONGIA; M. MORALES. *Natl. Inst. on Drug Abuse.*

4:00 DDD23 **416.28** VTA glutamatergic neurons play a role in defensive behaviors via glutamatergic inputs from the lateral hypothalamus. M. F. BARBANO*; H. WANG; S. ZHANG; J. A. MIRANDA-BARRIENTOS; M. F. MORALES. *Natl. Inst. on Drug Abuse.*

1:00 DDD24 **416.29** VTA glutamatergic neurons receive major glutamatergic inputs from the lateral hypothalamus. S. ZHANG*; M. F. BARBANO; H. WANG; J. A. MIRANDA-BARRIENTOS; M. F. MORALES. *Natl. Inst. of Health, Natl. Inst. on Drug Abuse, IRP, Natl. Inst. on Drug Abuse, IRP/ NIDA/NIH, NIDA, IRP, NIDA, NIH.*

POSTER

417. Drugs of Abuse and Addiction: Cocaine: Other Behavioral Studies

Theme G: Motivation and Emotion

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 EEE1 **417.01** Fingolimod (FTY720) suppresses cocaine-induced hyper locomotion, which attenuate striatal D_1-type medium spiny neurons of PKA/DARPP-32 signaling. K. UEMATSU*; T. SHUTO; Y. SYOJI; N. UCHIMURA; A. NISHI. *Kurume Univ. Sch. of Med., Kurume Univ. Sch. of Med.*

2:00 EEE2 **417.02** Impaired social interactions in the offspring of cocaine-exposed fathers. A. YAW*; J. D. GLASS; H. K. CALDWELL. *Kent State Univ., Kent State Univ.*

3:00 EEE3 **417.03** Linking cocaine-induced structural brain changes to altered cognition in rhesus monkeys. H. P. JEDEMA*; X. SONG; H. J. AIZENSTEIN; Y. YANG; C. W. BRADBERRY. *NIH, Univ. of Pittsburgh.*

4:00 EEE4 **417.04** The effects of genetic brain serotonin deficiency on responses to repeated cocaine. B. D. SACHS*; M. M. KARTH; M. D. KARTH; D. VANDYK; G. PEREZ; M. G. CARON. *Villanova Univ., Villanova Univ., Duke Univ. Hosp.*

1:00 EEE5 **417.05** Role of D1 and D2 medium spiny neurons responses to psychostimulants and antipsychotics, understading drug addiction vulnerability in schizophrenia. D. AMATO*; J. A. HEINSBROEK; P. W. KALIVAS. *Med. Univ. of South Carolina., Friedrich-Alexander Univ. Erlangen-Nürnberg, Germany, Med. Univ. of South Carolina, Med. Univ. S Carolina.*

2:00 EEE6 **417.06** ▲ Deletion of the trpc4 gene reduces cocaine induced impulsivity. M. GEREAU; D. SHIVAPUJA; B. GOULD; W. D. KLIPEC*. *Drake Univ.*

3:00 EEE7 **417.07** A persistence of habitual responding for cocaine underlies punishment resistance. H. F. SPENCER; T. H. KIM; R. J. SMITH*. *Texas A&M Univ., Johns Hopkins Univ.*

4:00 EEE8 **417.08** Modulatory effects of cocaine intake and escalation on anterior cingulate encoding during reward-guided decision-making. D. VAZQUEZ*; A. C. BURTON; H. J. PRIBUT; S. S. TENNYSON; M. R. ROESCH. *Univ. of Maryland, Univ. of Maryland, Univ. of Maryland at Col. Park.*

1:00 EEE9 **417.09** Effect of N-acetylcysteine on the expression of cocaine-induced locomotor sensitization and cocaine-enhanced brain stimulation rewards in rats. R. HODEBOURG*; P. ROMPRÉ. *Univ. of Montreal, Univ. of Montreal.*

2:00 EEE10 **417.10** ▲ Environmental modulation on oxytocin's anxiolytic effectiveness in cocaine treated animals. D. M. OJEDA*; S. FONSECA; G. MOLINA; E. TORRES; C. MALDONADO-VLAAR. *Univ. de Puerto Rico, Rio Piedras Campus.*

3:00 EEE11 **417.11** Effects of adenosine A_{2A} receptor antagonists on cocaine-induced behaviors. N. HAYNES*; R. BACHTELL. *Univ. of Colorado.*

4:00 EEE12 **417.12** Estradiol's potentiation of the acquisition of cocaine place preference may involve mTOR signaling. S. S. KOKANE*; L. I. PERROTTI. *The Univ. of Texas At Arlington, UT Arlington.*

1:00 EEE13 **417.13** Combined effects of phenmetrazine and nor-binaltorphimine on dopamine function and motivation to self-adminster cocaine. P. ESTAVE*; S. R. JONES. *Wake Forest Sch. of Med.*

2:00 EEE14 **417.14** The ketogenic diet decreases behavioral responses to cocaine in male and female rats. L. A. MARTINEZ*; M. E. LEES; D. N. RUSKIN; S. A. MASINO. *Trinity Col., Trinity Col.*

3:00 EEE15 **417.15** ▲ The effects of environmental enrichment or impoverishment on the development and extinction of cocaine and amphetamine conditioned place preference and nucleus accumbens c-Fos expression. C. IRVING; A. SAPERSTEIN; C. CHADWICK; A. F. SCHROEDER; E. ANDERSON; I. LAMPTEY; V. DUSZAK; A. SHAIKH; J. A. SCHROEDER*. *Connecticut Col., Bates Col.*

4:00 EEE16 **417.16** Psychomotor sensitization following an intermittent access schedule of cocaine self-administration. C. CARR*; J. XIA; J. HILDENBRAND; C. FERRARIO; T. ROBINSON. *Univ. of Michgan.*

1:00 EEE17 **417.17** The impact of addiction-associated risk factors on neuronal ensemble activation. N. N. NAWARAWONG*; M. SLAKER; C. M. OLSEN. *Med. Col. of Wisconsin, Med. Col. of Wisconsin.*

2:00 EEE18 **417.18** Phasic dopamine release within the nucleus accumbens core differentially mediates drug-taking and drug-seeking. R. D. FARERO*; L. M. BURGENO; N. L. MURRAY; J. S. STEGER; M. E. SODEN; L. S. ZWEIFEL; P. E. PHILLIPS. *Univ. of Washington, Univ. of Oxford, Univ. of Washington.*

3:00 EEE19 **417.19** The $5HT_{1B}$receptor agonist, CP 94,253, attenuates the reinforcing effects of cocaine self-administration during the estrus phase post-abstinence. S. N. SCOTT*; T. T. NGUYEN; S. M. DOYLE; J. L. NIESEWANDER. *Arizona State Univ., Arizona State Univ., Arizona State Univ.*

4:00 EEE20 **417.20** Sex differences in nucleus accumbens CREB activity after cocaine-induced conditioned place preference. B. D. BUTLER*; J. H. ANTONIO; A. C. HOCH; J. C. HOLT; S. S. KOKANE; L. I. PERROTTI. *Univ. of Texas at Arlington.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 EEE21 **417.21** Environmental enrichment facilitates cocaine abstinence in an animal conflict model. S. EWING*; R. RANALDI. *The Grad. Center, CUNY.*

2:00 EEE22 **417.22** Investigating addiction and reward prediction in mice using a modular open-source operant behavior system. D. CASSATARO; A. CUMPELIK; L. L. SJULSON*. *Albert Einstein Col. of Med.*

3:00 EEE23 **417.23** *In vivo* visualization of Zn dynamics using PET and fiber photometry. J. BONAVENTURA*; S. LAM; J. GOMEZ; M. MICHAELIDES. *NIDA/NIH.*

4:00 EEE24 **417.24** Longitudinal changes in brain activity during acquisition of cocaine locomotor sensitization and its modulation by synaptic zinc. J. L. GOMEZ*; J. BONAVENTURA; M. MICHAELIDES. *Natl. Inst. on Drug Abuse.*

1:00 EEE25 **417.25** Stressor controllability alters the severity of cocaine-induced encoding deficits in accumbal neurons for reward-predictive cues. K. A. SILETTI*; K. S. MCCONOMY; A. K. MONTGOMERY; M. P. SADDORIS. *Univ. of Colorado Boulder.*

2:00 EEE26 **417.26** Differential encoding in prefrontal and accumbal neurons during a continuously updating risk-based decision making task. M. SADDORIS*; K. S. MCCONOMY. *Univ. of Colorado Boulder.*

3:00 FFF1 **417.27** Optical stimulation midbrain dopamine neurons drives self-administration in cocaine-experienced rats, but fails to elicit phasic neural encoding in nucleus accumbens shell. K. MCCONOMY*; M. SHAH; M. P. SADDORIS. *Univ. of Colorado Boulder, Univ. of Colorado, Boulder.*

POSTER

418. Neural Mechanisms of Nicotine Addiction I

Theme G: Motivation and Emotion

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 FFF2 **418.01** Sex differences in expression of deltafosb in taurine and cocaine treated rat brains. T. D. IRVING*; A. COLE; C. VASQUEZ; T. ADEBOWALE; U. AKPARA; K. Y. SALAS-RAMIREZ. *CUNY Sch. of Med., CUNY Sch. of Med.*

2:00 FFF3 **418.02** The effects of the COMT inhibitor tolcapone and sex on alcohol consumption in individuals with alcohol use disorder (AUD). A. R. COKER; D. WEINSTEIN; T. A. VEGA; C. S. MILLER; A. S. KAYSER; J. MITCHELL*. *UCSF: Dept. of Neurol.*

3:00 FFF4 **418.03** A closer look at transcranial magnetic stimulation through *in vivo* neuroimaging. M. A. BOEHM*; J. GOMEZ; J. BONAVENTURA; Z. JUSTINOVA; H. JEDEMA; E. STEIN; C. BRADBERRY; M. MICHAELIDES. *Natl. Inst. on Drug Abuse, Brown Univ.*

4:00 FFF5 **418.04** 5-methoxy-N,N-dimethytryptamine's influence on the right angular gyrus: Evidence for altered default mode functioning. M. VILLANUEVA*; P. GAST. *Alpha Theta Ctr.*

1:00 FFF6 **418.05** High frequency but not low frequency deep brain stimulation of the subthalamic nucleus reduces motivation for cocaine, while increasing that for apple sauce in the monkey. S. RAVEL*; J. NACEF; J. ANTON; I. BALANSARD; P. BORIUS; R. DESBRIÈRE; A. EUSEBIO; B. NAZARIAN; L. RENAUD; J. RÉGIS; C. W. BRADBERRY; C. BAUNEZ. *CNRS & AMU UMR 7289, Newcastle Univ., CNRS & AMU UMS 3537, Hop. de la Pitié-Salpétrière, Hop. Saint-Joseph, Hop. de la Timone, AP-HM, Hop. de la Timone, AP-HM, NIH.*

2:00 FFF7 **418.06** A deeper insight into how GABA-B receptor agonism via baclofen may affect alcohol seeking and consummatory behaviors: Lessons learned from a human laboratory investigation. M. FAROKHNIA*; S. DESCHAINE; A. SADIGHI; F. AKHLAGHI; L. LEGGIO. *NIH, Univ. of Rhode Island.*

3:00 FFF8 **418.07** Sex differences in ketamine addiction-like behavior and nucleus accumbens spine morphology in chronic mild-stressed rats pre-treated with ketamine. K. N. WRIGHT; D. P. HAGARTY*; C. STRONG; K. J. SCHOEPFER; M. KABBAJ. *Florida State Univ.*

4:00 FFF9 **418.08** ● Evaluation of a combination opioid/antipsychotic drug to reduce the abuse liability of opioid analgesics: A preclinical and clinical feasibility study. A. M. BOLEY*; M. E. CURTIS; G. T. COLLINS; M. S. ECKMANN; A. S. NAGPAL; J. S. POTTER; A. FRAZER; D. J. LODGE. *Univ. of Texas at San Antonio, UT Hlth. San Antonio, South Texas Veterans Hlth. Care Syst., UT Hlth. San Antonio, UT Hlth. San Antonio.*

1:00 FFF10 **418.09** Peripheral mechanoreceptor activation modulates mesolimibic gaba and dopamine neurons and dopamine release in the nucleus accumbens via delta opioid receptors. K. BILLS*; T. CLARKE; M. NELSON; Z. NEY; S. STEFFENSEN. *Brigham Young Univ.*

2:00 FFF11 **418.10** Craving, cardiovascular, and cognitive effects of cocaine and lorcaserin, a serotonin 2C agonist with anti-addictive properties. K. W. GRASING*; M. D. HICKMAN; V. C. BOINPELLY; K. SURINENI; H. THAKUR; J. PIRTLE. *Kansas City Veterans Affairs Med. Ctr.*

3:00 FFF12 **418.11** ● Novel small molecule inhibitors of protein kinase C epsilon for reducing consumptions of alcohol and nicotine. J. WANG*; A. BLASIO; M. B. POMRENZE; H. WANG; S. MCHARDY; R. O. MESSING. *The Univ. of Texas At Austin, Univ. of Texas At Austin Col. of Pharm., Univ. of Texas at Austin, Univ. of Texas at San Antonio, Univ. of Texas at Austin.*

4:00 FFF13 **418.12** ● Mechanism of action of ITI-333, a novel modulators of serotonin, dopamine and mu opioid receptors for the treatment of opioid use disorder. G. L. SNYDER*; R. E. DAVIS; P. LI; W. YAO; S. CRUZ; L. ZHANG; J. P. HENDRICK; A. FIENBERG; K. E. VANOVER; S. MATES. *Intra-Cellular Therapies Inc, Intra-Cellular Therapies Inc.*

1:00 FFF14 **418.13** Functional connectivity changes related to self-regulation among moderate to heavy smokers. L. MARTIN*; M. G. BRUCKS; D. CATLEY; K. P. RICHTER; E. F. ELLERBECK; V. B. PAPA; A. T. FOX. *Univ. of Kansas Med. Ctr., Children's Mercy, Univ. of Kansas Med. Ctr.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

419. Circuit and Molecular Mechanisms of Cocaine Action

Theme G: Motivation and Emotion

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 DP11/FFF15 **419.01** (Dynamic Poster) Physiological and psychological cocaine dependence affect neural processing of drug and food stimuli: Correlations with substance use severity and psychopathic traits. W. DENOMME*; M. S. SHANE. *Univ. of Ontario Inst. of Technol., Univ. of Ontario Inst. of Technol., The Mind Res. Network.*

2:00 FFF16 **419.02** Neural activity of anterior insula during a size-delay task is enhanced after cocaine exposure. H. J. PRIBUT*; A. T. BROCKETT; D. VAZQUEZ; E. ALVAREZ; M. R. ROESCH. *Univ. of Maryland, Univ. of Maryland.*

3:00 FFF17 **419.03** Inhibition of GABA neurons in the prelimbic cortex mimics locomotor activation evoked by cocaine. E. MARRON*; T. ROSE; H. OBERLE; K. WICKMAN. *Univ. of Minnesota.*

4:00 FFF18 **419.04** Prior cocaine self-administration increases strength of encoding states with different response rules by DMS cholinergic interneurons. L. MUELLER*; A. M. WIKENHEISER; M. J. SHARPE; D. M. DIETZ; T. A. STALNAKER; G. SCHOENBAUM. *NIH, NIDA IRP, State Univ. of New York at Buffalo.*

1:00 FFF19 **419.05** Melanin-concentrating hormone system in REM sleep-mediated regulation of cocaine craving. R. GUO*; Y. WANG; B. CHEN; L. CAI; Y. LI; O. M. SCHLÜTER; J. FANG; Y. DONG; Y. H. HUANG. *Univ. of Pittsburgh, Univ. of Pittsburgh, Wenzhou Med. Univ., Pennsylvania State Univ.*

2:00 FFF20 **419.06** Ventral pallidum Drd3-expressing neurons mediate cocaine-seeking behavior. H. PRIBIAG*; S. SHIN; E. H. WANG; P. HONMA; V. LILASCHAROEN; B. LIM. *UCSD.*

1:00 DP12/FFF21 **419.07** (Dynamic Poster) Ventral pallidal glutamatergic and enkephalinergic neurons oppositely regulate cocaine seeking. J. A. HEINSBROEK*; A. BOBADILLA; D. NEUHOFER; T. B. NENTWIG; E. DERESCHEWITZ; P. W. KALIVAS. *Med. Univ. of South Carolina.*

4:00 FFF22 **419.08** Estrogenic modulation of cocaine response in the medial preoptic area is dependent on biological sex. J. R. MARTZ*; C. L. ROBISON; J. M. DOMINGUEZ. *The Univ. of Texas At Austin, Waggoner Ctr. for Alcohol & Addiction, The Univ. of Texas at Austin, The Univ. of Texas at Austin.*

1:00 FFF23 **419.09** Individual differences in cocaine aversion response correlate with distinct intrinsic and synaptic neuroadaptation in the RMTg to VTA pathway. J. PARRILLA-CARRERO*; Y. S. CHAO; M. EID; D. PULLMANN; H. LI; T. C. JHOU. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*

2:00 FFF24 **419.10** Chemogenetic activation of hindbrain projections to the lateral dorsal tegmental nucleus attenuates cocaine-seeking behavior. N. S. HERNANDEZ*; V. R. WEIR; H. D. SCHMIDT. *Univ. of Pennsylvania.*

3:00 GGG1 **419.11** Suppression of operant responding for a natural reinforcer by a cocaine-associated auditory stimulus in rats: Role of locus coeruleus activity and auditory brainstem plasticity. M. A. PRESKER*, JR; D. SOSIDKO; S. S. BASKAR; K. M. BIESZCZAD; G. S. ASTON-JONES. *Rutgers - The State Univ. of New Jersey, Rutgers - The State Univ. of New Jersey, Rutgers The State Univ. of New Jersey, Rutgers Univ.*

4:00 GGG2 **419.12** Retinoic acid signaling and homeostatic plasticity in nucleus accumbens medium spiny neurons. A. M. WUNSCH*; D. C. CHRISTIAN; M. T. STEFANIK; M. HINTZE; L. CHEN; M. E. WOLF. *Rosalind Franklin Univ., Stanford Univ.*

1:00 GGG3 **419.13** Formation and refinement of distributed corticostriatal ensembles engaged by cocaine. N. R. WALL*; P. A. NEUMANN; K. T. BEIER; A. K. MOKHTARI; L. LUO; R. C. MALENKA. *Stanford Univ. Sch. of Med., Howard Hughes Med. Inst. - Stanford Univ.*

2:00 GGG4 **419.14** Characterization of corticostriatal cocaine ensemble physiology and behavior. P. A. NEUMANN*; N. R. WALL; K. T. BEIER; R. C. MALENKA. *Stanford Univ.*

3:00 GGG5 **419.15** Destabilization of a synaptic engram underlying drug-associated memories. W. WRIGHT*; N. M. GRAZIANE; P. A. NEUMANN; P. J. HAMILTON; H. M. CATES; L. E. FUERST; Y. SHAHAM; O. M. SCHLÜTER; E. J. NESTLER; Y. DONG. *Univ. of Pittsburgh, Icahn Sch. of Med. At Mount Sinai, IRP/NIDA/NIH.*

4:00 GGG6 **419.16** Dynamic neuronal signaling in the nucleus accumbens tracks cocaine experience and contributes to motivated behavior. M. E. ZIPPERLY*; J. O'MALLEY; A. C. BRANE; N. A. SIMPKINS; D. S. MURRAY; K. D. BUNNER; J. J. DAY. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, McGovern Med. Sch. at Uthealth, Indiana Univ.*

1:00 GGG7 **419.17** Contingent versus non-contingent cocaine administration differentially affects the persistence of neuronal intrinsic plasticity of medium spiny neurons in the nucleus accumbens shell. A. SEGEV*; I. DELINT-RAMIREZ; S. KOURRICH. *UT Southwestern Med. Ctr.*

2:00 GGG8 **419.18** Disinhibition and abnormal activity of parvalbumin interneurons of nucleus accumbens in cocaine-conditioned place preference. W. ZHANG*; H. ZHANG; J. SHI; L. LU. *Peking Univ., Peking Univ.*

3:00 GGG9 **419.19** NMDA receptors in rat nucleus accumbens are dynamically regulated during withdrawal from cocaine self-administration. D. T. CHRISTIAN*; M. T. STEFANIK; A. M. WUNSCH; J. R. FUNKE; L. A. BEAN; C. A. BRIGGS; J. LYONS; D. NEAL; M. MILOVANOVIC; G. E. STUTZMANN; D. A. NICHOLSON; K. TSENG; M. E. WOLF. *Rosalind Franklin Univ. of Med. and Sci., Rush Univ., Univ. of Illinois Chicago.*

4:00 GGG10 **419.20** Differential role of NMDA receptors GluN2C and GluN2D subunits in cocaine addiction. G. P. SHELKAR*; R. PAVULURI; J. LIU; P. GANDHI; S. M. DRAVID. *Creighton Univ.*

1:00 GGG11 **419.21** AMPA receptor and mGlu1 expression and interactions in the nucleus accumbens core during the incubation of methamphetamine craving. C. MURRAY*; M. E. WOLF; M. MILOVANOVIC; J. FUNKE; A. CACCAMISE. *Rosalind Franklin Univ. of Med. and Scien, Rosalind Franklin Univ. of Med. and Sci.*

2:00 GGG12 **419.22** Modulation of dopamine D2R sensitivity following cocaine exposure. S. GONG*; P. MARCOTT; C. FORD. *Univ. of Colorado, Anschutz Med. Campus, Case Western Reserve Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 DP10/GGG13 **419.23** (Dynamic Poster) Effects of nucleus accumbens core-directed D_2 receptor antagonism on motivation for cocaine following the development of an addicted phenotype. T. NESIL*; A. BAKHTI-SUROOSH; W. J. LYNCH. *Univ. of Virginia.*

4:00 GGG14 **419.24** SNC80, a delta opioid receptor agonist, reduces cocaine-induced increases in CRF mRNA in female rats. K. L. CONNELLY*; E. M. UNTERWALD. *Temple Univ. Sch. of Med.*

1:00 GGG15 **419.25** The psychedelic 5-meo-dmt reverses key molecular changes caused by chronic cocaine across multiple brain structures. J. O'SULLIVAN*; K. J. MURPHY. *UCD Conway Inst.*

2:00 GGG16 **419.26** A novel high affinity cocaine receptor inhibits dopamine reuptake via rapid degradation of the dopamine transporter. M. M. HARRAZ*; P. GUHA; A. MALLA; I. KANG; E. R. SEMENZA; P. CORTES; S. H. SNYDER. *Johns Hopkins Univ.*

POSTER

420. Drugs of Abuse and Addiction: Opioid Reinforcement, Seeking, and Reinstatement

Theme G: Motivation and Emotion

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 GGG17 **420.01** Modeling opioid maintenance therapy in rats: Effects of chronic buprenorphine and the biased mu-opioid receptor agonist TRV130 on relapse to oxycodone seeking. J. M. BOSSERT*; J. K. HOOTS; S. S. NEGUS; B. E. BLOUGH; Y. SHAHAM. *NIH, NIDA, IRP, Virginia Commonwealth Univ., Ctr. for Drug Discovery, Res. Triangle Inst.*

2:00 GGG18 **420.02** ▲ Long-term impact of acute stress on cognition, anxiety, and reinstated heroin seeking in male and female rats. J. S. CARTER*; A. M. KEARNS; R. A. WEBER; C. M. REICHEL. *Med. Univ. of South Carolina.*

3:00 GGG19 **420.03** ▲ Reduced opioid intake and stress-induced relapse in fatty acid amide hydrolase (FAAH) knockout rats. A. KARNATI*; J. E. SCHLOSBURG. *Virginia Commonwealth Univ. Hlth. Syst., Virginia Commonwealth Univ.*

4:00 GGG20 **420.04** Chemogenetic activation of prefrontal cortex - thalamic projections in the augmentation of heroin seeking induced by chronic food restriction. A. CHISHOLM*; E. FORTIN; D. RIZZO; V. MOMAN; R. DAUTH; A. GHEZZO; N. QUTEISHAT; J. MANOLIADIS; A. CASOLA; U. SHALEV. *Concordia Univ.*

1:00 GGG21 **420.05** Hippocampal mTORC1 and ERK co-regulate drug context-induced heroin-seeking behavior. R. A. FUCHS*; R. A. FUCHS*; R. WANG; T. A. BROWN; S. TAN; J. A. HIGGINBOTHAM; D. T. LYSLE. *Washington State Univ., Univ. of North Carolina at Chapel Hill.*

2:00 GGG22 **420.06** Pain-induced negative affect is mediated via recruitment of the nucleus accumbens kappa opioid system. N. MASSALY*; A. R. POE; B. A. COPITS; L. HIPOLITO; T. MARKOVIC; S. LIU; R. NEVE; C. M. CAHILL; K. I. SHOGHI; R. W. GEREAU, IV; J. G. MCCALL; R. AL-HASANI; M. R. BRUCHAS; J. MORON-CONCEPCION. *Washington Univ. In St. Louis, Washington Univ. in St Louis, Univ. of Valencia, Univ. of California Irvine, MIT.*

3:00 GGG23 **420.07** Cellular specificity of matrix metalloproteinase activation on accumbens medium spiny neurons during heroin relapse. V. CHIOMA*; P. KALIVAS. *Med. Univ. of South Carolina.*

4:00 GGG24 **420.08** Operant oral oxycodone self-administration in inbred strains of rats. X. FAN; T. WANG; E. REDEI; H. CHEN*. *Univ. Tennessee Hlth. Sci. Ctr., Northwestern Univ. Feinberg Sch. of Med.*

1:00 GGG25 **420.09** Evidence for the role of biased signaling at the kappa opioid receptor in reducing conditioned place preference to morphine. S. KASKI*; J. GROSS; A. SCHROER; K. WIX; D. P. SIDEROVSKI; V. SETOLA. *WVU Hlth. Sci. Ctr., WVU Sch. of Med.*

2:00 GGG26 **420.10** Activation of amylin receptors in the nucleus accumbens shell reduces voluntary oxycodone taking in rats. Y. ZHANG*; N. S. HERNANDEZ; C. A. TURNER; M. KAHNG; V. R. WEIR; H. D. SCHMIDT. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania Sch. of Med.*

3:00 GGG27 **420.11** ▲ Economic choice in squirrel monkeys for studying opiate reward. S. O. BROWN*; R. YANES; E. B. THORNDIKE; H. P. JEDEMA; C. W. BRADBERRY. *NIH, NIDA.*

4:00 HHH1 **420.12** Fentanyl demand decreases after activation or blockade of μ opioid receptors in male rats. L. R. HAMMERSLAG*; J. BECKMANN; R. S. HOFFORD; M. T. BARDO. *Univ. of Kentucky, Icahn Sch. of Med. at Mount Sinai.*

1:00 HHH2 **420.13** Effects of morphine abstinence on oxycodone self-administration in male and female rats. T. LINTZ*; M. MAVRIKAKI; B. ESAYEAS; S. PAGE; E. CHARTOFF. *McLean Hosp.*

2:00 HHH3 **420.14** ▲ Individual vulnerability to traumatic stress predicts increased demand for heroin and cue-induced reinstatement: A novel preclinical approach to study individual differences underlying traumatic stress and heroin use comorbidity. C. DONOVAN*; T. KAZAN; N. STAFFORD; E. HART; M. FORD ORTIZ; K. TAYLOR; D. HERTIA; M. DURANKO; R. C. DRUGAN; S. CHARNTIKOV. *Univ. of New Hampshire, Univ. of New Hampshire, Univ. of New Hampshire.*

3:00 HHH4 **420.15** Morphine experience and expectations alter 50-55 kHz ultrasonic vocalization counts and acoustic characteristics. C. L. DUVAUCHELLE*; C. CERVANTES; J. BAILEY; A. MARTINEZ; H. TRINH; N. MITTAL; N. THAKORE; W. MADDOX. *Univ. of Texas, Univ. of Texas, Univ. of Texas, Univ. of Texas, Univ. of Texas, ZS Mgmt. Consulting, CD&SC, LLC.*

4:00 HHH5 **420.16** Sex differences in oxycodone preference choice task. J. GERSON*. *UCLA, UCSB.*

1:00 HHH6 **420.17** ● The reinforcing properties of heroin vapor self-administration. A. GUTIERREZ*; M. A. TAFFE. *The Scripps Res. Inst., The Scripps Res. Inst.*

2:00 HHH7 **420.18** Polyaminergic agents modulate extinction and reinstatement of conditioned place preference in mice. M. A. RUBIN*; B. A. GIRARDI; S. FABRIN; A. L. WENDEL; F. R. MELLO; C. F. MELLO. *Federal Univ. of Santa Maria (UFSM), Federal Univ. of Santa Maria.*

3:00 HHH8 **420.19** Incubation of oxycodone craving after conflict-induced voluntary abstinence. I. FREDRIKSSON*; A. MINIER-TORIBIO; J. M. BOSSERT; Y. SHAHAM. *NIH, NIDA, IRP.*

Mon. PM

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 HHH9 **420.20** Relapse to fentanyl seeking after choice-based voluntary abstinence. D. J. REINER*; O. M. LOFARO; M. VENNIRO; Y. SHAHAM. *IRP-NIDA, NIH, Natl. Inst. On Drug Abuse, IRP/NIDA/NIH.*

1:00 HHH10 **420.21** Confirmatory factor analysis of drug self-administration in rats. Y. SWAIN*; M. GADES; P. MUELKEN; M. G. LESAGE; M. MCGUE; J. G. GEWIRTZ; A. C. HARRIS. *Univ. of Minnesota Twin Cities, Minneapolis Med. Res. Fndn.*

2:00 HHH11 **420.22** Genetic variance in prescription opioid abuse: A comparison between 129 mouse substrains. K. K. SZUMLINSKI*; M. A. COELHO; S. FERDOUSIAN; N. STAILEY; S. M. JIMENEZ; E. K. F. FULTZ. *Univ. California-Santa Barbara.*

POSTER

421. Neural Mechanisms of Nicotine Addiction II

Theme G: Motivation and Emotion

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 HHH12 **421.01** ● Distinct neural mechanisms of monetary and drug reward seeking decisions under uncertainty. C. HUTSLAR; R. POLK; E. ATKINSON; J. MACY; L. CHASSIN; C. PRESSON; P. FINN; J. W. BROWN*. *Indiana Univ., Indiana Univ., Arizona State Univ., Indiana Univ.*

2:00 HHH13 **421.02** Characterizing the neurobiology of nicotine dependence using multimodal human neuroimaging. P. SPECHLER*; H. GARAVAN; A. IVANCIU; B. CHAARANI; S. ADISE; S. HIGGINS. *Univ. of Vermont, Univ. of Vermont.*

3:00 HHH14 **421.03** Obese smokers show altered reward-related functional connectivity associated with level of nicotine dependence. A. V. ELY*; K. JAGANNATHAN; K. A. KETCHERSIDE; C. NUTOR; T. FRANKLIN; R. WETHERILL. *Christiana Care Hlth. Syst., Univ. of Pennsylvania.*

4:00 HHH15 **421.04** Functional connectivity of the human ventral striatum during smoking abstinence and pharmacologic administration. R. POUDEL*; M. J. TOBIA; M. C. RIEDEL; A. R. LAIRD; T. J. ROSS; B. SALMERON; E. A. STEIN; M. T. SUTHERLAND. *Florida Intl. Univ., Natl. Inst. on Drug Abuse.*

1:00 HHH16 **421.05** WGBS reveals genome-wide differential methylation of occupational exposure to coal mining and tobacco smoking. M. WANG*; M. D. LI. *Zhejiang Univ., Seton Hall Univ.*

2:00 HHH17 **421.06** Implication of critical role of GluN3A in nicotine dependence by both genetic association and molecular functional studies. C. J. LI*; M. D. LI. *Zhejiang Univ., Seton Hall Univ.*

3:00 HHH18 **421.07** Role of a 3'utr polymorphism (rs2304297) in the human alpha 6 nicotinic receptor subunit gene in adolescent substance use. A. CARDENAS*; S. LOTFIPOUR. *Univ. of California, Irvine, Univ. of California, Irvine.*

4:00 HHH19 **421.08** Understanding the molecular basis of nicotine addiction by integrative functional genomic analyses in a rat model and hiPSC-derived DA neurons. A. KOZLOVA*; S. ZHANG; T. UJAS; M. STREIT; H. ZHANG; A. SANDERS; Z. PANG; P. GEJMAN; P. VEZINA; J. DUAN. *Northshore Univ. Healthsystem, Univ. of Chicago, Rutgers Univ.*

1:00 HHH20 **421.09** Striatal cholinergic interneurons control behavioral sensitivity to nicotine. B. KIM*; J. WOO; C. LEE; H. IM. *Korea Inst. of Sci. and Technol. (KIST), KIST School, Korea Univ. of Sci. and Technol. (UST).*

2:00 HHH21 **421.10** Diversity in midbrain dopaminergic circuitry in response to drugs of abuse. C. NGUYEN*; S. TOLU; S. MONDOLONI; R. DURAND-DE CUTTOLI; F. MARTI; P. FAURE. *Univ. Paris Sorbonne, CNRS UMR8246, INSERM U1130.*

3:00 HHH22 **421.11** Insulin normalizes the decrements in dopamine transmission observed in diabetic rats. B. CRUZ*; L. M. CARCOBA; R. J. FLORES; E. J. ESPINOZA; A. NAZARIAN; L. E. O'DELL. *Univ. of Texas at El Paso, Western Univ. of Hlth. Sci.*

4:00 HHH23 **421.12** Enhanced GABA release by projections from the nucleus accumbens to the ventral pallidum reduces nicotine self-administration in rats. A. L. SMITH; R. T. CHAPMAN; C. A. BRADLEY; H. W. SHELTON; M. I. PALMATIER*. *East Tennessee State Univ., East Tennessee State Univerisy, East Tennessee State Univ., East Tennessee State Univ.*

1:00 HHH24 **421.13** Acute nicotine exposure alters ventral tegmental area inhibitory transmission and promotes diazepam consumption. R. WITTENBERG*; A. OSTROUMOV; B. A. KIMMEY; M. B. TAORMINA; W. M. HOLDEN; J. A. DANI. *Univ. of Pennsylvania.*

2:00 HHH25 **421.14** ▲ Extracellular dopamine release induced by co-presentation of nicotine and flavor conditioned reinforcers: Effect of nicotine dose. C. S. BAILEY; G. A. DEEHAN*, JR; C. A. BRADLEY; A. SMITH; M. I. PALMATIER. *East Tennessee State Univ., East Tennessee State Univ., East Tennessee State Univ., East Tennessee State Univ.*

3:00 HHH26 **421.15** Nuclear factor kappa B signaling in the nucleus accumbens core mediates cue-induced nicotine seeking and modulates glutamate transporter 1 expression. M. D. NAMBA*; C. D. GIPSON. *Arizona State Univ.*

4:00 HHH27 **421.16** ▲ Extracellular vesicle integration in the rodent brain. A. F. AHMED*; V. LALLAI; C. D. FOWLER. *Univ. of California Irvine.*

1:00 HHH28 **421.17** Extracellular vesicle release from the choroid plexus and small rna content modulated by nicotine. V. LALLAI*; A. F. AHMED; C. D. FOWLER. *UCI.*

2:00 HHH29 **421.18** Participation of metabotropic and endocytic mechanisms in nicotine-induced upregulation of α7 nicotinic acetylcholine receptors (nAChRs) in xenopus oocytes. J. PANCHAL*; M. ISLAM; K. DEBOEUF; J. B. ANDERSON; I. MCFATRIDGE; J. FARLEY. *Indiana Univ., Indiana Univ. Bloomington, Indiana Univ. Bloomington, Indiana Univ. Bloomington, Indiana Univ., Indiana Univ. Bloomington.*

3:00 HHH30 **421.19** Nicotine-induced behavior and gene expression in larval zebrafish. H. SCHNEIDER*; A. PEARSON; D. HARRIS. *Depauw Univ.*

4:00 HHH31 **421.20** Overexpression of a stress peptide in the nucleus accumbens selectively increases nicotine self-administration in female versus male rats. K. P. URIBE*; R. J. FLORES; V. CORRERA; B. CRUZ; L. E. O'DELL. *The Univ. of Texas at El Paso.*

1:00 HHH32 **421.21** Disruption of hippocampal NRG3-ERBB4 signaling ablates nicotine withdrawal-induced anxiety-like behaviors. M. FISHER*; E. ANDERSON; J. L. TWISS; J. R. TURNER. *Univ. of South Carolina, Univ. of South Carolina.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 HHH33 **421.22** Sex-dependent behavioral effects of adolescent exposure to a cannabinoid agonist and nicotine in adult mice. A. EUGENE*; A. N. PUSHKIN; A. TORRES MENDOZA; C. D. FOWLER. *Univ. of California, Irvine, Univ. of California Irvine.*

3:00 HHH34 **421.23** Traumatic stress enhances nicotine-induced locomotor sensitization in a rat model of PTSD. F. GHODDOUSSI*; T. GORE; M. J. LISIESKI; K. KARAVIDHA; D. K. KNOX; S. A. PERRINE. *Wayne State University, Sch. of Med., Wayne State University-School of Med., Univ. of Delaware.*

4:00 HHH35 **421.24** The effects of nicotine and withdrawal on sleep latency in C57BL/6J mice. H. L. MATHEWS*; V. IYER; J. A. STITZEL. *Univ. of Colorado Boulder Dept. of Psychology and Neurosci., Inst. for Behavioral Genet., Univ. of Colorado - Boulder, Univ. of Colorado Boulder.*

1:00 HHH36 **421.25** Effects of chronic inhalation of electronic cigarette vapor containing nicotine on neurotransmitters in the frontal cortex and striatum of C57BL/6 mice. F. ALASMARI*; L. E. CROTTY ALEXANDER; A. M. HAMMAD; C. M. BOJANOWSKI; A. MOSHENSKY; Y. SARI. *Univ. of Toledo, Univ. of California at San Diego (UCSD).*

POSTER

422. Invertebrate Learning and Memory

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 HHH37 **422.01** ● Transcriptional changes extend far beyond forgetting of a long-term sensitization memory in *Aplysia californica.* R. CALIN-JAGEMAN*; U. PATEL; L. PEREZ; S. FARRELL; D. STECK; I. CALIN-JAGEMAN. *Dominican Univ., Dominican Univ., Dominican Univ.*

2:00 HHH38 **422.02** Differential contribution of protein kinase G to short-term and long-term behavioral plasticity induced by sensitization training in *Aplysia.* R. MOZZACHIODI*; R. CHATTERJI; E. SALAS; M. WAINWRIGHT. *Texas A&M Univ. Corpus Christi.*

3:00 HHH39 **422.03** Regulation of context memory maintenance during reconsolidation with serotonin precursor and epigenetic regulators. P. M. BALABAN*; A. VINARSKAYA; A. ZUZINA. *Inst. Higher Nervous Activity & Neurophysiol. RAS.*

4:00 HHH40 **422.04** Learning and circuit-dependent replacement of memory. M. CROSSLEY; G. KEMENES; P. R. BENJAMIN*; I. KEMENES. *Univ. Sussex.*

1:00 HHH41 **422.05** Successful and unsuccessful attempts to swallow regulate *Aplysia* feeding responses in a reduced *in vitro* preparation. A. J. SUSSWEIN*; J. M. MCMANUS; H. J. CHIEL. *Bar-Ilan Univ., Case Western Reserve Univ., Case Western Res. Univ.*

2:00 HHH42 **422.06** Sleep deprivation inhibits early steps in the induction of associative memory. L. C. LYONS*; H. C. KRISHNAN; E. J. NOAKES; L. M. CANCIO. *Florida State Univ., Florida State Univ.*

3:00 HHH43 **422.07** Ribosomal S6 kinase (RSK) is essential for long-term synaptic facilitation (LTF) at sensorimotor (SN-MN) synapses of *Aplysia.* R. LIU*; Y. ZHANG; L. J. CLEARY; J. H. BYRNE. *McGovern Med. Sch. of UTHSC At Houston.*

4:00 HHH44 **422.08** Biphasic regulation of MAPK pathways contributes to dynamics of CREB1 and CREB2 after serotonin treatment. Y. ZHANG*; R. LIU; L. J. CLEARY; J. H. BYRNE. *McGovern Med. Sch. of UTHSC at Houston.*

1:00 HHH45 **422.09** Differentiating the molecular mechanisms underlying short-term behavioural plasticity. A. J. YU*; E. L. ARDIEL; C. H. RANKIN. *The Univ. of British Columbia, The Univ. of British Columbia.*

2:00 HHH46 **422.10** High-throughput phenomic characterization of ASD-associated genes reveals a functional gene network underlying hypersensitivity and impaired habituation. C. H. RANKIN*; T. MCDIARMID; M. BELMADANI; K. HAAS; P. PAVLIDIS. *Univ. British Columbia, Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Univ. British Columbia.*

3:00 HHH47 **422.11** Investigation into the role of motor response performance in associative learning in *C. elegans.* M. R. PRIBIC; J. T. BYLIN; L. C. LAWRENCE; M. N. BISHOP; J. K. ROSE*. *Western Washington Univ., Western Washington Univ., Western Washington Univ.*

4:00 HHH48 **422.12** Exploring the role of the chloride channel CLH-1 in salt chemotaxis learning in the nematode *C. elegans.* C. PARK*; Y. SAKURAI; Y. IINO; H. KUNITOMO. *The Univ. of Tokyo, Sch. of Science, Univ. of Tokyo, The Univ. of Tokyo, Sch. of Science, Univ. of Tokyo.*

1:00 HHH49 **422.13** Honey bees form separated memory traces after experiences containing appetitive and aversive consequences. M. KLAPPENBACH*; F. F. LOCATELLI. *IFIBYNE-CONICET, FCEN-UBA, IFIBYNE-CONICET, FCEN-UBA.*

2:00 HHH50 **422.14** Sequencing of entire brains at the single-cell resolution: Principles of molecular classification (neurosystematics) and periodic system of neurons. L. L. MOROZ*; A. KOHN. *Univ. of Florida, McKnight Brain Inst.*

3:00 HHH51 **422.15** Reprogramming of feeding behavior by diet. T. PARDO*; C. MAY; A. VAZIRI; M. DUS. *Univ. of Michigan.*

4:00 HHH52 **422.16** Mother knows the threat: Neural mechanisms of wasp-induced oviposition depression in *Drosophila.* M. K. SADANANDAPPA*; G. BOSCO. *Dartmouth Col. Geisel Sch. of Med.*

1:00 DP13/HHH53 **422.17** (Dynamic Poster) Associative olfactory learning in *Drosophila* induces synaptic de-correlation of axonal Kenyon cell boutons. A. FIALA*; B. GEURTEN; F. BILZ. *Univ. Goettingen, Univ. of Goettingen.*

2:00 HHH54 **422.18** Distinctive roles of pre- and post-synaptic DD2Rs in *Drosophila* larval olfactory learning. C. QI; D. LEE*. *Ohio Univ., Ohio Univ.*

3:00 HHH55 **422.19** Discovery of long-lasting context-dependent olfactory memory in *Drosophila.* B. ZHAO*; X. ZHANG; Q. LI; Y. ZHONG. *Tsinghua Univ.*

4:00 HHH56 **422.20** Fruit flies integrate reward history into foraging decisions. S. E. SEIDENBECHER*; J. SANDERS; D. KVITSIANI. *Aarhus Universitet, Sanworks LLC, Aarhus Univ.*

1:00 HHH57 **422.21** A computational model for a spatial map in the fan-shaped body of *Drosophila* based on neuroanatomical evidence mined from the FlyCircuit database. A. J. COPE*; A. B. BARRON; J. A. R. MARSHALL. *Univ. Sheffield, Macquarie Univ., Univ. of Sheffield.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

2:00 HHH58 **422.22** Biased randomness: A connectivity mechanism for associative brain centers. S. J. CARON*; E. AMEMATSRO; K. ELLIS. *Univ. of Utah.*

POSTER

423. Hippocampal Circuits and Cognition

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 HHH59 **423.01** Hippocampal damage causes retrograde memory loss and delayed cue-place memory acquisition in a two-platform water task in rats. J. Q. LEE*; R. J. MCDONALD; R. J. SUTHERLAND. *Univ. of Lethbridge, Univ. Lethbridge, Univ. Lethbridge.*

2:00 HHH60 **423.02** Development of the reconfigurable maze - Various shapes of maze in a single environment. S. HOSHINO*; K. IDE; S. TAKAHASHI. *Doshisha Univ. Grad. Sch. of Brain Scine.*

3:00 HHH61 **423.03** ▲ Effects of partial hippocampal lesions in rats on the traveling salesman problem. E. A. PETTY*; G. COLLINS; K. LONG-IYER; J. PAUL; R. BLASER; J. B. HALES. *Univ. of San Diego.*

4:00 III1 **423.04** The effects of lesions to the head direction cell circuit on behavioural demonstrations of direction learning in rats. D. M. SKINNER*; M. A. WASEF; V. C. J. HARVEY; C. M. THORPE. *Mem. Univ. of Newfoundland.*

1:00 III2 **423.05** Modeling of multiscale spatial navigation in complex environments. A. WEITZENFELD*; P. SCLEIDOROVICH; B. HARLAND; J. FELLOUS. *Univ. of South Florida, Univ. of Arizona, Univ. of Arizona.*

2:00 III3 **423.06** Testing the hippocampus' role in a rapidly-acquired, novel spatial sequence task in rats. S. KILIANSKI*; R. E. HOKENSON; A. SAHAGIAN; B. L. MCNAUGHTON. *Univ. of California, Irvine.*

3:00 III4 **423.07** Representation of borders, velocity and speed in the goldfish brain. E. VINEPINSKY*; O. BEN-SHAHAR; O. DONCHIN; R. SEGEV. *Ben Gurion Univ.*

4:00 III5 **423.08** A feedback circuit shaping spatial and reward expectation during visually guided locomotion. E. M. ADAM*; M. SUR. *Picower Inst. for Learning and Memory, MIT.*

1:00 III6 **423.09** Super-active and ultra-sparse neurons: Hippocampal neurons with persistently high and low propensities for representing space across environments and time. J. LEE*; J. BRIGUGLIO; S. ROMANI; A. K. LEE. *HHMI / Janelia Res. Campus.*

2:00 III7 **423.10** Effects oflesionsoftheretrosplenialcortexontracingalearned routethat includes asmallchange inspatial structure. T. HAYASHI; N. SATO*. *Kwansei Gakuin Univ., Kwansei Gakuin Univ.*

3:00 III8 **423.11** Modeling egocentric bearing selectivity in the rat parahippocampal region. P. A. LACHANCE*; J. S. TAUBE. *Dartmouth Col.*

4:00 III9 **423.12** How does the cerebellum modulate hippocampal coding? A. TORRES HERRAEZ*; L. RONDI-REIG. *Sorbonne Universites, UPMC, IBPS, IBPS-UPMC.*

1:00 III10 **423.13** Turning direction and image selectivity of hippocampal neurons during virtual reality navigation. D. FETTERHOFF*; C. LEIBOLD. *Ludwig-Maximilians-Universität München, Bernstein Ctr. for Computat. Neurosci. Munich.*

2:00 III11 **423.14** Lesions of the head direction cell system impair directional discriminations. A. E. SMITH*; O. A. CHEEK; E. L. C. SWEET; P. A. DUDCHENKO; E. R. WOOD. *Univ. of Edinburgh, Univ. of Stirling.*

3:00 III12 **423.15** Learning efficient search for reward by CA3 recurrent network model. T. HAGA*; T. FUKAI. *RIKEN.*

4:00 III13 **423.16** Hippocampal sharp-wave ripples precede high-effort movements. A. G. HOWE*; G. J. BLAIR; H. T. BLAIR. *UCLA, UCLA.*

1:00 III14 **423.17** The causal role of oxidative kynurenine metabolism in mediating cognitive impairment by remodeling actin cytoskeleton structure in a model of chronic inflammation. M. MITHAIWALA*; A. M. GARRISON; J. C. O'CONNOR. *UT Hlth. San Antonio.*

2:00 III15 **423.18** The hippocampal engram maps experience but not place. K. Z. TANAKA*; H. HE; A. TOMAR; K. NIISATO; A. J. Y. HUANG; T. J. MCHUGH. *RIKEN, Univ. of Bristol.*

POSTER

424. Animal Cognition and Behavior: Learning and Memory: Hippocampal Circuits IV

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 III16 **424.01** Interactions of taste and place coding in the hippocampus. L. E. HERZOG*; L. PASCUAL; D. B. KATZ; S. P. JADHAV. *Brandeis Univ.*

2:00 III17 **424.02** Odor-place associative memory in the hippocampal-prefrontal network. C. A. SYMANSKI*; S. K. GUHA; E. KULLBERG; S. P. JADHAV. *Brandeis Univ.*

3:00 III18 **424.03** Hippocampal theta supports distinct prefrontal representations on a behavioral timescale. M. C. ZIELINSKI*; J. D. SHIN; S. P. JADHAV. *Brandeis Univ., Brandeis Univ.*

4:00 III19 **424.04** Investigating thalamic contributions to abnormal hippocampal oscillatory activity in a mouse model of schizophrenia. R. NANU*; C. LIN; D. B. KATZ; S. P. JADHAV; H. PI; J. LISMAN. *Brandeis Univ., Brandeis Univ., Brandeis Univ.*

1:00 III20 **424.05** Dual-phase-locking in the hippocampal-prefrontal network. R. YOUNG*; J. D. SHIN; S. P. JADHAV. *Brandeis Univ., Brandeis Univ.*

2:00 III21 **424.06** Learning-associated changes in awake replay content in the hippocampal-prefrontal network. W. TANG*; J. D. SHIN; S. P. JADHAV. *Brandeis Univ., Brandeis Univ., Brandeis Univ.*

3:00 III22 **424.07** Development of hippocampal-prefrontal representations in parallel with behavioral learning. J. D. SHIN*; W. TANG; S. P. JADHAV. *Brandeis Univ., Brandeis Univ.*

4:00 III23 **424.08** Visualizing and modulating memories during voluntary aerobic exercise. K. DORST*; O. P. MCKISSICK; S. RAMIREZ. *Boston Univ., Boston Univ., Harvard Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 III24 **424.09** Visualization and modulation of ensembles in the hippocampus and amygdala during fear reinstatement. W. MAU*; Y. ZAKI; A. HAMIDI; E. DOUCETTE; S. L. GRELLA; N. J. MURAWSKI; E. MERFELD; M. SHPOKAYTE; S. RAMIREZ. *Boston Univ.*

2:00 III25 **424.10** Population and projection-specific segregation of fear and reward in the ventral hippocampus. M. SHPOKAYTE*; O. MCKISSICK; S. X. LIU; S. L. GRELLA; E. DOUCETTE; E. MERFELD; N. J. MURAWSKI; Y. ZAKI; A. B. FINKELSTEIN; S. RAMIREZ. *Boston Univ., Boston Univ., Whitehead Inst., Arizona State Univ.*

3:00 III26 **424.11** ▲ Optogenetic induced extinction-like behaviors in ethanol withdrawn mice. C. CINCOTTA*; N. J. MURAWSKI; S. L. GRELLA; E. DOUCETTE; E. MERFELD; M. SHPOKAYTE; Y. ZAKI; A. HAMIDI; K. DORST; S. RAMIREZ. *Boston Univ., Boston Univ., Boston Univ.*

4:00 III27 **424.12** Reactivating hippocampus-mediated memories to disrupt the reconsolidation of fear. S. L. GRELLA*; A. H. FORTIN; J. H. BLADON; N. J. MURAWSKI; Y. ZAKI; E. DOUCETTE; E. MERFELD; M. SHPOKAYTE; S. RAMIREZ. *Boston Univ.*

1:00 III28 **424.13** Chronically reactivating positive and negative memories to modulate hedonic and social behaviors. E. DOUCETTE*; E. MERFELD; J. LOGAN; Y. ZAKI; S. L. GRELLA; N. J. MURAWSKI; M. SHPOKAYTE; A. HAMIDI; S. RAMIREZ; K. DORST; A. FINKELSTEIN. *Boston Univ.*

2:00 III29 **424.14** Manipulating a social ensemble to modulate socially induced reinstatement of a contextual fear memory. A. B. FINKELSTEIN*; A. HAMIDI; Y. ZAKI; E. MERFELD; S. L. GRELLA; N. J. MURAWSKI; M. SHPOKAYTE; S. RAMIREZ. *Boston Univ., Boston Univ., Boston Univ.*

3:00 III30 **424.15** ▲ Effect of combined adult vitamin D deficiency and social stress on spatial cognition in BALB/c mice. M. AL AMIN*; R. SULLIVAN; S. ALEXANDER; T. H. BURNE. *Queensland Brain Inst.*

4:00 III31 **424.16** Effects of LEC-specific P301L tau on object recognition memory. S. SETTI*; R. T. HESLIN; Y. DU; M. N. REED. *Auburn Univ.*

1:00 III32 **424.17** Prenatal cannabinoid exposure results in learning and memory deficits in rodent adolescent offspring: Elucidation of the mechanism and identification of a therapeutic target. P. D. PINKY*; J. BLOEMER; S. E. SETTI; R. T. HESLIN; M. N. REED; V. D. SUPPIRAMANIAM. *Harrison Sch. of Pharmacy, Auburn Univ.*

2:00 III33 **424.18** ● Non-invasive sensory stimulation targets deep brain structures in awake mice. A. L. PAULSON*; S. M. PRINCE; M. K. ATTOKAREN; L. ZHANG; A. C. SINGER. *Georgia Inst. of Technol. and Emory Univ., Emory Univ., Georgia Inst. of Technol.*

3:00 III34 **424.19** ● CA1 neural activity during spatial navigation in the 5XFAD mouse model of Alzheimer's disease. S. M. PRINCE*; A. L. PAULSON; L. ZHANG; M. K. ATTOKAREN; S. AMIGUES; J. H. TIPTON; A. C. SINGER. *Emory Univ., Georgia Inst. of Technol. and Emory Univ., Georgia Inst. of Technol.*

4:00 III35 **424.20** OLM interneuron activity during goal-directed behaviors in a mouse model of Alzheimer's disease. L. PENAZZI*; J. BOTT; C. LEGRAND; B. RIVARD; S. WILLIAMS. *McGill University-Douglas Inst.*

1:00 III36 **424.21** Characterization of sex differences in hippocampus-dependent learning and memory. J. M. STRAUSS; K. D. STEVANOVIC; N. H. WU; J. D. CUSHMAN*. *Natl. Inst. of Envrn. Hlth. Sci., Univ. of California Los Angeles.*

2:00 III37 **424.22** The role of medial septal glutamate neurons in CA1 principal cell activity during freely behaving navigation investigated with both calcium imaging and optogenetic silencing in mice. J. BOTT*; L. PENAZZI; A. KY; S. WILLIAMS. *Dept of Pyschiatry, McGill University, Douglas Ins, McGill University-Douglas Inst., McGill Univ.*

3:00 III38 **424.23** Investigating replay activity during Slow-wave and REM sleep in freely behaving mice. J. CHOI*; G. ETTER; S. WILLIAMS. *McGill Univ., Douglas Mental Hlth. Inst., McGill Univ.*

4:00 III39 **424.24** Sex-specific effects of locus coeruleus norepinephrine loss on hippocampus-dependent learning. I. EVSYUKOVA*; N. PLUMMER; J. STRAUSS; K. SMITH; K. STEVANOVIC; N. RIDDICK; S. MOY; J. CUSHMAN; P. JENSEN. *Natl. Inst. of Envrn. Hlth. Sci., Natl. Inst. of Envrn. Hlth. Sci., Univ. of North Carolina.*

1:00 III40 **424.25** Essential role of acetylcholine in memory consolidation during REM-sleep. S. WILLIAMS*; J. KANG; J. BOTT; G. ETTER; F. MANSEAU. *McGill Univ., Douglas Mental Hlth. Univ. Inst., Dept of Pyschiatry, McGill University, Douglas Ins, Douglas Mental Hlth. Inst.*

2:00 III41 **424.26** Role of medial septum parvalbumin neurons in supporting hippocampal predictive coding in normal and Alzheimer's disease conditions. G. ETTER*; B. RIVARD; S. WILLIAMS. *Douglas Mental Hlth. Inst., Douglas Mental Hlth. Univ. Inst., McGill Univ.*

3:00 III42 **424.27** Encoding of elapsed time in the order of minutes by hippocampal pyramidal neurons. Y. SHIKANO*; T. SASAKI; Y. IKEGAYA. *Pharmaceut. Sci., Univ. of Tokyo.*

POSTER

425. Learning and Memory: Molecular Mechanisms

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 III43 **425.01** Transcriptome analysis of state-dependent memory transition from recent to remote. V. JOVASEVIC*; F. SANANBENESI; A. FISHER; J. RADULOVIC. *Northwestern Univ., German Ctr. for Neurodegenerative Dis., Northwestern Univ.*

2:00 III44 **425.02** Role of nuclear receptor Nr4A in hippocampus dependent memory formation: A single-neuronal nuclear RNA sequencing (sn-nuc rna seq) approach. S. CHATTERJEE*; E. BAHL; J. D. LEDERMAN; S. SAFE; J. J. MICHAELSON; T. ABEL. *The Univ. of Iowa, Univ. of Iowa, Univ. of Iowa, Texas A&M Univ., Univ. of Iowa.*

3:00 III45 **425.03** Characterising the function and transcriptional regulation of a cluster of genes core to hippocampal memory consolidation. S. ABDULMALEK*; L. MCDONNELL; K. J. MURPHY. *Univ. Col. Dublin, Univ. Col. Dublin.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

4:00 III46 **425.04** Defects in Arc turnover impair cognitive flexibility. M. A. GHANE*; M. J. WALL; D. R. COLLINS; S. L. CHERY; Z. D. ALLEN; E. D. PASTUZYN; A. J. GEORGE; V. D. NIKOLOVA; S. S. MOY; B. D. PHILPOT; J. D. SHEPHERD; J. MULLER; M. D. EHLERS; A. M. MABB; S. A. CORREA. *Georgia State Univ., Univ. of Warwick, Univ. of Warwick, Univ. of Utah, Univ. of North Carolina, Chapel Hill, Univ. of North Carolina at Chapel Hill Sch. of Med., Univ. North Carolina, Univ. of Bradford, Biogen, Georgia State Univ., Univ. Warwick.*

1:00 III47 **425.05** Reduced dendritic mRNA localization and AMPAR surface expression by RNG105/caprin1 deficiency. R. OHASHI*; Y. SHINODA; S. SHIGENOBU; Y. KIMORI; T. FURUICHI; N. SHIINA. *Natl. Inst. For Basic Biol., SOKENDAI, Tokyo Univ. of Pharm. and Life Sci., Tokyo Univ. of Sci., Nat'l Inst. for Basci Biol., Nat'l Inst. for Nat. Sci., Fukui Univ. of Technol., Exploratory Res. Cent. on Life Living Systems.*

2:00 III48 **425.06** RNG105/caprin1, an RNA granule protein, regulates structural spine plasticity and is required for long-term memory formation. K. NAKAYAMA*; M. ABE; M. YAMAZAKI; A. FUJIKAWA; M. NODA; A. FUTATSUGI; K. MIKOSHIBA; K. SAKIMURA; N. SHIINA. *Natl. Inst. For Basic Biol., Exploratory Res. Ctr. on Life and Living Systems, The Grad. Univ. for Advanced Studies (SOKENDAI), Dept. of Cell. Neurobiology, Brain Res. Institute, Niigata Univ., Div. of Mol. Neurobiology, Natl. Inst. for Basic Biol., Dept. of Basic Med. Science, Kobe City Col. of Nursing, Lab. for Developmental Neurobiology, Ctr. for Brain Science, RIKEN.*

3:00 III49 **425.07** Enhancer RNAs are necessary and sufficient for gene transcription and neuronal function. N. GALLUS*; A. J. SALISBURY; R. C. SIMON; K. D. BUNNER; J. S. REVANNA; K. E. SAVELL; F. SULTAN; J. J. DAY. *Univ. of Alabama at Birmingham, Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama At Birmingham.*

4:00 III50 **425.08** Micro-RNA130b-3p and its targets in the recognition memory of imprinting in domestic chicks. R. O. SOLOMONIA*; G. MARGVELANI; M. MEPARISHVILI; T. KIGURADZE; B. J. MCCABE. *Inst. of Chem. Biology, Ilia Tbilisi State Univ., I.Beritashvili Ctr. of Exptl. Biomedicine, Sub-Dept Animal Behaviour, Dept Zoology, Univ. of Cambridge.*

1:00 III51 **425.09** Cell-specific knockdown of TSC1 increases mTORC1 signaling and facilitates late LTP induction in somatostatin interneurons, and promotes long-term hippocampal memory. J. ARTINIAN*; E. HONORE; A. W. JORDAN; A. KHLAIFIA; I. LAPLANTE; J. LACAILLE. *Dept of Neuroscience, Univ. of Montreal.*

2:00 III52 **425.10** Mimicking age-associated Gadd45γ decline results in memory impairments in young mice. D. VILHENA CATARINO BRITO*; J. KUPKE; K. GÜLMEZ KARACA; B. ZEUCH; A. MM OLIVEIRA. *Univ. of Heidelberg, Neurobio.*

3:00 III53 **425.11** Learning triggered Dnmt3a2 overexpression within hippocampal neuronal ensembles is sufficient to enhance memory. K. GÜLMEZ KARACA; J. KUPKE; B. ZEUCH; A. M. OLIVEIRA*. *Univ. of Heidelberg, Univ. of Heidelberg, Univ. of Heidelberg, Univ. Heidelberg.*

4:00 III54 **425.12** Involvement of calmodulin kinase IIalpha in hippocampus- vs. amygdala-dependent memory revealed by kinase-dead knock-in mouse. Y. YAMAGATA*; Y. YANAGAWA; K. IMOTO. *Natl. Inst. Physiol Sci., SOKENDAI (The Grad. Univ. for Advanced Studies), Gunma Univ. Grad. Sch. of Med., Natl. Inst. Physiol Sci.*

1:00 III55 **425.13** ErbB4 signaling in the infralimbic cortex regulates fear extinction. Y. CHEN*; L. BI; S. ZHANG; T. GAO. *Southern Med. Univ., Southern Med. Univ.*

2:00 III56 **425.14** Inositol polyphosphate multikinase mediates extinction of fear memory. J. PARK; F. LONGO; S. KIM*; S. PARK; S. LEE; M. BAE; J. HAN; E. SANTINI; E. KLANN; S. H. SNYDER. *Korea Advanced Inst. of Sci. and Technol., New York Univ. Ctr. for Neural Sci., IBS, Columbia Univ., Johns Hopkins Univ. Sch. Med.*

3:00 III57 **425.15** Plasmalogens enhance spatial memory by increasing synaptic plasticity. M. HOSSAIN*; T. FUJINO. *Kyushu Univ., Inst. of Rheological Functions of Food.*

4:00 III58 **425.16** M1 muscarinic receptor-dependent protein signaling underlying visual recognition in monkey. B. A. CORGIAT*; C. MUELLER; R. C. SAUNDERS; J. L. OLDS; L. LIOTTA; M. MISHKIN; J. N. TURCHI. *Natl. Inst. of Mental Hlth., George Mason Univ., NIMH, George Mason Univ., NIMH, Natl. Inst. of Mental Hlth.*

1:00 III59 **425.17** Proteomic analysis determines molecular pathway differences between tDCS current intensity groups in rats. J. WAGNER*; S. H. JUNG; C. N. HATCHER-SOLIS; Q. V. QUALLEY; M. P. JACKSON; R. J. MOORE; N. A. BECHMANN; J. A. MARTIN; R. JANKORD. *Infoscitex, U.S. Air Force Res. Lab., Air Force Res. Lab., UES, ORISE, Infoscitex, Infoscitex, Air Force Res. Lab.*

2:00 III60 **425.18** A unique mouse model of early-life exercise enables lasting hippocampal synaptic plasticity and memory. T. YU; E. A. KRAMÁR; S. PARIEVSKY; T. L. VU; M. A. WOOD; A. S. IVY*. *Univ. California-Irvine, Univ. of California Irvine, Ctr. for Neurobio. of Learning and Memory, Univ. California-Irvine.*

3:00 III61 **425.19** Molecular profiles in the brain are involved in fear memory induced by physical and psychological stress. J. H. WANG*; W. LU. *The Inst. of Biophysics, CAS, Qingdao Univ.*

4:00 III62 **425.20** Secreted amyloid precursor protein alpha overexpressing neural stem cells increase cognition in healthy mice. G. W. GLAZNER*; B. AULSTON; G. L. ODERO. *Div. Neurodegen Disorders, St. Boniface.*

1:00 III63 **425.21** Neuropeptide s ameliorates pathological damages and spatial memory impairment in the app/ps1 mouse model of Alzheimer's disease. P. ZHAO*; X. QIAN; N. SUN; C. WEI; Y. NIE; G. CHAI. *Wuxi Med. School, Jiangnan Univ.*

2:00 III64 **425.22** The role of the basolateral amygdala complex in consolidation of second-order conditioned fear. N. M. HOLMES*; K. CLEMENS; A. SHVETCOV; M. MIRZAEI; F. WESTBROOK. *Univ. of New South Wales, Australian Proteome Analysis Facility.*

3:00 III65 **425.23** Molecular dissection of active forgetting in *Drosophila*. Y. GAO*; Y. PENG; X. ZHANG; Y. ZHONG. *Shool of Life Sci. Tsinghua Univ.*

4:00 III66 **425.24** Specification of a remote memory cell ensemble during cortical tagging. R. KIM*; Y. KONDO; T. KAWASHIMA; M. INOUE; Y. ISHII; K. INOKUCHI; K. SAKAI; M. NONAKA; M. SAKAMOTO; H. OKUNO; H. BITO. *Univ. of Tokyo, Grad. Sch. of Med.*

1:00 III67 **425.25** Proteomic modification in hippocampal synapse following noninvasive brain stimulation. S. H. JUNG*; A. QUALLEY; J. WAGNER; R. MOORE; N. BECHMANN; M. JACKSON; J. MARTIN; C. HATCHER; R. JANKORD. *U.S. Air Force Res. Lab., U.S. Air Force Res. Lab.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

426. Human Cognition and Behavior: Working Memory

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 III68 **426.01** Mediators of spatial and verbal working memory decay across the adult life span. S. CANSINO*; F. TORRES-TREJO; C. ESTRADA-MANILLA; J. G. MARTÍNEZ-GALINDO; E. HERNÁNDEZ-RAMOS; M. AYALA-HERNÁNDEZ; T. GÓMEZ-FERNÁNDEZ; M. D. RAMÍREZ-GONZÁLEZ; S. RUIZ-VELASCO. *Lab. NeuroCognition, Nat Autonomous Univ. of Mexico.*

2:00 JJJ1 **426.02** Frontoparietal theta tACS enhances verbal working memory in healthy humans with high working memory capacity. Z. HU*; A. J. WOODS; C. RANA; I. B. SAMUEL; S. MEYYAPPAN; R. GAO; M. DING. *Univ. of Florida, Huazhong Agr. Univ.*

3:00 JJJ2 **426.03** Elderly with high aerobic fitness maintain working memory via right ventrolateral prefrontal activation: A functional near infrared spectroscopy neuroimaging study. K. HYODO*; T. JINDO; H. SOYA; T. NAGAMATSU. *Meiji Yasuda Life Fndn. of Hlth. and Welfare, Univ. Tsukuba.*

4:00 JJJ3 **426.04** Visual working memory processes for objects' material properties in the human prefrontal cortex. M. FUJIMICHI*; H. TSUDA; H. YAMAMOTO; J. SAIKI. *Kyoto Univ., Japan Society for the Promotion of Sci. (JSPS).*

1:00 JJJ4 **426.05** Are unattended memory items under cognitive control? Electrophysiological evidence. J. M. FULVIO*; B. R. POSTLE. *Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison.*

2:00 JJJ5 **426.06** Longitudinal brain connectivity changes in response to a working memory task. A. BRZEZINSKI RITTNER*; S. ALCAUTER; F. A. BARRIOS. *Univ. Nacional Autónoma De México.*

3:00 JJJ6 **426.07** ▲ Decoding working memory load from high density EEG. C. RANA*; Z. HU; S. MEYYAPPAN; I. B. H. SAMUEL; R. GAO; K. BO; A. J. WOODS; M. DING. *Univ. of Florida.*

4:00 JJJ7 **426.08** Working memory and falls risk in older adults. M. WONG*; L. S. NAGAMATSU. *Univ. of Western Ontario, Univ. of Western Ontario.*

1:00 JJJ8 **426.09** ▲ Quantitative electroencephalographic features of early postmenopausal women with low and high performance in a working memory test. M. SOLIS-ORTIZ*; E. GONZALEZ-PÉREZ. *Inst. Invest Med, Univ. Guanajuato, Univ. of Guanajuato.*

2:00 JJJ9 **426.10** ▲ Network profiles of the dorsal anterior cingulate cortex in obsessive compulsive disorder during motor control and working memory. T. D. MERAM*; A. Z. CHOWDURY; P. EASTER; T. J. ATTISHA; E. KALLABAT; G. HANNA; P. ARNOLD; D. R. ROSENBERG; V. A. DIWADKAR. *Wayne State Univ. Sch. of Med., Univ. of Michigan Med. Sch., Univ. of Calgary.*

3:00 JJJ10 **426.11** Differences in alpha band along maintenance and manipulation of information in working memory. T. V. ROMAN-LOPEZ*; S. CISNEROS-LUNA; J. A. FRANCO-RODRIGUEZ; M. MENDEZ DIAZ; O. PROSPERO-GARCIA; A. E. RUIZ-CONTRERAS. *Univ. Nacional Autonoma de Mexico, Univ. Nacional Autonoma de Mexico, Facultad de Medicina.*

4:00 JJJ11 **426.12** Neural circuit maintains simultaneously or sequentially presented multiple items in working memory. D. WANG*; Y. ZHANG; J. ZHOU. *Sch. of Systems Science,Beijing Normal Universit, Beijing Normal Univ.*

1:00 JJJ12 **426.13** Distinct neural coding schemes of anterior and posterior brain regions in forming cluster representations in visual working memory. M. KANG*; B. OH; Y. KIM. *Sungkyunkwan Univ., Inst. for Basic Sci., Inst. for Basic Sci.*

2:00 JJJ13 **426.14** ▲ Event-related phase-amplitude coupling for assessing the EEG correlates of auditory working memory load. T. HUANG; H. DING; Y. TSENG*. *Fu Jen Catholic Univ., Fu Jen Catholic Univ.*

3:00 JJJ14 **426.15** Sensory acquisition functions of the cerebellum in verbal working memory: An fMRI investigation. Y. LIANG*; J. PETERBURS; D. T. CHENG; J. E. DESMOND. *The Johns Hopkins Univ. Sch. of Med., Heinrich-Heine-University Düsseldorf, The Johns Hopkins Univ. Sch. of Med., Auburn Univ.*

4:00 JJJ15 **426.16** Whole-brain functional connectivity predicts working memory performance in novel healthy and memory-impaired individuals. E. AVERY*; K. YOO; M. D. ROSENBERG; S. GAO; A. GREENE; D. L. NA; D. SCHEINOST; R. CONSTABLE; M. M. CHUN. *Yale Univ., Yale Univ., Yale Univ., Sungkyunkwan Univ. Sch. of Med., Yale Univ., Yale Univ., Yale Univ.*

1:00 JJJ16 **426.17** Tracking stimulus representation across a 2-back visual working memory task. Q. WAN*; Y. CAI; J. SAMAHA; B. R. POSTLE. *Univ. of Wisconsin Madison.*

2:00 JJJ17 **426.18** Interactions between working memory and perceptual or predictive task demands on an adaptive oculomotor delay response task. K. SCHAPIRO*; J. I. GOLD. *Univ. of Pennsylvania, Univ. Pennsylvania.*

3:00 JJJ18 **426.19** Training-induced changes to brain functional connectivity during cognitive tasks and rest. J. EREZ*; C. MACE; E. S. NICHOLS; A. M. OWEN; B. B. STOJANOSKI. *Brain and Mind Inst., Western Univ.*

4:00 JJJ19 **426.20** The capacity and maintenance mechanisms of vibrotactile working memory. C. WANG*; X. ZHANG; D. WANG. *Beijing Normal Univ., Beijing Normal Univ., Beijing Normal Univ., Beijing Normal Univ.*

1:00 JJJ20 **426.21** Active tracking of sound textures: A human intracranial study. A. J. BILLIG*; P. E. GANDER; W. SEDLEY; M. CHAIT; H. KAWASAKI; C. K. KOVACH; M. A. HOWARD, III; T. D. GRIFFITHS. *Univ. Col. London, The Univ. of Iowa, Newcastle Univ.*

2:00 JJJ21 **426.22** Remapping of working memory across eye movements in early visual cortex. T. HE*; A. R. VANDENBROUCKE; M. EKMAN; F. P. DE LANGE. *Radboud Univ., Dutch national research agenda.*

3:00 JJJ22 **426.23** P300 morphology during variations of N-Back task. V. PERGHER*; M. SHALCHY; A. PAHOR; S. JAEGGI; M. VAN HULLE; A. SEITZ. *KU Leuven, Univ. of California Riverside, Univ. of California, Irvine.*

4:00 JJJ23 **426.24** Effects of temporal lobe epilepsy on cognitive abilities: An automated memory assessment with eye tracking. Q. WANG; J. WANG; K. YANG; S. HUANG; B. LI; B. XIAO; D. LIU; L. FENG*. *Yale Sch. of Med., Xiangya Hospital, Central South Univ., Univ. of Washington, The Third Xiangya Hospital, Central South Univ.*

Mon. PM

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

POSTER

427. Decision Making II

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 JJJ24 **427.01** Validation of a translational virtual experiential foraging task for humans. N. C. SCHMITZER-TORBERT*; T. HUYNH; K. ALSTATT; M. TREBING; S. V. ABRAM. *Wabash Col., Univ. of Minnesota.*

2:00 JJJ25 **427.02** Greater willingness-to-pay for real foods (but not food images) that are perceived to have higher caloric content. C. A. ROMERO*; J. C. SNOW. *Univ. of Nevada, Reno.*

3:00 JJJ26 **427.03** Similarities and differences in the representation of real objects versus 2-D planar images and 3-D augmented reality displays: Insights from inverse multidimensional scaling. D. HOLLER*; S. FABBRI; J. C. SNOW. *Univ. of Nevada, Reno, Univ. of Groningen.*

4:00 JJJ27 **427.04** ▲ Evidence for response-boundary adaptation in two-choice decision tasks across probability conditions in three sensory modalities. J. NADEL*; P. SIMEN. *Oberlin Col.*

1:00 JJJ28 **427.05** Does raising the stakes reduce mistakes? Reward affects some, but not all, suboptimalities in a perceptual evidence accumulation task. S. M. COOK*; W. KEUNG; R. C. WILSON. *Univ. of Arizona.*

2:00 JJJ29 **427.06** Modeling memory systems interactions during the development of decision-making expertise. B. REUVENI*; B. FEINSTEIN; P. J. REBER. *Northwestern Univ.*

3:00 JJJ30 **427.07** Physiological measures link clinical states to impulsive decision-making in opioid use disorder. S. LOPEZ-GUZMAN*; A. B. KONOVA; J. MESSINGER; N. BANAVAR; K. LOUIE; J. ROTROSEN; P. W. GLIMCHER. *Univ. del Rosario, New York Univ., New York Univ.*

4:00 JJJ31 **427.08** Evidence accumulation and optimal stopping in stochastic economic choice: Challenging the DDM. S. F. BUCHER*; P. W. GLIMCHER. *New York Univ.*

1:00 JJJ32 **427.09** Computational evidence for impulsive responding when expectation for inhibitory control is low in cocaine use disorder. J. R. HOWLETT*; K. M. HARLE; M. P. PAULUS. *UCSD, UCSD, Laureate Inst. for Brain Res.*

2:00 JJJ33 **427.10** The impact of framing effects and ADHD on intertemporal choice in adolescence. J. B. SCHWEITZER*; P. MUKHERJEE; C. FASSBENDER; A. IOSIF; M. B. MENOR; J. BURNS; A. J. ROGAWSKI; A. MLODNICKA; J. F. DIXON; S. M. MCCLURE. *Univ. of California Davis Dept. of Psychiatry and Behavioral Sci., Univ. of California Davis Med. Sch., UC Davis Sch. of Medicine, MIND Inst., Univ. of California, Davis, UC Davis Sch. of Medicine, MIND Inst., Univ. of California, Davis, Arizona State Univ.*

3:00 JJJ34 **427.11** Changes in perceived time of intention and movement onset in arbitrary and deliberate decisions. U. MAOZ*; S. WONG; N. ZIARI; M. J. SAMAD; X. ZHANG. *Chapman Univ., UCLA, Caltech, Chapman Univ., UCLA.*

4:00 JJJ35 **427.12** Executive fatigue and time pressure show dissociable effects on decision-making. A. WIEHLER*; M. PESSIGLIONE. *ICM - Hop. Pitie Salpetriere, Inserm U1127, CNRS 7225.*

1:00 JJJ36 **427.13** Exploring the neural basis of metacognition in perceptual decision-making. W. RYS*; G. LOUGHNANE; D. P. MCGOVERN; C. JUDD; S. KELLY; R. G. O'CONNELL. *Trinity Col. Dublin, Trinity Col., Univ. Col. Dublin.*

2:00 JJJ37 **427.14** On the capacity of recurrent inhibition models for Bayesian updating and control of behavior. S. W. EGGER*; N. LE; M. JAZAYERI. *MIT, MIT, Massachusetts Inst. of Technol. Dept. of Brain and Cognitive Sci.*

3:00 JJJ38 **427.15** Transfer of confidence in a novel observational learning task. T. LARSEN*; D. PISCHEDDA; G. CORICELLI. *Univ. of Trento, USC.*

4:00 JJJ39 **427.16** Ramping risk-taking: Progressing value function increases gambling in humans. G. J. PAGNIER*; A. WESTBROOK; M. J. FRANK. *Radboud Univ., Radboud Univ. Med. Ctr., Brown Univ.*

1:00 JJJ40 **427.17** A pilot study of a novel reinforcement learning task: The value of cognitive control task. S. BELL*; K. T. KISHIDA. *Wake Forest Sch. of Med., Wake Forest Sch. of Med.*

2:00 JJJ41 **427.18** Generalisation of human random behaviour. S. WONG*; U. MAOZ; G. MERHOLZ. *Chapman Univ., UCLA, Ecole Normale Superior.*

3:00 JJJ42 **427.19** The neurocognitive architecture that underlies the redundant signal effect in audio-visual target detection: An EEG study. J. M. EGAN*; R. G. O'CONNELL; S. KELLY. *Univ. Col. Dublin, Trinity Col. Dublin.*

4:00 JJJ43 **427.20** Manipulation of initial dynamics of value-biased sensorimotor decision mechanisms. K. AFACAN*; S. KELLY. *City Col. of New York, Univ. Col. Dublin.*

1:00 JJJ44 **427.21** Probability estimation and decision with limited knowledge of uncertainty. K. OTA*; J. PHILLIPS; L. T. MALONEY. *New York Univerisity, Tokyo Univ. of Agr. and Technol., Japan Society for the Promotion of Sci., New York Univ.*

2:00 JJJ45 **427.22** Predicting memory-based decisions using semantic fluency and preferences. Z. ZHANG; A. NRUSIMHA; M. HSU; A. S. KAYSER*. *Univ. of California, Berkeley, UC Berkeley, Univ. of California San Francisco.*

3:00 JJJ46 **427.23** Dissecting the decision to respond provides insight into the processes driving successful inhibition between good and bad inhibitors. S. ADISE*; N. D'ALBERTO; B. CHAARANI; S. HIGGINS; H. GARAVAN. *Univ. of Vermont.*

4:00 JJJ47 **427.24** How do analogies happen in the brain? S. R. DEISS*. *UC San Diego.*

1:00 JJJ48 **427.25** Dopamine-related changes in striatal pathway competition modify specific decision parameters. J. E. RUBIN*; K. DUNOVAN; C. VICH; M. CLAPP; T. VERSTYNEN. *Univ. of Pittsburgh, Carnegie Mellon Univ., Univ. de les Illes Balears, Univ. of South Carolina.*

2:00 JJJ49 **427.26** Partially observable Markov decision processes explain probabilistic reasoning in social decision making. K. KHALVATI*; S. A. PARK; J. DREHER; R. P. RAO. *Univ. of Washington, Univ. of California, Inst. des Sci. Cognitives Marc Jeannerod, Univ. of Washington.*

3:00 JJJ50 **427.27** Cardiac sympathetic dynamics of optimal choice in context. N. M. DUNDON*; V. BABENKO; M. CIESLAK; N. GARRETT; N. D. DAW; S. T. GRAFTON. *UCSB, Princeton.*

4:00 JJJ51 **427.28** Evidence for hierarchically-structured reinforcement learning in humans. M. ECKSTEIN*; A. G. COLLINS. *UC Berkeley, Univ. of California Berkeley.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

1:00 JJJ52 **427.29** Where the really hard decisions are - A general framework to quantify decision difficulty. P. FRANCO; N. YADAV; P. BOSSAERTS; C. MURAWSKI*. *The Univ. of Melbourne.*

2:00 JJJ53 **427.30** ● Stability of EEG dynamics in transient cortical networks during decision making. H. COURELLIS; J. R. IVERSEN; D. A. PETERSON; T. MULLEN; G. CAUWENBERGHS*. *UCSD, UC San Diego, Salk Inst. CNL-S, Intheon, UCSD.*

POSTER

428. Human Cognition and Behavior: Decision Making and Reasoning: Value, Gains, and Loses

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 JJJ54 **428.01** Decoding changes of mind in voluntary decisions - Dynamics of choice representations in a fronto-parietal network. A. LOFFLER*; P. HAGGARD; S. BODE. *Univ. Col. London, The Univ. of Melbourne.*

2:00 JJJ55 **428.02** Functional changes in perceptual, memory and value-related regions underlie non-reinforced behavioral change in the short and long term. R. BOTVINIK-NEZER*; T. SALOMON; T. SCHONBERG. *Tel Aviv Univ., Tel Aviv Univ., Tel Aviv Univ.*

3:00 JJJ56 **428.03** ▲ Distinct neural patterns of effort-cost valuation: Evidence from prospective choices. N. ARIDAN*; N. J. MALECEK; R. A. POLDRACK; T. SCHONBERG. *The Univ. of Texas at Austin, Stanford Univ., Tel Aviv Unviersity.*

4:00 JJJ57 **428.04** Episodic memory contributions to value-based decisions: Evidence from amnesic patients. A. BAKKOUR*; D. J. PALOMBO; A. ZYLBERBERG; M. N. SHADLEN; M. H. VERFAELLIE; D. SHOHAMY. *Columbia Univ., VA Boston Healthcare Syst. and BU Sch. of Med., Columbia Univ., Howard Hughes Med. Inst. - Columbia Univ.*

1:00 JJJ58 **428.05** Comprehension as Bayesian decision-making: Neural computations of inferring what is meant from what is said in language games. Q. MI*; C. WANG; X. FU; J. GAO; L. ZHU. *Peking Univ., Peking Univ., Peking Univ., Peking Univ., Peking Univ.*

2:00 JJJ59 **428.06** Representation of subjective value for self and other agents in the dorsal anterior cingulate cortex is consistent across tasks and predicts social attitudes. M. R. PIVA*; K. R. VELNOSKEY; R. JIA; A. NAIR; I. LEVY; S. W. CHANG. *Yale Univ., Yale Univ., Yale Univ. Sch. of Med., Yale Sch. of Med.*

3:00 JJJ60 **428.07** Architecture of representations in pre-frontal cortex during credit assignment. P. WITKOWSKI*; S. A. PARK; E. D. BOORMAN. *Univ. of California, Daivs, Univ. of California, Davis, Univ. of California, Davis.*

4:00 JJJ61 **428.08** The role of uncertainty in curiosity about wins versus losses. L. L. VAN LIESHOUT*; F. P. DE LANGE; R. COOLS. *Radboud Univ., Radboud Univ. Med. Ctr.*

1:00 JJJ62 **428.09** Sum before difference: Differential temporal contributions of overall set value and value difference in value based decisions as revealed by ERPs. R. FRÖMER*; A. SHENHAV. *Brown Univ.*

2:00 JJJ63 **428.10** The neural signature of risk in gains and losses underlying bundle valuations. P. W. GLIMCHER*; H. CHUNG; J. ZIMMERMANN; A. TYMULA. *New York Univ. Ctr. for Neural Sci., New York Univ., New York Univ., Univ. of Sydney.*

3:00 JJJ64 **428.11** Efficient coding and the adaptation of human choice behavior to the statistics of recent rewards. C. K. STEVERSON*; H. CHUNG; J. ZIMMERMANN; P. W. GLIMCHER; K. LOUIE. *NYU, New York Univ., New York Univ., New York Univ. Ctr. for Neural Sci., New York Univ.*

4:00 JJJ65 **428.12** The parietal cortex dynamically integrates the cost and benefit of time to inform decision timing. M. WANG*; S. WU. *Inst. of Neuroscience, Yang Ming Univ., Yang Ming Univ.*

1:00 JJJ66 **428.13** Flexible concept representation for value-based decisions. G. CASTEGNETTI*; M. ZURITA; B. DE MARTINO. *Univ. Col. London.*

2:00 JJJ67 **428.14** Painstaking choices: Distinguishing neural representations of subjective value, conflict,magnitud es,andcontextualbiasesin deterministic decision making with mixed outcomes. A. D. SHAPIRO*; N. M. DUNDON; G. N. OKAFOR; S. T. GRAFTON. *Univ. of California, UCSB.*

3:00 JJJ68 **428.15** The effort of choosing: Neural correlates of deliberation during value-based decision-making. N. CLAIRIS*; M. PESSIGLIONE. *Inst. Du Cerveau Et De La Moelle Epinière.*

4:00 JJJ69 **428.16** ▲ Neural coding in macaque monkeys of the facial features underlying human social perception of faces. J. HUANG*; J. LIU; D. GUO; C. K. RYALI; J. GUAN; A. J. YU. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego.*

POSTER

429. Human Cognition and Behavior: Decision Making and Reasoning: Neural Mechanisms

Theme H: Cognition

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 JJJ70 **429.01** A neurally-informed approach to modelling learning in human perceptual decision making. C. A. DEVINE; D. P. MCGOVERN; C. GAFFNEY; S. P. KELLY; R. G. O'CONNELL. *Templeogue, The Univ. of Dublin, Trinity Col., The Univ. of Dublin, Trinity Col.*

2:00 LLL1 **429.02** Law enforcement officers' neural processing of intentions of suspects during virtual high threat scenarios. R. COOK*; R. A. HOUSER; D. FONSECA; W. B. WEBBER; I. HEIM; D. DOLLIVER. *The Univ. of Alabama, The Univ. of Alabama, The Univ. of Alabama, The Univ. of Alabama.*

3:00 LLL2 **429.03** A neuroeconomic study of impaired interpersonal decision making in anorexia nervosa. Y. ONUMA*; M. ISOBE; T. MIKI; M. HAYASE; T. NODA; M. (NISHIDA) KAWABATA; E. MURAO; R. MISHIMA; K. TOSE; H. TAKAHASHI; T. MURAI; S. NOMA. *The Univ. of Tokyo, Kyoto Univ. Grad. Sch. of Med.*

4:00 LLL3 **429.04** Associative learning of self and other ownership. P. L. LOCKWOOD*; M. WITTMANN; M. APPS; M. KLEIN-FLUGGE; M. J. CROCKETT; G. W. HUMPHREYS; M. F. S. RUSHWORTH. *Univ. of Oxford, Univ. of Yale.*

Mon. PM

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* Indicates abstract's submitting author

1:00 LLL4 **429.05** Neural dynamics of performance during virtual battlespace cooperative teaming. J. SNIDER; M. ALAM; J. R. LUKOS*. *UCSD, Space and Naval Warfare Systems Center, Pacific.*

2:00 LLL5 **429.06** The casual role of dorsolateral prefrontal cortex in multiple option decision making. T. WOO*; C. LAW; K. TING; C. C. CHAN; N. KOLLING; K. WATANABE; B. K. CHAU. *The Hong Kong Polytechnic Univ., The Hong Kong Polytechnic Univ., The Hong Kong Polytechnic Univ., Univ. of Oxford, Natl. Inst. of Information and Communications Technol.*

3:00 LLL6 **429.07** Constructing single-neuronal representations of another's beliefs in the human prefrontal cortex. M. JAMALI*; B. L. GRANNAN; R. BAEZ-MENDOZA; Z. WILLIAMS. *Massachusetts Gen. Hospital/Harvard Med. Sch.*

4:00 LLL7 **429.08** Striatal prediction errors in a decision-making task are modulated by action execution failures. S. D. MCDOUGLE*; D. E. PARVIN; P. A. BUTCHER; F. MUSHTAQ; Y. NIV; R. IVRY; J. A. TAYLOR. *Princeton Univ., UC Berkeley, Univ. of Leeds.*

1:00 LLL8 **429.09** Neural correlates of subjective and objective freedom of choice. L. CHARLES*; P. HAGGARD. *Univ. Col. London.*

2:00 LLL9 **429.10** ▲ Insight into the before and after of problem solving using event related potentials. T. BURNHAM; S. OESER; A. LAMP; J. D. HALONEN*. *Friends Univ.*

3:00 LLL10 **429.11** Perceptual decision-making depends on feature-based attention. D. RANGELOV*; R. WEST; J. B. MATTINGLEY. *The Univ. of Queensland.*

4:00 LLL11 **429.12** Neural and hormonal basis of sleep deprivation-induced impairments in reward-based decision making. J. RIHM*; L. SCHILBACH; S. SCHMID; J. PETERS. *Univ. of Cologne, Max Planck Inst. for Psychiatry, Univ. Hosp. Schleswig-Holstein.*

1:00 LLL12 **429.13** An ERP study of the determinants and dynamics of reactive cognitive control. K. L. MANSFIELD*; M. W. VAN DER MOLEN; G. J. M. VAN BOXTEL. *Univ. of Oxford, Tilburg Univ., Univ. van Amsterdam.*

2:00 LLL13 **429.14** Evidence accumulation in abstract decisions cued by varying perceptual information. M. NEWTON*; A. KAYSER. *Univ. of California Berkeley, Univ. of California San Francisco.*

3:00 LLL14 **429.15** Neural affective predictors of engagement with online videos. L. TONG*; M. Y. ACIKALIN; B. KNUTSON. *Stanford Univ.*

4:00 LLL15 **429.16** The time course of endogenous brain signals reflect different cognitive processes during human decision making. M. D. NUNEZ*; K. A. SCAMBRAY; K. K. LUI; J. VANDEKERCKHOVE; R. SRINIVASAN. *Univ. of California, Irvine.*

1:00 LLL16 **429.17** Modeling behavior of rhesus macaques and humans in an iterative chicken game. S. MADLON-KAY*; W. S. ONG; M. L. PLATT. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

2:00 LLL17 **429.18** Integration of social information and value by superior temporal sulcus (STS) neurons in monkeys trading in a simulated stock market. A. W. HUTTUNEN*; M. L. PLATT. *Univ. of Pennsylvania, Univ. of Pennsylvania, Wharton Sch.*

3:00 LLL18 **429.19** Tonic pupil dynamics predict individual differences in the complexity of mental models used for adaptive decision-making. A. L. FILIPOWICZ*; C. M. GLAZE; J. W. KABLE; J. I. GOLD. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

4:00 LLL19 **429.20** Integrating abstract structures and constructing cognitive maps about social hierarchies. S. A. PARK*; D. S. MILLER; E. D. BOORMAN. *Univ. of California, Davis, UC Davis.*

1:00 LLL20 **429.21** vmPFC activity during decision making under uncertainty predicts trauma-related symptoms in combat veterans. R. JIA*; L. RUDERMAN; C. GORDON; M. HORVATH; C. DEFONTES; S. MIRCHANDANI; I. HARPAZ-ROTEM; I. LEVY. *Yale Sch. of Med., Yale Sch. of Med., Yale Sch. of Med., VA Natl. Ctr. for PTSD.*

2:00 LLL21 **429.22** Model-based inference involves interactions between orbitofrontal cortex and hippocampus in humans. F. WANG*; G. SCHOENBAUM; T. KAHNT. *Northwestern Univ., Natl. Inst. on Drug Abuse Intramural Res. Program, Northwestern Univ.*

POSTER

430. Anatomical Methods: Staining, Tracing, and Imaging Techniques: Electron Microscopy and Novel Probes

Theme I: Techniques

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 LLL22 **430.01** ▲ Electron microscopy and Golgi-staining for tracing entire neuron in 3D. N. V. GOUNKO*; K. VINTS; P. BAATSEN; D. VANDAEL; N. CORTHOUT; B. PAVIE; F. VERNAILLEN; S. MUNCK. *VIB Ctr. For Brain & Dis. Res.*

2:00 LLL23 **430.02** Large volume 3d fib-sem imaging for connectomics and cell biology. C. S. XU*; K. J. HAYWORTH; S. PANG; Z. LU; H. F. HESS. *Howard Hughes Med. Inst., Dalhousie Univ.*

3:00 LLL24 **430.03** Gas cluster ion milling of serial thick sections for connectomics. K. J. HAYWORTH*; D. PEALE; Z. LU; C. XU; H. F. HESS. *Howard Hughes Med. Inst.*

4:00 LLL25 **430.04** ▲ Mitochondrial size gradients in cortical neurons revealed by 3D electron microscopy. A. FORYCIARZ*; N. TURNER; K. LEE; W. SILVERSMITH; W. WONG; J. WU; S. DORKENWALD; T. LEWIS, JR; Y. HIRABAYASHI; F. POLLEUX; N. M. DA COSTA; R. REID; H. SEUNG. *Princeton Univ., MIT, Columbia Univ. Med. Ctr., Columbia Univ., Columbia Univ., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

1:00 LLL26 **430.05** A new genetic probe system for visualizing glutamatergic synapses and vesicles at high resolution by correlated light and electron microscopy. D. BOASSA*; T. STEINKELLNER; V. ZELL; M. ELLISMAN; M. MACKEY; R. RAMACHANDRA; C. LI; M. MADANY; M. HABERL; S. ADAMS; T. S. HNASKO; M. H. ELLISMAN. *Univ. of California San Diego, UCSD, UCSD, UCSD, UCSD, UCSD, Univ. of California San Diego Dept. of Neurosciences, UCSD BSB 1000.*

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* Indicates abstract's submitting author

2:00 LLL27 **430.06** A novel method for the quantitative analysis of ultrastructure in astrocyte monolayers after an ischemic stroke-like insult. G. E. SANCHEZ IRIZARRY*; A. H. MARTINS; N. SABEVA; N. MARTINEZ-RIVERA; I. I. TORRES-VAZQUEZ; P. A. FERCHMIN; V. A. ETEROVIC; Y. FERRER ACOSTA; E. ROSA-MOLINAR. *Univ. Central del Caribe, Univ. of Puerto Rico, Univ. Central del Caribe, Univ. of Kansas, Univ. of Kansas, Univ. Central del Caribe, Univ. Central del Caribe, Univ. of Kansas.*

3:00 LLL28 **430.07** Regulation of calcium dynamics due to intracellular ultrastructure: Insights from high resolution reconstruction and computational modeling. M. HABERL*; J. LAUGHLIN; E. P. CAMPBELL; M. BELL; T. DEERINCK; P. RANGAMANI; M. H. ELLISMAN; B. L. BLOODGOOD. *UCSD, UCSD, UCSD, UCSD.*

4:00 LLL29 **430.08** ● A harmonious image analysis workflow for large format electron microscopy: Web-based collaboration and local processing enabling rigorous GABA-post-embedding immunogold quantification. C. CLARKSON-PAREDES; C. A. BRANTNER; C. ZUGATES; M. RUST; A. S. POPRATILOFF*. *George Washington Univ., arivis AG, arivis AG, George Washington Univ.*

1:00 LLL30 **430.09** Effect of melatonin and 1-n-substituted analogue substance (M3C) in rat testes. Immunohistochemical study. D. MARTINEZ-MEENDEZ; B. HERNÁNDEZ-TÉLLEZ; A. CASTELL-RODRÍGUEZ; E. NARANJO-RODRIGUEZ*; A. LIRA-ROCHA. *Natl. Autonomous Univ. of Mexico, Natl. Autonomous Univ. of Mexico, Univ. Nacional Autónoma de México, Natl. Autonomous Univ. of Mexico.*

2:00 LLL31 **430.10** ● Golgi stereology: A novel and efficient method for quantification of neurons, dendritic fibers and spines on Golgi-stained sections using unbiased stereology. P. R. MOUTON*; F. DU; J. SEBAT; Y. KOLINKO; B. SCHWER. *Stereology Resource Ctr., FD Neurotechnologies, UCSD, Charles Univ., Univ. of California, San Francisco.*

3:00 LLL32 **430.11** PharmacoSTORM: A powerful approach for antibody- or fluorescent protein-free super-resolution imaging. S. C. PROKOP*; P. ABRANYI-BALOGH; L. BARNA; G. M. KESERU; I. KATONA. *Hungarian Acad. of Sci., Res. Ctr. for Natural Sciences, HAS, IEM HAS.*

4:00 LLL33 **430.12** Enhancing structural contrast in t1 mri protocols using multimodal targeted tissue probes. J. SHELESTAK*; N. BEALS; N. PENMAN; S. BASU; S. HUANG; R. CLEMENTS. *Kent State Univ., Kent State Univ.*

1:00 LLL34 **430.13** In silico electromagnetic and electrophysiological modelling of neuronal current imaging using ultra-low field nuclear magnetic resonance. E. NEUFELD; A. M. CASSARA*; J. H. STORM; N. HOEFNER; R. KOERBER; N. KUSTER. *IT'IS Fndn., Physikalisch Technische Bundesanstalt (PTB).*

2:00 LLL35 **430.14** ● Targeted noninvasive delivery of novel clathrin-based superparamagnetic iron oxide nanoparticles for magnetic resonance imaging of dopamine transporters in mouse brain. J. K. KIM*; D. MINTZOPOULOS; C. W. ADAM; S. E. LUKAS; M. J. KAUFMAN; F. VITALIANO; G. VITALIANO. *McLean Hosp., ExQor Technologies.*

POSTER

431. Physiological Methods: Electrophysiology: Electrode Arrays I

Theme I: Techniques

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 LLL36 **431.01** Transparent nanoporous gan for optoelectronic neural interface to the brain networks. J. LEE*. *West Virginia Univ., WVU Rockefeller Neurosci. Inst.*

1:00 DP15/LLL37 **431.02** (Dynamic Poster) Transparent microelectrode arrays for simultaneous high-density electrophysiology, electrical stimulation and two-photon imaging. P. ARTONI*; Y. QIANG; K. SEO; S. CULACLII; V. HOGAN; W. LIU; H. FANG; M. FAGIOLINI. *Boston Children's Hospital, Harvard Med. Sch., Northeastern Univ., Univ. of California.*

3:00 LLL38 **431.03** Ultra-low impedance graphene microelectrodes with high optical transparency for simultaneous deep two-photon imaging in transgenic mice. Y. LU*; X. LU; R. HATTORI; C. REN; T. KOMIYAMA; D. KUZUM. *UC San Diego, UCSD, UCSD, Univ. of California San Diego, Univ. of California San Diego.*

4:00 LLL39 **431.04** Different strategies for designing ECoG electrode arrays for functional mapping and brain decoding. T. KAIJU*; M. HIRATA; T. SUZUKI. *Natl. Inst. of Information and Communications Tech., Endowed Res. Dept. of Clin. Neuroengineering.*

1:00 LLL40 **431.05** Organic microelectrodes as chronic brain interface. Y. GUO*; S. JIANG; B. GRENA; I. KIMBROUGH; E. G. THOMPSON; Y. FINK; H. SONTHEIMER; T. YOSHINOBU; X. JIA. *Tohoku Univ., Tohoku Univ., Tohoku Univ. Sch. of Med., Virginia Tech., MIT, Virginia Tech. Carilion Res. Ctr., Virginia Tech-Carilion Res. Inst., Virginia Tech. Sch. of Neurosci., Tohoku Univ.*

2:00 LLL41 **431.06** More precise and complex braided microelectrodes for neural interfaces. T. KIM*; S. F. GISZTER. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*

3:00 LLL42 **431.07** Circuit based dissection of neuronal oscillations. P. LAKATOS*; S. A. NEYMOTIN; M. N. O'CONNELL; A. BARCZAK; T. M. MCGINNIS; S. BICKEL. *Nathan Kline Inst., NYU Langone Med. Ctr., Brown Univ., Nathan S Kline Inst., Nathan S. Kline Inst. for Psychiatric Res., Nathan Kline Inst., Hofstra Northwell Sch. of Med.*

1:00 DP14/LLL43 **431.08** (Dynamic Poster) Cellular-scale probes for high-density, precisely-localized neurophysiology. D. EGERT; J. R. PETTIBONE; I. BATMUTSKY; C. M. CALDWELL; D. H. ROOSSIEN, JR; P. R. PATEL; S. LEMKE; K. GANGULY; D. CAI; C. A. CHESTEK; J. D. BERKE*. *UCSF, UCSF, Biomed. Engin., Univ. of Michigan Med. Sch., Univ. of Michigan, Univ. of Michigan.*

1:00 LLL44 **431.09** Design and development of ultrathin microelectrode arrays. J. O. USORO*; F. DEKU; J. J. PANCRAZIO; S. F. COGAN. *The Univ. of Texas at Dallas.*

2:00 LLL45 **431.10** Long-term evaluation of a parylene-based multi-electrode array for recordings from the hippocampus of behaving rats. H. XU*; W. JIANG; A. HIRSCHBERG; K. SCHOLTEN; E. MENG; D. SONG. *USC.*

Mon. PM

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 LLL46 **431.11** Recordings of extracellular action potentials from freely moving rats by perforated polyimide multielectrode platforms. S. HUANG*; M. M. JANKOWSKI; H. EREZ; N. SHMOEL; I. NELKEN; M. E. SPIRA. *The Hebrew Univ. of Jerusalem, The Hebrew Univ. of Jerusalem, The Hebrew Univ. of Jerusalem, The Hebrew Univ. of Jerusalem.*

4:00 LLL47 **431.12** How flexibility and probe size influence chronic reliability: A study on batch processed polyimide-based intracortical neural arrays. T. STIEGLITZ*; M. VOMERO; K. JOSEPH; M. JOHNSTON; F. CIARPELLA; M. KIRSCH; T. BOEHM; L. FADIGA; S. THIELE; C. A. HAAS; U. G. HOFMANN; M. ASPLUND. *Univ. of Freiburg, BrainLinks-BrainTools, Univ. Med. Ctr., Univ. Med. Ctr., Univ. of Ferrara, Univ. of Freiburg, Fondazione Inst. Italiano di Tecnologia, Univ. of Freiburg, Bernstein Ctr. Freiburg.*

1:00 LLL48 **431.13** ● jULIEs: Microwire based neural probes for localized extracellular recordings and stimulation in the mouse brain. R. R. RÁCZ*; M. KÖLLő; T. ACKELS; G. RACZ; C. BULZ; T. WARNER; A. SCHAEFER. *The Francis Crick Inst., UCL.*

2:00 LLL49 **431.14** Effective structural integration of rat cortical brain tissue with perforated polyimide microelectrode platform improves long term recording stability. N. SHMOEL*; H. EREZ; S. HUANG; M. M. JANKOWSKI; B. M. IGNATOWSKA-JANKOWSKA; I. NELKEN; M. E. SPIRA. *The Hebrew Univ. of Jerusalem, The Hebrew Univ. of Jerusalem, The Hebrew Univ. of Jerusalem, The Hebrew Univ. of Jerusalem.*

3:00 LLL50 **431.15** Simultaneous intra- and linear extracellular recordings with corresponding morphology: Towards a ground-truth data for multichannel electrodes. D. MESZENA*; I. PAL; B. P. KEREKES; G. MARTON; K. TOTH; L. WITTNER; Z. SOMOGYVARI; I. ULBERT. *Pazmany Peter Catholic Univ., Inst. of Cognitive Neurosci. and Psychology, Wigner Res. Ctr. for Physics.*

4:00 LLL51 **431.16** A scalable active pixel electrode array CMOS-probe for large-scale intracortical recordings. F. BOI*; G. ANGOTZI; A. LECOMTE; E. MIELE; G. MANDELBAUM; S. ZUCCA; T. FELLIN; J. ASSAD; B. SABATINI; L. BERDONDINI. *Inst. Italiano Di Tecnologia, Univ. of Cambridge, Harvard Med. Sch., Inst. Italiano Di Tecnologia.*

1:00 LLL52 **431.17** Simplifying stereotaxic insertion of cannula and electrodes using 3D printing of surgical guides designed with freely available software. R. W. SIKES*; A. F. PAQUETTE. *Northeastern Univ., Northeastern Univ.*

2:00 LLL53 **431.18** Towards reconstruction of neuronal circuit activity from electrophysiological signals obtained from the cortical surface. N. ROGERS*; L. HOSSAIN; M. THUNEMANN; K. KILIÇ; J. HERMIZ; M. GANJI; P. SAISAN; Q. CHENG; K. L. WELDY; A. M. DALE; V. GILJA; S. DAYEH; A. DEVOR. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, MGH, Harvard Med. Sch.*

3:00 LLL54 **431.19** Extracellular matrix enhances neural network formation and activity on multi-electrode array. D. LAM*; H. A. ENRIGHT; S. K. G. PETERS; J. OSBURN; A. P. DE OLIVEIRA SALES; J. E. CADENA PICO; D. SOSCIA; K. KULP; E. K. WHEELER; N. O. FISCHER. *Lawrence Livermore Natl. Lab., Lawrence Livermore Natl. Lab.*

4:00 LLL55 **431.20** Platinum nanorod (ptnr) microelectrodes record action potentials from the cortical surface. M. GANJI*; L. HOSSAIN; E. ARNEODO; J. HERMIZ; A. PAULK; V. GILJA; S. CASH; E. HALGREN; T. GENTNER; S. DAYEH. *UCSD, UCSD, UCSD, UCSD, Dept. of Neurology, Massachusetts Gen. Hosp., UCSD.*

1:00 LLL56 **431.21** A modular high-density 294 channels µECoG system on macaque vlPFC for auditory cognitive decoding. C. CHIANG*; J. LEE; C. WANG; A. J. WILLIAMS; Y. E. COHEN; J. VIVENTI. *Duke Univ., Univ. of Pennsylvania, Univ. of Pennsylvania.*

2:00 LLL57 **431.22** Micro-LED optoelectrodes with high spatiotemporal stimulation resolution. K. KIM*; M. VÖRÖSLAKOS; J. P. SEYMOUR; K. D. WISE; G. BUZSÁKI; E. YOON. *Univ. of Michigan, New York University, Sch. of Med.*

3:00 LLL58 **431.23** A high-density carbon fiber intracortical electrophysiological recording array technology. T. L. MASSEY*; S. R. SANTACRUZ; J. F. HOU; K. S. J. PISTER; J. M. CARMENA; M. M. MAHARBIZ. *Univ. of California, Berkeley, Univ. of California, Berkeley, Univ. of California, Berkeley, UC Berkeley, UC Berkeley.*

4:00 LLL59 **431.24** Open ephys++: High performance open-source firmware, apis, and hardware for closed-loop neuroscience experiments. J. P. NEWMAN*; J. ZHANG; J. VOIGTS; M. T. HARNETT; M. A. WILSON. *MIT, MIT, MIT, MIT.*

1:00 LLL60 **431.25** The effect of contact size on the µECoG signal acquired from the surface of the rat auditory cortex. A. J. WILLIAMS*; M. TRUMPIS; B. BENT; C. CHIANG; J. VIVENTI. *Duke Univ.*

2:00 LLL61 **431.26** Quick and consistent method for stability assessment of microelectrodes. M. MA; T. P. ZANOS; M. R. KRAUSE; C. C. PACK; T. E. KENNEDY*. *McGill Univ., Feinstein Inst. for Med. Res., McGill Univ., Montreal Neurolog. Institute.*

3:00 MMM1 **431.27** ● Electrode array platform for transcutaneous neural recording and stimulation. I. P. CLEMENTS*; A. B. HARRISON; A. C. WILLSIE; A. J. PREYER; E. A. BROWN; J. D. ROSS. *Axion Biosystems.*

4:00 MMM2 **431.28** On the shape and extent of extracellular action potential waveforms across the rodent brain. S. CHEN*; J. P. NETO; M. PACHITARIU; A. R. KAMPFF; N. A. STEINMETZ. *Howard Hughes Med. Inst., Univ. Col. London, Sainsbury Wellcome Ctr.*

1:00 MMM3 **431.29** ● Translation of PEDOT/Parylene C ECoG microelectrode arrays for recording stimulus driven action potentials in songbirds. L. A. HOSSAIN*; J. HERMIZ; Z. ARNEODO; M. GANJI; N. ROGERS; T. GENTNER; V. GILJA; S. A. DAYEH. *UCSD, UCSD, UCSD, UCSD.*

POSTER

432. Biomarker and Drug Discovery: Drug Delivery and Neurodegenerative Diseases (AD, PD, MS, Stroke)

Theme I: Techniques

Mon. 1:00 PM – *San Diego Convention Center*, SDCC Halls B-H

1:00 MMM4 **432.01** Exploring pathogenesis-based biomarkers for Parkinson's disease using various components of peripheral blood. J. KANG*; H. HEO; Y. KIM; J. CHANG. *Ajou Univ. Grad. Sch. of Med., Ajou Univ. Sch. of Med.*

2:00 MMM5 **432.02** Discovering Miro inhibitors as a novel approach to treat Parkinson's disease. R. VANHAUWAERT*; X. WANG. *Stanford Univ.*

• Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

3:00 MMM6 **432.03** Structural and functional biomarkers of Parkinson's disease: Using structural and functional neuroimaging to identify the presence and severity of Parkinson's disease. P. MACDONALD*; N. M. HIEBERT; A. R. KHAN; L. NACI; A. VO; B. T. WANG; A. M. OWEN; K. N. SEERGOBIN. *Univ. of Western Ontario, Univ. of Western Ontario, Univ. of Western Ontario, Trinity Col., Univ. of Western Ontario, Univ. of Western Ontario.*

4:00 MMM7 **432.04** Normative data on the hippocampus in 12,247 participants of the UK Biobank. L. NOBIS*; S. MANOHAR; S. M. SMITH; F. ALFARO-ALMAGRO; M. JENKINSON; C. E. MACKAY; M. HUSAIN. *Dept. of Psychiatry, Univ. of Oxford, Nuffield Dept. of Clin. Neurosciences, Univ. of Oxford, Wellcome Ctr. for Integrative Neuroimaging, FMRIB, Nuffield Dept. of Clin. Neurosciences, Univ. of Oxford.*

1:00 MMM8 **432.05** ● Oligomerization can convert a cyclic peptide antagonist into a potent and selective activator of the EphA4 receptor. M. GÓMEZ-SOLER*; S. LOMBARDI; C. ZHAO; B. C. LECHTENBERG; S. J. RIEDL; E. B. PASQUALE. *Sanford Burnham Prebys Med. Discovery Inst.*

2:00 MMM9 **432.06** Functional ultrasound - Novel *in vivo* imaging technique for pre-clinical CNS drug discovery. A. SHATILLO*; T. MIETTINEN; J. KOPONEN; A. KÄRKKÄINEN; D. MISZCZUK; A. J. NURMI. *Charles River Discovery.*

3:00 MMM10 **432.07** Reproducibility of free water imaging in Parkinson's disease. W. T. CHU*; D. B. ARCHER; R. G. BURCIU; S. LAI; S. WU; M. S. OKUN; N. R. MCFARLAND; D. E. VAILLANCOURT. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

4:00 MMM11 **432.08** Proteomic profiling of human neural cell line derived exosomes to identify cell type specific surface protein markers. G. H. D. POPLAWSKI*; A. SIDDIQUEE; R. SOBOTA; H. CHOI; R. CHIA; J. CHONG; M. LAI; E. KOO. *Natl. Univ. of Singapore, Agency for Science, Technol. and Res. (A*STAR), Natl. Univ. of Singapore, Natl. Univ. of Singapore, Natl. Univ. of Singapore, Univ. of California San Diego.*

1:00 MMM12 **432.09** Cell-specific mitochondrial proteomic analysis in a mouse model of mitochondrial disease. A. GELLA*; P. PRADA; I. BOLEA; E. SANZ; A. QUINTANA. *Univ. Autònoma de Barcelona.*

2:00 MMM13 **432.10** ● SUVN-I6107: A novel true muscarinic M1 receptor positive allosteric modulator (M1-PAM) devoid of cholinergic side effects. J. TADIPARTHI; G. RAMALINGAYYA; N. GANUGA; S. YATHAVAKILLA; R. MEDAPATI; A. VUYYURU; R. KALLEPALLI; N. MUDDANNA; R. PALACHARLA; G. BHYRAPUNENI; T. THATIPARTHI; T. NARASIMHULA; S. JARUGUMALLI; K. MUDIGONDA*; R. NIROGI. *Suven Life Sci. Ltd.*

3:00 MMM14 **432.11** Automated non-invasive imaging procedure for distinguishing parkinsonism: A multisite cohort across MRI vendors. D. B. ARCHER*; A. ROY; W. CHU; R. BURCIU; S. COOMBES; H. LI; J. MCCRACKEN; N. BOHNEN; M. MULLER; R. ALBIN; F. KRISMER; G. DU; M. M. LEWIS; K. SEPPI; X. HUANG; O. PASTERNAK; N. MCFARLAND; M. OKUN; D. VAILLANCOURT. *Univ. of Florida, Med. Univ. of South Carolina, Univ. of Michigan, Med. Univ. Innsbruck, Penn State Univ., Pennsylvania State Univ. Dept. of Neurol., Med. Univ. Innsbruck, Harvard Univ.*

4:00 MMM15 **432.12** Multi-plex digital spatial profiling validation of neurodegenerative and neuroinflammation protein targets in human ffpe brain sections. A. ROSENBLOOM; L. BOGATZKI; H. METZ; W. CARTER; J. R. KUHAR*; Y. LIANG; G. GEISS; J. BEECHEM. *NanoString, Nanostring Technologies, Nanostring Technologies, Nanostring Technologies.*

1:00 MMM16 **432.13** Brain correlates of fractal regulation in motor activity—Results from the Rush Memory and Aging Project. P. LI*; L. YU; K. ARFANAKIS; A. S. P. LIM; A. S. BUCHMAN; J. A. SCHNEIDER; D. A. BENNETT; K. HU. *Brigham and Women's Hosp., Harvard Med. Sch., Rush Univ. Med. Ctr., Illinois Inst. of Technol., Univ. of Toronto.*

2:00 MMM17 **432.14** ▲ How early can fractal regulation predict the risk for Alzheimer's dementia? C. HU; L. YU; J. YANG; D. A. BENNETT; K. HU*; P. LI. *Brigham & Women's Hospital/ Harvard Med. Sch., Rush Univ. Med. Ctr.*

3:00 MMM18 **432.15** Brain delivery and central effects of peptide drug by intranasal administration in mice. J. OKA*; S. SASAKI-HAMADA; R. NAKAMURA; T. FUNANE; Y. NAKAO; C. YAMASHITA. *Tokyo Univ. of Science, Fac Pharm Sci, Lab. Pharmacol, Kitasato Univ., Tokyo Univ. of Sci.*

4:00 MMM19 **432.16** Intracranial pressure monitoring for the safety optimization of intrathecal drug delivery to the CNS. V. BELOV*; J. APPLETON; P. GIFFENIG; M. PAPISOV. *Massachusetts Gen. Hosp., Harvard Med. Sch., Shriners Hosp. for Children.*

1:00 MMM20 **432.17** Effects of silver- and gold nanoparticles on the nervous system- *in vitro* and *in vivo.* F. JOHANSSON*; N. ABDULLA; E. SÖDERSTJERNA; U. ENGLUND JOHANSSON. *Lund Univ., Lund Univ., Lund Univ.*

2:00 MMM21 **432.18** Targeted delivery to brain endothelial cells and transport across the blod-brain barrier of shark antibodies (vNAR) following intravenous administration. C. L. JACOBSEN*; K. B. WICHER; L. RUTKOWSKI; F. S. WALSH; T. MOOS. *Aalborg Univ., Ossianix, Inc.*

3:00 MMM22 **432.19** ● Noninvasive neuromodulation with ultrasonic drug uncaging: Electrophysiological assessment. M. ARYAL*; J. B. WANG; Q. ZHONG; R. D. AIRAN. *Stanford Univ.*

4:00 MMM23 **432.20** ● Imaging the pharmacokinetics and pharmacodynamics of intrathecally administered antisense oligonucleotides in the rat. C. MAZUR*; K. ZASADNY; J. SULLIVAN; D. A. WOLF; B. POWERS; J. HESTERMAN; M. SEAMAN; R. HOLT; I. POLYAK; R. COELHO; V. GOTTUMUKKALA; C. GAUT; J. HOPPIN; E. SWAYZE; A. VERMA. *Ionis Pharmaceuticals, Inc., inviCRO, LLC, Biogen, Inc., United Neurosci.*

1:00 MMM24 **432.21** ● Blood to brain delivery mechanisms of cholesterol conjugated antisense oligonucleotides. C. WRIGHT DWYER*; B. POWERS; M. JACKSON; T. P. PRAKASH; E. E. SWAYZE; P. P. SETH; F. RIGO. *Ionis Pharmaceuticals, Ionis Pharmaceuticals.*

2:00 MMM25 **432.22** Development and characterization of an *in vitro* human iPSC-derived blood-brain barrier model. P. HAYDEN*; M. KLAUSNER; J. MOHN. *Mattek Corp.*

3:00 MMM26 **432.23** Focused ultrasound blood brain barrier opening mediated delivery of MRI-visible nanoclusters for noninvasive neuromodulation with spatiotemporal precision. M. C. RICH*; J. SHERWOOD; Y. BAO; F. LUBIN; M. BOLDING. *Univ. of Alabama Birmingham, Univ. of Alabama at Tuscaloosa, Univ. of Alabama Birmingham.*

● Indicated a real or perceived conflict of interest, see page 148 for details.
▲ Indicates a high school or undergraduate student presenter.
* Indicates abstract's submitting author

Conflict of Interest Statements

The following presenters, signified by a dot (•) in the program, indicated a real or perceived conflict of interest. Presenters listed without a dot in the program had no financial relationships to disclose.

PRESENTATION NUMBER	STATEMENT
258	**L.S. Shihabuddin:** A. Employment/Salary (full or part-time); SANOFI.
258.02	**P. Brundin:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NILO-PD. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Acousort AB, Parkcell AB. F. Consulting Fees (e.g., advisory boards); Renovo Neural, Inc., NeuroDerm, Cellular Dynamics International Inc. Other; Co-Inventor (Rasagiline): TEVA, Lundbeck A/S.
258.03	**J.T. Greenamyre:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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, Merck. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Pfizer. F. Consulting Fees (e.g., advisory boards); Pfizer.
258.04	**S. Sardi:** A. Employment/Salary (full or part-time); SANOFI.
258.05	**D. Stephenson:** A. Employment/Salary (full or part-time); Critical Path Institute.
263	**B.K. Kaspar:** A. Employment/Salary (full or part-time); AveXis, a Novartis company. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nationwide Children's Hospital, AveXis royalty and IP rights.
265	**Z.F. Mainen:** F. Consulting Fees (e.g., advisory boards); COMPASS Pathways.
266.02	**R.C. McKinstry:** Other; receives acting, modeling, and speaking fees from Siemens Healthcare. **A.C. Evans:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); founder and a member of the Board of Directors of Biospective Inc.
268.01	**F. Rigo:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals.
268.03	**S. Wang:** A. Employment/Salary (full or part-time); VMRF, UCSD. **J. Leem:** A. Employment/Salary (full or part-time); UCSD. **P. Patel:** A. Employment/Salary (full or part-time); UCSD. **B. Head:** A. Employment/Salary (full or part-time); UCSD.
268.06	**O. Huzian:** A. Employment/Salary (full or part-time); Avidin Biotechnology. **L.G. Puskas:** A. Employment/Salary (full or part-time); Avidin Biotechnology.
268.09	**S. Minami:** A. Employment/Salary (full or part-time); Alkahest, Inc. **S. Rege:** A. Employment/Salary (full or part-time); Alkahest, Inc. **H. Hackbart:** A. Employment/Salary (full or part-time); Alkahest, Inc. **E. Czirr:** A. Employment/Salary (full or part-time); Alkahest, Inc. **S.P. Braithwaite:** A. Employment/Salary (full or part-time); Alkahest, Inc.
268.10	**J.G. Moe:** A. Employment/Salary (full or part-time); Oligomerix, Inc. **P. Davies:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Oligomerix, Inc. **E.J. Davidowitz:** A. Employment/Salary (full or part-time); Oligomerix, Inc. **P. Lopez:** A. Employment/Salary (full or part-time); Oligomerix, Inc.
269.07	**J.F. Abisambra:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; GlaxoSmithKline.
271.01	**S. Colachis:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **D. Friedenberg:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **N. Annetta:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **M. Zhang:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **N. Skomrock:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **M. Schwemmer:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **H. Bresler:** A. Employment/Salary (full or part-time); Battelle Memorial Institute.
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271.03	**R.B. Caldwell:** A. Employment/Salary (full or part-time); Halyard Health. **R. Sharma:** A. Employment/Salary (full or part-time); Applied Biosensors.
271.04	**H. Cunha Dantas:** A. Employment/Salary (full or part-time); Oregon State University. **V. Mathews:** A. Employment/Salary (full or part-time); Oregon State University. **S. Wendelken:** A. Employment/Salary (full or part-time); University of Utah. **G. Clark:** A. Employment/Salary (full or part-time); University of Utah. **D. Warren:** A. Employment/Salary (full or part-time); University of Utah. **T. Davis:** A. Employment/Salary (full or part-time); University of Utah.
271.08	**J. Cheng:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nerves Incorporated. **E. Keefer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nerves Incorporated.
271.14	**G. Edlinger:** A. Employment/Salary (full or part-time); g.tec medical engineering GmbH. **F. Cao:** A. Employment/Salary (full or part-time); g.tec neurotechnology GmbH. **S. Dimov:** A. Employment/Salary (full or part-time); g.tec neurotechnology GmbH. **C. Guger:** A. Employment/Salary (full or part-time); g.tec neurotechnology GmbH.
274.05	**D. Lachner-Piza:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); BrainLinks-BrainTools Cluster of Excellence funded by the German Research Foundation (DFG, grant number EXC CNE1086). **P.C. Reinacher:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Else Kröner-Fresenius Foundation, Bad Homburg, Germany; German Ministry for Economic Affairs and Energy, Berlin, Germany; Medical Faculty of the University of Freiburg, Freiburg, Germany. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Boston Scientific, Natick, Massachusetts, USA; Brainlab, Munich, Germany; Inomed, Emmendingen, Germany. **C. Bien:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Deutsche Forschungsgemeinschaft (Bonn, Germany), Gerd-Altenhof-Stiftung (Deutsches Stiftungs-Zentrum, Essen, Germany), diamed (Köln, Germany) and Fresenius Medical Care (Bad Homburg, Germany). C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Eisai (Frankfurt, Germany), UCB (Monheim, Germany), Desitin (Hamburg, Germany), Biogen (Ismaning, Germany) and

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	Euroimmun (Lübeck, Germany). F. Consulting Fees (e.g., advisory boards); Laboratory Krone, Bad Salzuflen, Germany; UCB (Monheim, Germany). **A. Schulze-Bonhage:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; BMBF; NIH Grant 563386; BrainLinks-BrainTools Cluster of Excellence funded by the German Research Foundation (DFG, grant number EXC 1086). **N. Axmacher:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; SFB 874, SFB 1280 und DFG AX82/3.
277.05	**I.D. Gallager:** A. Employment/Salary (full or part-time); Alkahest Inc. **R. Alcantara-Lee:** A. Employment/Salary (full or part-time); Alkahest Inc. **M. Castro:** A. Employment/Salary (full or part-time); Alkahest Inc. **R. Estrada:** A. Employment/Salary (full or part-time); Alkahest Inc. **S.P. Braithwaite:** A. Employment/Salary (full or part-time); Alkahest Inc. **V. Kheifets:** A. Employment/Salary (full or part-time); Alkahest Inc.
277.14	**S. Chompoopong:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Siriraj Developmental Fund. **C. Turbpaiboon:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Siriraj Research Developmental Fund. **B. Tassaneetrithep:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Siriraj Developmental Fund. **W. Wiriyarat:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Siriraj Developmental Fund. **P. Nimnoi:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Siriraj Research Developmental Fund. **W. Siripan:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Siriraj Research Developmental Fund.
277.15	**I. Gallager:** A. Employment/Salary (full or part-time); Alkahest, Inc. **R. Alcantara-Lee:** A. Employment/Salary (full or part-time); Alkahest, Inc. **M. Castro:** A. Employment/Salary (full or part-time); Alkahest, Inc. **R.A. Estrada-Verduzco:** A. Employment/Salary (full or part-time); Alkahest, Inc. **S.P. Braithwaite:** A. Employment/Salary (full or part-time); Alkahest, Inc. **V. Kheifets:** A. Employment/Salary (full or part-time); Alkahest, Inc.
278.13	**S. Illes:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; EISAI, Japan.
278.18	**R. Vega:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **J. Dizon:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **J. Webb:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **D. Piper:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific.
279.12	**O. Hermanson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); IPR, Celluminova.
279.19	**D.C. Millard:** A. Employment/Salary (full or part-time); Axion Biosystems, Inc. **H.B. Hayes:** A. Employment/Salary (full or part-time); Axion Biosystems, Inc. **A.M. Nicolini:** A. Employment/Salary (full or part-time); Axion Biosystems, Inc. **C.A. Arrowood:** A. Employment/Salary (full or part-time); Axion Biosystems, Inc. **M. Clements:** A. Employment/Salary (full or part-time); Axion Biosystems, Inc.
279.20	**M. Bonaguidi:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 (NS080913) and Whittier Foundation funding to M.A.B.
279.21	**J. Webb:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **J. Dizon:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **R. Vega:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **C. Revankar:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **E. Willems:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **X. Liang:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **D. Piper:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific.
280.01	**B.T. Bajar:** A. Employment/Salary (full or part-time); UCLA.
283.11	**G.B. Wells:** A. Employment/Salary (full or part-time); Texas A&M University. **A.M. Person:** A. Employment/Salary (full or part-time); Texas A&M University.
283.12	**B. Dawe:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson & Johnson. **H. Yu:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson & Johnson. **S. Gu:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson & Johnson. **A.N. Blackler:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson & Johnson. **E.R. Siuda:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson & Johnson. **J.A. Matta:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson & Johnson. **E.B. Rex:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson & Johnson. **D.S. Bredt:** A. Employment/Salary (full or part-time); Janssen Pharmaceutical Companies of Johnson & Johnson.
283.15	**H. Yu:** A. Employment/Salary (full or part-time); Johnson and Johnson. **G.B. Dawe:** A. Employment/Salary (full or part-time); Johnson and Johnson. **A.N. Blackler:** A. Employment/Salary (full or part-time); Johnson and Johnson. **S. Gu:** A. Employment/Salary (full or part-time); Johnson and Johnson. **E. Siuda:** A. Employment/Salary (full or part-time); Johnson and Johnson. **J. Matta:** A. Employment/Salary (full or part-time); Johnson and Johnson. **E. Rex:** A. Employment/Salary (full or part-time); Johnson and Johnson. **D. Bredt:** A. Employment/Salary (full or part-time); Johnson and Johnson.
283.16	**J.M. Miwa:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ophidion, Inc.
283.17	**S. Bertrand:** A. Employment/Salary (full or part-time); HiQScreen Sàrl. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Contracted Research, Oyster Point Pharma Inc. **T. Schaer:** A. Employment/Salary (full or part-time); HiQScreen Sàrl. **D. Bertrand:** A. Employment/Salary (full or part-time); HiScreen Sàrl. F. Consulting Fees (e.g., advisory boards); Oyster Point Pharma Inc. **M. Ackerman:** A. Employment/Salary

PRESENTATION NUMBER	STATEMENT
	(full or part-time); Oyster Point Pharm. Inc. **J. Nau:** A. Employment/Salary (full or part-time); Oyster Point Pharm. Inc.
283.23	**G. Bhyrapuneni:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **K. Mudigonda:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Palacharla:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **P. Jayarajan:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Subramanian:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **V. Goyal:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Pandey:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **D. Ajjala:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **A. Mohammed:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Jetta:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Nirogi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd.
285.19	**J.S. Burgdorf:** A. Employment/Salary (full or part-time); Aptinyx Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx Inc. **K. Leaderbrand:** A. Employment/Salary (full or part-time); Aptinyx Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx Inc. **X. Zhang:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Aptinyx Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Aptinyx Inc. **P.K. Stanton:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Aptinyx Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Aptinyx Inc. **T.M. Madsen:** A. Employment/Salary (full or part-time); Aptinyx Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx Inc. **M.A. Kahn:** A. Employment/Salary (full or part-time); Aptinyx Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx Inc. **R.A. Kroes:** A. Employment/Salary (full or part-time); Aptinyx Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx Inc. **J.R. Moskal:** A. Employment/Salary (full or part-time); Aptinyx Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinyx Inc.
289.02	**T. Nishi:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical. **S. Watanabe:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical. **S. Hasegawa:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical. **S. Fujimoto:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical. **E. Sunahara:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical. **M. Ohori:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical. **T. Koike:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical. **M. Miyamoto:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical. **S. Kondo:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical.
289.03	**S. Hasegawa:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical Company Limited. **T. Nishi:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical Company Limited. **S. Watanabe:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical Company Limited. **S. Fujimoto:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical Company Limited. **S. Kondo:** A. Employment/Salary (full or part-time); Takeda Pharmaceutical Company Limited.
289.11	**S.C. Baraban:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); EpyGenix Therapeutics. F. Consulting Fees (e.g., advisory boards); EpyGenix Therapeutics.
289.15	**C. Roucard:** A. Employment/Salary (full or part-time); SynapCell SAS. **R. Gurrell:** A. Employment/Salary (full or part-time); Pfizer Inc. **D. Buhl:** A. Employment/Salary (full or part-time); Pfizer Inc. **A. Evrard:** A. Employment/Salary (full or part-time); SynapCell SAS. **C. Ruggiero:** A. Employment/Salary (full or part-time); SynapCell SAS. **V. Duveau:** A. Employment/Salary (full or part-time); SynapCell SAS.
289.19	**G.R. Stewart:** A. Employment/Salary (full or part-time); Pairnomix, LLC. **J.M. Andresen:** A. Employment/Salary (full or part-time); Pairnomix. **B.C. Gay:** A. Employment/Salary (full or part-time); Pairnomix. **C.M. Maher:** A. Employment/Salary (full or part-time); Pairnomix. **A.C. Gerlach:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Pairnomix. **T.A. Atkin:** A. Employment/Salary (full or part-time); Pairnomix. **M.D. Fuller:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Pairnomix. **M.L. Chapman:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Pairnomix. **B.M. Antonio:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Pairnomix. **D.B. Goldstein:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pairnomix. **O. Devinsky:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pairnomix. **S. Petrou:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pairnomix.
289.21	**M.S. Lee:** A. Employment/Salary (full or part-time); Cavion, Inc. **E.J. Newbold:** A. Employment/Salary (full or part-time); Cavion, Inc. **S. Papapetropoulos:** A. Employment/Salary (full or part-time); Cavion, Inc.
289.23	**J.K. DaSilva:** A. Employment/Salary (full or part-time); Pfizer, Inc. **C. Tyszkiewicz:** A. Employment/Salary (full or part-time); Pfizer, Inc. **K. Lee:** A. Employment/Salary (full or part-time); Pfizer, Inc. **D.L. Buhl:** A. Employment/Salary (full or part-time); Previously Pfizer, Inc. **S.M.G. Goody:** A. Employment/Salary (full or part-time); Pfizer, Inc.
290.06	**T. Poulson:** A. Employment/Salary (full or part-time); Ripple LLC. **S. Barrus:** A. Employment/Salary (full or part-time); Ripple LLC. **A.M. Wilder:** A. Employment/Salary (full or part-time); Ripple LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ripple LLC. **S. Hiatt:** A. Employment/Salary (full or part-time); Ripple LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ripple LLC.
290.08	**D.D. Spencer:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; principal investigator of the FLARE study funded by Monteris Medical. E.

PRESENTATION NUMBER	STATEMENT
	Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); US patents for the wireless transmission of intracranial electroencephalograms (8165684, 8738139, and 9326726 B2) and focal brain cooling (9849025). F. Consulting Fees (e.g., advisory boards); member of the scientific advisory board for Monteris Medical. **H.P. Zaveri:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); US patents for the wireless transmission of intracranial electroencephalograms (8165684, 8738139, and 9326726 B2) and focal brain cooling (9849025). F. Consulting Fees (e.g., advisory boards); member of the scientific advisory board and is a cofounder of Alva Health.
290.09	**S.R. Irani:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-applicant and receives royalties on patent application WO/2010/046716 entitled 'Neurological Autoimmune Disorders'.
290.10	**P. Steele:** A. Employment/Salary (full or part-time); CREmedical Corp. **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); CREmedical.
291.03	**M.K. Campbell:** A. Employment/Salary (full or part-time); Alkahest. **C. Tun:** A. Employment/Salary (full or part-time); Alkahest. **A. Liu:** A. Employment/Salary (full or part-time); Alkahest. **H. Hackbart:** A. Employment/Salary (full or part-time); Alkahest. **S. Rege:** A. Employment/Salary (full or part-time); Alkahest. **I. Gallager:** A. Employment/Salary (full or part-time); Alkahest. **S.P. Braithwaite:** A. Employment/Salary (full or part-time); Alkahest. **S. Minami:** A. Employment/Salary (full or part-time); Alkahest. **E. Czirr:** A. Employment/Salary (full or part-time); Alkahest.
291.11	**A.M. Butt:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Gliagenesis. **A.D. Rivera:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Gliagenesis.
291.13	**A. Silver:** A. Employment/Salary (full or part-time); University of Hartford.
291.17	**B. Shukitt-Hale:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Wild Blueberry Association of North America.
291.27	**C. Luciotto:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Commercial interest related to the topic, Action 4 Care Srls, Roma, Italy. **S.M. Pappalardo:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Commercial interest related to the topic, Software Engineering Italia Srl, Catania.
292.03	**O. Sesenoglu-Laird:** A. Employment/Salary (full or part-time); Copernicus Therapeutics, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Copernicus Therapeutics, Inc. **M.J. Cooper:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Copernicus Therapeutics, Inc.
292.04	**K.Y. Kyoung In:** A. Employment/Salary (full or part-time); 1Department of Neuroscience, Graduate School, Kyung Hee University.
292.08	**I.E.M. de Jong:** A. Employment/Salary (full or part-time); Employee of Lundbeck A/S. **M. Sarter:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 a grant from Lundbeck A/S.
292.13	**D.L. Price:** A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. **A. Khan:** A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. **M. Maile:** A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. **C. Wittmer:** A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. **K. Tatsukawa:** A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. **E. Stocking:** A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. **W. Wrasidlo:** A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. **D. Bonhaus:** A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc.
292.17	**K. McDowell:** A. Employment/Salary (full or part-time); Proclara Biosciences. **E. Asp:** A. Employment/Salary (full or part-time); Proclara Biosciences. **M. Proschitsky:** A. Employment/Salary (full or part-time); Proclara Biosciences. **M. Lulu:** A. Employment/Salary (full or part-time); Proclara Biosciences. **C. Rockwell-postel:** A. Employment/Salary (full or part-time); Proclara Biosciences. **J. Wright:** A. Employment/Salary (full or part-time); Proclara Biosciences. **R. Krishnan:** A. Employment/Salary (full or part-time); Proclara Biosciences. **R. Fisher:** A. Employment/Salary (full or part-time); Proclara Biosciences. **J. Levenson:** A. Employment/Salary (full or part-time); Proclara Biosciences.
292.22	**H. Kim:** A. Employment/Salary (full or part-time); Peptron Inc. **H. Choi:** A. Employment/Salary (full or part-time); Peptron Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Peptron Inc. **D. Kim:** A. Employment/Salary (full or part-time); Peptron Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Peptron Inc. **N.H. Greig:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); National Institute on Aging, NIH.
293.19	**J.M. Hubbard:** A. Employment/Salary (full or part-time); Institut De Recherches Servier. **N. Ribeiro Palha:** A. Employment/Salary (full or part-time); Institut de Recherches Servier. **A. Dekeyne:** A. Employment/Salary (full or part-time); Institut de Recherches Servier. **W. Boucheron:** A. Employment/Salary (full or part-time); Institut de Recherche Servier. **N. Rogez:** A. Employment/Salary (full or part-time); Institut de Recherches Servier. **S. Veiga:** A. Employment/Salary (full or part-time); Institut de Recherches Servier. **R. Billiras:** A. Employment/Salary (full or part-time); Institut de Recherches Servier. **V. Pasteau:** A. Employment/Salary (full or part-time); Institut de Recherches Servier. **S. Caignard:** A. Employment/Salary (full or part-time); Institut de Recherches Servier. **S.**

PRESENTATION NUMBER	STATEMENT
	Guenin: A. Employment/Salary (full or part-time); Institut de Recherches Servier. **A. Francois:** A. Employment/Salary (full or part-time); Institut de Recherches Servier. **E. Schenker:** A. Employment/Salary (full or part-time); Institut de Recherches Servier. **R. Jeggo:** A. Employment/Salary (full or part-time); Institut de Recherches Servier.
295.02	**J.N. Huffman:** A. Employment/Salary (full or part-time); University of Missouri-St. Louis. **S. Williams:** A. Employment/Salary (full or part-time); Washington University St Louis. **S. Liu:** A. Employment/Salary (full or part-time); Washington University St Louis. **K. Lucas:** A. Employment/Salary (full or part-time); Washington University St Louis. **L.D. Martin:** A. Employment/Salary (full or part-time); Oregon Health Sciences University. **G.A. Dissen:** A. Employment/Salary (full or part-time); Oregon Health Sciences University. **K. Schenning:** A. Employment/Salary (full or part-time); Oregon Health Sciences University. **A. Brambrink:** A. Employment/Salary (full or part-time); Columbia 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.; Frontiers in Anesthesia Research Award 2012. **K.K. Noguchi:** A. Employment/Salary (full or part-time); Washington University St Louis. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; RO1-HD052664, R01-HD083001, U54-HD087011.
295.05	**D.M. Devilbiss:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NexStep Biomarkers, LLC., Cerora, Inc.
296.02	**Y.P. Gerasimenko:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies. **V. Edgerton:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies.
296.05	**P. Gad:** 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.
296.22	**M. Henwood:** A. Employment/Salary (full or part-time); Texas A&M University.
297.04	**M.E. Schwab:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); co-founder and president of the board of NovaGo Therapeutics Inc.
297.16	**M. Cote:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Neurological Disorders and Stroke (NS083666).
297.23	**G. Courtine:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTX medical.
298.14	**M. Sato:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Toyama Chemical Co., Tokyo, 160-0023, Japan.
299.04	**L.H. Deng:** A. Employment/Salary (full or part-time); Genentech, Inc. **V. Joseph:** A. Employment/Salary (full or part-time); Genentech, Inc. **K.L. Stark:** A. Employment/Salary (full or part-time); Genentech, Inc. **S. Lardell:** A. Employment/Salary (full or part-time); Cellectricon. **R. Weimer:** A. Employment/Salary (full or part-time); Genentech, Inc. **P. Karila:** A. Employment/Salary (full or part-time); Cellectricon AB. **D.H. Hackos:** A. Employment/Salary (full or part-time); Genentech, Inc.
300.07	**A. Gónzalez Hernández:** A. Employment/Salary (full or part-time); Universidad Nacional Autónoma de México. **G. Martínez Lorenzana:** A. Employment/Salary (full or part-time); Universidad Nacional Autónoma de México. **M. Condés Lara:** A. Employment/Salary (full or part-time); Universidad Nacional Autónoma de México.
300.14	**N.M. Malewicz:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; grant by DFG 326726541. **H. Nie:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; work was supported by CNNSF 81373993. **R.H. LaMotte:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; ork was supported by NIH NS014624.
301.13	**A. Ghetti:** A. Employment/Salary (full or part-time); AnaBios Corporation. **Y. Miron:** A. Employment/Salary (full or part-time); AnaBios Corporation. **A. Ton:** A. Employment/Salary (full or part-time); AnaBios Corporation. **T. Indersmitten:** A. Employment/Salary (full or part-time); AnaBios Corporation. **N. Nguyen:** A. Employment/Salary (full or part-time); AnaBios Corporation. **P. Ratchada:** A. Employment/Salary (full or part-time); AnaBios Corporation. **A. Alamillo:** A. Employment/Salary (full or part-time); AnaBios Corporation. **K. Sweat:** A. Employment/Salary (full or part-time); AnaBios Corporation. **I. Tapia:** A. Employment/Salary (full or part-time); AnaBios Corporation. **G. Page:** A. Employment/Salary (full or part-time); AnaBios Corporation. **P.E. Miller:** A. Employment/Salary (full or part-time); AnaBios Corporation.
301.18	**A. Nakae:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PRIN.Co.Ltd.
302.08	**M. Caterina:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on a patent on the use of products related to TRPV1, which is licensed through UCSF and Merck and may be eligible royalties in association with that relationship.
302.27	**C. Ferris:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Animal Imaging Research. Holden MA.
303.04	**Y. Miller:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder. **T. Yaksh:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder.
303.09	**D.C. Lee:** A. Employment/Salary (full or part-time); Nevro. **K. Lee:** F. Consulting Fees (e.g., advisory boards); Nevro. **Z. Kagan:** A. Employment/Salary (full or part-time); Nevro. **K. Bradley:** A. Employment/Salary (full or part-time); Nevro.
303.14	**C.Y. Saab:** A. Employment/Salary (full or part-time); Rhode Island Hospital, Providence, RI USA. **D. Borton:** A. Employment/Salary (full or part-time); Carney Institute for Brain Science, Providence, RI,USA, Department of Veterans Affairs, Providence Medical Center, Center for Neurorestoration and Neurotechnology, Providence, RI USA.
304.08	**S. Martinez Gonzalez:** A. Employment/Salary (full or part-time); NCCIH NIH IRTA Post-doctoral fellow. **C. Pichardo:** A. Employment/Salary (full or part-time); NIH Research

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	Fellow. **Y. Carrasquillo:** A. Employment/Salary (full or part-time); Principal Investigator NCCIH: PAIN Branch, NIH, Bethesda, MD.
306.25	**B. Sriram:** A. Employment/Salary (full or part-time); Biogen. **A. Ghosh:** A. Employment/Salary (full or part-time); Biogen.
311.13	**Y. Zhang:** A. Employment/Salary (full or part-time); University of Houston. **T.T. Nguyen:** A. Employment/Salary (full or part-time); University of Houston. **T. Potter:** A. Employment/Salary (full or part-time); University of Houston.
311.19	**V. Shenoy handiru:** A. Employment/Salary (full or part-time); RUTGERS BIOMEDICAL HEALTH SCIENCES.
312.03	**E.L. Barcikowski:** A. Employment/Salary (full or part-time); Ripple, LLC. **T.S. Davis:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent (WO2018026842A1). **D.T. Kluger:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent: WO2018026842A1, Patent: WO2018023026A1. **D.J. Warren:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent: WO2018026842A1, Patent: 8639312, Patent: 8359083. **G.A. Clark:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent: WO2018026842A1, Patent: WO2018023026A1, Patent: 8359083, Patent: 8639312.
312.18	**N. Skomrock:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **H. Trivedi:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **N. Annetta:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **M. Schwemmer:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **S. Colachis IV:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **G. Sharma:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **D. Friedenberg:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **P.D. Ganzer:** A. Employment/Salary (full or part-time); Battelle Memorial Institute. **M.A. Bockbrader:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; MicroTransponder, Inc.
315.13	**E.Y. Chen:** A. Employment/Salary (full or part-time); BERG LLC. **V. Tolstikov:** A. Employment/Salary (full or part-time); BERG LLC. **P. Shah:** A. Employment/Salary (full or part-time); BERG LLC. **K. Panagopoulos:** A. Employment/Salary (full or part-time); BERG LLC. **S. Gesta:** A. Employment/Salary (full or part-time); BERG LLC. **R. Sarangarajan:** A. Employment/Salary (full or part-time); BERG LLC. **N.R. Narain:** A. Employment/Salary (full or part-time); BERG LLC. **M.A. Kiebish:** A. Employment/Salary (full or part-time); BERG LLC. **E.J. Nestler:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BERG LLC.
316.08	**V. Risbrough:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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, DoD. **G. Brown:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH.
317.08	**R.A. Rissman:** Other; VA San Diego Healthcare System.
317.23	**M.D. Kvarta:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Asulon Therapeutics. **S.M. Thompson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Asulon Therapeutics.
319.07	**L. Wong:** A. Employment/Salary (full or part-time); Micro-Leads Inc. **J. Ogren:** A. Employment/Salary (full or part-time); Micro-Leads Inc. **G. Chitnis:** A. Employment/Salary (full or part-time); Micro-Leads Inc. **B. McLaughlin:** A. Employment/Salary (full or part-time); Micro-Leads Inc.
320.03	**D.A. Pizzagalli:** F. Consulting Fees (e.g., advisory boards); Akili Interactive Labs, BlackThorn Therapeutics, Boehringer Ingelheim, Pfizer, Posit Science.
320.12	**Y. Lin:** A. Employment/Salary (full or part-time); Columbia University in the City of New York. **J. Faller:** A. Employment/Salary (full or part-time); Columbia University. **J. Doose:** A. Employment/Salary (full or part-time); Medical University of South Carolina. **G.T. Saber:** A. Employment/Salary (full or part-time); Medical University of South Carolina. **J.R. McIntosh:** A. Employment/Salary (full or part-time); Columbia University. **R.I. Goldman:** A. Employment/Salary (full or part-time); University of Wisconsin–Madison. **M.S. George:** A. Employment/Salary (full or part-time); Medical University of South Carolina. **P. Sajda:** A. Employment/Salary (full or part-time); Columbia University. **T.R. Brown:** A. Employment/Salary (full or part-time); Medical University of South Carolina.
320.13	**C.A. Zarate:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Listed as co-inventor on patents for ketamine and metabolites in depression treatment. Patent rights are assigned to the US government but he will share a percentage of any royalties received.
320.17	**E.G. Hilland:** A. Employment/Salary (full or part-time); Diakonhjemmet Hospital. **N. Landrø:** A. Employment/Salary (full or part-time); University of Oslo. **C. Harmer:** A. Employment/Salary (full or part-time); University of Oxford. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Johnson and Johnson Inc, P1 vital and Lundbeck. **M. B:** A. Employment/Salary (full or part-time); University of Oxford. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; P1 vital, Lundbeck. **L. Maglanoc:** A. Employment/Salary (full or part-time); University of Oslo. **R. Jonassen:** A. Employment/Salary (full or part-time); University of Oslo.
320.18	**D.A. Pizzagalli:** F. Consulting Fees (e.g., advisory boards); Akili Interactive Labs, BlackThorn Therapeutics, Boehringer Ingelheim, Pfizer, Posit Science.
320.22	**A.C. Wilson:** A. Employment/Salary (full or part-time); University of California Los Angeles. **I.A. Cook:** A. Employment/Salary (full or part-time); University of California Los Angeles. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Neosync, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroSigma. F. Consulting Fees (e.g., advisory boards); Artica Health, Cereve, NeuroDetect, HeartCloud. **A.F. Leuchter:** A. Employment/Salary (full or part-time); University of California Los Angeles. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Brain Biomarkers Analytics LLC, Neosync, Inc. F. Consulting Fees (e.g., advisory boards); Neosync, Inc, Ionis, Inc., ElMindA. Other; Neuronetics, (DoD) Department of Defense, Neurosigma, CHDI.
320.23	**A. Leuchter:** A. Employment/Salary (full or part-time); University of California, Los Angeles. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property

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	rights/patent holder, excluding diversified mutual funds); Brain Biomarker Analytics LCC, Neosync, Inc. F. Consulting Fees (e.g., advisory boards); Neosync, Inc., Ionic, Inc., ElMindaA. Other; Neuronetics, Department of Defense, Neurosigma, CHDI. **J. Corlier:** A. Employment/Salary (full or part-time); University of California, Los Angeles. **A.C. Wilson:** A. Employment/Salary (full or part-time); University of California, Los Angeles. **I. Cook:** A. Employment/Salary (full or part-time); University of California, Los Angeles. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Neosync, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroSigma. F. Consulting Fees (e.g., advisory boards); Artica Health, Cereve, NeuroDetect, HeartCloud. **L.L. Carpenter:** A. Employment/Salary (full or part-time); Butler Hospital. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; PI (site) Janssen global clinical esketamine trial, PI (site) Neosync trial. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Neuronetics (equipment). F. Consulting Fees (e.g., advisory boards); Magstim.
321.02	**S. Kohtala:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Helsinki has filed a patent application wherein part of the data presented have been disclosed (S.K., W.T. and T.R. as inventors). **W. Theilmann:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Helsinki has filed a patent application wherein part of the data presented in this manuscript have been disclosed (S.K., W.T. and T.R. as inventors). **T. Rantamäki:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Helsinki has filed a patent application wherein part of the data presented in this manuscript have been disclosed (S.K., W.T. and T.R. as inventors).
321.03	**C. Zarate:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Zarate is listed as a coinventor on a patent for the use of ketamine in major depression; he has assigned his patent rights to the U.S. government.
321.05	**S. Kohtala:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Helsinki has filed a patent application wherein part of the data presented in this abstract have been disclosed (S.K., W.T. and T.R. as inventors). **W. Theilmann:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Helsinki has filed a patent application wherein part of the data presented in this abstract have been disclosed (S.K., W.T. and T.R. as inventors). **T. Rantamaki:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of Helsinki has filed a patent application wherein part of the data presented in this abstract have been disclosed (S.K., W.T. and T.R. as inventors).
321.06	**R.S. Duman:** F. Consulting Fees (e.g., advisory boards); Naurex.
321.08	**T. Kato:** A. Employment/Salary (full or part-time); Sumitomo Dainippon Pharma Co., Ltd. **G.P. Vlasuk:** A. Employment/Salary (full or part-time); Navitor Pharmaceuticals, Inc. **E. Saiah:** A. Employment/Salary (full or part-time); Navitor Pharmaceuticals, Inc. **S. Hahm:** A. Employment/Salary (full or part-time); Navitor Pharmaceuticals, Inc.
321.10	**P. Zanos:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-Investor Patent Application. **R. Moaddel:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-Investor Patent Application. **P.J. Morris:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-Investor Patent Application. **C. Thomas:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-Investor Patent Application. **S. Traynelis:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-Founder: NeurOp, Inc. F. Consulting Fees (e.g., advisory boards); Sage Therapeutics. **T.D. Gould:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-Investor Patent Application.
321.11	**X. Chen:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Corresponding author.
321.16	**T. Kato:** A. Employment/Salary (full or part-time); Sumitomo Dainippon Pharma Co., Ltd. **P. Banerjee:** A. Employment/Salary (full or part-time); Allergan Inc.
323.04	**J.D. Salamone:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Chronos Therapeutics. **F. Murray:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Chronos Therapeutics.
323.14	**A. Peterchev:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); A.V.P. is inventor on patents and patent applications, and has received research and travel support as well as patent royalties from Rogue Research; research and travel support, consulting fees, as we.
323.21	**J.M. Cook:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PCT/US2017/023206. **E. Sibille:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PCT/US2017/023206.
324.06	**R. Abraham:** A. Employment/Salary (full or part-time); Suven Life Sciences. **J. Fernandes:** A. Employment/Salary (full or part-time); suven life sciences. **V. Reballi:** A. Employment/Salary (full or part-time); suven life sciences. **R. Nirogi:** A. Employment/Salary (full or part-time); suven life sciences.
324.07	**G. Venkata Ramalingayya:** A. Employment/Salary (full or part-time); SUVEN LIFE SCIENCES LTD. **J. Tadiparthi:** A. Employment/Salary (full or part-time); SUVEN LIFE SCIENCES LTD. **N. Ganuga:** A. Employment/Salary (full or part-time); SUVEN LIFE SCIENCES LTD. **H. Talakanti:** A. Employment/Salary (full or part-time); SUVEN LIFE SCIENCES LTD. **P. Jayarajan:** A. Employment/Salary (full or part-time); SUVEN LIFE SCIENCES LTD. **S. Pandrinki:** A. Employment/Salary (full or part-time); SUVEN LIFE SCIENCES LTD. **N. Patibandla:** A. Employment/Salary (full or part-time); SUVEN LIFE SCIENCES LTD. **N. Muddana:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **A. Rasheed Mohammed:** A. Employment/Salary (full or part-time); SUVEN LIFE SCIENCES LTD. **R. Nirogi:** A. Employment/Salary (full or part-time); nvsrk@suven.com.

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331.01	**N.J. Broadbent:** A. Employment/Salary (full or part-time); Dart NeuroScience LLC. **B. Masatsugu:** A. Employment/Salary (full or part-time); Dart NeuroScience LLC. **M. Peters:** A. Employment/Salary (full or part-time); Dart NeuroScience LLC.
332.01	**V. Duveau:** A. Employment/Salary (full or part-time); SynapCell SAS. **A. Woźniak-Kwaśniewska:** A. Employment/Salary (full or part-time); SynapCell SAS. **A. Evrard:** A. Employment/Salary (full or part-time); SynapCell SAS. **C. Ruggiero:** A. Employment/Salary (full or part-time); SynapCell SAS. **C. Roucard:** A. Employment/Salary (full or part-time); SynapCell SAS. **Y. Roche:** A. Employment/Salary (full or part-time); SynapCell SAS.
333.23	**R. Legaspi:** A. Employment/Salary (full or part-time); Full, RIKEN Center for Brain Science.
334.08	**P. Pal:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Yale University has filed for patent protection of the application of providing neurofeedback from the PCC. Dr. Brewer owns stock in a company that has rights to license this patent. **J. Brewer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Yale University has filed for patent protection of the application of providing neurofeedback from the PCC. Dr. Brewer owns stock in a company that has rights to license this patent.
334.24	**M. Hamada:** A. Employment/Salary (full or part-time); Osaka 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.; Osaka University. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Osaka University. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Osaka University. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Osaka University. F. Consulting Fees (e.g., advisory boards); Osaka University.
335.01	**J. Dolezal:** A. Employment/Salary (full or part-time); Medicton Group Inc. **V. Fabian:** A. Employment/Salary (full or part-time); Medicton Group Inc.
335.19	**Z.J. Waldman:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Fastwave LLC. **S.A. Weiss:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Fastwave LLC.
335.23	**E.A. Holmes:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); royalties from book published by Oxford University Press.
336.02	**J.D. Murray:** F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. **A. Anticevic:** F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics.
336.06	**B.M. Ellingson:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Hoffman La-Roche; Siemens; Agios; Janssen. F. Consulting Fees (e.g., advisory boards); Advisory Board: Hoffman La-Roche; Siemens; Nativis; Medicenna; MedQIA; Bristol Meyers Squibb; Imaging Endpoints; Agios. Paid Consultant: Nativis; MedQIA; Siemens; Hoffman La-Roche; Imaging Endpoints;. **K.H. Nuechterlein:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Janssen Scientific Affairs, Posit Science, and Genentech. F. Consulting Fees (e.g., advisory boards); Astellas, Janssen, Otsuka, Takeda, Teva, and MedinCell. **K.L. Subotnik:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Genentech, Inc., and Janssen Scientific Affairs, LLC. F. Consulting Fees (e.g., advisory boards); Served on the speakers bureau for Otsuka's Abilify Maintena, a CME speaker for Janssen, Inc, Canada. He has served as a consultant to Janssen Scientific Affairs, LLC, Alkermes, Inc.
337.10	**A.A. Grace:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Lundbeck, Pfizer, Otsuka, Lilly, Roche, Asubio, Abbott, Autofony, Janssen, Alkermes, Newron, Takeda.
338.14	**J.J. Nassi:** A. Employment/Salary (full or part-time); Inscopix, Inc. **D. Cheng:** A. Employment/Salary (full or part-time); Inscopix, Inc. **M.J. Schachter:** A. Employment/Salary (full or part-time); Inscopix, Inc. **M. Trulson:** A. Employment/Salary (full or part-time); Inscopix, Inc. **S. Malanowski:** A. Employment/Salary (full or part-time); Inscopix, Inc. **A. Tajik:** A. Employment/Salary (full or part-time); Inscopix, Inc. **K. Visscher:** A. Employment/Salary (full or part-time); Inscopix, Inc. **S.L. Otte:** A. Employment/Salary (full or part-time); Inscopix, Inc.
338.15	**F. Huhn:** A. Employment/Salary (full or part-time); Rapp OptoElectronic GmbH. **G. Rapp:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rapp OptoElectronic GmbH.
338.18	**E.M. Hillman:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Leica Microsystems. F. Consulting Fees (e.g., advisory boards); Leica Microsystems.
338.25	**G. Popescu:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Phi Optics Inc.
339.17	**R. Scorcioni:** A. Employment/Salary (full or part-time); HRL Labs. **Q. Jang:** A. Employment/Salary (full or part-time); HRL Laboratories. **S. Skorheim:** A. Employment/Salary (full or part-time); HRL Laboratories. **N. Stepp:** A. Employment/Salary (full or part-time); HRL Laboratories. **V. De Sapio:** A. Employment/Salary (full or part-time); HRL Laboratories. **P. Pilly:** A. Employment/Salary (full or part-time); HRL Laboratories.
339.18	**M. Li:** A. Employment/Salary (full or part-time); Harvard University.
340.10	**S.C. Strother:** Other; VP & Chief Science Officer for ADM Diagnostics, Inc.
345.02	**H. Cynis:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ProbiodrugAG, Weinbergweg22 06120, Halle, Germany.
350	**H.S. Mayberg:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Medtronic, Abbott Labs: donation of research DBS devices. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Abbott Labs: IP licensing fees.
354.06	**E. Czirr:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **I.D. Gallager:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **M.K. Campbell:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **C. Tun:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/

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	patent holder, excluding diversified mutual funds); Alkahest Inc. **S. Rege:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **R.R. Alcantara-Lee:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **A.T. Liu:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **H. Hackbart:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **M. Castro:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **R. Estrada:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **V. Kheifets:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc. **S.P. Braithwaite:** A. Employment/Salary (full or part-time); sbraithwaite@alkahest.com. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); sbraithwaite@alkahest.com. **S.S. Minami:** A. Employment/Salary (full or part-time); Alkahest Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Alkahest Inc.
354.07	**V. Kheifets:** A. Employment/Salary (full or part-time); Alkahest. **I. Gallager:** A. Employment/Salary (full or part-time); Alkahest. **S. Minami:** A. Employment/Salary (full or part-time); Alkahest. **E. Czirr:** A. Employment/Salary (full or part-time); Alkahest. **N. Huber:** A. Employment/Salary (full or part-time); Alkahest. **R. Alcantara-Lee:** A. Employment/Salary (full or part-time); Alkahest. **M. Castro:** A. Employment/Salary (full or part-time); Alkahest. **S. Rege:** A. Employment/Salary (full or part-time); Alkahest. **H. Hackbart:** A. Employment/Salary (full or part-time); Alkahest. **C. Tun:** A. Employment/Salary (full or part-time); Alkahest. **R. Estrada:** A. Employment/Salary (full or part-time); Alkahest. **S.P. Braithwaite:** A. Employment/Salary (full or part-time); Alkahest.
356.06	**V. Edgerton:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies.
361.03	**R. Girgis:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Allergan, Genentech, BioAdvantex. **A. Abi-Dargham:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Forest, Pfizer, Pierre-Fabre. F. Consulting Fees (e.g., advisory boards); Otsuka, Roche, Forum, Lundbeck.
361.04	**M.J. Kahana:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); M.J.K. has started a company, Nia Therapeutics, LLC (``Nia''), intended to develop and commercialize brain stimulation therapies for memory restoration. He holds more than 5% equity interest in Nia.
361.05	**D.S. Rizzuto:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nia Therapeutics. **M.J. Kahana:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nia Therapeutics.
363.01	**R. Calzavara:** Other; The author is member of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **H. Akil:** Other; The author is member of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **J.D. Barchas:** Other; The author is member of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **W.E. Bunney:** Other; The author is member of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **F.S. Lee:** Other; The author is member of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **R.M. Myers:** Other; The author is member of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **A.F. Schatzberg:** Other; The author is member of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C. **S.J. Watson:** Other; The author is member of the Pritzker Neuropsychiatric Disorders Research Consortium, which is supported by the Pritzker Neuropsychiatric Disorders Research Fund L.L.C.
363.09	**D. Öngür:** F. Consulting Fees (e.g., advisory boards); Neurocrine Inc. **J.D. Schmahmann:** F. Consulting Fees (e.g., advisory boards); Cadent, Biogen, Biohaven, Pfizer. **A. Pascual-Leone:** F. Consulting Fees (e.g., advisory boards); Nexstim, Neuronix, Starlab Neuroscience, Neuroelectrics, Neosync.
364.04	**E. Bullmore:** A. Employment/Salary (full or part-time); GlaxoSmithKline. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GlaxoSmithKline.
364.05	**A. Iriki:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); President and CEO of Rikaenalysis Corporation (RIKEN Venture).
364.12	**A. Iriki:** A. Employment/Salary (full or part-time); The president and CEO of RIKAENALYSIS Corporation (RIKEN Venture, Tokyo).
365.18	**A.J. Eisch:** A. Employment/Salary (full or part-time); University of Pennsylvania, Department of Neuroscience and Mahoney Institute of Neuroscience.
366.05	**J.A. Dizon:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **E. Willems:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **C. Revankar:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **X. Liang:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **D. Piper:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific.
366.11	**R.E. Lacambacal:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **E. Willems:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **T. Gokirmak:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **C. Revankar:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **J.A. Dizon:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **X. Liang:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **R. Newman:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **D. Kuninger:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific. **D.R. Piper:** A. Employment/Salary (full or part-time); Thermo Fisher Scientific.
366.23	**K.P. Mangan:** A. Employment/Salary (full or part-time); Cellular Dynamics, International.
370.10	**S. Simavorian:** A. Employment/Salary (full or part-time); Janssen R&D, LLC. **T. Lovenberg:** A. Employment/Salary (full or part-time); Janseen R&D, LLC. E. Ownership

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	Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Johnson & Johnson. **R. Neff:** A. Employment/Salary (full or part-time); Janssen R&D, LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Johnson & Johnson.
370.19	**S.F. Traynelis:** A. Employment/Salary (full or part-time); Emory University. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeurOp, Inc. F. Consulting Fees (e.g., advisory boards); Sage Therapeutics. **K.L. Strong:** A. Employment/Salary (full or part-time); Emory University. **M.P. Epplin:** A. Employment/Salary (full or part-time); Emory University. **K.K. Ogden:** A. Employment/Salary (full or part-time); Scripps Flordia. **H. Kusumoto:** A. Employment/Salary (full or part-time); Emory University. **S. Bhattacharya:** A. Employment/Salary (full or part-time); Emory University. **G. Shaulsky:** A. Employment/Salary (full or part-time); Emory University. **R.E. Perszyk:** A. Employment/Salary (full or part-time); Emory University. **D. Menaldino:** A. Employment/Salary (full or part-time); Emory University. **K.B. Hansen:** A. Employment/Salary (full or part-time); University of Montana. **T.J. Wilding:** A. Employment/Salary (full or part-time); Washington University St. Louis. **C.R. Camp:** A. Employment/Salary (full or part-time); Emory University. **M.J. McDaniel:** A. Employment/Salary (full or part-time); Emory University. **J. Zhang:** A. Employment/Salary (full or part-time); Emory University. **P. Le:** A. Employment/Salary (full or part-time); Emory University. **J.E. Huettner:** A. Employment/Salary (full or part-time); Washington University St. Louis. **D.C. Liotta:** A. Employment/Salary (full or part-time); Emory University. F. Consulting Fees (e.g., advisory boards); NeurOp, Inc.
370.20	**S.F. Traynelis:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeurOp, Inc. F. Consulting Fees (e.g., advisory boards); Sage Therapeutics.
370.21	**K.B. Hansen:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 from Janssen Pharmaceuticals, Inc. **S.F. Traynelis:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NS036654 and a research grant from Janssen Pharmaceuticals Inc. S.F.T. is a member of the Scientific Advisory Board for Sage Therapeutics, and a co-founder of NeurOp Inc.
371.03	**F. Coussen:** A. Employment/Salary (full or part-time); CNRS France. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; ANR France / ERC Europe. **F. Cordelières:** A. Employment/Salary (full or part-time); CNRS France. **D. Choquet:** A. Employment/Salary (full or part-time); CNRS France.
371.09	**C.T. Bot:** A. Employment/Salary (full or part-time); Nanion Technologies Inc. **A.R. Obergrussberger:** A. Employment/Salary (full or part-time); Nanion Technologies GmbH. **N. Brinkwirth:** A. Employment/Salary (full or part-time); Nanion Technologies GmbH. **I. Rinke-Weiß:** A. Employment/Salary (full or part-time); Nanion Technologies GmbH. **N. Becker:** A. Employment/Salary (full or part-time); Nanion Technologies GmbH. **T.A. Goetze:** A. Employment/Salary (full or part-time); Nanion Technologies GmbH. **P. Mumm:** A. Employment/Salary (full or part-time); Nanion Technologies GmbH. **S. Stoelzle-Feix:** A. Employment/Salary (full or part-time); Nanion Technologies GmbH. **T. Strassmaier:** A. Employment/Salary (full or part-time); Nanion Technologies GmbH. **M. George:** A. Employment/Salary (full or part-time); Nanion Technologies GmbH. **A. Brüggemann:** A. Employment/Salary (full or part-time); Nanion Technologies GmbH. **N. Fertig:** A. Employment/Salary (full or part-time); Nanion Technologies GmbH.
373.10	**F. Dudek:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Epitel, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Epitel, Inc. F. Consulting Fees (e.g., advisory boards); Epitel, Inc.
373.12	**S. Chamberland:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); GW Pharmaceuticals. **E.C. Rosenberg:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); GW Pharmaceuticals. **R.W. Tsien:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); GW Pharmaceuticals.
373.13	**D.J. Heal:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; GW Pharmaceuticals.
373.14	**O. Guicherit:** A. Employment/Salary (full or part-time); StemoniX. **C. Carromeu:** A. Employment/Salary (full or part-time); StemoniX. **S. Dea:** A. Employment/Salary (full or part-time); stemonix. **N. Sodhi:** A. Employment/Salary (full or part-time); Stemonix. **F. Zanella:** A. Employment/Salary (full or part-time); stemonix. **C. Andersen:** A. Employment/Salary (full or part-time); stemonix. **B.C. Gay:** A. Employment/Salary (full or part-time); Pairnomix. **J.M. Andresen:** A. Employment/Salary (full or part-time); Pairnomix. **G.R. Stewart:** A. Employment/Salary (full or part-time); Pairnomix.
373.15	**C. Andersen:** A. Employment/Salary (full or part-time); Stemonix.
374.03	**M. M:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Mayadevi M is designated as an inventor in a US patent application for the stable cell line used in this study. **A. R c:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Arunkumar, R. C. is designated as an inventor in a US patent application for the stable cell line used in this study. **O. R v:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Omkumar R V is designated as an inventor in a US patent application for the stable cell line used in this study.
376.02	**S. Kaja:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Experimentica Ltd., K&P Scientific LLC. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Experimentica Ltd., K&P Scientific LLC.
376.05	**J. Chun:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); FTY720 and research grant, Novartis.
376.06	**A. Groves:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 and the drug used for the study from Novartis. **J. Chun:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 and the drug used in the study are from Novartis AG.
376.17	**M.G. Frasch:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Illumina Inc. contributed reagents for RNAseq. It played no further role.

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377.01	**H.C. Walker:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Funding BRAIN Initiative grant UH3NS100553. **C.P. Hurt:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Funding BRAIN Initiative grant UH3NS100553.
378.15	**B.J. Farley:** A. Employment/Salary (full or part-time); Sage Therapeutics. **A.E. Bullock:** A. Employment/Salary (full or part-time); Sage Therapeutics. **I. Kaul:** A. Employment/Salary (full or part-time); Sage Therapeutics. **D.P. Nguyen:** A. Employment/Salary (full or part-time); Sage Therapeutics. **S.J. Kanes:** A. Employment/Salary (full or part-time); Sage Therapeutics. **J.J. Doherty:** A. Employment/Salary (full or part-time); Sage Therapeutics. **M.C. Quirk:** A. Employment/Salary (full or part-time); Sage Therapeutics.
379.18	**M. Azzouz:** F. Consulting Fees (e.g., advisory boards); Telocyte.
381.17	**S. Paul:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Soumya Paul is designated as an inventor in Indian Patent Application No. 3616/CHE/2013. **M. Mayadevi:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); M Mayadevi is designated as an inventor in Indian Patent Application No. 3616/CHE/2013. **R.V. Omkumar:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr RV Omkumar is designated as an inventor in Indian Patent Application No. 3616/CHE/2013.
381.19	**R. Nuydens:** A. Employment/Salary (full or part-time); Janssen Pharmaceutica. **P. Larsen:** A. Employment/Salary (full or part-time); Janssen Pharmaceutica.
383.28	**C.P. Talati:** A. Employment/Salary (full or part-time); University of Mississippi Medial Center. **J.W. Lee:** A. Employment/Salary (full or part-time); University of Mississippi Medical Center. **S. Lu:** A. Employment/Salary (full or part-time); University of Mississippi Medical Center. **N.B. Ojeda:** A. Employment/Salary (full or part-time); University of Mississippi Medical Center. **Y. Pang:** A. Employment/Salary (full or part-time); University of Mississippi Medical Center. **A.J. Bhatt:** A. Employment/Salary (full or part-time); University of Mississippi Medical Center. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Shire Human Genetic Therapies, Inc, Regeneron Pharmaceuticals, Inc., MedImmune, Inc., Mallinckrodt Pharmaceuticals, Inc. **L. Fan:** A. Employment/Salary (full or part-time); University of Mississippi Medical Center.
384.11	**K. Dave:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 present study was supported by NIH grant NS094896. Drs. Ahn and Jy also received a grant support from RxMP Therapeutics. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); RxMP Therapeutics provided the testing material for the study. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Ahn, Dr. Jy, and the University of Miami have partial ownership in RxMP Therapeutics. **Y.S. Ahn:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Drs. Ahn and Jy also received a grant support from RxMP Therapeutics. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); RxMP Therapeutics provided the testing material for the study. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Ahn, Dr. Jy, and the University of Miami have partial ownership in RxMP Therapeutics. **W. Jy:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Drs. Ahn and Jy also received a grant support from RxMP Therapeutics. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); RxMP Therapeutics provided the testing material for the study. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Ahn, Dr. Jy, and the University of Miami have partial ownership in RxMP Therapeutics.
384.20	**C. Sjölund:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sinntaxis AB. **K. Beirup:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sinntaxis AB. **K. Ruscher:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sinntaxis AB. **T.W. Wieloch:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sinntaxis AB.
384.24	**F. Sohrabji:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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.
384.30	**W. Nakajima:** A. Employment/Salary (full or part-time); Yokohama city university.
386.06	**M. Vat:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; GTX medical. **M. Caban:** A. Employment/Salary (full or part-time); GTX medical. **A. Watrin:** A. Employment/Salary (full or part-time); GTX medical. **J. Von Zitzewitz:** A. Employment/Salary (full or part-time); GTX medical. **M. Bakx:** A. Employment/Salary (full or part-time); Medtronic. **R. Buschman:** A. Employment/Salary (full or part-time); Medtronic. **N. Buse:** A. Employment/Salary (full or part-time); Medtronic. **V. Delattre:** A. Employment/Salary (full or part-time); GTX medical. **T. Denison:** A. Employment/Salary (full or part-time); Medtronic. **H. Lambert:** A. Employment/Salary (full or part-time); GTX medical. **J. Bloch:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; GTX medical. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); GTX medical. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTX medical. **G. Courtine:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; GTX medical. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); GTX medical. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTX medical. F. Consulting Fees (e.g., advisory boards); GTX medical.

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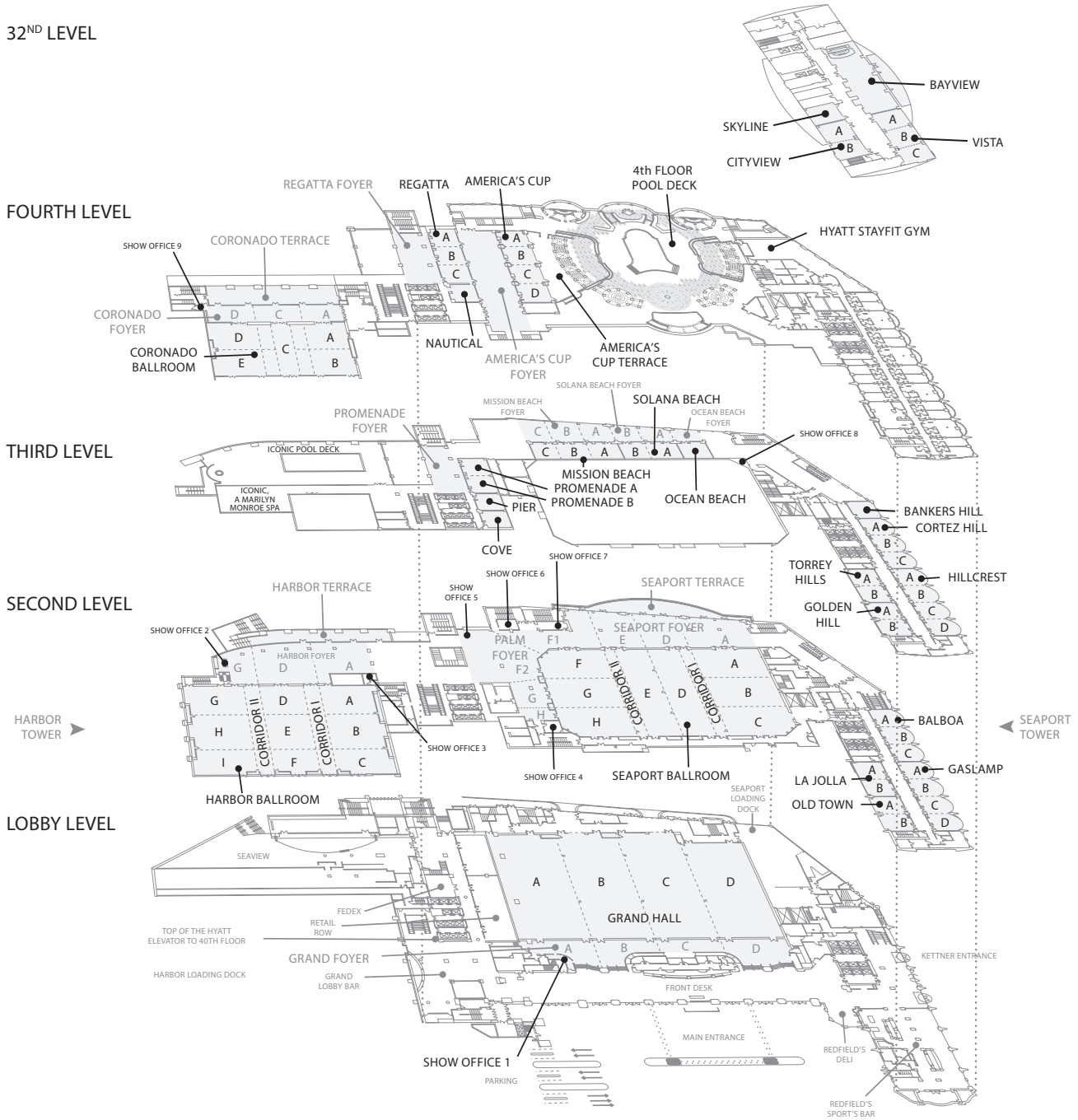
386.07	**M. Vat:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; GTX medical. **M. Caban:** A. Employment/Salary (full or part-time); GTX medical. **A. Watrin:** A. Employment/Salary (full or part-time); GTX medical. **M. Bakx:** A. Employment/Salary (full or part-time); Medtronic. **R. Buschman:** A. Employment/Salary (full or part-time); Medtronic. **N. Buse:** A. Employment/Salary (full or part-time); Medtronic. **V. Delattre:** A. Employment/Salary (full or part-time); GTX medical. **T. Denison:** A. Employment/Salary (full or part-time); Medtronic. **H. Lambert:** A. Employment/Salary (full or part-time); GTX medical. **J. Bloch:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; GTX medical. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); GTX medical. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTX medical. **G. Courtine:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; GTX medical. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); GTX medical. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTX medical. F. Consulting Fees (e.g., advisory boards); GTX medical.
386.10	**E. Neufeld:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ZurichMedTech. **E. Paoles:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTX Medical. **B. Lloyd:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ZurichMedTech. **J. Bakker:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTX Medical. **V. Delattre:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTX Medical. **N. Kuster:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ZurichMedTech. **G. Courtine:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GTX Medical.
388.07	**G. Yosipovitch:** Other; Gil Yosipovitch conducted clinical trials or received honoraria for serving as a member of the Scientific Advisory Board and consultant of, Pfizer TREVI , Menlo, Sienna, Regeneron Sanofi, Galderma,.
389.01	**C.Y. Saab:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Asahi Kasei Pharma; Boston Scientific. **S. Koyama:** A. Employment/Salary (full or part-time); Asahi Kasei Pharma. **J.W. Gu:** A. Employment/Salary (full or part-time); Boston Scientific.
391.01	**A. Yoshino:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Atsuo Yoshino has previously received support for a neuroimaging research from Eli Lily (2016-2017).
391.03	**B. Chen:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; DP1 MH103908, Keck Foundation grant. **T. Hua:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; DP1 MH103908, Keck Foundation grant.
391.07	**Y. Takahara:** A. Employment/Salary (full or part-time); SHIONOGI & Co., Ltd. **M. Matsuo:** A. Employment/Salary (full or part-time); SHIONOGI & Co., Ltd. **R. Tamono:** A. Employment/Salary (full or part-time); SHIONOGI & Co., Ltd. **T. Asaki:** A. Employment/Salary (full or part-time); SHIONOGI & Co., Ltd. **K. Ogawa:** A. Employment/Salary (full or part-time); SHIONOGI & Co., Ltd.
394.10	**F. Piu:** A. Employment/Salary (full or part-time); Otonomy Inc. **N. Tsivkovskaia:** A. Employment/Salary (full or part-time); Otonomy Inc. **R. Fernandez:** A. Employment/Salary (full or part-time); Otonomy Inc. **X. Wang:** A. Employment/Salary (full or part-time); Otonomy Inc. **J. Anderson:** A. Employment/Salary (full or part-time); Otonomy Inc. **K. Bishop:** A. Employment/Salary (full or part-time); Otonomy Inc.
397.02	**Y. Wang:** A. Employment/Salary (full or part-time); University of Houston. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NEI/NIH EY-008128 (YMC), EY-003611 (ELS), CORE Grant P30-EY 007551. **B. Zhang:** A. Employment/Salary (full or part-time); Nova Southeastern University College of Optometry. **E.L. Smith:** A. Employment/Salary (full or part-time); University of Houston college of optometry. **Y.M. Chino:** A. Employment/Salary (full or part-time); University of Houston college of optometry.
397.15	**D.D. Cox:** A. Employment/Salary (full or part-time); MIT-IBM Watson AI Lab, IBM Research.
399.01	**R.A. Clark:** F. Consulting Fees (e.g., advisory boards); Nevakar, LLC.
401.02	**W.S. Selbie:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); C-Motion Inc. **S.H. Scott:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BKIN Technologies.
401.15	**N. Hogan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Holds equity in Bionik Laboratories, which acquired Interactive Motion Technologies, the company that manufactured the robot used in these studies. Neither company had any involvement in the study.
401.16	**F.J. Valero-Cuevas:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH R01 AR-050520, NIH R01 AR-052345, DoD MR150091.
402.06	**A. Oliviero:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurek SL. **G. Foffani:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurek SL.
402.27	**M. Nitsche:** F. Consulting Fees (e.g., advisory boards); NeuroElectrics.
402.28	**M.A. Nitsche:** F. Consulting Fees (e.g., advisory boards); NeuroElectrics.
403.08	**J.M. Henderson:** F. Consulting Fees (e.g., advisory boards); Circuit Therapeutics, Enspire DBS, Neuropace.

PRESENTATION NUMBER	STATEMENT
	K.V. Shenoy: F. Consulting Fees (e.g., advisory boards); Neuralink Corp., CTRL-Labs Inc., MIND-X Inc., Inscopix Inc., Heal Inc.
404.08	**J.M. Henderson:** F. Consulting Fees (e.g., advisory boards); J.M.H. serves on Medical / Scientific Advisory Boards of Circuit Therapeutics, Enspire DBS, and Neuropace. These entities did not support this work. **K.V. Shenoy:** F. Consulting Fees (e.g., advisory boards); K.V.S. is a consultant to Neuralink Corp. and on the Scientific Advisory Boards of CTRL-Labs Inc., MIND-X Inc., Inscopix Inc. and Heal Inc. These entities did not support this work.
407.11	**R. Marx:** A. Employment/Salary (full or part-time); University of Washington.
407.21	**A. Urban:** F. Consulting Fees (e.g., advisory boards); Alan Urban Technology & Consulting.
408.03	**C.A. Lowry:** F. Consulting Fees (e.g., advisory boards); Immodulon Therapeutics.
408.09	**C.A. Lowry:** F. Consulting Fees (e.g., advisory boards); CAL serves on the Scientific Advisory Board of Immodulon Therapeutics, Ltd.
411.06	**S.R. Morairty:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; This research funded through a collaboration with Teva Pharmaceutical Industries. **P.H. Hutson:** A. Employment/Salary (full or part-time); Employee of Teva Pharmaceuticals. **R. Hudkins:** A. Employment/Salary (full or part-time); Employee of Teva Phamaceuticals. **S.E. Browne:** A. Employment/Salary (full or part-time); Employee of Teva Pharmaceuticals.
411.10	**M. Crewe:** A. Employment/Salary (full or part-time); James Madison University. **D. Holt:** A. Employment/Salary (full or part-time); James Madison University. **J. Dyche:** A. Employment/Salary (full or part-time); James Madison University.
411.16	**J.T. McKenna:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; PI, MISP Merck.
413.14	**A.N. Hoffman:** A. Employment/Salary (full or part-time); Avanir Pharmaceuticals, Inc. **S. Watson:** A. Employment/Salary (full or part-time); Avanir Pharmaceuticals, Inc. **C.C. Giza:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Avanir Pharmaceuticals, Inc.
413.16	**M.S. Fanselow:** Other; Neurovation Labs.
413.17	**M.S. Fanselow:** Other; Dr. Fanselow is director of research at Neurovation labs.
414.12	**Y.Y. Lai:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Anagin Inc. **A. Shekhar:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Anagin Inc.
414.18	**S. Lei:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Undergraduate Research Initiative.
414.20	**I. Nahmoud:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); P-ENDURE & the UnderGraduate Research Initiative (UGRI) at Hunter College, CUNY. **E. Likhtik:** A. Employment/Salary (full or part-time); Full-time.
415.04	**M. Roche:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Alkermes. **D.P. Finn:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Alkermes.
415.06	**C.K. McIntyre:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent entitled.
418.08	**A. Frazer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Drs Lodge & Frazer are inventors of a Patent entitled PHARMACEUTICAL COMPOSITIONS AND METHODS FOR TREATMENT OF PAIN - International Application No: PCT/US2017/037229. **D.J. Lodge:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Drs Lodge & Frazer are inventors of a Patent entitled PHARMACEUTICAL COMPOSITIONS AND METHODS FOR TREATMENT OF PAIN - International Application No: PCT/US2017/037229.
418.11	**R.O. Messing:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); inventor on patent held by UCSF.
418.12	**G.L. Snyder:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies Inc. **R.E. Davis:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies Inc. **P. Li:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies Inc. **W. Yao:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies, Inc. **S. Cruz:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies.com. **L. Zhang:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies, Inc. **J.P. Hendrick:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies Inc. **A. Fienberg:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies Inc. **K.E. Vanover:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies Inc. **S. Mates:** A. Employment/Salary (full or part-time); Intra-Cellular Therapies Inc.
420.17	**A. Gutierrez:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); The vapor delivery technique used in this study was developed with the help of La Jolla Alcohol Research, Inc. **M.A. Taffe:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; La Jolla Alcohol Research, Inc.
421.01	**J.W. Brown:** A. Employment/Salary (full or part-time); Indiana University.
422.01	**R. Calin-Jageman:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIMH Grant 1R15MH107892-01. **I. Calin-Jageman:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIMH Grant 1R15MH107892-01.
424.18	**A.C. Singer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cognito Therapeutics.
424.19	**A.C. Singer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cognito Therapeutics.
427.30	**T. Mullen:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Founder, Intheon. **G. Cauwenberghs:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-founder, Cognionics.

PRESENTATION NUMBER	STATEMENT
430.08	**C. Zugates:** A. Employment/Salary (full or part-time); arivis AG. **M. Rust:** A. Employment/Salary (full or part-time); arivis AG.
430.10	**F. Du:** A. Employment/Salary (full or part-time); D Neurotechnologies.
430.14	**F. Vitaliano:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ExQor Technologies. **G. Vitaliano:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ExQor Technologies.
431.13	**R.R. Rácz:** A. Employment/Salary (full or part-time); Cyberdeal S.r.L. **A. Schaefer:** A. Employment/Salary (full or part-time); Paradromics Inc.
431.27	**I.P. Clements:** A. Employment/Salary (full or part-time); Axion Biosystems. **A.B. Harrison:** A. Employment/Salary (full or part-time); Axion Biosystems. **A.C. Willsie:** A. Employment/Salary (full or part-time); Axion Biosystems. **A.J. Preyer:** A. Employment/Salary (full or part-time); Axion Biosystems. **E.A. Brown:** A. Employment/Salary (full or part-time); Axion Biosystems. **J.D. Ross:** A. Employment/Salary (full or part-time); Axion Biosystems.
431.29	**V. Gilja:** A. Employment/Salary (full or part-time); Neuralink Corp.
432.05	**S.J. Riedl:** Other; Inventor on patent applications covering EphA4-targeting peptides. **E.B. Pasquale:** Other; Inventor on patent applications covering EphA4-targeting peptides.
432.10	**J. Tadiparthi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **G. Ramalingayya:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **N. Ganuga:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Yathavakilla:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Medapati:** A. Employment/Salary (full or part-time); rajeshbabum@suven.com. **A. Vuyyuru:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Kallepalli:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **N. Muddanna:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Palacharla:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **G. Bhyrapuneni:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **T. Thatiparthi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **T. Narasimhula:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **S. Jarugumalli:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **K. Mudigonda:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. **R. Nirogi:** A. Employment/Salary (full or part-time); Suven Life Sciences Ltd.
432.19	**R.D. Airan:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); 17-163 – Provisional application with Stanford University; QZ and RDA, PCT/US2017/033226 with Johns Hopkins University; RDA.
432.20	**C. Mazur:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals, Inc. **K. Zasadny:** A. Employment/Salary (full or part-time); inviCRO, LLC. **J. Sullivan:** A. Employment/Salary (full or part-time); inv. **D.A. Wolf:** A. Employment/Salary (full or part-time); Biogen, Inc. **B. Powers:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals, Inc. **J. Hesterman:** A. Employment/Salary (full or part-time); inviCRO, LLC. **M. Seaman:** A. Employment/Salary (full or part-time); inviCRO, LLC. **R. Holt:** A. Employment/Salary (full or part-time); inviCRO, LLC. **I. Polyak:** A. Employment/Salary (full or part-time); inviCRO, LLC. **R. Coelho:** A. Employment/Salary (full or part-time); inviCRO, LLC. **V. Gottumukkala:** A. Employment/Salary (full or part-time); inviCRO, LLC. **C. Gaut:** A. Employment/Salary (full or part-time); inviCRO, LLC. **J. Hoppin:** A. Employment/Salary (full or part-time); inviCRO, LLC. **E. Swayze:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals, Inc. **A. Verma:** A. Employment/Salary (full or part-time); United Neuroscience.
432.21	**C. Wright Dwyer:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ionis Pharmaceuticals. **B. Powers:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ionis Pharmaceuticals. **M. Jackson:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ionis Pharmaceuticals. **T.P. Prakash:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ionis Pharmaceuticals. **E.E. Swayze:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ionis Pharmaceuticals. **P.P. Seth:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ionis Pharmaceuticals. **F. Rigo:** A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ionis Pharmaceuticals.

Hotel Floor Plans

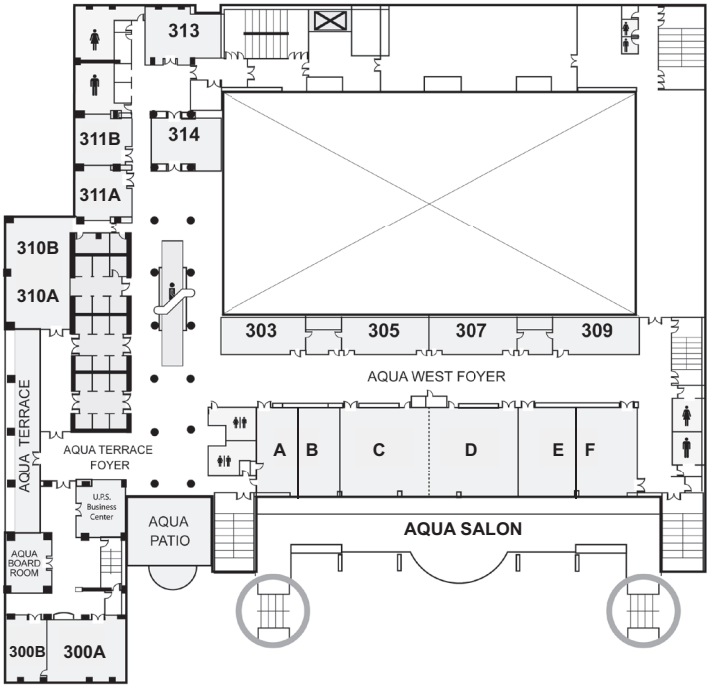
MANCHESTER GRAND HYATT
1 Market Pl
San Diego, CA 92101



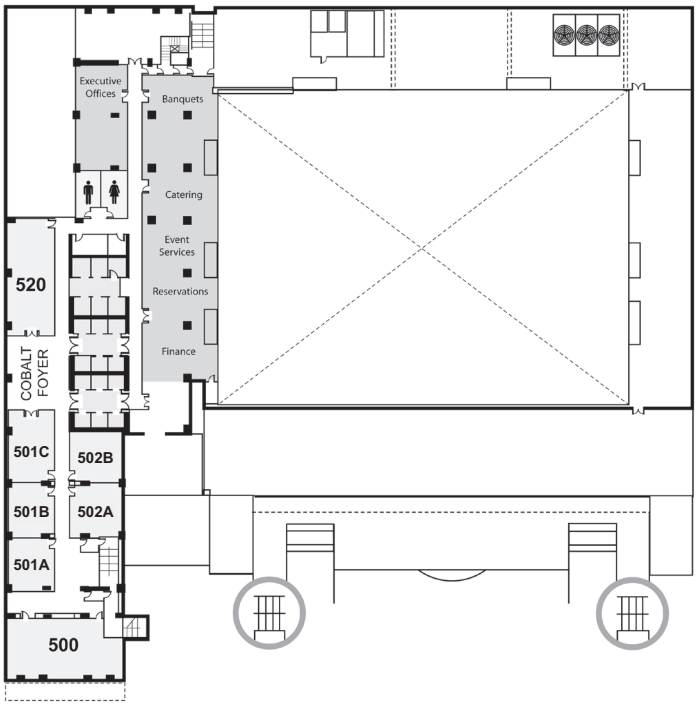
HILTON SAN DIEGO BAYFRONT

1 Park Blvd
San Diego, CA 92101

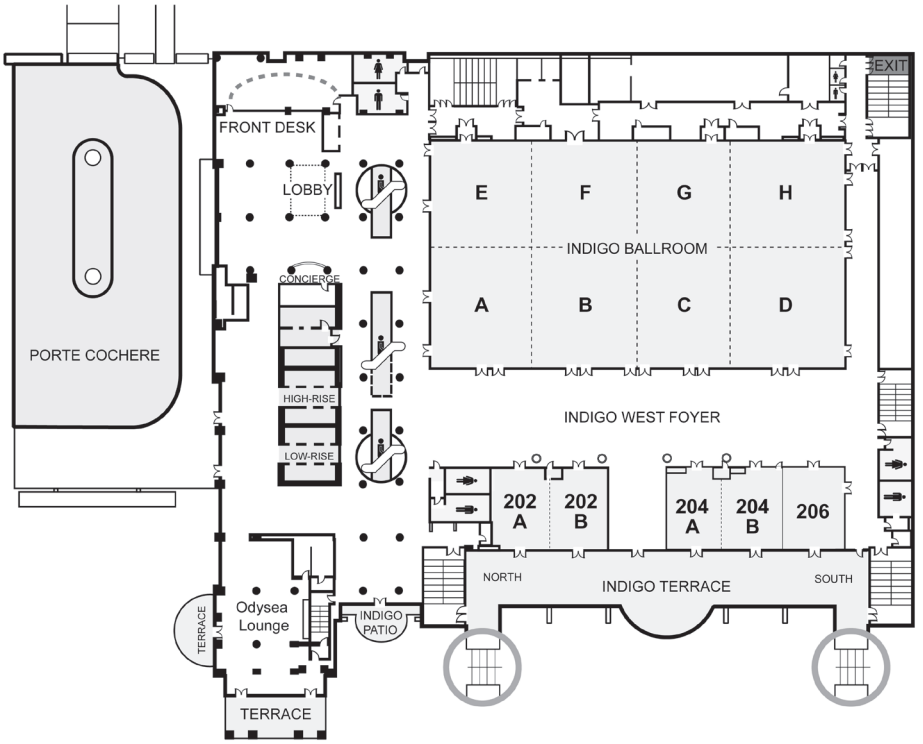
AQUA LEVEL



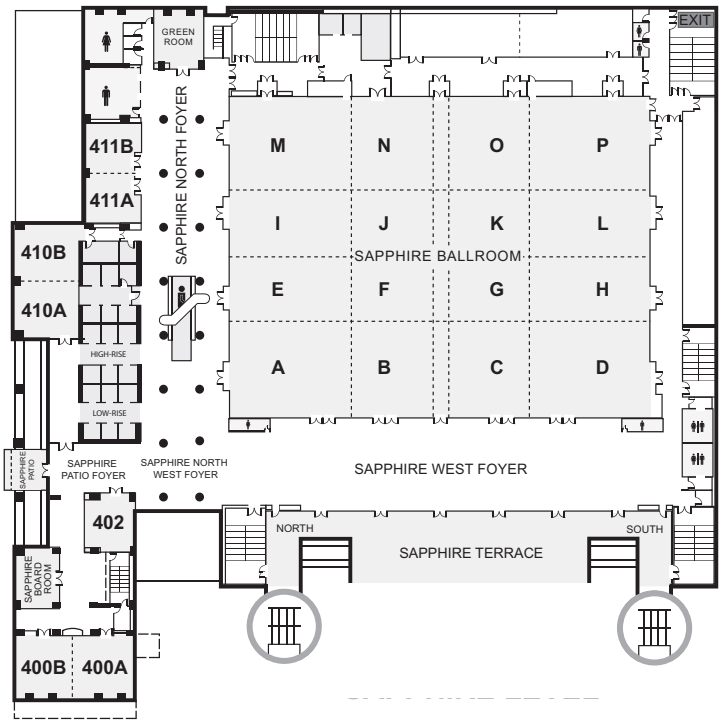
COBALT LEVEL



INDIGO LEVEL



SAPPHIRE LEVEL



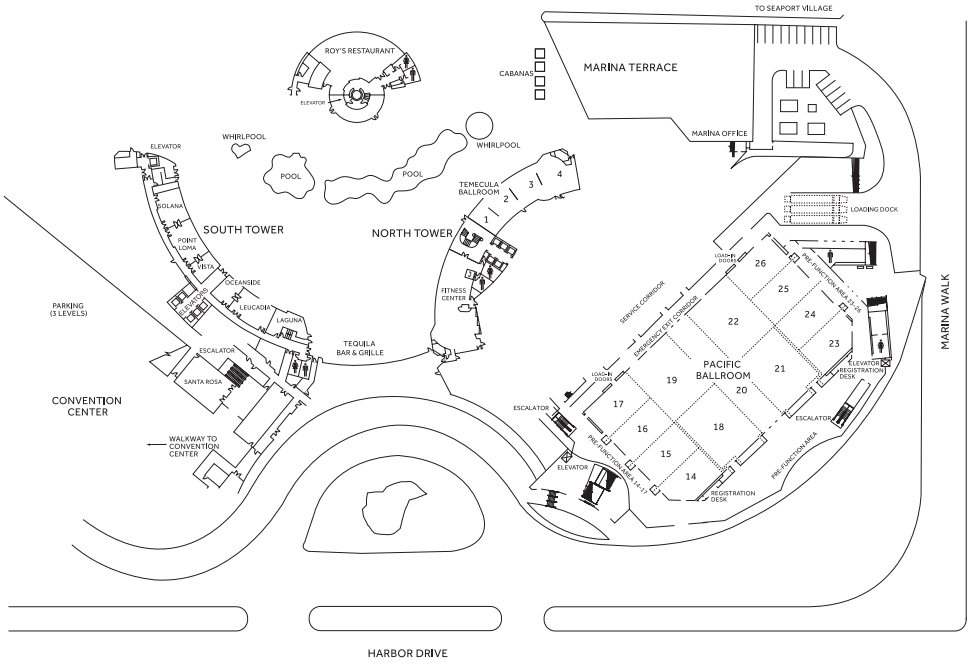
MARRIOTT MARQUIS SAN DIEGO MARINA

333 W Harbor Dr

San Diego, CA 92101

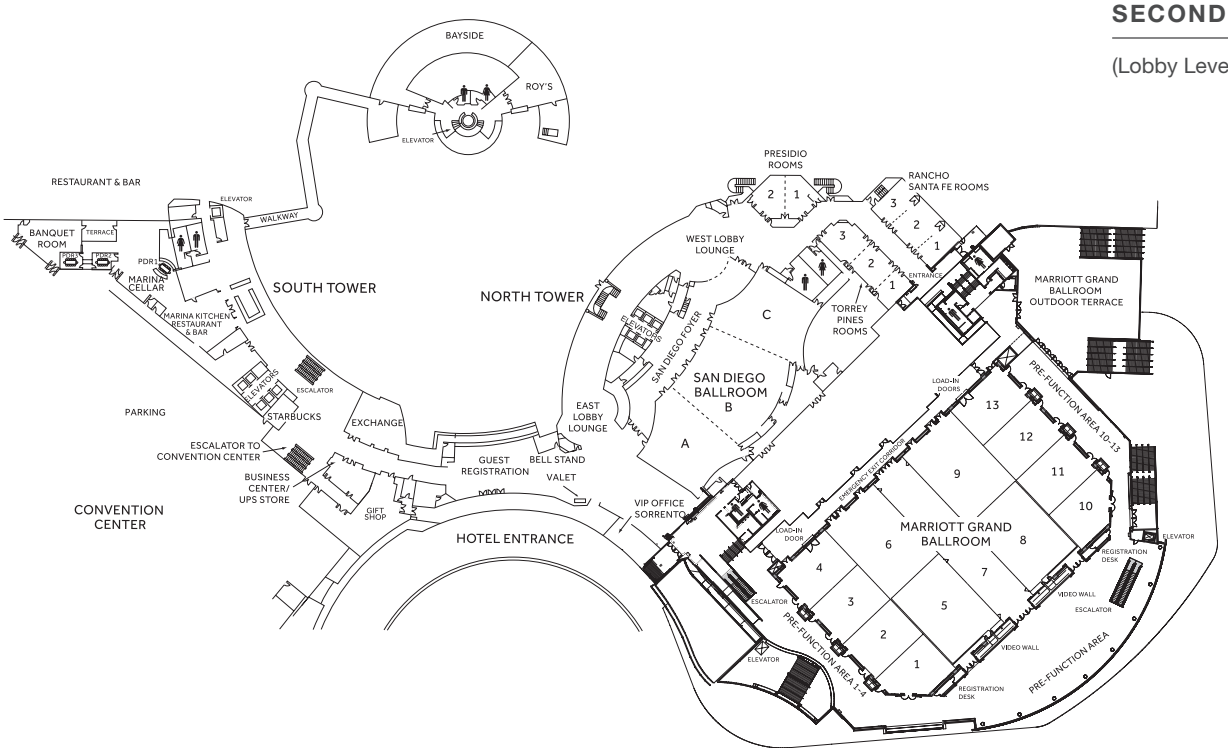
FIRST FLOOR

(Ground Level)



SECOND FLOOR

(Lobby Level)



SOUTH TOWER

Second Floor

Bayside

1st Floor

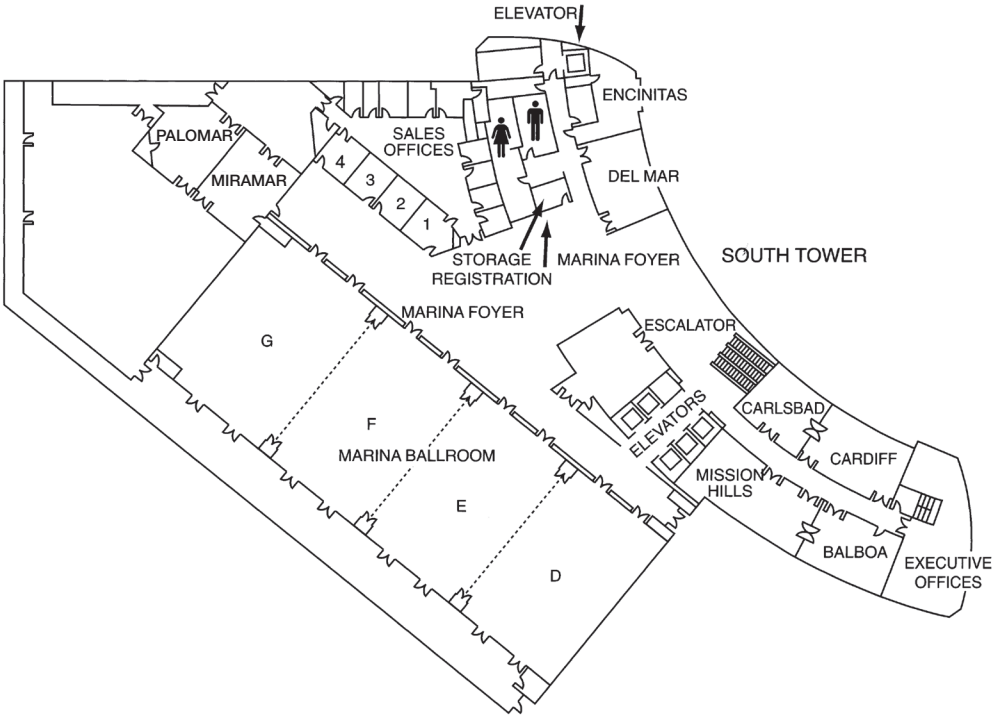
Laguna
Leucadia
Oceanside
Point Loma
Santa Rosa
Solana
Vista

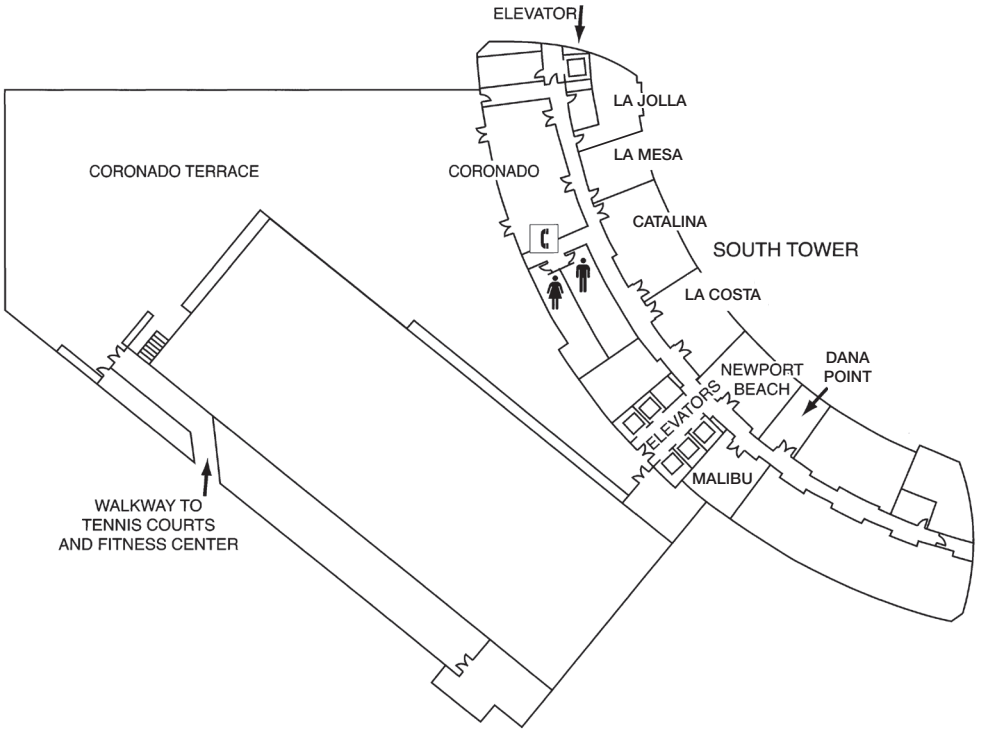
3rd Floor

Balboa
Cardiff
Carlsbad
Del Mar
Encinitas
Marina Ballroom D–G
Miramar
Mission Hills
Palomar

4th Floor

Catalina
Coronado
Dana Point
La Costa
La Jolla
La Mesa
Malibu
Newport Beach





NORTH TOWER

Lobby Level

Marriott Grand Ballroom 1–13
Presidio 1–2
Rancho Santa Fe 1–3
San Diego Ballrooms A–C
Torrey Pines 1–3

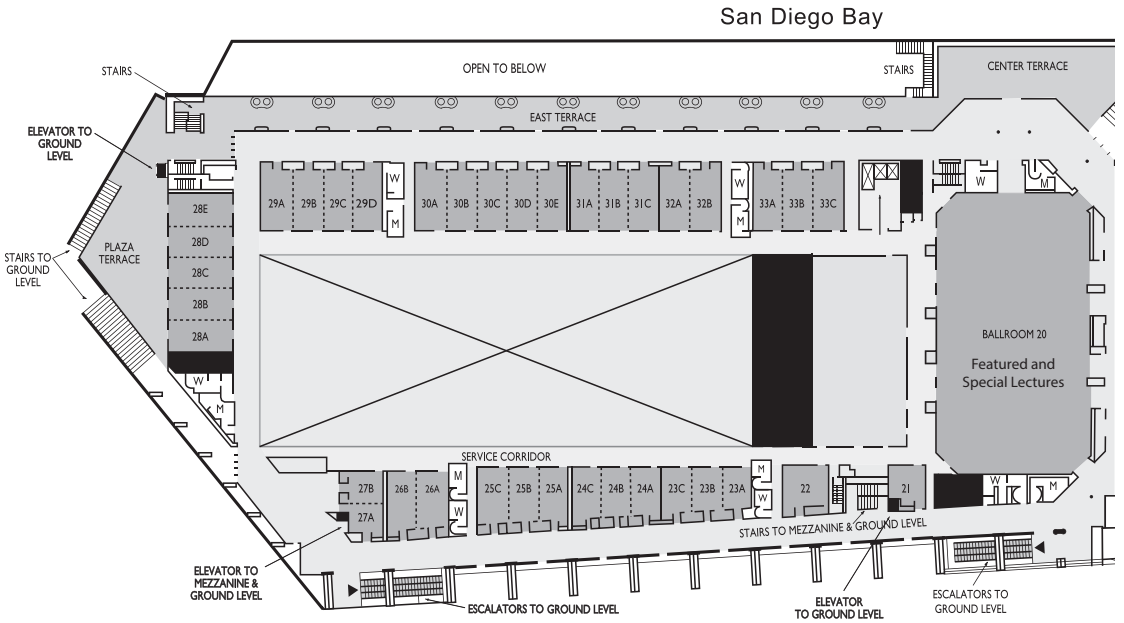
1st Floor

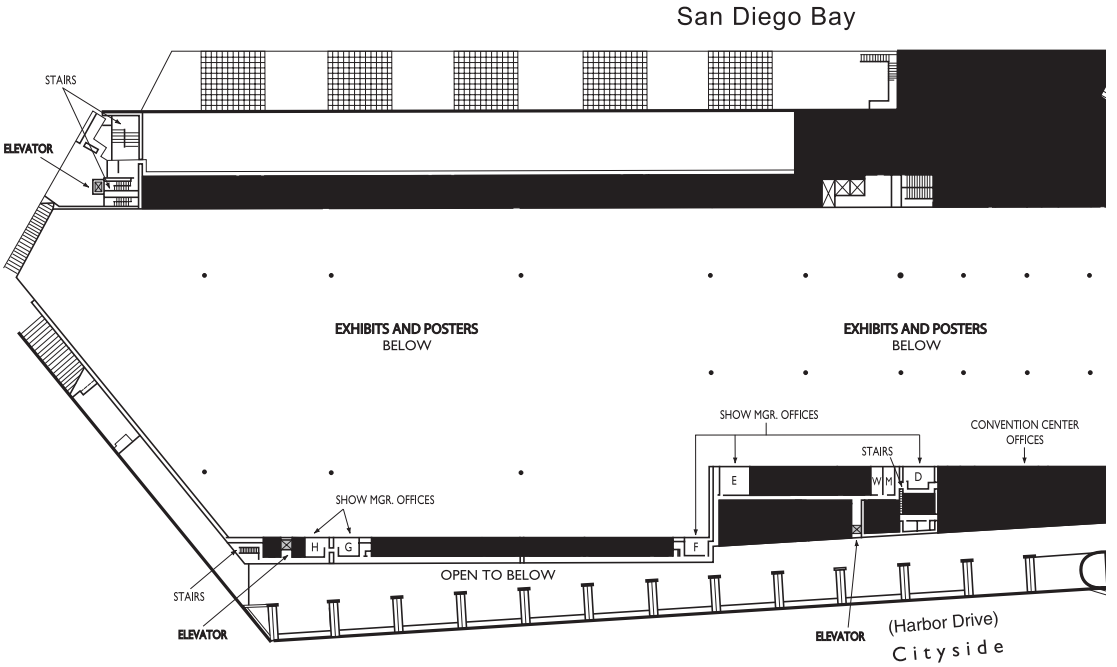
Pacific Ballroom 17–26
Temecula

SAN DIEGO CONVENTION CENTER

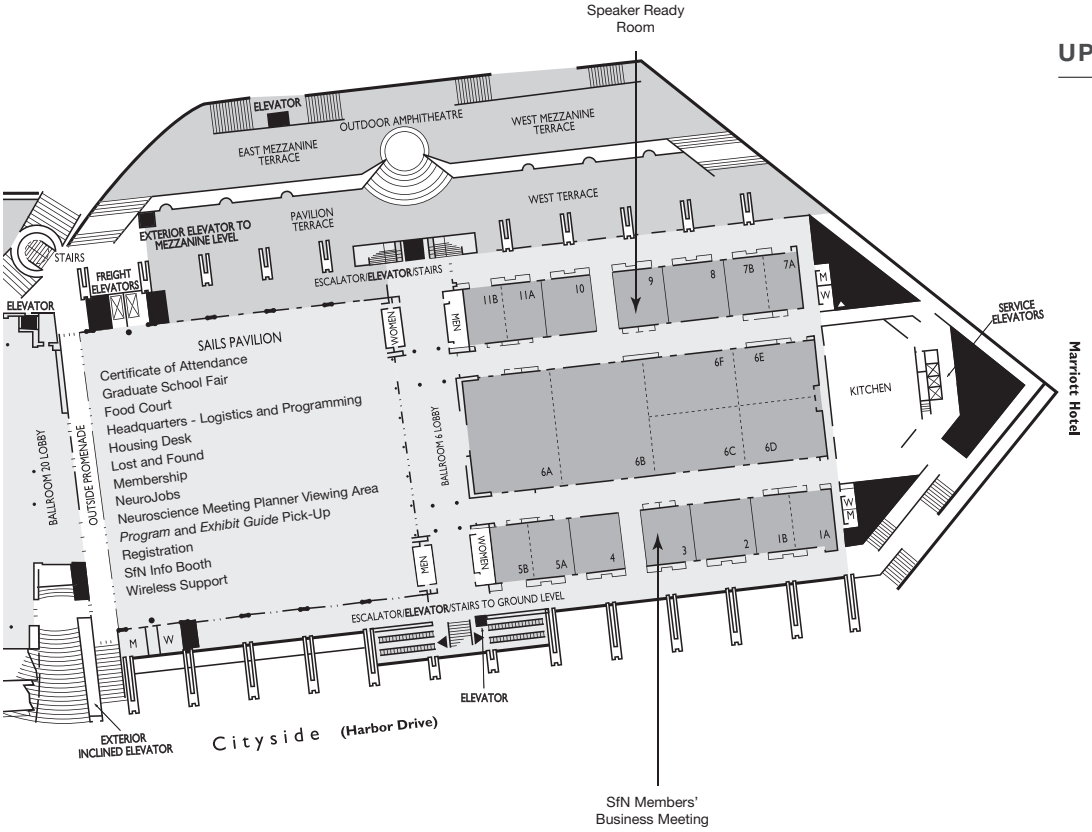
111 W Harbor Dr

San Diego, CA 92101

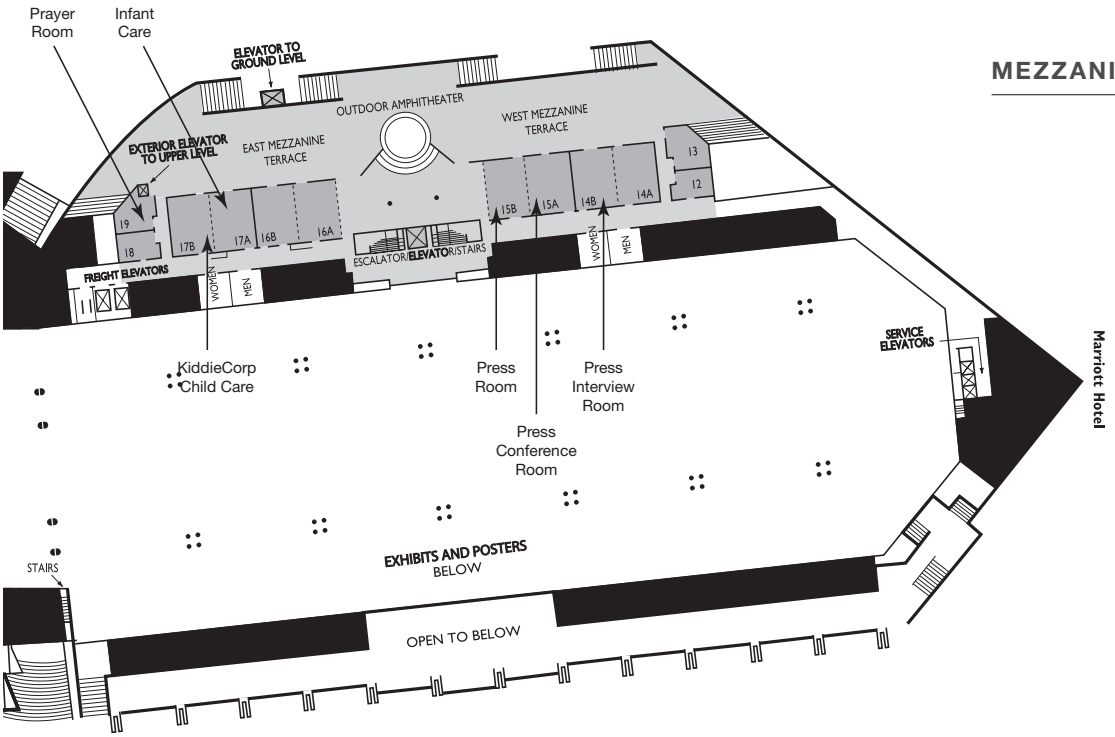




UPPER LEVEL



MEZZANINE LEVEL



Exhibits and Poster Sessions

Meeting Dates: November 3–7 | Exhibit Dates: November 4–7

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.

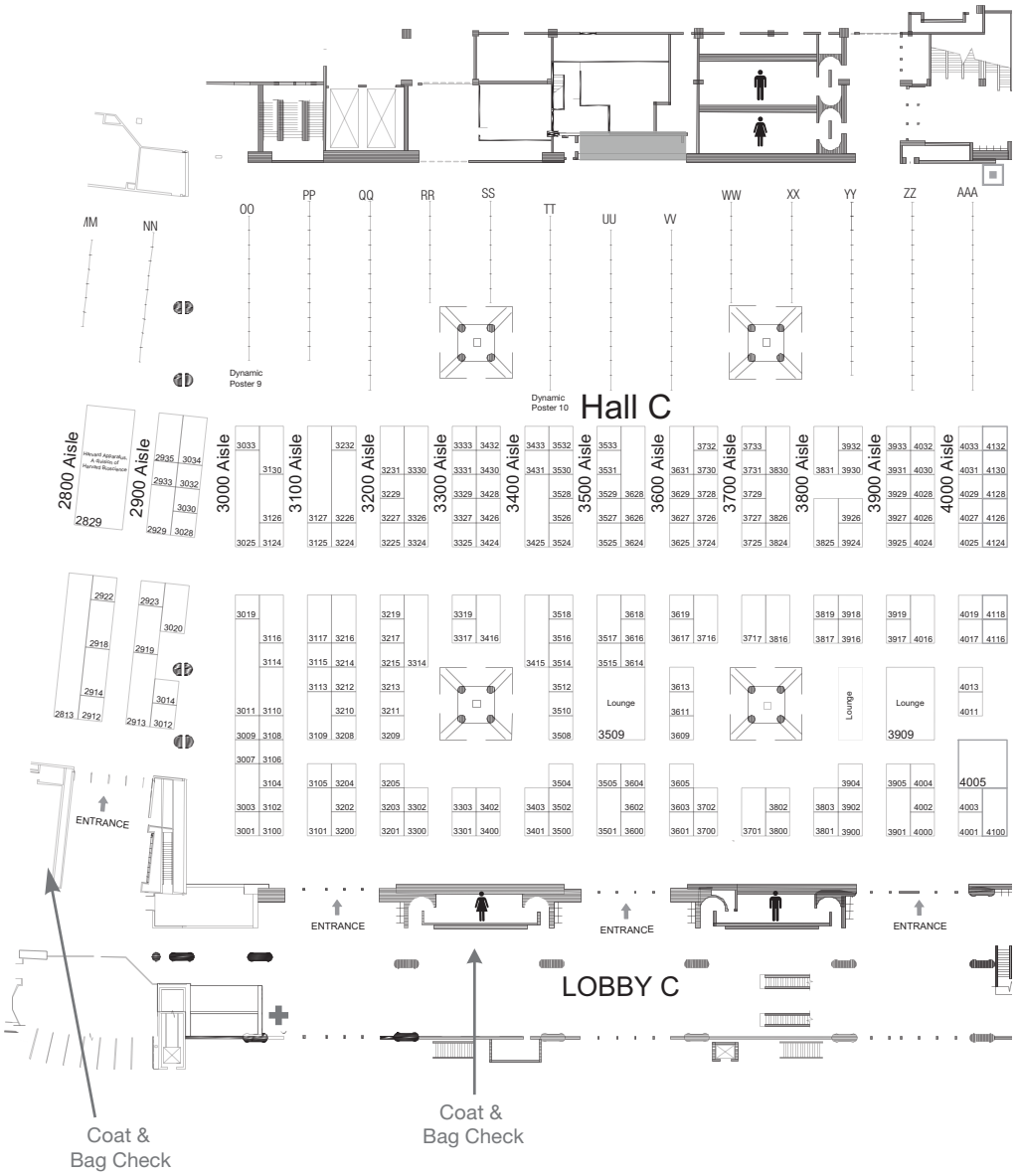
Floor plans subject to change. For current floor plan, visit SfN.org/exhibits.

Hilton Bayfront

Publishers Row | SfN Booth | Nonprofits/ U.S. Government Agencies | Abstract Locator | Sustaining Associate Members

Concession Area | Entrance | Women's Restroom | Men's Restroom | First Aid

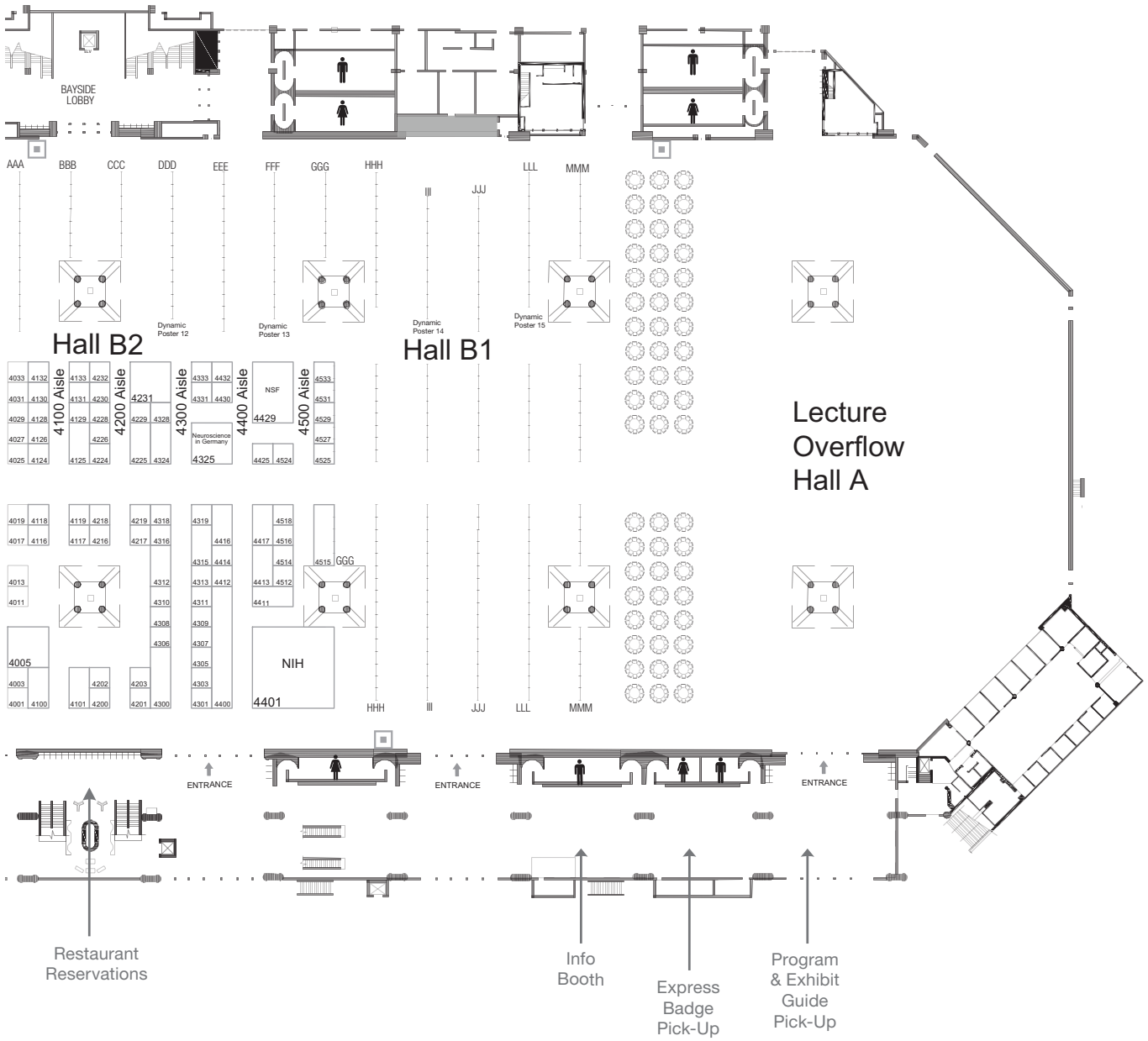
SAN DIEGO CONVENTION CENTER



Gaslamp District

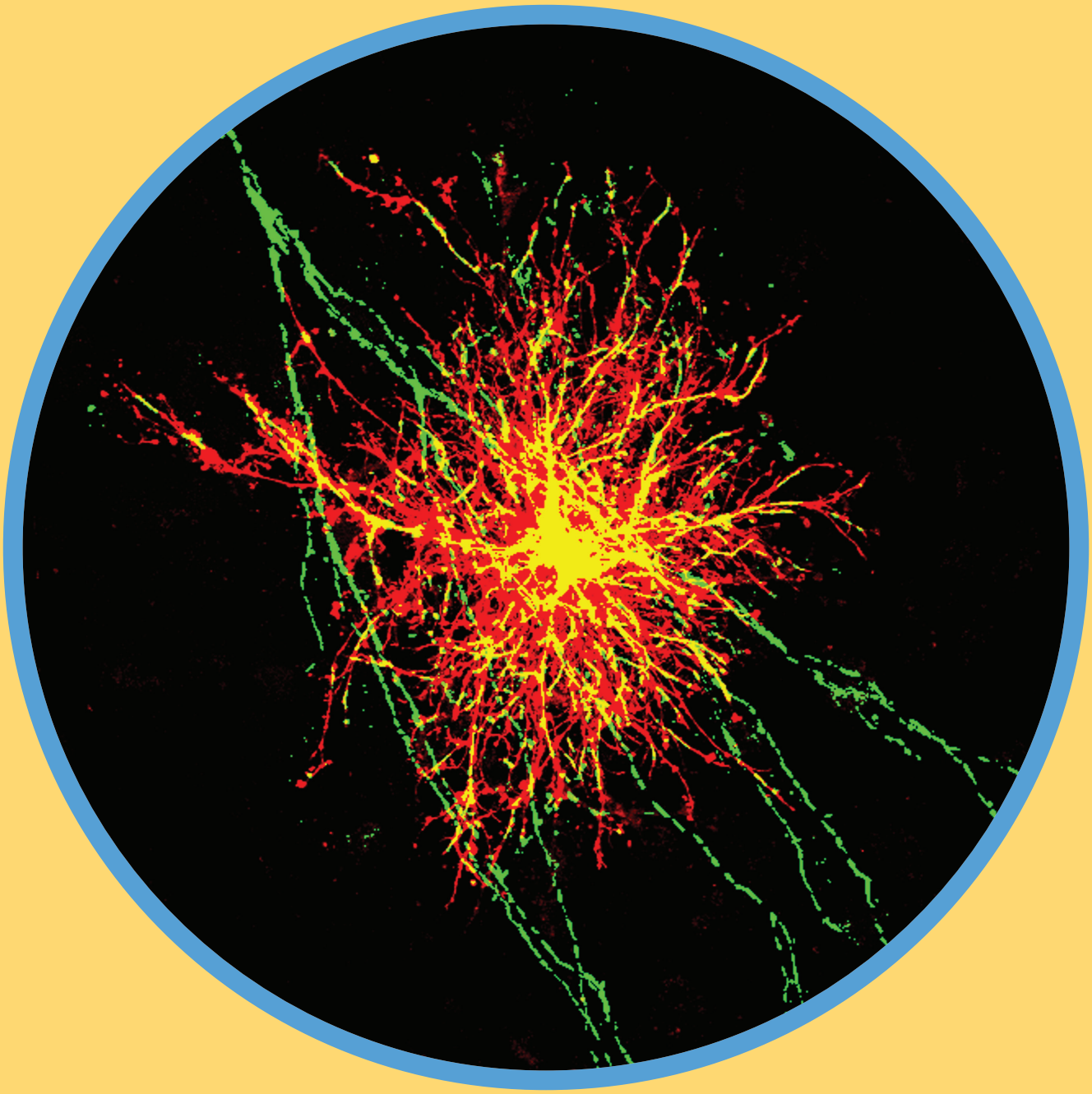
Publishers Row | SfN Booth | Nonprofits/ U.S. Government Agencies | Abstract Locator | Sustaining Associate Members

Concession Area | Entrance | Women's Restroom | Men's Restroom | First Aid



Marriott Marquis San Diego Marina

NEUROSCIENCE
2019
SEE YOU IN
CHICAGO
OCTOBER 19–23
1969–2019
SfN
SOCIETY for
NEUROSCIENCE
50
CELEBRATING
50 YEARS

SOCIETY *for* NEUROSCIENCE

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