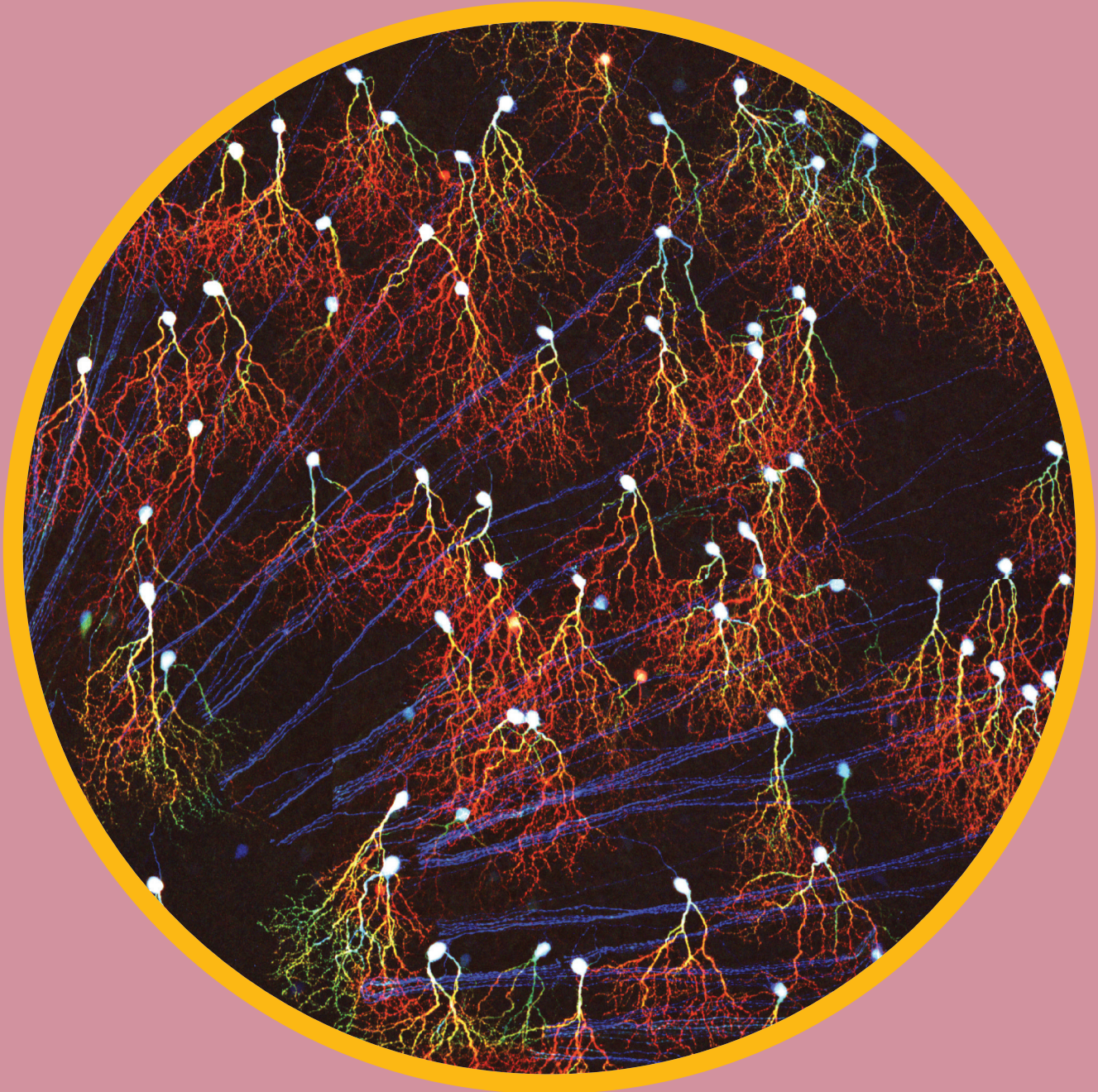


# Tuesday

SAN DIEGO | NOVEMBER 3-7  
SESSION LISTING 433-613



# Information at a Glance

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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  
Sails Pavilion: (619) 525-6226

#### Press Office

San Diego Convention Center:  
Room 15B  
(619) 525-6230

### Exhibit Management

San Diego Convention Center:  
Lobby D  
(619) 525-6240

### 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.

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## 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](http://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](mailto: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](http://sfn.org/Membership/Professional-Conduct/Code-of-Conduct-at-SfN-Events)

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**Cover Image:** This image is an *en face* view of developing type J retinal ganglion cells in the postnatal mouse retina. Colors represent depth through the retina, with axons at the surface in blue and the deepest dendrites in red. Image by Jinyue Liu. **Courtesy with permission:** *Journal of Neuroscience* 13 December 2017, 37 (50): 12079-12087.

# Complete Session Listing

## Tuesday AM

### LECTURE *San Diego Convention Center*

#### 433. Understanding Regeneration of Complex Body Parts — CME

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

*Speaker:* E. M. TANAKA, *Res. Inst. of Mol. Pathology.*

Regeneration of the nervous system and complex body structures, while minimal in humans, is observed in many animals, including vertebrates. How does injury trigger replacement of the missing portion of an organ? Recent advances in imaging and gene editing technologies have allowed us to identify molecular programs that control regeneration and the cells that execute these programs. This lecture will describe how the time-, space- and tissue-dependent responses to organ injury choreograph a molecular program that induces the regeneration of missing body structures.

### SYMPOSIUM *San Diego Convention Center*

#### 434. RNA Control of Axonal Functions — CME

Tue. 8:30 AM - 11:00 AM — SDCC 6A

*Chair:* J. L. TWISS, *University of South Carolina*  
*Co-Chair:* M. FAINZILBER, *Weizmann Institute of Science*

This symposium will highlight new insight on RNA control of axonal functions. Discoveries in different models and paradigms are coming together to provide a comprehensive view of how RNA localization and local translation regulate axon growth, maintenance, and regeneration. Intracellular trafficking, localized regulation, and axon-to-soma communication are key aspects of these mechanisms. The presentations will showcase diverse examples of how these fundamental mechanisms are implemented.

8:30 **434.01** Introduction.

8:35 **434.02** Signaling mechanisms for regulation of protein synthesis in axons. J. L. TWISS. *Univ. of South Carolina.*

9:10 **434.03** Distinct pathways involving piRNA and RNA granules in axon regeneration. Y. JIN. *UCSD.*

9:45 **434.04** Subcellular regulation of RNA localization and local translation in axon growth control. M. FAINZILBER. *Weizmann Inst. of Sci.*

10:20 **434.05** Orchestrating axonal transport, translation, and survival. R. A. SEGAL. *Dana-Farber Cancer Inst.*

10:55 **434.06** Closing Remarks.

### SYMPOSIUM *San Diego Convention Center*

#### 435. The Feeling Within: Molecules to Behavior Underlying Interoception — CME

Tue. 8:30 AM - 11:00 AM — SDCC 6B

*Chair:* L. STOWERS, *The Scripps Research Institute*  
*Co-Chair:* A. PATAPOUTIAN, *Howard Hughes Medical Institute and The Scripps Research Institute*

How does the brain monitor and react to our constantly changing internal physiology? While there has been rapid progress in understanding exteroception, less is known about how organisms sense and process information from within, such as hunger, respiration, circulation, excretion, and gut-brain interactions. This symposium will take a multidisciplinary approach to describe recent advances in interoception, from defining the signals that monitor internal states to identifying critical neuronal circuits that drive behavior.

8:30 **435.01** Introduction.

8:35 **435.02** Regulation of the gut-brain by the microbiome. S. MAZMANIAN. *Caltech.*

9:10 **435.03** Role of Piezo ion channels in interoception. A. PATAPOUTIAN. *Howard Hughes Med. Inst. and The Scripps Res. Inst.*

9:45 **435.04** Neural circuits for homeostatic behaviors. Z. KNIGHT. *UCSF.*

10:20 **435.05** Sensory and motor control of voluntary urination. L. STOWERS. *The Scripps Res. Inst.*

10:55 **435.06** Closing Remarks.

### MINISYMPOSIUM *San Diego Convention Center*

#### 436. The Neurobiology of Forgetting — CME

Tue. 8:30 AM - 11:00 AM — SDCC 6C

*Chair:* M. WIMBER, *University of Birmingham*  
*Co-Chair:* P. W. FRANKLAND, *Hospital for Sick Children*

We automatically encode virtually all experiences, yet the vast majority of our experiences are not remembered later. This minisymposium will address the questions of how and why the brain forgets. It brings together researchers that study forgetting in flies, rodents, and humans. The minisymposium will focus on molecular-, cellular-, and systems-level mechanisms underlying forgetting and consider the active and adaptive roles that forgetting plays in keeping our memory system flexible.

8:30 **436.01** Introduction.

8:35 **436.02** Dopamine-mediated active forgetting in *Drosophila*. R. L. DAVIS. *The Scripps Res. Inst.*

8:55 **436.03** Molecular and neural network mechanisms underlying active forgetting. Y. ZHONG. *Tsinghua Univ.*

9:15 **436.04** Hippocampal neurogenesis and adaptive forgetting. P. W. FRANKLAND. *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

- 9:35 **436.05** Tracking adaptive forgetting in human brain activity. M. WIMBER. *Univ. of Birmingham*.
- 9:55 **436.06** Enhancement and forgetting of semantic memories across offline periods. A. C. SCHAPIRO. *Beth Israel Deaconess Med. Ctr. / Harvard Med.*
- 10:15 **436.07** The representation theory of forgetting: Both decay and interference matter. T. SADEH. *Ben-Gurion Univ. of the Negev*.
- 10:35 **436.08** Closing Remarks.

**MINISYMPOSIUM** *San Diego Convention Center*

**437. Mechanisms of Tau Oligomer-Induced Synaptic Impairment and Potential Treatment Strategies — CME**

Tue. 8:30 AM - 11:00 AM — SDCC 6E

*Chair:* O. ARANCIO, *Columbia Univ*  
*Co-Chair:* F. M. LONGO, *Stanford University Medical Center*

Soluble oligomeric forms of the Alzheimer's disease protein tau are gaining a lot of attention because they likely promote cell-to-cell propagation of pathology and are more toxic than large insoluble aggregates. This minisymposium will discuss evidence supporting a role for tau oligomers in disease initiation and progression and explore therapeutic strategies for inhibiting formation of tau oligomers and/or counteracting synaptic impairment and degeneration caused by tau oligomers.

- 8:30 **437.01** Introduction.
- 8:35 **437.02** Formation and spreading of tau oligomeric strains. R. KAYED. *Univ. of Texas Med. Br.*
- 8:55 **437.03** APP as a common mechanism for extracellular oligomeric tau-induced synaptic dysfunction and memory loss. O. ARANCIO. *Columbia Univ.*
- 9:15 **437.04** Role of astrocytes in oligomeric tau-induced synaptic dysfunction and tau pathology propagation. C. GRASSI. *Inst. of Human Physiology, Univ. Cattolica.*
- 9:35 **437.05** Tau-mediated dysfunction is mediated by small soluble phosphorylated tau species including tau oligomers. A. MUDHER. *Univ. of Southampton.*
- 9:55 **437.06** Novel therapeutic targets against tau oligomers-induced pathology: A phenotypic approach. S. PARMENIER-BATTEUR. *Merck & Co, Inc.*
- 10:15 **437.07** Small molecule targeting of the p75 receptor inhibits tau oligomer formation and tau oligomer-induced synaptic impairment. F. M. LONGO. *Stanford Univ.*
- 10:35 **437.08** Closing Remarks.

**MINISYMPOSIUM** *San Diego Convention Center*

**438. Neuromodulation of Brain States in Health and Disease: Bridging Experiments and Computational Models — CME**

Tue. 8:30 AM - 11:00 AM — SDCC 28A

*Chair:* S. RAMASWAMY, *École Polytechnique Fédérale de Lausanne*  
*Co-Chair:* A. ADAMANTIDIS, *University of Bern*

Subcortical neuromodulatory systems dynamically reconfigure the activity of neural microcircuits and regulate shifts between brain states in health and disease. Despite their crucial role in physiology and pathology, the cellular and synaptic mechanisms by which neuromodulators control neural activity remain unclear. This minisymposium will highlight cutting-edge techniques developed in global brain initiatives for a quantitative assessment of neuromodulation in brain function and dysfunction.

- 8:30 **438.01** Introduction.
- 8:35 **438.02** Thalamic dual-modulation of sleep and wakefulness. A. ADAMANTIDIS. *Univ. of Bern.*
- 8:55 **438.03** Studying the dynamic control of cortical circuits by subcortical systems at the circuit level in non-human primates: We can and we should. A. A. DISNEY. *Duke Univ.*
- 9:15 **438.04** Reconciling long-lived modulatory switches in activity with homeostatic plasticity. T. O'LEARY. *Univ. of Cambridge.*
- 9:35 **438.05** Predictive in silico reconstruction of cholinergic control of neocortical network states. S. RAMASWAMY. *École Polytechnique Fédérale de Lausanne.*
- 9:55 **438.06** To seek or to flee: Serotonergic regulation of approach, avoidance, and escape behavior. M. R. WARDEN. *Cornell Univ.*
- 10:15 **438.07** Reward-associated modulation of excitatory-inhibitory dynamics in the prefrontal cortex. O. YIZHAR. *Weizmann Inst.*
- 10:35 **438.08** Closing Remarks.

**MINISYMPOSIUM** *San Diego Convention Center*

**439. Whole-Brain Analysis of Cells and Circuits by Tissue Clearing and Light-Sheet Microscopy — CME**

Tue. 8:30 AM - 11:00 AM — SDCC 29D

*Chair:* H. R. UEDA, *The University of Tokyo*  
*Co-Chair:* K. CHUNG, *Massachusetts Institute of Technology*

Recent advances in tissue clearing, biomolecular labeling, rapid imaging, and image informatics have allowed neuroscientists to observe the entire brain at a subcellular resolution. Whole brain clearing and imaging is particularly powerful for physiology and pathology of cellular components and their connections in the CNS. This minisymposium will discuss challenges and opportunities in whole-brain analysis of cells and circuits to elucidate brain functions by tissue clearing and light-sheet microscopy.

- 8:30 **439.01** Introduction.
- 8:35 **439.02** Whole-body and whole-organ clearing and imaging with sub-cellular resolution towards organism-level systems biology. H. R. UEDA. *The Univ. of Tokyo.*
- 8:55 **439.03** Cruising inside cell. A. MIYAWAKI. *RIKEN.*

- 9:15 **439.04** Imaging of cleared biological samples with the ultramicroscope. H. DODT. *Vienna Univ. of Technol.*
- 9:35 **439.05** Panoptic vDISCO imaging of intact transparent mice for unbiased biomedical research. A. ERTURK. *Klinikum der Univ. München.*
- 9:55 **439.06** Functional and anatomical imaging of intact circuits using modern neuroscience techniques. J. B. TREWEEK. *CALTECH.*
- 10:15 **439.07** Multi-scale high-dimensional imaging and phenotyping of complex biological system. K. CHUNG. *MIT.*
- 10:35 **439.08** Closing Remarks.

#### BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE

*San Diego Convention Center*

#### 440. Neuroprosthetic Devices: A Patient's Perspective on Brain Computer Interfaces — CME

Tue. 8:30 AM - 11:00 AM — SDCC 10

*Organizer:* F. SOLZBACHER, *Univ. of Utah*

*Speakers:* I. BURKHART, K. WALGAMOTT, N. COPELAND, N. SMITH

Patients will talk about their physical limitations and why they participated in time-intensive research for scientific knowledge. They will cover the challenges, breakthroughs, and difficult decisions that come with wearing a neuroprosthetic device. They will also speak to the benefits, despite trial and error methodologies and invasive surgeries, of participating in brain-computer interface (BCI) research, how it has changed their lives, and where they believe researchers should push the future of BCI technologies.

#### LECTURE *San Diego Convention Center*

#### 441. The Genetics, Neurobiology, and Evolution of Natural Behavior — CME

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

*Speaker:* H. E. HOEKSTRA, *Harvard University/HHMI.*

New tools — from genomic analyses to automated behavioral assays — have enabled the discovery of specific genes that contribute to variation in behavior. This lecture will focus on the genetic and neurobiological mechanisms responsible for the evolution of natural behavior. It will highlight recent discoveries from diverse organisms that demonstrate how genetic changes, through neural circuits, give rise to variation in behavior, and how these findings in nonmodel species in turn shed light onto variation in human behavior.

#### LECTURE *San Diego Convention Center*

#### 442. Neuronal Diversity Within the Ventral Tegmental Area and Co-Release of Neurotransmitters — CME

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

*Speaker:* M. MORALES, *Natl. Inst. on Drug Abuse, NIH.*

The release of several neurotransmitters from a single neuron has been recognized for decades. Emerging evidence has shown that the adult brain has subpopulations of neurons with the capability to accumulate vesicular glutamate and GABA for their synaptic release. This lecture will focus on the key findings and proposed molecular and cellular models for the co-release of glutamate and GABA and discuss its implications for human health.

#### NANOSYMPOSIUM

#### 443. Stem Cells and Disease Modeling: Neuropsychiatric and Neurodegenerative Disease

##### *Theme A: Development*

Tue. 8:00 AM — *San Diego Convention Center, SDCC 31C*

- 8:00 **443.01** Hippocampal neurogenesis is not preserved with aging in major depressive disorder. M. BOLDRINI\*; C. FULMORE; A. TARTT; Y. LIU; G. ROSOKLIJA; M. J. BAKALIAN; S. KASSIR; A. J. DWORK; V. ARANGO; R. HEN; A. SAHAY; J. MANN. *Columbia Univ. - NYSPI, Columbia Univ., New York State Psychiatric Institute, New York State Psychiatric Inst., New York State Psychiatric Inst., Columbia Univ., Columbia Univ., Ctr. For Regenerative Med.*
- 8:15 **443.02** Modeling neuronal circadian rhythms in bipolar disorder using human induced pluripotent stem cells. H. K. MISHRA; N. YING; A. LUIS; M. MCCARTHY\*. *VA San Diego Healthcare Syst., UCSD.*
- 8:30 **443.03** Investigating the biological significance of de novo mutations in schizophrenia case-parent trios using induced pluripotent stem cell based disease modelling. J. RÉTHELYI\*; E. HATHY; Á. APÁTI; L. HOMOLYA; Z. NEMODA. *Semmelweis Univ., Hungarian Acad. of Sci.*
- 8:45 **443.04** Harnessing human cns disease models with robotics and deep learning to find causes and treatments. S. FINKBEINER\*; J. KAYE; A. JAVEHERIAN. *Gladstone Inst., Univ. of California San Francisco, Gladstone Inst.*
- 9:00 **443.05** Isolation and enrichment of subtypes of cortical interneurons from human induced pluripotent stem cell organoids. J. W. LUNDEN; R. DERANIEH; M. W. NESTOR\*. *Hussman Inst. for Autism, The Hussman Inst. For Autism.*
- 9:15 **443.06** Tideglusib rescues the neurodegenerative phenotype of hereditary spastic paraplegia type 11. T. PISMENYUK\*; A. SCHRAY; T. BÖRSTLER; I. BUCHSBAUM; M. REGENSBURGER; H. WEND; Z. KOHL; S. CAPPELLO; J. WINKLER; B. WINNER. *Friedrich-alexander-Universität Erlangen-Nürnberg, Max Planck Inst. für Psychiatrie, Univ. Hosp. Erlangen.*
- 9:30 **443.07** ● Modeling and clustering sporadic ALS pathologies using iPSCs-based phenotyping. H. OKANO\*; G. SOBUE; K. FUJIMORI. *Keio Univ. Sch. of Med., Nagoya Univ.*
- 9:45 **443.08** ● Studying mechanisms of treatment resistance using major depressive disorder patient derived neurons. K. C. VADODARIA\*; Y. JI; M. SKIME; A. C. PAQUOLA; T. NELSON; K. HEARD; C. MARCHETTO; R. WEINSHILBOUM; F. H. GAGE. *Salk Inst. For Biol. Sci., Univ. of Utah, Mayo Clin., Salk Inst. for Biol. Studies.*

• 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 **443.09** Single injection of AAV-shPTB in mouse midbrain reverses the Parkinson's disease phenotype. H. QIAN\*; X. FU. *UCSD*.
- 10:15 **443.10** Single-nucleus RNA-Seq analysis of dopaminergic neuron degeneration. Y. ZHU\*; S. S. KARUPPAGOUNDER; T. KAM; V. L. DAWSON; G. MING; T. M. DAWSON; H. SONG. *Johns Hopkins Univ. Sch. of Med., Univ. of Pennsylvania Sch. of Med.*
- 10:30 **443.11** Using human iPSC derived neurons to shed light on pathogenic mechanisms linked to SPG4. T. RIZO GARZA\*; N. DENGUIR; R. ALLISON; G. PEARSON; J. R. EDGAR; Z. KOHL; E. REID; J. WINKLER; B. WINNER. *Friedrich-Alexander-Universität Erlangen-Nürnberg, Univ. of Cambridge, Univ. of Cambridge, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)*.
- 10:45 **443.12** Using cellular models to study neuroinflammation in bipolar disorder. C. MARCHETTO\*; K. C. VADODARIA; R. SANTOS; A. MEI; A. P. D. MENDES; R. KEITHLEY; K. HEARD; G. ERIKSON; J. R. KELSOE; F. H. GAGE. *Salk Inst., Inst. of Psychiatry and Neurosci. of Paris, Univ. of California San Diego*.
- 11:00 **443.13** *In vitro* disease modeling of the FTDP-17 TAU R406W mutation using patient-derived iPSCs. M. NAKAMURA\*; H. WATANABE; S. SHIOZAWA; S. MAEDA; S. HISANAGA; N. SAHARA; T. KIMURA; T. MIYASAKA; A. TAKASHIMA; T. IKEUCHI; H. OKANO. *Keio Univ., Univ. of Tokyo, Tokyo Metropolitan Univ., Natl. Inst. of Radiological Sci., Doshisha Univ., Gakushuin Univ., Niigata University, Brain Res. Inst.*
- 11:15 **443.14** Genome-editing of the rere super-enhancer in human neural precursor cells alters expression of genes in independent schizophrenia associated regions. C. L. BARR\*; Y. FENG; K. G. WIGG; C. MARCHETTO; F. H. GAGE. *Krembil Res. Inst., Salk Inst., Salk Inst.*

## NANOSYMPOSIUM

### 444. LTP: Intracellular Signaling, Pre- and Postsynaptic Mechanisms

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

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

- 8:00 **444.01** Dual phosphorylation of ERK provides a mechanism for coincidence detection in a cellular model of repeated-trial learning. N. KUKUSHKIN\*; T. J. CAREW. *New York Univ.*
- 8:15 **444.02** The role of *Aplysia* cysteine-rich neurotrophic factor in the induction of activity-dependent long-term synaptic plasticity. A. ALEXANDRESCU\*; T. J. CAREW. *New York Univ.*
- 8:30 **444.03** Growth factor mediated post-transcriptional regulation of the immediate early gene *c/ebp* by the RNA-binding protein ELAV is critical for long-term memory formation in *Aplysia*. A. A. MIRISIS\*; T. J. CAREW. *New York Univ.*
- 8:45 **444.04** Purification and proteomic profiling of PSD-95 interactors at *in vivo* potentiated synapses. M. MAINARDI\*; F. GOBBO; A. JACOB; L. ZENTILIN; C. CATERINO; A. CELLERINO; A. ORI; A. CATTANEO. *Scuola Normale Superiore, ICGEB, Franz Lipmann Inst.*
- 9:00 **444.05** Mapping potentiated synapses in the hippocampus during acquisition and consolidation of a contextual fear memory. F. GOBBO\*; B. PINTO; A. JACOB; M. MAINARDI; L. CANCEDDA; A. CATTANEO. *Scuola Normale Superiore, Inst. Italiano Di Tecnologia*.
- 9:15 **444.06** Impact of LTP on information storage capacity at hippocampal synapses. T. M. BARTOL; C. BROMER\*; T. J. SEJNOWSKI; K. M. HARRIS; J. MENDENHALL; J. BOWDEN; P. PARKER; M. KUWAJIMA; D. HANKA; D. HUBBARD; W. ABRAHAM. *Salk Inst., Univ. of Texas, Austin, Univ. of Otago*.
- 9:30 **444.07** Hippocampal stratum oriens interneurons express endocannabinoid biosynthetic enzymes and undergo CB1 and anandamide-dependent potentiation. I. OSTLUND\*; L. N. FRIEND; J. G. EDWARDS; C. B. MERRILL; M. B. CHRISTENSEN; S. NEWTON; R. WILLIAMSON. *Brigham Young Univ., NIH, Brigham Young Univ., Mol. Med., Univ. of Utah, BYU, Carnegie Mellon Univ.*
- 9:45 **444.08** Arc interacts with polyadenylate binding protein 2 during *in vivo* LTP and regulates the formation of PAB2 nuclear speckles. T. KANHEMA\*; K. PAROBCZAK; D. HOLM; S. PATIL; A. SZUM; G. WILCZYNSKI; C. BRAMHAM. *Univ. of Bergen, Nencki Inst. of Exptl. Biol.*
- 10:00 **444.09** Role of the amino-terminal domain in AMPA receptor synaptic trafficking. J. DÍAZ-ALONSO\*; Y. J. SUN; A. J. GRANGER; R. A. NICOLL. *UCSF, Harvard Med. Sch., UCSF*.

## NANOSYMPOSIUM

### 445. Network Interactions, Oscillations, and Synchrony

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

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

- 8:00 **445.01** The effect of startling acoustic stimulation on intracortical facilitation and inhibition - A SAS-TMS study. Y. CHEN\*; S. LI; P. ZHOU; S. LI. *UTHealth*.
- 8:15 **445.02** Network effects of dendritic inhibition in the medial entorhinal cortex. M. KECSKES; N. HENN-MIKE; Z. KRABOTH; A. AGOCS-LABODA; S. SZOCS; Z. PETYKO; C. VARGA\*. *Univ. of Pecs, Med. Sch.*
- 8:30 **445.03** Dynamics of state transitions in laminar cortical circuits. N. KHARAS\*; S. R. DEBES; A. R. ANDREI; V. DRAGOI. *Univ. of Texas at Houston/McGovern Med. Sc, Univ. of Texas at Houston, McGovern Med. Sch., Univ. of Texas at Houston Dept. of Neurobio. and Anat.*
- 8:45 **445.04** Central lateral thalamus causally influences states of consciousness by regulating fronto-parietal cortical dynamics. M. J. REDINBAUGH\*; J. M. PHILLIPS; N. A. KAMBI; S. MOHANTA; A. RAZ; Y. B. SAALMANN. *Univ. of Wisconsin-Madison, Univ. of Wisconsin, Rambam health Care Campus*.
- 9:00 **445.05** Cortical spike multiplexing using gamma frequencies. R. ZHANG; S. KOBAYASHI; L. GENTET; D. H. BALLARD\*. *Univ. of Texas at Austin, Univ. of Texas at Austin, Lyon Neurosci. Res. Ctr.*
- 9:15 **445.06** Central thalamic deep brain stimulation enhances dominant spiking activity profiles of cortical neurons in healthy and behaving non-human primates. J. L. BAKER\*; J. RYOU; J. A. DONOGHUE; S. J. KORNBLITH; E. K. MILLER; N. D. SCHIFF; K. P. PURPURA. *Weill Cornell Med. Col., 2The Picower Inst. for Learning and Memory and Dept. of Brain & Cognitive Sciences, Massachusetts 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

- 9:30 **445.07** Thalamic stimulation defragments cortical networks and wakes up anesthetized monkeys. J. A. DONOGHUE\*; S. J. KORNBLITH; M. LUNDQVIST; J. E. ROY; M. MAHNKE; J. YANAR; E. N. BROWN; E. K. MILLER. *MIT, MIT, Harvard Med. Sch.*
- 9:45 **445.08** Physiology of broadband high-frequency activity: Evidence from intracortical recordings in human and nonhuman primates. C. E. SCHROEDER\*; A. BARCZAK; Y. KAJIKAWA; I. TAL; A. Y. FALCHIER; I. ULBERT; R. T. KNIGHT; M. LESZCZYNSKI. *Columbia Univ. Col. of Physicians and Surgeons, Nathan S. Kline Inst. for Psychiatric Res., Nathan Kline Inst., Nathan Kline Inst. for Psychiatric Res., Hungarian Acad. of Sci., Univ. of California Berkeley, Columbia Univ.*
- 10:00 **445.09** Properties of narrow and broadband gamma activity in human visual cortex. E. BARTOLI\*; W. H. BOSKING; M. BEAUCHAMP; D. YOSHOR; B. L. FOSTER. *Baylor Col. of Med.*

## NANOSYMPOSIUM

### 446. Seizure, Trauma, and Post-Traumatic Stress Disorder

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

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

- 8:00 **446.01** • Neuronal loss of Depdc5 causes dysplastic neurons, seizure susceptibility, early mortality and increased mTORC1 signaling that is rescued by rapamcyin in a mouse model of DEPDC5-related epilepsy. C. J. YUSKAITIS\*; E. BAINBRIDGE; S. GURNANI; B. M. JONES; M. SAHIN; A. PODURI. *Boston Children's Hosp., Boston Children's Hosp.*
- 8:15 **446.02** Focal mosaic inactivation of Depdc5 in the developing mouse brain causes focal cortical dysplasia-associated epilepsy. T. RIBIERRE\*; C. DELEUZE; A. BACQ; S. BALDASSARI; E. MARSAN; D. ROUSSEL; S. BAULAC. *Inst. du Cerveau et de la Moelle Epiniere (ICM), INSERM U1127.*
- 8:30 **446.03** Brain somatic mutations in the GATOR1-mTORC1 pathway in epilepsies associated to malformations of cortical development. S. BAULAC\*; S. BALDASSARI; E. MARSAN; M. CHIPAUX. *INSERM U1127, ICM, Fondation Rothschild.*
- 8:45 **446.04** Altered vesicle release properties of sprouted mossy fiber synapses in epilepsy. W. HENDRICKS\*; G. L. WESTBROOK; E. SCHNELL. *Vollum Inst., Portland VA Med. Ctr.*
- 9:00 **446.05** De novo mutation in mammalian Dynamin1 (DNM1) causing epileptic encephalopathy is associated with mitochondrial dysfunction. L. LLACI\*; E. FRANKEL; R. GUPTA; G. MILLS; B. GERALD; W. JEPSEN; K. RAMSEY; C. BALAK; N. BELNAP; M. NAYMIK; I. S. PIRAS; A. SINIARD; S. SZELINGER; R. RICHHOLT; M. DE BOTH; I. SCHRAUWEN; D. W. CRAIG; M. HUENTELMAN; V. NARAYANAN; S. RANGASAMY. *Translational Genomics Res. Inst. (TGen).*
- 9:15 **446.06** Pre-stimulus epileptogenic activity predicts task related neural and behavioural response. S. M. WONG\*; J. SATO; G. M. IBRAHIM. *Hosp. for Sick Children, Hosp. for Sick Children.*
- 9:30 **446.07** Precision medicine for stress disorders: Diagnostic biomarkers and repurposed drugs. A. NICULESCU\*; H. LE-NICULESCU; K. ROSEBERRY; D. LEVEY; P. PHALEN; F. MAMDANI; A. SEQUEIRA; S. KURIAN. *Indiana Univ. Sch. of Med., UC Irvine, The Scripps Res. Inst.*

- 9:45 **446.08** Gene expression analyses in amygdala and anterior cingulate cortex of PTSD-like mouse model. M. TANAKA\*; H. LI; X. ZHANG; J. SINGH; C. L. DALGARD; M. WILKERSON; Y. ZHANG. *USUHS, USUHS.*
- 10:00 **446.09** Effects of a new post-traumatic stress disorder animal model on anxiety-like behaviors and ethanol voluntary consumption in C57BL/6J mice. F. NAVARRETE RUEDA\*; A. GASPARYAN; E. CAPARRÓS; J. MANZANARES. *Univ. Miguel Hernández - CIF: Q5350015C.*
- 10:15 **446.10** Transcriptome alterations in posttraumatic stress disorder across multiple regions of frontal cortex. M. J. GIRGENTI\*; J. WANG; D. JI; D. A. CRUZ; D. WILLIAMSON; M. FRIEDMAN; H. ZHAO; J. H. KRISTAL; R. S. DUMAN. *Yale Univ. Sch. of Med., Duke Univ., Dartmouth Sch. of Med., Yale Univ. Sch. Med.*

## NANOSYMPOSIUM

### 447. Parkinson's Disease: Alpha-Synuclein: Models and Mechanisms

#### Theme C: Neurodegenerative Disorders and Injury

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

- 8:00 **447.01** Development of a high-content genome-wide RNAi screen to identify genetic modifiers of a-synuclein propagation. E. KARA\*; A. CRIMI; D. P. PEASE; M. EMMENEGGER; D. HEINZER; M. AVAR; C. AEMISEGGER; Z. FAN; J. MARKS; J. HARDY; B. T. HYMAN; A. AGUZZI. *Univ. of Zurich, Harvard Med. Sch., Univ. Col. London.*
- 8:15 **447.02** • A human iPSC-based model of early onset sporadic Parkinson's disease. A. LAPERLE\*; S. SANCES; N. YUCER; V. DARDOV; R. HO; A. FULTON; Z. SHU; D. HERNANDEZ; A. B. SINGLETON; N. T. MAIDMENT; J. VAN EYK; M. TAGLIATI; C. N. SVENDSEN. *Cedars-Sinai Regenerative Med. Inst., UCLA, NIH Natl. Inst. on Aging, Cedars-Sinai Med. Ctr.*
- 8:30 **447.03** • 14-3-3s reduce cell-to-cell transfer of alpha-synuclein. T. A. YACOUBIAN\*; B. WANG; R. N. UNDERWOOD. *Univ. Alabama Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama At Birmingham.*
- 8:45 **447.04** Behavioural and metabolic characterization of alpha-synuclein pathology spreading in the mouse brain. J. BURTSCHER\*; J. COPIN; C. SANDI; H. LASHUEL. *LMN/EPFL, LGC/EPFL.*
- 9:00 **447.05** • Reduction of alpha-synuclein in human iPSC-derived dopaminergic neurons harboring the A53T mutation as a therapeutic strategy for Parkinson's disease. J. D. GRAEF\*; V. VILLEGAS; A. M. CACACE. *Fulcrum Therapeut.*
- 9:15 **447.06** Amyloid beta plaques promote seeding and spreading of alpha-synuclein in lewy body disorders. F. BASSIL\*; H. BROWN; S. PATTABHIRAMAN; B. ZHANG; J. TROJANOWSKI; V. L. LEE. *Univ. of Pennsylvania, Ctr. for Neurodegenerative Dis. Res.*
- 9:30 **447.07** A cultured astrocyte model of human multiple system atrophy prion propagation. Z. KREJCIOVA\*; G. CARLSON; K. GILES; S. B. PRUSINER. *UCSF, Weill Inst. For Neurosciences, UCSF, Weill Inst. for Neurosciences.*
- 9:45 **447.08** Alpha-synuclein suppresses mitochondrial protease ClpP to trigger mitochondrial oxidative damage and neurotoxicity. D. HU\*; X. SUN; X. LIAO; S. ZARABI; A. SCHIMMER; Y. HONG; C. FORD; Y. LUO; X. QI. *Case Western Reserve Univ., Princess Margaret Cancer Ctr., La Trobe Univ., Univ. of Colorado, Univ. of Cincinnati.*

\* 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

**448. Neurotoxicity, Inflammation, and Neuroprotection: Cellular Stress and Death Mechanisms****Theme C: Neurodegenerative Disorders and Injury**

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

- 8:00 **448.01** CD36-mediated effects on acute neuroinflammation and long-term injury after neonatal stroke. Z. S. VEXLER\*; J. FAUSTINO; J. AMARAL; M. LALANCETTE HÉBERT; S. LIU; S. MAHUVAKAR; J. KRIZ. *UCSF, Laval Univ.*
- 8:15 **448.02** Impaired expression of voltage-gated K<sup>+</sup> channels and formation of PNNs in hippocampal PV<sup>+</sup> interneurons following neonatal hypoxia ischemia and therapeutic hypothermia. R. CHAVEZ-VALDEZ\*; P. EMERSON; D. SEVERIN; J. GOFFIGAN-HOLMES; F. NORTHINGTON; L. MARTIN; A. KIRKWOOD. *Johns Hopkins Univ.*
- 8:30 **448.03** Optic atrophy (OPA)1 degradation may facilitate mitochondrial dysfunction after neonatal hypoxic-ischaemic brain injury. C. THORNTON\*; A. JONES; P. GRESSENS; H. HAGBERG. *King's Col. London, Inserm U1141, Univ. of Gothenburg.*
- 8:45 **448.04** Exendin-4 provides neuroprotection and enhances therapeutic hypothermia in a model of hypoxic-ischemic encephalopathy. E. ROCHA FERREIRA\*; L. POUPON; A. ZELCO; A. LEVERIN; S. NAIR; A. JONSDOTTER; Y. CARLSSON; C. THORNTON; H. HAGBERG; A. RAHIM. *Univ. of Gothenburg, Univ. Col. London, Dept. of Obstetrics and Gynecology, Univ. of Gothenburg, King's Col. London.*
- 9:00 **448.05** Genetically encoded death indicators (GEDI) for live fluorescence imaging of neurodegeneration *in vitro* and *in vivo*. J. LINSLEY\*; K. SHAH; S. FINKBEINER. *Gladstone Inst., Univ. of California, San Francisco.*
- 9:15 **448.06** The role of protein persulfidation in polyglutamine diseases. M. FILIPOVIC\*; J. ZIVANOVIC; E. KOUROUSSIS. *IBGC CNRS UMR595, Univ. of Bordeaux.*
- 9:30 **448.07** Harnessing the Golgi stress response confers cytoprotection in Huntington's disease. B. D. PAUL\*; J. I. SBODIO; S. H. SNYDER. *Johns Hopkins Univ. Sch. of Med.*
- 9:45 **448.08** Membralin-deficient astrocytes can trigger motor neuron death. L. JIANG\*; B. ZHU; Y. ZHAO; T. HUANG; D. ZHANG; H. XU. *Sanford Burnham Prebys Med. Discovery Inst.*
- 10:00 **448.09** STAU1-dependent activation of the unfolded protein response leads to apoptosis in cellular and animal models of SCA2. M. M. GANDELMAN\*; S. PAUL; W. DANSITHONG; K. P. FIGUEROA; D. R. SCOLES; S. M. PULST. *Univ. of Utah.*
- 10:15 **448.10** Solid lipid curcumin particles inhibit more autophagy markers than by natural curcumin in an invitro model of glioblastoma. P. MAITI\*; A. AL-GHARAIBEH; D. SENGUPTA; G. L. DUNBAR. *Central Michigan University/ St. Mary's of Michigan, Saginaw Valley State Univ., Field Neurosciences Inst., Central Michigan Univ., Central Michigan Univ.*
- 10:30 **448.11** TDP-43 phase transitions and co-demixing with stress granules and processing bodies. H. YU\*; S. LU; B. ALADESUYI; C. CHEN; S. DA CRUZ; J. M. RAVITS; D. W. CLEVELAND. *Ludwig Institute/UCSD, Univ. of California San Diego Dept. of Neurosciences, UCSD.*

## NANOSYMPOSIUM

**449. Neurotoxicity, Inflammation, and Neuroprotection: Mechanisms of Neurodegeneration****Theme C: Neurodegenerative Disorders and Injury**

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

- 8:00 **449.01** Tethered mitochondrial fate is coupled to inter-organelle contacts in Charcot-Marie-Tooth disease type 2B. Y. C. WONG\*; W. PENG; D. KRAINIC. *Northwestern Univ.*
- 8:15 **449.02** Neuronal excitation and stress increase C9orf72 NRE-linked non-AUG-dependent translation. A. R. HAEUSLER\*; T. WESTERGARD; K. MCAVOY; K. RUSSELL; X. WEN; Y. PANG; B. MORRIS; P. PASINELLI; D. TROTTI. *Thomas Jefferson Univ.*
- 8:30 **449.03** Genetic rescue of deficits in the Csf1r<sup>+/−</sup> mouse model of ALS. E. R. STANLEY\*; F. BIUNDO; G. S. SHLAGER; M. E. GULINELLO; H. KETCHUM; K. SAHA; E. S. PARK; S. GOKHAN; M. F. MEHLER; P. WANG; D. ZHENG; V. CHITU. *Albert Einstein Col. of Med.*
- 8:45 **449.04** Transomic modeling of cerebral inflammation in X linked adrenoleukodystrophy. J. SINGH\*; B. OLLE; L. POISSON; H. SUHAIL; S. GIRI. *HENRY FORD HEALTH SYSTEM.*
- 9:00 **449.05** Neurogenic niche activity: Modulation by targeting tgfb $\beta$ -rii. S. PETERS\*; E. ZITZELSPERGER; S. KUESPERT; R. HEYDN; S. JOHANNESSEN; L. J. AIGNER; T. BRUUN; U. BOGDAHN. *Univ. Hosp., Paracelsus Med. Univ.*
- 9:15 **449.06** EZH2 is associated with photoreceptor degeneration and potentially targets miRNAs controlling cell cycle and apoptosis. Y. ARSENIJEVIC\*; A. PRUNOTTO; C. RIVOLTA; M. MBEFO. *Jules-Gonin Eye Hosp., Univ. of Lausanne.*
- 9:30 **449.07** Anesthetics influence mortality in a *Drosophila* model of blunt trauma with TBI. M. PEROUANSKY\*; H. J. SCHIFFMAN; D. A. WASSARMAN. *Univ. of Wisconsin Madison Dept. of Anesthesiol., Univ. of Wisconsin, Univ. of Wisconsin.*
- 9:45 **449.08** Mechanisms of exercise mimetic neuroprotection in preclinical trials. A. S. DICKEY\*; B. CHA; A. R. LA SPADA. *Duke Univ. Hlth. Syst.*

## NANOSYMPOSIUM

**450. Vision: Contrast, Form, and Color****Theme D: Sensory Systems**

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

- 8:00 **450.01** Naturalistic texture selectivity and functional architecture in macaque visual cortex. C. M. ZIEMBA\*; A. L. BRUNING; J. A. MOVSHON; R. L. GORIS; I. M. NAUHAUS. *UT Austin, New York Univ.*
- 8:15 **450.02** Learning a model for visual texture selectivity from natural images. T. D. OLESKIW\*; E. P. SIMONCELLI. *New York Univ.*
- 8:30 **450.03** Saliency of grayscale textures from natural image statistics. T. TESILEANU\*; M. M. CONTE; J. J. BRIGUGLIO; A. M. HERMUNDSTAD; J. D. VICTOR; V. BALASUBRAMANIAN. *Flatiron Inst., Weill Cornell Med. Col., Janelia Res. Campus, Weill Cornell Med. Col., Univ. of Pennsylvania.*



- 8:45 **450.04** Human cortical encoding of a discrete temporal landmark for extracting syllables in continuous speech. Y. OGANIAN\*; E. F. CHANG. *Univ. of California, San Francisco, UCSF.*
- 9:00 **450.05** Sensitivity to local image statistics in segmentation and identification. M. M. CONTE\*; L. EVANS; J. D. VICTOR. *Weill Cornell Med. Col., Howard Univ.*
- 9:15 **450.06** Invariance to real-world background noise as a signature of non-primary auditory cortex. A. J. KELL\*; J. H. MCDERMOTT. *MIT.*
- 9:30 **450.07** A neural ensemble correlation code for sound category identification. M. A. ESCABI\*; M. SADEGHI; X. ZHAI; I. H. STEVENSON. *Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut.*
- 9:45 **450.08** Decoding sound texture identity via statistics of auditory neuron ensembles. X. ZHAI\*; M. SADEGHI; F. KHATAMI; H. L. READ; I. STEVENSON; M. A. ESCABI. *Univ. of Connecticut, Univ. of Connecticut, Univ. of California, Univ. of Connecticut.*
- 10:00 **450.09** Sound texture evoked potentials encode acoustic complexity over time in avian auditory cortex. S. S. CAIN\*; B. VOYTEK; T. Q. GENTNER. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego.*
- 10:15 **450.10** Illusory sound texture reveals statistical completion in auditory scene analysis. R. MCWALTER\*; J. H. MCDERMOTT. *MIT.*

## NANOSYMPOSIUM

### 451. Respiration Control

#### Theme E: Motor Systems

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

- 8:00 **451.01** Properties and function of CO<sub>2</sub>/H<sup>+</sup>-inhibited VGAT expressing neurons in the retrotrapezoid nucleus in control of breathing. F. KUO\*; D. K. MULKEY. *Univ. of Connecticut, Physiol. And Neurobio., Univ. Connecticut.*
- 8:15 **451.02** Moderate acute hypoxia-induced phrenic long-term facilitation requires both cervical spinal 5HT<sub>2A</sub> and 5HT<sub>2B</sub> receptor activation. A. TADJALLI\*; G. S. MITCHELL. *Univ. of Florida.*
- 8:30 **451.03** A dynamic excitatory column shaped by inhibition generates inspiratory behaviors. N. A. BAERTSCH\*; J. RAMIREZ. *Seattle Children's Hosp., Univ. of Washington.*
- 8:45 **451.04** Neuromedin B (NMB) neurons in the caudal nucleus of the solitary tract (NTS) are activated during hypoxia. R. L. STORNETTA\*; G. M. P. R. SOUZA; S. B. G. ABBOTT; D. S. STORNETTA; P. G. GUYENET. *Univ. of Virginia.*
- 9:00 **451.05** Role of synaptic inhibition and intrinsic properties of parafacial neurons for generation of active expiration in rats. D. J. A. MORAES; M. P. SILVA; B. H. MACHADO\*; J. F. R. PATON; K. S. MAGALHÃES. *Sch. of Med. of Ribeirão Preto/ USP, Sch. of Med. of Ribeirão Preto, Sch. Med. Ribeirão Preto, USP, Fac. of Med. and Hlth. Sciences/University of Auckland.*
- 9:15 **451.06** Differential galanin expression by chemoreceptor neurons in mouse following long-term hypercapnia challenge: Evidence for regulation of galanin transmission. A. S. DERELI\*; N. N. KUMAR. *Univ. of New South Wales.*

## NANOSYMPOSIUM

### 452. Brain Blood Flow and Blood Brain Barrier

#### Theme F: Integrative Physiology and Behavior

Tue. 8:00 AM – San Diego Convention Center, SDCC 30E

- 8:00 **452.01** Molecular plasticity of the blood-brain barrier in response to neural activity. R. PULIDO\*; R. MUNJI; T. CHAN; C. QUIRK; G. WEINER; S. LEUTGEB; R. DANEMAN. *Univ. of California San Diego, Univ. of California San Diego.*
- 8:15 **452.02** Regional specializations of the blood-brain barrier is required for proper neuronal function and behavior. M. BLANCHETTE\*; N. RUDERISCH; K. BAJC; R. DANEMAN. *UCSD, AbbVie, Univ. of California, San Diego (UCSD), UCSD.*
- 8:30 **452.03** Antibody affinity and valency impact uptake of transferrin receptor-targeted gold nanoparticles at the blood-brain barrier. T. MOOS\*; K. B. JOHNSEN; M. BAK; P. J. KEMPEN; F. MELANDER; A. BURKHART; M. S. THOMSEN; M. S. NIELSEN; T. L. ANDRESEN. *Aalborg Univ., Dept. of Micro- and Nanotechnology, Dept. of Biomedicine.*
- 8:45 **452.04** Cell type specific profiling of alternative translation identifies novel protein isoforms in the mouse brain. D. SAPKOTA\*; A. M. LAKE; W. YANG; C. YANG; J. LEE; M. S. SANDS; H. WESSELING; A. GUISE; C. UNCU; J. A. STEEN; J. S. DALAL; J. D. DOUGHERTY. *Washington Univ. in St. Louis, Washington Univ. in St. Louis, Washington Univ. in St. Louis, Harvard Univ., Washington Univ. in St. Louis.*
- 9:00 **452.05** Comparison of the BOLD hemodynamic response function at 3T and 9.4T. D. RESS\*; J. KIM; A. J. TAYLOR; K. SCHEFFLER; G. HAGBERG; M. HIMMELBACH. *Baylor Col. of Med., Univ. of Tübingen.*
- 9:15 **452.06** The timing and shape of the task-evoked negative BOLD response in the default mode network regions. Q. R. RAZLIGHI\*; A. SEDAGHAT; D. B. PARKER. *Columbia Univ.*
- 9:30 **452.07** • Neural-vascular uncoupling explains cognitive slowing in multiple sclerosis. D. SIVAKOLUNDU\*; K. WEST; D. ABDELKARIM; M. D. ZUPPICHINI; M. P. TURNER; Y. ZHAO; J. HART; H. LU; D. OKUDA; B. P. RYPMA. *Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Johns Hopkins Univ., UT Southwestern Med. Ctr.*
- 9:45 **452.08** A novel zebrafish model of neurovascular coupling reveals sodium nitroprusside reverses hyperglycaemia-induced neurovascular dysfunction. K. CHHABRIA\*; K. PLANT; O. BANDMANN; R. N. WILKINSON; C. J. MARTIN; E. KUGLER; P. A. ARMITAGE; P. L. M. SANTOSCOY; V. T. CUNLIFFE; C. HOWARTH; T. J. A. CHICO. *Univ. of Sheffield, Univ. of Sheffield, Univ. of Sheffield, Univ. of Sheffield, Univ. of Sheffield.*
- 10:00 **452.09** Redistribution of cerebral blood flow evoked by aerobic exercise is attributable both to neuro-vascular coupling and cerebral autoregulation: A study using PET. M. HIURA\*; T. NARIAI; M. SAKATA; A. MUTA; K. ISHIBASHI; K. WAGATSUMA; T. TAGO; J. TOYOHARA; K. ISHII; T. MAEHARA; Y. KATAYAMA. *Aomori Univ., Tokyo Med. and Dent. Univ., Tokyo Metro Inst. Gerontology, Aomori Univ.*
- 10:15 **452.10** Stimulation-induced rises in cerebral blood flow and local capillary vasoconstriction depend on conducted vascular responses. C. CAI\*; J. C. FORDSMANN; S. H. JENSEN; B. GESSLEIN; M. LØNSTRUP; S. A. ZAMBACH; B. O. HALD; B. BRODIN; M. J. LAURITZEN. *Univ. of Copenhagen/In, Univ. of Copenhagen, Dept. of Neurosci. and Pharmacol., Univ. of Copenhagen, Univ. of Copenhagen.*

\* 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**

**453. New Cortical and Subcortical Circuits for Food Reward**

**Theme G: Motivation and Emotion**

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

- 8:00 **453.01** An insular cortex --> central amygdala circuit controls non-homeostatic feeding in mice in response to associative learning of contextual cues. S. A. STERN\*; E. P. AZEVEDO; K. R. DOERIG; J. M. FRIEDMAN. *Rockefeller Univ., Rockefeller Univ., Howard Hughes Med. Inst.*
- 8:15 **453.02** Supra-additive effects of combining fat and carbohydrate on food reward. A. G. DIFELICEANTONIO\*; G. COPPIN; L. RIGOUX; S. EDWIN THANARAJAH; A. DAGHER; M. TITTEMEYER; D. M. SMALL. *Yale Univ. Sch. of Med., Swiss Ctr. for Affective Sci., MPI For Metabolism Res., University Hosp. of Cologne, McGill Univ.*
- 8:30 **453.03** Encoding of an engram for food location by satiety-promoting *Drd2* hippocampal neurons. E. AZEVEDO\*; L. POMERANZ; M. SCHNEEBERGER PANE; J. CHENG; S. STERN; P. GREENGARD; J. FRIEDMAN. *The Rockefeller Univ., Rockefeller Univ., The Rockefeller Univ., Rockefeller Univ., The Rockefeller Univ., Rockefeller Univ/ HHMI.*
- 8:45 **453.04** Deciphering hippocampus to septum to hypothalamus feeding circuits. Y. YANG\*. *Albert Einstein Col. of Med.*
- 9:00 **453.05** A novel micro extended amygdala neural circuits for feeding regulation. H. CAI\*; Y. WANG; J. KIM. *Univ. of Arizona, Univ. of Arizona.*
- 9:15 **453.06** Hunger modulates basolateral amygdala through dopamine acting on local interneurons. A. LUTAS\*; O. ALTURKISTANI; C. CARTY; V. DIAZ; A. SUGDEN; M. ANDERMANN. *Beth Israel Deaconess Med. Ctr.*
- 9:30 **453.07** Basolateral amygdala microcircuits rapidly change with acute food deprivation. A. K. SUTTON\*; G. G. CALHOON; C. CHANG; A. M. LIBSTER; G. F. GLOBER; C. L. LEVEQUE; G. D. MURPHY; P. NAMBURI; C. A. LEPLA; C. SICILIANO; A. BEYELER; K. M. TYE. *MIT, MIT, INSERM 1215, MIT.*
- 9:45 **453.08** Neural circuits of reward value encoding and retrieval. M. MALVAEZ\*; C. SHIEH; M. D. MURPHY; V. Y. GREENFIELD; K. M. WASSUM. *UCLA, UCLA.*
- 10:00 **453.09** Two-photon imaging of striosomes and matrix in mice demonstrates overlapping and distinct functions in reinforcement learning. B. BLOEM\*; R. HUDA; M. SUR; A. M. GRAYBIEL. *MIT, Picower Inst. for Learning and Memory, MIT.*

**NANOSYMPOSIUM**

**454. Human Cognition and Behavior: Working Memory II**

**Theme H: Cognition**

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

- 8:00 **454.01** Ketamine impairs behavioural performance and neural coding of spatial working memory in the primate lateral prefrontal cortex. M. ROUSSY\*; R. LUNA; L. DUONG; L. PALANIYAPPAN; J. C. MARTINEZ-TRUJILLO. *Univ. of Western Ontario, Robarts Res. Inst., Robarts Res. Inst., Univ. of Western Ontario, Univ. of Western Ontario.*

- 8:15 **454.02** Older adults benefit from more widespread network integration during working memory functioning. C. CROWELL\*; S. W. DAVIS; L. BEYNEL; S. A. HILBIG; A. BRITO; S. H. LISANBY; H. PALMER; A. V. PETERCHEV; B. LUBER; L. G. APPELBAUM; R. E. CABEZA. *Duke Med., Duke Univ., Duke Univ., NIH, Duke Univ., Natl. Inst. of Mental Hlth.*
- 8:30 **454.03** Context triggers the retrieval of targets stored in long-term memory. S. ITTHIPURIPAT\*; G. F. WOODMAN. *Vanderbilt Univ., King Mongkut's Univ. of Technol. Thonburi.*
- 8:45 **454.04** The role of visual working memory in controlling access to visual long-term memory storage. C. TOZIOS\*; K. FUKUDA. *Univ. of Toronto.*
- 9:00 **454.05** Tracking the competition between active and latent items during working-memory guided behaviour. P. S. MUHLE-KARBE\*; N. E. MYERS; M. G. STOKES. *Univ. of Oxford.*
- 9:15 **454.06** Episodic memory can substitute for active storage in visual working memory. M. W. SCHURGIN\*; C. A. CUNNINGHAM; H. E. EGETH; T. F. BRADY. *UCSD, Johns Hopkins Univ., Univ. of California San Diego.*
- 9:30 **454.07** Ensemble coding of spatial working memory and attention in primate lateral prefrontal cortex. L. DUONG\*; M. L. LEAVITT; F. PIEPER; A. J. SACHS; J. C. MARTINEZ-TRUJILLO. *Robarts Res. Inst., Western Univ., New York Univ., McGill Univ., Univ. Med. Ctr. Hamburg-Eppendorf, The Ottawa Hosp., Univ. of Western Ontario.*
- 9:45 **454.08** Refreshing and elaboration are separable processes with distinct impacts on working memory and long-term memory across the lifespan. L. M. BARTSCH\*; V. M. LOAIZA; L. JÄNCKE; K. OBERAUER; J. A. LEWIS-PEACOCK. *Univ. of Zurich, Univ. of Essex, Univ. of Texas at Austin.*
- 10:00 **454.09** Cortico-striatal control over working memory output gating. A. KIYONAGA\*; J. A. MILLER; R. B. IVRY; M. D'ESPOSITO. *Univ. of California Berkeley.*
- 10:15 **454.10** Long-term consequences of working memory load. M. T. DEBETTENCOURT\*; E. AWH; E. K. VOGEL. *Univ. of Chicago.*
- 10:30 **454.11** Managing cognitive control for prospective memory in dynamic environments. S. KOSLOV\*; K. R. HEDGPETH; J. A. LEWIS-PEACOCK. *Univ. of Texas at Austin.*

**POSTER**

**455. Adult Neurogenesis: Molecular Mechanisms**

**Theme A: Development**

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

- 8:00 A1 **455.01** Identification of juvenility-associated long noncoding RNAs (JALNCs) as indispensable factors for the juvenility properties of the brain. M. MORI\*; T. MORIMUNE; F. A. JAM; Y. KADOTA; A. TANO; Y. TANAKA; H. YUKIUE; S. AKAHANE; M. FUKUMURA. *Shiga Univ. of Med. Sci.*
- 9:00 A2 **455.02** Role of endoplasmic reticulum quality control in the adult hippocampal neurogenesis. N. MURAO\*; H. NISHITOH. *Miyazaki Univ.*
- 10:00 A3 **455.03 ▲** Akt drives cell cycle entry in the subventricular zone. J. E. MARKS\*; F. LICAUSI; A. FOSTER; N. W. HARTMAN. *Stockton Univ., Stockton 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 A4 **455.04** TGFbeta signals regulate afferent innervation in the developing tooth. S. PETERS\*; C. BARKLEY; K. NGUYEN; R. SERRA. *Univ. of Alabama At Birmingham*.
- 8:00 A5 **455.05** PSA-NCAM upregulation and differential expression after telencephalic lesions in turtles. A. J. NAPOLI\*; A. S. POWERS. *State Univ. of New York At Stony Brook, Stony Brook Univ.*
- 9:00 A6 **455.06** ▲ The fmrp/icam5 mrna interaction uncovers a new mechanism of modulating dendritic spine development in fragile x syndrome. Z. YAN\*; Y. PEI; Y. WANG; Y. CHEN. *Wuhan Univ. of Sci. and Technol.*
- 10:00 A7 **455.07** ● Identification of genes regulated by short term environmental enrichment during a critical period for the survival of new neurons in the adult dentate gyrus. C. C. CHANG\*; A. TASHIRO. *Nanyang Technol. Univ.*
- 11:00 A8 **455.08** Histone modifications define neural stem cells subtypes in mouse subventricular zone. Z. ZHANG\*; A. MANAF; S. PEÑA PEREZ; R. SUGANTHAN; M. BJØRÅS; J. ARNE DAHL; A. KLUNGLAND. *Oslo Univ. Hosp., Xi'an Jiaotong Univ. Hlth. Sci. Ctr., Univ. of Oslo.*
- 8:00 A9 **455.09** Exercise increases caspase-3 expression in hippocampal astrocytes and radial glia-like cells. M. E. STEVENSON\*; N. A. LENSIRE; R. A. SWAIN. *Univ. of Wisconsin- Milwaukee, Univ. of Wisconsin-Milwaukee, Univ. of Wisconsin Milwaukee.*
- 9:00 A10 **455.10** Endogenous BDNF regulates spine development in adult-born olfactory granule cells. B. MCDOLE; K. M. GUTHRIE\*. *Florida Atlantic Univ., Florida Atlantic Univ.*
- 10:00 A11 **455.11** PSD-95 modulates adult-born neuron maturation in mouse hippocampus. M. D. MARDONES\*; P. V. JORQUERA; A. HERRERA-SOTO; F. J. BUSTOS; B. VAN ZUNDERT; L. VARELA-NALLAR. *Ctr. Inv. Biomedicas, Univ. Andres Bello, MIT, Ctr. Envejecimiento y Regeneracion (CARE), P. Univ. Catolica de Chile.*
- 11:00 A12 **455.12** A critical period for aberrant neurogenesis rewires hippocampus circuitry to cause epilepsy. Z. R. LYBRAND\*; J. ZHU; K. RAJASEKARAN; M. AKTAR; L. ZHANG; P. VARMA; K. CHO; S. GE; J. HSIEH. *The Univ. of Texas At San Antonio, UT Southwestern Med. Ctr., The Catholic Univ. of Korea, State Univ. of New York At Stony Brook.*
- 8:00 A13 **455.13** Targeting aberrant neurogenesis in a clinically-relevant window leads to transient but not persistent seizure reduction. P. VARMA\*; R. R. BRULET; L. ZHANG; J. HSIEH. *Univ. of Texas San Antonio, UTSW Med. Ctr., UT Southwestern Med. Ctr., The Univ. of Texas At San Antonio.*
- 9:00 A14 **455.14** Olfactory perception and newborn neurons integration in a mouse with reduce number of projection neurons. L. SANCHEZ\*; B. WANG; C. LOIS. *Caltech, Caltech.*
- 10:00 A15 **455.15** Characterization of adult neural stem cell potential for paracrine signaling based therapies. J. K. DENNINGER\*; X. CHEN; L. WALKER; R. BUNDSCHUH; P. YAN; E. D. KIRBY. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*
- 11:00 A16 **455.16** Hippocampal neural stem cells clear extracellular glutamate via excitatory amino acid transporters. J. D. RIESKAMP\*; V. VALENTINI; J. P. BRUNO; E. D. KIRBY. *The Ohio State Univ.*

- 8:00 A17 **455.17** Adult neural stem cells require VEGF intracrine signaling for stem cell maintenance in the dentate gyrus neurogenic niche. J. K. DENNINGER; E. D. KIRBY\*. *Ohio State.*

## POSTER

### 456. Autism: Cellular Mechanisms

#### Theme A: Development

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

- 8:00 A18 **456.01** Atypical excitatory-inhibitory balance in feedforward and feedback circuits in autism. I. TRUTZER\*; B. ZIKOPOULOS. *Boston Univ., Boston Univ.*
- 9:00 A19 **456.02** Balance of excitation and inhibition in orbitofrontal cortex and potential for disruption in autism. X. LIU\*; J. BAUTISTA; E. LIU; B. ZIKOPOULOS. *Boston Univ.*
- 10:00 A20 **456.03** ASD/ID related de novo mutations in the TRIO-Rac1 pathway alter synaptic function. C. TIAN\*; Y. KAY; A. SADYBEKOV; S. RAO; V. KATRITCH; B. HERRING. *USC, USC, USC, USC, USC.*
- 11:00 A21 **456.04** Modifications in cytoskeletal and astrocytic proteins content in prefrontal cortex, hippocampus and cerebellum of the murine model of autism C58/J strain. I. C. BARON-MENDOZA\*; O. GARCIA; A. GONZÁLEZ-ARENAS. *Inst. De Investigaciones Biomédicas, Facultad de Psicología, UNAM, Inst. De Investigaciones Biomedicas.*
- 8:00 A22 **456.05** Analysis of mutant delta-catenin haploinsufficiency in altering synaptic pathology and autism-associated behavior changes. K. NIP\*; H. SCOTT; T. GARVER; J. SHOU; S. KIM. *Colorado State Univ.*
- 9:00 A23 **456.06** Investigation of cortical synaptic structures in microglia-specific eif4e overexpressing mouse using serial block-face sem. G. KIM\*; Z. XU; S. LEE; N. DO; C. LEE; S. KWON; B. XU; K. LEE. *Korea Brain Res. Inst., The Scripps Res. Inst., Catholic Univ. of Daegu.*
- 10:00 A24 **456.07** Assessment of autophagy in autism induced cell. H. CHOI\*; M. JUNG; J. MUN. *Eulji Univ., Korea Brain Res. Inst., Asan Med. Ctr.*
- 11:00 A25 **456.08** Ultrastructural abnormalities of the prefrontal cortex in the CNTNAP2 model of autism. B. L. RACZ\*; M. T. LAZARO; G. M. MARCELLO; P. SOTONYI; P. GOLSHANI. *Univ. of Vet. Med., David Geffen Sch. of Medicine, UCLA, UCLA Dept. of Neurol., Dept. of Neurosci., Intellectual Develop. and Disabilities Res. Center, UCLA, West Los Angeles VA Med. Ctr.*
- 8:00 A26 **456.09** Conditional knock-out of TSC1 in MGE-derived inhibitory interneurons upregulates mTORC1 activity, impairs hippocampal synaptic inhibition and alters contextual and spatial memory. N. HAJI; I. RIEBE; A. AGUILAR VALLES; J. ARTINIAN; I. LAPLANTE; J. LACAILLE\*. *Univ. de Montreal, McGill Univ.*
- 9:00 A27 **456.10** ● Conditional loss of the tuberous sclerosis gene, Tsc1, results in altered cortical GABAergic interneuron development and physiology. R. MALIK\*; E. L. PAI; A. M. STAFFORD; J. T. NGUYEN; J. L. RUBENSTEIN; V. S. SOHAL; D. VOGT. *Univ. of California San Francisco, Michigan State Univ.*
- 10:00 A28 **456.11** Perineuronal nets in the hippocampus are atypical in mouse models of autism spectrum disorder. E. C. COPE\*; A. D. ZYCH; N. J. KATCHUR; C. Y. PARK; S. MURTHY; B. A. BRIONES; E. GOULD. *Princeton 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 A29 **456.12** Functional characterization of a de novo mGlu7 mutation associated with autism spectrum disorder. J. SONG\*; Y. SUH. *Seoul Natl. Univ. Col. of Med.*
- 8:00 A30 **456.13** Increase aggression in ube3a transgenic model of 15q autism. Y. NONG\*; D. STOPPEL; M. JOHNSON; J. TODOROVIC; X. ZHOU; M. NADLER; M. BOILLOT; I. NAGAKURA; E. KASPER; M. ANDERSON. *Beth Israel Deaconess Med. Ctr., Beth Israel Deaconess Med. Ctr.*
- 9:00 A31 **456.14** Glutamate/GABA- glutamine cycle imbalance in a mouse model of autism spectrum disorder: Relationship to glial reactivity. J. T. GONÇALVES\*; I. R. VIOLANTE; J. SERENO; R. A. LEITÃO; Y. CAI; A. ABRUNHOSA; A. SILVA; A. J. SILVA; M. CASTELO-BRANCO. *CIBIT, ICNAS, iCBR, CNC.IBILI Res. Unit, Imperial Col. London, Lab. of Pharmacol. and Exptl. Therapeutics, Fac. of Med., Dept. of Neurobiology, Integrative Ctr. for Learning and Memory, Brain Res. Institute, UCLA.*
- 10:00 A32 **456.15** Altered expression of mGlu5 receptor and its regulatory proteins in several autism spectrum disorders. C. M. BONACCORSO; A. ARENA; J. J. ANINK; S. D'ANTONI; M. SPATUZZA; E. ARONICA; M. CATANIA\*. *IRCCS Oasi Maria SS, Academic Med. Center, Univ. of Amsterdam, Inst. of Neurolog. Sciences, Natl. Res. Council (CNR).*
- POSTER**
- 457. Developmental Disorders: Animal Models of Neurodevelopmental Disease II**
- Theme A: Development**
- Tue. 8:00 AM – *San Diego Convention Center, SDCC Halls B-H*
- 8:00 A33 **457.01** Understanding dysphagia through 22q11.2 deletion syndrome mediated changes in murine laryngeal motoneurons. H. L. CAUDILL\*; D. S. MENDELOWITZ; A. LAMANTIA. *The George Washington Univ., The George Washington Univ., The George Washington Univ.*
- 9:00 A34 **457.02** ▲ Exposure to alcohol alters behavioural recovery as a function of single or group housing during regeneration in planaria. L. GOODRIDGE; R. VERNESCU; A. STILLAR; M. J. SAARI\*. *Nipissing Univ., Nipissing Univ., Nipissing Univ., Nipissing Univ.*
- 10:00 B1 **457.03** Neurodevelopmental and behavioral alterations after conditional deletion of type 2 cannabinoid receptors in dopamine neurons. A. CANSECO-ALBA\*; M. HAMMOUDA; N. SCHANZ; Q. LIU; E. ONAIVI. *CINVESTAV-IPN, William Paterson Univ. of New Jersey, Natl. Inst. of Hlth.*
- 11:00 B2 **457.04** Effects of acute and chronic DISC1 disruption on plasticity and morphology in the prefrontal cortex. N. R. HARDINGHAM\*; C. M. HILLDRUP; K. D. FOX. *Cardiff Univ., Cardiff Univ.*
- 8:00 B3 **457.05** ▲ Differing effects of hypoxia on developmental dopaminergic neurons in the developing zebrafish brain. T. M. BIELINSKI; J. N. MACDONALD; M. R. BARRETT; M. SEID; J. BONKOWSKY; J. SON\*. *Univ. of Scranton, Univ. of Utah Sch. of Med., Univ. of Scranton.*
- 9:00 B4 **457.06** Acute effects of early seizures on hippocampal interneurons in the immature brain. T. WANG; H. SUN\*. *Carleton Univ.*
- 10:00 B5 **457.07** Differential outcomes of schizophrenia-associated genetic and environmental risk factors on interneuron development. B. SANZ MORELLO\*; N. A. VASISTHA; M. PARDO-NAVARRO; J. GASTHAUS; D. D. WEIJERS; N. W. HANSEN; U. PFISTERER; A. THAKUR; S. DEMHARTER; K. S. HOUGAARD; I. KORSHUNOVA; J. PERRIER; K. KHODOSEVICH. *Biotech Res. and Innovation Ctr. (BRIC), Fac. of Hlth. Sciences, Univ. of Copenhagen, The Natl. Res. Ctr. for the Working Environ.*
- 11:00 B6 **457.08** The role of asparagine synthetase in brain development. X. YAO\*; D. B. GOLDSTEIN; Y. JIANG. *Duke Univ. Sch. of Med., Columbia Univ., Duke Univ. Sch. of Med.*
- 8:00 B7 **457.09** Rapid evaluation of ciliopathy patient-derived ZNF423 variants by genome editing in mice. B. A. HAMILTON\*. *UCSD Sch. Med.*
- 9:00 B8 **457.10** Beneficial impacts of minocycline administration following prenatal alcohol exposure. T. S. BODNAR\*; S. SARKAR; A. CHAO; S. BAGLOT; P. HOLMAN; J. WEINBERG. *The Univ. of British Columbia.*
- 10:00 B9 **457.11** The ontogeny of cognitive, behavioral and metabolic deficits in creatine transporter deficiency. K. C. UDOBI\*; N. DELCIMMUTO; A. KOKENGE; Z. ABDULLA; M. PERNA; M. SKELTON. *Cincinnati Children's Res. Fndn.*
- 11:00 B10 **457.12** Early postnatal alcohol exposure increases microglia density in the rat cerebellum that can be offset by voluntary exercise in adolescence. A. Y. KLINTSOVA\*; J. R. JOHANSSON; Z. H. GURSKY. *Univ. of Delaware.*
- 8:00 B11 **457.13** A mouse model for GNAO1-associated movement disorder. H. FENG\*; Y. YUAN; C. L. LARRIVEE; R. R. NEUBIG. *Michigan State Univ., Michigan State Univ.*
- 9:00 B12 **457.14** ▲ The role of interleukin-6 expression in maternal gut bacteria and the alternation of mouse offspring brain development. V. PEÑA-GARCIA\*; A. OYETUNDE; B. TENG; D. BANNER. *California State University, Northridge, California State University, Northridge.*
- 10:00 B13 **457.15** State of cholinergic neurons in the nucleus basalis of meynert (NBM) of adult rats following alcohol exposure during the brain growth spurt (PD 4-9). K. MILBOCKER\*; Z. H. GURSKY; A. Y. KLINTSOVA. *Univ. of Delaware.*
- 11:00 B14 **457.16** Choline alters hippocampal development: Implications for the treatment of fetal alcohol spectrum disorders. K. R. BREIT\*; T. S. BODNAR; J. WEINBERG; J. D. THOMAS. *San Diego State Univ., The Univ. of British Columbia, Univ. British Columbia, San Diego State Univ.*
- 8:00 B15 **457.17** A mouse model of X-linked intellectual disability protein PHF6 associated with impaired neuronal maturation. C. CHENG\*; P. DENG; C. YUEDE; Y. IKEUCHI; N. RENSING; D. LI; J. HUANG; T. WANG; M. WONG; D. WOZNIAC; V. KLYACHKO; A. BONNI. *Washington Univ., The Univ. of Tokyo.*
- 9:00 B16 **457.18** Long term effects of binge alcohol exposure during development on the cingulate cortex. Cell numbers and preliminary investigations using serial block face scanning electron microscopy. R. M. NAPPER\*; H. KIM; P. SHOEMACK; C. JONES. *Univ. of Otago.*
- 10:00 B17 **457.19** Developmental cannabinoid exposure alters the effects of early alcohol exposure on behavioral development. C. RODRIGUEZ; K. R. BREIT; J. D. THOMAS\*. *San Diego State Univ., San Diego State Univ., San Diego State Univ.*

- 11:00 B18 **457.20** Withdrawn
- 8:00 B19 **457.21** Modeling CDKL5 disorder in mice. B. TERZIC\*; S. TANG; I. WANG; K. SIZOV; Y. CUI; Z. ZHOU. *Univ. of Pennsylvania.*
- 9:00 B20 **457.22** Behavioral consequences of retinoid disruption during embryonic development in the zebrafish. A. B. HAWKEY\*; C. L. DEAN; S. KULLMAN; E. D. LEVIN. *Duke Univ., North Carolina State Univ.*

## POSTER

### 458. Development of Motor, Sensory, and Limbic Systems: Motor Systems

#### Theme A: Development

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

- 8:00 B21 **458.01** Glutamatergic hindbrain and motor neurons develop different patterns of network activity *in vitro*. A. BUBNYS\*; H. KANDEL; G. N. REEKE; L. KOW; D. W. PFAFF; I. TABANSKY. *The Rockefeller Univ., Rockefeller Univ., The Rockefeller Univ.*
- 9:00 B22 **458.02** Promoter capture Hi-C reveals the genome-wide chromatin interactome and Zic1/4 cis-regulatory elements in cerebellar granule cell precursors. K. L. RIEGMAN\*; C. GEORGE; R. KADO; C. MOHAN; B. J. P. HUNTLY; D. SIMS; C. OSBORNE; M. A. BASSON. *King's Col. London, Univ. of Oxford, Univ. of Cambridge.*
- 10:00 B23 **458.03** Nr4a1 promotes maturation of striatal striosome neurons and regulates the dopamine D1 receptor signaling pathway. M. D. CIRNARU\*; C. MELIS; T. FANUTZA; S. NAPHADE; B. S. MUNTEAN; K. MARTEMYANOV; L. M. ELLERBY; M. E. EHRlich. *Icahn Sch. of Med. at Mount Sinai, The Buck Inst. for Res. on Aging, The Scripps Res. Inst.*
- 11:00 B24 **458.04** Proper spatiotemporal formation of the striatal direct pathway is required for appropriate formation of corticofugal axon trajectories. J. M. EHRMAN\*; P. MERCHAN-SALA; B. CHEN; K. CAMPBELL. *Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati, Univ. of California Santa Cruz.*
- 8:00 B25 **458.05** Variability of leg movements across seven days during early infancy. W. DENG\*; B. A. SMITH. *USC.*
- 8:00 DP01/B26 **458.06** (Dynamic Poster) Genetic mapping of diversity among developing brainstem motor neuron subtypes at single cell resolution. M. F. ROSE\*; A. GELBER; M. A. TISCHFIELD; A. P. TENNEY; A. N. COWAN; A. A. NUGENT; P. ANG; S. IZEN; M. R. BAUER; W. HUANG; R. SATIJA; O. ROZENBLATT-ROSEN; A. REGEV; E. C. ENGLE. *Boston Children's Hosp., Boston Children's Hosp., Boston Children's Hosp., New York Univ., The Broad Inst. of MIT and Harvard.*
- 10:00 B27 **458.07** Examination of intrinsic and extrinsic programmed cell death in the superior cervical ganglion. C. L. KAMINSKI; L. B. SCHMIDT; B. A. PIERCHALA\*. *Univ. of Michigan, Univ. of Michigan.*
- 11:00 B28 **458.08** Functional divergence of sensory responses in developing sensory and motor cortex. L. J. GOMEZ\*; J. C. DOOLEY; G. SOKOLOFF; M. S. BLUMBERG. *Univ. of Iowa, Univ. of Iowa.*
- 8:00 B29 **458.09** Optical interrogation of V2a neurons reveals role in regulating cortical activity and sleep-wake behavior. M. M. ISAAMULLAH\*; A. KUZHANDAIVEL; L. HOFFMAN; K. SHARMA. *UIC COM, Univ. of Illinois - Urbana Champaign.*
- 9:00 B30 **458.10** The racgap b-chimaerin is essential for cerebellar granule cell migration. J. A. ESTEP\*; W. WONG; Y. WONG; A. TAFT; M. RICCOMAGNO. *Univ. of California Riverside, Univ. of California Riverside.*
- 10:00 B31 **458.11** Characterization of cell type specific ATG14 deletion in mice reveals distinct functions of PI3KC3 activity in the nervous system via autophagy dependent and independent pathways. K. PURTELL\*; M. PRUVOST; N. M. WADE; Z. YUE. *Icahn Sch. of Med. at Mount Sinai, Advanced Sci. Res. Ctr. at the Grad. Ctr. of The City Univ. of New York, Univ. of Pennsylvania.*
- 11:00 B32 **458.12** Infant leg movement activity intensity prior and post sleep throughout a week. I. A. TRUJILLO PRIEGO\*; I. F. WERNER; W. DENG; B. A. SMITH. *USC, Univ. of Innsbruck, USC, USC.*
- 8:00 C1 **458.13** Inactivation of Fgfr1 and Fgfr2 in cerebellar glia. L. RUBIN\*; A. PRUITT; K. M. SMITH. *Univ. of Louisiana at Lafayette, Univ. of Louisiana at Lafayette.*
- 9:00 C2 **458.14** Oculomotor nerve requires an early interaction with muscle precursors for proper growth and branching pattern. B. M. BJORKE\*; G. ROBINSON; K. WELLER; T. GOULD; P. J. GAGE; G. S. MASTICK. *Carleton Col., Univ. of Nevada, Reno, Univ. of Nevada, Reno, Univ. of Michigan Kellogg Eye Ctr., Univ. of Nevada, Reno.*
- 10:00 C3 **458.15** Description and characterization of the developing and adult brain of the gray short-tailed opossum (*Monodelphis domestica*). O. MALDONADO; M. GIL\*; A. TORRES-REVERON; J. L. VANDEBERG; M. SCHWANZEL-FUKUDA; P. B. SAMOLLO; B. FADEM; G. A. DE ERAUSQUIN. *The Univ. of Texas Rio Grande Valley, The Univ. of Texas Rio Grande Valley, Univ. of Texas At Rio Grande Valley, The Univ. of Texas Rio Grande Valley, Rockefeller Univ., Texas A&M Univ., New Jersey Med. Sch., UTRGV Sch. of Med.*
- 11:00 C4 **458.16** ▲ Sensorimotor and memory assessment in zika virus inoculated monodelphis domestica (laboratory opossum). A. TORRES-REVERON\*; Y. VARGAS-GONZALEZ; L. RIVERA-LOPEZ; J. VANDEBERG; J. THOMAS; M. GIL; G. A. DE ERAUSQUIN. *Univ. of Texas at Rio Grande Valley, Univ. of Texas at Rio Grande Valley, UTRGV Sch. of Med., Univ. of Texas at Rio Grande Valley, Univ. of Texas at Rio Grande Valley, Univ. of Texas at Rio Grande Valley, UTRGV Sch. of Med.*

## POSTER

### 459. G-Protein Coupled Receptors

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

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

- 8:00 C5 **459.01** Monoaminergic inputs to Mushroom Body (MB) output neurons extend flight bout durations in *Drosophila melanogaster*. S. B. MANJILA\*; M. KURUVILLA; J. FERVEUR; S. SANE; G. HASAN. *Natl. Ctr. For Biol. Sci., Univ. of Burgundy.*

• 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 C6 **459.02** *In vitro* determination of the CB1 efficacy of illicit synthetic cannabinoids. S. SACHDEV; K. VEMURI; S. BANISTER; M. KASSIOU; A. MAKRIYANNIS; M. CONNOR\*. *Macquarie Univ., Northeastern Univ., The Univ. of Sydney, The Univ. of Sydney, Macquarie Univ.*
- 10:00 C7 **459.03** Impairments in behavior and hippocampal synaptic function in the trace amine-associated receptor 2 knockout mouse. A. G. ALMONTE\*; A. L. DEAL; J. K. KONSTANTOPOULOS; J. L. WEINER; E. A. BUDYGIN. *Wake Forest Sch. of Med., Wake Forest Sch. of Med.*
- 11:00 C8 **459.04** Regional heterogeneity of D2-receptor signaling in the dorsal striatum and nucleus accumbens. P. F. MARCOTT\*; S. GONG; P. DONTAMSETTI; A. H. NEWMAN; L. BIRNBAUMER; K. A. MARTEMYANOV; J. A. JAVITCH; C. P. FORD. *Case Western Reserve Univ., Univ. of Colorado Sch. of Med., Columbia Univ., Univ. of California, Berkeley, NIDA-IRP, Catholic Univ. of Argentina, Scripps Florida.*
- 8:00 C9 **459.05** Beta-arrestins regulate mglu7 function by Nedd4-mediated ubiquitination. S. LEE; S. PARK; H. LEE; Y. SUH\*. *Seoul Natl. Univ. Col. of Med.*
- 9:00 C10 **459.06** Characterization of N-linked glycosylation of metabotropic glutamate receptor 7. D. PARK\*; Y. SUH. *Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ. Col. of Med.*
- 10:00 C11 **459.07** Inhibitory elements in the promoter region of mouse lysophosphatidic acid receptor gene Lpar1. H. PARK; N. KIM; A. SADRA\*; S. HUH. *Hallym Univ.*
- 11:00 C12 **459.08** ▲ NECAB1 and NECAB2 are the two major calcium-binding proteins of the CB<sub>1</sub> cannabinoid receptor-positive GABAergic interneuron population in the neocortex, hippocampus and the basolateral amygdala. J. R. GLAVINICS\*; V. MICZÁN; K. KELEMEN; Z. LÁSZLÓ; I. KATONA. *Inst. of Exptl. Medicine, HAS, Pazmany Peter Catholic Univ., Univ. of Med. and Pharm. of Tirgu Mures, Sch. of PhD Studies, Semmelweis Univ.*
- 8:00 C13 **459.09** Receptor density and distribution of 5-HT<sub>2</sub> receptors in the cingulate cortex and fusiform gyrus in autism: A multiple concentration saturation binding study in children and adults. C. BRANDENBURG\*; G. J. BLATT; D. SIDIBE. *Hussman Inst. For Autism, Hussman Inst. for Autism.*
- 9:00 C14 **459.10** ▲ Pallido-pallidal terminals expresses cannabinoid receptors types 1 and 2. I. O. CONDE ROJAS\*; III; R. CABALLERO-FLORÁN; J. ACEVES; D. ERLIJ; G. B. FLORAN. *Ctr. de Investigaci3n y de Estudios Avanzados de, Univ. of Michigan, Ctr. Investigaci3n del IPN, SUNY Downstate Med. Ctr. Col. of Med., CINVESTAV IPN.*
- 10:00 C15 **459.11** Interaction between type-2 corticotropin releasing factor and D1 dopaminergic receptors in the amygdala-prefrontal cortex transmission. H. E. YARUR\*; I. M. VEGA-QUIROGA; K. GYSLING. *Pontificia Univ. Catolica de Chile.*
- 11:00 C16 **459.12** ▲ D3/D3nf isoform expression determines the functional response to D3 receptor activation on cAMP formation and [<sup>3</sup>H] GABA release in the striatum. B. CAMPOS\*; J. AVALOS-FUENTES; C. PIÑA LEYVA; F. PAZ-BERMÚDEZ; D. ERLIJ; G. B. FLORAN. *Ctr. For Res. and Advanced Studies of the Na, Ctr. de Investigaci3n y de Estudios Avanzados del IPN, CINVESTAV, SUNY Downstate Med. Ctr. Col. of Med., CINVESTAV IPN.*
- 8:00 C17 **459.13** The role of PAR-1 activation in sharp wave ripple event frequency. P. BOZZELLI\*; P. LI; S. VILLAPOL; J. WU; K. CONANT. *Georgetown Univ., Sun Yat-Sen Mem. Hospital, Sun Yat-Sen Univ., Georgetown Univ.*
- 9:00 C18 **459.14** Role of serotonin in the neuromodulation of layer 5 neurons in rat prefrontal cortex. R. RAMA\*. *Inst. of Neurosci. and Med. 2 And10.*
- 10:00 C19 **459.15** Additive effects of allosteric ligands acting at distinct sites on muscarinic acetylcholine receptors: Signal shaping. J. ELLIS\*; G. ELMSLIE. *Penn State Univ.*
- 11:00 C20 **459.16** D2 receptor upregulation in accumbens cholinergic interneurons: Effects on pause duration and associative conditioning. E. F. GALLO\*; E. TEBOUL; B. AKDOGAN; N. ZARRELLI; B. COTTEN; P. D. BALSAM; J. A. JAVITCH; C. KELLENDONK. *Columbia University/NYSPI, New York State Psychiatric Inst., Columbia Univ., Barnard Col., Barnard Coll Columbia Univ., Columbia Univ.*
- 8:00 C21 **459.17** Muscarinic receptor isoforms differentially regulate pyramidal neuron excitability within layer VI of the mouse medial prefrontal cortex. A. V. PATEL; C. D. BAILEY\*. *Univ. of Guelph.*
- 9:00 C22 **459.18** Extracellular cyclic AMP-adenosine pathway: A potential target for treating skeletal muscle atrophy. F. RODRIGUES ELOI\*; T. CHIAVEGATTI; A. ANDRADE-LOPES; R. OLIVEIRA GODINHO. *Univ. Federal de São Pauola.*
- 10:00 C23 **459.19** An effort to build an *in vitro* high-throughput screening for seizure liability based on calcium oscillation of human ipsc-derived neurons. Y. WANG\*; S. DU; S. HISADA. *Hamamatsu Corp., Hamamatsu Photonics K.K.*
- 11:00 C24 **459.20** Biased M1 PAMs reveal critical role of phospholipase D in M1 PAM enhancement of cortical function. S. P. MORAN\*; C. A. DOYLE; H. P. CHO; Z. XIANG; J. T. MAKSYMETZ; S. FALTIN; C. M. NISWENDER; J. M. ROOK; C. LINDSLEY; P. CONN. *Vanderbilt Univ., Vanderbilt Univ., Univ. of Virginia, Vanderbilt Univ., Vanderbilt Ctr. For Neurosci. Drug Discovery, Vanderbilt Univ. Med. Ctr., Vanderbilt Univ., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ.*
- 8:00 C25 **459.21** ● Selective antagonists of the M<sub>4</sub> muscarinic acetylcholine receptor relieve parkinsonian motor deficit. M. S. MOEHLE\*; J. M. ROOK; D. J. FOSTER; S. E. YOHN; C. M. NISWENDER; C. LINDSLEY; C. K. JONES; P. CONN. *Vanderbilt Univ., Vanderbilt Univ.*
- 9:00 C26 **459.22** ● M<sub>1</sub> muscarinic receptors modulate discrete glutamatergic inputs to the prefrontal cortex: Implications for novel treatments of posttraumatic stress disorder. J. T. MAKSYMETZ\*; M. E. JOFFE; S. P. MORAN; J. E. ZACHRY; B. J. STANSLEY; K. J. TEMPLE; D. W. ENGERS; C. W. LINDSLEY; P. J. CONN. *Vanderbilt Univ., Vanderbilt Univ.*

## POSTER

### 460. Epilepsy: Ion Channels

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

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

- 8:00 C27 **460.01** ● Reduced axonal surface expression and PIP<sub>2</sub> sensitivity in K<sub>v</sub>7 channels disrupts their function to inhibit neuronal excitability in Kcnq2 epileptic encephalopathy. E. KIM\*; J. ZHANG. *Univ. of Illinois At Urbana-Champaign.*

- 9:00 C28 **460.02** Nonuniform changes in h channel expression along the dorsoventral axis of the hippocampus in a rat model of temporal lobe epilepsy. E. C. ARNOLD\*; R. A. GRAY; D. JOHNSTON. *The Univ. of Texas At Austin, The Univ. of Texas At Austin.*
- 10:00 C29 **460.03** Using zebrafish as a tool to model patient mutations of KCNB1 and its role in epilepsy. A. COLON-RODRIGUEZ\*; K. F. BURBACH; E. FERINO; M. BADER; P. J. LEIN; L. JAO; M. Y. DENNIS. *Univ. of California Davis, UC Davis, UC Davis Sch. of Med.*
- 11:00 C30 **460.04** ▲ Epileptogenic seizures and increased excitability promote upregulation of KCNQ M-type K<sup>+</sup> channels in the hippocampus. S. D. HASTINGS\*; C. CARVER; M. S. SHAPIRO. *Univ. of Texas Hlth. San Antonio.*
- 8:00 C31 **460.05** ● Human KCNQ5 (Kv7.5) gain-of-function and loss-of-function de novo mutations underlie epilepsy and intellectual disability validated by Cas9-targeted mKCNQ5 KO mice. A. D. WEI\*; F. K. KALUME; T. A. ZWINGMAN; P. WAKENIGHT; A. BARD; N. SAHAI; M. H. WILLEMSSEN; H. J. SCHELHAAS; J. S. VERHOEVEN; D. N. SHINDE; K. HELBIG; A. BASINGER; D. F. RODRIGUEZ-BURITICA; J. J. MILLICHAP; K. J. MILLEN; W. DOBYNS; J. RAMIREZ. *Seattle Children's Res. Inst., Univ. of Washington Sch. of Med., Maastricht Univ. Med. Ctr., Radboud Univ. Med. Ctr., Academic Ctr. for Epileptology Kempenhaeghe, Ambry Genet., Cook Children's Hosp., Univ. of Texas Hlth. Sci. Ctr., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med., Univ. of Washington Sch. of Med.*
- 9:00 C32 **460.06** ERG3 potassium channel-mediated suppression of neuronal intrinsic excitability and prevention of seizure generation in mice. Z. HUANG\*; X. KUO; S. Z. MING; F. M. HUA. *Peking Univ., Peking Univ. Hlth. Sci. Ctr.*
- 10:00 C33 **460.07** MicroRNA-mediated regulation of hippocampal A-type currents is associated with reduced seizure frequency in a mouse model of epilepsy. D. TIWARI; D. H. BRAGER; N. EL-SAYED; J. KRZESKI; J. RYMER; L. SCHROEDER; S. DANZER; C. GROSS\*. *Cincinnati Children's Hosp. Med. Ctr., Univ. Texas at Austin.*
- 11:00 C34 **460.08** ▲ A functional characterisation of missense mutations in CACNA1E, a novel epilepsy gene. R. LAUERER\*; K. HELBIG; J. BAHR; B. UYSAL; N. SCHWARZ; U. B. S. HEDRICH; H. C. MEFFORD; H. LERCHE. *Univ. Hosp. of Tuebingen, Univ. of Tuebingen, Children's Hosp. of Philadelphia, Roberts Ctr. for Pediatric Res., Univ. of Washington.*
- 8:00 C35 **460.09** ● Efficacy of sodium channel inhibitors as anticonvulsants in the mouse maximal electroshock seizure assay is predictive of the therapeutic plasma concentration in humans. P. KARIMI TARI\*; K. NELKENBRECHER; M. WALDBROOK; G. DE BOER; R. KWAN; C. M. DUBE; T. FOCKEN; C. DEHNHARDT; N. SHUART; S. GOODCHILD; L. SOJO; J. EMPFIELD; C. J. COHEN; J. JOHNSON. *Xenon Pharmaceuticals, Xenon Pharmaceuticals, Xenon Pharmaceuticals, Xenon Pharmaceuticals, Xenon Pharmaceuticals.*
- 9:00 C36 **460.10** Distinct functional alterations in SCN8A epilepsy mutant channels. Y. PAN\*; T. R. CUMMINS. *Indiana Univ. Sch. of Med., Indiana University-Purdue Univ. Indianapolis.*
- 10:00 C37 **460.11** Dyshomeostatic mechanisms of KCNQ2-related epileptic encephalopathy in patient-specific iPSC-derived excitatory neurons. D. SIMKIN\*; T. J. SEARL; J. J. MILLICHAP; B. N. PIYEVSKY; G. L. ROBERTSON; M. FORREST; P. PENZES; A. L. GEORGE, Jr.; E. KISKINIS. *Northwestern University, Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med.*
- 11:00 C38 **460.12** Effects on neuronal excitability of SCN3A mutations causing early infantile epileptic encephalopathy. E. M. GOLDBERG\*; N. P. SOTUYO; T. ZAMAN. *The Children's Hosp. of Philadelphia, The Perelman Sch. of Med. at The Univ. of Pennsylvania, The Perelman Sch. of Med. at The Univ. of Pennsylvania.*

## POSTER

### 461. Calcium Channels

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

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

- 8:00 D1 **461.01** Alterations in oscillatory activity of CeM neurons in mice lacking Ca<sub>v</sub>3.1 isoform of T-channels during isoflurane-induced unconsciousness. T. TIMIC STAMENIC\*; S. FESEHA; S. TODOROVIC. *Univ. of Colorado Denver, Anschutz Med. Ca.*
- 9:00 D2 **461.02** Effect of conditional ryanodine receptor 2 knockout on neuronal activity in the hippocampus and learning. M. MITTAG\*; L. WISCHHOF; F. BERTAN; L. SOSULINA; D. DALÜGGE; S. REMY; D. BANO; P. NICOTERA; M. FUHRMANN. *DZNE German Ctr. for Neurodegenerative Dis., DZNE German Ctr. for Neurodegenerative Dis., DZNE German Ctr. for Neurodegenerative Dis.*
- 10:00 D3 **461.03** ● Development of a high-throughput screening assay for I-type calcium channels in neurons. Y. ZHANG; E. NACU; M. E. FITZPATRICK; W. CROTTY; E. M. SCOLNICK; K. EGGAN; J. R. COTTRELL\*. *Broad Inst. of MIT and Harvard, Harvard Univ.*
- 11:00 D4 **461.04** A mutation in CaV2.1 linked to ataxia, hypotonia and developmental delay profoundly impairs channel voltage-sensitivity. S. TYAGI\*; T. R. BENDRICK; D. FILIPOVA; S. PAPADOPOULOS; R. A. BANNISTER. *Univ. of Colorado SOM, Univ. of Cologne.*
- 8:00 D5 **461.05** Cognitive and affective behavioral phenotype of Ca<sub>v</sub>3.1 knock-out mice: The importance of subicular circuitry. S. M. JOKSIMOVIC\*; N. BUSQUET; R. VALDEZ; S. M. TODOROVIC. *Univ. of Colorado, Anschutz Med. Campus, Univ. of Colorado, Anschutz Med. Campus, Univ. of Colorado, Anschutz Med. Campus.*
- 9:00 D6 **461.06** Neuronal voltage gated calcium channel genes produce secondary nuclear proteins that are subcellularly regulated in an activity-dependent manner. E. RAO\*; D. P. HEJAZI; X. DU; J. GODFREY; C. M. GOMEZ. *Univ. of Chicago, Univ. of Chicago, Univ. of Chicago, Univ. of Chicago.*
- 10:00 D7 **461.07** Non-linear Ca<sup>2+</sup> events along apical obliques of layer 5 cortical pyramidal neurons. M. L. CASTANARES; H. MA; V. DARIA\*. *The Australian Natl. Univ.*

Tues. 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 D8 **461.08** ● Regulation of NMDA receptor phosphorylation *in vivo* by administration of voltage gated calcium channel agonist, BayK8644. R. V. OMKUMAR\*; M. JOHN; M. KUMAR; M. MADHAVAN. *Rajiv Gandhi Ctr. for Biotech.*
- 8:00 D9 **461.09** The development and characterization of a new, conditional mouse model over-expressing Ca<sub>v</sub>1.2. R. PARENT\*; L. J. OUILLETTE; H. BURNS; A. SMARSH; V. A. CAZARES; G. G. MURPHY. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*
- 9:00 D10 **461.10** Determining the molecular identity of the mitochondrial Na<sup>+</sup>/Ca<sup>2+</sup> exchanger in neurons. G. C. WALTERS\*; J. E. RYSTED; Z. LIN; A. GNANASEKARAN; R. A. MERRILL; S. STRACK; Y. M. USACHEV. *Univ. of Iowa, Univ. of Iowa.*
- 10:00 D11 **461.11** Axonal wiring and postsynaptic GABA<sub>A</sub>-receptor abundance are regulated by the presynaptic calcium channel α<sub>2</sub>δ-2 subunit via a trans-synaptic mechanism. S. GEISLER; C. L. SCHÖPF; R. I. STANIKA; M. KALB; M. CAMPIGLIO; D. REPETTO; L. TRAXLER; M. MISSLER; G. J. OBERMAIR\*. *Med. Univ. Innsbruck, Westfaelische Wilhelms Univ. of Muenster.*
- 11:00 D12 **461.12** L-type calcium channels modulate the firing pattern of the basolateral amygdala principal neurons. Y. ZHANG\*; E. GARCIA; L. YANG; R. GOPAUL; T. SNUTCH. *Univ. of British Columbia.*
- 8:00 D13 **461.13** CRAC channels contribute to TRPV1-mediated calcium entry in dorsal root ganglion neurons. Y. MEI\*; D. WEI; H. HU. *Drexel Univ. Col. of Med.*
- 9:00 D14 **461.14** The role of the Mitochondrial Ca<sup>2+</sup> Uniporter (MCU) in the pathogenesis of Alzheimer's disease. B. D'ORSI\*; L. GALLO; E. GREOTTI; D. DE STEFANI; T. POZZAN; R. RIZZUTO. *Univ. of Padua, Univ. of Padua.*
- 10:00 D15 **461.15** TRPM2 deficiency modulates neural plasticity in the mouse hippocampus. S. KO\*; S. WANG; S. LEE; M. PARK; S. JUNG; H. SON. *Hanyang Univ., Hanyang Univ., Hanyang Univ.*
- 11:00 D16 **461.16** ▲ Investigating the role of STIM1 and store-operated calcium entry in mouse purkinje neurons. S. K. DHANYA\*, SR; G. HASAN. *Natl. Ctr. For Biol. Sciences, Tata Insti, SASTRA Univ.*
- 10:00 D19 **462.03** Physiological effects of a direct interaction between postsynaptic proteins Shank3 and CaMKII. T. L. PERFITT\*; C. R. MARKS; X. WANG; T. NAKAGAWA; D. A. JACOBSON; R. J. COLBRAN. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ. Sch. Med.*
- 11:00 D20 **462.04** Drebrin depletion affects accumulation of NMDAR subunits and causes less immunoreactivity of MAP2. N. KOGANEZAWA\*; H. YAMAZAKI; T. SHIRAO. *Gunma Univ. Grad. Sch. of Med.*
- 8:00 D21 **462.05** The epilepsy gene tbc1d24 encodes a novel synaptic protein that is required for the maintenance of excitatory synapses in hippocampal neuron. L. LIN\*; Q. LYU; X. SHEN; J. ZHAO; A. CHAI; K. LAI. *The Univ. of Hong Kong.*
- 9:00 D22 **462.06** Differential involvement of GluN2B and GluA1 in formation of left-right asymmetry in the hippocampus. D. KLEINDIENST\*; R. KAWAKAMI; M. J. CASE; K. KOBAYASHI; N. KOMIYAMA; M. ABE; K. SAKIMURA; R. SHIGEMOTO. *IST Austria, Ehime Univ., Natl. Inst. for Physiological Sci., Univ. of Edinburgh, Cell. Neurobiol, Brain Res. Inst, Niigata Univ., Brain Res. Ins Niigata Univ.*
- 10:00 D23 **462.07** Distinct neurodevelopmental and neuropsychiatric-like phenotypes in Shank2 gene-targeted mice. A. ELTOKHI\*; G. A. RAPPOLD; R. SPRENGEL. *Inst. of Human Genet., Max Planck Inst. for Med. Res., Inst. of Anat. and Cell Biol.*
- 11:00 D24 **462.08** Regulation of trans-synaptic nanoalignment by the actin cytoskeleton. A. D. LEVY\*; A. TANG; T. A. BLANPIED. *Univ. of Maryland, Baltimore.*
- 8:00 D25 **462.09** Regulation of NMDA receptor activation following spontaneous glutamate release. S. RANSOM METZBOWER\*; T. A. BLANPIED. *Univ. of Maryland Baltimore, Univ. of Maryland Sch. of Med.*
- 9:00 D26 **462.10** Autism-associated variants of syntaxin binding protein 5 (STXBP5) disrupt dendritic morphology via the regulation of rho signaling. W. SHEN\*; M. KILANDER; Y. LIN. *Hussman Inst. for Autism.*
- 10:00 D27 **462.11** InSyn1 regulates GABAergic synaptic transmission and cognitive behaviors. A. UEZU\*; T. W. BRADSHAW; P. DEVLIN; E. SPENCE; Y. GAO; I. KIM; R. RODRIGUIZ; S. H. SODERLING. *Duke Univ., Duke Univ., Duke Univ., Duke Univ., Duke Univ., Duke Univ., Duke Univ.*
- 11:00 D28 **462.12** Regional variations of excitatory vs. inhibitory input to cortical pyramidal neurons *in vivo*. W. WENG\*; D. B. ARNOLD. *USC.*
- 8:00 D29 **462.13** Connectivity maps of layer 5-Cre lines and comparison with afferent inputs to layer 1. J. LEDDEROSE\*; T. A. ZOLNIK; T. TRIMBUCH; C. ROSENMUND; B. J. EICKHOLT; M. E. LARKUM; R. N. S. SACHDEV. *Charité Universitätsmedizin Berlin, Humboldt Univ. Berlin, Charité Universitätsmedizin Berlin, Charité Universitätsmedizin Berlin.*
- 9:00 D30 **462.14** Tropomyosin isoforms Tpm3.1 and Tpm4.2 modulate synaptic function. C. CHAICHIM\*; H. STEFEN; M. BRETTLE; P. W. GUNNING; E. C. HARDEMAN; T. FATH; J. M. POWER. *Sch. of Med. Sciences, UNSW Sydney.*
- 10:00 D31 **462.15** Expression of the GABA-A receptor α4 subunit is selective for specific spine types in female mouse hippocampus at puberty. J. PARATO\*; S. S. SMITH. *SUNY Downstate, SUNY Downstate Med. Ctr.*

## POSTER

### 462. Postsynaptic Organization and Structure

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

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

- 8:00 DP02/D17 **462.01** (Dynamic Poster) The Dendrite Nanomap - A quantitative 3D nanoscale model of dendritic spines. M. HELM\*; T. DANKOVICH; S. MANDAD; T. A. SCHIKORSKI; S. RIZZOLI. *Univ. Med. Ctr. Göttingen, IMPRS Mol. Biol., Univ. Med. Ctr. Göttingen, Univ. Med. Ctr. Goettingen, Univ. Central Del Caribe.*
- 9:00 D18 **462.02** Synapse size predicts EPSP amplitude in mouse barrel cortex. G. F. SCHUHKNECHT\*; S. HOLLER-RICKAUER; G. KÖSTINGER; K. A. C. MARTIN. *Univ. of Zurich, ETH Zurich.*
- 10:00 D31 **462.15** Expression of the GABA-A receptor α4 subunit is selective for specific spine types in female mouse hippocampus at puberty. J. PARATO\*; S. S. SMITH. *SUNY Downstate, SUNY Downstate Med. Ctr.*



- 11:00 D32 **462.16** Resolving the functional organization of postsynaptic glutamate receptors. N. SCHEEFHALS\*; H. D. MACGILLAVRY. *Utrecht Univ.*
- 8:00 D33 **462.17** Targeting histone deacetylation for recovery of maternal deprivation-induced changes in BDNF and AKAP150 expression in the VTA. F. S. NUGENT\*; S. GOUTY; B. M. COX; H. KASSIS; A. BERENJI; W. ZHU; R. HAMMACK; R. D. SHEPARD. *Uniformed Services Univ., Uniformed Services Univ., USUHS.*
- 9:00 D34 **462.18** Dynamic control of synaptic substructure and function by adhesion molecules. A. M. RAMSEY\*; A. TANG; T. BIEDERER; T. A. BLANPIED. *Univ. of Maryland, Baltimore, Univ. of Maryland Sch. of Med., Tufts Univ. Sch. of Med., Univ. of Maryland Sch. of Med.*
- 10:00 D35 **462.19**  $\alpha 4\beta\delta$  GABA-A receptors trigger pruning of mushroom spines in primary motor cortex during adolescence. M. TEKIN; H. SHEN; S. S. SMITH\*. *SUNY Downstate Med. Ctr.*
- 11:00 D36 **462.20** FAM81A protein, a component of the postsynaptic density in adult brain. A. DOSEMECI\*; H. K. LOO; C. A. WINTERS; T. S. REESE; J. TAO-CHENG. *NIH, NIH.*
- 8:00 D37 **462.21** ▲ Rapid modulation of transsynaptically aligned glutamate receptor nanocluster rings during homeostatic plasticity. P. FREI; M. MUELLER\*. *Univ. of Zurich.*
- 9:00 D38 **462.22** Multiprotein complexes containing synapse-associated proteins are differentially sensitive to lysis buffer detergent. S. E. SMITH\*; J. LAUTZ; E. A. BROWN; E. P. GNIFFKE. *Seattle Childrens Res. Inst.*
- 10:00 D39 **462.23** Spontaneous and evoked neurotransmission are partially segregated at inhibitory synapses. P. M. HORVATH\*; L. M. MONTEGGIA; E. T. KAVALALI. *UT Southwestern Med. Ctr., UT Southwestern Med. Ctr.*
- 11:00 D40 **462.24** Functional differences of neuroligins: 4x vs. 4y. T. A. NGUYEN\*; M. A. BEMBEN; Y. LI; K. W. ROCHE. *NINDS.*
- 8:00 D41 **462.25** Proteomic analysis of trio and kalirin interactomes. J. PASKUS\*; M. BEMBEN; Y. LI; K. ROCHE. *Natl. Inst. of Hlth.*
- 9:00 D42 **462.26** PKA phosphorylation of NLGN1 regulates trafficking and PSD-95 binding. J. JEONG\*; M. A. BEMBEN; Y. LI; K. W. ROCHE. *NINDS, BUILDING 35.*
- 10:00 D45 **463.03** Lateral inhibition and rhythmic gating by the dendrodendritic microcircuit in the olfactory bulb. M. MIGLIORE\*; M. L. HINES; C. GREER; G. M. SHEPHERD. *Natl. Res. Council, Yale Univ.*
- 11:00 D46 **463.04** Glutamate and gaba co-transmission: Cell-types, distribution, synaptic and vesicular mechanisms. D. H. ROOT\*; S. ZHANG; D. J. BARKER; J. A. MIRANDA-BARRIENTOS; B. LIU; H. WANG; M. F. MORALES. *Natl. Inst. on Drug Abuse.*
- 8:00 D47 **463.05** Mapping somatodendritic circuits of midbrain dopamine neurons. S. ZYCH\*; C. P. FORD. *Univ. of Colorado Anschutz Med. Campus.*
- 9:00 D48 **463.06** Depolarization-induced sensitization and synaptic properties of layer 2/3 pyramidal cells in mouse granule retrosplenial cortex. M. GAO\*; Y. IKEGAYA. *The Univ. of Tokyo.*
- 10:00 D49 **463.07** Voltage imaging reveals gap junction enhancement of inhibitory interneuron synchrony in layer II/III of mouse cortex. K. S. SCHEUER\*; P. O. BAYGUINOV; M. B. JACKSON. *Univ. of Wisconsin-Madison, Washington Univ.*
- 11:00 D50 **463.08** Localization of inhibitory interneurons integrating central amygdaloid inputs to locus coeruleus neurons using virus mediated cell type specific wheat germ agglutinin tracing method. J. HSIEH\*; M. MIN; C. CHEN; H. YANG. *Natl. Taiwan Univ., Natl. Taiwan Univ., Academia Sinica, Chung Shan Med. Univ.*
- 8:00 D51 **463.09** Cholinergic modulation reorganizes dentate gyrus microcircuits. M. B. OGANDO; D. M. ARRIBAS; L. G. MORELLI; A. MARIN-BURGIN\*. *IBioBA-Conicet-Partner Inst. of the Max Planck.*
- 9:00 E1 **463.10** The modulation of responses characteristics depending on the input frequency in hippocampal granule cells. N. NAKAJIMA; T. OINUMA; H. HAYAKAWA; E. SUGISAKI; T. AIHARA\*. *Tamagawa Univ.*
- 10:00 E2 **463.11** Changes in synaptic transmission in NTS of rats in response to acute hypoxia are not affected by previous exposure to sustained hypoxia or chronic intermittent hypoxia. D. ACCORSI-MENDONCA\*; L. G. H. BONAGAMBA; B. H. MACHADO. *Univ. São Paulo, Univ. of Sao Paulo, Sch. Med. Ribeirao Preto, USP.*
- 11:00 E3 **463.12** NMDA spikes in human neocortex. G. TESTA-SILVA\*; S. HONNURAIH; C. FRENCH; J. KING; K. DRUMMOND; L. M. PALMER; G. J. STUART. *The Australian Natl. Univ., The Australian Natl. Univ., Univ. of Melbourne, The Royal Melbourne Hosp., Univ. of Melbourne.*
- 8:00 E4 **463.13** Functional autapses in neocortical pyramidal cells. W. KE; L. YIN; R. ZHENG; Q. HE; Y. ZHANG; J. LI; B. WANG; Z. MI; M. RASCH; T. LI; G. LUAN; Y. SHU\*. *Beijing Normal Univ., Sanbo Brain Hospital, Capital Med. Univ.*
- 9:00 E5 **463.14** Impact of layer 6 corticothalamic neurons in the prefrontal cortex. D. COLLINS\*; A. G. CARTER. *New York Univ.*
- 10:00 E6 **463.15** Ventral hippocampal inputs preferentially drive cortico-cortical neurons in the infralimbic prefrontal cortex. X. LIU\*; A. G. CARTER. *New York Univ.*
- 11:00 E7 **463.16** Target cell-specific asynchronous glutamate release from neocortical pyramidal cells. S. DENG; J. LI; J. ZHU; Q. HE; Z. MI; M. ZHANG\*; Y. SHU. *Beijing Normal Univ., Yale Univ.*

**POSTER**

**463. Network Interactions and Synaptic Integration II**

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

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

- 8:00 D43 **463.01** Quantification of the input-output relationship in an interneuron of *C. elegans* under natural noise. K. ASHIDA\*; K. HOTTA; K. OKA. *Keio Univ., Keio Univ.*
- 9:00 D44 **463.02** Coincidence detection within the excitable olfactory bulb granule cell spines. S. AGHVAMI; M. MÜLLER; M. LUKAS\*; H. SEYED-ALLAEI; B. N. ARAABI; V. EGGER. *Univ. of Tehran, Univ. of Regensburg, Univ. of Regensburg, Inst. for Res. in Fundamental Sci. (IPM).*

• 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 E8 **463.17** Non-reciprocal open-loop interactions in thalamo-thalamicreticular network. K. PAUL\*; J. W. BROWN; A. TAHERI; R. V. KENYON; T. Y. BERGER-WOLF; D. A. LLANO. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Chicago, Univ. of Illinois at Urbana-Champaign.*
- 9:00 E9 **463.18** Recruitment of neurons into neural ensembles based on dendritic plateau potentials. P. P. GAO\*; J. W. GRAHAM; S. L. ANGULO; S. DURA-BERNAL; M. L. HINES; W. W. LYTTON; S. D. ANTIC. *Univ. of Connecticut Hlth. Ctr., SUNY Downstate Med. Ctr., Kings County Hosp., Yale Univ.*
- 10:00 E10 **463.19** Embedded ensemble encoding: A hypothesis for reconciling cortical coding strategies. J. W. GRAHAM\*; S. ANGULO; P. P. GAO; S. DURA-BERNAL; S. SIVAGNANAM; M. L. HINES; S. D. ANTIC; W. W. LYTTON. *Neurosim Lab. @ SUNY Downstate, Univ. of Connecticut Hlth. Ctr., Univ. of California San Diego, Yale Univ., Kings County Hosp. Ctr.*
- 11:00 E11 **463.20** Shaping the spatiotemporal window for spiking via cell-type-specific inhibition of dendritic plateau potential in the striatal spiny projection neurons. Y. WU\*; K. DU; R. C. LINDROOS; Y. LIU; B. ROZSA; G. KATONA; J. HELLGREN KOTALESKI; J. B. DING. *Stanford Univ. Dept. of Neurol. and Neurolog. Sci., Karolinska Inst., Karolinska Institutet, Stanford Univ., Inst. of Exptl. Med., Pázmány Péter Univ., Stanford Univ. Dept. of Neurosurg.*
- 8:00 E12 **463.21** Coincidence and sequence detection by electrically-coupled interneurons. P. ALCAMI\*. *Eberhard-Gwinner-Strasse.*

## POSTER

### 464. Short-Term Synaptic Plasticity

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

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

- 8:00 E13 **464.01** Binge alcohol drinking alters computing of executive and emotional information in nucleus accumbens medium spiny neurons. G. E. MARTIN\*; J. KOLPAKOVA. *Univ. of Massachusetts Med. Sch., Univ. of Massachusetts Med. Sch.*
- 9:00 E14 **464.02** Form follows function: Synaptic design to account for short term plasticity at mossy fiber boutons. N. SINGH\*; S. NADKARNI. *Indian Inst. of Sci. Educ. and Res., Indian Inst. of Sci. Educ. and Res. Pune.*
- 10:00 E15 **464.03** Increased synaptic facilitation and exploratory behavior in mice lacking the presynaptic protein mover. J. S. VIOTTI; F. W. OTT; J. M. WAGNER; E. M. SCHLEICHER; Y. BOUTER; T. A. BAYER; T. DRESBACH\*. *Univ. of Goettingen Med. Sch., Univ. of Goettingen Med. Sch.*
- 11:00 E16 **464.04** Mover promotes activity-dependent superpriming of synaptic vesicles at the Calyx of Held. H. POFANTIS\*; T. DRESBACH. *Univ. of Goettingen, Univ. Med. Ctr. Göttingen.*
- 8:00 E17 **464.05** Intrinsic plasticity associated with barrage firing episodes in rodent and human neurogliaform cells culminates in short-term potentiation of dendritic EPSP-spike coupling. R. CHITTAJALLU\*; K. AUVILLE; D. CALVIGIONI; C. FANG; X. Q. YUAN; K. A. PELKEY; K. ZAGHLOUL; C. J. MCBAIN. *NICHHD, NIH, NINDS, NIH.*
- 9:00 E18 **464.06** Noradrenergic modulation of hippocampal CA3 and CA1 networks. T. J. BACON\*; L. Y. PRINCE; K. TSANEVA-ATANASOVA; A. E. PICKERING; J. R. MELLOR. *Univ. of Bristol, Univ. of Bristol, Univ. of Bristol, Univ. of Exeter.*
- 10:00 E19 **464.07** Corticosterone and BDNF as possible contributors to the post-exercise priming of rat motor cortex and hippocampus. J. S. THACKER\*; W. STAINES; J. G. MIELKE. *Univ. of Waterloo, Univ. of Waterloo.*
- 11:00 E20 **464.08** Synapse-specific regulation revealed at single synapses is concealed when recording multiple synapses. J. W. LINES\*; A. COVELO; R. GOMEZ; L. LIU; A. ARAQUE. *Univ. of Minnesota, Univ. of Minnesota, La Laguna, Univ. of Minnesota Twin Cities.*
- 8:00 E21 **464.09** Conformational states of kainate receptors shapes short-term plasticity by controlling receptor lateral mobility at glutamatergic synapses. A. I. POLENGHI\*; S. GUAZZI; P. GOROSTIZA; A. BARBERIS. *Fondazione Inst. Italiano Di Tecnologia, Inst. for Bioengineering of Catalonia.*
- 9:00 E22 **464.10** Interplay of entorhinal cortical input and local inhibitory network at the origin of slow inhibition in hippocampal granule cells. Y. MIRCHEVA\*; M. R. PERALTA, III; K. TOTH. *Laval Univ.*
- 10:00 E23 **464.11** Inhibition of astroglial glutamine synthetase decreases leucine transport across the blood brain barrier. S. E. GRUENBAUM\*; R. DHAHER; K. BEHAR; H. ZAVERI; M. ERFE; T. EID. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Yale Univ. Sch. of Med.*
- 11:00 E24 **464.12** Identification of LTP-associated CCK signal transduction pathways in a primary hippocampal cell culture. R. JESKY\*; D. K. Y. SHUM; J. HE. *City Univ. of Hong Kong, Univ. of Hong Kong (HKU).*
- 8:00 E25 **464.13** Low chloride transporter expression in vasopressin neurons as a substrate for excitatory GABA signaling. M. O. FISHER\*, JR; J. G. TASKER. *Tulane Univ., Tulane Univ.*
- 9:00 E26 **464.14** ▲ The effect of vasopressin receptor activation on mouse locus coeruleus neuronal activity. E. CAMPOS-LIRA\*; L. KELLY; V. S. HERNANDEZ; L. ZHANG; J. SWINNY. *Sch. of Medicine, Natl. Autonomus Univ., Univ. of Portsmouth.*
- 10:00 E27 **464.15** AMP-activated protein kinase activation reduces rundown of dopamine-induced current in rat substantia nigra compacta neurons. S. W. JOHNSON\*; A. C. MUNHALL; K. SHEN; W. YANG. *Portland VA Med. Ctr., Oregon Hlth. Sci. Univ.*
- 11:00 E28 **464.16** UHPLC ALEXYS neurotransmitter analyzer for sensitive detection of gaba & glutamate, histamine, LNAAs and other amino acids. H. BROUWER\*; L. M. VAN HEERWAARDEN; M. EYSBERG; N. J. REINHOUD. *Antec Scientific, Antec Scientific (USA).*

POSTER

**465. Transcription and Translation in Synaptic Plasticity**

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

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

- 8:00 E29 **465.01** Chromatin structure of neurons and glia. P. R. LEE; S. C. CLARK; R. V. CHEREJI; D. J. CLARK; R. D. FIELDS\*. *NIH*.
- 9:00 E30 **465.02** The chromatin remodeling protein, Kismet, regulates presynaptic vesicle endocytosis at glutamatergic synapses. F. L. LIEBL\*; K. LANE; K. BERNARD. *Southern Illinois Univ. Edwardsville*.
- 10:00 E31 **465.03** CRC regulates presynaptic neurotransmitter release at the *Drosophila* neuromuscular junction. L. GRAY\*; G. KAWE; P. HAGHIGHI. *Buck Inst. for Res. on Aging*.
- 11:00 E32 **465.04** Identification and characterization of the promoter and of regulatory elements on the cerebral sodium/calcium exchanger isoform 2, NCX2, gene in rat pheochromocytoma cells. A. SERANI; P. MOLINARO; N. GUIDA; S. NATALE; L. FORMISANO; G. DI RENZO; L. ANNUNZIATO\*. *Federico II Univ. Naples, Federico II Univ. Naples, IRCSS SDN Naples, Federico II Univ. Naples*.
- 8:00 E33 **465.05** A SUV39H1selective inhibitor enhances synaptic plasticity by prolonging ERK activation. L. TONG\*; A. IONESCU; C. BUTLER; S. SNIGDHA; K. TSEUNG; L. OVERMAN; C. W. COTMAN. *UC Irvine, Scripps Col.*
- 9:00 E34 **465.06** Synaptic conditioning frequency, temporal pattern and plasticity outcome effect gene expression in visual cortex. Q. S. FISCHER\*; M. CHAUDHRY; D. KALIKULOV; M. A. FOX; M. J. FRIEDLANDER. *Virginia Tech. Carilion Res. Inst., Virginia Tech. Carilion Sch. of Med.*
- 10:00 E35 **465.07** A role for REST in adult ocular dominance plasticity. C. G. ELEFTHERIOU\*; E. CARMINATI; F. CESCA; L. MARAGLIANO; F. BENFENATI; J. MAYA-VETENCOURT. *Italian Inst. of Technol. (IIT), Univ. of Genova*.
- 11:00 E36 **465.08** Communication of pathway-specific circuit activity to the genome by the immediate early gene Npas4. S. BRIGIDI\*; M. HAYES; P. LIN; A. HARTZELL; S. HEINZ; B. L. BLOODGOOD. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego*.
- 8:00 E37 **465.09** Real-time imaging of endogenous mRNA in the live mouse brain. J. SHIM\*; B. LEE; H. MOON; H. PARK. *Seoul Natl. Univ.*
- 9:00 E38 **465.10** The effect of CPEB3 ribozyme self-scission on mRNA maturation in the mouse hippocampus. C. CHEN\*; T. J. HEMSTEDT; C. LAU; M. A. WOOD; A. LUPTAK. *Univ. of California Irvine, Univ. of California Irvine, Univ. of California, Irvine*.
- 10:00 E39 **465.11** Real-time imaging of transcription and transport of labeled-endogenous Arc mRNA in live neurons. H. MOON\*; S. DAS; R. H. SINGER; H. PARK. *Seoul Natl. Univ., Albert Einstein Col. of Med., Janelia Res. Campus*.
- 11:00 E40 **465.12** Upf1-dependent decay of Arc transcripts studied by live-cell imaging. M. R. VIEIRA\*; Y. PARK; Y. KIM; H. PARK. *Seoul Natl. Univ., Korea Univ.*
- 8:00 E41 **465.13** Arc is a master regulator of gene transcription: Relevance for Alzheimer's disease. A. VANDONGEN\*; H. VANDONGEN; H. LEUNG; N. OEY; Y. JIANG; J. YIN; G. FOO. *Duke-NUS Med. Sch.*
- 9:00 E42 **465.14** CPEB3 knockout mice are susceptible to develop PTSD-like behavior. Y. HUANG\*; H. CHAO; W. LU; P. LIN; M. WU. *Academia Sinica/Institute of Biomed. Sci.*
- 10:00 E43 **465.15** Hippocampal synaptic plasticity in FKBP5-deficient mice. S. ZHANG\*; M. CHEON; C. CHUNG. *Konkuk Univ.*
- 11:00 E44 **465.16** Investigating translational machinery and regulation of local translation in healthy and pathologic iPSC-derived neurons. J. J. LANGILLE\*; W. S. SOSSIN. *McGill Univ., McGill Univ.*
- 8:00 E45 **465.17** Ribosome profiling reveals excitation of neuronally differentiated sh-sy5y cells induces distinct programs of mrna translation and post-transcriptional regulation. D. J. KILTSCHEWSKIJ\*; M. J. CAIRNS. *The Univ. of Newcastle, Priority Ctr. for Brain and Mental Hlth. Research, Hunter Med. Res. Inst., Schizophrenia Res. Inst.*
- 9:00 E46 **465.18** Ubiquitination of m6A-demethylase FTO regulates its protein stability and localization. J. WIDAGDO\*; T. ZHU; X. L. H. YONG; V. ANGGONO. *Queensland Brain Inst., The Univ. of Queensland*.
- 10:00 E47 **465.19** Functional roles of membrane-bounded uncapped 20S proteasomes in regulating neuronal activity *in vivo*. H. HE\*; K. V. RAMACHANDRAN; E. G. CARLSON; S. S. MARGOLIS; H. T. CLINE. *The Scripps Res. Inst., Harvard Med. Sch., the Johns Hopkins Univ. Sch. of Med.*
- 11:00 E48 **465.20** The neuronal protein Arc acts as a repurposed viral Gag protein that mediates cell-to-cell communication. E. D. PASTUZYNSKI\*; R. B. KEARNS; J. N. EINSTEIN; J. D. SHEPHERD. *Univ. of Utah*.
- 8:00 E49 **465.21** Functional presynaptic ribosomes in the mammalian brain, and presynaptic effects of inhibiting protein synthesis. K. G. PARADISO\*; M. S. SCARNATI; R. KATARIA; M. BISWAS. *Rutgers Univ., Rutgers-Robert Wood Johnson Med. Sch.*
- 8:00 DP03/E50 **465.22** (Dynamic Poster) Imaging transcription dynamics of neuronal activity-regulated genes in hippocampal neurons. S. DAS\*; R. H. SINGER. *Albert Einstein Col. of Med.*
- 10:00 E51 **465.23** • Direct administration of osteocalcin into the dentate gyrus affects contextual fear memory via a CPEB3 mediated mechanism. S. KOSMIDIS\*; L. HARVEY; E. KANDEL. *Columbia Univ.*
- 11:00 F1 **465.24** Characterization of the mTORC1 effector PDCD4 in activity dependent translation. I. KATS\*; E. KLANN. *New York Univ., New York Univ. Ctr. for Neural Sci.*
- 8:00 F2 **465.25** Investigating non-canonical protein synthesis in neurons. H. WONG\*; J. LEVINGA; C. HOEFFER. *Univ. of Colorado Boulder, Univ. of Colorado Boulder*.
- 9:00 F3 **465.26** Detection of native RNAs dynamics in living neurons by fluorescence correlation spectroscopy. H. FUJITA\*; S. KAMIZONO; R. OIKAWA; M. HAYAKAWA; F. TOMOIKE; S. TSUNEDA; H. ABE; T. INOUE. *Waseda Univ., Nagoya 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

**466. Alzheimer's Disease and Other Dementias: Genetic Analysis and Omics Approaches**

**Theme C: Neurodegenerative Disorders and Injury**

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

- 8:00 F4 **466.01** Machine learning tech for neural omics. B. R. MONK\*; A. RAJKOVIC; R. MALINOW. *UCSD, Univ. of London, UCSD.*
- 9:00 F5 **466.02** A multi-omic analysis of the pre-histopathological and sex-biased molecular pathology in the hippocampus of the 5XFAD mouse model of Alzheimer's disease. R. S. NOWAKOWSKI\*; J. L. BUNDY; C. M. VIED. *FSU Col. of Med., Duke Univ., Florida State University, Col. of Med.*
- 10:00 F6 **466.03** • Early apoptosis in Alzheimer's disease 5XFAD mouse model is induced through multiple pathways: A comparative transcriptomics study on *in vivo* neuron-microglia interaction phase. F. XUE\*; Q. WANG; H. CHEN; Z. XUAN; L. GUO; H. DU. *The Univ. of Texas at Dallas.*
- 11:00 F7 **466.04** Decoding competing endogenous RNA regulations in Alzheimer's disease. Y. CAI\*; Z. SUN; H. JIA; J. WAN. *Peking Univ., SZ-PKU-HKUST Med. Ctr., Hong Kong Univ. of Sci. and Technol.*
- 8:00 F8 **466.05** A longitudinal analysis of hippocampal metabolomic alterations following cognitive decline in aged mice and APP/PS1 Alzheimer's disease mice. H. C. HUNSBERGER\*; A. KITAYEV; C. HILL; N. NARAIN; M. KIEBISH; C. A. DENNY. *Columbia Univ., BERG LLC.*
- 9:00 F9 **466.06** Sex specific Alzheimer's disease heterogeneity identified through cross study integrative analysis of RNA-seq data from the AMP-AD consortium. B. LOGSDON\*; T. M. PERUMAL; V. SWARUP; C. FUNK; M. ALLEN; M. WANG; C. GAITERI; X. WANG; S. SIEBERTS; L. OMBERG; E. DAMMER; S. AMBERKAR; W. HIDE; J. M. SHULMAN; T. E. GOLDE; D. BENNETT; B. ZHANG; E. SCHATZ; P. L. DE JAGER; N. PRICE; L. M. MANGRAVITE. *Sage Bionetworks, Univ. of California Los Angeles Dept. of Neurol., Inst. for Systems Biol., Mayo Clin., Mount Sinai Sch. of Med., Rush Univ., Emory Univ., Univ. of Sheffield, Baylor Univ., Col. of Medicine, Univ. of Florida, Columbia Univ.*
- 10:00 F10 **466.07** Microbial profiling on human Alzheimer's brain samples using Whole Genome Metagenomic Sequencing approach in comparison with different age groups. N. NAVALPUR SHANMUGAM\*; D. VIJAYA KUMAR; W. A. EIMER; F. ZAMUDIO; R. E. TANZI; R. D. MOIR. *Massachusetts Gen. Hospital/Harvard Med. Sch., Massachusetts Gen. Hosp. & Harvard Med. Sch., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen Hosp, Harvard Med. Sch., Massachusetts Gen. Hosp. and Harvard Med. Sch.*
- 11:00 F11 **466.08** Comparative cell and nuclear isolation strategies for transcriptomic analysis of neurons, microglia and astrocytes. F. LETRONNE\*; J. MILOSEVIC; K. NAM; B. PLAYSO; N. F. FITZ; C. WOLFE; I. M. LEFTEROV; R. KOLDAMOVA. *Univ. of Pittsburgh, Univ. of Pittsburgh, Children's Hosp. of Pittsburgh of UPMC.*
- 8:00 F12 **466.09** Mechanistic and directional transcriptional regulatory networks in Alzheimer's disease. C. C. FUNK\*; M. A. RICHARDS; P. SHANNON; R. DONOVAN-MAIYE; N. RAPPAPORT; M. ROBINSON; M. ALLEN; M. CARRASQUILLO; P. CHAKRABARTY; K. MCFARLAND; S. JUNG; A. RODRIGUEZ; N. ERTEKIN-TANER; T. E. GOLDE; L. HOOD; I. FOSTER; S. A. AMENT; R. MADDURI; N. PRICE. *Inst. For Systems Biol., Inst. for Systems Biol., Allen Inst. for Cell Sci., Mayo Clin., Univ. of Florida, Univ. of Chicago, Col. of Medicine, Univ. of Florida, Univ. of Maryland Baltimore.*
- 9:00 F13 **466.10** A multi-omic analysis of preclinical late-onset Alzheimer's disease: Integrating metabolomic, proteomic, and transcriptomic biomarkers from human peripheral blood. T. J. GROSS; M. S. FIANDACA; F. MACCIARDI; H. J. FEDEROFF; M. MAPSTONE\*. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine.*
- 10:00 F14 **466.11** BDNF and TrkB hippocampal gene expression predict neurofibrillary tangle and neuritic plaque pathology during the progression of dementia. S. D. GINSBERG\*; M. H. MALEK-AHMADI; M. J. ALLDRED; Y. CHEN; K. CHEN; M. V. CHAO; S. E. COUNTS; E. J. MUFSON. *Nathan S Kline Institute/NYU Langone Med. Ctr., Nathan S Kline Institute/NYU Langone Med. Ctr., Nathan S Kline Institute/NYU Langone Med. Ctr., Nathan S Kline Institute/NYU Langone Med. Ctr., Banner Alzheimer's Inst., Nathan S Kline Institute/NYU Langone Med. Ctr., Michigan State Univ., Michigan State Univ., Barrow Neurolog. Inst.*
- 11:00 F15 **466.12** Quantitative assessment of endosomal characteristics within basal forebrain cholinergic neurons (BFCNs) in trisomic mice following maternal choline supplementation (MCS). M. K. GAUTIER\*; M. J. ALLDRED; H. M. CHAO; A. SALTZMAN; S. D. GINSBERG. *Ctr. for Dementia Res. Nathan Kline Inst., NYU Langone Med. Ctr., NYU Langone Med. Ctr., NYU Langone Med. Ctr., NYU Langone Med. Ctr.*
- 8:00 F16 **466.13** Differential expression signature in cortical p-tau-containing pyramidal neurons between demented and non-demented Down syndrome subjects. E. J. MUFSON\*; B. HE; J. C. MIGUEL; M. N. SABBAGH; M. J. ALLDRED; S. D. GINSBERG; I. T. LOTT; E. DORAN; S. E. PEREZ. *Barrow Neurolog. Inst., Nathan Kline Inst., UC Irvine Med. Ctr., Barrow Neurolog. Inst.*
- 9:00 F17 **466.14** Single population RNA sequencing (RNA-seq) analysis of basal forebrain cholinergic neurons (BFCNs) within the medial septal nucleus in the Ts65Dn mouse model of Down syndrome and Alzheimer's disease identifies unique transcriptional mosaics following maternal choline supplementation (MCS). M. J. ALLDRED\*; H. M. CHAO; T. LHAKHANG; A. HEGUY; S. D. GINSBERG. *Nathan Kline Inst., NYU Langone Med. Ctr., NYU Langone Med. Ctr., NYU Langone Med. Ctr., NYU Langone Med. Ctr.*
- 10:00 F18 **466.15** Mosaic APP genomic structural alterations in sporadic and familial Alzheimer's diseases. M. LEE\*; B. SIDDOWNAY; G. E. KAESER; I. SEGOTA; W. J. ROMANOW; R. RIVERA; C. S. LIU; G. KENNEDY; T. LONG; J. CHUN. *Sanford Burnham Prebys Med. Discovery Inst., Univ. of California San Diego.*
- 11:00 F19 **466.16** Cortical regional specific telomere length reduction during the progression of AD. B. HE\*; S. E. PEREZ; M. MALEK-AHMADI; M. NADEEM; E. J. MUFSON. *Barrow Neurolog. Inst., Banner Alzheimer's Dis. Inst.*

- 8:00 DP04/F20 **466.17** (Dynamic Poster) Utilization of quantitative digital pathology and RNA-sequencing to uncover molecular underpinnings of selective hippocampal vulnerability in Alzheimer's disease variants. N. O. AZU\*; X. WANG; R. E. CARTER; E. R. LESSER; A. M. LIESINGER; D. J. SERIE; A. CARRANO; K. M. ROSS; M. DETURE; R. C. PETERSEN; R. DUARA; N. GRAFF-RADFORD; D. W. DICKSON; H. LI; Y. W. ASMANN; M. E. MURRAY. *Mayo Clin., Mayo Clin., Mayo Clin., Mount Sinai Med. Ctr., Mayo Clin., Mayo Clin., Mayo Clin.*
- 9:00 F21 **466.18** PICALM variant rs3851179<sup>A</sup> has a protective role in neurons against A $\beta$  toxicity. Z. DAI\*; E. LAWSON; A. SAGARE; Z. ZHAO; R. TANZI; B. ZLOKOVIC. *Zilkha Neurogenetic Inst., Genet. and Aging Res. Unit, MassGeneral Inst. for Neurodegenerative Disease, Massachusetts Gen. Hospital, Harvard Med. Sch.*
- 10:00 F22 **466.19** • Using large scale brain eQTL meta-analysis from multiple RNA-sequencing cohorts to identify neurodegenerative and neuropsychiatric risk candidate genes. S. K. SIEBERTS\*; T. M. PERUMAL; M. CARRASQUILLO; M. ALLEN; J. S. REDDY; A. DOBBYN; E. STAHL; B. LOGSDON; L. B. CHIBNIK; K. ESTRADA; P. L. DE JAGER; N. ERTEKIN-TANER; L. M. MANGRAVITE. *Sage Bionetworks, Mayo Clin. Florida, Icahn Sch. of Med. at Mount Sinai, Harvard T.H. Chan Sch. of Publ. Hlth., Harvard Med. Sch., Biogen, Columbia Univ. Med. Ctr., Mayo Clin. Florida.*
- 11:00 F23 **466.20** Systems biology-based method to identify and prioritize Alzheimer's disease candidate driver genes. S. MUKHERJEE\*; T. M. PERUMAL; K. DAILY; S. SIEBERTS; L. OMBERG; C. PREUSS; G. CARTER; L. MANGRAVITE; B. LOGSDON. *Sage Bionetworks, Sage Bionetworks, The Jackson Lab.*
- 8:00 F24 **466.21** Cortical regions contributing to cognitive performance in age-related genetic polymorphisms. S. K. LANGELLA\*; K. S. GIOVANELLO; A. R. KNOTT; W. K. GOTTSCHANK; O. CHIBA-FALEK; B. L. PLASSMAN; K. WELSH-BOHMER; A. R. HARIRI; S. W. DAVIS. *Univ. of North Carolina At Chapel Hill, Duke Univ.*
- 9:00 F25 **466.22** Effect of epigenetics and gender differences in mice expressing neuronal or glial aromatase. G. AIT-GHEZALA\*; J. CUI; Y. SHEN; R. LI. *Roskamp Inst., Roskamp Inst., Roskamp Institute.*
- 10:00 F26 **466.23** • Nference target identification for Alzheimer's disease. T. WAGNER\*; S. EBRAHIM. *Nference, Inc., Harvard Med. Sch.*
- 11:00 G1 **466.24** ▲ Profiling microRNA from brain by microarray in a transgenic mouse model of Alzheimer's disease. L. WANG\*; R. LIU; H. JIANG; J. ZHANG; S. GUO; L. MIN; Q. GUO. *Inst. of Medicinal Biotech. Chinese Acad. of Sci., Dept. of Gastroenterology, Beijing Friendship Hospital, Capital Med. University; Natl. Clin. Res. Ctr. for Digestive Disease; Beijing Key Lab. for Precancerous Lesion of Digestive Dis.*
- 8:00 G2 **466.25** Genetically diverse AD model identifies dipeptidyl peptidase 7 as a novel modifier of cognitive function. S. M. NEUNER\*; J. ZHANG; V. M. PHILIP; M. J. HUENTELMAN; C. C. KACZOROWSKI. *The Jackson Lab., Univ. of Tennessee Hlth. Sci. Ctr., The Jackson Lab., The Translational Genomics Res. Inst., The Jackson Lab.*
- 9:00 G3 **466.26** Cell-type specific transcriptomics using viral TRAP to identify neuron-glia relationships in neurodegeneration. Y. KOMURO\*; M. MACHNICKI; S. CARMICHAEL; J. D. HINMAN. *UCLA.*
- 10:00 G4 **466.27** Central nervous system-mediated sensorimotor decline in a novel transgenic mouse model of Alzheimer's disease. G. G. ACOSTA\*; S. M. NEUNER; A. R. OUELLETTE; N. BACHELDER; K. M. S. O'CONNELL; C. C. KACZOROWSKI. *The Jackson Lab., Univ. of Tennessee Hlth. Sci. Ctr.*
- 11:00 G5 **466.28** Gene-by-diet interactions modify symptoms of Alzheimer's disease. A. DUNN\*; A. R. OUELLETTE; S. M. NEUNER; K. M. S. O'CONNELL; C. C. KACZOROWSKI. *The Jackson Lab., Univ. of Tennessee Hlth. Sci. Ctr.*
- 8:00 G6 **466.29** Systems genetics reveals microglia involvement in resilience to Alzheimer's disease. S. E. HEUER\*; S. M. NEUNER; M. J. HUENTELMAN; K. M. S. O'CONNELL; C. C. KACZOROWSKI. *The Jackson Lab., Univ. of Tennessee Hlth. Sci. Ctr., The Translational Genomics Res. Inst.*
- 9:00 G7 **466.30** Hypothalamic dysfunction in the etiology of Alzheimer's disease. K. O'CONNELL\*; T. MCMURPHY; A. DUNN; S. NEUNER; C. C. KACZOROWSKI. *The Jackson Lab., Univ. of Tennessee Hlth. Sci. Ctr.*

## POSTER

### 467. Alzheimer's Disease and Other Dementias: Therapeutic Strategies: Preclinical Animal Models II

#### Theme C: Neurodegenerative Disorders and Injury

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

- 8:00 G8 **467.01** Novel models of late-onset Alzheimer's disease. M. SASNER\*; H. WILLIAMS; A. OBLAK; C. PREUSS; B. LOGSDON; K. NHO; A. J. SAYKIN; S. J. SUKOFF RIZZO; P. R. TERRITO; B. T. LAMB; G. CARTER; G. HOWELL. *The Jackson Lab., Indiana Univ. Sch. of Med., Sage Bionetworks, Indiana Univ. Sch. of Med., Stark Neurosciences Res. Inst.*
- 9:00 G9 **467.02** hAb-KI: A knock-in mouse model for sporadic Alzheimer's disease. S. FORNER\*; D. BAGLIETTO-VARGAS; L. TRUJILLO-ESTRADA; A. CADETE MARTINI; E. A. KRAMAR; S. JIANG; D. MATHEOS; C. DA CUNHA; K. C. GREEN; M. A. WOOD; A. MORTAZAVI; G. R. MACGREGOR; A. J. TENNER; F. M. LAFERLA. *Univ. of California Irvine, Univ. of California Irvine, Univ. of California Irvine.*
- 10:00 G10 **467.03** MODEL-AD: Late-onset Alzheimer's disease models. A. OBLAK\*; H. WILLIAMS; M. SASNER; D. BAGLIETTO-VARGAS; M. A. WOOD; S. A. MORTAZAVI; K. N. GREEN; S. FORNER; G. CARTER; S. RIZZO; P. R. TERRITO; G. MACGREGOR; G. R. HOWELL; A. J. TENNER; F. M. LAFERLA; B. LAMB. *The Jackson Lab., Univ. of California, Irvine, Univ. of California Irvine, Univ. of California Irvine, Univ. of California Irvine, Indiana Univ. Sch. of Med., Jackson Lab., Univ. California Irvine, Univ. California, Irvine, Indiana Univ. Sch. of Med.*

Tues. 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 G11 **467.04** ● Preclinical screening strategy of the MODEL-AD consortium: Evaluation of the pharmacokinetics and pharmacodynamics of treatment with levetiracetam. S. J. SUKOFF RIZZO\*; K. D. ONOS; K. J. KEEZER; S. K. QUINNEY; D. R. JONES; A. R. MASTERS; I. METZGER; J. A. MEYER; J. PETERS; S. A. PERSOHN; B. P. MCCARTHY; A. A. BEDWELL; M. SASNER; H. WILLIAMS; G. R. HOWELL; A. OBLAK; B. T. LAMB; P. R. TERRITO. *The Jackson Lab., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Stark Neurosciences Res. Inst.*
- 8:00 G12 **467.05** Translational genetic and genomic analyses of new mouse models of Alzheimer's disease. G. CARTER\*; C. PREUSS; A. UYAR; R. S. PANDEY; A. HABER; Y. LI; C. JOHN; K. NHO; A. J. SAYKIN; B. LOGSDON; P. R. TERRITO; G. R. HOWELL; B. T. LAMB. *The Jackson Lab., The Jackson Lab. for Genomic Med., Indiana Univ., Indiana Univ. Sch. of Med., Sage Bionetworks, Jackson Lab., Stark Neurosciences Res. Inst.*
- 9:00 H1 **467.06** Model-ad: Standardized characterization of familial Alzheimer's disease models (5xfad, 3xtg-ad, app/ps1, and htau). H. WILLIAMS; M. SASNER; A. OBLAK; G. CARTER; S. RIZZO; P. R. TERRITO; S. FORNER; M. A. WOOD; A. MORTAZAVI; G. MACGREGOR; A. J. TENNER; K. N. GREEN; F. M. LAFERLA; B. T. LAMB; G. R. HOWELL\*. *The Jackson Lab., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Univ. of California Irvine, Univ. of California Irvine, Univ. of California Irvine, Univ. California Irvine, Stark Neurosciences Res. Inst., Jackson Lab.*
- 10:00 H2 **467.07** Comparative effects of ethanolic extracts of bacopa floribunda and angraecum eichlerianum on amyloid beta model of male wistar rats. M. OYELEKE OMOTOLA\*; O. L. AROKOYO; H. T. ONI; B. V. OWOYELE. *Afe Babalola Univ., Univ. of Ilorin.*
- 11:00 H3 **467.08** Aav9 and crispr cas9 based epigenetic manipulations to study antipsychotic drugs induced side effects in aged mice. S. CHAKRABORTY\*; G. RODRIGUEZ; H. DONG. *Northwestern Med. Chicago, Northwestern Univ. Feinberg Sch. of Med.*
- 8:00 H4 **467.09** Neuronal deletion of the mitochondrial protein prohibitin leads to neurodegeneration in mice. D. A. LANE; L. QIAN; A. KAHL; C. ANDERSON; G. MANFREDI; C. IADECOLA; P. ZHOU\*. *Weill Cornell Med., Weill Cornell Med.*
- 9:00 H5 **467.10** Aegle marmelos in Thai herb formula reduced amyloid-beta toxicity via daf-16-mediated signaling pathway in *Caenorhabditis elegans*. R. KEOWKASE\*; S. POOMBORPLAB; C. SANTA-ARDHARNPREECHA; N. KIJMANKONGKUL; W. SANGTIAN; W. SITTHITHAWORN. *Srinakharinwirot Univ.*
- 10:00 H6 **467.11** Mechanisms of corticotropin-releasing factor receptor 1 mediated increases in Alzheimer's disease pathology. M. ELLISMAN\*; J. PATANAPIROM; K. NGUYEN; F. SARSOZA; R. A. RISSMAN. *UCSD, VA, UCSD Sch. Med.*
- 11:00 H7 **467.12** Brain-specific estrogen improves cognitive functions. D. BI\*; W. JIANG; R. LI; Y. SHEN. *Univ. of Sci. and Technol. of China, Univ. of Sci. and Technol. of China, Material Sci. at Microscale Natl. Lab., Roskamp Inst.*
- 8:00 H8 **467.13** 5alpha-reduced metabolites of testosterone offer protection against the development of AD neuropathology in 3xTg Alzheimer's disease male mice. H. A. WILSON\*; A. L. MENDELL; S. D. CREIGHTON; B. D. WINTERS; N. J. MACLUSKY. *Univ. of Guelph, Univ. of Guelph.*
- 9:00 H9 **467.14** Effects of cannabidiol and tetrahydrocannabinol treatment on memory function, neuron loss and molecular signature in a mouse model of Alzheimer's disease. M. E. SICHLER; J. WILTFANG; M. J. LÖW; C. BOUTER; T. A. BAYER; Y. BOUTER\*. *Univ. Med. Ctr. Göttingen, Univ. Med. Ctr. Göttingen, Univ. Med. Ctr. Göttingen.*
- 10:00 H10 **467.15** Benefits of exercise on cognition and white matter pathology in a mouse model of vascular cognitive impairment and dementia. L. J. TRIGIANI\*; M. LACALLE-AURIOLES; M. BOUROUROU; L. LI; A. D. GREENHALGH; J. G. ZARRUK; S. DAVID; M. G. FEHLINGS; E. HAMEL. *Montreal Neurolog. Institute, McGill Univ., Krembil Res. Inst., McGill Univ.*
- 11:00 H11 **467.16** Memory impairments and synaptic failure in APP/PS1 AD model mice are alleviated by eEF2K inhibitor NH125. N. KASICA\*; W. YANG; X. ZHOU; T. MA. *Howard Hughes Med. Inst. - Wake Forest Univ.*
- 8:00 H12 **467.17** Upregulation of endothelial Picalm using an FDA approved drug enhances amyloid-β clearance from murine brain. K. KISLER\*; A. P. SAGARE; S. BAZZI; C. HSU; D. LAZIC; E. J. LAWSON; A. R. NELSON; Z. ZHAO; B. V. ZLOKOVIC. *Keck Sch. of Med. of the Univ. of Southern California.*
- 9:00 H13 **467.18** Comprehensive touchscreen cognitive characterisation of APP/PS1 mouse model of Alzheimer's disease reveals subtle and progressive impairments. A. SHEPHERD\*; T. ZHANG; J. K. H. LIM; V. H. Y. WONG; C. T. O. NGUYEN; B. V. BUI; A. J. HANNAN; E. L. BURROWS. *Florey Inst. of Neurosci. and Mental Hlth., Univ. of Melbourne.*
- 10:00 H14 **467.19** Potential therapeutic role of niacin in Alzheimer's disease. M. MOUTINHO; V. E. VON SAUCKEN; G. E. LANDRETH\*. *Indiana Univ. Sch. of Med.*
- 11:00 H15 **467.20** G protein-biased beta1-adrenergic receptor partial agonists for the treatment of Alzheimer's disease. B. YI\*; A. JAHANGIR; A. K. EVANS; J. ERNEST; M. GREEN; M. SHAMLOO. *Stanford Univ. Sch. of Med.*
- 8:00 H16 **467.21** Finasteride differentially impacts dendritic morphology of hippocampal neurons and impairs object recognition memory in male 3xTg-AD mice. A. L. MENDELL\*; S. D. CREIGHTON; H. WILSON; L. ISAACS; B. D. WINTERS; N. J. MACLUSKY. *Univ. of Guelph, Univ. of Guelph.*
- 9:00 H17 **467.22** Cognitive effects of intermittent deep brain stimulation of the Nucleus basalis of Meynert in a transgenic rat model for Alzheimer's disease. P. KOULOUSAKIS; V. VISSER-VANDEWALLE; T. SESIA\*. *Univ. Hosp. of Cologne.*
- 10:00 H18 **467.23** Repeated acoustic stimulation improved sleep-wake behavior and electroencephalographic markers in a mouse model of Alzheimer's disease. V. J. DREW\*; M. PARK; J. LEE; S. RYU; T. KIM. *Gwangju Inst. of Sci. and Technol.*
- 11:00 I1 **467.24** Pharmacological PKR inhibition rescues deficits in synaptic plasticity and memory in Alzheimer's disease mouse models. K. HWANG; M. BAK; S. KIM; Y. LEE\*. *Seoul Natl. Univ. Col. of Med.*
- 8:00 I2 **467.25** Neurochemical and behavioral effects of intranasal insulin administration in young and aged rats. J. M. ERICHSEN\*; C. B. CALVA; C. A. GRILLO; L. P. REAGAN; J. R. FADEL. *Univ. of South Carolina, WJB Dorn VA Med. Ctr.*

- 9:00 I3 **467.26** Cortical control of the stomach and its potential relevance to Alzheimer's disease. D. J. LEVINTHAL\*; R. P. DUM; P. L. STRICK. *Univ. Pittsburgh, Univ. Pittsburgh Sch. Med.*
- 10:00 I4 **467.27** G protein-biased beta1-adrenergic receptor partial agonists for the treatment of Alzheimer's disease. P. MEMAR ARDESTANI\*; B. YI; A. K. EVANS; M. SHAMLOO. *Stanford Univ. Sch. of Med.*
- 11:00 I5 **467.28** Combination of memantine and 6-chlorotetracine leads to promising dual inhibitor of acetylcholinesterase and NMDA receptor; a novel multi-target compound against Alzheimer's disease. O. SOUKUP\*; J. KORABECNY; E. NEPOVIMOVA; K. VALES; K. SKRENKOVA; L. KLETECKOVA; M. HORAK. *Univ. Hosp. Hradec Kralove, Univ. Hosp., Natl. Inst. of Mental Hlth., Inst. of Physiol. CAS, Inst. of Physiol. AS CR.*
- 8:00 I6 **467.29** Effects of tetrahydrocannabinol treatment on brain metabolism and inflammation in a mouse model of sporadic Alzheimer's disease. C. BOUTER\*; M. E. SICHLER; I. KOSTUL; T. A. BAYER; Y. BOUTER. *Univ. Med. Ctr. Goettingen, Univ. Med. Ctr. Goettingen.*

## POSTER

### 468. Alzheimer's Disease and Other Dementias: Therapeutic Strategies: Preclinical Animal Models III

#### Theme C: Neurodegenerative Disorders and Injury

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

- 8:00 I7 **468.01** Long-term treatment of 7,8-dihydroxyflavone protects against cortical amyloid-beta accumulation and activates hippocampal BDNF-TrkB signaling in a mouse model of Alzheimer's disease. C. M. TOGNONI\*; A. R. SCIAUDONE; I. CARRERAS; J. K. BLUSZTAJN; A. DEDEOGLU. *VA Boston Healthcare Syst., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med.*
- 9:00 I8 **468.02** Intravenous mesenchymal stem cells administration as a neuroprotective therapy in a rat model of sporadic Alzheimer's disease. M. ZAPPA VILLAR\*; J. LOPEZ HANOTTE; J. PARDO; G. MOREL; M. GARCÍA; P. REGGIANI. *Sch. of Medicine, Natl. Univ. La Plata, Gene Therapy Lab, Sch. of Biomed. Sciences, Austral Univ.*
- 10:00 I9 **468.03** ● Activation of endogenous neurogenesis is a potential therapeutic approach for Alzheimer's disease. M. KIM\*; S. HAN. *Shinebiopharma Inc.*
- 11:00 I10 **468.04** Effects of Danggui-Shaoyao-San decoction on hippocampal expression profiles of non-coding RNAs in a mouse model of Alzheimer's disease. S. CHENG\*; Z. SONG; F. YIN; F. LI. *Hunan Univ. of Chinese Med.*
- 8:00 I11 **468.05** Amelioration of learning and memory deficits in aged and 3xtg-ad mice by mild level of stress. L. CHAN; G. PARK; J. JANG\*. *Sch. of Medicine, Keimyung Univ., Kyungpook Natl. Univ.*
- 9:00 I12 **468.06** Risk-Factor induced memory dysfunction and A $\beta$  oligomer pathology in a non-transgenic model of sporadic Alzheimer's disease. C. WEISS\*; K. L. VIOLA; M. A. BICCA; W. L. KLEIN; J. F. DISTERHOFT. *Northwestern Univ. Med. Sch., Northwestern Univ.*
- 10:00 I13 **468.07** Neurochemical effects of intranasal orexin-A and [Ala<sup>11</sup>,D-Leu<sup>15</sup>]-orexin-B administration in rats. C. B. CALVA\*; J. R. FADEL. *Univ. of South Carolina Sch. of Med.*

- 11:00 I14 **468.08** TgF344-AD rats exhibit alterations in locomotion and acoustic startle response prior to cognitive function impairment. B. ZOU\*; K. XIAO; C. PASCUAL; W. S. CAO; F. MA; D. HUA; I. MAEZAWA; L. W. JIN; X. X. XIE. *AfaSci Res. Labs., Kansas State Univ., M.I.N.D. Inst, UC Davis.*
- 8:00 I15 **468.09** The recombinant C-terminal fragment of the tetanus toxin protects the acetylcholinesterase activity and spatial memory by intraseptal injection of amyloid- $\beta$  peptide (25-35). I. LIMON PEREZ DE LEON\*; A. PATRICIO-MARTÍNEZ; L. SÁNCHEZ-ABDÓN; F. LUNA-MORALES; J. AGUILERA; G. MORALES-FLORES. *Benemerita Univ. Autonoma de Puebla FCQ Lab. Neurofarma, Facultad de Ciencias Biológicas-BUAP, Lab. de Neurofarmacología FCQ-BUAP, Lab. de Neuroendocrinología FCQ-BUAP, Univ. Autònoma de Barcelona.*
- 9:00 I16 **468.10** Sirtuin 2 inhibition: A new therapeutic approach for age-related cognitive decline. T. DÍAZ PERDIGÓN\*; B. BELLOCH PEREZ; R. TORDERA BAVIERA; E. PUERTA RUIZ DE AZUA. *Univ. De Navarra, Univ. de Navarra.*
- 10:00 I17 **468.11** Inhibition of neutral sphingomyelinase 2 with MS882 for the treatment of Alzheimer's disease. K. RAHN\*; M. SALA; A. THOMAS; R. P. DASH; C. TALLON; L. LOVELL; Y. WU; R. RAIS; R. NENCKA; C. ROJAS; B. SLUSHER. *Johns Hopkins Univ., Inst. of Organic Chem. and Biochem.*
- 11:00 J1 **468.12** ▲ Effects of DCP-LA on learning and memory in an *in vivo* Alzheimer's disease model with ovariectomized rats. P. A. SUTTER; R. B. KNOWLES; C. R. MCKITTRICK\*. *Drew Univ.*
- 8:00 J2 **468.13** Plasminogen Activator Inhibitor-1 Antagonist TM5A15 reduce neuropathology and memory deficits in APP/PS1 mice. G. RODRIGUEZ\*; S. DOMINGUEZ; D. E. VAUGHAN; T. MIYATA; H. DONG. *Northwestern Univ., Northwestern Univ., Tohoku Univ. Grad. Sch. of Med., Northwestern Univ. Feinberg Sch. of Med.*
- 9:00 J3 **468.14** ABCA1 activation in the CNS as a therapeutic target for APOE4-induced Alzheimer's disease risk. A. C. VALENCIA\*; T. MCNALLY; D. BALU; N. FAULK; Y. SALEH; A. HANSEN; D. PHAM; N. ALLABABIDI; J. YORK; J. JOHANSSON; J. BIELICKI; M. LADU. *Univ. of Illinois at Chicago, Artery Therapeutic's Inc, Univ. of California.*
- 10:00 J4 **468.15** ● Modulation of circadian activity in pathological and non pathological aging. S. SUNDARAM; D. GULICK\*. *Univ. of South Florida.*
- 11:00 J5 **468.16** Testosterone improves memory and strength in diabetic mice. S. A. FARR\*; M. L. NIEHOFF; K. A. ROBERTS; D. A. ROBY; J. E. MORLEY. *St Louis Univ/VA Med. Ctr., St. Louis Univ. Sch. of Med.*
- 8:00 J6 **468.17** Distribution of insulin in brain after intranasal administration. J. J. LOCHHEAD\*; P. RONALDSON; T. P. DAVIS. *Univ. of Arizona, Univ. of Arizona.*
- 9:00 J7 **468.18** ▲ Effect of mesenchymal stem cell-derived exosomes on neurogenesis of Alzheimer's disease mouse model. E. E. REZA-ZALDIVAR\*; Y. K. GUTIERREZ-MERCADO; S. SANDOVAL-AVILA; M. A. HERNANDEZ-SAPIENS; A. L. MARQUEZ-AGUIRRE; A. A. CANALES-AGUIRRE. *CIATEJ, CIATEJ, CIATEJ.*

\* 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 J8 **468.19** ● Automated cognitive testing in mouse models relevant to Alzheimer's disease. M. LOOS\*; C. M. HELDRING; B. KOOPMANS; E. REMMELINK; M. VERHAGE; R. E. VAN KESTEREN; A. B. SMIT. *Sylics, VU Univ. Amsterdam, CNCR, Vrije Univ. (VU) and VU Med. Cente.*
- 11:00 J9 **468.20** Granisetron, a selective 5-HT3 receptor antagonist, alleviates AD pathology in TgSwDI mouse model through CREB pathway. S. B. RIHANI\*; A. KADDOUMI. *Auburn Univ.*
- 8:00 J10 **468.21** Effects of antioxidant in mouse model for Alzheimer's: A behavioral phenotyping and microdialysis study. M. MONBUREAU\*; A. F. MALIK; P. J. NORTHEY; J. ROESER; E. HOLLAND; C. CIARDIELLO; N. MORISOT; C. ZHU; M. G. VAN DER HART; H. B. JANSSENS; A. RASSOULPOUR. *Charles River Labs, Charles River Labs.*
- 9:00 J11 **468.22** A novel, small-molecule activator of glutamate transporter EAAT2 translation delays disease progression in a tauopathy model of Alzheimer's disease. J. B. FOSTER; F. ZHAO; R. LASHLEY; K. J. HODGETTS; C. G. LIN\*. *Ohio State Univ., Brigham and Women's Hosp. and Harvard Med. Sch.*
- 10:00 J12 **468.23** Neuroprotective effects of the novel nmda channel blocker, rl-208, in samp8 mice model. C. G. FERRE\*; J. COMANYS-ALEMANY, Jr; A. LARISA TURCU, Jr; R. LEIVA; S. VÁZQUEZ CRUZ; M. PALLÀS. *Univ. of Barcelona, Univ. of Barcelona.*
- 11:00 J13 **468.24** HCE01 prevents memory impairments induced by heat stress in mice. E. HUH\*; W. LEE; M. OH. *Kyung Hee Univ.*
- 8:00 K4 **469.05** Changes in EEG due to progression of Alzheimer's disease. S. JANG\*; E. KIM; J. GWAK; K. H. LEE; K. Y. CHOI; B. C. KIM; J. S. LEE; J. E. PARK; J. SONG; S. C. JUN. *Gwangju Inst. of Sci. and Technol. (GIST), Seoul Natl. Univ. Hosp. (SNUH), Chosun Univ., Chosun Univ., Chosun Univ., Chonnam Natl. Univ. Med. Sch.*
- 9:00 K5 **469.06** Mass spectrometry imaging technique reveals a novel visualized metabolism map in the brain of Alzheimer's disease's mouse model. F. GAO\*; X. WANG; X. YANG; G. HUANG; Y. SHEN. *Univ. of Science and Technol. of China, Univ. of Sci. and Technol. of China, Univ. of Sci. and Technol. of China.*
- 10:00 K6 **469.07** Effect of probiotic treatment on metabolic profile of serum and brain prostaglandin and bile acids in a transgenic mouse model of Alzheimer's disease. H. KAUR\*; M. Y. GOLOVKO; C. K. COMBS. *Univ. of North Dakota, Univ. of North Dakota, Univ. of North Dakota Sch. of Med.*
- 11:00 K7 **469.08** ● Aging, brain white matter hyperintensities, and structural brain network efficiency in 2257 participants of the framingham heart study. S. SEILER\*; E. FLETCHER; A. BEISER; J. J. HIMALI; C. L. SATIZABAL; S. SESHADRI; P. MAILLARD; C. DECARLI. *UC Davis Dept. of Neurol., Boston Univ. Sch. of Med.*
- 8:00 K8 **469.09** Neurophysiological signals as predictive translational biomarkers for Alzheimer's disease treatment: Effects of donepezil on neuronal network oscillations in TgF344-AD rats. M. STOILJKOVIC\*; C. KELLEY; M. HAJÓS. *Yale Univ. Sch. of Med.*
- 9:00 K9 **469.10** Impact of APOE4 genetic risk on neurovascular unit biomarkers in early cognitive dysfunction. M. PACHICANO\*; M. D. SWEENEY; A. P. SAGARE; A. MONTAGNE; D. A. NATION; M. G. HARRINGTON; H. C. CHUI; L. SCHNEIDER; J. RINGMAN; J. PA; M. P. LAW; T. BENZINGER; A. M. FAGAN; J. C. MORRIS; A. W. TOGA; B. V. ZLOKOVIC. *USC, USC, Huntington Med. Res. Inst., USC, USC, USC, Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*
- 10:00 K10 **469.11** Neuropsychological decline improves prediction of dementia beyond ad biomarker and mci diagnoses. D. A. NATION\*; J. K. HO; S. DUTT. *USC, USC.*
- 11:00 K11 **469.12** Oligomeric abeta as a mechanistic biomarker for Alzheimer's disease in human plasma. M. LADU\*; N. COLLINS; D. BALU; C. ESTRADA; J. GEORGE; L. J. VAN ELDIK; A. C. VALENCIA-OLVERA. *Univ. of Illinois, Chicago, Indiana State University, Univ. of Kentucky.*
- 8:00 K12 **469.13** The lesion analysis of amyloid plaques in the three-dimensional level of whole brain. B. LONG\*; J. ZHANG; X. LI; H. GONG. *Wuhan Natl. Lab. for Optoelectronics.*
- 9:00 K13 **469.14** CMP<sup>3</sup>: A CSF multiple pathophysiology panel for clinical trials in Alzheimer's disease. B. A. TROMBETTA\*; B. C. CARLYLE; S. E. ARNOLD. *Massachusetts Gen. Hosp.*
- 10:00 K14 **469.15** TOMM40 & APOE gene expression & cognitive decline in Japanese Alzheimer's disease subjects. J. IGA\*; A. MISE; Y. YOSHINO; K. YAMAZAKI; Y. OZAKI; T. SAO; T. YOSHIDA; T. MORI; Y. MORI; S. OCHI; S. UENO. *Ehime Univ.*
- 11:00 K15 **469.16** ApoE- $\Delta 4$  suppresses age-dependent increases in plasma A $\beta$ 42 levels. T. NAKAMURA; T. KAWARABAYASHI\*; Y. SEINO; M. HIROHATA; S. MIKIO. *Hirosaki Univ. Grad. Sch. of Med.*

## POSTER

### 469. Alzheimer's Disease and Other Dementias: Biomarkers

#### Theme C: Neurodegenerative Disorders and Injury

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

- 8:00 J14 **469.01** ● Quantification of low abundant neurodegenerative biomarkers in blood using Milliplex and SMC high sensitivity immunoassays. J. HWANG\*; L. CHEN; A. SAPORITA; Q. XIAO. *Milliporesigma.*
- 9:00 K1 **469.02** Novel molecular structures that detect amyloid  $\beta$  associated with Alzheimer's disease. S. RASOOL\*; L. RANDOLPH; J. NGOLAB; R. D. SOUZA; J. YANG; S. SARRAF; R. A. RISSMAN. *Amydis, UCSD Sch. Med., UCSD Sch. Med.*
- 10:00 K2 **469.03** Using an amyloid-PET defined cohort to optimize volumetric-based diagnosis of dementia. L. N. KOENIG\*; S. KEEFE; L. MARPLE; B. A. GORDON; J. C. MORRIS; M. MILLER-THOMAS; G. S. DAY; J. SHIMONY; T. L. S. BENZINGER. *Washington Univ. In St. Louis, Knight Alzheimer Dis. Res. Ctr.*
- 11:00 K3 **469.04** Circulating GDF11 is associated with cortical thickness, amyloid burden, and cognitive performance. M. J. SCHAFER\*; A. M. V. WENNBERG; E. J. ATKINSON; P. M. VANDERBOOM; H. R. BERGEN, III; R. C. PETERSEN; M. M. MIELKE; N. K. LEBRASSEUR. *Mayo Clin.*

\* 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 K16 **469.17** Aerosol delivery of thioflavin for retinal amyloid-beta plaque detection in Alzheimer's disease mouse model. S. BARTON\*; V. A. JANVE; E. TO; J. MATSUBARA; W. PHAM. *Vanderbilt Univ., Vanderbilt Univ., Univ. of British Columbia, Vanderbilt Univ.*
- 9:00 K17 **469.18** ▲ Determining the fatty acid/lipid profiles of 3xTg-AD mice in plasma and in red blood cell membranes. S. HOULE; B. GENOVESE; R. A. QUINLAN; L. S. WEBB; D. A. MITRANO\*. *Christopher Newport Univ., Christopher Newport Univ.*
- 10:00 K18 **469.19** ● Young to middle-aged dogs with high Aβ levels show higher pTau levels in CSF. H. BORGHYS\*; B. VAN BROECK; C. THEUNIS; F. TEKLE; D. DHUYVETTER. *Janssen Res. & Develop.*
- 11:00 L1 **469.20** Linking Alzheimer's disease with a history of traumatic brain injury. B. MORRIS-EPPOLITO; M. LI; S. QIAN; J. REISMAN; L. MOO\*; L. KAZIS; B. L. WOLOZIN; W. XIA. *Bedford VA Med. Ctr., Bentley Univ., Bedford VA Med. Ctr., Boston Univ. Schl Med.*
- 8:00 L2 **469.21** ▲ Abnormal inhibitory attention in patients with idiopathic REM sleep behavior disorder reflected in theta- and beta-band activities. S. HEO\*; D. YEO; K. CHA; P. SEO; H. KIM; S. CHOI; J. CHOI; K. JUNG; K. KIM. *Yonsei Univ., Seoul Natl. Univ. Hosp.*
- 9:00 L3 **469.22** Proteomic profiles of plasma and post-mortem brain tissues from Alzheimer's patients. M. CHEN; G. SURPRIS; T. D. STEIN; W. XIA\*. *Bedford VA Hospital, Harvard TH Chan Sch. of Publ. Hlth., Bedford VA Hosp., Boston VA Med. Ctr., Bedford VA Hospital, Boston Univ.*
- 10:00 L4 **469.23** A subset of gene expression profiles in human post-mortem brain aging and Alzheimer's disease are robust, concordant, and show exaggerated changes in female Alzheimer's disease subjects. K. HARGIS-STAGGS\*; E. S. JOHNSON; N. M. PORTER; O. THIBAUT; E. M. BLALOCK. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. Kentucky Med. Ctr., Univ. Kentucky Coll Med.*
- 11:00 L5 **469.24** The role of vesicle trafficking in Alzheimer's disease: Development of exosome biomarkers. V. EKUTA\*; G. LIAN; V. SHEEN. *Beth Israel Deaconess Med. Ctr.*
- 8:00 L6 **469.25** Development and Validation of an *in vitro* system for Alzheimer's disease studies. W. LUO; J. LEE; L. MORIARTY; E. JORDAN\*. *Bio-Rad Labs. Canada Ltd., Bio-Rad Labs.*
- 9:00 L7 **469.26** ● Retinal structural and functional changes in mouse models of Alzheimer's and Parkinson's disease. C. T. NGUYEN\*; J. K. H. LIM; V. H. Y. WONG; A. J. VINGRYS; J. MULLEN; D. I. FINKELSTEIN; B. V. BUI. *Univ. of Melbourne, AstraZeneca Neurosci., Florey Inst. of Neurosci.*
- 10:00 L8 **469.27** ● Non-canonical structural variants of sphingosine 1-phosphate are altered in the plasma of patients with vascular dementia, but not with Alzheimer's disease. D. R. HERR\*; W. S. CHEW; M. K. P. LAI. *Natl. Univ. of Singapore.*
- 11:00 L9 **469.28** ● EEG biomarkers for frontotemporal dementia. S. WANINGER; M. BENESH; C. BERKA\*; E. RATTI; P. VON ROSENSTIEL; M. MENDEZ; A. VERMA. *Advanced Brain Monitoring, Biogen, Univ. of California, Biogen Idec.*

## POSTER

### 470. Parkinson's Disease: Therapeutic Strategies: Cellular Models

#### Theme C: Neurodegenerative Disorders and Injury

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

- 8:00 L10 **470.01** ● Nucleolin degrades alpha synuclein via the autophagy-lysosome pathway. D. HO\*; S. JEONG; D. NAM; W. SEOL; I. SON. *Inam Neurosci. Res. Ctr.*
- 9:00 L11 **470.02** Improve treatment of Parkinson's disease. J. JATHO-GRÖGER\*; P. BREUER; D. PISTON; I. SCHMITT; P. DENNER; D. STAPPERT; U. WÜLLNER. *Univ. clinic of Bonn, Dept. of Neurol., Core Facility Lab. Automation Technologies, DZNE.*
- 10:00 L12 **470.03** *In vitro* simulation of traumatic brain injury induces apoptosis and decreases dopamine levels in human neurons. S. F. ALI\*; S. M. LANTZ; E. CUEVAS; S. Z. IMAM; H. ROSAS-HERNANDEZ. *Neurochemistry Lab, Div. of Neurotoxicology, Natl. Ctr. Toxicological Res/Fda, NCTR/FDA, NCTR-FDA, NCTR-FDA, Natl. Ctr. For Toxicological Res.*
- 11:00 L13 **470.04** Investigating an alpha-synuclein binding aptamer as a potential treatment avenue to prevent protein fibril formation in Parkinson's disease. K. VENTURA\*; E. MCCONNELL; J. CALLAHAN; V. HUNT; A. KOUDRINA; M. C. DEROSA; M. R. HOLAHAN. *Carleton Univ., Carleton Univ.*
- 8:00 L14 **470.05** ● Downregulation of SNCA expression by targeted editing of DNA-methylation: A potential strategy for precision therapy in PD. B. KANTOR\*; L. TAGLIAFIERRO; J. GU; M. E. ZAMORA; E. ILICH; C. GRENIER; Z. Y. HUANG; S. MURPHY; O. CHIBA-FALEK. *Duke U, Duke Univ., Duke Univ., Duke Univ.*
- 9:00 L15 **470.06** Nicotine protects against manganese and iron-induced toxicity in SH-SY5Y cells: Implication for Parkinson's disease. B. GETACHEW; A. B. CSOKA; K. N. MCPHIE; M. ASCHNER; Y. TIZABI\*. *Howard Univ. Col. of Med., Howard Univ. Col. of Med., Albert Einstein Col. of Med.*
- 10:00 L16 **470.07** Neuroprotective effect of a novel dopamine agonist, D-512 in a rotenone model of Parkinson's disease. D. YEDLAPUDI\*; P. RAVIPATI; L. XU; A. K. DUTTA. *Wayne State Univ.*
- 11:00 L17 **470.08** Development of a novel therapeutic for treatment of synucleinopathies. J. DELA CRUZ\*. *InTouch BioSolutions LLC.*
- 8:00 L18 **470.09** Closed-loop deep brain stimulation using local field potential features in a computational model of the cortico-basal ganglia network. J. E. FLEMING\*; E. DUNN; M. LOWERY. *Univ. Col. Dublin.*
- 9:00 M1 **470.10** Effect of carbon monoxide releasing molecule-2 on 6-hydroxydopamine-induced cell death in C6 glioma cells. D. CHOI; H. MOON; J. JANG; T. JANG; G. PARK\*. *Kyungpook Natl. Univ., Daegu Gyeongbuk Institute of Science & Technology, Sch. of Medicine, Keimyung Univ., Daegu Catholic Univ.*
- 10:00 M2 **470.11** Development of a novel FRET-based cellular biosensor to monitor alpha-synuclein protein-protein interactions. A. R. BRAUN\*; D. D. THOMAS; J. N. SACHS. *Univ. of Minnesota TC, Univ. of Minnesota TC.*

\* 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 M3 **470.12** Development and validation of a high content-based assay to measure Tom20 loss in dopaminergic human neurons differentiated *in vitro*. F. VERKAAR\*; R. DE WIT; M. WATSON; P. THOMPSON; S. DIJKSTRA. *Charles River Labs., Mission Therapeut.*
- 8:00 M4 **470.13** A druggable genome screen identifies modifiers of  $\alpha$ -synuclein levels via a tiered cross-species validation approach. G. VAZQUEZ-VELEZ\*; M. W. ROUSSEAU; I. AL-RAMAHI; H. JEONG; A. S. BAJIC; J. REVELLI; H. YE; E. PHAN; J. DEGER; A. PEREZ; J. KIM; L. LAVERY; Q. XU; M. LI; H. KANG; J. SHULMAN; T. WESTBROOK; S. ELLEDGE; Z. LIU; J. BOTAS; H. Y. ZOGHBI. *Baylor Col. of Med., Baylor Col. of Med., Jan and Dan Duncan Neurol. Res. Inst. at Texas Children's Hosp., Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med., Harvard Med. Sch., Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med., Howard Hughes Med. Inst., Howard Hughes Med. Inst.*
- 9:00 M5 **470.14** ● Post-mortem analysis of a Parkinson's disease brain after 11 years of deep brain stimulation of the subthalamic nucleus. F. DESMEULES\*; C. LECOURS; S. CARRONDO COTTIN; A. M. NOECKER; P. V. GOULD; S. SAIKALI; M. LANGLOIS; M. TREMBLAY; C. C. MCINTYRE; M. PRUDHOMME; L. CANTIN; M. PARENT. *CERVO Brain Res. Ctr., Univ. Laval, Hôpital de l'Enfant-Jésus, Cleveland Clin.*
- 10:00 M6 **470.15** ● Inhibiting phosphoinositide 3-kinase/mammalian target of rapamycin signaling reduces cellular phosphorylation of protein kinase B to increase macro- and chaperone-mediated autophagy and mitigate alpha synuclein-induced neurotoxicity. J. K. BOWDEN-VERHOEK\*; E. STOCKING; J. L. WONG; E. ARIAS-PEREZ; N. FUSSI; M. HÖLLERHAGE; G. HOEGLINGER; A. M. CUERVO; W. WRASIDLO; D. PRICE; M. GILL; D. BONHAUS. *Neuropore Therapies, Albert Einstein Col. of Med., DZNE - German Ctr. for Neurodegenerative Dis. within the Helmholtz Assn.*
- 11:00 M7 **470.16** ● Human iPSC-based models to study gastrointestinal dysfunction in Parkinson's disease. M. J. WORKMAN\*; S. SANCES; A. LAPERLE; R. HO; R. J. BARRETT; C. N. SVENDSEN. *Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr.*
- 8:00 M8 **470.17** ● Drug-like small molecules that modulate catalyzed assembly and toxicity of alpha-synuclein in cell culture models of pd. S. SELVARAJAH; A. MÜLLER-SCHIFFMANN; K. PAULVANNAN; R. MARREIROS; N. DEYARMAN; V. R. LINGAPPA\*; C. KORTH. *Prosetta Biosciences, Inc, Heinrich Heine Univ. Düsseldorf.*
- 9:00 M9 **470.18** Are they still dopaminergic? A re-examination of various dopaminergic cell lines. J. D. JAUMOTTE\*; S. L. CASTRO; A. D. SMITH; M. J. ZIGMOND; D. B. DEFRANCO. *Univ. of Pittsburgh, V.A. Pittsburgh Healthcare Syst., Univ. of Pittsburgh.*
- 10:00 M10 **470.19** Human natural killer cells clear extracellular alpha-synuclein while their effector functions are inhibited. J. LEE\*; J. CHUNG; R. H. EARLS; K. BAKER. *Univ. of Georgia Col. of Vet Med., Univ. of Georgia.*

## POSTER

### 471. Ataxias

#### Theme C: Neurodegenerative Disorders and Injury

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

- 8:00 M11 **471.01** Mouse model of manganism: Towards understanding of the phenotype. C. G. JANUS\*; G. GIRALDO; R. WEISKIRCHEN; M. KNUTSON. *Univ. of Florida, Univ. Hosp. RWTH Aachen, Univ. of Florida.*
- 9:00 M12 **471.02** *In vivo* analyses on ubiquitin and proteasomal activity in SCA3. J. SCHMIDT\*; A. GRUN; T. MEFFERT; O. RIESS; T. SCHMIDT. *Med. Genetics, Univ. of Tuebingen, Ctr. for Rare Diseases, Univ. Hospital, Tuebingen.*
- 10:00 M13 **471.03** Deep brain stimulation of the ventral intermediate nucleus/zona incerta as an off-label treatment for anti-GAD65 antibody-positive stiff-person-syndrome-induced tremor. K. MARKOPOULOU\*; A. LOGGINI; P. WARNKE. *NorthShore Univ. HealthSystem, Univ. of Chicago, Univ. of Chicago.*
- 11:00 M14 **471.04** Neurotoxic effect of a polyglutamine expansion in human TATA-binding protein in SCA17 modeled in *Drosophila melanogaster*. M. CARDENAS-TUEME\*; C. ALTAMIRANO-TORRES; V. GONZALEZ-VILLASANA; D. RESENDEZ-PEREZ. *Univ. Autonoma De Nuevo Leon, Univ. Autonoma de Nuevo Leon.*
- 8:00 M15 **471.05** ▲ Utilizing apigenin to attenuate the degenerative effects of oxidative stress in the spastic Han-Wistar rat, a model of ataxia. M. OLMOS\*; M. A. GILHUYS; A. LEMUS; R. W. COHEN. *California State University, Northridge.*
- 9:00 M16 **471.06** Reaching strategies when the eye-hand configuration varies in direction and depth in a patient with lesions of the posterior parietal cortex. A. BOSCO\*; V. PISERCHIA; C. BERTINI; E. LADAVAS; P. FATTORI. *Univ. of Bologna, Univ. of Bologna.*
- 10:00 M17 **471.07** Adeno-associated virus-mediated knockdown of Gba in the central nervous system models neuronopathic Gaucher disease. K. JACKSON\*; C. VIEL; J. C. MATTHEWS; J. BU; M. CHAN; B. WANG; L. S. SHIHABUDDIN; S. P. SARDI. *Sanofi, Sanofi.*
- 11:00 M18 **471.08** Age dependent neurodegeneration and symptoms in a transgenic pig model of SCA3. S. YAN\*; Z. TU; Q. YAN; Z. LIU; Y. ZHAO; X. ZHANG; S. LI; L. LAI; X. LI. *Jinan Univ., Guangzhou Inst. of Biomedicine and Health, Chinese Acad. of Sci., Emory Univ. Sch. of Med.*
- 8:00 N1 **471.09** ● Objective measures of ataxic gait using wearable inertial sensors. K. SOWALSKY\*; C. M. GOMEZ; F. B. HORAK; M. MANCINI; M. EL-GOHARY. *APDM Wearable Technologies, Univ. of Chicago, OHSU, Oregon Hlth. and Sci. Univ.*
- 9:00 N2 **471.10** Loss of the ataxia protein sacsin impacts on focal adhesion dynamics and cell migration. L. E. L. ROMANO; J. P. CHAPPLE\*. *Queen Mary Univ. of London.*
- 10:00 N3 **471.11** ▲ Role of Rnf216/Triad3 on neurone development and degeneration. A. CHARLES\*; A. MABB. *Georgia State Univ., Georgia 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

- 11:00 N4 **471.12** Longitudinal analysis of gray matter neurodegeneration and its correlation with cognitive and motor performance in patients with Spinocerebellar Ataxia Type 7 (SCA7). A. CONTRERAS MARTÍNEZ\*; C. MORGADO-VALLE; C. R. HERNANDEZ-CASTILLO; R. DÍAZ-PÉREZ; J. FERNANDEZ-RUIZ; L. BELTRAN-PARRAZAL. *Univ. Veracruzana, Univ. Veracruzana, Consejo Nacional De Ciencia Y Tecnología - Cátedra, Univ. Nacional Autónoma de México.*
- 8:00 N5 **471.13** Dynactin-1 implicates autophagosome-lysosome fusion defects in the pathogenesis of neurodegenerative diseases. H. ADACHI\*; Z. HUANG; K. OKADA; K. OHNARI; T. HASHIMOTO; T. TOYOTA; Y. IWANAKA. *Univ. of Occup. and Envrn. Hlth.*
- 9:00 N6 **471.14** ▲ Pathophysiologic insights into ataxia and spasticity through structural imaging of a spinocerebellar ataxia type 7 cohort. J. PARKER\*; S. MERCHANT; S. HOROVITZ; M. HALLETT. *NINDS.*
- 10:00 N7 **471.15** Small molecule read-through compounds for the treatment of Ataxia-Telangiectasia. M. F. ABDALLAH; P. J. MATHEWS\*. *UCLA Harbor/LA BioMed, UCLA Harbor/LA Biomed.*
- 11:00 N8 **471.16** Emerging Roles of RNF216/TRIAD3 in the hypothalamic-pituitary-gonadal axis. A. J. GEORGE\*; A. M. MABB. *Georgia State Univ.*
- 8:00 N9 **471.17** Functional studies of a missense variant in SLIT3 identified in a family with essential tremor. Z. ODGEREL\*; S. SONTI; R. TABA; E. D. LOUIS; L. N. CLARK. *Columbia Univ. Med. Ctr., Dept. of Neurology, Yale Sch. of Medicine, Yale Univ., Taub Inst. for Reaesarch on Alzheimer's Dis. and the Aging Brain.*
- 9:00 N10 **471.18** Modeling genetic loss of function ataxia phenotypes in zebrafish. E. BUGLO\*; N. MARTUSCELLI; E. SARMIENTO; J. DALLMAN; S. L. ZÜCHNER. *Univ. of Miami.*
- 10:00 N11 **471.19** ● Novel genes that modulate levels of mutant ATXN3 in the polyglutamine disorder, Machado-Joseph disease. N. S. ASHRAF; J. R. SUTTON; B. RANXHI; Y. YANG; E. SHAW; S. V. TODI; H. L. PAULSON; M. COSTA\*. *Univ. of Michigan, Ann Arbor, Wayne State Univ. Sch. of Med.*
- 11:00 N12 **471.20** Modeling LBSL. C. L. NEMETH\*; P. HUBO; S. N. TOMLINSON; M. R. ROSEN; C. F. MURRAY; D. WU; M. V. JOHNSTON; A. TRIFUNOVIC; A. FATEMI. *Kennedy Krieger Inst., Johns Hopkins Univ. Sch. of Med., CECAD Res. Ctr.*
- 8:00 O1 **471.21** Mutant ataxin1 disrupts postnatal cerebellar development in spinocerebellar ataxia type 1. C. EDAMAKANTI\*; J. DO; M. MARTINA; P. OPAL. *Northwestern Univ. Feinberg Sch. of Med.*
- 9:00 O2 **471.22** FTY720-derivatives increase neurotrophic factor expression and protects oligodendroglia against hydrogen-peroxide-mediated oxidative stress. J. VARGAS\*; I. SEGURA-ULATE; G. VIDAL-MARTINEZ; B. YANG; R. PEREZ. *TTUHSC.*
- 10:00 O3 **471.23** FTY720-Mitoxy a novel FTY720-derivative improves movement cognition and sweat function in multiple system atrophy mice. G. VIDAL; B. YANG; J. VARGAS; I. SEGURA; V. DIAZ-PACHECO; J. DE LEON; J. BARRAGAN; S. CHAPARRO; R. PEREZ\*. *Texas Tech. Univ. Hlth. Sci. Ctr. El Pa.*
- 11:00 O4 **471.24** ● Antisense oligonucleotides ameliorate disease in spinocerebellar ataxia type 3 mice. H. S. MCLOUGHLIN\*; L. MOORE; R. CHOPRA; R. KOMLO; M. MCKENZIE; K. BLUMENSTEIN; H. T. ZHAO; H. B. KORDASIEWICZ; V. G. SHAKKOTTAI; H. L. PAULSON. *Univ. of Michigan, Ionis Pharmaceuticals, Inc.*
- 8:00 O5 **471.25** Dysregulated IP3R-mediated endoplasmic reticulum-mitochondria calcium signal pathways contribute to mitochondrial bioenergetic deficits and cell death in Friedreich ataxia. H. LIN\*; E. M. CLARK; S. GHURA; N. WARREN; A. SALOVIN; J. MAGRANE; D. R. LYNCH. *The Children's Hosp. of Philadelphia, Univ. of Pennsylvania Sch. of Med., Weill Cornell Med. Col.*
- 9:00 O6 **471.26** Transcriptome sequencing of spinocerebellar ataxia type 2 (sca2) mouse spinal cord toward identifying therapeutic targets for amyotrophic lateral sclerosis (als). D. R. SCOLES\*; W. DANSITHONG; L. PFLIEGER; S. PAUL; K. FIGUEROA; S. PULST. *Univ. of Utah.*
- 10:00 O7 **471.27** The impact of ataxin-3 isoforms on the pathogenesis of Spincerebellar Ataxia Type 3. T. SCHMIDT\*; D. WEISHAEUPL; J. SCHNEIDER; B. PINHEIRO; C. RUESS; S. DOLD; F. VON ZWEYDORF; C. J. GLOECKNER; J. SCHMIDT; O. RIESS. *Med. Genetics, Univ. Tuebingen, Ctr. for Rare Diseases, Univ. Hosp. Tuebingen, Grad. Training Ctr. of Neurosci., DZNE-German Ctr. for Neurodegenerative Dis., Inst. for Ophthalmic Res.*
- 11:00 O8 **471.28** Low-frequency dentate nucleus deep cerebellar stimulation treats cerebellar ataxia. C. ANDERSON\*; K. P. FIGUEROA; A. D. DORVAL; S. M. PULST. *Univ. of Utah, Univ. of Utah, Univ. of Utah Clin. Neurosciences Ctr.*

**POSTER**

**472. Studies of ALS in Animal Models**

**Theme C: Neurodegenerative Disorders and Injury**

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

- 8:00 O9 **472.01** ▲ Loss of mcp-5 prevent fibrosis accumulation in dystrophic muscle disease. T. M. GYLES\*; K. MIN; A. M. BENNETT. *Morehouse Col., Yale Univ. Sch. of Med.*
- 9:00 O10 **472.02** Knockin mouse models to understand ALS pathomechanism. E. M. FISHER\*; A. DEVOY; L. GREENSMITH; G. SCHIAVO; A. ISAACS; P. FRATTA; T. CUNNINGHAM; A. ACEVEDO AROZENA. *Inst. of Neurology, Univ. Col. London, Mammalian Genet. Unit, Unidad de Investigación, Hosp. Universitario de Canarias.*
- 10:00 O11 **472.03** Accelerated disease progression in a mouse model of amyotrophic lateral sclerosis after Ephrin-A5 knockdown. L. RUE; M. TIMMERS; A. LENAERTS; L. VAN DEN BOSCH; P. VAN DAMME; R. LEMMENS; W. L. ROBBERECHT\*. *KU Leuven, VIB, Ctr. for Brain & Dis. Res., Univ. Hosp. Leuven, Univ. Hosp Gasthuisberg.*
- 11:00 O12 **472.04** Implication of peripheral macrophages in amyotrophic lateral sclerosis (als). A. CHIOT; S. ZAIDI; C. ILTIS; M. RIBON; F. BERRIAT; L. BERNARD; L. SCHIAFFINO; M. MALLAT; D. BOHL; S. MILLECAMPS; C. S. LOBSIGER; S. BOILLEE\*. *Inst. du Cerveau et de la Moelle épinière, ICM, Inserm U 1127, CNRS UMR 7225, Sorbonne Univ., Dept. of Neurological, Biomed. and Movement Science; Univ. of Verona, ICM/INSERM U1127/UPMC/CNRS/.*

• 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 O13 **472.05** ● Identification and evaluation of disease relevant biomarkers of progressive neurodegeneration in preclinical models of amyotrophic lateral sclerosis. J. SUGAM\*; J. WONG; S. NIROOMAND; H. ZARIWALA; D. ZHOU; R. GENTZEL; Y. HU; T. ROSAHL; S. PARMENTIER-BATTEUR. *Merck and Co., Inc.*
- 9:00 O14 **472.06** RNA-Seq analysis of spinal cord tissues from hPFN1<sup>G118V</sup> transgenic mouse model of ALS. M. KIAEI\*; C. BARHAM; D. FIL; S. D. BYRUM; Y. RAHMATALLAH; G. GLAZKO. *UAMS, Univ. of Alabama at Birmingham, Univ. of Arkansas for Med. Sci., Univ. of Arkansas for Med. Sci.*
- 10:00 O15 **472.07** Humanising the mouse Tardbp gene. F. DE GIORGIO\*; A. DEVOY; C. MILIOTO; F. ZHU; K. MACKENZIE; A. ACEVEDO AROZENA; E. FISHER. *Inst. of Neurology, Univ. Col. London, Hosp. Universitario de Canarias.*
- 11:00 O16 **472.08** Modelling the ALS-causing TDP-43 [A382T] variant in zebrafish. Z. HARJI\*; V. PETEL-LÉGARÉ; E. C. RODRIGUEZ; G. A. B. ARMSTRONG. *Montreal Neurolog. Institute, McGill Univ., Montreal Neurolog. Inst., Montreal Neurolog. Institute, McGill Univ.*
- 8:00 P1 **472.09** Amyotrophic lateral sclerosis models of CHCHD10 in zebrafish. V. PETEL LEGARE\*; G. A. B. ARMSTRONG; Z. HARJI. *Montreal Neurolog. Inst. and Hosp., Montreal Neurolog. Inst. and Hosp., Montreal Neurolog. Institute, McGill Univ.*
- 9:00 P2 **472.10** Matrin 3 expression leads to neuromuscular degeneration and RRM-mediated toxicity in *Drosophila*. N. RAMESH\*; I. CASCI; U. B. PANDEY. *Univ. of Pittsburgh, Children's Hosp. of Pittsburgh, UPMC.*
- 10:00 P3 **472.11** Genetic modifiers of stress-induced neurodegeneration in a *C. elegans* sod-1 knock-in model. K. S. YANAGI\*; J. J. LINS; L. A. STINSON; M. B. WALSH; A. MAHAPATRA; S. N. BASKOYLU; J. YERSAK; A. C. HART. *Brown Univ., Brown Univ., The ALS Assn., Brown Univ.*
- 11:00 P4 **472.12** Structural CNS changes at presymptomatic stages in the G93A<sup>hSOD1</sup> ALS model. T. MEDIAVILLA\*; S. PARWEEN; D. J. MARCELLINO; F. SULTAN. *Umea Univ.*
- 8:00 P5 **472.13** Deletion of C9orf72 induces an age-dependent decline in reversal learning and olfactory memory. Y. YEN\*; W. HO; S. LING. *Natl. Univ. of Singapore, Natl. Univ. of Singapore, Duke-NUS Med. Sch.*
- 9:00 P6 **472.14** Characterization of epigenetic and behavioral alterations in ALS and FTD mouse model. N. JURY\*; S. ABARZUA; I. DIAZ; M. V. GUERRA; P. CUBILLOS; E. AMPUERO; P. MARTINEZ; M. MONTECINO; L. VARELA-NALLAR; B. ZAN ZUNDERT. *Univ. Andrés Bello, Ctr. for Aging and Regeneration (CARE-UC), FONDAP Ctr. for Genome Regulation.*
- 10:00 P7 **472.15** Structural and functional alteration of motor neurons leads to motor deficit in a rat model of Sporadic Amyotrophic Lateral Sclerosis. S. DAS\*; K. SABITHA; L. T. RAO; T. R. RAJU. *Natl. Inst. of Mental Hlth. and Neurosci.*
- 11:00 P8 **472.16** Motor neuron hypoexcitability in TDP-43 Q331K knock-in mouse model of ALS/FTD. J. P. WHITT\*; L. A. STINSON; R. H. BROWN, Jr.; J. R. FALLON; J. SREEDHARAN; D. LIPSCOMBE. *Brown Univ., Univ. of Massachusetts Med. Sch., Univ. of Cambridge.*
- 8:00 P9 **472.17** Effects of Cu(II)ATSM on phenotype progression in mice with a familial ALS mutation. L. M. HODGE\*; L. CHERRY; C. A. ZIFCSAK; L. D. AIMONE; D. POSAVEC; K. FREITAS; I. J. REYNOLDS; S. E. BROWNE. *Teva Pharmaceuticals.*
- 9:00 P10 **472.18** Building a plausible model for tdp-43 driven als/ftd pathology. J. L. MARTINEZ\*; B. FLORES; X. LI; S. BARMADA; A. BEG. *University of Michigan, Univ. of Michigan, Univ. of Michigan Dept. of Neurol.*
- 10:00 P11 **472.19** Investigating p53 and p21 as mediators of spinal motor neuron degeneration in the Smn<sup>2B/-</sup> mouse model of spinal muscular atrophy. E. REEDICH\*; G. COX; C. DIDONATO. *Stanley Manne Children's Res. Inst., Northwestern Univ., The Jackson Lab.*
- 11:00 P12 **472.20** Neurotoxic effects of the acute and chronic administration of glutamate decarboxylase inhibitors in the rat spinal cord *in vivo*. E. COLIN; R. TAPIA\*. *Univ. Nacional Autónoma De Mexico, Univ. Nacional Autónoma De Mexico.*
- 8:00 P13 **472.21** Cell type specific exosomes signaling in disease spreading of ALS. S. JIN\*; Y. TIAN; J. M. YELICK; Y. MEN; R. JARVIS; Y. YANG. *Tufts Univ.*
- 9:00 P14 **472.22** Automated continuous behavioral monitoring and traditional behavioral testing reveal early phenotypes in a novel SOD1-G85R knock-in mouse model of ALS. L. A. MADIGAN\*; J. PAGE; V. VEERABADRAN; T. SHARMA; J. DOMINOV; T. SERRE; R. H. BROWN; J. R. FALLON. *Brown Univ., Univ. of Massachusetts Med. Sch.*
- 10:00 P15 **472.23** Effects of sex and amphetamine on orolingual motor function in the SOD1-G93A rat model of ALS. J. A. STANFORD\*; L. GAN; K. STANFORD; Y. HONG; J. HARRIS. *Univ. Kansas Med. Ctr., The Second Affiliated Hosp. of Nanchang Univ., Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr.*
- 11:00 Q1 **472.24** Enhanced neurite outgrowth and regeneration in ALS resistant motor neurons from SOD1 mutant mouse models. Z. OSKING\*; J. I. AYERS; R. HILDEBRANDT; K. SKRUBER; H. BROWN; D. RYU; A. R. EUKOVICH; T. E. GOLDE; D. R. BORCHELT; T. READ; E. A. VITRIOL. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*
- 8:00 Q2 **472.25** Increasing glycolysis is neuroprotective in a *Drosophila* model of ALS. E. MANZO\*; D. BARRAMEDA; A. G. O'CONNOR; J. M. BARROWS; I. LORENZINI; R. G. SATTTLER; D. C. ZARNESCU. *Univ. of Arizona, Univ. of Arizona, Barrow Neurolog. Inst., Barrow Neurolog. Inst.*
- 9:00 Q3 **472.26** SMA-specific differences in the axonal and somato-dendritic transcriptome of motor neurons *in vivo*. P. PRICE\*; C. TSAI; C. DIDONATO; G. J. BASSELL; W. ROSSOLL. *Emory Univ., Mayo Clin., Northwestern Univ., Mayo Clin.*
- 10:00 Q4 **472.27** ZPR1 regulates expression of the Hox genes in the spinal cord motor neurons. L. D. GANGWANI\*; N. GENABAI; A. KANNAN; S. AHMAD; X. JIANG. *Texas Tech. Univ. Hlth. Sci. Ctr.*
- 11:00 Q5 **472.28** Overexpression of UCHL1 in neurons extends survival of UCHL1 mutant mice. T. W. GOULD\*; C. FENG; E. AIYUK; O. REID; D. J. HEREDIA. *Univ. of Nevada Sch. of Med.*
- 8:00 Q6 **472.29** Investigating synaptic aging and neurodegeneration in developmentally arrested *Drosophila* larvae. S. PERRY\*; P. GOEL; D. DICKMAN. *USC.*

9:00 Q7 **472.30** ▲ TDP43 interacts with translational machinery in a *Drosophila* model of amyotrophic lateral sclerosis. R. BEAR\*; B. ZAEPFEL; S. YAMADA; L. PHAM; D. ZARNESCU. *Univ. of Arizona*.

## POSTER

### 473. Neurotoxicity, Inflammation, and Neuroprotection: Cellular Stress and Death Mechanisms I

#### Theme C: Neurodegenerative Disorders and Injury

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

- 8:00 Q8 **473.01** ▲ The administration of cadmium for 2, 3 and 4 months causes a loss of recognition memory, promotes neuronal hypotrophy and reactivity to caspase-3 and 9 in the hippocampus of rats. G. PULIDO-FERNANDEZ\*; S. TREVIÑO; E. BRAMBILA; R. VAZQUEZ-ROQUE; G. FLORES; J. MORAN PERALES; A. HANDAL-SILVA; J. GUEVARA; P. AGUILAR-ALONSO; A. D. DIAZ. *Univ. of Puebla (BUAP), BUAP, Univ. Autonoma de Puebla / Inst. de Fisiologia, ICUAP, UNAM, BUAP, Facultad De Ciencias Quimicas, BUAP*.
- 9:00 Q9 **473.02** Protective effect of calcium ions on prostaglandin E<sub>2</sub>-induced apoptosis in rat cortical cells. T. TAKADERA\*; S. UEMA. *Hokuriku Univ.*
- 10:00 Q10 **473.03** Phosphorylation of neuroLSD1 modulates Nur77 expression. M. OLIVARES COSTA; M. E. ANDRES\*. *Pontificia Univ. Católica, Pontificia Univ. Católica De Chile*.
- 11:00 Q11 **473.04** Taurine supplementation during gestation increases oxidative and nitrosative stresses, impairs motor skills, and causes tissue damage in the brain of neonate rats. V. VARGAS-CASTRO\*; A. GONZALEZ-VAZQUEZ; C. TOMAS-SANCHEZ; A. K. AGUILAR-PERALTA; V. M. BLANCO-ALVAREZ; J. R. EGUIBAR; A. UGARTE; D. MARTINEZ-FONG; G. SOTO-RODRIGUEZ; B. A. LEON-CHAVEZ. *Benemerita Univ. Autonoma De Puebla, Ctr. de Investigaciones y Estudios Avanzados del IPN*.
- 8:00 Q12 **473.05** Behavior, growth and gene expression changes following exposure to pesticides and environmental stressors using *Caenorhabditis elegans* as a model. K. M. RALEY-SUSMAN\*; E. WHIDDEN; M. RODMAN; C. HARDMAN. *Vassar Col.*
- 9:00 Q13 **473.06** Deciphering the ASK1 phosphorylation code used to trigger downstream signaling cascades. A. M. PALUBINSKY\*; B. N. LIZAMA; D. SZYMKIEWICZ; M. V. GARRETT; J. W. MCLAUGHLIN; B. A. MCLAUGHLIN. *Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr.*
- 10:00 Q14 **473.07** Gene expression profiling of multiple brain as well peripheral regions in rodent model of soman exposure. A. GAUTAM; L. S. NAIDU; D. GETNET; S. MILLER; D. DONOHUE; J. L. MEYERHOFF\*; F. ROSSETTI; C. SCHULTZ; R. HAMMAMIEH; L. A. LUMLEY; M. JETT. *Integrative Systems Biol. Program, US Army Ctr. for Envrn. Hlth. Research., OakRidge Inst. for Sci. and Education, USACEHR, The Geneva Foundation., Georgetown Univ., Clin. Res. Mgmt., Edmond Scientific Company., USAMRICD, US Army Med. Res. & MC, CEHR*.

- 11:00 R1 **473.08** Nrf2 activation in the striatum after quinolinic acid administration is an oxidative stress independent process. Participation of p62 and DPP3 proteins. C. A. SILVA\*; M. E. CHÁNEZ-CÁRDENAS; D. BARRERA-OVIEDO; M. E. IBARRA-RUBIO; P. D. MALDONADO-JIMÉNEZ. *Inst. Nacional de Neurología y Neurocirugía, Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México*.
- 8:00 R2 **473.09** Excitotoxic cell death inducing megachannel within the ATP synthase: Mitochondrial permeability transition pore? N. MNATSAKANYAN\*; H. PARK; J. WU; B. MURTISHI; P. MIRANDA; E. A. JONAS. *Yale Univ., The Univ. of Alabama, New York Univ.*
- 9:00 R3 **473.10** Methylmercury (MeHg)-induced neuronal cell death via unfolded protein response. H. HIRAOKA\*; K. NAKAHARA; M. FUJIMURA; Y. KUMAGAI; T. UEHARA. *Grad. Sch. Med. Dent. Pharm. Sci. Okayama Univ., Dept. Bas. Med. Sci. Natl. Inst. Minamata Dis., Doc. Prog. Biomed. Sci. Grad. Sch. Comp. Hum. Sci. Univ. Tsukuba*.
- 10:00 R4 **473.11** O-GlcNAc modification of CHFR modulates neuronal survival by controlling its ubiquitin ligase activity. M. KIM\*; J. SEO; J. SEOL. *Korea Brain Res. Inst., Seoul Natl. Univ.*
- 11:00 R5 **473.12** Function of novel S-nitrosylated proteins identified by biotin switch method with LC-MS/MS analysis. K. NAKAHARA\*; H. HIRAOKA; A. ITO; T. UEHARA. *Okayama Univ., Tokyo Univ. of Pharm. and Life Sci.*
- 8:00 R6 **473.13** Comprehensive gene expression analysis and neurotoxicity testing of human iPSC derived neural progenitor cells and neurons. L. P. JACOB\*; H. DESAI; M. SPENCER; D. YIN. *ATCC*.
- 9:00 R7 **473.14** Cross talk between ER and mitochondria in hypoxia adaptation in Andeans. H. ZHAO\*; G. C. SIECK; G. HADDAD. *Univ. of California San Diego, Sch. of Medicine, Dept. of Pediatrics, Mayo Clin., Univ. of California San Diego, The Rady Children's Hosp.*
- 10:00 R8 **473.15** ▲ Oxidative stress markers in brain rats exposed to KA and PTZ: An immunohistochemical study. M. MUNGUÍA-MARTÍNEZ; C. NAVA-RUIZ; A. RUIZ-DÍAZ; M. DÍAZ-RUIZ; M. MENDEZ-ARMENTA\*. *Natl. Inst. Neurol Neurosurg., Natl. Inst. Neurol Neurosurg.*
- 11:00 R9 **473.16** Neuronal necroptosis is induced by vitamin C oxidation. L. E. FERRADA\*; F. J. NUALART. *Univ. de Concepción, Univ. de Concepción*.
- 8:00 R10 **473.17** Opioid-induced accumulation of carbonylated protein aggregates in rat brain and blood. N. KORNEEVA\*; R. FAN; L. SCHROTT; T. ARNOLD. *Louisiana State Univ. Hlth. Sci. Center-, Louisiana State Univ. Hlth. Sci. Center-Shreveport, Louisiana State Univ. Hlth. Sci. Ctr. in Shreveport, Louisiana State Univ. Hlth. Sci. Ctr. in Shreveport*.
- 9:00 R11 **473.18** The oxidizing thiol reagent 2,2'-dithiodipyridine (DTPD) induces an increase in intracellular mobile zinc in oligodendrocytes, but toxicity is not blocked by zinc chelation. C. M. ELITT\*; M. ROSS; N. W. HODGSON; C. J. FAHRNI; K. VAN LEYEN; E. AIZENMAN; P. A. ROSENBERG. *Boston Children's Hosp., Harvard Med. Sch., Boston Children's Hosp., Georgia Inst. of Technol., Massachusetts Gen. Hosp., Univ. of Pittsburgh Sch. of Med.*

Tues. 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 R12 **473.19** ▲ Astrocytes determine pathway of cell death triggered by oxidative stress in neurons. M. ROSS\*; C. M. ELITT; N. W. HODGSON; K. A. HARTNETT; K. VAN LEYEN; C. J. FAHRNI; E. AIZENMAN; P. A. ROSENBERG. *Boston Children's Hosp., Univ. of Pittsburgh Sch. of Med., Massachusetts Gen. Hosp., Georgia Inst. of Technol., Univ. of Pittsburgh Sch. of Med.*
- 11:00 R13 **473.20** The effects of alcohol on neurons, glial cells and memory function in rats. J. WANG\*; S. CHEN; C. CHEN; C. YANG; S. YANG. *Dept Nursing (Basic Med. Sci), Hungkuang Univ., Li-Shin Hosp., Departments of Pediatrics and Med. Research, E-DA Hospital; Col. of Medicine, I-Shou Univ.*
- 8:00 R14 **473.21** Chronic oxidative stress primes glial cells to generate exaggerated cytokine expression after secondary TLR4 activation. R. S. DUNCAN\*; P. KOULEN. *Univ. of Missouri - Kansas City.*
- 9:00 R15 **473.22** Ethanol induces interferon signaling in astrocyte and neuronal cell lines. C. J. LAWRIEMORE\*; L. G. COLEMAN; F. T. CREWS. *UNC Chapel Hill.*
- 10:00 R16 **473.23** Alcohol produces inflammation to promote enhanced methamphetamine-induced neurotoxicity. A. L. BLAKER\*; E. A. RODRIGUEZ; B. K. YAMAMOTO. *Indiana Univ. Sch. of Med., Univ. of Toledo Col. of Med.*
- 11:00 R17 **473.24** Effect of oxidative stress on energy metabolism and the expression of HIF-1 caused by ozone exposure. A. E. RODRIGUEZ\*; S. L. RIVAS-ARANCIBIA. *Univ. Nacional Autonoma de México, Facultad de Medicina, UNAM.*
- 8:00 R18 **473.25** Zinc dyshomeostasis plays a key role in inflammasome formation in cultured neurons and astrocytes following LPS or OGD exposure. H. PARK\*; J. KOH. *Asan Inst. For Life Sci., Univ. Ulsan Col. Med.*
- 9:00 S1 **473.26** Inhalation allergen exposure decreases basal expression of innate immune molecules in murine brainstem. M. J. CARSON\*; J. M. VALDEZ; X. PENZ; A. MADANY; A. BURR; J. C. JANG; Y. Y. GRINBERG; T. M. NORDGREN; M. G. NAIR; D. COCKER; D. D. LO. *Univ. of California Riverside, Univ. of California Riverside.*
- 10:00 S2 **473.27** The roles of ZNRF1 in neuronal development and neuroinflammation. Y. CHANG\*; S. CHOU; L. HSU. *Col. of Medicine, Natl. Taiwan Univ., Academia Sinica.*
- 11:00 S3 **473.28** Effects of pro-inflammatory pathway inhibition on seizure dynamics in mice exposed to the acetylcholinesterase inhibitor soman. E. A. JOHNSON\*; K. LAITIPAYA; J. K. CHANDLER; D. D. PALMER; B. C. LAGER; T. M. FERRARA-BOWENS; C. L. HONNOLD. *US Army Med. Res. Inst. of Chem. Def., US Army Med. Res. Inst. of Chem. Def.*
- 8:00 S4 **473.29** The role of IL-1 signaling in neuroinflammation after soman-induced convulsions and anakinra treatment in mice. T. M. FERRARA-BOWENS\*; J. K. CHANDLER; C. L. HONNOLD; K. LAITIPAYA; B. C. LAGER; D. D. PALMER; M. D. WEGNER; E. A. JOHNSON. *USAMRICD, USAMRICD, AFRIMS.*
- 9:00 S5 **473.30** ● The dihydropyridine derivative LA1011 does not alter the cerebral blood flow response to somatosensory stimulation and spreading depolarization in the intact and ischemic rat cerebral cortex. Í. SZABÓ\*; D. P. VARGA; Á. MENYHÁRT; F. BARI; E. FARKAS; I. HORVÁTH; Z. TÖRÖK; L. VIGH. *Univ. of Szeged, Biol. Res. Centre, Hungarian Acad. of Sci.*

## POSTER

### 474. Neurotoxicity, Inflammation, and Neuroprotection: Mechanisms of Neurotoxicity I

#### Theme C: Neurodegenerative Disorders and Injury

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

- 8:00 S6 **474.01** Disruption of developmental neurogenesis and apoptosis by perinatal phthalates in the rat medial prefrontal cortex. E. P. SELLINGER\*; C. DRZEWIECKI; J. WILLING; J. M. JURASKA. *Univ. of Illinois Urbana-Champaign, Univ. of Illinois at Urbana/Champaign, Univ. of Illinois.*
- 9:00 S7 **474.02** Acute effects of perinatal bisphenol A exposure on cortical apoptosis in rodents. C. DRZEWIECKI\*; E. P. SELLINGER; J. WILLING; S. RHOADS; J. M. JURASKA. *Univ. of Illinois at Urbana/Champaign, Univ. of Illinois Urbana-Champaign, Univ. of Illinois.*
- 10:00 S8 **474.03** Cocaine elicits autophagic cytotoxicity via a nitric oxide-GAPDH signaling cascade. P. P. GUHA\*. *Johns Hopkins Univ.*
- 11:00 S9 **474.04** ● Evaluation of hiPSC-derived neuronal cultures for safety assessment of potential therapeutic compounds against zika virus. F. ZANELLA\*; I. SLAVIN; S. DEA; S. MONTEFUSCO; J. SIQUEIRA-NETO; C. CARROMEU. *Stemonix, Vertex Pharmaceuticals, Stemonix, UCSD.*
- 8:00 DP05/S10 **474.05** ● (Dynamic Poster) Increased spontaneous activity of hiPSC-dopaminergic neurons harboring an early-onset Parkinson's disease mutation (A53T- $\alpha$ -Syn) quantified via kinetic image cytometry. P. MCDONOUGH\*; R. C. B. BASA; W. LASSOUED; J. V. KARPIAK; J. H. PRICE. *Vala Sci. Inc, Scintillon Inst.*
- 9:00 S11 **474.06** ● An automated high content screening platform detects changes in iPSC-neuron calcium activity and morphology. K. L. GORDON\*; R. C. B. BASA; J. V. KARPIAK; S. FENG; S. ANKAM; B. AZIMI; R. INGERMANSON; J. HILTON; J. PRICE; P. MCDONOUGH; D. RINES. *Vala Sci. Inc.*
- 10:00 S12 **474.07** Neonatal sevoflurane exposure up regulates cation-chloride cotransporter KCC2 in mouse thalamus. O. H. CABRERA\*; V. TESIC; Q. L. E. TAT; N. QUILLINAN; S. E. CHASTAIN; V. JEVTOVIC-TODOROVIC. *Univ. of Colorado Anschutz Med. Campus.*
- 11:00 S13 **474.08** Alphaxalone has broader therapeutic index than propofol and shows no neurotoxic effects to developing rat brain. V. TESIC\*; S. CHASTAIN; Q. TAT; O. H. CABRERA; N. QUILLINAN; K. KATHIRESAN; D. F. COVEY; S. M. TODOROVIC; V. JEVTOVIC-TODOROVIC. *Univ. of Colorado, Anschutz Med. Campus, Univ. of Colorado| Anschutz Med. Campus, Univ. of Colorado Anschutz, Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado, Washington Univ. Sch. Med., Univ. of Colorado, Anschutz Med. Campus.*
- 8:00 S14 **474.09** Early postnatal exposure to sevoflurane causes long-lasting changes in expression of synaptic plasticity related genes in rat subiculum. S. E. CHASTAIN\*; V. TESIC; Q. TAT; O. H. CABRERA; N. QUILLINAN; V. JEVTOVIC-TODOROVIC. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado, Anschutz Med. Campus, Univ. of Colorado Anschutz, Univ. of Colorado.*

- 9:00 S15 **474.10** Environmental toxicants, ApoE and sex interaction in human cognitive aging and in mice transgenic for Alzheimer-associated genes. A. HAGHANI\*; M. CACCIOTTOLO; K. R. DOTY; C. SIOUTAS; T. C. TOWN; T. E. MORGAN; M. LEVINE; C. E. FINCH. *USC, Zilkha Neurogenetic Inst., USC, Yale Sch. of Med.*
- 10:00 S16 **474.11** ● Effects of a novel gamma secretase modulator on traffic-related air pollution exposure: Implication in the amyloidogenic processing of APP and cognitive impairment. C. D'AGOSTINO\*; M. CACCIOTTOLO; F. SHIRMOHAMMADI; C. SIOUTAS; S. L. WAGNER; R. E. TANZI; T. E. MORGAN; C. E. FINCH. *USC Leonard Davis Sch. of Gerontology, USC Viterbi Sch. of Engin., UCSD, VASDHS, Massachusetts Gen Hosp, Harvard Med. Sch.*
- 11:00 S17 **474.12** Lipid rafts as novel target of traffic related air pollutant exposure: Evidence from *in vivo* and *in vitro* models. M. CACCIOTTOLO\*; T. E. MORGAN; A. C. SAFFARI; F. SHIRMOHAMMADI; H. J. FORMAN; C. SIOUTAS; C. E. FINCH. *USC Leonard Davis Sch. of Gerontology, USC Viterbi Sch. of Engin., USC Leonard Davis Sch. of Gerontology.*
- 8:00 S18 **474.13** ▲ Glutamatergic mechanisms in depressive responses to prenatal exposure to traffic-related air pollution. R. G. JOHNSON\*, III; A. HAGHANI; V. COUSSA; F. SHIRMOHAMMADI; C. SIOUTAS; C. E. FINCH; T. E. MORGAN. *USC, USC.*
- 9:00 T1 **474.14** Exploring the hormetic effect of dietary polyphenols in fruit flies - The dose makes the poison. L. S. VILLALPANDO\*; J. M. NAPAN; A. M. BRISENO; C. B. BARCENAS; W. L. HARDEMAN; B. TOLAN; A. D. TROFIMOVA; D. PATEL; R. E. HARTMAN. *Loma Linda Univ.*
- 10:00 T2 **474.15** Dopaminergic dysfunction in Sprague-Dawley rats as a potential mechanism for deficits in egocentric and allocentric learning and memory following developmental manganese overexposure. R. A. BAILEY\*; A. GUTIERREZ; J. R. HUGGARD; C. V. VORHEES; M. T. WILLIAMS. *Cincinnati Children's Res. Fndn., Univ. of Cincinnati Col. of Med., Univ. of Cincinnati.*
- 11:00 T3 **474.16** Chronic atrazine exposure alters striatal glutamatergic neurotransmission and behavior in the male rat. D. REYES-BRAVO; M. CHÁVEZ-PICHARDO; M. MENDOZA-TREJO; A. MARÍN-LÓPEZ; N. HERNÁNDEZ-CHAN; K. DOMINGUEZ-MARCHAN; L. ORTEGA-ROSALES; J. ZEPEDA-ALMONTE; M. GIORDANO; V. RODRIGUEZ CORDOVA\*. *Facultad de Medicina, Univ. Autónoma de Querétaro, Inst. de Neurobiología UNAM.*
- 8:00 T4 **474.17** Characterization of the functional recovery of diaphragmatic muscle fiber populations in a novel sublethal model of botulism. J. MACHAMER\*; E. VAZQUEZ-CINTRON; M. STENSLIK; C. ONDECK; K. PAGARIGAN; A. BRADFORD; P. MCNUTT. *US Army Med. Res. Inst. of Chem. Def.*
- 9:00 T5 **474.18** ● High-content imaging of iPSC-derived human neurons for toxicity screening. M. L. HENDRICKSON\*; L. ZHANG; M. XIA; Z. DU. *BrainXell, Inc., NCATS.*
- 10:00 T6 **474.19** Inorganic scintillators are biocompatible with neuronal and circuit function. A. F. BARTLEY\*; K. ABIRAMAN; L. T. STEWART; M. K. BURDETTE; S. H. FOULGER; L. E. DOBRUNZ; L. L. MCMAHON. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Clemson Univ.*
- 11:00 T7 **474.20** Activation of glutamatergic receptors promotes endoplasmic reticulum calcium depletion in primary cortical neurons. A. M. DOSSAT\*; L. V. FORTUNO; B. K. HARVEY. *Natl. Inst. On Drug Abuse, Natl. Inst. On Drug Abuse.*
- 8:00 T8 **474.21** Activation of proline synthesis pathway protects neurons from methamphetamine-induced toxicity. B. JONES\*, JR; M. BALASUBRAMANIAM; C. DASH; J. PANDHARE. *Meharry Med. Col., Meharry Med. Col., Meharry Med. Col.*
- 9:00 T9 **474.22** ● A perfused three-dimensional culture model of human cortical tissue. J. VUKASINOVIC\*; J. T. SHOEMAKER; M. C. LAPLACA. *Lena Biosciences, Inc., Georgia Inst. of Technol.*

## POSTER

### 475. Ischemia III

#### Theme C: Neurodegenerative Disorders and Injury

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

- 8:00 T10 **475.01** Long-term outcome of low-level light therapy in focal ischemic mouse model. H. LEE\*; Y. SHIN. *Pusan Natl. Univ. Yangsan Hosp., Pusan Natl. Univ.*
- 9:00 T11 **475.02** Time-course of the development of inflammation in a model of transient cerebral ischemia in the rat. E. ESNEAULT\*; G. PEYON; F. SIMON; P. KITCHENER. *Porsolt, Fluofarma.*
- 10:00 T12 **475.03** Coumestrol administration attenuates cognitive deficits and reactive astrogliosis caused by neonatal hypoxia-ischemia in Wistar rats. J. B. ANASTÁCIO\*; E. F. SANCHES; F. NICOLA; R. FABRES; C. A. NETTO. *Univ. Federal do Rio Grande do Sul.*
- 11:00 T13 **475.04** Transcortical photothrombotic pyramidotomy model with persistent motor deficits. J. PARK; H. SONG; B. CHOI; M. KIM; W. KIM; M. LEE; H. KIM\*. *GIST, Asan Med. Ctr., Wonkwang Univ. Sch. of Med., Nambu Univ., Chonnam Natl. Univ. Med. Sch.*
- 8:00 T14 **475.05** Evaluating estrorel as a neuroprotectant in cerebral ischemia. S. MUKHERJEE\*; G. KUMAR; B. VERMANI; R. P. PATNAIK, 221005. *Indian Inst. of Technol. (BHU) Varanasi.*
- 9:00 T15 **475.06** ● Intracerebral delivery of brain-derived neurotrophic factor using HyStem®-C hydrogel implants improves functional recovery and reduces neuroinflammation in a rat model of ischemic stroke. D. BRIGGS\*; K. RAVINA; S. KISLAL; Z. WARRAICH; T. NGUYEN; R. LAM; T. ZAREMBINSKI; M. SHAMLOO. *Stanford Univ., BioTime Inc.*
- 10:00 T16 **475.07** ▲ Metformin improves neurological outcome via AMPK mediated autophagy activation in a rat model of cardiac arrest and resuscitation. S. PAN\*; J. ZHU; Y. HU; K. HUANG; Z. JI; Y. GU; K. LIU. *Dept. of Neurology, Nanfang Hospital, Souther, Nanfang Hospital, Southern Med. Univ.*
- 11:00 T17 **475.08** Quantitative susceptibility mapping (GSM) MRI in a collagenase rat model of intracerebral hemorrhage (ICH). K. LEHTIMÄKI\*; A. SHATILLO; E. LATONUMMI; A. J. NURMI. *Charles River Discovery.*

\* 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 T18 **475.09** Functional imaging of thromboembolic stroke in rats using PET, ultrasound and MRI. J. RYTKÖNEN; A. SHATILLO; E. LATONUMMI\*; K. LEHTIMÄKI; P. POUTIAINEN; T. HUHTALA; D. MISZCZUK; A. J. NURMI. *Charles River Discovery, Kuopio Univ. Hosp.*
- 9:00 U1 **475.10** ● Longitudinal population characteristics of volume-behaviour measures in a non-human primate model of stroke. K. A. HARRISON\*; G. RAMÍREZ-GARCÍA; J. FERNANDEZ-RUIZ; J. Y. NASHED; J. LECLERC; D. J. COOK. *Queen's Univ., Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México, Queen's Univ., Queen's Univ.*
- 10:00 U2 **475.11** Generation of Notch3 mutations in marmoset using CRISPR/Cas9 system. J. PARK\*; X. ZHANG; K. C. YOUNG; S. HA; A. C. SILVA. *NIH, NIH.*
- 11:00 U3 **475.12** Orexin-A suppresses the central post-stroke pain through the activation of the descending pain inhibitory system. S. HARADA\*; W. MATSUURA; S. TOKUYAMA. *Kobe Gakuin Univ.*
- 8:00 U4 **475.13** Thalamic neurodegeneration following distal middle cerebral artery occlusion in rats is not associated with thermal or mechanical hypersensitivity. J. E. ANTTILA\*; S. PÖYHÖNEN; M. AIRAVAARA. *Univ. of Helsinki.*
- 9:00 U5 **475.14** Accelerated collateral failure in aged rats during ischemic stroke. J. MA\*; Y. MA; A. SHUAIB; I. R. WINSHIP. *Univ. of Alberta, Univ. of Alberta, Univ. of Alberta.*
- 10:00 U6 **475.15** Novel high-density quantitative  $\mu$ ECoG recordings to record spreading depolarizations after permanent cerebral ischemia in awake freely moving rats. K. PALOPOLI-TROJANI; M. TRUMPIS; J. VIVENTI; D. A. TURNER; U. HOFFMANN\*. *Duke Univ., Duke Univ. Dept. of Electrical and Computer Engin., Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*
- 11:00 U7 **475.16** Glial engagement at the hematoma after intracerebral hemorrhage in the mouse. K. GIORDANO\*; C. R. DENMAN; R. K. ROWE; J. LIFSHITZ; M. AKHTER. *Univ. of Arizona Col. of Med. Phoenix, BARROW Neurolog. Inst. at Phoenix Children's Hosp., Univ. of Bath, Phoenix Veteran Affairs Healthcare Syst., Maricopa Intergrated Healthcare Syst.*
- 8:00 U8 **475.17** Timing matters: The impact of hypothermia on human neural stem cell action *in vitro* supports the need to find optimal timing for combined cell-based therapy with hypothermia for perinatal hypoxic ischemic injury. J. LAW\*; C. D. PERNIA; W. D. NILES, II; E. Y. SNYDER. *UCSD, Sanford Burnham Prebys Med. Discovery Inst.*
- 9:00 U9 **475.18** Recent advances in hemorrhage-induced vasospasm: *In vivo* vasoactivity of heme degradation products (HDPs) on mouse cerebral vasculature using two-photon microscopy and MR perfusion imaging. A. JOERK; K. HERRMANN; D. FREITAG; M. RITTER; N. LANGGUTH; A. SCHAEFGEN; R. A. SEIDEL; M. KRAEMER; G. POHNERT; M. WESTERHAUSEN; J. WALTER; R. KALFF; J. REICHENBACH; O. W. WITTE\*; K. HOLTTHOFF. *Univ. Hosp. Jena, Univ. Hosp. Jena, Univ. Hosp. Jena, Inst. of Inorganic and Analytical Chem., Univ. Hosp. Jena, Friedrich Schiller Univ. Jena.*
- 10:00 U10 **475.19** Evaluation of persistent microcirculatory dysfunction in salvageable ischemic penumbra due to dynamic stalls in capillary red blood cell flow. E. ERDENER\*; J. TANG; K. KILIÇ; D. POSTNOV; S. KURA; S. SAKADZIC; D. A. BOAS. *Boston Univ. Neurophotonics Ctr., Massachusetts Gen. Hosp.*
- 11:00 U11 **475.20** Chemogenetic modulation of noradrenergic tone in the pathogenesis of ischemic stroke. D. BRIGGS; K. RAVINA; S. KISLAL; R. LAM; C. XU; M. SHAMLOO\*. *Stanford Univ. Sch. of Med.*
- 8:00 U12 **475.21** The effects of intraventricular hemorrhage injection in rats on spatial memory and dentate neurogenesis. T. BINYAMIN; K. KAMAL; A. IZADI; K. ONDEK; R. BERMAN; F. SHARP; G. G. GURKOFF\*; B. WALDAU. *Univ. California Davis.*
- 9:00 V1 **475.22** Neuroprotective effect of N,N'-dialkylated analogues of dapsone in a focal ischemia/perfusion model in Wistar rats. D. ZAMORA-MONDRAGON; L. A. TRISTAN-LOPEZ\*; A. ORTIZ-PLATA; M. MENDEZ-ARMENTA; A. DIAZ-RUIZ; S. MEZA-TOLEDO; C. RÍOS. *Inst. Tecnológico de Milpa Alta, Inst. Nacional de Neurología y Neurocirugía, Inst. Nacional de Neurología y Neurocirugía, Inst. Nacional de Neurología y Neurocirugía, Escuela Nacional de Ciencias Biológicas del Inst. Politécnico Nacional.*
- 10:00 V2 **475.23** The contribution of TRPV1 channels to 20-HETE-aggravated ischemic neuronal injury. Z. YANG\*; J. R. FALCK; R. C. KOEHLER. *Johns Hopkins Univ., Univ. of Texas Southwestern Med. Ctr., Johns Hopkins Univ.*
- 11:00 V3 **475.24** Role of TRPV4 and PLA2g6 in post-stroke hydrocephalus. J. W. SHIM\*; F. NIPA. *Boston Univ., Boston Univ. Sch. of Med.*
- 8:00 V4 **475.25** Azithromycin has an innovative neuroprotective role in a neonatal mouse model of periventricular leukomalacia (PVL). N. ZAGHLOUL\*; K. R. AYASOLLA; M. N. AHMED. *Cohen's Children Med. Ctr., Feinstein Inst. for Med. Res., Feinstein Inst. for Med. Res.*
- 9:00 V5 **475.26** Investigating the expression of neuroserpin and its role in neonatal hypoxic-ischaemic encephalopathy. J. FISCHER\*; A. HOERDER-SUABEDISSEN; K. PARLEY; Z. MOLNÁR. *Univ. of Oxford.*
- 10:00 V6 **475.27** ▲ Effect of GH and IGF-1 treatments after hypoxic-ischemic injury in chicken cerebellar cell cultures. M. BALTAZAR; J. AVILA-MENDOZA; C. MARTÍNEZ-MORENO; M. CARRANZA; C. ARAMBURO; M. LUNA\*. *Inst. de Neurobiología, UNAM, Inst. de Neurobiología, UNAM, Univ. of Michigan, Inst. de Neurobiología, UNAM.*
- 11:00 V7 **475.28** Correlation between the serum levels of 24S-hydroxycholesterol and hypoxic-ischemic brain injury in neonatal mice. F. LU\*; J. ZHU; F. CHEHAB; D. M. FERRIERO; X. JIANG. *Univ. of California, San Francisco, UCSF, Univ. of California San Francisco.*
- 8:00 V8 **475.29** Conventional histological assessment of ischemic damage and defining cerebellar apoptotic Purkinje cell death in rats. Z. HE\*; L. CUI; T. A. PATTERSON; S. A. FERGUSON. *Natl. Ctr. For Toxicology Res., NCTR, Natl. Ctr. for Toxicological Res., Natl. Ctr. Toxicological Res.*

## POSTER

### 476. Spinal Cord Injury and Plasticity: Cellular and Molecular Mechanisms II

#### Theme C: Neurodegenerative Disorders and Injury

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

- 8:00 V9 **476.01** Characterization of the spinal ejaculation generator in male mice. S. GAIKWAD\*; M. D. STAUDT; L. M. COOLEN. *Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr., Univ. of Mississippi 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



- 9:00 V10 **476.02** Contusion spinal cord injury decreases glutamatergic axon inputs to spinal ejaculation generator in male rats. K. K. SONI\*; J. E. SLEDD; J. W. WIGGINS; L. M. COOLEN. *Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr.*
- 10:00 V11 **476.03** Effects of contusion spinal cord injury on neuropeptide expression in the spinal ejaculation generator in rats. J. W. WIGGINS\*; J. E. SLEDD; L. M. COOLEN. *Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr.*
- 11:00 V12 **476.04** Correlation or causation - nociceptive fiber sprouting and spinal cord injury induced neuropathic pain? C. SLIWINSKI\*; M. MOTSCH; N. WEIDNER; R. PUTTAGUNTA. *Univ. Hosp. Heidelberg.*
- 8:00 V13 **476.05** Neurite outgrowth on inhibitory substrate by delivering Y-27632 using polymeric nanocarriers. S. SEBASTIAN\*; R. AMMASSAM VEETIL; S. GHOSH; D. HYNDS. *Texas Woman's Univ., Southeast Missouri State Univ.*
- 9:00 V14 **476.06** Modulating the EphB2-NMDA receptor interaction in superficial dorsal horn attenuates neuropathic pain following cervical spinal cord injury. N. M. HEINSINGER\*; W. ZHOU; J. L. WATSON; A. FALNIKAR; E. V. BROWN; B. A. CHARSAR; M. B. DALVA; A. C. LEPORE. *Thomas Jefferson Univ.*
- 10:00 V15 **476.07** Promoting structural and functional reorganization of neuronal circuits after spinal cord injury. A. TEDESCHI\*; M. LARSON; A. ANNETT; W. A. STALKER; W. SUN. *The Ohio State Univ.*
- 11:00 V16 **476.08** Myelin modulates macrophage inflammatory responses after spinal cord injury. T. J. KOPPER\*; B. ZHANG; J. C. GENSEL. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky.*
- 8:00 W1 **476.09** Moderate pain input, given within days of a contusion injury, can expand the area of hemorrhage and undermine behavioral recovery. M. M. STRAIN\*; T. JOHNSTON; Y. J. HUANG; J. A. REYNOLDS; R. E. BAINE; J. A. DAVIS; M. K. HENWOOD; G. N. K. FAUSS; J. W. GRAU. *Texas A&M Univ., U.S. Army Inst. for Surgical Res.*
- 9:00 W2 **476.10** Acute CXCR4 blockage impairs spinal cord injury recovery. A. TORRES ESPÍN\*; I. FRANCO-SQUIJORNA; J. AMO-APARICIO; A. SÁNCHEZ FERNÁNDEZ; R. LÓPEZ-VALES; K. FOUAD. *Univ. of Alberta, Univ. Autònoma De Barcelona.*
- 10:00 W3 **476.11** Gene expression changes in ascending dorsal column sensory neurons after spinal cord injury. E. E. EWAN\*; M. MAHAR; D. CARLIN; V. CAVALLI. *Washington Univ. in St. Louis.*
- 11:00 W4 **476.12** The role of arginase in macrophage-mediated repair in spinal cord injury. K. M. MCFARLANE; M. B. ORR; W. M. BAILEY; B. ZHANG; T. E. OTTO; J. C. GENSEL\*. *Univ. of Kentucky, Shaanxi Univ. of Chinese Med.*
- 8:00 W5 **476.13** Enhancing corticospinal regeneration after spinal cord injury. E. V. VAN NIEKERK\*; G. H. POPLAWSKI; R. KAWAGUCHI; G. COPPOLA; M. H. TUSZYNSKI. *UCSD, Natl. Univ. of Singapore, Univ. of California San Diego, Univ. of California San Diego Dept. of Neurosciences.*
- 9:00 W6 **476.14** Effects of Ketogenic diet in mitochondrial function after Spinal Cord Injury. O. SEIRA\*; K. L. KOLEHMAINEN; J. LIU; R. BOUSHEL; W. TETZLAFF. *ICORD/UBC, Univ. of British Columbia, ICORD, Univ. of British Columbia (UBC), Univ. of British Columbia, ICORD.*
- 10:00 W7 **476.15** Opioid-immune interactions after SCI. M. N. TERMINEL\*; K. BRAKEL; M. HOOK. *Texas A&M Hlth. Sci. Ctr.*
- 11:00 W8 **476.16▲** *In vivo* validation using CRISPR/Cas9 of a putative downstream effector of notch expressed in neurons. A. LEONARD\*; R. EL BEJJANI. *Davidson Col.*
- 8:00 W9 **476.17** The spinal transcriptome after cortical stroke — In search of target-derived molecular factors regulating spontaneous compensatory axon growth in the spinal cord. J. KAISER\*; M. A. MAIBACH; I. SALPETER; M. E. SCHWAB. *Brain Res. Inst.*
- 9:00 W10 **476.18** TGF- $\beta$ 1 as a modulator of structural plasticity after large motor cortex stroke. M. A. MAIBACH\*; J. KAISER; I. SALPETER; E. PIOVESANA; M. E. SCHWAB. *Brain Res. Inst.*
- 10:00 W11 **476.19** The voltage-gated proton channel Hv1 impairs recovery after mouse spinal cord injury through NOX2/ROS signaling. M. MURUGAN; J. ZHENG; Y. LI; J. HE; B. SABIRZHANOV; L. WU; J. WU\*. *New Jersey Inst. of Technol., Mayo Clin. Grad. Sch., Univ. of Maryland, Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Mayo Clin., Univ. of Maryland, Sch. of Med.*
- 11:00 W12 **476.20** Activation of cPLA2 contributes to lysosomal defects leading to impairment of autophagy after spinal cord injury. Y. LI\*; J. W. JONES; C. SARKAR; M. A. KANE; E. Y. KOH; M. M. LIPINSKI; J. WU. *Univ. of Maryland, Sch. of Med., Univ. of Maryland, Sch. of Pharm., Univ. of Maryland, Sch. of Med., Univ. of Maryland, Sch. of Med.*
- 8:00 W13 **476.21** Characterization of the transcription factor network underlying regeneration reveals novel intrinsic inhibitors. Y. CHENG\*; A. ZHANG; K. GAO; A. BERNSTEIN; V. CHANDRAN; C. J. WOOLF; M. V. SOFRONIEW; D. H. GESCHWIND. *UCLA, UCLA, Children's Hosp. Boston, UCLA Sch. Med.*
- 9:00 W14 **476.22** Heterogeneous secondary injury response following traumatic injury at different levels of the spine. J. HONG\*; M. CHAMANKHAH; A. CHANG; A. BADNER; M. ZAVVARIAN; C. AHUJA; M. FEHLINGS. *Krembil Res. Inst., Krembil Res. Inst.*
- 10:00 W15 **476.23** A comprehensive combinatorial approach: Neuromodulation of the injured spinal cord using epidural stimulation and rapamycin loaded scaffold seeded with genetically modified Schwann cells. A. M. SIDDIQUI; C. A. CUELLAR; J. L. SILVERNAIL; B. K. CHEN; B. KNUDSEN; J. J. NESBITT; P. J. GRAHN; N. N. MADIGAN; I. LAVROV; A. J. WINDEBANK\*. *Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin., Mayo Clin. Rochester, Mayo Clin., Mayo Clin., Mayo Clin.*

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\* Indicates abstract's submitting author

POSTER

477. Spinal Cord Injury III

**Theme C: Neurodegenerative Disorders and Injury**

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

- 8:00 W16 **477.01** Identifying factors that stimulate or improve propriospinal axon regrowth after severe spinal cord injury. M. A. ANDERSON\*; T. M. O'SHEA; J. E. BURDA; Y. AO; S. BARLATEY; A. M. BERNSTEIN; J. H. KIM; N. D. JAMES; A. ROGERS; B. KATO; A. WOLLENBERG; R. KAWAGUCHI; G. COPPOLA; C. WANG; T. J. DEMING; Z. HE; G. COURTINE; M. V. SOFRONIEW. *Swiss Federal Inst. of Technology, Lausanne, UCLA, UCLA, UCLA, UCLA, Children's Hosp Boston, EPFL, UCLA Schl Med.*
- 9:00 W17 **477.02** Delaying pharmacological inhibition of spinal soluble tumor necrosis factor alpha (sTNF $\alpha$ ) signaling diminishes the development of autonomic dysreflexia after complete high thoracic spinal cord injury. E. MIRONETS\*; P. OSEI-OWUSU; V. BRACCHI-RICARD; R. FISCHER; T. M. SALTOS; E. COLLYER; J. R. BETHEA; V. J. TOM. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med., Drexel Univ., Drexel Univ. Col. of Med.*
- 10:00 W18 **477.03** • Drug repurposing: High dose human intravenous immunoglobulin g for treatment of traumatic cervical spinal cord injury. J. CHIO\*; J. WANG; A. BADNER; J. HONG; M. CHAMANKHAH; M. FEHLINGS. *Krembil Res. Inst., Univ. of Toronto, Univ. of Toronto.*
- 11:00 X1 **477.04** Bad to the bone: Spinal cord injury disrupts hematopoietic and immune cell function in the bone marrow niche. R. S. CARPENTER\*; J. M. MARBOURG; A. M. DORRANCE; P. G. POPOVICH. *The Ohio State Univ.*
- 8:00 X2 **477.05** Microbiome transplant attenuates anxiety/depression-like behavior in a rat model of spinal cord injury. E. K. SCHMIDT\*; P. J. F. RAPOSO; K. K. FENRICH; K. FOUAD. *Univ. of Alberta.*
- 9:00 X3 **477.06** Acute but sustained treatment with cannabinoid receptor-2 agonist preserves hind limb bone density in mice after SCI. R. J. GRILL\*; S. SEREDUCK; Y. PRIDE; A. CHADE. *Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr.*
- 10:00 X4 **477.07** Sexual difference on neuroinflammation and functional recovery after SCI. T. CAO\*; Y. LI; L. LIU; A. FADEN; J. WU. *Univ. of Maryland, Sch. of Med., Univ. of Maryland, Sch. of Med., Univ. of Maryland, Sch. of Med.*
- 11:00 X5 **477.08** Immediate elimination of the axon-glia complex achieves successful axon regeneration in cordotomized adult rats. T. NISHIO\*; H. FUJIWARA; I. KANNO. *Kyoto Univ., Kanazawa Univ., Kobe Univ.*
- 8:00 X6 **477.09** Immune-evasive gene switch allows regulated delivery of chondroitinase and long term delivery restores reaching and grasping function after cervical spinal cord injury. E. R. BURNSIDE\*; F. DE WINTER; N. I. ROOPNARINE; A. DIDANGELOS; N. D. JAMES; J. VERHAAGEN; E. M. MUIR; E. J. BRADBURY. *King's Col. London, Neth Inst. Neurosc, Univ. of Cambridge.*
- 9:00 X7 **477.10** Local sustained interleukin-10 delivery reduces inflammation and improves motor function after spinal cord injury. D. J. HELLENBRAND\*; A. G. GABLEMAN; E. DAI; J. B. SPORLEDER; S. HENRY; S. D. ORTMANN; J. C. GOTCHY; A. S. HANNA. *Univ. of Wisconsin.*
- 10:00 X8 **477.11** Inhibition of IL-17A promotes tissue repair by ependymal cells after spinal cord injury. H. MIYAJIMA\*; S. TANABE; M. FUJITANI; T. YAMASHITA. *Grad. Sch. of Frontier Biosciences, Osaka Univ., WPI Immunol. Frontier Res. Center, Osaka Univ., Grad. Sch. of Medicine, Shimane Univ., Grad. Sch. of Medicine, Osaka Univ.*
- 11:00 X9 **477.12** Ursodeoxycholic acid inhibits inflammatory responses and promotes functional recovery after spinal cord injury in rats. S. SOHN\*; W. KO. *CHA University, CHA Bundang Med. Ctr., CHA Univ.*
- 8:00 X10 **477.13** Molecular and cellular responses of immune cells following therapeutic targeting of the extracellular matrix after spinal cord injury. I. FRANCO-SQUIJORNA\*; E. R. BURNSIDE; J. VERHAAGEN; E. J. BRADBURY. *King's Col. London, Neth Inst. Neurosc.*
- 9:00 X11 **477.14** Vitamin D improves the wellness of myelin sheath after experimental spinal cord injuries in normal and induced vitamin D-deficient rats. N. LI; Y. MIN; G. K. LEUNG\*. *The Univ. of Hong Kong.*
- 10:00 X12 **477.15** Using metformin to activate endogenous neural precursor cells in the spinal cord. E. A. GILBERT\*; W. XU; C. M. MORSHEAD. *Univ. of Toronto.*
- 11:00 X13 **477.16** Mesenchymal stem cell treatment reduces astrogliosis and microglial reaction and improves motoneuron survival after spinal ventral root crush in mice. L. P. CARTAROZZI\*; M. PEREZ; F. KIRCHHOFF; A. C. M. LUZO; A. L. OLIVEIRA. *Univ. of Campinas, Univ. of Saarland, Univ. of Campinas.*
- 8:00 X14 **477.17** Mesenchymal stromal cell-derived extracellular vesicles alleviate major pathological hallmarks of spinal cord injury. P. ROMANELLI\*; L. BIELER; C. SCHARLER; K. PACHLER; C. KREUTZER; P. ZAUNMAIR; L. AIGNER; F. RIVERA; E. ROHDE; B. BRUNO; K. SCHALLMOSER; M. GIMONA; D. STRUNK; S. COUILLARD-DESPRES. *Paracelsus Med. University, Exptl. Neuroregeneration, SCI-TReCS, Exptl. and Clin. Cell Therapy, GMP Lab., Mol. Regenerative Med., Inst. of Anatomy, Histology and Pathology, Univ. Dept. of Blood Serology and Transfusion Medicine, SALK.*
- 9:00 Y1 **477.18** Effect of human mesenchymal stromal cells (hMSCs) on CCL5 expression and macrophage polarization after spinal cord injury. H. OHTAKI\*; K. YAGURA; T. TSUMURAYA; A. SATO; J. WATANABE; K. MIYAMOTO; Y. HIRAZUMI; K. HONDA. *Showa Univ. Sch. of Med., Showa Univ. Fujigaoka Hosp., Showa Univ., Showa Univ. Fujigaoka Hosp., Showa Univ. Sch. of Med.*
- 10:00 Y2 **477.19** Spinal cord injury site modulation platform with nanotechnology and stem cells. J. L. PALUH\*; Z. T. OLMSTED; A. SCIMEMI; Y. XIE. *SUNY Polytechnic Inst., SUNY Albany.*
- 11:00 Y3 **477.20** • Olfactory ensheathing cell transplantation combined with epidural stimulation and climb training enhances axonal connectivity across a severe spinal cord injury. K. L. INGRAHAM\*; M. A. THORNTON; M. D. MEHTA; T. MORAD; P. AKKARA; A. TIERNO; A. YEUNG; E. A. DALE; H. ZHONG; V. R. EDGERTON; P. E. PHELPS. *Univ. of California Los Angeles, Univ. of California Los Angeles.*
- 8:00 Y4 **477.21** Migration and differentiation of astroglia after transplantation of human neural stem cells into site of spinal cord injury. B. LIEN; M. TUSZYNSKI; P. P. LU\*. *Univ. of California San Diego, UCSD, VA San Diego Healthcare Syst., VA-San Diego Healthcare Syst.*

- 9:00 Y5 **477.22** Pioglitazone maintains mitochondrial respiration following spinal cord injury via interaction with mitoNEET. S. P. PATEL\*; D. H. COX; W. M. BAILEY; H. C. WILLIAMS; J. C. GENSEL; P. G. SULLIVAN; A. G. RABCHEVSKY. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Lexington VAMC.*
- 10:00 Y6 **477.23** An innovative chondroitin sulfate proteoglycan reduction peptide (CRP) to repair chronic spinal cord injury. C. LIN\*; K. LI; J. SILVER; A. SPARKS; Y. LEE. *Cleveland Clin., Case Western Reserve Univ.*
- 11:00 Y7 **477.24** Functional improvement by human neural progenitor cells following severe spinal cord injury (SCI) is supported by tissue-type plasminogen activator. Y. SHIGA; A. SHIGA; P. MESCI; H. KWON; C. BRFAULT; J. KIM; E. MANTUANO; S. OHTORI; A. MUOTRI; S. L. GONIAS; W. M. CAMPANA\*. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Chiba Univ.*
- 8:00 Y8 **477.25** Paired brain and spinal cord stimulation augments muscle responses through convergence of the corticospinal tract and large diameter afferents on spinal interneurons. H. PARK\*; A. PAL; J. B. CARMEL. *Burke Neurolog. Inst.*
- 9:00 Y9 **477.26** Injectable polypeptide hydrogels and Ribotag neural stem cells as tools to study cell grafting survival and differentiation outcomes in spinal cord injury. T. M. O'SHEA\*; A. L. WOLLENBERG; J. H. KIM; Y. AO; A. CZECHANSKI; L. G. REINHOLDT; T. J. DEMING; M. V. SOFRONIEW. *UCLA, UCLA, The Jackson Lab.*
- 10:00 Y10 **477.27** Restoration of sensory-motor integration after dorsal rhizotomy and repair with platelet-rich plasma (PRP) associated with transgenic human embryonic stem cells (hESC) overexpressing FGF-2. M. V. DE CASTRO\*; S. KYRYLENKO; M. SANTANA; A. LUZO; A. OLIVEIRA. *Univ. of Campinas (UNICAMP), Med. Inst. of Sumy State Univ.*
- 11:00 Y11 **477.28** Activity signaling to induce axon sprouting and regrowth after complete spinal cord injury. S. L. BARLATEY\*; M. A. ANDERSON; J. COTTET; L. ASBOTH; L. D. P. BAUD; J. BLOCH; M. V. SOFRONIEW; G. COURTIME. *Ecole Polytechnique Federale De Lausanne, Univ. Hosp. Lausanne CHUV, UCLA Schl Med.*
- 8:00 Y12 **477.29** Early activation and recruitment of endogenous stem cells for the treatment of spinal cord injury. Z. ZABARSKY\*; T. D. LUO; X. MA; T. L. SMITH. *Wake Forest Univ.*
- 9:00 Y13 **477.30** Spinal cord injury perturbs circadian rhythms. A. D. GAUDET\*; L. K. FONKEN; M. T. AYALA; E. M. BATEMAN; W. E. SCHLEICHER; E. J. SMITH; H. M. D'ANGELO; S. F. MAIER; L. R. WATKINS. *Univ. of Colorado Boulder, Univ. of Texas at Austin.*
- 9:00 Y15 **478.02** A bifunctional biased mu opioid agonist - neuropeptide FF receptor antagonist as analgesic with improved acute and chronic side effects. F. SIMONIN\*; A. DRIEU LA ROCHELLE; K. GUILLEMYN; M. DUMITRASCUTA; C. MARTIN; V. UTARD; R. QUILLET; S. SCHNEIDER; F. DAUBEUF; T. WILLEMSE; P. MAMPUYS; B. U. W. MAES; N. FROSSARD; F. BIHEL; M. SPETEA; S. BALLEET. *CNRS, Univ. of Strasbourg, Vrije Univ. Brussel, Univ. of Innsbruck, Univ. of Antwerp, INSERM.*
- 10:00 Y16 **478.03** Hyporesponsivity to morphine in the Wistar-Kyoto rat model of hyperalgesia associated with negative affective state. M. I. FERDOUSI\*; P. CALCAGNO; M. CLARKE; S. AGGARWAL; C. SANCHEZ; K. SMITH; J. P. KELLY; M. ROCHE; D. P. FINN. *Natl. Univ. of Ireland Galway, Ctr. for Pain Res. and Galway Neurosci. Centre, NCBES, Natl. Univ. of Ireland Galway, Natl. Univ. of Ireland Galway, Alkermes Inc.*
- 11:00 Y17 **478.04** Effects of intrathecal PZM-21, a biased mu receptor ligand in rats. S. KOKUBU\*; K. EDDINGER; P. GMEINER; T. L. YAKSH. *Univ. California San Diego, Dokkyo Med. Univ., Emil Fischer Ctr.*
- 8:00 Y18 **478.05** Mitogen-activated protein kinase signaling mediates opioid-induced presynaptic NMDA receptor activation, hyperalgesia and tolerance. M. DENG\*; S. CHEN; H. CHEN; Y. LUO; Y. DONG; H. PAN. *The Univ. of Texas MD Anderson Cancer Ctr.*
- 9:00 Z1 **478.06** Cdk5-mediated phosphorylation of the delta opioid receptor: A key process for the regulation of cell surface receptors. S. BERTHIAUME; B. QUIRION; E. ST-LOUIS; V. BLAIS; J. PARENT; C. LAVOIE; L. GENDRON; F. BERGERON\*. *Univ. de Sherbrooke.*
- 10:00 Z2 **478.07** Morphine promotes breast cancer cell proliferation via mechanism independent of m-opioid receptor: An *in vitro* study. R. RAMACHANDRAN\*; Y. ZHU; Y. HE; P. W. MANTYH; T. L. YAKSH. *UCSD, Univ. of Arizona.*
- 11:00 Z3 **478.08** Ex vivo receptor occupancy at mu and kappa opioid receptors in rat brain. S. C. CHEETHAM\*; A. NEEDHAM; L. JAGGER. *RenaSci Ltd.*
- 8:00 Z4 **478.09** NKTR-181: Relationship between mu-opioid receptor binding kinetics and *in vivo* pharmacodynamics. L. VANDERVEEN\*; T. MIYAZAKI; S. K. DOBERSTEIN; J. ZALEVSKY. *Nektar Therapeut.*
- 9:00 Z5 **478.10** Phosphatidylethanolamine-binding protein reduces  $\beta$ arrestin2 recruitment to the mu opioid receptor, thus promoting opioid anti-nociception. J. E. LAVIGNE\*; C. KIM; K. A. EDWARDS; J. M. STREICHER. *Univ. of Arizona Col. of Med., Univ. of Arizona, Dartmouth Col., Univ. of Arizona.*
- 10:00 Z6 **478.11** The neuroanatomical organization of delta and mu opioid receptors in CNS pain circuits. D. WANG\*; V. L. TAWFIK; G. CORDER; S. A. LOW; A. FRANÇOIS; A. I. BASBAUM; G. SCHERRER. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Univ. of California, San Francisco, Stanford Univ.*
- 11:00 Z7 **478.12** Examining sex differences in analgesic tolerance to a peripherally-restricted opioid combination. D. J. BRUCE\*; C. PETERSON; K. KITTO; C. FAIRBANKS; G. WILCOX. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*
- 8:00 Z8 **478.13** Impact of advanced age and sex on  $\mu$  opioid receptor expression, affinity, and signaling in the rat periaqueductal gray: Implications for analgesia. E. FULLERTON\*; M. RUBAHARAN; M. C. KAROM; R. I. HANBERRY; A. Z. MURPHY. *Georgia State Univ., Georgia State Univ.*

## POSTER

### 478. Pain: Opioid Receptor Pharmacology and Signaling Mechanisms

#### Theme D: Sensory Systems

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

- 8:00 Y14 **478.01** Hyperalgesia mediated by mu-opioid receptors in spinal GABAergic neurons. X. ZHANG\*; Y. SUN. *Inst. of Neuroscience, Chinese Acad. of Scie.*

\* 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 Z9 **478.14** cMyc mediated the expression of EZH2 in an epigenetic manner in morphine tolerance in rats. K. TAKAHASHI; H. YI; D. IKEGAMI; Y. KASHIWAGI; S. LIU; D. LUBARSKY; S. HAO\*. *Univ. of Miami, Univ. of Miami, Univ. of Miami Miller Sch. of Med., Univ. of Miami.*
- 10:00 Z10 **478.15** Acute fasting induces analgesia via activation of opioid system. J. LEE\*; Y. KANG; S. OH. *Seoul Natl. Univ., Osaka Univ. Grad. Sch. Dent., Sch. of Dent, Seoul Nat'l Univ.*

## POSTER

### 479. Pain: Non-Opioid Analgesics

#### Theme D: Sensory Systems

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

- 8:00 Z11 **479.01** Glycine receptor-targeted analgesics for the treatment of chronic pain. J. CAPOROSO\*; M. WELLS; P. TANG; Y. XU. *Univ. of Pittsburgh.*
- 9:00 Z12 **479.02** MAGL inhibition attenuates cancer-induced bone pain. A. L. THOMPSON\*; S. GREALD; H. CICCONE; W. STAATZ; T. M. LARGENT-MILNES; B. CRAVATT; T. W. VANDERAH, Ph.D. *Univ. of Arizona, Johns Hopkins Univ. Sch. of Med., Univ. of Arizona, Scripps Res. Inst., Univ. of Arizona.*
- 10:00 Z13 **479.03** ▲ Pre-emptive alphaxalone application as a potential method to decrease opioid consumption post-surgery. Q. TAT\*; S. L. JOKSIMOVIC; K. KATHIRESAN; D. F. COVEY; S. M. TODOROVIC; V. JEVTOVIC-TODOROVIC. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado, Anschutz Med. Campus, Washington Univ. Sch. of Med., Washington Univ. Sch. Med., Univ. of Virginia Dept. of Anesthesiol.*
- 11:00 Z14 **479.04** Pharmacodynamic mechanisms underlying the antinociceptive actions of fingolimod (FTY720) in a mouse model of nerve injury-induced neuropathic pain. L. J. SIM-SELLEY\*; G. DONVITO; V. MCLANE; P. KARLSSON; S. SPIEGEL; K. F. HAUSER; A. H. LICHTMAN; D. E. SELLEY. *Virginia Commonwealth Univ.*
- 8:00 Z15 **479.05** ▲ Supra additive interaction between topiramate and ketorolac, locally administered in the rat formalin test. E. SANCHEZ-SERRANO; M. Y. GAUTHEREAU-TORRES; C. CERVANTES-DURAN; L. F. ORTEGA-VARELA\*. *Univ. Michoacana de San Nicolas de Hidalgo, Univ. Michoacana De San Nicolás De Hidalgo. Salud, Escuela de Enfermería y Salud Publica, UMSNH.*
- 9:00 Z16 **479.06** Evaluation of AM1710 as a broad spectrum analgesic and its impact on morphine tolerance and physical dependence. A. LI\*; X. LIN; A. S. DHOPESHWARKAR; A. C. THOMAZ DOS SANTOS; L. M. CAREY, IV; Y. LIU; S. P. NIKAS; A. MAKRIYANNIS; K. MACKIE; A. G. HOHMANN. *Indiana Univ., Northeastern Univ.*
- 10:00 Z17 **479.07** Early and late anti nociceptive effects of sucrose on neonatal inflammatory pain; comparison to a non-steroidal anti-inflammatory drug. K. NUSEIR\*; A. TASSLAQ; A. ALTARIFI; K. H. ALZOUBI. *Jordan Univ. of Sci. and Technol., Jordan Univ. of Sci. & Technol.*
- 11:00 Z18 **479.08** Treating pain with a cell-penetrating neurotensin type 1 receptor (NTS1) pepducin. R. L. BROUILLETTE\*; É. BESSERER-OFFROY; C. MONA; S. LAVENUS; J. CÔTÉ; M. SOUSBIE; J. LONGPRÉ; R. LEDUC; M. GRANDBOIS; É. MARSAULT; P. SARRET. *Univ. de Sherbrooke, Inst. de Pharmacologie de Sherbrooke.*
- 8:00 AA1 **479.09** ● Analgesia and abuse potential of acetaminophen and a bioisostere acetaminophen analogue in mice. T. L. YAKSH\*; N. A. REGEN; H. HOSHIJIMA; K. A. EDDINGER; K. D. BUNKER; C. D. HOPKINS. *Dept. of Anesthesiology, UCSD, Kalyra Pharmaceuticals, Inc.*
- 9:00 AA2 **479.10** Exercise dosing: A meta-analysis of existing exercise paradigms in the treatment of chronic pain. A. POLASKI\*; A. L. PHELPS; M. C. KOSTEK; K. A. SZUCS; B. J. KOLBER. *Duquesne Univ., Duquesne Univ., Duquesne Univ., Duquesne Univ.*
- 10:00 AA3 **479.11** Attenuated dopamine receptor signaling in nucleus accumbens core in a rat model of chemically-induced neuropathic pain. D. E. SELLEY\*; M. F. LAZENKA; D. N. POTTER; L. J. SIM-SELLEY; W. A. CARLEZON, Jr; S. S. NEGUS. *Virginia Commonwealth Univ., Harvard Med. Sch./Mclean Hosp.*
- 11:00 AA4 **479.12** Acupuncture alleviates cognitive impairment and pain via increased glutamate receptors and synaptic plasticity in the hippocampus in chronic neuropathic pain mice. J. JANG\*; Y. KIM; E. SONG; J. OH; J. PARK; M. SONG; H. PARK. *Acupuncture and Meridian Sci. Res. Ctr., Dept. of Physical Med. and Rehabil., Col. of Korean Medicine, Daejeon Univ.*
- 8:00 AA5 **479.13** New bioisosteres and hybrids of NSAIDs with antinociceptive properties. M. DECIGA-CAMPOS\*; M. E. GONZÁLEZ-TRUJANO; G. NAVARRETE-VÁZQUEZ. *SEPI, Escuela Superior de Medicina IPN, Inst. Nacional de Psiquiatría "Ramón de la Fuente Muñiz", Univ. Autónoma del Estado de Morelos.*
- 9:00 AA6 **479.14** Quercetin reduces the antinociceptive effect of diclofenac in a model of inflammatory pain. R. VENTURA-MARTINEZ\*; A. BUSTAMANTE-MARQUINA; M. DECIGA-CAMPOS; M. Y. HERNANDEZ-ARAMBURO; R. RODRIGUEZ; G. E. ANGELES-LOPEZ; M. E. GONZALEZ-TRUJANO. *Fac Med, UNAM, Escuela Superior De Medicina IPN, Natl. Inst. of Psychiatry "Ramon de la Fuente Muñiz".*

## POSTER

### 480. Touch: Barrel Cortex I

#### Theme D: Sensory Systems

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

- 8:00 AA7 **480.01** Exploration of effective connectivity of the mouse somatosensory neurons for whisker object localization using dynamic causal modeling. K. JUNG\*; J. KANG; H. PARK. *Yonsei Univ. Col. of Med., Yonsei Univ., Yonsei Univ. Col. of Med., Yonsei Univ.*
- 9:00 AA8 **480.02** Mathematical framework for testing wiring specificity in cortical connectomes. D. UDVARY\*; V. J. DERCKSEN; R. EGGER; C. P. J. DE KOCK; B. SAKMANN; M. OBERLAENDER. *Max Planck Group 'In Silico Brain Sciences', Zuse Inst. Berlin, Max Planck Inst. For Biol. Cybernetics, VU Univ. Amsterdam, Max Planck Inst. of Neurobio.*

- 10:00 AA9 **480.03** Gap junctions mediate the connectivity among different subtypes of parvalbumin-positive interneurons in layer 4 of the mouse barrel cortex. N. SHIGEMATSU\*; T. FUKUDA. *Kumamoto Univ.*
- 11:00 AA10 **480.04** Neuronal responses of the rat barrel cortex to highly predictable multi-whisker deflection patterns. M. A. GOLDIN\*; D. E. SHULZ. *Ctr. Natl. Recherche Scientifique (CNRS).*
- 8:00 AA11 **480.05** Neural coding of vibrissa set-point in layer 5 cortical neurons measured in basal dendrites and spines by two-photon imaging with adaptive optics. R. LIU\*; M. DESCHÊNES; D. KLEINFELD. *Univ. of California San Diego, Univ. Laval.*
- 9:00 BB1 **480.06** Comparison of mesoscale dynamics in layer 6 and layer 2/3 of mouse neocortex during texture discrimination. D. LORENZO MERCADO\*; A. GILAD; Y. GALLERO-SALAS; F. HELMCHEN. *Brain Res. Institute, Univ. of Zurich, Neurosci. Ctr. Zurich.*
- 10:00 BB2 **480.07** A comprehensive study of layer 6A synaptic microcircuits in rat barrel cortex using paired patch-clamp recordings. G. QI\*; D. YANG; D. FELDMEYER. *Res. Ctr. Jülich, RWTH Aachen Univ., Jülich-Aachen Res. Alliance-Brain, Translational Med.*
- 11:00 BB3 **480.08** Exploring the role of microglia and the perineuronal net as effectors of plasticity during barrel cortex development. A. C. BARRIENTOS; J. E. MUNOZ; J. C. BRUMBERG\*. *The Grad. Center, CUNY, Queens College, CUNY, Queens Col., The Grad. Center, CUNY.*
- 8:00 BB4 **480.09** Opposing influence of distinct cortical inputs on striatal circuitry and behavior. A. J. YONK\*; C. R. LEE; J. WISKERKE; K. G. PARADISO; J. M. TEPPER; D. J. MARGOLIS. *Rutgers, The State Univ. of New Jersey, Rutgers The State Univ. of New Jersey, Linköping Univ., Rutgers Univ., Rutgers University-Newark, Rutgers Univ.*
- 9:00 BB5 **480.10** Functional connectivity of diverse long-range inputs to the primary somatosensory cortex. S. NASKAR\*; J. QI; S. LEE. *NIH.*
- 10:00 BB6 **480.11** Persistent gamma spiking in nonsensory fast-spiking cells predicts perceptual success. C. I. MOORE\*; H. SHIN. *Brown Univ.*
- 11:00 BB7 **480.12** *In vitro* investigations of predictive coding in the mouse somatosensory system. S. DELENIV\*; E. MANN. *Univ. of Oxford.*
- 8:00 BB8 **480.13** ● Exploring circuit plasticity deficits in *fmr1* mice during tactile learning. S. WALKER; S. A. HIRES\*; A. MCGEE. *USC, Univ. of Louisville.*
- 9:00 BB9 **480.14** *In vivo* structure and function of pyramidal tract neurons and their long range inputs. J. M. GUEST\*; D. UDVARY; M. SEETHARAMA; M. OBERLAENDER. *Ctr. of Advanced European Studies and Res.*
- 10:00 BB10 **480.15** *In vivo* performance of GPCR-based genetically encoded norepinephrine indicators in mice. J. ZOU\*; J. FENG; J. KIM; J. YAO; Y. LI; S. A. HIRES. *USC, Peking Univ., USC.*

## POSTER

### 481. Olfaction: Perception and Behavior

#### Theme D: Sensory Systems

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

- 8:00 BB11 **481.01** Neuronal mechanisms driving kin recognition in zebrafish larvae. S. KUMAR\*; I. DUBOVA; S. CHALASANI. *Salk Inst. for Biol. Studies.*
- 9:00 BB12 **481.02** Remapping of odor representations in the zebrafish forebrain by inhibitory network plasticity. T. FRANK\*; N. R. MOENIG; S. HIGASHIJIMA; R. W. FRIEDRICH. *Friedrich Miescher Inst., Okazaki Inst. for Integrative Biosci., Friedrich-Miescher-Institute For Biomed Res.*
- 10:00 BB13 **481.03** Optimal encoding of odor concentration for olfactory navigation is approximated by the Hill nonlinearity. J. D. VICTOR\*; S. D. BOIE; E. G. CONNOR; J. P. CRIMALDI; G. B. ERMENTROUT; K. I. NAGEL. *Weill Cornell Med. Col., Univ. of Colorado, Univ. of Pittsburgh, NYU Langone Med. Sch.*
- 11:00 BB14 **481.04** Olfactory function is impaired in Olfaxin-deficient mice. S. ISLAM\*; M. UEDA; E. NISHIDA; M. WANG; M. ITOH; K. NAKAGAWA; T. ANA; T. NAKAGAWA. *Gifu Univ. Grad. Sch. Med., BCSIR laboratories Chittagong, Inst. for Developmental Research, Aichi Human Service Ctr.*
- 8:00 BB15 **481.05** Mouse detection of fluctuating odors based on odor plume properties. A. GUMASTE\*; E. CONNOR; J. CRIMALDI; K. NAGEL; J. VERHAGEN. *Yale Univ., John B Pierce Lab., Univ. of Colorado, NYU Langone Med. Sch.*
- 9:00 BB16 **481.06** Sensorimotor transformation in odor modulation of locomotion. L. TAO\*; S. OZARKAR; J. BECK; V. BHANDAWAT. *Duke Univ.*
- 10:00 BB17 **481.07** Simple readout models of spatio-temporal olfactory activity predict behavioral responses. E. CHONG\*; M. MORONI; M. ADAME; S. PANZERI; D. RINBERG. *NYU Neurosci. Inst., Inst. Italiano Di Tecnologia, Univ. of Trento, Caltech.*
- 11:00 CC1 **481.08** Strategies for odor source localization in mice. A. E. PAPALE\*; A. LIU; J. HENGENIUS; K. PATEL; B. ERMENTROUT; N. N. URBAN. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 8:00 CC2 **481.09** Retro- and orthonasal olfaction interaction in rats. R. HE\*; L. M. KAY. *The Univ. of Chicago, Inst. of Mind and Biol.*
- 9:00 CC3 **481.10** Nasal breathing modulates functional connectivity of the bed nucleus of the stria terminalis. G. LANE\*; G. ZHOU; T. NOTO; J. JIN; G. ARABKHERADMAND; N. ARORA; C. ZELANO. *Northwestern Univ., Stony Brook Univ., Northwestern Univ.*
- 10:00 CC4 **481.11** The effect of aroma inhalation on cortical oscillation recorded by magnetoencephalography. S. YAMAMOTO\*; T. YANAGISAWA; R. FUKUMA; A. TANIYAMA; M. SAKAUE; K. MAEDA; H. KISHIMA. *Osaka Univ. Grad. Sch. of Med., Osaka Univ.*
- 11:00 CC5 **481.12** Functional magnetic resonance imaging of awake behaving mice performing a go/no-go odor discrimination task. E. BERGMANN\*; A. RESULAJ; G. YONA; D. RINBERG; I. KAHN. *Technion – Israel Inst. of Technol., Northwestern Univ., New York Univ.*

Tues. 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 CC6 **481.13** State-dependent olfactory information processing. M. SCHRECK\*; L. ZHUANG; A. H. MOBERLY; K. A. WHITE; D. W. WESSON; M. MA. *Univ. of Pennsylvania, Univ. of Florida.*
- 9:00 CC7 **481.14** The behavior of biologically-inspired olfactory navigation algorithms in realistic turbulent odor environments. J. HENGENIUS\*; A. E. PAPALE; A. LIU; J. P. CRIMALDI; N. N. URBAN; G. B. ERMENTROUT. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Colorado.*
- 10:00 CC8 **481.15** Behavioral state-specific responses of ventral tenia tecta neurons. K. SHIOTANI\*; K. MURATA; J. HIROKAWA; K. MORI; Y. SAKURAI; H. MANABE. *Doshisha Univ., Res. Fellow of Japan Society for the Promotion of Sci., Univ. of Fukui, The Univ. of Tokyo.*
- 11:00 CC9 **481.16** Odor plume source navigation algorithms evaluated in an Arduino robot using pair of spatially separated sensors. G. CORONAS-SAMANO\*; A. GUMASTE; R. AXMAN; J. HENGENIUS; B. G. ERMENTROUT; J. P. CRIMALDI; J. V. VERHAGEN. *The John B. Pierce Lab., Yale Sch. of Med., Univ. of Pittsburgh, Univ. of Colorado Boulder.*
- 8:00 DP06/CC10 **481.17** (Dynamic Poster) Behavioral state affects response to stimuli of competing valence. C. H. FAWCETT\*; G. J. SUN; C. DIAZ-VERDUGO; P. ZHU; M. C. FISHMAN. *Novartis Inst. For Biomed. Res., Novartis Inst. for Biomed. Res., Novartis Inst. for BioMedical Research, Novartis Inst. For Biomed. Res. Inc., Novartis Inst. for BioMedical Res.*
- 9:00 CC11 **481.18** Linking olfactory codes to behavior using holographic optogenetics. J. V. GILL\*; G. M. LERMAN; S. SHOHAM; D. RINBERG. *New York Univ., New York Univ. Sch. of Med., New York Univ. Sch. of Med.*
- 10:00 CC12 **481.19** Learning-dependent and -independent enhancement of olfactory bulb odor responses following olfactory fear conditioning in awake mice. J. M. ROSS\*; M. L. FLETCHER. *Univ. of Tennessee Hlth. Sci. Ctr.*
- 11:00 CC13 **481.20** NRG1-IV mice outperform control mice in focused go-no go olfactory discrimination. D. RAMIREZ-GORDILLO\*; D. RESTREPO; A. J. LAW. *Univ. of Colorado Anschutz, Univ. of Colorado Anschutz, Univ. of Colorado Anschutz.*
- 8:00 CC14 **481.21** • Modeling the physicochemical basis of diverse human olfactory percepts. J. J. KOWALEWSKI\*; A. RAY. *Univ. of California, Riverside, Univ. of California, Riverside.*
- 9:00 CC15 **481.22** Labels transform the human olfactory perceptual space. S. CORMIEA\*; J. FISCHER. *Johns Hopkins Univ.*
- 10:00 CC16 **481.23** Perception and neural representation of dichorhnic odor stimuli in humans. G. ARABKHERADMAND; G. LANE; J. GOTTFRIED; G. ZHOU; C. ZELANO\*. *Northwestern Univ.*
- 11:00 DD1 **481.24** Respiration induces phase synchronization of olfactory network in humans. G. ZHOU\*; T. NOTO; S. SCHUELE; J. ROSENOW; J. JIN; G. ARABKHERADMAND; G. LANE; C. ZELANO. *Northwestern Univ., Stony Brook Univ.*
- 8:00 DD2 **481.25** Identity prediction errors in human midbrain are computed based on abstract state representations. J. SUAREZ\*; T. KAHNT. *Feinberg Sch. of Med., Northwestern Univ.*
- 9:00 DD3 **481.26** Electrophysiological response to trigeminal stimuli in patients with Parkinson's disease. C. TREMBLAY\*; R. EMRICH; A. HAEHNER; A. CAVAZZANA; T. HUMMEL; J. FRASNELLI. *Univ. Du Québec À Trois-Rivières, Tech. Univ. of Dresden, Res. Ctr. of the Sacré-Cœur Hosp.*
- 10:00 DD4 **481.27** Structural plasticity of mushroom body-related dopaminergic neurons in dependence of the nutritional value of food. B. COBAN\*; H. POPPINGA; T. RIEMENSBERGER; A. FIALA. *Univ. of Goettingen.*
- 11:00 DD5 **481.28** Sublethal dose of thiacloprid impairs honeybees olfactory learning ability by damaging nervous system. Y. LIU\*; Z. JING. *Inst. of Apicultural, CAAS, Res. Ctr. for Eco-Environmental Sciences, CAAS.*

## POSTER

### 482. Auditory and Vestibular Systems: Hair Cells and the Periphery

#### Theme D: Sensory Systems

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

- 8:00 DD6 **482.01** Cellular cartography of the organ of Corti based on tissue clearing <and> machine learning. S. URATA\*; T. IIDA; Y. MIZUSHIMA; C. FUJIMOTO; Y. MATSUMOTO; T. YAMASOBA; S. OKABE. *Univ. of Tokyo.*
- 9:00 DD7 **482.02** • Development of intratympanically administered neurotrophic factor BDNF for the treatment of speech-in-noise hearing difficulties (cochlear synaptopathy). B. E. JACQUES\*; N. TSVKOVSKAIA; R. FERNANDEZ; X. WANG; A. JONES; T. ALTMANN; J. HOU; F. PIU. *Otonomy Inc.*
- 10:00 DD8 **482.03** Enhancement of the medial olivocochlear system prevents hidden hearing loss. L. E. BOERO\*; V. C. CASTAGNA; J. D. GOUTMAN; A. B. ELGOYHEN; M. E. GÓMEZ-CASATI. *INGEBI, Inst. de Farmacología.*
- 11:00 DD9 **482.04** Auditory signal envelope processing by the organ of Corti of the guinea pig cochlea. G. BURWOOD; A. FRIDBERGER; R. WANG; A. L. NUTTALL\*. *Oregon Hlth. & Sci. Univ., Linköping Univ., Univ. of Washington, Seattle, Oregon Hlth. & Sci. Univ.*
- 8:00 DD10 **482.05** Outer hair cell motility can suppress the organ of Corti vibrations. J. NAM\*; T. JABEEN; J. BECKER. *Univ. of Rochester.*
- 9:00 DD11 **482.06** A computational model for the effects of auditory nerve heminode disruption on hearing. M. BUDAK\*; K. GROSH; V. BOOTH; M. R. ZOCHOWSKI; G. CORFAS. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*
- 10:00 DD12 **482.07** To explore the function of C1QL1 protein in cochlea and sound perception. J. BISWAS\*; R. PIJEWSKI; B. THOMPSON; R. MAKOL; T. MIRAMONTES; A. BURGHARD; T. C. SUDHOF; D. KIM; D. OLIVER; D. C. MARTINELLI. *Uconn Hlth., UConn Hlth., Stanford Univ.*
- 11:00 DD13 **482.08** Compartmentalization of antagonistic Ca<sup>2+</sup> signals in developing cochlear hair cells. M. J. MOGLIE\*; P. A. FUCHS; A. B. ELGOYHEN; J. D. GOUTMAN. *INGEBI-CONICET, Johns Hopkins Univ., Inst. de Farmacología, Facultad de Medicina, Univ. de Buenos Aires.*

- 8:00 DD14 **482.09** Spontaneous calcium transients in the mouse utricular macula during the first postnatal week of development. H. A. HOLMAN; L. POPPI; Y. WAN; R. D. RABBITT\*. *Univ. of Utah, Univ. of Newcastle, Univ. of Utah.*
- 9:00 DD15 **482.10** Expression of group II metabotropic glutamate receptors at ribbon synapses of inner hair-cells. R. ENZ\*; L. KLOTZ. *Univ. Erlangen-Nürnberg.*
- 10:00 DD16 **482.11** Adaptation of spontaneous and evoked activity in the Zebrafish lateral line. D. FROLOV\*; E. ISKO; S. A. SHORT; T. F. SOMMERS; J. G. TRAPANI. *Univ. of Massachusetts Amherst, Amherst Col.*
- 11:00 DD17 **482.12** ● Effect of Trk receptor monoclonal antibodies and recombinant neurotrophins on neuron survival, neurite morphology, and synaptogenesis in rat *ex vivo* models relevant to hearing loss. S. SZOBOTA\*; P. D. MATHUR; S. SIEGEL; H. SARAGOVI; A. C. FOSTER. *Otonomy, Inc., Lady Davis Institute-Jewish Gen. Hosp.*
- 8:00 DD18 **482.13** Investigating FOXO3's role in cochlear preservation and hearing recovery in a mouse model of noise-induced hearing loss. H. BEAULAC\*; P. WHITE. *Univ. of Rochester Sch. of Med. and Den, Dept. of Neurosci.*
- 9:00 EE1 **482.14** Noise-induced damage to auditory hair cells and their synapses in the zebrafish lateral line. K. J. LAWTON\*; P. M. URIBE; B. K. VILLALPANDO; A. B. COFFIN. *Washington State Univ.*
- 10:00 EE2 **482.15** ● Treatment of severe noise-induced hearing loss by oral SENS-401 is not affected by concomitant prednisolone administration. J. DYHRFJELD-JOHNSEN\*; M. PETREMANN; C. ROMANET; C. TRAN VAN BA; P. LIAUDET; V. DESCOSY. *Sensorion SA.*
- 11:00 EE3 **482.16** Age-related hearing loss - How a monoallelic single point mutation impairs auditory processing. A. BURGHARD\*; D. L. OLIVER; N. MOREL. *UConn Hlth.*
- 8:00 EE4 **482.17** Age related changes in the populations of human spiral ganglion neurons expressing parvalbumin, gaba and nmdar 2b: stereological study. C. KAUR\*; T. G. JACOB; T. C. NAG; A. THAKAR; D. BHARDWAJ; T. S. ROY. *All India Inst. of Med. Sci., All India Inst. of Med. Sci., All India Inst. of Med. Sci., All India Inst. of Med. Sci.*
- 9:00 EE5 **482.18** Age-related changes in cholinergic receptor expression and function in type II hair cells of the C57BL/6 mouse crista ampullaris. L. A. POPPI\*; M. J. BIGLAND; H. TABATABAEE; H. R. DRURY; J. C. HOLT; R. LIM; A. M. BRICHTA; D. W. SMITH. *The Univ. of Newcastle, The Univ. of Rochester.*
- 10:00 EE6 **482.19** Topographic distribution of efferent projections in murine vestibular epithelia. J. J. SALDATE\*; S. JOBBINS; F. E. SCHWEIZER; L. F. HOFFMAN. *Geffen Sch. of Med. at UCLA, Geffen Sch. of Med. at UCLA, UCLA, David Geffen Sch. of Med., Geffen Sch. of Med.*
- 11:00 EE7 **482.20** Somatostatin analog pasireotide promoted cochlear hair cells protection, survival and function after aminoglycoside treatment *in vivo*. V. PETKOVIC\*; K. KUCHARAVA; M. SEKULIC-JABLANOVIC; L. HORVAT; D. BODMER. *Inner Ear Reserch, Kantonsspital Baselland, Clin. for Otorhinolaryngology.*

## POSTER

- 483. Auditory Processing: Perception, Cognition, and Action**
- Theme D: Sensory Systems**
- Tue. 8:00 AM – *San Diego Convention Center, SDCC Halls B-H*
- 8:00 EE8 **483.01** Auditory learning and perception modulates neuronal activity in the auditory midbrain. C. CHEN\*; L. DE HOZ GARCIA-BELLIDO. *Max Planck Inst. of Exptl. Med., Max Planck Inst. of Exptl. Med.*
- 9:00 EE9 **483.02** Closed-loop stimulation reveals the brain state-dependence of auditory perceptual sensitivity. L. WASCHKE\*; J. OBLESER. *Dept. of Psychology, Univ. of Luebeck.*
- 10:00 EE10 **483.03** O-15 Water PET study of speech-in-noise processing in cochlear implant patients. P. E. GANDER\*; L. L. PONTO; I. CHOI; B. J. GANTZ; B. MCMURRAY; T. D. GRIFFITHS. *Univ. of Iowa, Univ. of Iowa, Newcastle Univ.*
- 11:00 EE11 **483.04** Neuronal activity of the primary- and the secondary auditory cortices during elicitation of mismatch negativity (MMN) in freely-moving rats. E. JODO\*; S. EIFUKU. *Fukushima Med. Univ., Fukushima Med. University, Sch. of Med.*
- 8:00 EE12 **483.05** Auditory sensory gating effect study using EEG source localization techniques. D. GUPTA\*; F. CHOA; E. HONG. *Univ. of Maryland Baltimore County, Maryland Psychiatric Res. Ctr.*
- 9:00 EE13 **483.06** Learned context dependent categorical perception in songbirds. T. SAINBURG\*; M. THIELK; T. GENTNER. *UCSD, UCSD.*
- 10:00 EE14 **483.07** Understanding speech in background noise relies on similar processes to figure-ground segregation. E. HOLMES\*; T. D. GRIFFITHS. *Univ. Col. London, Inst. of Neurosci.*
- 11:00 FF1 **483.08** Similarities and differences in cortical dynamics during sensation and short-term memory in mice performing auditory and somatosensory discrimination. Y. GALLERO-SALAS\*; A. GILAD; B. LAURENCZY; F. HELMCHEN. *Brain Res. Institute, Univ. of Zurich, Neurosci. Ctr. Zurich, ID Res. Informatics. ETH.*
- 8:00 FF2 **483.09** ▲ Mice lacking GABAB receptor auxiliary subunit KCTD12 exhibit hearing impairments and susceptibility to tinnitus. N. RYBALKO\*; A. MELICHAR; K. PYSANENKO; Š. SUCHÁNKOVÁ; B. HRUŠKOVÁ; M. KRÁLIKOVÁ; J. SYKA; B. BETTLER; R. TUREČEK. *Inst. Exp Med. CAS, Univ. of Basel.*
- 9:00 FF3 **483.10** Attentional modulation of neural speech tracking and alpha power independently support speech comprehension in middle-aged adults. S. TUNE\*; M. ALAVASH; L. FIEDLER; J. OBLESER. *Univ. of Luebeck.*
- 10:00 FF4 **483.11** Unable to Attend Top-down and bottom-up predictions in auditory decision-making. L. SURIYA-ARUNROJ\*; J. I. GOLD; Y. E. COHEN. *Univ. of Pennsylvania, Joshua Gold, Yale Cohen.*
- 11:00 FF5 **483.12** Tracking stimulus statistics from sensory cortices to frontal cortex. J. LAWLOR BLONDEL\*; C. BIMBARD; S. A. SHAMMA; Y. BOUBENEC. *Ecole Normale Supérieure, Neural Systems Lab, Univ. of Maryland.*

Tues. 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 FF6 **483.13** Speaker-normalized vowel representations in human auditory cortex. M. J. SJERPS; N. P. FOX\*; K. JOHNSON; E. F. CHANG. *Radbound Univ., Max Planck Inst. for Psycholinguistics, Univ. of California San Francisco, Univ. of California, Berkeley, Univ. of California, San Francisco, Univ. of California, San Francisco.*
- 9:00 FF7 **483.14** Intermodal audiovisual attention differentially modulates Spontaneous Otoacoustic Emissions (SOAEs) at low frequencies. N. WEISZ\*; M. KÖHLER; G. DEMARCHI. *Univ. of Salzburg, Univ. of Salzburg.*
- 10:00 FF8 **483.15** Interactions between intra- and inter-areal connections of human insula in processing emotional sounds. Y. ZHANG\*; W. ZHOU; J. HUANG; B. HONG; X. WANG. *Johns Hopkins Univ., Tsinghua Lab. of Brain and Intelligence (THBI) and Dept. of Biomed. Engineering, Tsinghua Univ., Dept. of Epilepsy Center, Tsinghua Univ. Yuquan Hosp.*
- 11:00 FF9 **483.16** Human superior temporal gyrus tracks spectral entropy during speech perception. F. KHATAMI\*; M. K. LEONARD; E. F. CHANG. *Univ. of California, UCSF, UCSF.*
- 8:00 FF10 **483.17** Behavioral modulation of sound processing in mouse auditory cortex during a virtual foraging task. R. J. MORRILL\*; J. DEKLOE; J. BIGELOW; A. R. HASENSTAUB. *Univ. of California, San Francisco, Univ. of California, San Francisco.*
- 9:00 FF11 **483.18** Enhancing categorical sound perception with envelope timing cues. H. L. READ\*; P. J. SATONICK; C. R. CODY; T. P. NOLAN, Jr. *Univ. of Connecticut, Univ. of Connecticut, Univ. of Connecticut.*
- 10:00 FF12 **483.19** Auditory prosthesis with an infrared laser: Replication of acoustic intensity information. Y. TAMAI\*; Y. ITO; K. HORINOCHI; K. MATSUMOTO; S. HIRYU; K. I. KOBAYASI; T. FURUYAMA. *Doshisha Univ.*
- 11:00 FF13 **483.20** Auditory scene analysis and object perception rely upon shared neural mechanisms. G. GURARIY\*; R. RANDALL; A. S. GREENBERG. *Univ. of Wisconsin, Milwaukee, Carnegie Mellon Univ., Univ. of Wisconsin-Milwaukee.*
- 8:00 FF14 **483.21** Spectrotemporal processing of consonant clusters in theta and high gamma in native-English and native-Polish bilingual adults. M. WAGNER\*; S. ORTIZ-MANTILLA; V. L. SHAFER; A. BENASICH. *St. John's Univ., Rutgers Univ. Newark, The Grad. Center, City Univ. of New York.*
- 9:00 FF15 **483.22** Directed effective connectivity in the human and monkey brain: Auditory cortex impact on inferior frontal gyrus, hippocampus and anterior cingulate cortex. F. ROCCHI\*; H. OYA\*; F. BALEZEAU; Z. KOCISIS; J. GREENLEE; T. D. GRIFFITHS; M. HOWARD III; C. I. PETKOV. *Newcastle Univ., Newcastle Univ., Univ. of Iowa, Newcastle Univ.*
- 10:00 FF16 **483.23** Predictive sequence learning modulates inter-regional oscillatory coupling in human intracranial recordings. Y. KIKUCHI\*; C. K. KOVACH; R. CALMUS; P. E. GANDER; A. E. RHONE; K. V. NOURSKI; H. KAWASAKI; T. D. GRIFFITHS; M. A. HOWARD, III; C. I. PETKOV. *Inst. of Neuroscience, Newcastle Univ., The Univ. of Iowa, The Univ. of Iowa, Univ. Col. London.*

## POSTER

### 484. Visual Cortex: Circuits and Populations II

#### Theme D: Sensory Systems

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

- 8:00 FF17 **484.01** Contour feature representation in monkey V4. R. JIANG\*; S. TANG. *Peking Univ.*
- 9:00 GG1 **484.02** Patterned optogenetic stimulation of ferret V1 to examine cortical mechanisms of cross-orientation suppression. S. WANG\*; K. D. MILLER; S. D. VAN HOOSER. *Brandeis Univ., Columbia Univ.*
- 10:00 GG2 **484.03** Local organization of spatial frequency tuning dynamics in the cat primary visual cortex. H. TANAKA\*; I. OHZAWA. *Kyoto Sangyo Univ., Osaka Univ.*
- 11:00 GG3 **484.04** Network structure within and between marmoset V1 and MT facilitates natural image coding. E. ZAVITZ\*; M. A. HAGAN; B. H. OAKLEY; Y. T. WONG; N. S. C. PRICE. *Monash Univ.*
- 8:00 GG4 **484.05** Inhibition stabilization is a widespread feature of mouse cortical networks. B. C. AKITAKE\*; A. SANZENI; C. E. LEEDY; N. BRUNEL; M. H. HISTED. *NIH/NIMH, Duke Univ.*
- 9:00 GG5 **484.06** Mice improve their ability to detect novel, "off-manifold" stimuli after learning. L. N. RYAN\*; S. P. DUFFY; P. K. LAFOSSE; M. H. HISTED. *NIH/NIMH.*
- 10:00 GG6 **484.07** Cortical circuits implement optimal context integration. R. IYER\*; S. MIHALAS. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*
- 11:00 GG7 **484.08** Convolutional neuronal networks with optimal lateral connections are more robust to noise and predict signal and noise correlations in mouse visual cortex. B. H. HU; S. MIHALAS\*. *Allen Inst. for Brain Sci.*
- 8:00 GG8 **484.09** Spiking avalanches properties across different levels of cortical spiking variability. A. FONTENELE\*; N. A. P. VASCONCELOS; C. SOARES-CUNHA; B. COIMBRA; A. RODRIGUES; N. SOUSA; P. CARELLI; M. COPELLI. *Federal Univ. of Pernambuco, Federal Univ. of Pernambuco, Life and Hlth. Sci. Res. Inst. (ICVS).*
- 9:00 GG9 **484.10** Inter-areal coordination and dendritic integration in visual cortex. M. FISEK\*; D. HERRMANN; A. EGEE-WEISS; T. LEE; M. HAUSSER. *UCL.*
- 10:00 GG10 **484.11** *In vivo* quantification of single-cell targeted optogenetic stimulation with a digital micro-mirror device. R. AOKI\*; A. BENUCCI. *RIKEN Ctr. for Brain Sci.*
- 11:00 GG11 **484.12** Tauopathy in primary visual cortex causes feature-specific changes in visual function. C. WU\*; A. BLOCKEEL; S. G. SOLOMON; K. D. HARRIS; K. G. PHILLIPS; A. B. SALEEM. *Univ. Col. London, Eli Lilly.*
- 8:00 GG12 **484.13** Role of higher visual areas in detecting orientation and contrast changes. M. JIN\*; L. L. GLICKFELD. *Duke Neurobio. Dept.*
- 9:00 GG13 **484.14** The electrical stimulation of the dorsal raphe nucleus (DRN) changes visual responses of neurons in primary visual cortex. S. ROSTAMI\*; P. GHADERI; L. DARGAHI; M. SAFARI. *Neurosci. Res. Ctr.*
- 10:00 GG14 **484.15** ▲ Neurotransmitter receptor bases for spatial summation in visual cortex by *in vivo* single-unit recording and juxtacellular injection. X. SONG\*; T. AN; C. ZHENG. *Zhejiang Univ. Interdisciplinary Inst. of, Interdisciplinary Inst. of Neurosci. and 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



## POSTER

### 485. Visual Cortex: Circuits and Populations III

#### Theme D: Sensory Systems

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

- 8:00 GG15 **485.01** Large-scale system identification of mouse primary visual cortex. D. LINSLEY\*; T. SERRE. *Brown Univ.*
- 9:00 GG16 **485.02** Aberrant population receptive fields in albinism reveal new types of retino-cortical miswiring. E. J. DUWELL\*; J. MATHIS; J. CARROLL; E. A. DEYOE. *Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin.*
- 10:00 GG17 **485.03** Circuit mechanisms of correlated neural variability. L. NURMINEN\*; A. M. CLARK; A. ANGELUCCI. *Univ. of Utah, Univ. of Utah, Univ. of Utah.*
- 11:00 HH1 **485.04** Neural response variability and divisive normalization. R. COEN-CAGLI\*. *Albert Einstein Col. of Medicine, Inc.*
- 8:00 HH2 **485.05** Neighboring cortex diversely shapes stimulus responses in V1, as revealed by optogenetic suppression. A. R. ANDREI\*; S. R. DEBES; R. JANZ; J. L. SPUDICH; V. DRAGOI. *McGovern Med. Sch., McGovern Med. Sch.*
- 9:00 HH3 **485.06** Cortical column as an information-preserving decoder of neural inputs. T. O. SHARPEE\*; J. BERKOWITZ. *Salk Inst., Salk Inst. for Biol. Studies.*
- 10:00 HH4 **485.07** Neural straightening of natural videos in macaque primary visual cortex. Y. BAI\*; O. J. HÉNAFF; J. CHARLTON; I. M. NAUHAUS; E. P. SIMONCELLI; R. L. GORIS. *Univ. of Texas at Austin, New York Univ.*

## POSTER

### 486. Visual Cognition: Decision Making I

#### Theme D: Sensory Systems

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

- 8:00 HH5 **486.01** Rat posterior striatum and frontal orienting fields are part of a modality-independent circuit for decision-making. L. CHARTARIFSKY\*; S. PISUPATI; A. K. CHURCHLAND. *Cold Spring Harbor Lab.*
- 9:00 HH6 **486.02** Dynamic representations of multiple stages of sensory-motor transformation in the lateral intraparietal cortex during decision making. Z. LIN\*; Z. ZHANG; C. YIN; T. YANG. *Inst. of Neuroscience, CAS.*
- 10:00 HH7 **486.03** A recursive bayesian updating scheme to model the effect of prediction on individuation. B. M. URGEN\*; H. BOYACI. *Bilkent Univ.*
- 11:00 HH8 **486.04** Prior information guides perceptual decision making in a remarkably flexible manner. J. CHARLTON\*; Y. BAI; R. L. GORIS. *Univ. of Texas.*
- 8:00 HH9 **486.05** Sensory and decision-making processes underlying perceptual adaptation. L. SHA\*; N. WITTHOFT; J. WINAWER; R. KIANI. *New York Univ. Sch. of Arts and Sci., Stanford Univ., New York Univ., New York Univ.*

9:00 HH10 **486.06** Representation of the dynamics of decision-making process in the lateral intraparietal cortex during face discrimination. G. OKAZAWA\*; R. KIANI. *New York Univ.*

10:00 HH11 **486.07** Representation of choice bias in the activity of prearcuate gyrus during perceptual decision making. G. MOCHOL\*; R. KIANI; R. MORENO BOTE. *Pompeu Fabra Univ., New York Univ.*

11:00 HH12 **486.08** Confidence about choices informs changes of strategy based on feedback. M. ESTEKI\*; B. PURCELL; R. KIANI. *New York Univ. Ctr. for Neural Sci., New York Univ.*

8:00 HH13 **486.09** Visual search strategies: Performance monitoring by macaque supplementary eye field during speed-accuracy tradeoff. T. R. REPPERT\*; R. P. HEITZ; J. D. SCHALL. *Vanderbilt Univ.*

9:00 HH14 **486.10** Visual search strategies: Priming of pop-out in macaques. J. A. WESTERBERG\*; A. V. MAIER; J. D. SCHALL. *Vanderbilt Univ.*

10:00 HH15 **486.11** Visual search strategies: Induction of shape selectivity in macaque frontal eye field. K. A. LOWE\*; T. REPPERT; J. D. SCHALL. *Vanderbilt Univ., Vanderbilt Univ.*

11:00 HH16 **486.12** What goes where: Using stimulus representations from both visual streams to guide behavior. W. J. JOHNSTON\*; K. MOHAN; D. J. FREEDMAN. *Univ. of Chicago.*

8:00 HH17 **486.13** Stable encoding of visual categories during task switching in the parietal cortex. K. MOHAN\*; O. ZHU; S. K. SWAMINATHAN; D. J. FREEDMAN. *Dept. of Neurobiology, The Univ. of Chicago.*

## POSTER

### 487. Visual Sensory-Motor Processing I

#### Theme D: Sensory Systems

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

- 8:00 II1 **487.01** Roles of cingulate cortex in controlling sensory-guided motor actions. J. KIM\*; S. LEE. *KAIST.*
- 9:00 II2 **487.02** Modeling three-dimensional prey capture in larval zebrafish. A. D. BOLTON\*; M. HAESSEMEYER; J. JORDI; V. MANSINGHKA; F. ENGERT. *Harvard Univ., MIT, Harvard Univ.*
- 10:00 II3 **487.03** Development of optogenetic tools in the optic flow circuits of birds. M. S. ARMSTRONG\*; D. R. WYLIE; D. L. ALTSHULER. *Univ. of British Columbia, Univ. of Alberta.*
- 11:00 II4 **487.04** Modulation of visuomotor behaviour by a cholinergic midbrain circuit. P. M. HENRIQUES\*; I. H. BIANCO. *Univ. Col. London.*
- 8:00 II5 **487.05** Neuronal mechanisms of minute-long evidence accumulation in the larval zebrafish brain. A. BAHL\*; F. ENGERT. *Harvard Univ., Harvard Univ.*
- 9:00 II6 **487.06** Constructing behaviorally-relevant central brain representations from naturalistic motion computation in the retina. B. T. YILDIZOGLU\*; C. RIEGLER; J. E. FITZGERALD; R. PORTUGUES. *Max Planck Inst. for Neurobio., Harvard Univ., Howard Hughes Med. Inst., Max Planck Inst. of Neurobio.*

\* 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 II7 **487.07** Brainwide organization of neuronal activity and convergent sensory-motor transformations in larval zebrafish. Y. MU\*; X. CHEN; Y. HU; A. KUAN; M. NIKITCHENKO; O. RANDLETT; H. I. SOMPOLINSKY; F. ENGERT; M. AHRENS. *Janelia Res. Campus, Howard Hughes Med. Ins, Harvard Univ., Harvard Univ., Harvard Univ., Hebrew Univ.*
- 8:00 DP07/II8 **487.08** (Dynamic Poster) Experience-driven changes in behavior and brain states through brainwide neuromodulation in zebrafish. D. V. BENNETT; Y. MU; M. RUBINOV; S. NARAYAN; C. TSUNG-YANG; C. WANG; P. J. KELLER; T. KAWASHIMA; L. L. LOOGER; M. B. AHRENS\*. *Janelia Res. Campus, HHMI, Howard Hughes Med. Inst. Janelia Farm Res. Campus, Howard Hughes Med. Inst., HHMI- Janelia Res. Campus, Fred Hutchinson Cancer Res. Ctr., Janelia Res. Campus, HHMI, HHMI Janelia Res. Campus, Janelia Res. Campus / HHMI.*
- 8:00 II9 **487.09** Synaptic scale reconstruction of oculomotor circuitry in the larval zebrafish. A. VISHWANATHAN\*; J. WU; N. L. TURNER; D. IH; K. LEE; N. KEMNITZ; K. DAIE; A. RAMIREZ; E. AKSAY; H. S. SEUNG. *Princeton Univ., Princeton Univ., Princeton Neurosci. Inst., Janelia Farm, Weill Cornell Med. Sch., Weill Cornell.*
- 9:00 II10 **487.10** Motor readiness through rebound in an identified sensory integrator. E. YANG\*; M. ZWART; Z. WEI; M. RUBINOV; N. VLADIMIROV; S. NARAYAN; Y. MU; E. SCHREITER; T. KAWASHIMA; A. ABDELFATTAH; M. KOYAMA; L. LAVIS; J. FITZGERALD; J. GRIMM; S. DRUCKMANN; S. HIGASHIJIMA; M. B. AHRENS. *HHMI Janelia Res. Campus, Stanford Univ., Okazaki Inst. for Integrative Biosci.*
- 10:00 II11 **487.11** Sensory organization in the primordial lamprey cortex. S. MYSORE SURYANARAYANA\*; J. PÉREZ FERNÁNDEZ; P. WALLÉN; B. ROBERTSON; S. GRILLNER. *Karolinska Institutet.*
- 11:00 II12 **487.12** Humans use their prior knowledge to compensate for noisy mental transformations. E. D. REMINGTON\*; T. V. PARKS; M. JAZAYERI. *MIT, Massachusetts Inst. of Technol. Dept. of Brain and Cognitive Sci.*
- 11:00 II16 **488.04** Perception-action patterns revealed by event-related potentials. M. KILINTARI\*; R. J. BUFACCHI; G. NOVEMBRE; Y. GUO; P. HAGGARD; G. IANNETTI. *Univ. Col. London, Univ. Col. London, Inst. of Cognitive Neuroscience, Univ. Col. London.*
- 8:00 II17 **488.05** Human egomotion visual areas respond to long-range leg movements. S. DI MARCO; C. SERRA; C. GALLETTI\*; P. FATTORI; G. GALATI; V. SULPIZIO; S. PITZALIS. *Univ. of Rome "Foro Italico", Santa Lucia Fndn., Univ. Bologna, Sapienza Univ., Univ. of Bologna.*
- 8:00 DP08/II18 **488.06** (Dynamic Poster) Large-scale EM reconstruction of microcircuits supporting sequential activity in parietal cortex. A. T. KUAN; L. N. DRISCOLL; C. D. HARVEY; W. A. LEE\*. *Harvard Med. Sch., BCH / Harvard Med. Sch.*
- 10:00 JJ1 **488.07** Synchronizing movements to a visual rhythm shifts the neural frequencies of entrainment to lower frequency bands compared to passive perception of visual rhythms. D. COMSTOCK\*; R. BALASUBRAMANIAM. *Univ. of California - Merced.*
- 11:00 JJ2 **488.08** Effective connectivity during the processing of self-generated movements and their consequences. B. ARIKAN\*; B. VAN KEMENADE; B. STRAUBE; A. JANSEN; T. KIRCHER. *Philipps Univ. Marburg.*
- 8:00 JJ3 **488.09** The role of thalamus in the flexible control of timed behavior. T. V. PARKS\*; E. D. REMINGTON; M. JAZAYERI. *MIT, Massachusetts Inst. of Technol. Dept. of Brain and Cognitive Sci.*
- 9:00 JJ4 **488.10** ▲ Neural mechanisms underlying training-based negative compatibility effect. M. DI\*; Y. LI; Y. WANG. *Shaanxi Normal Univ., Shaanxi Provincial Key Lab. of Behavior & Cognitive Neurosci.*
- 10:00 JJ5 **488.11** Relationship between cortical and striatal activity during visually guided behavior. A. J. PETERS\*; N. A. STEINMETZ; K. D. HARRIS; M. CARANDINI. *Univ. Col. London.*
- 11:00 JJ6 **488.12** Dynamic representation of eye movement direction in mouse frontal cortex. T. SATO\*; T. ITOKAZU; H. OSAKI; T. R. SATO. *Tech. Univ. of Munich, Osaka Univ., Tokyo Women's Med. Univ., Med. Univ. of South Carolina, Univ. of Tübingen.*
- 8:00 JJ7 **488.13** Effect of viewing distance on object responses in macaque areas 45B and F5. I. CAPRARA\*; C. STOCKEM; P. JANSSEN. *Ku Leuven.*
- 9:00 JJ8 **488.14** Connections between functional domains in posterior parietal cortex and motor cortex for running or climbing in galagos revealed by microstimulation. Q. WANG\*; C. LIAO; I. STEPNIIEWSKA; H. X. QI; M. GABI; J. H. KAAS. *Vanderbilt Univ.*
- 10:00 KK1 **488.15** Modulation of cell-type-specific spike-field coherence in posterior parietal cortex during coordinated visual behavior. M. F. KHAZALI\*; Y. WONG; B. PESARAN. *New York Univ.*
- 11:00 KK2 **488.16** Semi-chronic subdural electrocorticography, local field potentials, and spike recordings over posterior parietal cortex during coordinated visual behavior. B. PESARAN\*; A. L. ORSBORN; V. SANCHEZ; M. F. KHAZALI, 10003. *New York Univ. Ctr. for Neural Sci., New York Univ., New York Univ.*

## POSTER

### 488. Visual Sensory-Motor Processing II

#### Theme D: Sensory Systems

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

- 8:00 II13 **488.01** Neural mechanisms for memory-dependent flexible decision making in mice. S. KIRA\*; G. PICA; S. PANZERI; C. D. HARVEY. *Harvard Med. Sch., Istituto Italiano Di Tecnologia.*
- 9:00 II14 **488.02** Brain networks, dimensionality, and global signal averaging in resting-state fMRI: Hierarchical network structure results in low-dimensional spatiotemporal dynamics. S. J. GOTTS\*; A. W. GILMORE; A. MARTIN. *Lab. of Brain and Cognition, NIMH/NIH, Natl. Inst. of Mental Hlth.*
- 10:00 II15 **488.03** Do task-negative responses reflect cortico-cortical competition from task-positive brain regions? K. D. CSUMITTA\*; A. OSSOWSKI; A. W. GILMORE; S. J. GOTTS; A. MARTIN. *Natl. Inst. of Mental Hlth., Georgia State Univ.*

- 8:00 KK3 **488.17** Clarifying the anatomical organization and cortical projections of multiple major white matter tracts associating the human temporal and parietal lobes. D. BULLOCK\*; H. TAKEMURA; C. F. CAIAFA; L. KITCHELL; B. MCPHERSON; B. CARON; F. PESTILLI. *Indiana Univ. - Bloomington, Natl. Inst. of Information and Communication, Indiana Univ., CONICET, Indiana Univ. - Bloomington, Indiana Univ. - Bloomington.*
- 9:00 KK4 **488.18** Mapping response properties in lateral intraparietal area (LIP) of the rhesus macaque. H.-K. KO; K. KRUG\*. *Oxford Univ.*
- 10:00 KK5 **488.19** ▲ Mapping functional connectivity between layers of the superior colliculus. A. L. SMOULDER; U. K. JAGADISAN\*; N. J. GANDHI. *Univ. of Pittsburgh.*
- 11:00 KK6 **488.20** Functional circuits for goal-directed behavior in the superior colliculus. J. ESSIG\*; G. FELSEN. *U. of Colorado Anschutz Med. Campus, U. of Colorado Anschutz Med. Campus.*
- 8:00 KK7 **488.21** Population dynamics of delay period activity during a saccade task. M. R. HEUSSER\*; U. K. JAGADISAN; B. R. COWLEY; N. J. GANDHI. *Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition, Carnegie Mellon Univ.*

## POSTER

### 489. Multisensory Integration: Cross-Modal Processing in Humans I

#### Theme D: Sensory Systems

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

- 8:00 KK8 **489.01** Decoding the sound of hand-object interactions in primary somatosensory cortex. K. M. BAILEY\*; B. L. GIORDANO; A. KAAS; F. W. SMITH. *Univ. of East Anglia, CNRS and Aix Marseille Univ., Maastricht Univ.*
- 9:00 KK9 **489.02** Visual and proprioceptive inputs affect the location of evoked somatosensory percepts in amputees. B. CHRISTIE\*; H. CHARKHKAR; D. J. TYLER; R. TRIOLO. *Case Western Reserve Univ., Louis Stokes Cleveland VA Med. Ctr.*
- 10:00 KK10 **489.03** Representational interactions during audiovisual speech entrainment: Redundancy in left posterior superior temporal gyrus and synergy in left motor cortex. H. PARK\*; R. I. I. INCE; P. G. SCHYNS; G. THUT; J. GROSS. *Univ. of Birmingham, Inst. of Neurosci. and Psychology, Univ. of Muenster.*
- 11:00 KK11 **489.04** Examining the size-weight illusion with visuo-haptic conflict in immersive virtual reality. G. BUCKINGHAM\*. *Univ. of Exeter.*
- 8:00 KK12 **489.05** Influence of age and practice on the discrimination of sequential and simultaneous vibrotactile stimuli. L. A. MROTEK\*; V. SHAH; M. CASADIO; K. A. NIELSON; R. A. SCHEIDT. *Marquette Univ., Univ. of Genova, Northwestern Univ., Med. Col. of Wisconsin.*
- 9:00 LL1 **489.06** Vibrotactile feedback guided reaching during single and dual-task conditions. V. SHAH\*; L. A. MROTEK; M. CASADIO; R. SCHEIDT. *Marquette Univ., Univ. of Genova, Northwestern Univ., Med. Col. of Wisconsin.*

- 10:00 LL2 **489.07** a new psychophysical paradigm to directly quantify the perception of body ownership during the rubber hand illusion. M. CHANCEL\*; H. H. EHRSSON. *Karolinska Inst.*
- 11:00 LL3 **489.08** Unconscious body ownership during continuous flash suppression. B. VAN DER HOORT\*; N. RADZIUN; H. H. EHRSSON. *Univ. of Amsterdam, Karolinska Institutet.*
- 8:00 LL4 **489.09** The supernumerary hand illusion revisited: Disambiguating ownership of one and two right rubber hands. C. FAN\*; H. EHRSSON. *Karolinska Institutet, Karolinska Institutet.*
- 9:00 LL5 **489.10** Fluidity of gender identity induced by illusory body sex change. P. TACIKOWSKI\*; J. FUST; H. EHRSSON. *Karolinska Inst.*
- 10:00 LL6 **489.11** Investigating the multisensory mechanisms of full-body ownership using the illusion of owning an entire artificial body. S. H. O'KANE\*; H. EHRSSON. *Karolinska Institutet, Karolinska Institutet.*
- 11:00 LL7 **489.12** Incongruent visuo-tactile-vestibular stimulation leads to body disownership and feelings of depersonalisation and derealisation. N. PREUSS\*; H. H. EHRSSON. *Karolinska Institutet.*
- 8:00 LL8 **489.13** Effect of vestibular information on early visual processing: An EEG study. T. UENO\*; K. MATSUSHITA; M. OGAWA; A. AOYAMA. *Keio Univ., Keio Univ.*

## POSTER

### 490. Cerebellum: Plasticity and Climbing Fibers

#### Theme E: Motor Systems

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

- 8:00 LL9 **490.01** The calcium-gated chloride channel anoctamin 2 as a modulator of inhibitory transmission in the cerebellum. F. AUER; D. FLEISCHHAUER; L. SCHÜSSLER; L. SCHÜLE; F. MÖHRLIN; S. FRINGS\*. *Heidelberg Univ.*
- 9:00 LL10 **490.02** The interaction of Purkinje cell firing rate-dependent phase response curves and cerebellar network oscillations. Y. ZANG\*; E. DE SCHUTTER. *Okinawa Inst. of Sci. and Technol.*
- 10:00 LL11 **490.03** The role of local inhibitory circuits in expression of cerebellar-dependent motor memories. M. J. ROWAN\*; J. CHRISTIE; A. BONNAN. *Max Planck Florida Inst.*
- 11:00 LL12 **490.04** MLI disinhibition relieves gating of climbing fiber-mediated learning in the cerebellum. K. ZHANG\*; G. G. GROSS; D. B. ARNOLD; J. M. CHRISTIE. *Max Planck Florida Inst., USC.*
- 8:00 LL13 **490.05** Development of large-scale artificial cerebellum and its petaflops simulation on PEZY-SC2 processor. W. FURUSHO\*; T. YAMAZAKI. *The Univ. of Electro-Communications.*
- 9:00 LL14 **490.06** Dynamic coordination of climbing fiber input to Purkinje cell populations during goal-directed action. D. KOSTADINOV\*; M. BEAU; M. B. POZO; M. HAUSSER. *Univ. Col. London.*

\* 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 MM1 **490.07** Response to hypoxic preconditioning of glial cells from the roof of the fourth ventricle. M. BECERRA GONZÁLEZ\*; E. GUALDA; P. LOZA-ALVAREZ; A. MARTÍNEZ-TORRES. *Univ. Nacional Autónoma De México, Inst. de Ciencias Fotoniques.*
- 11:00 MM2 **490.08** Mechanisms of Purkinje cell-dependent instructive signaling in the cerebellum. A. BONNAN\*; M. J. M. ROWAN; C. A. BAKER; M. BOLTON; J. M. CHRISTIE. *MPPF, Allen Inst. for Brain Sci., Max Planck Florida Inst.*
- 8:00 MM3 **490.09** Systems consolidation without replay? Learning rules and circuit architectures for consolidation in cerebellar learning. B. J. BHASIN\*; M. S. GOLDMAN; J. L. RAYMOND. *Stanford Univ., Univ. of California Davis Ctr. for Neurosci., Stanford Univ. Sch. of Med.*
- 9:00 MM4 **490.10** Supralinear Ca<sup>2+</sup> signals in cerebellar Purkinje neurons associated with concomitant parallel fibre and climbing fibre inputs: mGluR1-dependent and mGluR1-independent distinct components. K. AIT OUARES\*; M. CANEPARI. *Liphy, LIPhy, CNRS UMR 5588.*
- 10:00 MM5 **490.11** Purkinje cell dendrites encode graded information dependent on the level of climbing fiber activity. J. M. CHRISTIE\*; S. B. AMAT; M. A. GAFFIELD. *Max Planck Florida Inst.*
- 11:00 MM6 **490.12** Optogenetic stimulation of amygdala central nucleus specific to conditioned stimulus is sufficient to modulate cerebellar learning. S. J. FARLEY\*; J. H. FREEMAN. *Iowa Neurosci. Inst., The Univ. of Iowa.*
- 8:00 MM7 **490.13** Cerebellar climbing fibers signal reward expectation in both voluntary and classically conditioned behaviors. W. E. HEFFLEY\*; Z. XU; C. HULL. *Duke Univ.*
- 9:00 MM8 **490.14** Sensory and motor representations in the inferior olive. D. MARKOV\*; R. FELIX; M. ORGER; R. PORTUGUES. *Max Planck Inst. of Neurobio., Champalimaud Ctr. for the Unknown.*
- 10:00 MM9 **490.15** An adaptive control theory for cerebellar mediated tuning of the oculomotor neural integrator. A. ALEMI\*; E. R. F. AKSAY; M. S. GOLDMAN. *Univ. of California, Davis, Weill Cornell Med. College, Cornell Univ., Univ. of California Davis.*
- 11:00 MM10 **490.16** Short duration voluntary exercise does not alter cerebellar morphology or motor performance in a mouse model of human spinocerebellar ataxia type 1. E. DEENEY\*; R. EMPSON. *Univ. of Otago.*
- 8:00 MM11 **490.17** Purkinje cells in a cerebellar neural network model acquire climbing fiber driven activity modulation for accurate movements. H. YAMAURA\*; T. YAMAZAKI. *The Univ. of Electro-Communications.*
- 9:00 MM12 **490.18** Activity of cerebellar climbing fibers represents forelimb movements during voluntary lever-pull task in mice. N. HIDAKA\*; S. TSUTSUMI; K. IKEZOE; Y. ISOMURA; M. KANO; K. KITAMURA. *Univ. of Yamanashi, Univ. of Tokyo, Tamagawa Univ.*

## POSTER

### 491. Basal Ganglia Systems in Acquired Behaviors

#### Theme E: Motor Systems

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

- 8:00 MM13 **491.01** Impaired reach-to-grasp responses in mice depleted of striatal cholinergic interneurons. N. ABUDUKEYOUMU\*; M. GARCIA-MUNOZ; Y. NAKANO; G. W. ARBUTHNOTT. *Okinawa Inst. of Sci. and Technol.*
- 9:00 MM14 **491.02** Distinct roles for cortico- and thalamo-striatal projections in motor skill learning and execution. S. B. WOLFF\*; A. K. DHAWALE; R. KO; B. P. ÖLVE CZKY. *Harvard Univ.*
- 10:00 NN1 **491.03** The firing rate of external globus pallidus neurons is modulated by proactive, selective behavioral inhibition. B. GU\*; M. A. FARRIES; J. D. BERKE. *UCSF.*
- 11:00 NN2 **491.04** Striatal fast-spiking interneurons help guide learning from disappointments and restrain unrewarded actions. J. R. PETTIBONE\*; A. MOHEBI; R. HASHIM; J. D. BERKE. *Univ. of California- San Francisco, UCSF.*
- 8:00 NN3 **491.05** Forebrain dopamine value signals arise independently from midbrain dopamine cell firing. A. MOHEBI\*; J. R. PETTIBONE; A. HAMID; J. WONG; R. KENNEDY; J. D. BERKE. *UCSF, Brown Univ., Univ. of Michigan.*
- 9:00 NN4 **491.06** Dopamine neurons targeting dorsomedial striatum are modulated by reward and choice independently. R. S. LEE\*; M. G. MATTAR; N. F. PARKER; I. B. WITTEN; N. D. DAW. *Princeton Univ.*
- 10:00 NN5 **491.07** Movement-related activity in ventral basal ganglia and dopaminergic midbrain is gated by behavioral state. R. CHEN\*; P. A. PUZEREY; V. GADAGKAR; J. H. GOLDBERG. *Cornell Univ.*
- 11:00 NN6 **491.08** Social context-dependent modulation of dopaminergic performance error. V. GADAGKAR\*; P. A. PUZEREY; J. H. GOLDBERG. *Cornell Univ.*
- 8:00 NN7 **491.09** Calcium signals of the striatal pathways during the performance of a chain of sequences. I. LINARES-GARCIA\*; J. RAMÍREZ-JARQUÍN; F. TECUAPETLA. *Natl. Autonomus Univ. of Mexico (UNAM).*
- 9:00 NN8 **491.10** Encoding of sequential context in a songbird cortical-basal ganglia circuit important for context-specific learning. L. TIAN\*; M. S. BRAINARD. *UCSF.*
- 10:00 NN9 **491.11** Dynamic shifts of striatal activation pattern during acquisition of an auditory discrimination task. S. SETOGAWA\*; T. OKAUCHI; D. HU; M. SHIGETA; E. HAYASHINAKA; K. ONOE; Y. WADA; K. HIKISHIMA; H. ONOE; Y. CUI; K. KOBAYASHI. *Fukushima Med. Univ., RIKEN Ctr. for Biosystems Dynamics Res., Okinawa Inst. of Sci. and Technol. Grad. Univ., Kyoto Univ.*
- 11:00 NN10 **491.12** Night-time sleep does not play a major role in consolidation of basal ganglia-dependent vocal learning in adult songbirds. S. KOJIMA\*; D. LEE; K. KAI; R. O. TACHIBANA. *Korea Brain Res. Inst., Univ. of Zurich / ETH Zurich.*
- 8:00 NN11 **491.13** Basal ganglia modulation of motor thalamus. A. D. LIEN\*; A. C. KREITZER. *Gladstone Inst. of Neurolog. Dis., Gladstone Inst. of Neurolog. Dis.*

\* 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 NN12 **491.14** Multiple viral tracings reveal an anatomical hierarchy in cortico-basal ganglia loops. S. AOKI\*; J. B. SMITH; M. IGARASHI; P. COULON; J. R. WICKENS; X. JIN; T. J. H. RUIGROK. *Salk Inst. for Biol. Studies, Okinawa Inst. of Sci. and Technol., Erasmus Med. Ctr. Rotterdam, Japan Society for the Promotion of Sci., Inst. de Neurosciences de La Timone.*
- 10:00 NN13 **491.15** Mapping the Basal Ganglia output projection. J. LEE\*; W. WANG; B. SABATINI. *Harvard Med. Sch. Dept. of Neurobio., Harvard Med. Sch. Dept. of Neurobio.*
- 11:00 NN14 **491.16** Processing of competing cortical inputs in the basal ganglia. M. ISRAELASHVILI\*; I. BAR-GAD. *Bar Ilan Univ., Bar-Ilan Univ.*
- 8:00 NN15 **491.17** Identifying a learning role for the songbird basal ganglia. J. SINGH ALVARADO\*; M. BEN-TOV; M. G. KEARNEY; R. D. MOONEY. *Duke Univ., Duke Univ., Duke Univ. Dept. of Neurobio.*

## POSTER

### 492. Voluntary Movements: Finger and Grasp Control: Age, Pathology, and Physiology

#### Theme E: Motor Systems

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

- 8:00 NN16 **492.01** Enhanced neuromodulation with paired brain and spinal cord stimulation in a large animal of cervical contusion injury. P. T. WILLIAMS\*; J. R. BRANDENBURG; D. Q. TRUONG; A. DE PAOLIS; H. BORGES-DESOUZA; D. RYAN; J. WONG; S. AMBIA; H. ALEXANDER; L. CARDOSO; M. BIKSON; J. H. MARTIN. *CUNY Sch. of Med., CUNY Sch. of Med., City Col. of New York, CUNY Grad. Ctr.*
- 9:00 OO1 **492.02** Can changes in manual dexterity and white matter integrity identify mild cognitive impairment from normal aging? C. RODRIGUEZ-ARANDA\*; S. A. CASTRO-CHAVIRA; V. K. BYRE; A. EVJEN; O. VASYLENKO; M. M. GORECKA; K. WATERLOO; E. KAMYCHEVA; S. H. JOHNSEN; T. R. VANGBERG. *Univ. of Tromsø, Univ. of Tromsø, Univ. of Tromsø, Univ. Hosp. of North Norway.*
- 10:00 OO2 **492.03** ● A novel wearable device for motor recovery of hand function in chronic stroke survivors. S. CHOUDHURY; R. SINGH; A. SHOBHANA; D. SEN; S. S. ANAND; S. SHUBHAM; M. R. BAKER; H. KUMAR; S. N. BAKER\*. *Inst. of Neurosciences Kolkata, Newcastle Univ.*
- 11:00 OO3 **492.04** Aging impairs the use of explicit cues for anticipatory modulation of digit placement for dexterous manipulation. P. J. PARIKH\*; N. RAO. *Univ. of Houston, Univ. of Houston.*
- 8:00 OO4 **492.05** ● Forced aerobic exercise paired with motor task practice optimizes upper extremity motor recovery post-stroke. S. LINDER\*; A. ROSENFELDT; S. DAVIDSON; N. ZIMMERMAN; J. LEE; A. PENKO; J. L. ALBERTS. *Cleveland Clin., Cleveland Clin., Cleveland Clin.*
- 9:00 OO5 **492.06** Non-paretic hand exercise to task-failure increases functional connectivity to paretic hand in chronic stroke. Q. DING\*; T. MCGUIRK; P. S. ELLIOTT; C. PATTEN. *UC Davis.*

- 10:00 OO6 **492.07** Forced-use therapy after sensorimotor cortex lesions restores contralesional hand preference in macaca mulatta. W. G. DARLING\*; K. S. STILWELL-MORECRAFT; J. GE; D. L. ROTELLA; M. A. PIZZIMENTI; R. J. MORECRAFT. *Univ. of Iowa, Univ. of South Dakota, Univ. of Iowa, Univ. of Iowa.*
- 11:00 OO7 **492.08** Lack of interlimb transfer following visuomotor adaptation in a person with congenital mirror movements. S. BAO\*; A. M. MORGAN; J. WANG. *Univ. of Wisconsin Milwaukee.*
- 8:00 OO8 **492.09** Effect of coil orientation on motor evoked potentials examined during grasping. H. JO\*; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*
- 9:00 OO9 **492.10** Changes in the silent period evoked by transcranial magnetic stimulation during different coil orientations. F. D. BENAVIDES\*; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*
- 10:00 OO10 **492.11** ▲ Grip force output is related to somatosensation and self-reported ADHD symptoms in young women with and without ADHD. J. TUCKER\*; A. N. MERIDA; C. R. N. DAHM; A. J. N. GROFF; D. DIMERCURIO, III; N. ETTER; K. A. NEELY. *Penn State Univ. Park, Pennsylvania State Univ., Pennsylvania State Univ., Pennsylvania State Univ., Auburn Univ.*
- 11:00 OO11 **492.12** Functional brain mechanisms of sensorimotor control in individuals with autism spectrum disorder. K. UNRUH\*; L. M. SCHMITT; Z. WANG; L. MARTIN; A. FOX; M. W. MOSCONI. *Univ. of Kansas, Cincinnati Children's Hosp. Med. Ctr., Univ. of Florida, Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Univ. of Kansas.*
- 8:00 OO12 **492.13** Brain morphometry differences associated with sex and ADHD symptom severity in young adults. D. B. ELBICH\*; C. HUANG-POLLOCK; S. SCHERF; K. A. NEELY. *The Pennsylvania State Univ., Pennsylvania State Univ., The Pennsylvania State Univ., Auburn Univ.*

## POSTER

### 493. Voluntary Movements: Reaching Control: Motor Learning: Animal

#### Theme E: Motor Systems

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

- 8:00 OO13 **493.01** piReach: An open source, automated skilled reaching task platform. S. LEEMBURG\*. *Univ. of Zurich.*
- 9:00 OO14 **493.02** Heterogeneous correlation between neural activity in motor cortex and aspects of movement reorganizes during learning. Z. MA\*; H. LIU; A. PETERS; T. KOMIYAMA; R. WESSEL. *Washington Univ. In St. Louis, UCSD.*
- 10:00 OO15 **493.03** The effect of forced limb training for recovery of motor paralysis in a photochemically induced thrombosis model of cerebral ischemic stroke in rats. C. SATO\*; K. AKAHIRA; S. KOEDA; K. SUMIGAWA; M. MIKAMI; J. YAMADA. *Hirotsuki University, Hirotsuki Univ. Grad Hlth. Sci.*
- 11:00 OO16 **493.04** A center-out sequence task for studying multiple multiple forms of motor learning in non-human primates. A. L. ORSBORN\*; B. PESARAN. *New York 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 OO17 **493.05** Temporally precise vagus nerve stimulation (VNS) enhances motor learning and performance of a skilled forelimb reach task. J. L. HICKMAN\*; X. PENG; D. DONEGAN; C. G. WELLE. *CU Anschutz Med. Campus.*
- 9:00 OO18 **493.06 ▲** Sex differences in paw-reaching behavior of mice. M. A. BRADY; J. C. BOYER; D. R. MCPHERSON\*; T. BAZZETT. *SUNY Geneseo, SUNY Geneseo, SUNY-Geneseo, SUNY Geneseo.*
- 10:00 PP1 **493.07** Genetic and functional dissection of corticospinal circuit for skilled motor behavior. M. UENO\*; Y. NAKAMURA; J. LI; Z. GU; J. NIEHAUS; M. MAEZAWA; S. CRONE; M. GOULDING; M. BACCEI; Y. YOSHIDA. *Brain Res. Institute, Niigata Univ., Cincinnati Children's Hosp. Med. Ctr., JST, Univ. of Cincinnati, Cincinnati Children's Hosp. Med. Ctr., Salk Inst. for Biol. Studies.*
- 11:00 PP2 **493.08** Cell type specific computations performed in primary motor cortex. J. SCHILLER\*; S. LEVY; M. LAVZIN; O. BARAK; H. BENISTY; R. TALMON; R. MEIR; A. HANTMAN. *Neurobio., Technion, Janelia Res. Campus.*
- 8:00 PP3 **493.09** Circuit investigation of the GABAergic neurons of the zona incerta. Z. LI\*; A. MERLI; K. TAN. *Univ. of Basel.*
- 9:00 PP4 **493.10** Genetic and functional characterization of rubral pathways. G. RIZZI\*; M. COBAN; A. MERLI; M. A. OCAÑA; K. TAN. *Univ. of Basel, Univ. of Basel.*
- 10:00 PP5 **493.11** Signatures of proprioception and vision relevant to corrective motor responses in primate. T. FISHER\*; E. M. TRAUTMANN; X. SUN; D. J. O'SHEA; S. RYU; K. V. SHENOY. *Stanford Univ., Stanford Neurosciences, Palo Alto Med. Fndn., Howard Hughes Med. Inst. - Stanford Univers.*
- 11:00 PP6 **493.12 ●** Systematic changes of neural population activity during curl force field adaptation. X. SUN\*; D. O'SHEA; T. FISHER; M. GOLUB; S. RYU; K. SHENOY. *Stanford Univ.*
- 8:00 PP7 **493.13** Population dynamics of proprioceptive error signals in motor cortex. D. J. O'SHEA\*; E. M. TRAUTMANN; S. RYU; K. V. SHENOY. *Stanford Univ., Stanford Neurosciences, Palo Alto Med. Fndn., Howard Hughes Med. Inst. - Stanford Univers.*
- 9:00 PP8 **493.14** Neural population dynamics of motor preparation following rapid adaptation to modified reach forces. E. TRAUTMANN\*; D. J. O'SHEA; T. FISHER; S. RYU; K. V. SHENOY. *Stanford Neurosciences, Stanford Univ., Palo Alto Med. Fndn., Howard Hughes Med. Inst. - Stanford Univers.*
- 10:00 PP9 **493.15 ●** Motor cortical preparatory activity is causally involved in visuomotor learning. S. VYAS\*; D. J. O'SHEA; E. TRAUTMANN; F. WILLET; K. V. SHENOY. *Stanford Univ., Stanford Univ., Stanford Neurosciences, Stanford Univ., Howard Hughes Med. Inst. - Stanford Univers.*
- 11:00 PP10 **493.16** Role of primary motor cortex in saccadic and vergence eye movements. C. W. TYLER\*; L. T. LIKOVA. *Smith-Kettlewell Eye Res. Inst., Smith-Kettlewell Eye Res. Inst.*
- 8:00 PP11 **493.17** Emergence of neuron clusters in mouse motor cortex during learning. K. LI\*; J. K. P. IP; M. SUR. *MIT.*
- 9:00 PP12 **493.18** Patterns of astrocytic microdomain activity in the motor cortex during motor learning. J. SHIH\*; C. DELEPINE; M. SUR. *MIT/Picower Inst. for Learning and Memory, MIT/Picower Inst. For Learning and Memory.*
- 10:00 PP13 **493.19** Critical contribution of astrocytes to motor learning *in vivo*. C. DELEPINE\*; M. SUR. *MIT, MIT.*

## POSTER

### 494. Posture and Gait: Kinematics, Muscle Activity, Exercise and Fatigue, and Biomechanics II

#### Theme E: Motor Systems

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

- 8:00 PP14 **494.01** Sustained effects of an exercise program on dynamic balance control. D. SHIBATA\*. *Univ. of New Mexico.*
- 9:00 PP15 **494.02** Inter-limb coordination patterns during external versus internal asymmetric tasks. M. MUKHERJEE\*; L. BOWMAN; T. RAND. *Univ. of Nebraska at Omaha.*
- 10:00 PP16 **494.03** Quantifying the spatial smoothness of knee movement by a three-dimensional curvature. K. TAKEDA\*; Y. ASANO; K. HORI; S. SONODA. *Fujita Hlth. Univ., Fujita Hlth. Univ., Fujita Hlth. Univ.*
- 11:00 PP17 **494.04** Developmental changes in postural movement patterns during bilateral arm flexion in children. T. KIYOTA\*; K. FUJIWARA; K. KUNITA; K. ANAN; C. YAGUCHI. *Osaka Univ. of Comprehensive Children Educ., Kanazawa Gakuin Univ., Fac. of Sports & Human, Sapporo Intl. Univ., Sapporo Intl. Univ., Japan Hlth. Care Col.*
- 8:00 PP18 **494.05** Detecting balance deficits in Parkinson's disease using a novel MRI compatible balance simulator. E. PASMANN\*; M. J. MCKEOWN; T. W. CLEWORTH; J. T. INGLIS; M. G. CARPENTER. *Univ. of British Columbia, Pacific Parkinson's Res. Ctr.*
- 9:00 PP19 **494.06** How does the conscious of self-attractiveness change walking motion. H. TANABE\*; N. KANEKO; K. FUJII; H. YOKOYAMA; K. NAKAZAWA. *Aoyamagakuin Univ., The Univ. of Tokyo, Riken Ctr. for Advanced Intelligence Project, Tokyo Univ. of Agr. and Technol.*
- 10:00 PP20 **494.07** Involuntary changes in leg cycling cadence following transcutaneous spinal direct current stimulation. S. SASADA\*; T. YAMAGUCHI; T. ISHII; T. NAKAJIMA; T. ENDOH; T. KOMIYAMA. *Dept. of Food and Nutr. Science, Sagami W, Chiba Univ., Tokyo Gakugei Univ., Kyorin University, Uekusa Gakuen Univ.*
- 11:00 PP21 **494.08** Adaptive control of trunk movement for chronic stroke patients to achieve sit-to-stand. H. HANAWA\*; K. HIRATA; M. SONOO; T. MIYAZAWA; Y. MATSUMOTO; K. KUBOTA; T. WATANABE; Y. HAMANO; K. AOKI; T. KOKUBUN; N. KANEMURA. *Grad. Sch. of Saitama Prefectural Univ., Japan Society for the Promotion of Sci., RIKEN Brain Res. Inst., Ageo futatsumiya clinic, Rehabil. Amakusa Hosp., Saitama Prefectural Univ.*
- 8:00 PP22 **494.09** Kinetic symmetry in landing leg relative to whole body in stroke locomotion: Split-belt treadmill adaptation behavior. K. HIRATA\*; H. HANAWA; T. MIYAZAWA; T. KOKUBUN; K. KUBOTA; M. SONOO; T. WATANABE; T. FUJINO; K. AOKI; Y. HAMANO; N. KANEMURA. *Grad. Sch. of Saitama Prefectural Univ., Japan Society for the Promotion of Sci., Ageo Futatsumiya Clin., Saitama Prefectural Univ., RIKEN Brain Res. Inst., Rehabil. Amakusa Hosp.*

- 9:00 QQ1 **494.10** Exploring lower extremity force modulation while jumping in childhood cancer survivors. R. A. CREATH\*; V. GRAY; T. YORK; V. MARCHESE. *Univ. of Maryland Sch. of Med., Univ. of Maryland Med. Ctr.*
- 10:00 QQ2 **494.11** Sports exercise effect on changes in motor evoked potentials of the first dorsal interosseous muscles while maintaining neck flexion position. K. KUNITA\*; K. FUJIWARA; T. KIYOTA; K. ANAN. *Fac. of Sports & Human, Sapporo Intl. Univ., Kanazawa Gakuin Univ., Osaka Univ. of Comprehensive Children Educ.*
- 11:00 QQ3 **494.12** Effect of static stretch of the calf muscles on the postural orientation and equilibrium during human quiet standing. S. SASAGAWA\*; K. YAESHIMA; H. SEKIGUCHI. *Dept. of Human Sciences, Kanagawa Univ., Kanagawa Univ., Jobu Univ.*
- 8:00 QQ4 **494.13** Dynamic balance training in persons with multiple sclerosis. T. ONUSHKO\*; T. BOERGER; A. LONG; L. RIEM; N. GREGG; B. D. SCHMIT. *Marquette Univ., Marquette Univ.*
- 9:00 QQ5 **494.14** Potential parameters for wrist-worn single accelerometer and gyrosensor in functional evaluation of upper extremity in hemiplegic stroke. H. NAM\*; W. LEE; H. SEO; M. W. SMUCK; S. KIM. *Seoul Natl. Univ., Seoul Natl. Univ. Hosp., Stanford Univ.*
- 10:00 QQ6 **494.15** ▲ Quantitative stretch reflex measurement using motor system for the elbow joint. T. ARAKI\*; H. MURAMATSU; Y. ITAGUCHI; S. KATSURA. *Keio Univ.*
- 11:00 QQ7 **494.16** Age-dependent differences in neuroplastic response to daily home-based treadmill training in children and adults with cerebral palsy. J. B. NIELSEN\*; J. LORENTZEN; M. WILLERSLEV-OLSEN. *Univ. Copenhagen.*
- 8:00 QQ8 **494.17** Enhanced unidirectional motor cortex to muscle connectivity in beta and gamma bands during voluntary gait task in humans. H. YOKOYAMA\*; N. KANEKO; Y. MASUGI; T. OGAWA; K. WATANABE; K. NAKAZAWA. *Tokyo Univ. of Agr. and Technol., The Univ. of Tokyo, Tokyo Intl. Univ., Waseda Univ.*
- 9:00 QQ9 **494.18** Asymmetry in neuromuscular control for damping behavior during object transport in healthy young individuals. S. A. WINGES\*; A. SONG; M. J. MACLELLAN. *Univ. of Northern Colorado, Louisiana State Univ.*
- 10:00 QQ10 **494.19** Mice learn to modulate intra- and inter-limb paw kinematics with training on a novel locomotor behavioral paradigm. K. P. NGUYEN\*; A. SHARMA; S. M. CHASE; A. H. GITTIS. *Carnegie Mellon Univ., Carnegie Mellon Univ., Carnegie Mellon Univ.*
- 11:00 QQ11 **494.20** Visual perturbations between immersive virtual reality modalities on healthy and multiple sclerosis participants' balance control. L. I. RIEM\*; T. ONUSHKO; S. RAAB; S. A. BEARDSLEY; B. D. SCHMIT. *Marquette, Marquette Univ., Marquette Univ., Marquette Univ. Dept. of Biomed. Engin.*
- 8:00 QQ12 **494.21** Lower- and upper-body control during standing balance for individuals with incomplete spinal cord injury. J. W. LEE\*; J. YOO; K. CHAN; J. UNGER; K. MUSSELMAN; K. MASANI. *Univ. of Toronto, Toronto Rehabil. Inst. - Univ. Hlth. Network, Rehabil. Sci. Institute, Univ. of Toronto, Dept. of Physical Therapy, Univ. of Toronto.*
- 9:00 QQ13 **494.22** Using genetic algorithm to control tendon-driven systems with unknown structure. A. MARJANINEJAD\*; R. ANNIGERI; F. J. VALERO-CUEVAS. *USC, USC, USC.*
- 10:00 QQ14 **494.23** The effects of two types of variable assistance on motor learning of a novel swing phase trajectory. A. DOMINGO\*; E. RAMIREZ. *San Diego State Univ., San Diego State Univ.*

## POSTER

### 495. Posture and Gait: Higher Order Control, Multi-Task Integration, and Theory

#### Theme E: Motor Systems

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

- 8:00 QQ15 **495.01** The neural correlates of continuous gait adaptation to the split-belt treadmill are influenced by gait pattern characteristics: An <sup>18</sup>F-FDG PET Study. D. HINTON\*; A. THIEL; L. J. BOUYER; C. PAQUETTE. *McGill Univ., Ctr. for Interdisciplinary Res. in Rehabil. of Greater Montreal (CRIR), McGill Univ., Jewish Gen. Hosp., Univ. Laval Fac Med.*
- 9:00 QQ16 **495.02** ▲ The effects of transcranial direct current stimulation on age and race implicit association tests during complex motor tasks. E. P. KELLER; C. J. KETCHAM\*. *Elon Univ., Elon Univ.*
- 10:00 QQ17 **495.03** Neural correlates of human dual-task gait: Effect of secondary task difficulty. H. GOH\*; S. EWING; D. MARCHUK; A. NEWTON; I. NYANGANI. *Texas Woman's Univ.*
- 11:00 QQ18 **495.04** Is it possible to perform independent rhythmic movements with the upper and lower limbs? W. QI\*; K. KATO; M. SAKAMOTO; T. NAKAJIMA; K. KANOSUE. *Waseda Univ., Faculty of Sport Sciences, Waseda Univ., Kumamoto Univ., Kyorin University Sch. of Med.*
- 8:00 QQ19 **495.05** Motor cortex activity during locomotion and postural corrections in the mouse. I. N. BELOOZEROVA\*; E. F. CABRALES; Z. MIRZADEH. *Barrow Neurolog. Inst., Barrow Neurolog. Inst.*
- 9:00 QQ20 **495.06** Flexibly switching postural responses between structured visual stimuli depends on the temporal determinism of the stimuli. Z. MOTZ\*; T. SADO; W. DENTON; M. MUKHERJEE. *Univ. of Nebraska At Omaha, Univ. of Nebraska at Omaha.*
- 10:00 QQ21 **495.07** Pain during learning reduces retention of a strategic locomotor learning task. J. E. GALGANI\*; S. M. MORTON. *Univ. of Delaware.*
- 11:00 QQ22 **495.08** The performance cost of postural biofeedback. J. L. BAER\*; R. G. COHEN. *Univ. of Idaho, Univ. of Idaho.*
- 8:00 QQ23 **495.09** Effects of feedback distortion on visuomotor adaptation with gait. S. KIM\*; E. MARTINEZ. *California Baptist Univ., California Baptist Univ.*
- 9:00 QQ24 **495.10** Application of real-time marker-based motion capture for the kinematic analysis of freely behaving mice. A. KUCK\*; B. M. IGNATOWSKA-JANKOWSKA; M. Y. UUSISAARI. *Okinawa Inst. of Sci. and Technol.*
- 10:00 QQ25 **495.11** Timings of attentional switching to perturbation and postural preparation during transient forward or backward floor translation. K. FUJIWARA\*; C. YAGUCHI; N. KIYOTA; M. MAEKAWA; M. IREI. *Kanazawa Gakuin Univ., Japan Hlth. Care Col., Intl. Pacific Univ. Japan, Osaka Hlth. Sci. 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 QQ26 **495.12** A simple neural mutation that generates reward from rhythmic audible vestibular jolts fully explains all aspects of human bipedal gait development, including cerebral palsy gaits. M. RIGGLE\*. *Causal Aspects*.
- 8:00 RR1 **495.13** Human-exoskeleton adaptation: Predicting individualized adaptability from sensorimotor & cognitive factors. A. GUPTA\*; R. J. MCKINDLES; L. A. STIRLING. *MIT, MIT Lincoln Lab., MIT*.
- 9:00 RR2 **495.14** Prefrontal cortical activity in Parkinson's disease decreases during dual tasks and is not associated with cognitive effort. A. PANTALL\*; L. KAPA; R. VITORIO; S. STUART; L. ALCOCK; L. ROCHESTER. *Newcastle Univ., Newcastle Univ., São Paulo State Univ., Oregon Hlth. and Sci. Univ., Newcastle Univ.*
- 10:00 RR3 **495.15** A phase-independent balance shift is generated by phase-dependent muscle activation in response to galvanic vestibular stimulation during walking. H. REIMANN\*; T. D. FETTROW; E. D. THOMPSON; D. GRENET; J. J. JEKA. *Univ. of Delaware, Univ. of Delaware, Temple Univ., Univ. of Delaware*.
- 11:00 RR4 **495.16** Greater visual attentional demands during saccadic eye movements do not improve postural sway. M. A. YEOMANS; A. V. MICHEL; K. MOORE; T. DIAZ; J. JOHNSON; J. SCHIPPER; S. YAN; J. M. HONDZINSKI\*. *Sch. of Kinesiology, Louisiana State Univ.*
- 8:00 RR5 **495.17** Motor-cognitive interference in older adults walking with a visual verbal Stroop task. B. WOLLESEN\*; C. VOELCKER-REHAGE. *Univ. of Hamburg Fac. of Educ. Psychol, Technische Univ. Chemnitz*.
- 9:00 RR6 **495.18** Dissociation of muscle and cortical response scaling to balance perturbation acceleration. A. PAYNE\*; G. HAJCAK; L. H. TING. *Georgia Tech., Emory Univ., Florida State Univ.*
- 10:00 RR7 **495.19** Human cortical response to sensorimotor perturbations measured with high-density electroencephalography. S. M. PETERSON; D. P. FERRIS\*. *Univ. of Michigan, Univ. of Florida*.
- 11:00 RR8 **495.20** A quantitative, objective, and synchronized dual movement/cognitive task; pilot study in autism spectrum disorder. T. L. SIMMONS; L. CHUKOSKIE; J. TOWNSEND; J. SNIDER\*. *UC San Diego, UCSD, UCSD, UCSD*.
- 8:00 RR9 **495.21** Error-related brain dynamics predict step adaptation in a challenging gait task. J. WAGNER\*; R. MARTINEZ-CANCINO; G. R. MUELLER-PUTZ; S. MAKEIG. *Univ. of California San Diego, Graz Univ. of Technol.*
- 9:00 RR10 **495.22** Avoiding pedestrians while walking in physical and virtual environments. M. A. BÜHLER; A. LAMONTAGNE\*. *McGill Univ., Feil and Oberfeld Res. Centre, Jewish Rehabil.*
- 10:00 RR11 **495.23** Motor impairment in mice with a gain-of-function mutation in retinoic acid receptor beta. N. LEMMETTI; C. NASSIF; J. L. MICHAUD\*. *Hôpital Sainte-Justine*.
- 11:00 RR12 **495.24** Investigating sensorimotor integration in the trunk motor cortex in adult rats. B. NANDAKUMAR\*; G. H. BLUMENTHAL; K. A. MOXON. *Univ. of California Davis, Drexel Univ., Univ. of California*.
- 8:00 RR13 **495.25** Do performance errors and environmental switches regulate generalization of learned locomotor features across contexts? D. DE KAM\*; W. STARING; G. TORRES-OVIEDO. *Univ. of Pittsburgh*.
- 9:00 RR14 **495.26** Split-belt walking similarly changes active step length perception at different speeds and step lengths. C. J. SOMBRIC\*; M. GONZALEZ-RUBIO; G. TORRES-OVIEDO. *Univ. of Pittsburgh*.
- 10:00 SS1 **495.27** Unifying model of savings, interference, and generalization of motor learning in locomotion. G. TORRES-OVIEDO\*; A. SALATIELLO; D. M. MARISCAL. *Univ. of Pittsburgh, Univ. of Pittsburgh*.

## POSTER

### 496. Rhythmic Motor Pattern Generation: Speed and Phasing

#### Theme E: Motor Systems

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

- 8:00 SS2 **496.01** Computational modeling investigation of phase-dependent responses of spinal motoneurons to afferent stimulation during fictive locomotion. S. FUJIKI\*; S. AOI; K. TSUCHIYA; S. M. DANNER; I. A. RYBAK; D. YANAGIHARA. *The Univ. of Tokyo, Kyoto university, Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*
- 9:00 SS3 **496.02** Interactions between spinal circuits and afferent feedback to control locomotion at different speeds: Insights from computational modeling. S. M. DANNER\*; S. AOI; S. FUJIKI; D. YANAGIHARA; I. A. RYBAK. *Drexel Univ. Col. of Med., Kyoto Univ., The Univ. of Tokyo*.
- 10:00 SS4 **496.03** Computational modeling of brainstem circuits controlling locomotor speed and gait selection. N. A. SHEVTSOVA\*; V. CAGGIANO; J. AUSBORN; S. M. DANNER; I. A. RYBAK. *Drexel Univ. Col. of Med., IBM Res.*
- 11:00 SS5 **496.04** Intermittent in-phase activity of the crustacean locomotion circuit. C. R. SMARANDACHE-WELLMANN\*; L. SCHLAEGER; C. ZHANG. *Univ. of Cologne, Univ. of Arizona*.
- 8:00 DP09/SS6 **496.05** (Dynamic Poster) Principles underlying the feedforward control of multi-jointed limbs. V. BHANDAWAT\*; C. T. HSU. *Duke Dept. of Biol., Duke Dept. of Biol.*
- 9:00 SS7 **496.06** Activation timing and order in the sequence during rhythmic burst is dependent on cell type of inspiratory neurons in the pre-Bötzinger complex of the mice medulla slice. Y. OKE\*; F. MIWAKEICHI; Y. OKU; J. HIRRLINGER; S. HÜLSMANN. *Hyogo Col. of Med., The Inst. of Statistical Mathematics, Hyogo Col. of Med., Univ. of Leipzig, Georg August Univ. Goettingen*.
- 10:00 SS8 **496.07** Modulation of spike timing of specific interneurons critical for phase termination by multiple neuropeptides in a small network. W. YUAN; G. ZHANG; K. YU; Z. LE; S. YIN; E. C. CROPPER; K. R. WEISS; J. JING\*. *Nanjing Univ., Icahn Sch. of Med. at Mount Sinai*.
- 11:00 SS9 **496.08** Recruitment of Dbx-1-positive spinal neurons encode speed-dependent behavioral states. C. BELLARDITA\*; A. TALPALAR; O. KIEHN. *Copenhagen Univ., Dept. of Neuroscience, Karolinska*.
- 8:00 SS10 **496.09** Diversity of glycinergic V0d interneurons and their function in the zebrafish locomotor circuit. L. D. PICTON\*; R. BJÖRNFORS; A. EL MANIRA. *Karolinska Institutet*.



9:00 SS11 **496.10** Coordinated control of locomotor speed, arousal, and hippocampal theta rhythms by the nucleus incertus. L. LU\*; Y. REN; T. YU; Z. LIU; L. TAN; J. ZENG; Q. FENG; R. LIN; R. WANG; Y. LIU; Q. GUO; M. LUO. *Natl. Inst. of Biol. Sci.*

## POSTER

### 497. Motor Neurons and Muscle: Activity, Sensory, and Central Control: Exercise, Injury, and Disease I

#### Theme E: Motor Systems

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

8:00 SS12 **497.01** Assessment of Parkinson's disease through clinical and demographic data. A. SAIKIA\*; V. K. PANDEY; S. PAUL; M. HUSSAIN; A. R. BARUA. *North Eastern Hill Univ., North Eastern Indira Gandhi Regional Inst. of Hlth. and Med. Sci., Guwahati Neurolog. Res. Ctr.*

9:00 SS13 **497.02** Streptozotocin-induced diabetes causes crucial morphological changes in abdominal motoneurons and muscles of rats. N. OSHIRO\*; K. MURAMATSU; T. TAMAKI; M. NIWA. *Kyorin University, Fac. of Hlth. Sci., Hlth. Sci. Univ.*

10:00 SS14 **497.03** miR-138 controls motor behavior and neuronal spine morphology *in vivo*. M. ÅKERBLOM\*; J. CHERONE; C. BURGE; M. MCMANUS. *UCSF Diabetes Ctr., MIT, Univ. of California, San Francisco.*

11:00 TT1 **497.04** Gender and age peculiarities of electromyographic indices in qualified rowing athletes. E. V. KOLOSOVA\*; A. V. GORKOVENKO. *Natl. Univ. of Physical Educ. and Spor, Bogomoletz Inst. of Physiol.*

8:00 TT2 **497.05** Sensory innervation of the human soft palate. J. CHEN\*; L. MU; J. LI; T. NYIRENDA; S. SOBOTKA. *Hackensack Univ. Med. Ctr., Hackensack Univ. Med. Ctr., Icahn Sch. of Med. at Mount Sinai.*

9:00 TT3 **497.06** Modulation of post-contraction potentiation in the central nervous system. T. ISHII\*; S. SASADA; S. SUZUKI; T. KOMIYAMA. *Tokyo Gakugei Univ., Dept. of Food and Nutr. Science, Sagami W. Hlth. Sci. Univ. of Hokkaido.*

10:00 TT4 **497.07** The ergogenic effects of caffeine depend on neuronal A<sub>2A</sub>R. A. S. AGUIAR\*, JR.; A. E. SPECK; P. M. CANAS; R. A. CUNHA. *Univ. Federal de Santa Catarina, Univ. Federal de Santa Catarina, Univ. of Coimbra, Univ. of Coimbra.*

11:00 TT5 **497.08** • Neuronal preservation and reactive gliosis attenuation following neonatal sciatic nerve axotomy by a fluorinated cannabidiol derivative. A. L. OLIVEIRA\*; M. PEREZ; L. P. CARTAROZZI; G. CHIAROTTO; F. S. GUIMARAES. *Univ. of Campinas - Lab. of Nerve Regeneration, Unicamp, UNICAMP, Univ. of Campinas, Sch. Med. Ribeirao Preto-Usp.*

8:00 TT6 **497.09** Activation of 5-HT<sub>2A</sub> receptor enhances function of GluN2A-containing NMDA receptor via Src kinase in dendrites of rat jaw-closing motoneurons. M. DANTSUJI; S. NAKAMURA; K. NAKAYAMA; A. MOCHIZUKI; S. PARK; Y. BAE; M. OZEKI; T. INOUE\*. *Showa Univ. Sch. Dent., Sch. of Dentistry, Kyungpook Natl. Univ., Showa Univ. Sch. Dent., Showa Univ. Sch. Dent.*

9:00 TT7 **497.10** Structural changes in spinal cord of newborns with muscle hypertonia after antenatal hypoxia-ischemia in rabbit cerebral palsy model. A. DROBYSHEVSKY\*; S. SYNOWIEC; I. GOUSSAKOV. *Northshore Univ. Hlth. Syst. Res. Inst.*

10:00 TT8 **497.11** Predicting disease stage specific spinal motor neurons and glia in sporadic ALS. F. SONG\*; F. DACHET; J. LIU; J. M. RAVITS. *Univ. of Illinois at Chicago, Univ. of California San Diego Dept. of Neurosciences.*

11:00 TT9 **497.12** Effects of pharmacological agents administered for swallowing disorders on swallowing motor activity in nerves innervating infrahyoid and laryngeal muscles. T. MORIYA; K. NAKAYAMA; S. NAKAMURA; A. MOCHIZUKI\*; T. SHIROTA; T. INOUE. *Showa Univ. Sch. of Dent., Showa Univ. Sch. of Dent., Showa Univ., Showa Univ. Sch. of Dent., Showa Univ. Sch. Dent.*

8:00 TT10 **497.13** ▲ Intramuscular injections of botulinum toxin cause axotomy-like changes in C-boutons on spinal motoneurons of adult rats. S. KLINGENBERG; D. B. JENSEN; K. P. DIMINTIYANOVA; J. WIENECKE; C. F. MEEHAN\*. *Univ. of Copenhagen.*

9:00 TT11 **497.14** The role of fscn1 in peripheral nerve regeneration. T. OMURA\*; D. XU; Y. MIHARA; T. BANNO; A. OKAMOTO; Y. MATSUYAMA. *Hamamatsu Univ. Sch. of Med., Hamamatsu Univ. Sch. of Med.*

10:00 TT12 **497.15** Fatigue-associated changes in estimates of persistent inward current in human motor neurons. C. T. COMPTON; N. K. CECIRE; J. M. KALMAR\*. *Wilfrid Laurier Univ.*

11:00 TT13 **497.16** Motoneuron output during voluntary activity in humans with spinal cord injury. R. VASTANO\*; M. A. PEREZ. *Univ. of Miami, Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*

8:00 TT14 **497.17** Relative contributions of corticospinal and reticulospinal pathways to strength adaptation in non-human primates. I. S. GLOVER\*; S. N. BAKER. *Newcastle Univ.*

9:00 TT15 **497.18** Regulation of micturition by the activity of the anterior cingulate cortex in mice. T. MOCHIZUKI\*; S. MANITA; T. MITSUI; M. TAKEDA; K. KITAMURA. *Univ. of Yamanashi, Univ. of Yamanashi.*

10:00 TT16 **497.19** Can motor noise account for force variability? A. NAGAMORI\*; C. M. LAINE; G. E. LOEB; F. J. VALERO-CUEVAS. *USC, USC.*

8:00 DP10/TT17 **497.20** (Dynamic Poster) Neural and muscular dynamics of behaving Hydra under different environmental conditions. W. YAMAMOTO\*; S. HAN; R. YUSTE. *Columbia Univ., Columbia Univ.*

## POSTER

### 498. Motor Neurons: Development and Disease

#### Theme E: Motor Systems

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

8:00 TT18 **498.01** Functional and Structural profile of abdominal-projecting motoneurons of rats submitted to sustained hypoxia. M. P. SILVA\*; D. J. A. MORAES; L. G. H. BONAGAMBA; A. S. MECAWI; J. RODRIGUES; W. A. VARANDA; B. H. MACHADO. *Sch. of Med. of Ribeirão Preto, Federal Rural Univ. of Rio de Janeiro.*

• 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 TT19 **498.02** SorCS2 in motor neuron development and integrity. P. B. THOMASEN\*; H. LOGIN; K. KJAER-SOERENSEN; J. TRANBJERG-JENSEN; S. BEEL; P. VAN DAMME; C. OXVIG; A. NYKJAER. *Aarhus Univ., KU Leuven, Aarhus Univ.*
- 10:00 TT20 **498.03** Spinal cord motor columns targeted by Foxp2 V1 interneurons. A. R. LANE; L. GOMEZ-PEREZ; J. B. BIKOFF; J. T. ANDERSON; T. M. JESSELL; F. J. ALVAREZ\*. *Emory Univ., St. Jude Children's Res. Hosp., Zuckerman MBB, Columbia Univ.*
- 11:00 TT21 **498.04** Transcriptomic and proteomic analysis of ALS iPSC-derived motor neuron cultures. R. G. LIM; V. VENKATRAMAN; J. WU; A. MATLOCK; J. KAYE; V. J. DARDOV; M. CASALE; E. FRAENKEL; T. THOMPSON; D. SAREEN; J. D. ROTHSTEIN; S. FINKBEINER; C. N. SVENDSEN; J. VAN EYK; L. M. THOMPSON\*. *Univ. of California, Cedars-Sinai Med. Ctr., Gladstone Inst., MMIT, Johns Hopkins Univ., Univ. California.*
- 8:00 TT22 **498.05** Early proteomic changes in a genetic form of ALS. V. J. DARDOV\*; NEUROLINCS CONSORTIUM; C. N. SVENDSEN; J. VAN EYK. *Cedars Sinai, NIH, Cedars Sinai, Cedars Sinai.*
- 9:00 TT23 **498.06** The effect of increasing the length of differentiation on ALS phenotypes seen in human iPSC-derived motor neurons. M. G. BANUELOS\*; B. MANDEFRO; K. KUROWSKI; H. TROST; S. HUANG; B. SHELLEY; L. THOMPSON; E. FRAENKEL; J. ROTHSTEIN; S. FINKBEINER; J. VAN EYK; N. ANSWER ALS CONSORTIUM; D. SAREEN; C. SVENDSEN. *Cedars Sinai Med. Ctr., Cedar Sinai Med. Ctr., UCI, MIT, John Hopkins Med. Inst., UCSF, Cedars Sinai Med. Ctr.*
- 10:00 TT24 **498.07** Answer ALS iPSC and Motor Neuron Repository at the Cedars-Sinai RMI iPSC Core. L. PANTHER\*; L. PANTHER\*; H. TROST; R. CHENG; E. GOMEZ; C. LIU; L. ORNELAS; J. ORTIZ SANCHEZ; M. BANUELOS; S. HUANG; K. KUROWSKI; D. WEST; I. PSC CORE; M. N DIFFERENTIATION CORE; A. NSWER ALS CONSORTIUM; C. SVENDSEN; D. SAREEN. *Cedars-Sinai Med. Ctr.*
- 11:00 UU1 **498.08** Comparison of differentiation protocols for cortical forebrain neurons from ALS patient and control iPSC lines. V. J. GARCIA\*; A. N. COYNE; I. EPSTEIN; R. G. LIM; H. HEMMATI; U. HUSSAIN; J. KALRA; S. FINKBEINER; J. D. ROTHSTEIN; L. M. THOMPSON; C. N. SVENDSEN; N. NEUROLINCS CONSORTIUM. *Cedars-Sinai, Johns Hopkins Univ., David Gladstone Institutes; Univ. of California, San Francisco, Univ. of California, Irvine, Gladstone Inst., Univ. California, Cedars-Sinai Med. Ctr.*
- 8:00 UU2 **498.09** Spatial reconstruction of the spinal cord from iPSC models of ALS with single cell RNA-seq. R. HO\*; M. J. WORKMAN; M. KELLOGG; V. MONTEL; M. G. BANUELOS; S. HUANG; D. WEST; I. KHREBTUKOVA; L. WATSON; K. TAYLOR; C. N. SVENDSEN. *Cedars-Sinai Med. Ctr., Illumina.*
- 9:00 UU3 **498.10** Precision Brain Health: Answer ALS is a population based multi-omics program to identify ALS subgroups, biomarkers and druggable pathways. J. D. ROTHSTEIN\*; N. MARAGAKIS; E. BAXI; S. FINKBEINER; C. N. SVENDSEN; L. M. THOMPSON; J. VAN EYKE; E. FRAENKEL; M. CUDKOWICZ; J. BERRY; D. SAREEN; A. SHERMAN; T. THOMPSON. *Johns Hopkins Univ., Gladstone Inst., Cedars-Sinai Med. Ctr., Univ. California, Cedars Sinai, Ernest Fraenkel, Mass Gen. Hosp., Cedars-Sinai Med. Ctr., Massachusetts Gen. Hosp., UCI.*
- 10:00 UU4 **498.11** VCP is involved in axonal mitochondrial motility. A. E. GONZALEZ\*. *Stanford Univ.*
- 11:00 UU5 **498.12** Does time make a difference? The effect of the administration of follistatin on re-innervated skeletal muscle fiber recovery after 3 vs 6 months of denervation. M. S. SHALL\*; J. E. ISAACS; S. MALLU; G. PATEL. *MCV/VCU, Virginia Commonwealth Univ.*

## POSTER

### 499. Neurophysiologic Effects of Early-Life Stress

#### Theme F: Integrative Physiology and Behavior

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

- 8:00 UU6 **499.01** Early life stress and neurodevelopment: Contributions of glucocorticoid plasticity to maturational timing. L. D. GODOY\*; N. GARCIA-CAIRASCO; K. G. BATH. *Physiol. Department, Univ. of Sao Paulo, Brown Univ.*
- 9:00 UU7 **499.02** The <sup>1</sup>H MRS study for the measurement time dependency of acute stress response. Y. HWANG\*; M. LEE; C. YUN; Y. KIM; H. BAEK; B. HAN; D. KIM. *Yonsei Univ., Wayne State Univ. Sch. of Med., Children's Hosp. of Michigan, Gachon Univ.*
- 10:00 UU8 **499.03** Chronic lead exposure promotes epigenetic changes in serotonergic receptors and aggressive behavior in mice. L. G. GARCIA-LARA\*; A. J. HERNÁNDEZ-CORO; J. MARTÍNEZ-LAZCANO; B. E. SÁNCHEZ-HERNÁNDEZ; S. MONTES; C. RÍOS CASTAÑEDA; F. PÉREZ-SEVERIANO. *Inst. Nacional de Neurología y Neurocirugía, Inst. Nacional de Neurología y Neurocirugía Manuel Velasco Suárez, Inst. Nacional de Ciencias Médicas y Nutrición Salvador Zubirán.*
- 11:00 UU9 **499.04** Chronic maternal stress during pregnancy alters fetal development. M. C. ANTONELLI\*; H. WU; C. SHEN; P. SU; B. HALLER; A. MUELLER; G. BERG; B. FABRE; J. WEYRICH; C. ZELGERT; M. G. FRASCH; S. M. LOBMAIER. *Inst. de Biología Celular y Neurociencia, Duke University, Duke Univ., Inst. of Med. Informatics, Statistics and Epidemiology, Medizinische Klinik, Facultad de Farmacia y Bioquímica, UBA, Inst. de Fisiopatología y Bioquímica Clínica, FFyB, UBA, Kinikum rechts der Isar, Univ. of Washington.*
- 8:00 UU10 **499.05** Drd3 signaling in the lateral septum mediates early life stress-induced social dysfunction. S. SHIN\*; H. PRIBIAG; V. LILASCHAROEN; D. KNOWLAND; X. WANG; B. LIM. *UCSD, UCSD, UCSD, UCSD.*
- 9:00 UU11 **499.06** Effects of birth and birth-mode on markers of inflammation in the mouse brain. A. CASTILLO-RUIZ\*; M. MOSLEY; Y. C. HOFFIZ; R. BURCH; N. G. FORGER. *Georgia State Univ.*
- 10:00 UU12 **499.07** ● The impact of stress on the dopamine system is dependent on the state of the critical period of plasticity. F. V. GOMES\*; X. ZHU; A. A. GRACE. *Univ. of Pittsburgh, Univ. of Pittsburgh Dept. of Neurosci.*
- 11:00 UU13 **499.08** Embryonic GABAergic proliferation as a contributing mechanism in prenatal stress effects. J. J. DEWITT\*; S. J. LUSSIER; E. C. MENEZES; J. S. ARMER; H. E. STEVENS. *Univ. of Iowa.*
- 8:00 UU14 **499.09** ● Effects of early life stress on infantile amnesia and early development. R. A. APONTE-RIVERA\*; A. JOHNSEN; G. MANZANO NIEVES; S. N. BASKOYLU; K. G. BATH. *Brown Univ., 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

- 9:00 UU15 **499.10** ● The effects of early life stress on central and peripheral immune development in male and female mice. M. E. GALLO\*; T. CAMPBELL; A. OLANIYAN; K. G. GALLO. *Brown Univ., Brown Univ., Brown Univ., Brown Univ.*
- 10:00 UU16 **499.11** ▲ Prenatal stress affects communication patterns and modulates corticosterone and pro-inflammatory responses to an adult social stressor in male and female mouse offspring. N. D. OSBORNE\*; T. CHARLTON; C. GROULX; K. CONNOR; M. AUDET. *Inst. of Mental Hlth. Res., Univ. of Ottawa, Carleton Univ., Carleton Univ., Univ. of Ottawa.*
- 11:00 UU17 **499.12** Maternal separation induces long-lasting changes in anxiety and protein expression in specific brain regions, but not conditioned place preference to methamphetamine. J. N. HAMDAN\*; S. SAUCEDO; G. A. LODOZA; J. A. SIERRA FONSECA; R. J. FLORES GARCIA; L. E. O'DELL; K. L. GOSSELINK. *Univ. of Texas at El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso Dept. of Biol. Sci.*
- 8:00 UU18 **499.13** Social isolation in early adolescence induces long-term changes in dopaminergic system and increases the susceptibility to food addiction in adulthood. C. LAMPERT\*; N. S. COUTO-PEREIRA; D. M. ARCEO; A. S. VIEIRA; E. GARCIA; D. A. VENDITE; R. M. M. DE ALMEIDA; M. E. CALCAGNOTTO; C. DALMAZ. *Univ. Federal do Rio Grande do Sul - UFRGS, Univ. Federal do Rio Grande do Sul - UFRGS.*
- 9:00 UU19 **499.14** Early life stress induces retinal microglia activation and retinal layer alterations across the lifespan of female rats. M. CHAVEZ\*; M. GRIGORUTA; J. SIERRA; K. L. GOSSELINK; A. MARTINEZ. *Univ. Autónoma De Ciudad Juarez, Univ. of Texas El Paso.*
- 10:00 UU20 **499.15** Long-term neurobiological effects of early-life challenges on cognition and stress responsivity in adult female rats. M. H. KENT\*; M. BROOKS; D. KOVALEV; S. SCAROLA; D. VAVRA; K. POKORNY; K. G. LAMBERT. *Univ. of Richmond, Randolph Macon Col., Univ. of Richmond.*
- 11:00 UU21 **499.16** Early life stress causes dopaminergic dysfunction in the basal ganglia motor circuit and related behaviours in adult and aged rats. S. MACCARI\*; S. MORLEY-FLETCHER; J. MARROCCO; A. ZUENA; D. BUCCI; A. PITTALUGA; M. CANNELLA; M. MOTOLESE; G. BATTAGLIA; J. MAIRESSE; H. BOUWALERH; G. VAN CAMP; R. VERHAEGHE; F. NICOLETTI. *Univ. of Lille, Univ. of Lille/ CNRS UMR8576 UGSF-Team Glyconeurobiology of Stress-Related Dis., IRCCS Neuromed, Harold and Margaret Milliken Hatch Lab. of Neuroendocrinology, The Rockefeller Univ., Dept. Physiol. and Pharmacology, Sapienza Univ. of Rome, Univ. of Genova, Dept. of Pharm., IRCCS Neuromed, Div. of Neonatology, Dept. of Pediatrics, Univ. of Geneva.*
- 8:00 UU22 **499.17** Consequences of a double hit of stress during the perinatal period and midlife in female rats: Mismatch or cumulative effect? G. VAN CAMP\*; H. BOUWALERH; J. MAIRESSE; E. GATTA; P. PALANZA; S. MACCARI; S. MORLEY-FLETCHER. *Univ. of Lille, Univ. of Lille/ CNRS UMR8576 UGSF-Team Glyconeurobiology of Stress-Related Dis., Div. of Neonatology, Dept. of Pediatrics, Univ. of Geneva, Ctr. of Alcohol Res. in Epigenetics, Psychiatric Institute, Dept. of Psychiatry, Col. of Medicine, Univ. of Illinois at Chicago, Unit of Neuroscience, Dept. di Medicina e Chirurgia, Univ. di Parma, IRCCS Neuromed.*
- 9:00 VV1 **499.18** Early life stress induces an impairment of glutamatergic transmission: Effects of pharmacological strategies at adulthood. S. MORLEY-FLETCHER\*; G. VAN CAMP; J. MARROCCO; J. MAIRESSE; E. GATTA; H. BOUWALERH; A. ZUENA; C. CLARISSE; Y. GUERARDEL; A. PITTALUGA; C. GABRIEL-GRACIA; E. MOCAER; S. BRETIN; F. NICOLETTI; S. MACCARI. *Univ. of Lille / CNRS UMR8576 UGSF-Team Glyconeurobiology of Stress-Related Dis., Harold and Margaret Milliken Hatch Lab. of Neuroendocrinology, The Rockefeller Univ., Div. of Neonatology, Dept. of Pediatrics, Univ. of Geneva, Ctr. of Alcohol Res. in Epigenetics, Psychiatric Institute, Dept. of Psychiatry, Col. of Medicine, Univ. of Illinois at Chicago, Univ. of Lille/ CNRS UMR8576 UGSF-Team Glyconeurobiology of Stress-Related Dis., Dept. Physiol. and Pharmacology, Sapienza Univ. of Rome, UMR8576/ CNRS UMR8576 UGSF-Team Structural Glycobiology of the Host-Pathogen Interactions, Univ. of Genova, Dept. of Pharm., Pôle Innovation Thérapeutique Neuropsychiatrie, Inst. de Recherches Servier, IRCCS Neuromed, Univ. of Lille/ CNRS UMR 8576 UGSF-Team Glyconeurobiology of Stress-Related Dis.*
- 10:00 VV2 **499.19** Effects of early life stress on AMPA receptor composition and cocaine conditioned place preference are sex-specific and driven by TNF. P. GANGULY\*; J. A. HONEYCUTT; J. ROWE; L. RYLL; C. DEMAESTRI; H. C. BRENHOUSE. *Northeastern Univ.*
- 11:00 VV3 **499.20** Altered corticolimbic connectivity in a rat model of early adversity: Evidence from fMRI and neuroanatomical tracing suggests sex-dependent effects of early experiences. J. A. HONEYCUTT\*; C. DEMAESTRI; X. CAI; R. MEHTA; P. P. KULKARNI; C. F. FERRIS; H. C. BRENHOUSE. *Northeastern Univ., Northeastern University, Ctr. for Translational NeuroImaging.*
- 8:00 VV4 **499.21** Early life stress leads to sex-specific alterations in the formation of perineuronal nets around parvalbumin-expressing interneurons in the developing rat prefrontal cortex. K. R. GILDAWIE\*; J. A. HONEYCUTT; H. C. BRENHOUSE. *Northeastern Univ.*
- 9:00 VV5 **499.22** The association between maternal alcohol consumption in pregnancy and offspring brain morphology: A population-based MRI study. T. SHARP\*; E. WALTON; C. RELTON; T. PAUS; L. ZUCCOLO. *Univ. of Bristol, Rotman Inst.*

**POSTER**

**500. Early-Life Stress: Molecular Mechanisms and Cellular Effects**

**Theme F: Integrative Physiology and Behavior**

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

- 8:00 VV6 **500.01** Transcriptional priming by enduring chromatin modifications after early life stress. C. J. PENA\*; Y. E. LOH; L. FARRELLY; B. GARCIA; I. MAZE; L. SHEN; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Univ. of Pennsylvania.*
- 9:00 VV7 **500.02** Unexpected transcriptional programs underlie enduring memory deficits after early-life adversity. J. L. BOLTON\*; A. SCHULMANN; M. M. CURRAN; L. REGEV; N. KAMEI; A. SINGH-TAYLOR; S. JIANG; J. MOLET; A. MORTAZAVI; T. Z. BARAM. *Univ. of California-Irvine, Univ. of California-Irvine.*

• 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 VV8 **500.03** Variations in maternal care influence the epigenomic and transcriptomic landscape of the rat dentate gyrus. W. I. DOYLE\*; X. WEN; C. L. KEOWN; J. DIORIO; M. MEANEY; E. A. MUKAMEL; T. ZHANG. *UCSD, McGill Univ., McGill Univ.*
- 11:00 VV9 **500.04** Intra-individual methylome signatures distinguish early-life experiences. N. KAMEI\*; S. M. JIANG; J. L. BOLTON; G. A. SANCHEZ; A. MORTAZAVI; T. Z. BARAM. *Univ. of California, Irvine, Univ. of California, Irvine.*
- 8:00 VV10 **500.05** Early life emotional neglect predicts shorter telomere length in adulthood. P. CINTORA\*; H. K. LAURENT. *Univ. of Illinois at Urbana Champaign, Univ. of Illinois at Urbana Champaign.*
- 9:00 VV11 **500.06** Transcriptome analysis of prenatal glucocorticoid exposed offspring demonstrates altered circadian rhythm signaling. S. THARMALINGAM; S. KHURANA; T. TAI\*. *Northern Ontario Sch. Med.*
- 10:00 VV12 **500.07** • Development and characterisation of mice carrying the humanised FKBP5 gene. V. NOLD; N. DENOIX; B. HENGERER; K. A. ALLERS\*. *Boehringer Ingelheim Pharma GmbH & Co. KG, Boehringer Ingelheim Pharma GmbH & Co. KG.*
- 11:00 VV13 **500.08** ▲ Epigenetic regulation and gene expression analysis of glucocorticoid receptor exon 1f and fkbp5 in adolescent suicide. H. S. RIZAVI\*; D. R. GRAYSON; H. ZHANG; G. PANDEY. *Univ. Illinois Chicago.*
- 8:00 VV14 **500.09** Prevention of aberrant DNA methylation induced by maternal maltreatment in early life. N. PHILLIPS\*; T. S. DOHERTY; T. L. ROTH. *Univ. of Delaware, Univ. of Delaware, Univ. of Delaware.*
- 9:00 VV15 **500.10** Child abuse, neuroinflammation, and blood-brain barrier integrity: A preliminary postmortem investigation. M. WAKID\*; A. TANTI; P. LUTZ; C. NAGY; D. ALMEIDA; M. DAVOLI; G. TURECKI; N. MECHAWAR. *Douglas Mental Hlth. Univ. Inst., Inst. Neurosciences Cellulaires Intégratives.*
- 10:00 VV16 **500.11** Epigenetic programming of chromatin accessibility by stress during puberty. K. E. MORRISON\*; T. L. BALE. *Univ. of Maryland Sch. of Med.*
- 11:00 VV17 **500.12** Sperm RNA payload: Extracellular vesicle delivery of stress to the next generation of mice and men. C. P. MORGAN\*; J. CHAN; D. S. BERGER; N. V. BHANU; B. A. GARCIA; C. N. EPPERSON; T. L. BALE. *Univ. of Maryland Sch. of Med., Univ. of Pennsylvania Perelman Sch. of Med.*
- 8:00 VV18 **500.13** Epididymal extracellular vesicles signal paternal stress programming of sperm and offspring neurodevelopment. J. CHAN\*; B. M. NUGENT; K. E. MORRISON; E. JASAREVIC; N. V. BHANU; B. A. GARCIA; T. L. BALE. *Univ. of Pennsylvania, Univ. of Maryland.*
- 9:00 VV19 **500.14** The pregnancy gut microbiome as a translational biomarker of maternal adversity and offspring immune programming. E. JAŠAREVIC\*; L. HANTSOO; C. HOWARD; C. N. EPPERSON; T. WEINKOPFF; T. L. BALE. *Univ. of Maryland Sch. of Med., Univ. of Pennsylvania, Univ. of Maryland Sch. of Med., Univ. of Pennsylvania Perelman Sch. of Med., Univ. of Arkansas for Med. Sci., Univ. of Maryland Baltimore.*
- 10:00 VV20 **500.15** Maternal stress and brain development: Can stress in mice model the stress-induced racial disparity in infant health? Y. M. CISSE\*; B. M. NUGENT; J. CHAN; N. BHANU; B. A. GARCIA; T. L. BALE. *Univ. of Maryland Sch. of Med., Univ. of Pennsylvania Perelman Sch. of Med., Univ. of Pennsylvania Perelman Sch. of Med.*
- 11:00 VV21 **500.16** Withdrawn
- 8:00 VV22 **500.17** A functional role of somatic retrotransposition in schizophrenia-associated sensory motor gating deficits. J. A. ERWIN\*; A. SARKAR; A. PAQUOLA; E. TIETZE; M. WANG; I. GALLINA; J. HERDY; S. PARYLAK; F. H. GAGE. *The Lieber Inst. For Brain Develop., Salk Inst.*
- 9:00 WW1 **500.18** • Early life stress accelerates amygdala development while delaying prefrontal connectivity. G. MANZANO-NIEVES\*; M. BRAVO; A. JOHNSEN; H. SHIN; R. A. APONTE-RIVERA; K. G. BATH. *Brown Univ., Brown Univ., Brown University, Neurosci., Brown Univ., Brown Univ.*
- 10:00 WW2 **500.19** The impact of chronic early life social isolation on receptor expression and receptor tyrosine kinase transactivation in the hippocampus and prefrontal cortex. N. GONDORA; C. POPLE; M. ROBINSON; J. G. MIELKE; M. A. BEAZELY\*. *Univ. of Waterloo, Univ. of Waterloo, Univ. of Waterloo, Univ. of Waterloo, Sch. of Pharm.*

## POSTER

### 501. Water and Salt Balance and Thirst

#### Theme F: Integrative Physiology and Behavior

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

- 8:00 WW3 **501.01** Circuitry for water seeking motivation in *Drosophila*. D. LANDAYAN; J. ZHOU; F. W. WOLF\*. *UC Merced, UC Merced.*
- 9:00 WW4 **501.02** A neural circuit signaling water intake and quenching thirst. S. KIM\*; D. KIM; G. HEO; J. SOH; M. KIM; H. KIM; S. JUNG; M. LEE; J. PARK; H. PARK. *Seoul Natl. Univ.*
- 10:00 WW5 **501.03** Modulation of drinking behavior through central amygdala GABAergic neurons. J. FU\*; C. SHEN; X. YU; X. LI. *Zhejiang Univ. Sch. of Med.*
- 11:00 WW6 **501.04** Carbonic anhydrase II deletion confers salt appetite in genetically engineered mice. M. VARASTEHEKIA; S. BARONE; K. ZAHEDI; M. SOLEIMANI\*. *Univ. of Cincinnati Med. Ctr., VA.*
- 8:00 WW7 **501.05** Estradiol regulation of fluid intake following 24 hour water deprivation. J. A. HOWELL\*; J. SANTOLLO. *Univ. of Kentucky.*
- 9:00 WW8 **501.06** Disinhibition of sodium appetite by Htr2c in the lateral parabrachial nucleus. S. PARK\*; C. LIU; K. W. WILLIAMS; J. SOHN. *Korea Advanced Inst. of Sci. and Technol., Univ. of Texas Southwestern, Univ. of Texas Southwestern.*
- 10:00 WW9 **501.07** Neural circuits underlying sodium homeostasis. S. LEE\*; V. AUGUSTINE; Y. ZHAO; H. EBISU; Y. OKA. *Caltech.*
- 11:00 WW10 **501.08** Functional annotation of molecular cell types in the mammalian thirst system. A. POOL\*; Y. OKA. *Caltech, Caltech.*
- 8:00 WW11 **501.09** Central angiotensin II induces sucrose intake dissociated from water intake. M. H. PAES\*; L. M. CARDOSO; L. B. OLIVEIRA. *Univ. Federal de Ouro Preto, Univ. Federal de Ouro Preto, Fed. Univ. Ouro Preto - UFOP.*

- 9:00 WW12 **501.10** Neurons within the subfornical organ that express angiotensin type 1a receptors stimulate food consumption and hypothalamic-pituitary-adrenal axis activation. A. R. ALLEYNE\*; K. CAHILL; Y. TAN; A. D. DE KLOET; E. G. KRAUSE. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Col. of Med., Univ. of Florida.*
- 10:00 WW13 **501.11** Renal expression of aquaporin 2 in the offspring of rats that consumed sugared water during pregnancy and lactation. V. VELAZQUEZ\*; L. NICOLÁS; E. CUEVAS; A. ORTEGA; F. CASTELÁN; J. RODRÍGUEZ ANTOLÍN. *Univ. Autonoma De Tlaxcala, Univ. Autónoma de Tlaxcala, Cinvestav-IPN, Univ. Nacional Autonoma De Mexico.*
- 11:00 WW14 **501.12** Pressor and dipsogenic responses induced by central angiotensin II in rats treated with high fat diet. J. M. SÁ; R. M. BARBOSA; L. A. DE LUCA, Jr.; J. V. MENANI; E. COLOMBARI; D. S. COLOMBARI\*. *UNESP Sch. of Dent.*
- 8:00 XX1 **501.13** ▲ Involvement of the medial septal area in the control of sodium intake. S. P. BARBOSA; L. A. DE LUCA, Jr; P. M. DE PAULA; D. S. A. COLOMBARI; E. COLOMBARI; C. A. F. ANDRADE; D. B. ZOCCAL; J. MENANI\*. *UNESP.*
- 9:00 XX2 **501.14** Central MAPK-Erk1/2 inhibition reduces sodium appetite in spontaneously hypertensive rats. G. M. F. ANDRADE-FRANZÉ; E. D. PEREIRA, Jr.; L. A. DE LUCA, Jr.; J. V. MENANI; C. A. ANDRADE\*. *Sch. of Dent. - FOAr - UNESP.*
- 10:00 XX3 **501.15** Perinatal exposure of the rat to high levels of NaCl via mother induces salt sensitivity in later life that depends on enhanced vasopressin secretion. W. JUNG; Y. KIM; S. LEE; X. JIN; H. KANG; Y. I. KIM\*. *Dept. of Physiology, Korea Univ. Col. of Med.*
- 11:00 XX4 **501.16** Aldosterone-sensitive HSD2 neurons in the nucleus of the solitary tract: Gene expression and axonal projections in mice. S. GASPARINI\*; J. M. RESCH; S. V. NARAYAN; L. PELTEKIAN; G. N. IVERSON; J. C. GEERLING. *Univ. of Iowa, Beth Israel Deaconess Med. Ctr.*
- 11:00 XX8 **502.04** Habenula is necessary to promote expression of fear memory when it competes against a safety memory. G. VELAZQUEZ-HERNANDEZ\*; F. SOTRES-BAYON. *Inst. of Cellular Physiology, UNAM.*
- 8:00 XX9 **502.05** Approach/avoidance conflict training reveals distinct behavioral phenotypes for conflict resolution. H. BRAVO-RIVERA\*; P. A. RUBIO-ARZOLA; A. J. CABAN-MURILLO; G. J. QUIRK. *Univ. of Puerto Rico Sch. of Med., Univ. of Puerto Rico Sch. of Med.*
- 9:00 XX10 **502.06** The role of orbital/insular outputs in a rodent model of persistent avoidance. F. J. MARTINEZ\*; J. E. PÉREZ-TORRES; C. I. HUERTAS-PÉREZ; M. J. SÁNCHEZ-NAVARRO; C. D. VELÁZQUEZ-DÍAZ; G. J. QUIRK. *Univ. of Puerto Rico, Med. Sci. Campus.*
- 10:00 XX11 **502.07** Interrogating the projections of rostral prelimbic cortex that drive active avoidance. M. M. DIEHL\*; J. IRAVEDRA-GARCIA; F. N. GONZALEZ-DIAZ; G. J. QUIRK. *Univ. of Puerto Rico, Sch. of Med., Univ. Puerto Rico Sch. of Med.*
- 11:00 XX12 **502.08** Neural correlates of risky decision-making in rats encountering a 'predatory' threat. E. KIM\*; H. DING; M. KONG; J. J. KIM. *Univ. of Washington, Univ. of Washington, Univ. of Washington.*
- 8:00 XX13 **502.09** The amygdala influences spatial information processing in the hippocampus in risky foraging situations. M. KONG\*; H. DING; E. KIM; J. J. KIM. *Univ. of Washington, Univ. of Washington, Univ. of Washington.*
- 9:00 XX14 **502.10** The role of neonatal gonadal hormones in organizing juvenile and adult contextual fear conditioning. L. M. COLON\*; D. G. ZULOAGA; A. M. POULOS. *Univ. At Albany State Univ. of New York, Univ. at Albany, Univ. At Albany, SUNY.*
- 10:00 YY1 **502.11** Organization and functional recruitment of neuronal populations in rat prefrontal cortex that project to the basolateral amygdalar nuclei: A combined retrograde tracing and Fos activation study of context fear conditioning across development. A. J. SANTARELLI\*; A. M. KHAN; A. M. POULOS. *State Univ. of New York, Univ. at Albany, Univ. of Texas at El Paso, Univ. at Albany, SUNY.*
- 11:00 YY2 **502.12** A neuroanatomical and functional characterization of bidirectional trans-hemispheric projections between the left and right BLA complexes in the rat. N. ODYNOCKI\*; A. J. SANTARELLI; A. M. POULOS. *Univ. At Albany State Univ. of New York.*
- 8:00 DP12/YY3 **502.13** (Dynamic Poster) Synaptic rearrangement in the zebrafish pallium after fear learning. W. DEMPSEY\*; T. V. TRUONG; Z. DU; K. CZAJKOWSKI; G. G. GROSS; A. ANDREEV; C. KESSELMAN; S. E. FRASER; D. B. ARNOLD. *USC, USC, USC, USC, USC, Translational Imaging Ctr., USC, USC.*
- 9:00 YY4 **502.14** ▲ Involvement of caffeine cAMP signaling on neural activity and aggression in crayfish, *Procambarus clarkii*. C. C. HORCHOS\*; R. F. WALDECK. *The Univ. of Scranton, Univ. of Scranton.*
- 10:00 YY5 **502.15** Supramammillary nucleus modulates dentate gyrus activity and hippocampus-dependent behavior. N. NOCERA\*; A. HENNINGS; K. BONEFAS; K. VASUDEVAN; B. ZEMELMAN; M. R. DREW. *Univ. of Texas At Austin, Univ. of Michigan, Univ. of Texas At Austin, Univ. of Texas At Austin.*

**POSTER**

**502. Fear and Aversive Learning and Memory: Neural Circuitry I**

**Theme G: Motivation and Emotion**

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

- 8:00 XX5 **502.01** Prelimbic prefrontal cortex is necessary to face threats during a motivational conflict guided by learned, but not innate, stimuli. E. ILLESCAS-HUERTA; L. RAMÍREZ-LUGO\*; R. ORDOÑEZ-SIERRA; F. SOTRES-BAYÓN. *Inst. of Cell. Physiology, UNAM.*
- 9:00 XX6 **502.02** Opposing roles of the anterior and posterior ventral striatum in choice behavior guided by taste aversion memory. A. P. PEÑAS-RINCÓN; L. RAMÍREZ-LUGO; F. SOTRES-BAYON\*. *Inst. of Cell. Physiology, UNAM.*
- 10:00 XX7 **502.03** Basolateral amygdala, but not the orbitofrontal cortex, is necessary for motivational conflict responses guided by previous experiences. A. HERNANDEZ-JARAMILLO\*; F. SOTRES-BAYON. *Inst. of Cell. Physiology, 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

11:00 YY6 **502.16** Insular cortex processes aversive information and is crucial for threat learning. E. BERRET\*; M. KINTSCHER; S. PALCHAUDHURI; W. TANG; O. KOCHUBEY; R. SCHNEGGENBURGER. *Ecole Polytechnique Fédérale de Lausanne (EPFL)*.

## POSTER

### 503. Fear and Aversive Learning and Memory: Neural Circuitry II

#### Theme G: Motivation and Emotion

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

- 8:00 YY7 **503.01** Amygdala GABAergic inputs to nucleus accumbens modulate fear memory. Y. ZHU\*; Y. ZHANG; S. XIE; C. SHEN; J. FU; X. YU; X. LI. *Zhejiang Univ. Sch. of Med.*
- 9:00 YY8 **503.02** Cell type specific control of plasticity in the basolateral amygdala via feedforward inhibition. E. M. GUTHMAN\*; M. MA; S. M. BACA; D. RESTREPO; M. M. HUNTSMAN. *Univ. of Colorado | Anschutz Med. Campus, Univ. of Colorado | Anschutz Med. Campus, Univ. of Colorado | Anschutz Med. Campus.*
- 10:00 YY9 **503.03** Amygdala CRF promotes fear learning with a touch of periaqueductal gray. M. B. POMRENZE\*; R. MAIYA; S. M. GIOVANETTI; G. A. DILLY; A. G. GORDON; Y. SHAH; M. MARINELLI; R. O. MESSING. *Univ. of Texas at Austin, The Univ. of Texas at Austin, Dell Med. School, The Univ. of Texas at Austin.*
- 11:00 YY10 **503.04** Learning-related plasticity of dendritic inhibition in neocortical layer 1. E. ABS\*; R. B. POORTHUIS; K. MUHAMMAD; B. PARDI; L. ENKE; I. SPIEGEL; J. J. LETZKUS. *Max Planck Inst. for Brain Res., Weizmann Inst. of Sci.*
- 8:00 DP11/YY11 **503.05** • (Dynamic Poster) Amygdala neuronal ensembles dynamically encode behavioral states. J. GRÜNDEMANN\*; Y. BITTERMAN; T. LU; S. KRABBE; B. F. GREWE; M. J. SCHNITZER; A. LUTHI. *Friedrich Miescher Inst., Univ. of Basel, ETH Zurich, Stanford Univ. Dept. of Biol.*
- 9:00 YY12 **503.06** Low dimensional Amygdala network dynamics generalize across behavioral paradigms. Y. BITTERMAN\*; J. GRÜNDEMANN; J. COURTIN; S. KRABBE; M. FUSTIÑANA; A. LUTHI. *Friedrich Miescher Inst. For Biomed. Resear, Univ. of Basel.*
- 10:00 YY13 **503.07** Neuronal correlates of social interactions in amygdala circuits. M. FUSTIÑANA\*; Y. BITTERMAN; A. LUTHI. *Friedrich Miescher Inst. For Biomed. Res.*
- 11:00 YY14 **503.08** Changes in limbic circuitry underlying fear related behaviors following TBI: Small and large, translational animal models. C. D. ADAM\*; M. D. SERGISON; C. COTTONE; N. MAHESHWARI; A. ULYANOVA; H. CHEN; J. A. WOLF. *Univ. of Pennsylvania, Corporal Michael J. Crescenz VA Med. Ctr.*
- 8:00 YY15 **503.09** Influence of nicotine exposure on the development profile of cholinergic circuits engaged in fear/threat memory. J. A. WILKING\*; D. A. TALMAGE; L. W. ROLE. *Stony Brook Univ., Stony Brook Univ., Stony Brook Univ.*

9:00 YY16 **503.10** Contextual novelty encoded by the dorsal hippocampus regulates synaptic destabilization and memory lability in the amygdala. N. FERRARA; S. E. PULLINS; M. SHIN; F. J. HELMSTETTER\*. *Univ. of Wisconsin-Milwaukee, Univ. of Wisconsin - Milwaukee, Univ. of Wisconsin-Milwaukee, Univ. of Wisconsin Milwaukee Dept. of Psychology.*

- 10:00 YY17 **503.11** A hypothalamus-habenula circuit controls aversion. I. LAZARIDIS\*; O. TZORTZI; M. WEGLAGE; A. MÁRTIN; Y. XUAN; M. PARENT; Y. JOHANSSON; L. FENNO; J. FUZIK; D. FÜRTH; C. RAMAKRISHNAN; G. SILBERBERG; K. DEISSEROTH; M. CARLÉN; K. MELETIS. *Karolinska Institutet, Stanford Univ., Stanford Univ.*
- 11:00 YY18 **503.12** Comparisons of vIPAG cell body and midline/intralaminar thalamus terminal inhibition in positive prediction error signaling. R. A. ZACHARIAS\*; S. PARK; R. SUTHARD; T. PERISON; M. A. MCDANNALD. *Boston Col.*
- 8:00 YY19 **503.13** Neural correlates of contextual fear expression in sign- and goal-trackers. C. J. FITZPATRICK\*; J. D. MORROW. *Univ. of Michigan.*
- 9:00 YY20 **503.14** Aversive learning from periaqueductal gray stimulation: Glutamatergic, endocannabinoid and vanilloid modulation. A. P. CAROBREZ\*; F. BACK. *Univ. Federal de Santa Catarina.*
- 10:00 YY21 **503.15** Ventral Pallidum neurons control aversive learning. T. MACPHERSON\*; H. MIZOGUCHI; A. YAMANAKA; T. HIKIDA. *Osaka Univ., Nagoya Univ.*
- 11:00 YY22 **503.16** Direct and indirect connections from the insular cortex into the parabrachial nucleus in the rat. M. BARBIER; P. J. RISOLD\*. *Univ. Franche-Comte.*
- 8:00 YY23 **503.17** Inhibition of thalamic terminals in the amygdala may facilitate extinction learning. N. FERRARA\*; P. K. CULLEN; S. E. PULLINS; M. W. GRUTZA; F. J. HELMSTETTER. *Univ. of Wisconsin--Milwaukee.*
- 9:00 YY24 **503.18** Nucleus-specific interrogation of the mouse thalamus in aversive cue processing. K. KOCSIS\*; A. MAGYAR; B. BARSY; Á. BABICZKY; V. KANTI; L. TRUKA; M. SZABÓ-HÁRY; F. JÁRTÓ; M. VÁNCSONDI; A. BERÉNYI; F. MÁTYÁS. *Res. Ctr. For Natural Sciences, HAS, Pázmány Péter Catholic Univ., Semmelweis Univ., Univ. of Szeged, Univ. of Vet. Med.*
- 10:00 ZZ1 **503.19** ▲ Activation of nucleus reuniens is necessary for acquisition of trace fear conditioning. Y. LIN\*; C. CHANG. *Natl. Tsing Hua Univ.*
- 11:00 ZZ2 **503.20** Midline thalamic nuclei in fear renewal. C. SHIH\*; R. CHIOU; C. CHANG. *Natl. Tsing Hua Univ., Taipei Med. Univ.*
- 8:00 ZZ3 **503.21** Functional lateralization of lateral orbitofrontal cortex on acquisition and expression of fear extinction in rats. Y. CHANG\*; C. CHANG. *Natl. Tsing Hua Univ.*
- 9:00 ZZ4 **503.22** ▲ Activation of medial orbital frontal cortex interferes with fear extinction acquisition and fear expression in rats. H. HSIEH\*; C. CHANG. *Natl. Tsing Hua Univ., Natl. Tsing Hua Univ.*
- 10:00 ZZ5 **503.23** Collateral projections from lateral orbitofrontal cortex to nucleus accumbens and basolateral amygdala. C. LAI\*; C. CHANG. *Natl. Tsing Hua Univ., Inst. of Systems Neuroscience, Natl. Tsing Hua Univ.*

## POSTER

### 504. Reward Neuropharmacology

#### Theme G: Motivation and Emotion

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

- 8:00 ZZ6 **504.01** Sex differences in sucrose reinforcement in Long-Evans rats. J. W. GRIMM\*; K. NORTH; M. HOPKINS; K. JIGANTI; P. JOHNSON; A. MCCOY; J. SULC; D. HOVANDER; D. MACDOUGALL; F. SAUTER. *Western Washington Univ.*
- 9:00 ZZ7 **504.02** Serotonin modulates impulse control and motivated action. H. B. WEINBERG-WOLF\*; N. A. FAGAN; O. DAL MONTE; S. W. C. CHANG. *Yale Univ., Yale Univ.*
- 10:00 ZZ8 **504.03** Effects of modafinil on impulsivity, hyperactivity and attention in prepubertal male wistar rats prenatally treated with alcohol. D. M. GOMEZ-ORDOÑEZ\*; J. JUAREZ. *INSTITUTO DE NEUROCIENCIAS, Univ. of Guadalajara.*
- 11:00 ZZ9 **504.04** Exendin-4 dose dependently attenuates responding to reward predictive cues in rats. K. T. WAKABAYASHI\*; A. N. BAINDUR; K. CHEN; M. FEJA; K. BERNOSKY-SMITH; C. E. BASS. *Univ. at Buffalo, SUNY, Jacobs Sch. of Med. and Biomed. Sciences, Univ. at Buffalo, D'Youville Col.*
- 8:00 ZZ10 **504.05** Influence of physical activity and sex on nucleus accumbens opioid mediated feeding. J. R. LEE\*; M. A. TAPIA; V. N. WEISE; J. R. NELSON; A. M. TAMASI; K. R. FODOR; K. L. MASON; L. L. RIVERA; F. W. BOOTH; M. J. WILL. *Univ. of Missouri, Univ. of Missouri, Univ. of Missouri, Univ. of Missouri.*
- 9:00 ZZ11 **504.06** Feeding elicited by mu-opioid receptor stimulation in the prefrontal cortex and nucleus accumbens: An exploration of sex differences and estradiol regulation. B. A. BALDO\*; J. DIAZ; K. DUNAWAY; K. SADEGHIAN; A. AUGER. *Univ. of Wisconsin Madison, Univ. of Wisconsin Madison, Univ. of Wisconsin Madison, Univ. of Wisconsin Madison.*
- 10:00 ZZ12 **504.07** ▲ Examining the impact of orexin A and GLP-1 receptor manipulation on feeding induced by nucleus accumbens  $\mu$ -opioid receptor stimulation of the rat. Z. PIERCE-MESSICK\*; C. DO; M. C. NIGRO; R. VACATRICERRI; W. E. PRATT. *Wake Forest Univ., Wake Forest Univ.*
- 11:00 ZZ13 **504.08** Inactivation of the lateral habenula increases locomotion and differentially impacts feeding on palatable or pabulum diets. H. N. CARLSON\*; B. CHRISTENSEN; K. COWIE; W. E. PRATT. *Wake Forest Univ., Wake Forest Univ.*
- 8:00 ZZ14 **504.09** Stimulation of nucleus accumbens mu-, delta-, or kappa-opioid receptors differentially affect effort-based choice in the rat. W. E. PRATT\*; H. N. CARLSON; C. MURPHY. *Wake Forest Univ., Wake Forest Univ.*
- 9:00 ZZ15 **504.10** Elucidating the interaction between glucocorticoids and dopamine in an animal model of individual variation in cue-motivated behaviors. S. A. LOPEZ\*; A. VALENTA; P. CAMPUS; R. T. KENNEDY; S. B. FLAGEL. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan Dept. of Psychiatry, Univ. of Michigan.*

- 10:00 ZZ16 **504.11** Elucidating the role of cortico-thalamic-striatal circuitry in cue-reward learning. P. CAMPUS\*; Y. KIM; B. N. KUHN; S. A. LOPEZ; I. RIVERO-COVELO; S. M. FERGUSON; M. SARTER; S. B. FLAGEL. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Washington, Univ. of Michigan.*
- 11:00 ZZ17 **504.12** The effects of chemogenetic inhibition of a “top-down” cortico-thalamic circuit on individual variation in cue- and cocaine-induced drug-seeking behavior. B. N. KUHN\*; P. CAMPUS; M. S. KLUMPNER; S. B. FLAGEL. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

## POSTER

### 505. Post-Traumatic Stress Disorder: Human Studies

#### Theme G: Motivation and Emotion

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

- 8:00 ZZ18 **505.01** Instructed extinction learning: Neurocircuitry of additive effects of instruction on emotional learning of safety. L. R. GRASSER\*; I. LIBERZON; S. MADABOOSI; A. CHOWDRY; A. JAVANBAKHT. *Wayne State Univ. Sch. of Med., Univ. of Michigan Hlth. Syst., Univ. of Michigan, Wayne State Univ.*
- 9:00 ZZ19 **505.02** Resting-state functional connectivity is associated with treatment outcome in PTSD patients. J. SHEYNIN\*; E. R. DUVAL; A. P. KING; M. ANGSTADT; L. K. PHAN; M. STEIN; N. M. SIMON; S. A. M. RAUCH; I. LIBERZON. *Veterans Affairs Ann Arbor Healthcare Syst., Dept. of Psychiatry, Univ. of Michigan, Univ. of Illinois at Chicago, Jesse Brown VA Med. Ctr., VA San Diego Healthcare Syst., Univ. of California, Massachusetts Gen. Hosp., New York Univ. Med. Sch., Atlanta VA Med. Ctr., Emory Univ. Sch. of Med.*
- 10:00 ZZ20 **505.03** Divergent astrocyte gene expression changes in post-mortem autism and PTSD cortex. K. A. YOUNG\*; K. A. KUSTER; D. L. CORCORAN; D. A. CRUZ; D. E. WILLIAMSON. *CTVHCS, Texas A&M Col. of Med., Baylor Scott & White, Duke, Duke Univ., Durham VA Med. Ctr.*
- 11:00 ZZ21 **505.04** Increased PTSD severity reduces the discriminability of neutral compared to fearful face stimuli in a pharmacological fMRI study of working memory. A. J. WESTPHAL\*; N. RODRIGUEZ; M. BALLARD; T. VEGA; A. S. KAYSER. *Univ. of California, San Francisco, U.S. Dept. of Veterans Affairs, Univ. of California, Berkeley.*
- 8:00 ZZ22 **505.05** Prefrontal activation during cognitive control of emotional processing in posttraumatic stress disorder is influenced by hazardous alcohol use in veterans. G. L. FORSTER\*; R. SIMONS; J. SIMONS; L. BAUGH; V. MAGNOTTA. *Univ. of Otago, Univ. of South Dakota, Univ. of South Dakota, Univ. of Iowa.*
- 9:00 ZZ23 **505.06** Neuroactive steroid levels in the orbital frontal cortex of subjects with posttraumatic stress disorder and controls. D. A. CRUZ\*; K. D. MCGAUGHEY; G. PARKE; L. J. SHAMPINE; J. KILTS; J. NAYLOR; C. E. MARX; D. E. WILLIAMSON. *Duke Univ., Durham VA Med. Ctr.*
- 10:00 ZZ24 **505.07** Using EEG neurofeedback to decrease medial frontal theta activity in patients with PTSD. A. M. RIVAS; M. GRAMS; J. VALDEZ; J. A. PINEDA; I. SHU\*. *Univ. of California San Diego, Univ. of California San Diego.*

Tues. 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 ZZ25 **505.08** Altered maturation of emotion-regulation brain circuitry in young children with a history of Post-Traumatic Stress Disorder. A. M. MOYETT\*; C. L. FALES; A. D. BARBER; P. DEROSSE; A. MALHOTRA; K. H. KARLSGODT. *Div. of Psychiatry Research, Zucker Hillside H, Div. of Psychiatry Research, Zucker Hillside Hospital, Div. of Northwell Hlth. Syst., Dept. of Psychiatry and Biobehavioral Sciences, Univ. of California.*
- 8:00 ZZ26 **505.09** Chronic cannabis use effects on the extinction in post traumatic stress disorder. B. CUCCURAZZU\*; D. STOUT; D. GLENN; D. ACHESON; V. B. RISBROUGH. *Univ. of California San Diego, Ctr. of Excellence for Stress and Mental Health, VA San Diego Healthcare Syst., Univ. of California Los Angeles.*
- 9:00 AAA1 **505.10** ▲ Elevated cortisol and alpha-amylase levels in behaviorally inhibited individuals exposed to physiologic stress: Implications for enhanced associative plasticity with anxiety vulnerability. H. LATHAM; J. R. MILLER; P. F. MARTINO; D. P. MILLER; R. J. SERVATIUS; D. R. COOK-SNYDER\*. *Carthage Col., Carthage Col., Syracuse VA Med. Ctr.*
- 10:00 AAA2 **505.11** Using enhanced CO<sub>2</sub> (7%) exposure to examine avoidance learning reveals differences based on sex and behavioral inhibition. D. P. MILLER\*; K. D. MUELLER; C. A. GRANT; P. F. MARTINO; J. R. MILLER; D. R. COOK-SNYDER; R. J. SERVATIUS. *Carthage Col., Carthage Col., Syracuse VA Med. Ctr.*
- 11:00 AAA3 **505.12** Alterations in acoustic startle response (asr) support a two hit hypothesis of behavioral inhibition and female gender for anxiety disorders. T. ALLEN\*; M. M. GARCIA. *Univ. of Northern Colorado.*

## POSTER

### 506. Drugs of Abuse and Addiction: Memory and Relapse

#### Theme G: Motivation and Emotion

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

- 8:00 AAA4 **506.01** Cocaine exposure results in persisting impairment of hippocampal long-term potentiation and reduced performance in a spatial working memory task in C57BL/6J mice. C. PRESTON\*; K. A. BROWN; J. J. WAGNER. *Univ. of Georgia, Univ. of Georgia, Univ. of Georgia.*
- 9:00 AAA5 **506.02** DNMT3a in the hippocampal CA1 is critical for the acquisition of morphine self-administration in rats. J. ZHANG\*; F. JIANG; W. ZHENG; N. SUI. *Inst. of Psychology, Chinese Acad. of Scienc.*
- 10:00 AAA6 **506.03** Remembering addictive behaviours: Effect of cocaine and nicotine conditioned context on memory formation. M. WOLTER\*; E. HUFF; B. D. WINTERS; F. LERI. *Univ. of Guelph.*
- 11:00 AAA7 **506.04** Hippocampal-accumbal BDNF and extinction of morphine place preference. M. E. LLORET\*; J. L. BARRETO-ESTRADA; F. J. MARTINEZ-RIVERA; R. N. AYALA-PAGAN. *Univ. of Puerto Rico Med. Sci. Campus, Univ. of Puerto Rico Med. Sci. Campus, Univ. of Puerto Rico Rio Piedras Campus.*
- 8:00 AAA8 **506.05** The infralimbic prefrontal cortex is involved in the blocking effect of memory retrieval-extinction procedure on methamphetamine seeking. Y. CHEN\*; L. ZHANG; J. SHI; Y. XUE; L. LU. *Peking Univ., Natl. Inst. on Drug Dependence, Peking Univ., Peking Univ. Sixth Hospital/ Peking Univ. Inst. of Mental Health, Peking Univ.*
- 9:00 AAA9 **506.06** Methamphetamine associated memories independently go through reconsolidation, rendering the disruptive effects of memantine on drug-paired memories to be selective. M. HANNA\*; A. OSBOURNE; T. TADROS; M. JESKE; T. UNDERWOOD. *Vanguard Univ.*
- 10:00 AAA10 **506.07** Escalating voluntary oral methamphetamine impairs hippocampal-dependent spatial memory and reduces synaptic stabilization through GSK3 $\beta$  signaling in females but not males. N. MEMOS\*; J. A. AVILA; T. ANDRZEJEWSKI; F. TAVERNIER; O. SIDDIQUE; V. LUINE; P. A. SERRANO. *Hunter College, CUNY, The Grad. Center, CUNY.*
- 11:00 AAA11 **506.08** Activity changes and Perineuronal nets characterization around cerebellar Golgi cells in cocaine-induced preference memory. J. GUARQUE-CHABRERA\*; I. GIL-MIRAVET; A. SANCHEZ-HERNANDEZ; M. MIQUEL. *Univ. Jaume I, Univ. Jaume I, Univeritat Jaume I.*
- 8:00 AAA12 **506.09** Relapse-suppression by drug omission cues: Anti-relapse neurons in the infralimbic cortex. G. DE NESS; A. LAQUE; G. E. WAGNER; H. NEDELESCU; A. CARROLL; J. WANG; S. ZHANG; T. KERR; D. WATRY; E. KOYA; B. T. HOPE; G. I. ELMER; F. WEISS; N. SUTO\*. *The Scripps Res. Inst., Univ. of Sussex, NIDA/IRP/NIH, Maryland Psychiatric Res. Ctr., The Scripps Res. Inst., Scripps Res. Inst. Dept. of Mol. and Exptl. Med.*
- 9:00 AAA13 **506.10** ▲ Extended access to methamphetamine self-administration-induced greater propensity for relapse in male Long Evans rats is predicted by neuroadaptations in the dentate gyrus. J. TSENG; M. J. FANNON; M. J. TERRANOVA; D. PUROHIT; L. W. QUACH; K. K. KHARIDA; R. OLIVER; C. D. MANDYAM; Y. TAKASHIMA\*. *UCSD, VA San Diego Healthcare Syst.*
- 10:00 AAA14 **506.11** The effect of nonmuscle myosin II inhibition on polydrug memories and reconsolidation. M. HAFENBREIDEL\*; S. B. BRIGGS; E. J. YOUNG; G. RUMBAUGH; C. A. MILLER. *The Scripps Res. Inst., The Scripps Res. Inst.*
- 11:00 AAA15 **506.12** Cue-elicited approach is associated with sensitivity to D1- and D2-like receptor agonists. J. A. TRIPI\*; P. J. MEYER. *Univ. at Buffalo Dept. of Psychology.*
- 8:00 AAA16 **506.13** ▲ mRNA expression of immediate early genes in the rat hippocampus during compulsive methamphetamine self-administration in the presence of punishment. S. JAYANTHI\*; J. A. HERNANDEZ; L. CONTU; M. T. MCCOY; B. LADENHEIM; M. JOB; J. L. CADET. *NIDA-IRP, Natl. Inst. on Drug Abuse, NIH.*
- 9:00 AAA17 **506.14** Escalating voluntary oral methamphetamine administration induces resilience in male mice through GSK3 $\beta$  signaling. A. ASLAN\*; J. A. AVILA; T. ANDRZEJEWSKI; F. TAVERNIER; A. TANG; P. A. SERRANO. *Hunter College, City Univ. of New York, The Grad. Ctr. of the City Univ. of New York.*
- 10:00 AAA18 **506.15** HDAC3 regulation of cocaine-induced plasticity and cocaine-associated learning in nucleus accumbens cell subtypes. R. R. CAMPBELL\*; E. A. KRAMAR; A. J. LOPEZ; D. P. MATHEOS; T. J. HEMSTEDT; M. A. WOOD. *Univ. of California, Irvine, Univ. of California, Irvine.*



- 11:00 AAA19 **506.16** CREST in the nucleus accumbens core regulates cocaine-associated memory formation and synaptic plasticity. Y. ALAGHBAND\*; E. KRAMAR; J. L. KWAPIS; E. S. KIM; T. J. HEMSTEDT; A. J. LOPEZ; A. O. WHITE; A. AL-KACHAK; O. V. AIMIUWU; K. K. BODINAYAKE; N. C. OPARAUGO; J. HAN; K. M. LATTAL; M. A. WOOD. *Univ. of California Irvine Dept. of Neurobio. and Behavior, Oregon Hlth. and Sci. Univ., Mount Holyoke, Icahn Sch. of Med. at Mount Sinai, Columbia Univ. Col. of Physicians and Surgeons.*
- 8:00 AAA20 **506.17** Place-conditioning phenotype predicts methamphetamine self-administration behavior in male, but not in female, C57BL/6J mice. C. N. BROWN\*; A. PAGE; E. K. FULTZ; J. SHAHIN; A. F. HEALY; T. E. KIPPIN; K. K. SZUMLINSKI. *UCSB Psychological and Brain Sci.*
- 9:00 AAA21 **506.18** Binge-drinking history augments the positive subjective effects of methamphetamine in both male and female C57BL/6J mice. C. L. JIMENEZ CHAVEZ\*; E. K. FULTZ; K. R. SERN; K. K. SZUMLINSKI. *Univ. of California, Santa Barbara.*
- 10:00 AAA22 **506.19** ▲ ERK activation within the medial prefrontal cortex regulates the positive motivational valence of methamphetamine in mice. E. K. FULTZ\*; K. K. SZUMLINSKI. *Univ. of California - Santa Barbara, Univ. California-Santa Barbara.*
- 11:00 AAA23 **506.20** Role of basolateral amygdala in context-induced the reinstatement of alcohol seeking after punishment-imposed abstinence. T. S. YOKOYAMA\*; J. MOREIRA; R. A. MAEDA; P. PALOMBO; C. R. ZANIBONI; P. C. BIANCHI; R. M. LEÃO; F. C. CRUZ. *Univ. Federal of São Paulo, Univ. Federal of São Paulo, UNESP - State Univ. of São Paulo, Univ. Federal of Bahia.*
- 8:00 AAA24 **506.21** biperiden reduces drug reward effects. P. PALOMBO\*; R. A. MAEDA; S. A. ENGI; P. C. BIANCHI; C. ZANIBONI; T. YOKOYAMA; P. C. J. D. SANTOS; J. C. F. GALDUROZ; F. C. CRUZ. *Unifesp, UNESP - State Univ. of São Paulo, UNIFESP.*
- 9:00 AAA25 **506.22** The influence of ventral striatum direct pathway on alcohol context-induced reinstatement: Functional and molecular findings. C. R. ZANIBONI\*, III; J. MOREIRA; P. PALOMBO; T. YOKOYAMA; R. MAEDA; F. C. CRUZ. *Univ. Federal De São Paulo - UNIFESP.*

**POSTER**

**507. Animal Cognition and Behavior: Decision Making: Prefrontal Cortex**

**Theme H: Cognition**

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

- 8:00 AAA26 **507.01** Neurons in the nidopallium caudolaterale (NCL) and entopallium (ENTO) of pigeons (*Columba livia*) convey category information in a discrimination task between Picasso and Monet paintings. C. ANDERSON\*; R. S. PARRA; M. COLOMBO. *Univ. of Otago.*
- 9:00 BBB1 **507.02** A 4-Hz oscillation in the prefrontal cortex and in the accumbens nucleus characterizes prosocial but not food rewards in rats. F. ROCHA-ALMEIDA\*; A. CONDE-MORO; J. DELGADO-GARCÍA; A. GRUART. *Univ. Pablo De Olavide.*

- 10:00 BBB2 **507.03** Establishing a role for ACC in the modulation of directionally selective neurons in DMS in rats performing a stop-change task. A. T. BROCKETT\*; S. S. TENNYSON; F. GAYE; M. R. ROESCH. *Univ. of Maryland, Col. Park, Univ. of Maryland, Col. Park.*
- 11:00 BBB3 **507.04** Punishment history modulates medial prefrontal cortex responses to ambiguous stimuli. F. LUCANTONIO\*; A. J. CHANG; J. Y. COHEN. *Johns Hopkins Univ.*
- 8:00 BBB4 **507.05** Ventromedial thalamic projection neurons to prelimbic cortex in cost-benefit decision-making. B. SIEVERTZ\*; M. GARCIA-MUNOZ; G. W. ARBUTHNOTT. *Okinawa Inst. of Sci. and Technol.*
- 9:00 BBB5 **507.06** Characterizing empathy-driven prosocial behavior in rats. J. HERNANDEZ-LALLEMENT\*; V. GAZZOLA; C. KEYSERS. *Netherlands Inst. For Neurosci., Netherlands Inst. for Neurosci.*
- 10:00 BBB6 **507.07** Plasticity in the ventromedial prefrontal cortex underlies the therapeutic effects of fear extinction. D. PAREDES\*; E. A. FUCICH; D. A. MORILAK. *Univ. of Texas Hlth. Sci. Ctr. San Anto, Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*
- 11:00 BBB7 **507.08** Global and local effects of focused ultrasound neuromodulation on resting-state connectivity. L. VERHAGEN\*; C. GALLEA; D. FOLLONI; C. CONSTANS; D. JENSEN; M. SANTIN; S. LEHERICY; K. KRUG; R. B. MARS; M. F. RUSHWORTH; P. POUGET; J. AUBRY; J. SALLET. *Univ. of Oxford, Inserm U 1127, CNRS UMR 7225, Sorbonne Université, F-75013, ESPCI ParisTech, CNRS 7587, UMRS 979 INSERM, Univ. of Oxford, Univ. of Oxford, Radboud Univ. Nijmegen, UMRS 975 INSERM, CNRS 7225, UMPC.*
- 8:00 BBB8 **507.09** The role of the secondary motor cortex in feedback integration to guide decision-making. D. C. SCHREINER\*; C. M. GREMEL. *Univ. of California San Diego, Univ. of California San Diego.*
- 9:00 BBB9 **507.10** Neural dynamics underlying decision making in a dynamic environment. A. PIET; A. EL HADY\*; C. BRODY. *Princeton Univ., Princeton Neurosci. Inst.*
- 10:00 BBB10 **507.11** Neural representation of a Bayesian belief in the macaque prefrontal cortex during reinforcement learning. R. BARTOLO\*; R. C. SAUNDERS; A. R. MITZ; B. B. AVERBECK. *NIMH/NIH.*
- 11:00 BBB11 **507.12** Spatial attention and value encoding in the dorsolateral prefrontal cortex. Y. XIE\*; W. ZHANG; T. YANG. *Inst. of Neurosci.*
- 8:00 BBB12 **507.13** ▲ Developing a task for examining the contribution of reward and cost to decision-making. S. TANIMOTO; M. KONDO\*; K. MORITA; M. MATSUZAKI. *The Univ. of Tokyo, JSPS Reserch Fellow, The Univ. of Tokyo.*
- 9:00 BBB13 **507.14** Risk-dependent choice following the lesion of medial prefrontal cortex in the rat. Y. YANG\*; C. CHUANG; S. CHEN; R. LIAO. *Inst. of Neurosci., Natl. Cheng-Chi Univ., Natl. Cheng-Chi Univ., Natl. Cheng-Chi Univ.*
- 10:00 BBB14 **507.15** A two alternative forced choice paradigm using homecage training to reduce training time in an Air-Track floating platform. A. NASR\*; M. NASHAAT; S. DOMINIAC; R. SACHDEV; M. LARKUM. *Humboldt Univ. of Berlin, Humboldt Univ. of Berlin.*
- 11:00 CCC1 **507.16** The role of frontal eye fields in mixed-strategy decision-making. S. XIE\*; M. C. DORRIS. *Inst. of Neuroscience, Chinese Acad. of Scie.*

• 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 CCC2 **507.17** Identification of differential gene expression profile in rats showing risk-averse and risk-seeking preferences in rat gambling task. M. GWAK\*; S. JUNG; W. KIM; M. KU; Y. CHUNG; J. KIM. *Yonsei Univ. Col. of Med., The Catholic Univ. of Korea Col. of Med.*
- 9:00 CCC3 **507.18** functional ultrasound reveals single trial cerebral activation in non-human primates during behavior. A. DIZEUX\*; M. GESNIK; H. AHMINE; K. BLAIZE; F. ARCIZET; S. PICAUD; T. DEFFIEUX; P. POUGET; M. TANTER. *Inst. Langevin, ESPCI Paris, PSL Res. Unive, Inst. Langevin, ESPCI Paris, PSL Res. University, CNRS UMR 7587, INSERM U979, 17 Rue Moreau, Inst. du Cerveau et de la Moelle épinière, UMRS 975 INSERM, CNRS 7225, UMPIC, Inst. de la Vision, Sorbonne Universités UPMC, Univ. of Paris 06, INSERM UMR\_S 968, CNRS UMR 7210.*
- 10:00 CCC4 **507.19** Time to decide: How decision time affects choices. J. MARTIN\*; D. KVITSIANI. *Dandrite.*
- 11:00 CCC5 **507.20** Neural population analysis of reward expectation and choice trace in mouse medial prefrontal cortex. J. LOPEZ; J. MARTIN; D. KVITSIANI\*. *Aarhus Univ. / DANDRITE, Aarhus Univ. / DANDRITE.*
- 8:00 CCC6 **507.21** ACC inactivation impairs performance monitoring in mice. R. F. OLIVEIRA\*; I. O. R. VAZ; T. AKAM; R. M. COSTA. *Champalimaud Ctr. for the Unknown, Univ. of Oxford, Columbia Univ.*
- 9:00 CCC7 **507.22** Movement-related activity dominates cortex during sensory-guided decision making. S. MUSALL\*; M. T. KAUFMAN; S. GLUF; A. K. CHURCHLAND. *Cold Spring Harbor Lab., Univ. of Chicago.*
- 10:00 CCC8 **507.23** A modified evidence accumulation task to probe the decision time/evidence strength relationship in rats. D. GUPTA\*; C. KOPEC; C. BRODY. *Princeton Univ., Howard Hughes Med. Inst.*
- 11:00 CCC9 **507.24** Neural mechanisms of recurrent neural networks with interneurons and dendrites performing context-dependent decision making. J. LI; G. R. YANG\*; X. WANG. *Univ. of Sci. & Technol. of China, Columbia Univ., New York Univ.*
- 8:00 CCC10 **507.25** Dorsomedial frontal and anterior cingulate cortex support cognitive reasoning about errors in a hierarchical decision making task. M. SARAFYAZD\*; JR; M. JAZAYERI. *MIT, Massachusetts Inst. of Technol. Dept. of Brain and Cognitive Sci.*
- 9:00 CCC11 **507.26** Dorsal prefrontal cortex tracks projected outcomes in a dynamic competitive game. J. M. PEARSON\*; S. IQBAL; C. DRUCKER; J. GARIEPY; M. L. PLATT. *Duke Univ., Duke Univ., Univ. of Pennsylvania.*
- 10:00 CCC12 **507.27** The neural basis of flexible decision-making in rodents. M. PROSKURIN\*; M. MANAKOV; E. KULESHOVA; M. RYSAKOVA; A. LUSTIG; R. BEHNAM; D. TERVO; A. Y. KARPOVA. *Janelia Res. Campus, Inst. of Higher Nervous Activity.*
- 11:00 CCC13 **507.28** Anterior cingulate cortex and the exploration of alternative strategies. D. G. TERVO\*; E. KULESHOVA; M. KARLSSON; M. PROSKURIN; A. LUSTIG; M. MANAKOV; R. BEHNAM; A. Y. KARPOVA. *Howard Hughes Med. Inst. Janelia Farm Res. Campus, Janelia Res. Campus, SpikeGadgets, HHMI/ Janelia Res. Campus.*
- 8:00 CCC14 **507.29** Reward-predictive persistent membrane potential dynamics in prefrontal cortex. E. KIM\*; B. A. BARI; J. Y. COHEN. *Johns Hopkins Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ.*
- 9:00 DDD1 **507.30** Strategy selection based on trial feedback in a rule-based categorization task. M. PARK\*; D. A. CROWE; M. V. CHAFEE. *Univ. of Minnesota Twin Cities, Augsburg Univ., VA Med. Ctr.*

## POSTER

### 508. Head Direction Cells and Spatial Navigation

#### Theme H: Cognition

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

- 8:00 DDD2 **508.01** Spatial representations in the marmoset hippocampus during free navigation. H. COURELLIS\*; M. J. METKE; S. U. NUMMELA; G. W. DIEHL; R. BUSSELL; G. CAUWENBERGHS; C. T. MILLER. *UCSD, UCSD, UCSD, UC-San Diego, UCSD.*
- 9:00 DDD3 **508.02** Spatial representations of self and others in marmoset hippocampus. M. J. METKE\*; H. COURELLIS; J. F. MITCHELL; W. FREIWALD; D. A. LEOPOLD; C. T. MILLER. *UC San Diego, UCSD, Univ. of Rochester, Rockefeller Univ., NIMH, UCSD.*
- 10:00 DDD4 **508.03** Cross-modal representation of individual identity in marmoset hippocampus neurons. C. T. MILLER\*; G. CAUWENBERGHS; H. COURELLIS. *UCSD, UCSD, UCSD.*
- 11:00 DDD5 **508.04** Encoding of spatial variables in retrosplenial cortex during landmark dependent navigation. L. FISCHER\*; R. MOJICA; E. H. S. TOLOZA; D. BARNAGIAN; M. T. HARNETT. *MIT, Univ. of Puerto Rico at Mayagüez.*
- 8:00 DDD6 **508.05** Somato-dendritic encoding of head-direction in mouse retrosplenial cortex. J. VOIGTS\*; M. T. HARNETT. *MIT, MIT.*
- 9:00 DDD7 **508.06** Simultaneous encoding of head angle, episodic distance, and position by hippocampal activity in a virtual water maze. J. J. MOORE\*; M. R. MEHTA. *W. M. Keck Ctr. for Neurophysics, UCLA, UCLA, UCLA, UCLA.*
- 10:00 DDD8 **508.07** Multisensory mechanisms of hippocampal slow oscillations. K. SAFARYAN\*; M. R. MEHTA. *UCLA, W. M. Keck Ctr. for Neurophysics, Integrative Ctr. for Learning and Memory, Brain Res. Inst.*
- 11:00 DDD9 **508.08** Medial precentral cortex transforms spatial and directional information into planned action. D. A. NITZ\*; J. M. OLSON; J. LI. *Univ. of California San Diego, MIT, Stanford Univ.*
- 8:00 DDD10 **508.09** Visual cues alone are insufficient to generate robust grid cells and head-direction cells in the medial entorhinal cortex. Z. M. AGHAJAN\*; A. L. KEES; P. VARANASI; S. SANDHU; M. R. MEHTA. *UCLA, UCLA, UCLA, UCLA, UCLA, Univ. de Bordeaux, UCLA, UCLA.*
- 9:00 DDD11 **508.10** Place versus places: Spatially-specific activity in subiculum encodes structural similarities among interconnected paths. A. B. JOHNSON\*; J. M. OLSON; E. L. TAO; X. WANG; L. CHANG; A. C. PHUTISATAYAKUL; D. A. NITZ. *Univ. of California San Diego, Univ. of California San Diego, MIT, UCSD, Univ. of California San Diego.*
- 10:00 DDD12 **508.11** Simultaneous representations for virtual and real spaces in the rat hippocampus. C. PURANDARE\*; K. CHOUDHARY; M. R. MEHTA. *Univ. of California Los Angeles, UCLA, UCLA, UCLA, UCLA, Univ. of California at Los Angeles (UCLA).*

\* 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 DDD13 **508.12** Bistable attractor dynamics in the medial entorhinal cortex membrane potential *in vivo*. K. CHOUDHARY\*; S. BERBERICH; J. M. MCFARLAND; T. T. HAHN; M. R. MEHTA. *Univ. of California Los Angeles (UCLA), W. M. Keck Ctr. for Neurophysics, UCLA Integrative Ctr. for Learning and Memory, UCLA Brain Res. Inst., Central Inst. of Mental Hlth., Univ. of Maryland, Zentralinstitut Fuer Seelische Gesundheit, Univ. of California Los Angeles (UCLA)*.
- 8:00 DDD14 **508.13** Rule-based fragmentation of environmental space yields trajectory-specific encoding in posterior parietal cortex, but not hippocampus. L. E. SHELLEY\*; D. A. NITZ. *UCSD, Univ. of California San Diego*.
- 9:00 DDD15 **508.14** Effect of multisensory cues on directional tuning of hippocampal cells. S. DHINGRA\*; M. SHAHI; R. SANDLER; R. RIOS; C. VUONG; L. ACHARYA; M. R. MEHTA. *UCLA, UCLA, UCLA, UCLA, UCLA, UCLA, Baylor Col. of Med., Univ. of California at Los Angeles (UCLA)*.
- 10:00 DDD16 **508.15** A statistical model based approach to decipher the mechanisms governing spatial and directional tuning of hippocampal neurons. M. SHAHI\*; S. DHINGRA; R. SANDLER; R. RIOS; C. VUONG; L. ACHARYA; M. R. MEHTA. *UCLA, UCLA, UCLA, UCLA, Baylor Col. of Med., Univ. of California at Los Angeles (UCLA)*.
- 11:00 DDD17 **508.16** Mixed selectivity in the rodent medial temporal lobe and related regions. C. MIKKELSEN\*; M. W. HOWARD. *Boston Univ., Boston Univ.*
- 8:00 DDD18 **508.17** Grid cell dysfunction in the medial entorhinal cortex correlates with path integration deficits in an amyloid mouse model of Alzheimer's disease. J. YING\*; A. KEINATH; M. P. BRANDON. *McGill Univ., McGill Univ. Douglas Hosp. Res. Ctr.*
- 9:00 DDD19 **508.18** Spatial correlates of the retrosplenial cortex during free exploration. L. C. CARSTENSEN\*; A. S. ALEXANDER; J. R. HINMAN; M. E. HASSELMO. *Boston Univ.*
- 10:00 DDD20 **508.19** Hippocampal representations of rooms with multiple entryways. A. T. KEINATH\*; A. NIETO-POSADAS; M. P. BRANDON. *McGill Univ., McGill Univ., McGill Univ.*
- 11:00 DDD21 **508.20** Schema accommodation in hippocampal memory ensembles. S. J. LEVY\*; M. E. HASSELMO; H. EICHENBAUM. *Boston Univ., Boston Univ., Boston Univ.*
- 8:00 DDD22 **508.21** Investigation of the head-direction network activity in the Anterodorsal Thalamic Nucleus using miniaturized microscopes in freely behaving mice. Z. AJABI\*; M. P. BRANDON. *McGill Univ., McGill Univ.*
- 9:00 DDD23 **508.22** Coding of what and when in lateral entorhinal cortex and hippocampus during a delayed matching task. J. H. BLADON\*; M. HOWARD; W. NING; L. WERNECK. *Boston Univ.*
- 10:00 DDD24 **508.23** Investigating the role of medial septal cell types in generating the hippocampal code for time. H. YONG\*; M. P. BRANDON. *McGill Univ., McGill University, Douglas Hosp. Res. Ctr.*
- 11:00 EEE1 **508.24** Retrosplenial and entorhinal cortical representation during visually-based triangulation. A. S. ALEXANDER\*; M. E. HASSELMO. *Boston Univ.*
- 8:00 EEE2 **508.25** Comparison of the compression of time and space in dorsal CA1. D. J. SHEEHAN\*; M. W. HOWARD. *Boston Univ. Ctr. For Memory and Brain.*

- 9:00 EEE3 **508.26** Disentangling the role of medial septal cell types in grid cell generation. J. ROBINSON\*; M. P. BRANDON. *McGill Univ., McGill Univ.*
- 10:00 EEE4 **508.27** Speed coding by entorhinal cortex speed cells differs across behaviorally relevant time scales and is independent of cholinergic modulation. H. DANNENBERG\*; C. KELLEY; C. MONAGHAN; M. E. HASSELMO. *Boston Univ., McLean Hosp.*
- 11:00 EEE5 **508.28** Remapping in ventral hippocampus during a context fear teleportation task. R. R. ROZESKE\*; L. RUNTZ; M. P. BRANDON. *McGill Univ.*
- 8:00 EEE6 **508.29** Neuronal representation of environmental boundaries in egocentric coordinates. J. R. HINMAN\*; G. W. CHAPMAN, IV; M. E. HASSELMO. *Boston Univ., Boston Univ.*
- 9:00 EEE7 **508.30** Tracking the ontogeny of trajectory-dependent neuronal activity in the hippocampus. N. R. KINSKY\*; W. MAU; D. W. SULLIVAN; H. B. EICHENBAUM; M. E. HASSELMO. *Boston Univ.*

## POSTER

### 509. Animal Cognition and Behavior: Learning and Memory: Neural Circuit Mechanisms I

#### Theme H: Cognition

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

- 8:00 EEE8 **509.01** Encoding of contextual fear memory in the hippocampal-amygdala pathway. J. CHO\*; W. KIM. *Univ. of California.*
- 9:00 EEE9 **509.02** Inter-regional synaptic correlates among engram cells underlie memory formation. J. CHOI; S. SIM; J. KIM; D. CHOI; J. OH; S. YE; J. LEE; T. KIM; H. KO; C. LIM; B. KAANG\*. *Seoul Natl. Univ.*
- 10:00 EEE10 **509.03** Distinct activated neuronal ensembles differentially modulate contextual fear memory discrimination. X. SUN\*; M. BERNSTEIN; M. MENG; L. YAO; A. T. SÖRENSEN; X. ZHANG; Y. LIN. *MIT, State Key Lab. of Cognitive Neurosci. & Learning, Copenhagen Univ.*
- 11:00 EEE11 **509.04** Prefrontal circuit dynamics associated with context-dependent fear discrimination learning. J. MAYER\*; J. PASTORE; T. W. BAILEY; J. SPEIGEL, III; E. KORZUS. *Univ. of California Riverside, Univ. of California Riverside.*
- 8:00 EEE12 **509.05** Information coding of fear memory in medial prefrontal cortex. M. AGETSUMA\*; Y. ARAI; A. KASAI; H. HASHIMOTO; T. NAGAI. *Natl. Inst. For Physiological Sci., Presto, Japan Sci. and Technol. Agency, The Inst. of Scientific and Industrial Research, Nagai lab, Osaka Univ., Grad. Sch. of Pharmaceut. Sciences, Osaka Univ.*
- 9:00 EEE13 **509.06** Balance of prefrontal division-mediated excitation and inhibition drives context-dependent fear discrimination learning. T. W. BAILEY\*; J. SPEIGEL, III; J. MAYER; J. PASTORE; E. KORZUS. *Univ. of California Riverside, Univ. of California Riverside, Univ. of California Riverside.*
- 10:00 EEE14 **509.07** The specific role of GABAergic interneurons in fear extinction. X. ZHANG\*; Y. ZHOU; W. LI. *Shanghai Jiao Tong Univ.*

Tues. AM

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- 11:00 EEE15 **509.08** Anatomical, molecular, and experience dependent organization of a ventral hippocampal circuit. K. CLAUSING; V. S. TURNER\*; M. KHEIRBEK. *Univ. of California.*
- 8:00 EEE16 **509.09** Dynamic and stable coding of emotional stimuli in the ventral hippocampus. J. BIANE\*; F. STEFANINI; T. KRAUSZ; M. A. S. LADOW; N. I. WOODS; S. P. BODDU; A. FAN; D. L. APODACA; M. KHEIRBEK. *Univ. of California San Francisco, Columbia Univ., UCSF, Univ. of California San Francisco, UC San Francisco, Univ. of California, San Francisco.*
- 9:00 EEE17 **509.10** Population level coding of olfactory information in the dentate gyrus. N. I. WOODS; F. STEFANINI; M. KHEIRBEK\*. *Univ. of California, San Francisco, Columbia Univ.*
- 10:00 EEE18 **509.11** Critical dynamics and short-term memory in neuronal networks. T. L. RIBEIRO\*; M. J. BERRY, II; D. PLENZ. *NIH, Princeton Univ., Natl. Inst. of Mental Health, NIH.*
- 11:00 EEE19 **509.12** Neural activity in rat medial prefrontal cortex is predictive of memory performance in an odor span task. E. DE FALCO\*; L. AN; A. ROEBUCK; C. C. LAPISH; J. G. HOWLAND. *IUPUI, Univ. of Saskatchewan, Univ. Saskatchewan.*
- 8:00 EEE20 **509.13** A dynamic neural mechanism for encoding spatial targets and behavioral contexts in rat perirhinal cortex. T. OHNUKI\*; Y. SAKURAI; J. HIROKAWA. *Doshisha Univ.*
- 9:00 EEE21 **509.14** • Gone or misplaced?: Investigation of memory engrams across development. S. POWER\*; C. ORTEGA; L. MARKS; J. O'LEARY; T. RYAN. *TBSI.*
- 10:00 EEE22 **509.15** Epigenetic regulation of neuronal ensemble activity to enhance spatial learning and memory. X. LIN\*; L. CHEN; Y. ZHANG; Y. WU; M. A. WOOD; X. XU. *Univ. of California Irvine.*
- 11:00 EEE23 **509.16** Multiplexed encoding of sensory and reinforcement cues in the cholinergic basal forebrain supports associative learning and cortical plasticity. B. ROBERT\*; W. GUO; D. B. POLLEY. *Harvard Med. Sch., Massachusetts Eye and Ear Infirmary, Massachusetts Eye and Ear Infirmary.*
- 8:00 EEE24 **509.17** Locus coeruleus activity in a classical conditioning task. M. OMRANI\*; G. S. ASTON-JONES. *Rutgers Univ.*
- 9:00 EEE25 **509.18** Deep reinforcement R-learning actor-critic model can explain mouse foraging behavior. S. SHUVAEV\*; S. STAROSTA; A. KEPECS; A. KOULAKOV. *Cold Spring Harbor Lab.*
- 10:00 EEE26 **509.19** Dopaminergic and cholinergic modulation of NMDA-mediated behavior. I. M. WHITE\*; E. A. COLLINS; W. WHITE. *Morehead State Univ., Morehead State Univ.*

## POSTER

### 510. Animal Cognition and Behavior: Learning and Memory: Neural Circuit Mechanisms II

#### Theme H: Cognition

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

- 8:00 FFF1 **510.01** Glutamatergic and GABAergic sources of synaptic input to septohippocampal cholinergic projections. M. R. GIELOW\*; R. L. STORNETTA; L. ZABORSZKY. *Rutgers Univ., Univ. of Virginia, Rutgers The State Univ. of New Jersey.*
- 9:00 FFF2 **510.02** Contribution of the basal forebrain to fine-tuned cortical states during a visual discrimination task in rats. P. GOMBKOTO\*; P. VARSANYI; L. ZABORSZKY. *Rutgers The State Univ. of New Jersey.*
- 10:00 FFF3 **510.03** Striatal activity during early acquisition and later habit formation of an auditory operant task. C. M. CHAVEZ\*; D. NOOFOORY; K. BIESZCZAD; L. ZABORSZKY. *Rutgers, The State Univ. of New Jersey, Rutgers, The State Univ. of New Jersey.*
- 11:00 FFF4 **510.04** Lateral hypothalamic area projection neurons contribute to an innate freezing response. J. HAZEN\*; M. WIGESTRAND; I. AASEBØ; A. TULLY; T. DINH; M. LEPPERØD; T. HAFTING; M. FYHN. *Univ. of Oslo, Univ. of Oslo.*
- 8:00 FFF5 **510.05** Social memory processing and plasticity in hippocampus CA2. A. CHRISTENSEN\*; T. STÖBER; S. K. NOSSEN; M. FYHN; T. HAFTING-FYHN. *Univ. of Oslo, Univ. of Oslo, Simula Res. Lab., Univ. of Oslo.*
- 9:00 FFF6 **510.06** A CRISPR-Cas9 platform for genetic perturbation of brain extracellular matrix regulators *in vivo*. S. GRØDEM\*; G. SANDVIK; K. LENSJØ; J. HAZEN; T. HAFTING; M. FYHN. *Univ. of Oslo.*
- 10:00 FFF7 **510.07** ▲ Layer specific characterization of local projections within the medial entorhinal cortex. M. L. FU\*; I. ZUTSHI; S. LIU; J. K. LEUTGEB; B. K. LIM; S. LEUTGEB. *UCSD, Kavli Inst. for Brain and Mind.*
- 11:00 FFF8 **510.08** Coordination of theta and slow oscillations across medial septum, hippocampus, olfactory bulb and prefrontal cortex. S. SRIKANTH\*; J. K. LEUTGEB; S. LEUTGEB. *UCSD, UCSD, Univ. of California San Diego.*
- 8:00 FFF9 **510.09** Effects of manipulating theta frequency on medial entorhinal cells. C. R. QUIRK\*; N. DEVICO MARCIANO; J. K. LEUTGEB; S. LEUTGEB. *UC San Diego.*
- 9:00 FFF10 **510.10** Modulation of CA1 and CA3 hippocampal cell oscillation frequencies by optogenetically paced theta oscillations from the medial septal area. I. ZUTSHI\*; M. P. BRANDON; M. L. FU; S. LIU; J. K. LEUTGEB; S. LEUTGEB. *UC San Diego, McGill Univ., Kavli Inst. for Brain and Mind.*
- 10:00 FFF11 **510.11** Distinct and complementary roles of medial entorhinal cortex and dentate gyrus inputs for hippocampal CA3 phase precession. S. AHMADI\*; M. SABARIEGO; T. SASAKI; C. LEIBOLD; S. LEUTGEB; J. K. LEUTGEB. *UCSD, Univ. of Munich, Bernstein Ctr. for Computat. Neurosci. and Dept. Biol. II, Ludwig-Maximilians-Universität München, Kavli Inst. for Brain and Mind, UC San Diego.*
- 11:00 FFF12 **510.12** Dentate dependent-CA3 network pattern separation can occur in the absence of neurogenesis. A. SCHLENNER\*; V. C. PIATTI; L. A. EWELL; Y. AN; O. HON; H. A. CAMERON; S. LEUTGEB; J. K. LEUTGEB. *UC San Diego, Leloir Inst. Fndn., NIH, Kavli Inst. for Brain and Mind.*

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\* Indicates abstract's submitting author

- 8:00 FFF13 **510.13** Hippocampal sequential firing during delay intervals is not required for working memory performance. M. SABARIEGO\*; D. T. ZIMMERMAN; A. SCHONWALD; V. ALLURI; N. GONZALEZ; B. L. BOUBLIL; J. K. LEUTGEB; S. LEUTGEB. *UC San Diego*.
- 9:00 FFF14 **510.14** Genetically targeted expression of APP to the hippocampal CA3 subpopulation of principal neurons leads to neuronal network dysfunction and memory impairment. S. VIANA DA SILVA\*; M. G. HABERL; K. GAUR; M. L. FU; J. K. LEUTGEB; E. H. KOO; S. LEUTGEB. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Kavli Inst. for Brain and Mind*.

## POSTER

### 511. Animal Cognition and Behavior: Learning and Memory: Neural Circuit Mechanisms III

#### Theme H: Cognition

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

- 8:00 FFF15 **511.01** Optogenetic expression of situation-specific behavior to a cue composing multiple memory traces. C. A. COELHO\*; A. RASHID; S. JOSSELYN; P. FRANKLAND. *The Hosp. for Sick Children (Sickkids)*.
- 9:00 FFF16 **511.02** Relaxing the rules of memory allocation in the lateral amygdala attenuates fear memory strength and specificity. A. J. RASHID\*; C. YAN; J. YU; P. W. FRANKLAND; S. A. JOSSELYN. *The Hosp. For Sick Children, The Hosp. For Sick Children, The Hosp. For Sick Children, Hosp. For Sick Children, Hosp. For Sick Children*.
- 10:00 FFF17 **511.03** Active myelination is required for spatial learning and memory consolidation. P. E. STEADMAN\*; M. AHMED; F. XIA; A. J. MOCLE; S. A. JOSSELYN; P. W. FRANKLAND. *The Hosp. for Sick Children, Hosp. for Sick Children, Hosp. for Sick Children, Hosp. for Sick Children*.
- 11:00 FFF18 **511.04** Maturation of hippocampal perineuronal nets underlies the ontogeny of memory specificity. A. I. RAMSARAN\*; B. A. YEUNG; M. AHMED; S. A. JOSSELYN; P. W. FRANKLAND. *The Hosp. for Sick Children, Hosp. for Sick Children, Hosp. for Sick Children*.
- 8:00 FFF19 **511.05** A two colour system for *in vivo* calcium imaging of engram populations. A. D. JACOB\*; C. YAN; A. I. RAMSARAN; I. FELTS ALMOG; J. POON; P. W. FRANKLAND; S. A. JOSSELYN. *Univ. of Toronto, The Hosp. for Sick Children, Univ. of Toronto*.
- 9:00 FFF20 **511.06** Modeling the impact of neurogenesis on memory formation and stability. L. M. TRAN\*; S. A. JOSSELYN; B. A. RICHARDS; P. W. FRANKLAND. *The Hosp. for Sick Children, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto Scarborough*.
- 10:00 FFF21 **511.07** Ptchd1 exon 3 truncating mutation mice: More clinically relevant mouse model of autism spectrum disorder. S. KO\*; J. R. EPP; K. MITTAL; T. I. SHEIKH; V. N. HA; B. DEGAGNE; A. MIKHAILOV; L. FRENCH; S. A. JOSSELYN; J. B. VINCENT; P. W. FRANKLAND. *The Hosp. for Sick Children, Univ. of Toronto, The Campbell Family Brain Res. Institute, The Ctr. for Addiction & Mental Hlth. (CAMH), Univ. of Toronto, The Campbell Family Brain Res. Institute, The Ctr. for Addiction & Mental Hlth. (CAMH), Univ. of Toronto, Univ. of Toronto*.
- 11:00 FFF22 **511.08** Role of sleep spindles in consolidation of competing memories. O. C. GONZALEZ\*; G. P. KRISHNAN; M. V. BAZHENOV. *UCSD, Univ. of California San Diego*.
- 8:00 FFF23 **511.09** Reactivation in network motifs during NREM and REM sleep in thalamocortical model. G. P. KRISHNAN\*; R. RAMYAA; M. V. BAZHENOV. *Univ. of California San Diego, New Mexico Tech., Univ. of California San Diego*.
- 9:00 FFF24 **511.10** Continuous learning in a multi-layer network with rewarded spike-timing-dependent plasticity. M. V. BAZHENOV\*; R. GOLDEN; E. DELANOIS; P. SANDA. *Univ. of California San Diego, Univ. of California San Diego, Inst. of Computer Science, Czech Acad. of Sci.*
- 10:00 GGG1 **511.11** Surround inhibition and memory replay support sequential encoding of multiple stimulus-response associations without catastrophic forgetting. R. GOLDEN\*; G. P. KRISHNAN; M. BAZHENOV. *Univ. of California San Diego*.
- 11:00 GGG2 **511.12** Cellular resting-state network activity depends on previous experience of a mouse. K. A. TOROPOVA\*; D. SUKHININ; E. KONOVALOVA; A. NATROVA; A. IVANOVA; D. IVASHKIN; O. IVASHKINA; K. ANOKHIN. *Kurchatov Institute, Dept. of Neurosci., Lomonosov Moscow State Univ., P.K. Anokhin Inst. of Normal Physiol.*
- 8:00 GGG3 **511.13** Application of TRAP strategy to investigate engram dynamics: Genetical tagging and *in vivo* calcium imaging of cognitively indexed neurons. A. GRUZDEVA\*; O. IVASHKINA; K. TOROPOVA; K. ANOKHIN. *NRC Kurchatov Inst., Lomonosov Moscow State Univ., Inst. of Normal Physiol.*

## POSTER

### 512. Age-Related Cognitive Deficits and Treatments

#### Theme H: Cognition

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

- 8:00 GGG4 **512.01** Epigenetic regulation of the circadian gene *Per1* contributes to age-related impairments in long-term memory. J. L. KWAPIS\*; Y. ALAGHBAND; E. KRAMAR; A. LOPEZ; A. VOGEL CIERNIA; A. WHITE; G. SHU; Y. LIU; C. MAGNAN; P. SASSONE-CORSI; P. BALDI; D. MATHEOS; M. WOOD. *Univ. of California Irvine Dept. of Neurobio. and Behavior, Univ. of California, Davis, Mt. Holyoke, Univ. of California Irvine*.
- 9:00 GGG5 **512.02** • Cilostazol, a phosphodiesterase 3 inhibitor, maintains and improves memory function in aged mice. S. YANAI\*; T. ARASAKI; S. ENDO. *Tokyo Metropolitan Inst. of Gerontology, Tokyo Metropolitan Inst. of Gerontology*.
- 10:00 GGG6 **512.03** DEK loss is associated with cellular, molecular, and clinical features of dementia. A. GREENE\*; N. J. BALMER; V. GHISAYS; L. PRIVETTE VINNEDGE; M. B. SOLOMON. *Univ. of Cincinnati, Univ. of Cincinnati, Univ. of Cincinnati, Univ. of Cincinnati*.
- 11:00 GGG7 **512.04** Surveying the epigenetic landscape of Arc-mediated age-related cognitive decline. C. MYRUM\*; B. R. FLETCHER; S. DE; K. G. BECKER; P. R. RAPP. *Natl. Inst. of Health: NIA*.
- 8:00 GGG8 **512.05** Lifespan and cholinergic changes in cognitive flexibility in rats. C. CAMMARATA\*; E. D. DE ROSA; A. K. ANDERSON. *Cornell Univ., Cornell Univ., Cornell University*.

\* Indicated a real or perceived conflict of interest, see page 148 for details.

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\* Indicates abstract's submitting author

- 9:00 GGG9 **512.06** The dissociation of normal aging from Alzheimer's disease in mouse models of tauopathy and amyloidosis. I. MORGANSTERN\*; D. HE; R. ZENOWICH; L. THIEDE; D. HAVAS; A. AMBESI; M. BANSAL; T. HANANIA. *Psychogenics, Psychogenics*.
- 10:00 GGG10 **512.07** ● Paramylon improves age-dependent impairment of spatial memory of the senescence-accelerated mouse prone 8. K. YASUDA; M. OGURA; S. TANIGUCHI; A. NAKASHIMA; S. KENGO\*; K. ITO. *Euglena Co., Ltd., Univ. Tokyo, RIKEN Cluster for Science, Technol. and Innovation Hub*.
- 11:00 GGG11 **512.08** The effects of chronic curcumin treatment in a non-human primate model of aging. A. UPRETY\*; M. MEDALLA; B. G. BOWLEY; P. L. SHULTZ; S. M. CALDERAZZO; E. J. SHOBIN; D. L. ROSENE; M. B. MOSS; T. L. MOORE. *Boston Univ. Sch. of Med., Boston Univ. Sch. of Med.*
- 8:00 GGG12 **512.09** Age dependent effect of testosterone on the spatial memory in the male rat. G. JIMENEZ RUBIO\*; H. A. MARTINEZ BECERRIL; M. S. MARQUEZ BALTAZAR; J. J. HERRERA PEREZ; L. A. MARTINEZ MOTA. *Inst. Nacional de Psiquiatria Ramon de La Fuen*.
- 9:00 GGG13 **512.10** Aging impairs the flexible use of environment-specific representations in humans. M. R. FORLOINES\*; L. HEJTMÁNEK; D. L. OCHOA; B. A. OBER; A. D. EKSTROM. *Univ. of California, Davis, Inst. of Physiol. CAS, Univ. of Arizona*.
- 10:00 GGG14 **512.11** Comparative analysis of mouse resources for systems genetics of normal cognitive aging. A. OUELLETTE; S. NEUNER; G. CHURCHILL; C. C. KACZOROWSKI\*. *The Jackson Lab., Univ. of Tennessee Hlth. Sci. Ctr.*
- 11:00 GGG15 **512.12** Sexually dimorphic effects of dietary vitamin D supplementation on cognition in aging rats. L. D. BREWER; J. R. THIBAUT; J. C. GANT; K. C. CHEN; K. L. ANDERSON; H. N. FRAZIER; A. O. GHOWERI; J. B. HOFFMAN; S. D. KRANER; P. W. LANDFIELD; O. THIBAUT; E. M. BLALOCK; N. M. PORTER\*. *Univ. of Kentucky*.
- 8:00 GGG16 **512.13** A multiple memory systems approach to understanding cognitive aging: Not all aging is equal. R. S. GARDNER\*; P. E. GOLD; D. L. KOROL. *Syracuse Univ., Syracuse Univ.*
- 9:00 GGG17 **512.14** The effects of *A. bisporus* (white button mushrooms) on the circadian rhythms and spatial memory of human amyloid precursor protein (hAPP) transgenic mice. T. DIMOPOULOS\*; S. L. P. LIPPI; C. L. C. NEELY; C. M. HERNANDEZ; E. N. DOHERTY; N. T. COSCHIGANO; M. T. DECOITO; Y. DHAKAL; K. R. MILLS; K. FLORES; A. B. BOOTH; J. M. FLINN. *George Mason Univ.*
- 10:00 GGG18 **512.15** Increasing hippocampal neurogenesis rejuvenates learning strategies and memory throughout life. G. BERDUGO-VEGA\*; A. LOPEZ-FERNANDEZ; B. ARTEGANI; A. GARTHE; G. KEMPERMANN; F. CALEGARI. *Ctr. for Regenerative Therapies - TU Dresden, Hubrecht Institute, Developmental Biol. and Stem Cell Res., German Ctr. for Neurodegenerative Dis. (DZNE), Ctr. for Regenerative Therapies - TU Dresden*.
- 11:00 GGG19 **512.16** The effects of learning and aging on functional characteristics of layer v pyramidal neurons of the lateral entorhinal cortex. K. B. KELLY\*; C. LIN; M. M. OH; J. F. DISTERHOFT. *Northwestern Univ.*
- 9:00 GGG21 **512.18** Entorhinal cortex cholinergic circuits in cognitive decline. M. ANANTH\*; D. A. TALMAGE; L. W. ROLE. *Stony Brook Univ., Stony Brook Univ., Stony Brook Univ.*
- 8:00 GGG20 **512.17** Carbachol-induced increase in calcium transients is occluded in CA1 pyramidal neurons from aged-unimpaired rats. M. M. OH\*; J. F. DISTERHOFT. *Northwestern Univ. Med. Sch.*
- 10:00 GGG22 **512.19** Learning and aging affect functional characteristics of lateral entorhinal cortex layer iii pyramidal neurons. C. LIN\*; K. B. KELLY; M. M. OH; J. F. DISTERHOFT. *Northwestern Univ.*

## POSTER

### 513. Human Cognition and Behavior: Effects of Disorders and Addictive Drugs

#### Theme H: Cognition

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

- 8:00 GGG23 **513.01** Dopamine dependent nicotine effects on cognitive control in non-smokers. S. AHRENS\*; J. LAUX; C. MUELLER; C. M. THIEL. *Univ. of Oldenburg, Cluster of Excellence "Hearing4all"*.
- 9:00 GGG24 **513.02** ● Neurophysiological indices of cannabis and impairment. S. J. SMITH\*; B. STONE; A. MEGHDADI; A. SPURGIN; T. BROWN; C. BERKA. *Advanced Brain Monitoring, Univ. of Iowa*.
- 10:00 GGG25 **513.03** ▲ Attention and memory are predictors of worse performance on cognitive tasks in caffeine addiction. C. R. SANTANA\*; P. E. MARINHO; N. L. ALMEIDA; T. M. P. FERNANDES; N. A. SANTOS. *Univ. Federal da Paraiba*.
- 11:00 GGG26 **513.04** Impulsivity and self-perceived emotional feedback predict alcohol-related problems. I. COMNICK; W. M. MEIL\*; M. BERMAN; E. MORGAN; R. FRAZIER; W. FARRELL; J. MILLS. *Indiana Univ. of Pennsylvania Dept. of Psychology*.
- 8:00 GGG27 **513.05** ● Behavioral and neural correlates of response inhibition and error processing in binge drinkers: An fMRI study during the go/nogo task. A. B. ALDERSONMYERS\*; S. M. MOLNAR; L. A. HOLCOMB; K. MARINKOVIC. *San Diego State Univ., SDSU, San Diego State Univ.*
- 9:00 HHH1 **513.06** Reward and top-down control network alterations in binge drinkers. D. ARIENZO\*; S. MOLNAR; L. BEATON; J. HAPPER; K. MARINKOVIC. *SDSU, SDSU*.
- 10:00 HHH2 **513.07** Subcortical and cortical brain anatomy link opioid use to risk tolerance in addiction. N. V. BANAVAR\*; A. B. KONOVA; S. LOPEZ-GUZMAN; K. LOUIE; J. ROTROSEN; P. GLIMCHER. *New York Univ., Univ. del Rosario, New York Univ.*
- 11:00 HHH3 **513.08** Relationship between cognition and nicotine dependence in smokers with mental illness. C. BIANCO\*; S. I. PRATT; M. F. BRUNETTE; J. C. FERRON. *Dartmouth-Hitchcock, Geisel Sch. of Med. at Dartmouth*.

- 8:00 HHH4 **513.09** Disadvantageous decision-making in methamphetamine users: Loss aversion and dopamine D2/D3 receptor availability. Z. R. GUTTMAN\*; D. G. GHAREMANI; C. L. ROBERTSON; K. OKITA; K. ISHIBASHI; M. A. MANDELKERN; E. D. LONDON. *UCLA, UCLA, UCLA, UCLA, Tokyo Metropolitan Inst. of Gerontology, Dept. of Research, VA Greater Los Angeles Healthcare Syst.*
- 9:00 HHH5 **513.10** Inhibitory control deficits in patients with essential tremor. N.; S. HUGHES; D. CLAASSEN; F. PHIBBS; E. BRADLEY; S. WYLIE. *Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Univ. of Louisville Med. Ctr.*
- 10:00 HHH6 **513.11** Impact of acute stress on decision-making. C. RAMDANI\*. *Inst. De Recherche Biomédicale Des Armées.*
- 11:00 HHH7 **513.12** Structural imaging findings in individuals with PTEN Hamartoma tumor syndrome (PHTS) and cognitive dysfunction. R. M. BUSCH\*; L. MOURANY; L. FERGUSON; S. DURGERIAN; K. A. KOENIG; M. J. LOWE; S. S. JONES; S. M. RAO; K. KRISHNAN; C. ENG. *Cleveland Clin.*
- 8:00 HHH8 **513.13** Test anxiety: A situation-specific trait. W. ZHANG\*; Q. HUANG; R. ZHOU, SR. *Southeast Univ., Nanjing Univ., Ctr. for Exptl. Social and Behavioral Res. of Jiangsu Province (Nanjing University).*
- 9:00 HHH9 **513.14** Neural underpinnings of prolonged exposure (PE) treatment effect on inhibitory control in post-traumatic stress disorder (PTSD). K. M. HARLE\*; A. D. SPADONI; S. NORMAN; A. SIMMONS. *UCSD, UCSD.*
- 10:00 HHH10 **513.15** Response inhibition in advanced Parkinson's disease patients on and off dopaminergic medication. D. P. FLODEN\*; H. PARK; J. BIARS; A. G. MACHADO. *Cleveland Clin., Cleveland Clin.*
- 11:00 HHH11 **513.16** A time study of prefrontal activation during executive tasks in people with Parkinson's disease: A NIRS study. J. K. LANGE KOCH\*; A. SMILEY-OYEN. *Iowa State Univ.*
- 8:00 HHH12 **513.17** Functional reorganization of the inhibition network precedes cognitive impairment in Parkinson's disease. D. L. HARRINGTON\*; Q. SHEN; R. J. THEILMANN; G. N. CASTILLO; I. LITVAN; J. V. FILOTEO; M. HUANG; R. R. LEE; C. S. TAKAHASHI. *VA San Diego Healthcare Syst., Univ. of California San Diego, Univ. of California San Diego, UC San Diego, VA San Diego Healthcare Syst., UCSD, VA San Diego Healthcare Syst.*
- 9:00 HHH13 **513.18** Dopaminergic tone and apathy modulate foraging decisions in health and Parkinson's disease. C. LE HERON; N. KOLLING; O. PLANT; A. KIENAST; S. FALLON; M. HUSAIN; M. A. APPS. *Univ. of Oxford.*
- 10:00 HHH14 **513.19** Tired of working: Neurocomputational mechanisms of the effects of fatigue on effort-based decisions. T. MÜLLER\*; C. LE HERON; M. HUSAIN; M. A. J. APPS. *Univ. of Oxford, Univ. of Oxford, Univ. of Oxford.*
- 11:00 HHH15 **513.20** Effect of Neuroinflammation on the glymphatic clearance of macromolecules in an LPS model. S. SUESH\*; K. JENROW. *Central Michigan Univ.*
- 8:00 HHH16 **513.21** Oculomotor behavior as a measure of cognitive control in psychiatric illness. R. YEP\*; B. COE; D. BRIEN; C. WANG; J. HUANG; A. MARIN; D. MUNOZ. *Queen's Univ., Queen's Univ., Queen's Univ.*
- 9:00 HHH17 **513.22** • Cognitive control in psychosis: An fMRI and saccadic eye movement study. B. S. JACKSON\*; C. R. BURTON; E. R. AUGER; A. L. RODRIGUE; M. S. KESHAVAN; G. D. PEARLSON; E. S. GERSHON; C. A. TAMMINGA; B. A. CLEMENTZ; J. E. MCDOWELL. *Univ. of Georgia, Univ. of Georgia, Yale Univ. Sch. of Med., Harvard Medical School, Beth Israel Deaconess Med. Ctr., Yale Univ. Sch. of Medicine, Olin Neuropsychiatric Res. Center, Inst. of Living/Hartford Hosp., Univ. of Chicago, Univ. of Texas Southwestern Med. Ctr., Univ. of Georgia.*
- 10:00 HHH18 **513.23** Creativity in autism: An integrative interaction-based approach to studying creativity in interaction. Y. GLUZMAN; S. SIDDHARTH; A. MINER; M. MARTINEZ; D. MORALES; B. WILSON; J. YANG; E. VIIRRE; T. JUNG; J. A. PINEDA\*. *UCSD, UCSD, UCSD, UCSD, UCSD, Univ. of California San Diego Dept. of Cognitive Sci.*
- 11:00 HHH19 **513.24** Predictive processing in changing environments in autism: Electrophysiological, pupillometric and behavioral assays. S. TIKIR\*; S. MOLHOLM. *Albert Einstein Col. of Med.*
- 8:00 HHH20 **513.25** Use of pharmaceutical cognitive enhancers in the Australian financial services industry. E. A. BOWMAN\*; B. FENG; C. MURAWSKI; P. BOSSAERTS. *Univ. of Melbourne.*
- 9:00 HHH21 **513.26** Genetically determined cortical dopamine availability modulates alcohol-induced impairments in error-monitoring. J. HAPPER; C. A. HODGKINSON; D. GOLDMAN; K. MARINKOVIC\*. *San Diego State Univ., Natl. Inst. on Alcohol Abuse and Alcoholism, Univ. of California.*
- 10:00 HHH22 **513.27** Deterministic and probabilistic reversal learning in obsessive compulsive disorder. A. M. APERGIS-SCHOUTE\*; F. F. VAN DER FLIER; J. W. KANEN; N. A. FINEBERG; B. J. SAHAKIAN; T. W. ROBBINS. *Univ. of Cambridge, Universitij of Cambridge, Universitij of Cambridge, Hertfordshire Partnership NHS Fndn. Trust, Univ. of Cambridge, Univ. Cambridge.*
- 11:00 HHH23 **513.28** Simultaneous sub-second measurements of dopamine and serotonin in human striatum reveals that neuromodulatory signals are disconnected from behavior in patients taking SSRIs. K. T. KISHIDA\*; R. J. MORAN; J. P. WHITE; T. M. LOHRENZ; I. SAEZ; A. W. LAXTON; M. R. WITCHER; S. B. TATTER; E. LAWRENCE; P. E. PHILLIPS; P. DAYAN; P. R. MONTAGUE. *Wake Forest Univ. Sch. of Med., Wake Forest Sch. of Med., Virginia Tech., Virginia Tech. Carilion Res. Inst., The Virginia Tech. Carilion Res. Inst., Univ. of California Berkeley, Univ. of Washington, Univ. Col. London, Univ. Col. London, Virginia Tech.*
- 8:00 HHH24 **513.29** A multimodal neuroimaging investigation of the neural correlates of doubt in obsessive-compulsive disorder. A. I. GOLD\*; L. Y. CHEN; K. H. ALM; K. E. TOBIN; C. L. SPECK; J. KRASNOW; J. SAMUELS; V. KAMATH; G. NESTADT; A. BAKKER. *Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Univ.*
- 9:00 HHH25 **513.30** Deciding without consequences: Revisiting indecisiveness in individuals with obsessive-compulsive disorder. B. ZUROWSKI\*; A. RUBART; T. VAN EIMEREN; A. WAHL-KORDON; H. R. SIEBNER; F. HOHAGEN. *Univ. of Luebeck, Univ. of Luebeck, Univ. of Köln, Copenhagen Univ. Hosp. Hvidovre.*

• 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

514. Human Cognition and Behavior: Language Networks

Theme H: Cognition

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

- 8:00 HHH26 **514.01** Learning novel speech sounds reorganizes acoustic representations in the human superior temporal gyrus. H. G. YI\*; M. K. LEONARD; B. CHANDRASEKARAN; K. V. NOURSKI; M. A. HOWARD, III; E. F. CHANG. *Univ. of California, San Francisco, The Univ. of Texas at Austin, The Univ. of Iowa, Univ. of Iowa Hosp. and Clinics.*
- 9:00 HHH27 **514.02** Parsing continuous speech into linguistic representations. L. GWILLIAMS\*; J. KING; D. POEPEL. *New York Univ., Frankfurt Inst. for Advanced Studies.*
- 10:00 HHH28 **514.03** An electrocorticogram analysis based on the theoretical coupling between subpopulation network structure and cross-spectral power. N. SATO\*; R. MATSUMOTO; A. SHIMOTAKE; M. MATSUHASHI; T. KIKUCHI; T. KUNIEDA; H. MIZUHARA; R. TAKAHASHI; A. IKEDA. *Future Univ. Hakodate, Dept. of Neurology, Kyoto Univ. Grad. Sch. of Med., Dept. of Epilepsy, Movement Disorders and Physiol., Kyoto Univ. Grad. Sch. of Med., Human Brain Res. Center, Kyoto Univ. Grad. Sch. of Med., Dept. of Neurosurg., Kyoto Univ. Grad. Sch. of Med., Dept. of Neurosurg., Ehime Univ. Grad. Sch. of Med., Kyoto Univ. Grad. Sch. of Informatics.*
- 11:00 HHH29 **514.04** Predictor of programming language learning success: The development of the right inferior frontal cortex and the bilateral supramarginal cortex. C. HOSODA\*; M. HAMDA; H. MAESHIMA; K. OKANOYA. *Univ. of Tokyo.*
- 8:00 HHH30 **514.05** Resolving discrepancies between incoming auditory information and linguistic expectations. C. SIGNORET\*; R. BLOMBERG; Ö. DAHLSTRÖM; L. MØLLER ANDERSEN; D. LUNDQVIST; M. RUDNER; J. RÖNNBERG. *Inst. for Behavioural science and Learning, The Natl. Res. Facility for Magnetoencephalography.*
- 9:00 HHH31 **514.06** L2 word recognition in noise: Modulatory effects of semantic and crosslinguistic overlap on brain activity. S. GUEDICHE\*; A. DE BRUIN; M. BAART; A. G. SAMUEL. *Basque Ctr. On Cognition Brain and Language, Basque Ctr. on Cognition Brain and Language, Tillburg Univ. and Basque Ctr. on Cognition Brain and Language, Basque Ctr. on Cognition Brain and Language and Stony Brook Univ.*
- 10:00 HHH32 **514.07** Spatial-temporal dynamics of neural activity in Broca's area during lexical selection: An intracranial EEG study. Y. WANG\*; A. KORZENIEWSKA; K. USAMI; A. VALENZUELA; N. E. CRONE. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Hosp.*
- 11:00 HHH33 **514.08** The frequency-band specific information flows in speech network. Y. YAN\*; H. HAN; D. ZHANG; W. ZHOU; B. HONG. *Tsinghua Univ., Tsinghua Univ., Tsinghua Univ.*
- 8:00 HHH34 **514.09** Visual cues contribution to audio-visual speech intelligibility in natural speech. I. TAL\*; J. L. HERRERO; M. LESZCZYNSKI; A. D. MEHTA; C. E. SCHROEDER. *Nathan Kline Inst. for Psychiatric Res., The Feinstein Inst. for Med. Res., Columbia Univ., Hofstra North Shore LIJ Sch. of Med., Columbia Univ. Col. of Physicians and Surgeons.*
- 9:00 HHH35 **514.10** The impoverished comprehension of non-native speech in noise. E. BLANCO-ELORRIETA\*; L. PYLKKANEN; N. DING; D. POEPEL. *New York Univ., New York Univ., Zhejiang Univ., Max-Planck-Institute for Empirical Aesthetics.*
- 10:00 HHH36 **514.11** Auditory language localizer: An fMRI/ ECoG study with epilepsy patients. B. F. SNOAD\*; P. E. GANDER; C. K. KOVACH; K. V. NOURSKI; H. KAWASAKI; E. FEDORENKO; M. A. HOWARD, III. *Univ. of Iowa Hosp. and Clinics, MGH.*
- 11:00 HHH37 **514.12** Neural correlates of cognitive state during volitional communication. A. E. HADJINICOLAOU\*; G. BELOK; J. W. LEE; B. S. CHANG; S. S. CASH. *Mass. Gen. Hosp., Brigham and Women's Hosp., Beth Israel Deaconess Med. Ctr.*
- 8:00 HHH38 **514.13** The role of pMTG in word learning. P. RIPOLLES\*; D. POEPEL. *New York Univ.*
- 9:00 HHH39 **514.14** Surgical resections reveal functional regions of the temporal lobe for learning and memory. K. TOMBRIDGE\*; C. DONOS; J. BREIER; P. ROLLO; J. JOHNSON; N. TANDON. *Univ. of Texas Hlth. Sci. Ctr. at Houston, Univ. of Texas Hlth. Sci. Ctr. at Houston, Mem. Hermann Hosp. Texas Med. Ctr.*
- 10:00 HHH40 **514.15** Characterizing the spatiotemporal pattern of neural activity during visual word recognition. L. K. LONG\*; M. SPERLING; A. SHARAN; B. C. LEGA; A. BURKS; G. A. WORRELL; R. E. GROSS; B. C. JOBST; K. DAVIS; K. A. ZAGHLOUL; S. A. SHETH; J. STEIN; S. DAS; R. GORNIK; P. A. WANDA; M. J. KAHANA; J. JACOBS; N. MESGARANI. *Columbia Univ., Columbia Univ., Thomas Jefferson Univ. Hosp., 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, Baylor Col. of Med., Columbia Univ., Hosp. of the Univ. of Pennsylvania, Thomas Jefferson Univ. Hosp., Univ. of Pennsylvania, Columbia Univ., Columbia Univ.*
- 11:00 HHH41 **514.16** Taking the sub-lexical route: The spatiotemporal dynamics of reading in semantic variant of primary progressive aphasia. V. BORGESANI\*; L. HINKLEY; K. RANASINGHE; M. THOMPSON; W. SHWE; D. MIZURI; S. HONMA; J. HOUDE; Z. MILLER; S. NAGARAJAN; M. GORNO-TEMPINI. *Univ. of California, San Francisco, Univ. of California, San Francisco, Univ. of California, San Francisco.*
- 8:00 HHH42 **514.17** Causal role of specialized visual cortices in auditory foreign language vocabulary translation. B. MATHIAS\*; L. SURETH; G. HARTWIGSEN; M. MACEDONIA; K. M. MAYER; K. VON KRIEGSTEIN. *Max Planck Inst. for Human Cognitive and Brain, Max Planck Inst. for Human Cognitive and Brain, Johannes Kepler Univ. Linz, Univ. of Münster, Univ. of Münster, Tech. Univ. Dresden.*
- 9:00 HHH43 **514.18** Dissociating language and logic using TMS. J. P. COETZEE\*; M. M. MONTI; M. IACOBONI; A. D. WU; M. JOHNSON. *UCLA, UCLA, UCLA, UCLA.*
- 10:00 HHH44 **514.19** Shared neural substrates for speech production and second-language word recognition in human motor cortex. B. BARRAGAN\*; K. UEHARA; Y. JIAO; V. BERISHA; M. SANTELLO; J. LISS. *Arizona State Univ., Arizona State Univ., Arizona State Univ.*
- 11:00 HHH45 **514.20** The effect of semantic relatedness on learning ambiguous words in a second language: An event-related potential study. Y. LU\*; B. CHEN. *Beijing Normal Univ.*



- 8:00 HHH46 **514.21** Sleep and memory consolidation of higher-order language combinatorics: Insights from oscillatory brain activity. Z. R. CROSS\*; L. ZOU-WILLIAMS; M. J. KOHLER; M. SCHLESEWSKY; I. BORNKESSEL-SCHLESEWSKY. *Univ. of South Australia, Univ. of South Australia.*
- 9:00 HHH47 **514.22** Electrical stimulation while memorizing verbs and nouns: Comparison of tACS and tDCS in a single case study. H. M. MUELLER\*; S. WEISS. *Neurolinguistics.*
- 10:00 HHH48 **514.23** Eye voice coordination in Parkinson's disease. Y. TERAOKA\*; S. TOKUSHIGE; S. INOMATA-TERADA; Y. UGAWA. *Kyoto Univ., Kyoto Univ., Kyoto Univ., Fukushima Med. University.*
- 11:00 HHH49 **514.24** Brains on books: Event-structure semantics predict cortical responses to naturalistic language. A. A. HAFRI\*; M. F. BONNER; J. C. TRUESWELL; R. A. EPSTEIN. *Univ. of Pennsylvania.*
- 8:00 HHH50 **514.25** How selective is Broca's area for language syntax? A Bayesian neurostimulation meta-analysis. M. JOHNSON\*; Y. BAEK; J. P. COETZEE; M. M. MONTI. *UCLA, UCLA.*
- 9:00 HHH51 **514.26** The neural computations underlying relational reasoning. J. CHIANG\*; Y. PENG; K. J. HOLYOAK; H. LU; M. M. MONTI. *UCLA, UCLA.*
- 10:00 HHH52 **514.27** Evaluating the reliability of fMRI for single subject language mapping. A. BAJRACHARYA\*; C. S. ROGERS; M. S. JONES; S. M. MCCONKEY; J. E. PEELLE. *Washington Univ., Washington Univ.*
- 11:00 HHH53 **514.28** ▲ Associations between music training and language learning on cognitive performance. A. ZHU\*; J. A. BUGOS; J. BRYANT. *Univ. of South Florida, Univ. of South Florida.*
- 8:00 HHH54 **514.29** Frontal and temporal mobile EEG characterization of the preparation and generation phases of the creative writing process: A pilot study. J. G. CRUZ-GARZA\*; A. S. RAVINDRAN; M. J. DELGADILLO; A. E. KOPTEVA; C. RIVERA GARZA, Ph.D.; J. L. CONTRERAS-VIDAL, Ph.D. *Univ. of Houston, Univ. of Houston.*
- 8:00 DP13/HHH55 **514.30** (Dynamic Poster) Spontaneous speech synchronization predicts neurophysiology, brain anatomy and language learning. M. F. ASSANEAO\*; P. RIPOLLES; J. ORPELLA; R. DE DIEGO-BALAGUER; D. POEPEL. *New York Univ., Univ. of Barcelona, Max-Planck-Institute For Empirical Aesthetics.*
- 10:00 HHH58 **515.03** The effect of oophorectomy prior to spontaneous menopause on cortical thickness and measures of attention and working memory: Preliminary findings. A. ALMEY\*; N. GERVAIS; A. DUCHESNE; R. REUBEN; L. GRAVELSINS; E. BAKER-SULLIVAN; S. T. WITT; Å. R. KERSLEY; E. CLASSON; N. LYKKE; M. SHILDRICK; C. ASBERG; E. THEODORSSON; J. ERNERUDH; E. Å. LUNDQVIST; P. KJØLHEDE; C. L. GRADY; G. EINSTEIN. *Univ. of Toronto, Univ. of Northern British Columbia, Linköping Univ., Linköping Univ., Stockholm Univ., Baycrest Ctr. Geriatric Care.*
- 11:00 HHH59 **515.04** Bilateral salpingo-oophorectomy reduces CA1 volume and impairs hippocampal-dependent memory in middle-aged women: Preliminary findings. N. GERVAIS\*; A. ALMEY; A. DUCHESNE; R. REUBEN; L. GRAVELSINS; E. BAKER-SULLIVAN; A. WONG; R. K. OLSEN; C. L. GRADY; G. EINSTEIN. *Univ. of Toronto, McGill University, Douglas Hosp. Res. Inst., Univ. of Northern British Columbia, Rotman Res. Inst., Baycrest Ctr. Geriatric Care.*
- 8:00 HHH60 **515.05** Relation of white matter lesion load to cortical gray matter thickness in healthy aging. P. K. BHARADWAJ\*; L. A. NGUYEN; G. A. HISHAW; T. P. TROUARD; J. R. MOELLER; C. G. HABECK; G. E. ALEXANDER. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Columbia Univ., Columbia Univ. Med. Ctr., Univ. of Arizona, Univ. of Arizona, Arizona Alzheimers Consortium.*
- 9:00 HHH61 **515.06** Hippocampal mediation of subjective memory complaints differs by hypertension status in healthy older adults. E. VAN ETTEN\*; P. K. BHARADWAJ; L. A. NGUYEN; G. A. HISHAW; T. P. TROUARD; G. E. ALEXANDER. *Univ. of Arizona, Evelyn F. McKnight Brain Inst., Univ. of Arizona, Univ. of Arizona, Dept. of Psychiatry, Neurosci. & Physiological Sci. Grad. Interdisciplinary Program, Arizona Alzheimer's Consortium.*
- 10:00 III1 **515.07** Relation between physical sport activity and white matter hyperintensity volume in older adults. M. FRANCHETTI\*; P. K. BHARADWAJ; L. A. NGUYEN; Y. C. KLIMENTIDIS; G. HISHAW; T. P. TROUARD; D. A. RAICHLEN; G. E. ALEXANDER. *Univ. of Arizona, Evelyn F. McKnight Brain Inst., Arizona Alzheimer's Consortium, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 11:00 III2 **515.08** Systemic inflammation is associated with longitudinal changes in cognitive performance among urban adults. M. A. BEYDOUN\*; G. A. DORE; J. A. CANAS; H. LIANG; H. A. BEYDOUN; M. K. EVANS; A. B. ZONDERMAN. *NIA/NIH/IRP, Nemours Children's Clin., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., NIA/NIH/IRP, NIA/NIH/IRP.*
- 8:00 III3 **515.09** Sex differences in brain-behaviour correlations in episodic memory: An adult lifespan study. S. SUBRAMANIPILLAI\*; S. RAJAGOPAL; S. PASVANIS; D. TITONE; M. RAJAH. *McGill Univ., Douglas Brain Imaging Centre, Douglas Inst., McGill Univ.*
- 9:00 III4 **515.10** Frontal functional connectivity as a measure of cognitive reserve: An optical imaging study. A. V. MEDVEDEV\*. *Georgetown Univ. Med. Ctr.*
- 10:00 III5 **515.11** Ultrastructural mapping of phosphodiesterase 4D (PDE4D) in rhesus macaque dorsolateral prefrontal cortex: Plausible role in the etiology of Alzheimer's disease. D. DATTA\*; Y. M. MOROZOV; J. I. ARELLANO; P. RAKIC; A. F. ARNSTEN. *Yale Univ., Yale Univ. Sch. Med., Yale Univ. Sch. Med, Dept of Neurosci., Yale Univ. Sch. Med.*

**POSTER**

**515. Human Cognition and Behavior: Cognitive Aging I**

**Theme H: Cognition**

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

- 8:00 HHH56 **515.01** "Where is she and what did she say?": Web-testing differentiates spatial and verbal episodic memory. J. PANI\*; D. SOKOLOWSKI; H. RØE EVENSMOEN; T. HANSEN; A. HABERG. *NTNU.*
- 9:00 HHH57 **515.02** How do older and younger people do it? Assessing web-based neuropsychological participation in a large-scale population study. D. SOKOLOWSKI\*; T. HANSEN; J. PANI; A. K. HABERG. *NTNU, NTNU.*

\* 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 III6 **515.12** "How do you feel about your future?" Results of the study of knowledge and reactions to amyloid testing (SOKRATES), a qualitative study of cognitively normal older adults' reactions to learning an "elevated" or "not elevated" PET scan result. J. H. KARLAWISH\*; S. STITES; E. LARGENT; B. BEAR; K. HARKINS. *Univ. of Pennsylvania.*
- 8:00 III7 **515.13** Genetic predisposition for inflammation exacerbates effects of striatal iron content on cognitive switching in healthy aging. A. M. DAUGHERTY; K. M. KENNEDY; K. M. RODRIGUE\*. *Univ. of Illinois, Urbana-Champaign, The University of Texas at Dallas, Univ. Texas, Dallas.*
- 9:00 III8 **515.14** Age-related striatal iron accumulation is associated with decreased dynamic range of activation to working memory load and predicts executive function performance. K. M. RODRIGUE; A. M. DAUGHERTY; C. M. FOSTER; K. M. KENNEDY\*. *Univ. of Texas at Dallas, Univ. of Illinois, Urbana-Champaign, Univ. Texas, Dallas.*
- 10:00 III9 **515.15** Amyloid-beta spreads from multiple sources in healthy aging. K. ARNEMANN\*; L. DIGMA; W. J. JAGUST. *Univ. of California Berkeley, Helen Wills Neurosci. Inst., Univ. of California, Lawrence Berkeley Natl. Lab.*
- 11:00 III10 **515.16** ● Cortical excitability as a marker of global cognitive function in pathological cognitive aging. P. J. FRIED\*; S. S. BUSS; K. M. MCDONALD; D. Z. PRESS; A. PASCUAL-LEONE. *Beth Israel Deaconess Med. Ctr., Inst. Guttman, Univ. Autonoma de Barcelona.*
- 8:00 III11 **515.17** Eight-year longitudinal change in association cortical thickness: Progression from cognitively healthy to dementia. S. L. WILLIS\*; P. R. ROBINSON; E. ULZIIBAATAR; T. J. GRABOWSKI; K. SCHAIE. *Univ. of Washington.*
- 9:00 III12 **515.18** Age-related neural dedifferentiation extends beyond visual cortex and is driven by less reliable neural activation. M. SIMMONITE\*; K. E. CASSADY; H. C. GAGNON; P. S. LALWANI; S. F. TAYLOR; D. H. WEISSMAN; R. D. SEIDLER; T. A. POLK. *Univ. of Michigan, Univ. of Florida.*
- 10:00 III13 **515.19** Decline in functional connectivity between resting state networks after total knee arthroplasty with general anesthesia in older adults. H. HUANG\*; C. HARDCASTLE; J. TANNER; H. PARVATANENI; C. PRICE; M. DING. *Univ. of Florida.*
- 11:00 III14 **515.20** Little effect of computerized cognitive training or expectations in healthy older adults. S. RABIPOUR\*; C. MORRISON; J. CROMPTON; M. PETRUCCELLI; M. GERMANO; A. POPESCU; P. S. R. DAVIDSON. *Univ. of Ottawa.*
- 8:00 III15 **515.21** The effect of cardiovascular risk factors on fMRI activations to multi-tasking in healthy older adults. S. QIN\*; C. BASAK. *Univ. of Texas at Dallas, Univ. of Texas at Dallas.*
- 9:00 III17 **516.02** "Thin slice" functional connectome fingerprinting. L. BYRGE\*; D. P. KENNEDY. *Indiana Univ.*
- 10:00 III18 **516.03** Identifying twin pairs by classifying variability in whole-brain functional connectivity. D. V. DEMETER\*; L. E. ENGELHARDT; R. MALLET; M. A. ROE; T. NUGIEL; M. E. MITCHELL; J. JURANEK; K. P. HARDEN; E. M. TUCKER-DROB; J. A. LEWIS-PEACOCK; J. A. CHURCH. *Univ. of Texas at Austin, The Univ. of Texas Hlth. Sci. Ctr. at Houston, Univ. of Texas at Austin, Univ. of Texas at Austin.*
- 11:00 III19 **516.04** Metabolic cost of structural hubs in the human connectome. R. CHIN\*; K. M. ANDERSON; M. A. COLLINS; A. YENDIKI; A. J. HOLMES. *Yale Univ., Athinoula A. Martinos Ctr. for Biomed. Imaging, Massachusetts Gen. Hospital, Harvard Med. Sch., Yale Univ.*
- 8:00 III20 **516.05** ▲ The influence of genetics on individual differences in neural activation patterns in the visual and frontoparietal communities. Y. COURTNEY\*; J. A. ETZEL; T. S. BRAVER. *Kent State Univ., Cognitive Control & Psychopathology Lab., Washington Univ. in St. Louis.*
- 9:00 III21 **516.06** Idiosyncratic community organization of cortical functional networks in Autism Spectrum Disorder. Y. HE\*; L. BYRGE; O. SPORNS; D. KENNEDY. *Indiana University, Indiana Univ. Network Sci. Inst.*
- 10:00 III22 **516.07** Microstructure of the human corpus callosum is modulated by genetic variation in PLP1 and CNTN1: A neurite orientation dispersion and density imaging (NODDI) study. S. OCKLENBURG\*; C. ANDERSON; W. M. GERDING; C. FRAENZ; C. SCHLÜTER; P. FRIEDRICH; M. J. RAANE; L. ARNING; J. T. EPPLEN; O. GUNTURKUN; C. BESTE; E. GENC. *Ruhr-University of Bochum, Univ. of Otago, Ruhr-University Bochum, Ruhr-University, Ruhr-Universität Bochum, Universitätsklinikum Carl Gustav Carus, Ruhr Univ. Bochum.*
- 11:00 III23 **516.08** Neurotransmitter model of temperament traits. I. TROFIMOVA\*. *McMaster Univ.*
- 8:00 III24 **516.09** Dopaminergic mechanisms underlying normal variation in trait anxiety. A. S. BERRY\*; R. L. WHITE, III; D. FURMAN; J. R. NASKOLNAKORN; V. D. SHAH; M. DESPOSITO; W. J. JAGUST. *E O Lawrence Berkeley Natl. Lab., Univ. of California San Francisco, Univ. of California Berkeley, Univ. of California Berkeley.*
- 9:00 III25 **516.10** Investigating the role of GABA and glutamate on dorsal anterior cingulate activity associated with hypnosis. D. D. DESOUZA\*; K. STIMPSON; L. BALTUSIS; M. GU; R. HURD; H. WU; D. C. YEOMANS; N. WILLIAMS; D. SPIEGEL. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*
- 10:00 III26 **516.11** Genetic variants of MAOA influence oscillatory EEG & ECG activity in response to aggression-inducing stimuli. S. IM\*; J. JEONG; G. JIN; J. YEOM; J. JEKAL; S. LEE; S. LEE; Y. LEE; J. CHO; D. KIM; C. MOON; C. LEE. *DGIST, DGIST, DGIST, DGIST.*
- 11:00 III27 **516.12** ▲ Implicit and explicit risk taking on the balloon analogue risk task and its relationship with positive personality characteristics in working adults. S. R. BOETTCHER\*; A. ALTHOFF; A. C. S. VAZQUEZ; K. R. VIACAVA. *Inst. of Human Cognition and Behavior (INCh), Ctr. of Studies in Organizational and Work Psychology (NEPOT). Federal Univ. of Hlth. Sci. of Porto Alegre, Ctr. of Studies in Organizational and Work Psychology. Federal Univ. of Hlth. Sci. of Porto Alegre, Decision Making Lab. (DM Lab). Inst. of Human Cognition and Behavior (INCh).*

## POSTER

### 516. Human Cognition and Behavior: Individual Differences

#### Theme H: Cognition

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

- 8:00 III16 **516.01** Modeling the individual brain dynamics by a data assimilation approach. T. SASE\*; K. KITAJO. *Intl. Islamic Univ. Malaysia, RIKEN Ctr. 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

- 8:00 III28 **516.13** Social networking service talk about your personality and resting-state brain network. K. MORI\*; M. HARUNO. *NICT*.
- 9:00 III29 **516.14** Linking resting state connectivity with attachment styles. M. NANNI\*; A. KRAUSE; L. COLIC; V. BORCHARDT; M. LI; B. STRAUSS; A. BUCHHEIM; D. WILDGRUBER; P. FONAGY; T. NOLTE; M. WALTER. *Otto v. Guericke Univ. Magdeburg, Clin. Affective Neuroimaging Lab., Clin. Affective Neuroimaging Lab., Leibniz institute for neurobiology, Friedrich-Schiller-University Jena, Univ. Innsbruck, Univ. of Tuebingen, Univ. Col. London, Eberhard Karls Univ. Tuebingen*.
- 10:00 III30 **516.15** Brain network predictors of TMS-induced changes in cognitive control performance. C. L. GALLEN\*; T. P. ZANTO; A. GAZZALEY. *UCSF*.
- 11:00 III31 **516.16** Identifying distinct alpha band oscillatory dynamics in the EEG as targets for rhythmic transcranial magnetic stimulation (rTMS). M. K. GOLA\*; J. WAGNER; J. A. ONTON; K. MURPHY; S. MAKEIG. *UC San Diego, INC, SCCN, Univ. of California San Diego, UC San Diego, Univ. of California San Diego*.
- 8:00 III32 **516.17** The utility of off-the-shelf EEG devices for the study of psychoactive substance use in non-laboratory settings. J. DREO\*; D. SAKIĆ; Z. PIRTOŠEK. *Fac. of Medicine, Univ. of Ljubljana, Chair of Neurology, Fac. of Medicine, Univ. of Ljubljana*.
- 9:00 III33 **516.18** Connectome based predictive modeling predicts individual differences in processing speed in healthy young adults. P. LI\*; H. HE; Y. STERN; Y. GAZES; C. G. HABECK. *Columbia Univ. Med. Ctr., Columbia Univ., Cognitive Neuroscience Division, Columbia Univ., Columbia Univ., Columbia Univ.*
- 10:00 III34 **516.19** • Narrative context and gaming experience moderate presence and cybersickness in virtual reality. S. KENNY\*; S. WEECH; M. BARNETT-COWAN. *Univ. of Waterloo*.
- 11:00 III35 **516.20** • Mechanisms of skill improvement across 100 sessions of an online attention training game. O. CLAFLIN\*. *Lumos Labs*.
- 8:00 III36 **516.21** Individual variation in the cortical response to word predictability in naturalistic reading. B. T. CARTER\*; S. G. LUKE. *Brigham Young Univ., Brigham Young Univ.*
- 9:00 III37 **516.22** Neural correlates underlying the individual difference of positive psychological effect by remembering nostalgic memories. K. OBA\*; M. BARTHEL; K. ABE; K. HIRANO; R. ISHIBASHI; R. NOUCHI; R. KAWASHIMA; M. SUGIURA. *Tohoku Univ., Bordeaux Univ.*
- 10:00 III38 **516.23** ▲ Music preferences are radically idiosyncratic yet internally consistent. S. SPIVACK\*; W. ERSLY; N. SPILKA; I. PASSMAN; S. PHILIBOTTE; P. WALLISCH. *New York Univ.*
- 11:00 III39 **516.24** Personality, as it manifests in the temporal fine structure of musical appraisal judgments. I. PASSMAN; N. H. SPILKA; S. SPIVACK; S. J. PHILIBOTTE; P. WALLISCH\*. *New York Univ., New York Univ., New York Univ., New York Univ.*
- 8:00 III40 **516.25** Deep dynamic phenotyping of the individual: Daily life event analysis using actigraphy from wearable devices. H. RAHIMI EICHI\*; G. COOMBS III; J. ONNELA; J. T. BAKER; R. L. BUCKNER. *Harvard Univ., Harvard T.H. Chan Sch. of Publ. Hlth., McLean Hosp., Harvard Med. Sch., Massachusetts Gen. Hosp.*
- 9:00 III41 **516.26** Neurocognitive measures dissociate elite athletes in rugby league by position. T. F. NUGENT III\*; S. L. MILLER; A. A. KRUSE; D. BACH. *Platypus Inst.*
- 10:00 III42 **516.27** The effects of 30 days of bed rest with elevated carbon dioxide on cognitive performance. J. LEE\*; Y. E. DE DIOS; N. E. GADD; I. S. KOFMAN; J. J. BLOOMBERG; A. P. MULAVARA; R. D. SEIDLER. *Univ. of Florida, KBRwyle, NASA Johnson Space Ctr.*
- 11:00 III43 **516.28** Neurobehavioural correlates of obesity are largely heritable. U. VAINIK\*; T. BAKER; M. DADAR; Y. ZEIGHAMI; A. MICHAUD; Y. ZHANG; J. C. G. ALANIS; B. MISIC; D. L. COLLINS; A. DAGHER. *Montreal Neurolog. Inst., Univ. of Tartu, Rutgers Univ., Philipps Univ. of Marburg*.
- 8:00 III44 **516.29** • Individual differences in social punishment of unfair individuals and groups. M. EL ZEIN\*; C. SEIKUS; L. DE-WIT; B. BAHRAMI. *Univ. Col. London*.
- 9:00 III45 **516.30** ▲ The songs of my people: Appraisal differences of popular music as a function of ideology. C. F. MYERS\*; S. SPIVACK; N. H. SPILKA; S. J. PHILIBOTTE; I. PASSMAN; P. WALLISCH. *New York Univ., New York Univ., New York Univ.*

## POSTER

### 517. Schizophrenia: Animal Models: Developmental

#### Theme H: Cognition

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

- 8:00 III46 **517.01** Shared brain microstructure across genetic models of schizophrenia and autism spectrum disorder. B. R. BARNETT\*; C. P. CASEY; M. TORRES-VELÁZQUEZ; S. Y. YI; J. J. YU. *Univ. of Wisconsin, Madison, Univ. of Wisconsin, Madison, Univ. of Wisconsin, Madison, Univ. of Wisconsin, Madison*.
- 9:00 III47 **517.02** Gene therapy reverses physiological and behavioral deficits in a rodent model of schizophrenia. J. J. DONEGAN\*; A. M. BOLEY; D. J. LODGE. *Univ. of Texas Hlth. Sci. Ctr. At San Antonio*.
- 10:00 III48 **517.03** Nuclear paraspeckle lncRNA, Neat1 is an epigenetic modulator of oligodendroglial function with suppressed transcription in schizophrenia. P. L. KATSEL\*; P. ROUSSOS; M. PLETNIKOV; P. FAM; V. HAROUTUNIAN; S. NAKAGAWA; T. HIROSE. *Icahn Sch. of Med. At Mount Sinai, Icahn school of medicine at Mount Sinai, Johns Hopkins Univ., Neurobio. Labs., Hokkaido Univ.*
- 11:00 III49 **517.04** Psychopathology in a 15q13.3 microdeletion mouse model to probe mechanisms for early intervention. K. D. BORNEMANN; M. HEIL; S. JAEGER; J. R. NICHOLSON\*; N. SCHUELERT; H. ROSENBROCK; V. MACK. *Boehringer Ingelheim Pharma GmbH & Co.KG*.
- 8:00 III50 **517.05** Hearing loss, auditory sensorimotor gating deficits, and cortical interneuron abnormalities in a mouse model of 22q11.2 Deletion Syndrome. J. F. LINDEN\*; F. A. ZINNAMON; F. G. HARRISON; S. S. WENAS; A. F. MEYER; Q. LIU; K. H. WANG. *Univ. Col. London, Univ. Col. London and Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*

Tues. 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 III51 **517.06** ● Transcriptomic analysis of neurons derived from psychiatric patients carrying a t(1;11) translocation, and a corresponding mouse model. K. MILLAR\*; S. T. O'SULLIVAN; M. BONNEAU; P. GAUTIER; Y. SINGH; H. S. TORRANCE; D. L. MCCARTNEY; S. M. ANDERSON; H. VOLKMER; M. LOOS; K. L. EVANS; C. A. SEMPLE; S. CHANDRAN; M. DIDIER; D. J. PRICE; D. J. PORTEOUS. *Univ. of Edinburgh, MRC Inst. of Genet. and Mol. Med., CeGaT, The Univ. of Tuebingen, Sylics, The Univ. of Edinburgh, Sanofi, Univ. Edinburgh.*
- 10:00 III52 **517.07** Src deficient mice demonstrate behavioral and electrophysiological alterations relevant to schizophrenia. O. MELNYCHENKO; K. R. WARD; C. HAHN; R. E. FEATHERSTONE\*; S. J. SIEGEL. *USC, Univ. of Pennsylvania, Univ. Pennsylvania Sch. Med.*
- 11:00 III53 **517.08** Behavioral phenotype of glyoxalase 1 knockout mice. K. SUZUKI\*; K. TORIUMI; Y. HORIUCHI; M. MIYASHITA; M. ITOKAWA; M. ARAI. *Tokyo Metropolitan Inst. of Med. Sci.*
- 8:00 III54 **517.09** ● Behavioral flexibility of male and female rats in the MAM animal model of schizophrenia. M. GHASEMZADEH\*; D. KRAVTSOV; L. KELBLE. *Marquette Univ.*
- 9:00 III55 **517.10** Neonatal blockade of NR2A-containing NMDA receptors induces schizophrenia-like behavior in adult rats. H. FURUIE\*; H. KUNISHI; M. YAMADA. *Natl. Ctr. of Neurol. and Psychiatry.*
- 10:00 III56 **517.11** Phenotypic characterization of mice lacking exons 4-13 of Disc1 gene. P. SIOW\*; L. LEE. *Natl. Taiwan Univ.*
- 11:00 III57 **517.12** Maternal infection alters methylome of schizophrenia loci in female brain. Z. YU\*; K. UENO; R. FUNAYAMA; M. SAKAI; C. ONO; K. NAKAYAMA; M. NAGASAKI; H. TOMITA. *Tohoku Univ., Tohoku Univ., Grad. Sch. of Medicine, Tohoku Univ.*
- 8:00 III58 **517.13** Maternal immune activation in rats blunts brain cytokine and kynurenine pathway responses to a second immune challenge in early adulthood. S. M. CLARK\*; F. M. NOTARANGELO; X. LI; S. CHEN; R. SCHWARCZ; L. TONELLI. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*
- 9:00 III59 **517.14** NFAT5 regulates psychotomimetic behaviors of mice through modulating brain dopaminergic neurotransmission. S. KIM\*; H. PARK; Y. KIM; Y. AHN; H. KWON. *Dongguk Univ. Intl. Hosp., Dept. of Biomed. Sciences, Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ. Col. of Med., Ulsan Natl. Inst. of Sci. and Technol.*
- 10:00 III60 **517.15** ▲ Impaired latent inhibition in NrCAM-deficient mice exposed to chronic stress. C. K. BROWN; C. V. BUHUSI; M. BUHUSI\*. *Utah State Univ., Utah State Univ.*
- 11:00 III61 **517.16** Adolescent stress induces a schizophrenia-like phenotype in a rodent model of susceptibility. S. M. PEREZ\*; D. J. LODGE. *UTHSCSA, UTHSCSA.*
- 8:00 III62 **517.17** The mPTP-regulating protein cyclophilin D contributes to oxidative stress in a developmental rodent model of schizophrenia. A. J. PHENSY\*; K. A. LINDQUIST; D. BAIRUTY; K. RAPOLU; K. KING; H. DU; S. KROENER. *Univ. of Texas At Dallas, Univ. of Texas at Southwestern, Univ. of Texas At Dallas, Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas.*
- 9:00 III63 **517.18** Behavioral and electrophysiological characterization of a post-weaning isolation model of schizophrenia. L. ANDREOLI\*; E. MORYA. *Inst. Santos Dumont.*
- 10:00 III64 **517.19** ● Behavioral and microdialysis studies indicate E/I imbalance contributes to cognitive impairment, psychosis and deficit in social interaction in subchronic phencyclidine-treated mice. H. Y. MELTZER\*; L. RAJAGOPAL; W. HE; M. HUANG. *Northwestern Univ. Sch. of Med., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ., Northwestern Univ. Feinberg Sch. of Med.*

## POSTER

### 518. Tools and Techniques for Manipulation of Neurons and Circuits

#### Theme I: Techniques

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

- 8:00 III65 **518.01** Discovery of novel chemo-optogenetic actuators using a zebrafish behavior-based small molecule screen. P. LAM\*; L. LEAVITT; A. R. THAWANI; M. J. FUCHTER; B. M. OLIVERA; R. T. PETERSON. *Univ. of Utah, Univ. of Utah, Imperial Col. London.*
- 9:00 III66 **518.02** Ablating inhibitory synapses with novel optogenetic tool. A. BAREGHAMYAN\*; G. G. GROSS; W. ZHANG; R. E. CAMPBELL; D. B. ARNOLD. *USC, USC, Univ. of Alberta.*
- 10:00 III67 **518.03** Acoustically targeted chemogenetics for noninvasive control of neural circuits. J. O. SZABLOWSKI\*; A. LEE-GOSSELIN; B. LUE; D. MALOUNDA; M. SHAPIRO. *Caltech.*
- 11:00 III68 **518.04** DART: A new way to revitalize behavioral neuropharmacology. M. R. TADROSS\*; B. C. SHIELDS; E. W. KAHUNO; G. SCHILTZ; P. VAGADIA; J. IZQUIERDO-FERRER; A. REITZ; M. LOUGHRAN. *Duke Univ., CMIDD, FCCDC.*
- 8:00 JJJ1 **518.05** Characterizing the expression and function of designer receptors exclusively activated by designer drugs (DREADDs) in the non-human primate. S. MUELLER\*; J. A. OLER; P. H. ROSEBOOM; M. RIEDEL; E. FEKETE; J. L. GOMEZ; J. BONAVENTURA; M. MICHAELIDES; J. PARE; A. GALVAN; R. KOVNER; M. KENWOOD; N. H. KALIN. *Univ. of Wisconsin Madison, Natl. Inst. on Drug Abuse, Emory Univ.*
- 9:00 JJJ2 **518.06** Generation of glycine receptor alpha 4 knockout mice using high-efficient modified CRISPR-Cas9 protocol. M. I. DARWISH\*; K. UNO; K. TAKAO; H. NISHIZONO. *Univ. of Toyama, Univ. of Toyama.*
- 10:00 JJJ3 **518.07** Multiplex CRISPR/Cas9-based gene activation in cultured microglia. P. MILLER-RHODES\*; H. A. GELBARD. *Univ. of Rochester Med. Ctr., Univ. of Rochester Med. Ctr.*
- 11:00 JJJ4 **518.08** Modeling Huntington's disease (HD) by Cas9-based HTT gene editing in isogenic patient-specific induced pluripotent stem cells (hiPSCs). P. LISOWSKI\*; B. MLODY; S. SINGH; H. TOBIAS; J. PRILLER; E. WANKER; R. KUEHN; A. PRIGIONE. *Max-Delbrück-Center for Mol. Med. (MDC), Max-Delbrück-Center for Mol. Med. (MDC), Charité-Universitätsmedizin.*

- 8:00 JJJ5 **518.09** CRISPR/Cas9 engineered IDH1<sup>R132H</sup>isogenic luciferase expressing cell models for *in vitro* and *in vivo* glioma studies. F. TIAN\*; D. DIANA; J. FOULK; L. CHEN; M. ENUAMEH; S. JACOB; W. SHU. *ATCC, ATCC Cell Systems, ATCC.*
- 9:00 JJJ6 **518.10** ● Targeted insertion of polyA tracks with CRISPR-Cas9 allows titratable control of gene expression. K. M. GAMBER\*; R. DELSTON; Y. CHEN; X. CUI; L. A. ARTHUR; L. RYZHOVA; A. HARRINGTON; E. WEINSTEIN; S. DJURANOVIC; L. LIAW. *Canopy Biosci., Washington Univ. in St. Louis, Washington Univ. in St. Louis, Maine Med. Ctr. Res. Inst.*
- 10:00 JJJ7 **518.11** Adenoviral vector mediated genetic interrogation and visualization of the olfactory sensory neurons. Y. WU\*; R. YU. *Stowers Institute for Med. Res., Univ. of Kansas Med. Ctr.*
- 11:00 JJJ8 **518.12** Transposon-mediated cell type-specific enhancer profiling in the mouse brain. A. CAMMACK\*; T. LAGUNAS; M. VASEK; A. MOUGDIL; M. WILKINSON; J. HE; M. SHABSOVICH; X. CHEN; M. HOODA; T. MILLER; J. DOUGHERTY; R. MITRA. *Washington Univ. In St. Louis, Washington Univ. In St. Louis.*
- 8:00 JJJ9 **518.13** ● Temporally precise labeling of oxytocin sensitive neuronal populations. N. L. MIGNOCCHI\*; H. KWON. *Max Planck FL Inst., Max Planck Florida Insititute.*
- 9:00 JJJ10 **518.14** Studying cortical circuitry using a retrograde trans-synaptic tracing system driven by a cortical layer-specific promoter. J. LIM\*; D. JGAMADZE; J. A. WOLF; T. DUONG; J. MILLS; H. I. CHEN. *Univ. of Pennsylvania, Corporal Michael J. Crescenz Veterans Affairs Med. Ctr., Univ. of Pennsylvania.*
- 10:00 JJJ11 **518.15** Expanding the mouse genetic toolkit: New transgenic and viral strategies for cell-type specific investigations. E. SZELENYI; T. L. DAIGLE; L. SIVERTS; M. WALKER; G. LENZ; L. T. GRAYBUCK; R. LARSEN; L. MADISEN; S. YAO; A. H. CETIN; H. ZENG; B. TASIC. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*
- 11:00 JJJ12 **518.16** ● Characterization and application of a genetically modified rat toolbox for neuron-specific activity modulation. Z. LIU\*; G. ZHAO; A. BROWN; K. FORBES. *Horizon Discovery.*
- 8:00 JJJ13 **518.17** Optimization of a GCaMP expression system for functional calcium imaging in the marmoset brain. M. UEMURA\*; T. MATSUI; T. HASHIMOTO; T. MURAKAMI; K. KIKUTA; T. KATO; K. OHKI. *The Univ. of Tokyo.*
- 9:00 JJJ14 **518.18** A light-inducible recombinase system for spatiotemporally controlled genomic modifications. S. YAO\*; B. OUELLETTE; T. ZHOU; M. MORTRUD; S. CHATTERJEE; X. KUANG; T. L. DAIGLE; B. TASIC; Y. WANG; H. GONG; Q. LUO; S. ZENG; H. ZENG; A. H. CETIN. *Allen Inst. For Brain Sci., Sch. of Optometry and Ophthalmology, Wenzhou Med. Col., Wuhan Natl. Lab. For Optoelectronics, Huazhong Univ. of Sci. & Technol.*
- 10:00 JJJ15 **518.19** Interneuron diversity in the dorsal striatum revealed by single-cell RNA-sequencing: The Pthlh population. A. B. MUÑOZ MANCHADO\*; C. BENGTSOON-GONZALES; A. ZEISEL; H. MUNGUBA; B. BEKKOUCHE; N. SKENE; P. LÖNNBERG; J. RYGE; K. D. HARRIS; S. LINNARSSON; J. HJERLING-LEFFLER. *Karolinska Institutet, Lund Univ., Brain Mind Inst., Univ. Col. London.*
- 11:00 JJJ16 **518.20** ▲ Molecular/electrophysiological heterogeneity and circuit function of striatal Pvalb expressing cells revealed by PatchSeq. C. L. BENGTSOON-GONZALES\*; A. MUÑOZ MANCHADO; A. ZEISEL; H. MUNGUBA; B. BEKKOUCHE; N. SKENE; P. LÖNNBERG; J. RYGE; K. D. HARRIS; S. LINNARSSON; C. J. MCBAIN; J. HJERLING-LEFFLER. *Karolinska Inst., Brain Mind Institute, Ecole Polytechnique Federale de Lausanne, Univ. Col. London, NIH.*
- 8:00 JJJ17 **518.21** Identification of novel neurogenic transcription factors driving neurogenesis in human stem cells. V. BUSSKAMP\*; A. H. M. NG; A. KEMPE; K. LENK; E. ROJO; J. HOERSTEN; A. EUGSTER; A. DAHL; G. M. CHURCH. *TU Dresden, Harvard Med. Sch.*
- 9:00 JJJ18 **518.22** Automated phenotyping screen for mosquito larvicides. D. B. SATTELLE\*; S. BUCKINGHAM; G. LYCETT. *Univ. Col. London, Liverpool Sch. of Tropical Med.*
- 10:00 JJJ19 **518.23** Selectively inhibiting small-diameter axons with glucose. J. ZHUO\*; M. T. MCPHEETERS; E. D. JANSEN; S. J. LEWIS; H. J. CHIEL; M. W. JENKINS. *Case Western Reserve Univ., Vanderbilt Univ., Case Western Reserve Univ., Case Western Reserve Univ., Case Western Reserve Univ.*

## POSTER

### 519. Systems Biology and Bioinformatics: Genomics, Proteomics, and Systems Biology

#### Theme I: Techniques

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

- 8:00 JJJ20 **519.01** Proteomic profiling of extracellular vesicles from IL-1 $\beta$  stimulated human primary astrocytes by quantitative mass spectrometry. Y. YOU\*; K. BORGMANN; S. STACY; A. GHORPADE; T. IKEZU. *Boston Univ. Sch. of Med., Univ. of North Texas Hlth. Sci. Ctr., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med.*
- 9:00 JJJ21 **519.02** ● PhosphoSitePlus as a resource to explore PTM-mediated signaling in neuronal physiology and disease. J. M. KORNHAUSER\*; B. ZHANG; E. SKRZYPEK; B. MURRAY; V. LATHAM; V. NANDHIKONDA; P. V. HORNBECK; F. GNAD. *Cell Signaling Technology, Inc, Cell Signaling Technol.*
- 10:00 JJJ22 **519.03** Genetic and functional study of LAMA5 for its role in nicotine dependence. F. RONGLI\*; M. D. LI. *Zhejiang Univ., Seton Hall Univ.*
- 11:00 JJJ23 **519.04** Sex-specific long non-coding RNA regulates genes expression in human depression. Q. LIU\*; M. D. LI. *Zhejiang Univ., Seton Hall Univ.*
- 8:00 JJJ24 **519.05** Integrative Genome-wide association analyses reveal the genetic link between smoking and schizophrenia. Y. MA\*; M. D. LI. *Zhejiang Univ., Seton Hall Univ.*
- 9:00 JJJ25 **519.06** Cross-laboratory analysis of patch-seq datasets reveals shared features of within-cell type electrophysiological heterogeneity. S. TRIPATHY\*; C. BOMKAMP; L. TOKER; O. MANCARCI; P. PAVLIDIS. *Univ. of British Columbia.*

Tues. 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 JJJ26 **519.07** Combined single-neuron methylome & transcriptome profiling from repeatedly identifiable neurons. E. C. DABE\*; A. B. KOHN; A. RIVA; L. L. MOROZ. *Univ. of Florida Whitney Lab., University of Florida Whitney Lab., Univ. of Florida, Univ. of Florida.*
- 11:00 JJJ27 **519.08** Novel subtypes of retinal ganglion cells identified by single cell RNA-seq analysis. B. A. RHEAUME; A. JEREEN; M. BOLISSETTY; M. S. SAJID; Y. YANG; K. RENNA; L. SUN; P. ROBSON; E. F. TRAKHTENBERG\*. *Univ. of Connecticut Sch. of Med., Univ. of Connecticut, Sch. of Med., The Jackson Lab. for Genomic Med., Univ. of Connecticut Sch. of Med.*
- 8:00 JJJ28 **519.09** Profiling claustral and layer 6 neocortical neurons using single-cell transcriptomics. L. FODOULIAN\*; A. CARLETON; I. RODRIGUEZ. *Univ. of Geneva, Univ. of Geneva.*
- 9:00 JJJ29 **519.10** Neuroscience multi-omic (NeMO) archive and analytics: BRAIN Initiative resources for neurogenomic data access, analysis, and visualization. S. A. AMENT\*; S. ADKINS; J. CRABTREE; V. FELIX; M. GIGLIO; H. HUOT CREASY; J. KANCHERLA; C. MCCRACKEN; J. ORVIS; C. COLANTUONI; H. CORRADA BRAVO; R. HERTZANO; A. MAHURKAR; O. R. WHITE. *Univ. of Maryland Baltimore, Univ. of Maryland Baltimore, Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland, Johns Hopkins Sch. of Med., Univ. of Maryland Sch. of Med.*
- 10:00 JJJ30 **519.11** Single-cell epigenomic profiling uncovers regulatory diversity of brain cell types and diseases. C. LUO\*; H. LIU; F. XIE; Y. HE; J. ZHOU; C. L. KEOWN; L. KURIHARA; R. CASTANON; J. LUCERO; J. R. NERY; J. P. SANDOVAL; D. A. DAVIS; D. MASH; T. J. SEJNOWSKI; E. A. MUKAMEL; M. BEHRENS; J. R. ECKER. *Salk Inst. for Biol. Studies, The Salk Inst. for Biol. Studies, UCSD, Swift Biosci. Inc, Miller Sch. of Medicine, Univ. of Miami, Univ. of Miami Miller Sch. of Med., Salk Inst., Univ. of California San Diego, The Salk Inst. CNL-S.*
- 11:00 JJJ31 **519.12** Linking cortical projection cell types to epigenetic profiles. Z. ZHANG\*; J. ZHOU; Y. PANG; A. RIVKIN; P. ASSAKURA MIYAZAKI; M. RASHID; A. BARTLETT; J. SANDOVAL; J. R. NERY; M. JACOBS; E. WILLIAMS; J. B. SMITH; C. LEE; D. LE; R. CASTANON; K. LEE; X. JIN; E. A. MUKAMEL; M. BEHRENS; J. R. ECKER; E. M. CALLAWAY. *The Salk Inst. for Biol. Studies, UCSD, The Salk Inst. for Biol. Studies, The Salk Inst. for Biol. Studies, UCSD, UCSD, The Salk Inst. for Biol. Studies, Howard Hughes Med. Inst.*
- 8:00 JJJ32 **519.13** Single nuclei chromatin accessibility analysis reveals epigenetic heterogeneity of mouse brain regions. S. PREISSEL\*; R. FANG; X. WANG; X. HOU; J. HAN; J. LUCERO; S. KUAN; J. CHIOU; D. U. GORKIN; K. GAULTON; M. BEHRENS; E. A. MUKAMEL; J. R. ECKER; B. REN. *Ctr. for Epigenomics, UCSD, Ludwig Inst. for Cancer Res., The Salk Inst. CNL-S, Dept. of Pediatrics, UCSD, Univ. of California San Diego, The Salk Inst. for Biol. Studies.*
- 9:00 JJJ33 **519.14** Integrative analysis of mouse motor cortical cell type epigenomes using single nucleus DNA methylation and open chromatin (ATAC-Seq) data. K. KOLODZIEJ\*; F. XIE; W. I. DOYLE; R. FANG; R. CASTANON; A. RIVKIN; J. NERY; S. PREISSEL; C. LUO; M. BEHRENS; B. REN; J. R. ECKER; E. A. MUKAMEL. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Salk Inst., Univ. of California San Diego, Salk Inst. For Biol. Studies, The Salk Inst. CNL-S, University of California San Diego, The Salk Inst. For Biol. Studies, Univ. of California San Diego.*
- 10:00 JJJ34 **519.15** Single neuron epigenomes and transcriptomes from human cortex have greater inter-individual variability for excitatory compared with inhibitory neurons. F. XIE\*; C. LUO; J. NERY; R. CASTANON; J. LUCERO; D. MASH; M. BEHRENS; E. A. MUKAMEL; J. R. ECKER. *Univ. of California San Diego, Salk Inst. for Biol. Studies, Salk Inst. for Biol. Studies, Univ. of Miami Miller Sch. of Med., The Salk Inst. CNL-S, Univ. of California San Diego, The Salk Inst. for Biol. Studies.*
- 11:00 JJJ35 **519.16** Multimodal profiling of primary motor cortex neurons using patch-seq. M. BERNABUCCI\*; F. SCALA; C. R. CADWELL; J. CASTRO; L. HARTMANIS; D. KOBAK; Y. BERNAERTS; D. RAMSKÖLD; Z. YAO; O. PENN; S. LATURNUS; K. R. TOLIAS; B. TASIC; P. BERENS; X. JIANG; R. SANDBERG; H. ZENG; A. S. TOLIAS. *Baylor Col. of Med., Karolinska Inst., Univ. of Tübingen, Allen Inst., Allen Inst., Allen Inst., Karolinska Inst.*
- 8:00 JJJ36 **519.17** Multimodal profiling of excitatory neurons using Patch-seq reveals diversity of cell types within individual clonal units. C. R. CADWELL\*; F. SCALA; Z. YAO; P. G. FAHEY; D. KOBAK; S. LI; B. TASIC; H. ZENG; P. BERENS; R. SANDBERG; X. JIANG; A. S. TOLIAS. *UCSF, Baylor Col. of Med., Baylor Col. of Med., Allen Inst. for Brain Sci., Univ. of Tübingen, Karolinska Institutet, Rice Univ.*
- 8:00 DP14/JJJ37 **519.18** (Dynamic Poster) Building high-resolution mouse brain atlas of transcription cell types - strategies and discoveries. Z. YAO\*; L. T. GRAYBUCK; T. NGUYEN; K. A. SMITH; N. DEE; D. BERTAGNOLLI; J. GOLDY; O. FONG; O. PENN; S. M. SUNKIN; B. TASIC; H. ZENG. *Allen Inst. for Brain Sci.*
- 10:00 JJJ38 **519.19** Towards a cell type classification and spatial census of transcriptomic cell types in mouse and human cortex. J. A. MILLER\*; B. TASIC; T. E. BAKKEN; Z. YAO; O. PENN; E. D. VAISHNAV; B. D. AEVERMANN; A. REGEV; R. H. SCHEUERMANN; P. V. KHARCHENKO; K. D. HARRIS; H. ZENG; E. LEIN. *Allen Inst. for Brain Sci., MIT, J. Craig Venter Inst., MIT, Broad Inst., Harvard Med. Sch., Univ. Col. London.*
- 11:00 JJJ39 **519.20** Single-cell multimodal correspondence typing through patch clamp electrophysiology, two-photon optogenetics, and multiplexed FISH in thick tissue. R. NICOVICH\*; B. LONG; M. TAORMINA; T. NGUYEN; E. THOMSEN; B. LEVI; C. A. BAKER; T. A. HAGE; A. BOSMA-MOODY; B. TASIC; J. CLOSE; E. LEIN; H. ZENG. *Allen Inst. for Brain Sci.*
- 8:00 JJJ40 **519.21** Exploring neuronal cell types in mouse and human brain using multiplex fluorescence *in situ* hybridization. B. R. LONG\*; J. L. CLOSE; B. TASIC; B. P. LEVI; E. J. GARREN; Z. MALTZER; T. NGUYEN; E. THOMSEN; T. BAKKEN; J. A. MILLER; P. R. NICOVICH; E. LEIN; H. ZENG. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*
- 9:00 JJJ41 **519.22** Mapping human neuronal subtypes with spatial transcriptomics. J. L. CLOSE\*; E. THOMSEN; Z. MALTZER; T. NGUYEN; B. R. LONG; E. GARREN; R. D. HODGE; J. A. MILLER; T. BAKKEN; E. LEIN; H. ZENG; B. P. LEVI; R. NICOVICH; B. TASIC. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*
- 10:00 JJJ42 **519.23** \*Fish: Developing a computational pipeline for spatial transcriptomics in the brain. E. LEIN\*; B. R. LONG; D. GANGULI; A. CARR; T. TUNG; J. FREEMAN. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Chan Zuckerberg Initiative.*

11:00 JJJ43 **519.24** Establishing correspondence between morphology, electrophysiology, synaptic connectivity and gene expression in specific cell types in local human cortical networks. M. KIM\*; E. THOMSEN; B. R. LONG; R. NICOVICH; C. LEE; S. A. SORENSEN; N. W. GOUWENS; J. BERG; B. E. KALMBACH; R. HODGE; J. L. CLOSE; J. A. MILLER; T. BAKKEN; J. T. TING; B. P. LEVI; L. CAMPAGNOLA; C. KOCH; T. JARSKY; G. J. MURPHY; E. LEIN. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*

8:00 JJJ44 **519.25** A 3-D digital human brain common coordinate framework for positional mapping of single cell data. S. DING\*; J. J. ROYALL; P. LESNAR; B. A. C. FACER; Y. LI; M. NAEEMI; D. FENG; S. M. SUNKIN; H. ZENG; L. NG; J. A. HARRIS; E. S. LEIN. *Allen Inst. for Brain Sci.*

## POSTER

### 520. New Behavioral, *In Vivo*, and *In Vitro* Physiological Methods

#### Theme I: Techniques

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

8:00 JJJ45 **520.01** Sex differences in behavioral training. E. WARNER\*; K. PADMANABHAN. *Univ. of Rochester, Univ. of Rochester, Univ. of Rochester, Univ. of Rochester.*

9:00 JJJ46 **520.02** PiRat: An autonomous rat-sized robot as a social companion for studying social behavior in rats using real-time tracking. S. HEATH; C. A. RAMIREZ-BRINEZ; J. ARNOLD; O. OLSSON; J. TAUFATOFUA; P. POUNDS; J. WILES\*; E. LEONARDIS; E. GYGI; E. LEIJA; L. QUINN; A. A. CHIBA. *The Univ. of Queensland, UCSD.*

10:00 JJJ47 **520.03** Real-time tools for the classification of social behavior and correlated brain activity in rodents. M. AGUILAR-RIVERA\*; E. GYGI; A. THAI; J. MATSUMOTO; H. NISHIJO; T. P. COLEMAN; L. K. QUINN; A. A. CHIBA. *UCSD, UCSD, Univ. of Toyama.*

11:00 JJJ48 **520.04** Assessing forelimb motor learning and kinematics within the mouse home-cage: An open-source system for the study of rodent models of disease. C. L. WOODARD\*; J. D. BOYD; T. H. MURPHY; L. A. RAYMOND. *Univ. of British Columbia.*

8:00 JJJ49 **520.05** ▲ A simple method of analyzing spatial learning, prosocial behavior, and empathy in mice utilizing the Barnes maze and damsel-in-distress paradigm. J. INGERSOLL; M. MOODY; R. HOLLAND; J. WINSLOW; W. KUEGLER; C. MURRAH JR.; B. DUGAN; N. REYNOLDS; N. LLOYD; M. HAMMOCK; K. HOULE; E. B. CLABOUGH\*. *Hampden-Sydney Col., Col. of Med. at the Med. Univ. of South Carolina.*

9:00 JJJ50 **520.06** Auditory discrimination learning in a rodent model of human targeted cognitive training. B. Z. ROBERTS\*; N. R. SWERDLOW; R. F. SHARP; J. W. YOUNG. *UCSD, UCSD Sch. of Medicine, Dept of Psychiatry.*

10:00 JJJ51 **520.07** Highly multiplexed concerted monitoring of deep-brain hypothalamic neuronal dynamics, gene expression, and behavior reveals cell type ensembles setting behavioral state. S. XU\*; H. YANG; F. E. HENRY; V. MENON; A. LEMIRE; S. M. STERNSON. *Janelia Res. Campus, HHMI.*

11:00 JJJ52 **520.08** ● *In vivo* adduction of photolabel anesthetic in mouse rostral pons profoundly extends drug behavioral effects. A. R. MCKINSTRY-WU\*; A. WASILCZUK; W. P. DAILEY; M. B. KELZ. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. Pennsylvania.*

8:00 JJJ53 **520.09** ● Micro-TMS technology for ultra-focal brain stimulation. R. LAHER\*; D. Z. PRESS; C. E. MCILDUFF; S. B. RUTKOVE; G. BONMASSAR; A. PASCUAL-LEONE. *Beth Israel Deaconess Med. Ctr., Massachusetts Gen. Hosp.*

9:00 JJJ54 **520.10** On demand control of hormone release from adrenal gland using magnetothermal stimulation. D. ROSENFELD\*; A. SENKO; J. MOON; D. GREGUREC; A. S. WIDGE; P. ANIKEEVA. *MIT, Massachusetts Gen. Hosp., MIT.*

10:00 JJJ55 **520.11** Non-invasive whole body imaging using magnetography. R. R. LLINÁS; M. USTININ; S. D. RYKUNOV; K. D. WALTON\*; G. M. RABELLO; J. GARCIA; A. I. BOYKO; V. V. SYCHEV. *New York Univ. Sch. of Med., Russian Acad. of Sci.*

11:00 JJJ56 **520.12** Brain MRI at ultra-low field: New multifunction instrument. K. C. ZEVENHOVEN\*; A. J. MÄKINEN; I. LEHTO; M. HAVU; R. J. ILMONIEMI. *Aalto Univ.*

8:00 JJJ57 **520.13** ● Effects of iTBS on dorsolateral prefrontal cortex, posterior parietal cortex, and primary motor cortex in older healthy adults: A TMS-EEG study. A. JANNATI\*; P. J. FRIED; A. MENARDI; A. PASCUAL-LEONE; M. M. SHAFI. *BIDMC, Harvard Med. Sch.*

9:00 JJJ58 **520.14** Continuous theta-burst stimulation (cTBS) measures of cortical plasticity in adults with autism spectrum disorder and neurotypical adults. A. JANNATI; M. A. RYAN\*; G. BLOCK; L. M. OBERMAN; A. ROTENBERG; A. PASCUAL-LEONE. *Beth Israel Deaconess Med. Ctr., Beth Israel Deaconess Med. Ctr., Uniformed Services Univ. of Hlth. Sci., Boston Children's Hosp., Beth Israel Deaconess Med. Ctr., Univ. Autònoma de Barcelona.*

10:00 JJJ59 **520.15** Towards a neurophysiological reactivity monitor (NERMO) to assess coma severity in stroke patients. C. A. SERBAN\*; A. BARBORICA; C. PISTOL; A. ROCEANU; I. MINDRUTA; J. CIUREA; A. ZAGREAN; L. ZAGREAN; M. MOLDOVAN. *Univ. of Bucharest, Termobit Prod SRL, FHC, Inc., Univ. Emergency Hosp., Bagdasar-Arseni Emergency Hosp., "Carol Davila" Univ. of Med. and Pharm., Univ. of Copenhagen.*

11:00 JJJ60 **520.16** Simultaneous monitoring of intact respiratory signals and membrane potentials of CA1 pyramidal neurons in mice. M. SATO\*; A. NOGUCHI; T. OKANOGLI; N. MATSUMOTO; T. SASAKI; Y. IKEGAYA. *Lab. of Chem. Pharmacol.*

8:00 JJJ61 **520.17** Development of three-dimensional (3D) cell culture models of the human brain. U. ENGLUND JOHANSSON\*; M. CASTRO ZALIS; A. BRUZELIUS; S. JOHANSSON; F. JOHANSSON. *Lund Univ., Lund Univ., Lund Univ.*

9:00 JJJ62 **520.18** 3D cultures from rat and human iPSC derived neurons exhibit epileptic seizure-like activity. M. HASAN\*; S. GHASVAND; Y. BERDICHEVSKY. *Lehigh Univ., Lehigh Univ.*

10:00 JJJ63 **520.19** Highly homogeneous and highly functional 3-dimensional human cortical spheroids applied to high throughput and high content screening platform in drug discovery. C. CARROMEU\*; S. DEA; S. BIESMANS; S. MORA-CASTILLA; S. ROMERO; A. SALEH; F. ZANELLA. *Stemonix.*

\* 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 JJJ64 **520.20** • Three-dimensional cultures of ipsc-derived human motor neurons and tracheal smooth muscle cells in high-throughput format using magnetic 3D bioprinting. G. R. SOUZA\*; W. HAISLER; B. LARSON; M. L. HENDRICKSON. *Greiner Bio-One North America, Greiner Bio-One, BioTek, BrainXell, Inc.*
- 8:00 JJJ65 **520.21** Application of atmospheric pressure and hypoxia during culture promotes neural induction of iPSCs and subsequent differentiation into motor and CNS-type neurons. Z. PAPPALARDO; B. A. ADAMS\*. *Xcell Biosci., Xcell Biosci.*
- 9:00 JJJ66 **520.22** Conductive self-assembling peptide-based hydrogel for highly effective neural interface. J. NAM\*; H. LIM; M. SUH; Y. KIM. *Sungkyunkwan Univ., Ctr. for Neurosci. Imaging Research, IBS, Sungkyunkwan Univ., Sungkyunkwan Univ., Samsung Advanced Inst. for Hlth. Sci. & Technology, Sungkyunkwan Univ., Biomed. Inst. for Convergence at SKKU (BICS), Sungkyunkwan Univ.*

## POSTER

### 521. Computation, Modeling, and Simulation: Network Models: Experimentation

#### Theme I: Techniques

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

- 8:00 JJJ67 **521.01** A computational model of sensory pathway integration and motor decision making in the xenopus tadpole. A. FERRARIO\*; R. BORISYUK; S. KOUTSIKOU; W. LI; R. MERRISON-HORT; A. ROBERTS; S. SOFFE. *Plymouth Univ., Univ. of Kent, Univ. of St Andrews, Univ. of Bristol.*
- 9:00 JJJ68 **521.02** Convergent evolution of artificial and biological neural networks performing heat gradient navigation. M. HAESEMEYER\*; A. SCHIER; F. ENGERT. *Harvard Univ., Biozentrum.*
- 10:00 JJJ69 **521.03** Analysis and modeling of low frequency local field oscillations in a hippocampus circuit under osmotic stimuli. H. BARRIO\*; A. MOLINA; V. S. HERNANDEZ; T. GOVEZENSKY; R. A. BARRIO; L. ZHANG. *Univ. Nacional Autonoma de Mexico, Univ. Nacional Autonoma de Mexico, Univ. Nacional Autonoma de Mexico.*
- 11:00 JJJ70 **521.04** Development of bidirectional 'mini-Brain' computer interface (mBCI) to modulate functional neural circuits - stimulation and recording from a cerebral organoid. A. DUTTA\*; M. BHATTACHAR; D. FREEDMAN; E. K. STACHOWIAK; M. K. STACHOWIAK. *Univ. At Buffalo SUNY, Univ. at Buffalo SUNY, Univ. at Buffalo SUNY, SUNY, Buffalo, State Univ. New York Buffalo.*
- 8:00 LLL1 **521.05** Acetylcholine regulates redistribution of synaptic efficacy in neocortical microcircuitry. C. COLANGELO\*; A. KHUBIEH; H. MARKRAM; S. RAMASWAMY. *EPFL Blue Brain Project, EPFL, EPFL, Blue Brain Project, EPFL - Blue Brain Project.*
- 9:00 LLL2 **521.06** Recurrent neocortical circuitry supports spike-time reliability amidst cellular noise and chaos. M. NOLTE\*; M. W. REIMANN; J. G. KING; H. MARKRAM; E. B. MULLER. *EPFL.*
- 10:00 LLL3 **521.07** Stability of synaptic weights in a biophysical model of plasticity in the neocortical microcircuit without explicit homeostatic mechanisms. M. W. REIMANN\*; G. CHINDEMI; E. B. MULLER; H. MARKRAM. *Blue Brain Project, EPFL, EPFL - Blue Brain Project, EPFL, Blue Brain Project.*
- 11:00 LLL4 **521.08** Improved memory efficient software workflow for data driven model building and simulation. J. G. KING\*; P. S. KUMBHAR; J. FOURIAUX; G. CHINDEMI; F. PEREIRA; M. L. HINES; F. DELALONDRE; F. SCHUERMAN; H. MARKRAM. *Blue Brain Project, Brain Mind Institute, EPFL, Yale Univ.*
- 8:00 LLL5 **521.09** Computational synthesis of cortical dendrites from their branching topology. L. KANARI\*; A. CHALIMOURDA; G. ATENEKENG; J. W. GRAHAM; J. SHILLCOCK; K. HESS; H. MARKRAM. *EPFL, Blue Brain Project, Neurosim Lab. @ SUNY Downstate, EPFL.*
- 9:00 LLL6 **521.10** Biophysical modeling and simulation of synaptic plasticity in a large-scale reconstruction of neocortical microcircuitry. G. CHINDEMI\*; V. DELATTRE; A. DEVRESSE; M. DORON; J. G. KING; P. S. KUMBHAR; M. NOLTE; R. PERIN; S. RAMASWAMY; M. W. REIMANN; C. RÖSSERT; W. VAN GEIT; F. DELALONDRE; M. GRAUPNER; K. HESS; H. MARKRAM; F. SCHÜRMAN; I. SEGEV; E. B. MULLER. *Blue Brain Project, EPFL, Brain Mind Institute, EPFL, Inst. of Life Sciences, Hebrew Univ., Brain Physiol. Lab, CNRS, Lab. for Topology and Neuroscience, EPFL, Blue Brain Project, EPFL.*
- 10:00 LLL7 **521.11** Revealing the information content of voltage-sensitive dye imaging-derived spatiotemporal patterns in cortex. T. H. NEWTON\*; S. EILEMANN; E. MULLER; M. NOLTE; M. REIMANN; J. VILLAFRANCA DÍAZ; H. MARKRAM. *EPFL BBP.*
- 11:00 LLL8 **521.12** Estimating the readily releasable vesicle pool size at layer 5 pyramidal connections in the neocortex. N. BARROS-ZULAICA\*; J. RAHMOM; G. CHINDEMI; R. PERIN; H. MARKRAM; S. RAMASWAMY; E. MULLER. *EPFL.*

## POSTER

### 522. Computation, Modeling, and Simulation: Computational Tools: Neuroimaging

#### Theme I: Techniques

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

- 8:00 LLL9 **522.01** Spatially-informed voxelwise modeling (SPIN-VM) for naturalistic fMRI experiments. E. CELIK; T. CUKUR\*. *Bilkent Univ.*
- 9:00 LLL10 **522.02** Grey matter detection study using magnetic resonance imaging. G. COVER\*; R. FARIVAR-MOHSENI. *McGill Univ., McGill Univ.*
- 10:00 LLL11 **522.03** Intracranial positioning of brain changes following long-duration spaceflight with implications for longitudinal neuroimaging studies. D. ASEMANI\*; M. A. ECKERT; T. R. BROWN; D. R. ROBERTS. *Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 11:00 LLL12 **522.04** Regional fractal dimension analysis as qualitative and quantitative imaging markers in traumatic brain injury. L. ZHANG; G. R. WYLIE; G. H. YUE\*. *LZ Biomed. LLC, Kessler Fndn., Kessler Fndn. Res. 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



- 8:00 LLL13 **522.05** ▲ Searchlight analysis over functional rather than anatomical space reveals higher representational similarity with deep learning models. S. KUMAR\*; C. ELLIS; T. O'CONNELL; Z. TANG; M. M. CHUN; N. B. TURK-BROWNE. *Yale Univ.*
- 9:00 LLL14 **522.06** Brainiak education: User-friendly tutorials for advanced, computationally-intensive fmri analysis. M. KUMAR\*; C. ELLIS; P. J. RAMADAGE; K. A. NORMAN; N. B. TURK-BROWNE. *Princeton Univ., Yale Univ.*
- 10:00 LLL15 **522.07** Identifying functional boundaries in the human cerebellum. M. KING\*; R. IVRY; J. DIEDRICHSEN. *Univ. of California, Berkeley, Univ. of California, Berkeley, Western Univ.*
- 11:00 LLL16 **522.08** Harmonization of multi-site resting-state fMRI functional connectivity and network metrics. M. YU\*; K. A. LINN; P. A. COOK; M. L. PHILLIPS; M. MCINNIS; M. FAVA; M. H. TRIVEDI; M. M. WEISSMAN; R. T. SHINOHARA; Y. I. SHELINE. *Ctr. For Neuromodulation In Depression and Stres, Dept. of Biostatistics, Epidemiology, and Informatics, Perelman Sch. of Medicine, Univ. of Pennsylvania, Ctr. for Neuromodulation in Depression and Stress, Dept. of Psychiatry, Perelman Sch. of Medicine, Univ. of Pennsylvania, Dept. of Psychiatry, Univ. of Pittsburgh Sch. of Med., Dept. of Psychiatry, Univ. of Michigan Sch. of Med., Dept. of Psychiatry, Massachusetts Gen. Hosp., Dept. of Psychiatry, Univ. of Texas Southwestern Med. Ctr., Dept. of Psychiatry, Columbia Univ. Col. of Physicians & Surgeons.*
- 8:00 LLL17 **522.09** Addressing the atlas concordance problem in fMRI. M. FINNEGAN\*; S. KERN; D. NEWBERRY; W. HELLER; H. LAURENT. *Univ. of Illinois at Urbana-Champaign, Unaffiliated.*
- 9:00 LLL18 **522.10** Combining citizen science and deep learning to amplify expertise in neuroimaging. A. KESHAVAN\*; J. D. YEATMAN; A. S. ROKEM. *Univ. of Washington, Univ. of Washington, The Univ. of Washington.*
- 10:00 LLL21 **523.03** Can the presence of neural probes be neglected in computational modeling of extracellular potentials? A. P. BUCCINO\*; M. KUCHTA; K. H. JÆGER; T. V. NESS; G. CAUWENBERGHS; K. MARDAL; A. TVEITO. *Univ. of Oslo, UCSD, Univ. of Oslo, Simula Res. Lab., Norwegian Univ. of Life Sci., UCSD, Univ. of Oslo.*
- 11:00 LLL22 **523.04** ▲ Optimization of seizure detection using machine learning. Z. HUANG; Y. YING\*. *The State Univ. of New York at Albany, SUNY Albany.*
- 8:00 LLL23 **523.05** Time-varying approaches to recover the M/EEG recorded during tACS. N. S. BLAND\*; J. B. MATTINGLEY; M. V. SALE. *Queensland Brain Inst., The Univ. of Queensland, The Univ. of Queensland.*
- 9:00 LLL24 **523.06** Decomposing hippocampal-prefrontal functional interactions via bivariate phase amplitude coupling. B. NANDI\*; B. KOCSIS; M. DING. *Univ. of Florida, Gainesville, Harvard Med. Sch., Univ. Florida.*
- 10:00 LLL25 **523.07** Computational fluid dynamics (CFD) simulation of cerebrospinal fluid in the ventricular system. T. WATAYA\*. *Shizuoka Children's Hosp., Shizuoka Children's Hosp.*
- 11:00 LLL26 **523.08** ● The role of patient-specific volume conductor models in the simulation of local field potentials recorded from deep brain stimulation electrodes. N. MALING; B. HOWELL; T. J. STELWAGEN; H. S. MAYBERG; C. C. MCINTYRE\*. *Case Western Reserve Univ., Case Western Reserve Univ., Icahn Sch. of Med. at Mount Sinai, Case Western Reserve Univ.*
- 8:00 LLL27 **523.09** Methods for comparing models with eeg data using representational similarity analysis. N. C. KONG\*; B. KANESHIRO; D. L. K. YAMINS; A. M. NORCIA. *Stanford Univ., Stanford Univ. Sch. of Med., Stanford Univ.*
- 9:00 LLL28 **523.10** Lobular electric field distribution during cerebellar transcranial direct current stimulation - Cognitive versus somatomotor sub-regions. Z. REZAEI\*; A. DUTTA. *State Univ. of New York At Buffalo, Univ. At Buffalo SUNY.*
- 10:00 LLL29 **523.11** Unsupervised learning techniques for electromyography classification. E. LASHGARI\*; U. MAOZ. *Chapman Univ.*
- 11:00 LLL30 **523.12** ● Detecting bursts in electroencephalography and local field potential spectrograms using a hidden Markov model. I. C. RICE\*; S. CHAKRAVARTY; P. KAHALI; J. DONOGHUE; M. MAHNKE; E. K. MILLER; O. JOHNSON-AKEJU; E. BROWN. *Harvard Univ. and MIT, MIT, Massachusetts Gen. Hosp., MIT, MIT.*
- 8:00 LLL31 **523.13** Admittance method for estimating local field potentials generated in a multi-scale model of the hippocampus. C. S. BINGHAM\*; J. PAKNAHAD; J. C. BOUTEILLER; D. SONG; G. LAZZI; T. W. BERGER. *USC, USC, USC.*
- 9:00 LLL32 **523.14** State space oscillator models for isolating neural frequencies. A. M. BECK\*; E. P. STEPHEN; P. L. PURDON. *MIT, MIT, Massachusetts Gen. Hosp.*
- 10:00 LLL33 **523.15** Estimating and measuring brain temporal latencies. S. PAJEVIC\*; A. V. AVRAM; A. S. BERNSTEIN; R. COPPOLA; R. D. FIELDS; M. HALLETT; Z. NI; A. C. NUGENT; A. C. SIMMONS; F. VIAL; P. J. BASSER. *NIH, NIH, NIH, NIMH, NIH, Natl. Inst. of Neurolog. Disorders and Stroke, NIH, NIH.*
- 11:00 LLL34 **523.16** Eyes open or closed: Synchrony and complexity in a resting state brain network. A. GHADERI\*; B. BALTARETU. *Iranian Neurowave Lab., York Univ., York Univ.*

## POSTER

### 523. Computation, Modeling, and Simulation: EEG, Evoked Potential, and Electrophysiology

#### Theme I: Techniques

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

- 8:00 LLL19 **523.01** Use of high frequency rhythmic SSVEP visual stimuli patterns for better trade-off between fatigue rate and accuracy rate in normal subjects. A. KEIHANI; Z. SHIRZHIYAN; M. FARAH; E. SHAMSI; A. MAHNAM; B. MAKKIABADI; A. JAFARI; M. RAZA\*. *Tehran Univ. of Med. Sci., Univ. of Isfahan, Baqiyatallah Univ. of Med. Sci.*
- 9:00 LLL20 **523.02** Automated system for the placement of deep electrodes in small species with electroencephalographic monitoring system as a tool for learning neurosciences. R. BELTRAN-RAMIREZ\*; R. MACIEL ARELLANO; V. LARIOS ROSILLO; R. ZEPEDA, Mr.; J. ESPINOZA, Jr.; N. MUÑOZ FILIPPETTI; B. VILLANUEVA AVALOS; J. MARTÍNEZ MENDOZA; S. MONTOYA CALDERON; X. JIMENEZ ROMAN. *Univ. De Guadalajara, Univ. de Guadalajara, Ctr. Universitario del Norte, Ctr. de Enseñanza Tecnica Industrial, Inst. Mexicano de Seguro Social.*

• 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 LLL35 **523.17** Local mutual information estimator of functional connectivity on EEG source sparse time series. A. OJEDA GONZALEZ\*; R. MARTINEZ-CANCINO; K. KREUTZ-DELGADO; P. A. VALDES-SOSA; J. MISHRA. *Neural Engin. and Translation Labs, Univ. of California San Diego, Univ. of California San Diego, Univ. of Electronic Sci. and Technol. of China, Cuban Neurosci. Ctr.*
- 9:00 LLL36 **523.18** Automatic elimination of EEG artifact using convolutional neural network, ICA features, and dipole source location. G. KANG\*; D. KIM; S. KANG. *ImediSyn, iMediSyn, Seoul Natl. Univ.*
- 10:00 LLL37 **523.19** Cross-session transfer learning for brain-computer interfaces based on steady-state visual evoked potentials. K. CHIANG\*; C. WEI; M. NAKANISHI; T. JUNG. *Univ. of California San Diego, UCSD, UCSD, Univ. of California San Diego.*
- 11:00 LLL38 **523.20** Skull conductivity and source location estimation (SCALE) to high-resolution EEG source imaging. Z. AKALIN ACAR\*; S. MAKEIG. *Univ. of California San Diego.*
- 9:00 LLL44 **524.06** Neuroglia: A Python library for analyzing large scale electrophysiology and calcium imaging with scikit-learn machine learning pipelines. J. KIGGINS\*; M. D. OLIVER; S. MANAVI; C. MOCHIZUKI; N. CAIN; S. R. OLSEN. *Allen Inst. for Brain Sci.*
- 10:00 LLL45 **524.07** Nih funded NITRC's triad of services: Software, data, compute. D. N. KENNEDY\*; N. PREUSS; C. HASSELGROVE. *U. Massachusetts Med., TCG, Inc., Univ. of Massachusetts Med. Sch.*
- 11:00 LLL46 **524.08** A volumetric brain data repository for neuroscience research. A. J. ROPELEWSKI\*; A. W. WETZEL; G. P. HOOD; D. SIMMEL; K. BENNINGER; J. A. CZECH; A. M. WATSON; S. C. WATKINS; M. P. BRUCHEZ. *Carnegie Mellon Univ., Univ. of Pittsburgh, Carnegie Mellon Univ.*
- 8:00 LLL47 **524.09** Cloud processing and web visualization of petabyte images. W. SILVERSMITH\*; I. TARTAVULL; S. SEUNG. *Princeton Univ.*
- 9:00 LLL48 **524.10** Anatomical variability of brain structures in the allen mouse brain common coordinate framework. M. D. NAEEMI\*; N. S. GRADDIS; Q. WANG; S. MIHALAS; J. ROYALL; Y. LI; L. NG; J. A. HARRIS. *Allen Inst. for Brain Sci.*

## POSTER

### 524. Computation, Modeling, and Simulation: Informatics and Database

#### Theme I: Techniques

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

- 8:00 LLL39 **524.01** ● Calibrating the timing of neuroscientific apps on mobile devices. M. I. W. GRIVICH; P. A. W. PEBLER; D. L. WOODS\*. *Neurobehavioral Systems, Inc.*
- 9:00 LLL40 **524.02** The SONATA data format: A new file format for efficient description of large-scale neural network models. A. ARKHIPOV\*; E. B. MULLER; K. DAI; Y. N. BILLEH; J. COURCOL; S. L. GRATIY; J. HERNANDO; A. DEVRESSE; M. GEVAERT; J. G. KING; W. VAN GEIT; D. NACHBAUER; A. POVOLOTSKIY. *Allen Inst. for Brain Sci., EPFL - Blue Brain Project, Allen Inst., EPFL - Blue Brain Project, Blue Brain Project, Brain Mind Institute, EPFL.*
- 10:00 LLL41 **524.03** The neuroscience gateway: Enabling large scale modeling and data processing in neuroscience. N. T. CARNEVALE\*; S. SIVAGNAM; K. YOSHIMOTO; A. MAJUMDAR. *Yale Univ. Sch. Med., Univ. of California San Diego.*
- 11:00 LLL42 **524.04** Systematic statistical validation of data-driven models in neuroscience. S. APPUKUTTAN\*; P. E. GARCIA-RODRIGUEZ; L. SHARMA; S. SÁRAY; S. KÁLI; A. P. DAVISON. *Ctr. Nationale De La Recherche Scientifique, Hungarian Acad. of Sci.*
- 8:00 LLL43 **524.05** A public cloud platform for large-scale data analysis, visualization and sharing of reproducible neuroscience research. F. PESTILLI\*; L. KITCHELL; B. MCPHERSON; D. BULLOCK; B. A. CARON; E. GARYFALLIDIS; R. HENSCHL; O. SPORNS; L. WANG; A. J. SAYKIN; I. DINOV; S. HAYASHI. *Indiana Univ., Indiana Univ., Indiana Univ. Bloomington, Indiana Univ. - Bloomington, Indiana Univ., Northwestern Univ. Feinberg Sch. of Med., Indiana Univ. Sch. of Med., Univ. of Michigan Sch. of Nursing.*
- 10:00 LLL49 **524.11** ● Open online platform and functionalized anatomical models for computational modeling and integration of NIH SPARC initiative data and models. N. KUSTER\*; E. NEUFELD; N. CHAVANNES; A. M. CASSARA; B. LLOYD; P. CRESPO; M. GUIDON; O. MAIZ; W. KAINZ. *ETH Zurich & IT'IS Fndn., IT'IS Fndn., U.S. Food and Drug Admin.*
- 11:00 LLL50 **524.12** ● Pair-wise interactions in gene expression determine a hierarchical transcription profile of the brain. J. HUA\*; Z. YANG; T. JIANG; S. YU. *Inst. of Automation, Chinese Acad. of Sci.*
- 8:00 LLL51 **524.13** Large scale analysis of cell type specific changes in whole tissue expression profiles. O. MANCARCI\*; L. TOKER; S. TRIPATHY; P. PAVLIDIS. *Univ. of British Columbia, Univ. British Columbia.*

## POSTER

### 525. Computation, Modeling, and Simulation: Neuron/ Network Modeling

#### Theme I: Techniques

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

- 8:00 LLL52 **525.01** Realistic spatial modeling of vesicle trafficking in neurons. A. R. GALLIMORE\*; I. HEPBURN; S. Y. NAGASAWA; E. DE SCHUTTER. *Okinawa Inst. of Sci. and Technol.*
- 9:00 LLL53 **525.02** Brain modeling toolkit (BMTK): An open-source package for multiscale modeling of brain circuits. K. B. DAI\*; Y. N. BILLEH; S. L. GRATIY; M. BUICE; N. CAIN; F. BAFTIZADEH; D. FENG; N. W. GOUWENS; R. IYER; S. MIHALAS; C. KOCH; A. ARKHIPOV. *Allen Inst. For Brain Sci.*
- 10:00 LLL54 **525.03** Exploring nuclear connectivity and function within the primate amygdala using the neural engineering framework. K. D. FISCHL\*; T. C. STEWART; K. M. GOTHARD; A. G. ANDREOU. *Johns Hopkins Univ., Univ. of Waterloo, Univ. Arizona, Col. Med.*

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\* Indicates abstract's submitting author

- 11:00 LLL55 **525.04** Dynamic worm: Moving model of *Caenorhabditis elegans* worm controlled by the nervous system. J. KIM\*; E. SHLIZERMAN. *Univ. of Washington, Univ. of Washington*.
- 8:00 LLL56 **525.05** • N2A: A language and software tool for large-scale modeling. F. ROTHGANGER\*. *Sandia Natl. Labs*.
- 9:00 LLL57 **525.06** Neuromorphic synapses with reconfigurable voltage-gated dynamics. J. WANG; A. AKININ; G. CAUWENBERGHS; F. D. BROCCARD\*. *UCSD, UCSD, UCSD*.
- 10:00 LLL58 **525.07** In-silico anatomical reconstruction of astrocytic microdomains. E. ZISIS\*; D. KELLER; H. MARKRAM. *École polytechnique fédérale de Lausanne, Blue Brain Project, Brain Mind Institute, EPFL, EPFL, Blue Brain Project*.
- 11:00 LLL59 **525.08** Neuroman: implementing neuro-functionalized computational human body models. B. LLOYD\*; S. FARCITO; A. M. CASSARA; E. NEUFELD; E. HUBER; B. S. CHUNG; J. S. PARK; M. S. CHUNG; N. KUSTER. *IT'IS Fndn., Dept. of Anatomy, Ajou Univ., Dept. of Anatomy, Dongguk Univ., ETH Zurich & IT'IS Fndn.*
- 8:00 LLL60 **525.09** Building, simulating, and visualizing reaction-diffusion models with NEURON's enhanced rxd module. R. A. MCDUGAL\*; A. NEWTON; M. L. HINES; W. W. LYTTON. *Yale Univ., SUNY Downstate, Kings County Hosp.*
- 9:00 LLL61 **525.10** NetPyNE: A GUI-based tool to build, simulate and analyze large-scale, data-driven network models in parallel NEURON. S. DURA-BERNAL\*; B. A. SUTER; A. QUINTANA; M. CANTARELLI; P. GLEESON; F. RODRIGUEZ; S. A. NEYMOTIN; M. L. HINES; G. M. SHEPHERD; W. W. LYTTON. *State Univ. of New York Downstate Med. Ctr., IST Austria / Jonas Group, EyeSeeTea Ltd, Metacell, Univ. Col. London, SUNY Downstate, Brown Univ., Yale Univ., Northwestern Univ.*
- 10:00 MMM1 **525.11** Assessing goodness-of-fit of neural population models using marked point process time-rescaling. K. ARAI\*; L. TAO; K. WEBER; U. EDEN. *Boston Univ., Boston Univ.*
- 11:00 MMM2 **525.12** Improving the convergence of multiobjective optimization for morphologically realistic neuron models. A. ABOUZEID\*; W. L. KATH. *Northwestern Univ., Northwestern Univ.*
- 8:00 MMM3 **525.13** A point-process approach for dendritic morphology generation. Z. Z. CHOU\*; G. J. YU; T. W. BERGER. *USC*.
- 9:00 MMM4 **525.14** An evolutionary multi-objective optimization approach for constraining biophysical properties for neuron models in a large-scale neuronal network model of the hippocampus. P. K. GUNALAN\*; G. J. YU; T. W. BERGER. *USC*.
- 10:00 MMM5 **525.15** A generalized linear model to capture the nonlinear dynamics of neural ensembles within a large-scale neuronal network model of hippocampus. G. J. YU\*; D. SONG; J. C. BOUTEILLER; T. W. BERGER. *USC, USC*.
- 11:00 MMM6 **525.16** Multi-scale modeling of complex nonlinear synaptic dynamics using sparse laguerre-volterra network. E. HU; J. C. BOUTEILLER\*; G. YU; D. SONG; V. Z. MARMARELIS; T. W. BERGER. *USC*.
- 8:00 MMM7 **525.17** A computational study of the effects of muscarinic m1-mediated cholinergic modulation on ca1 pyramidal cell excitability. A. MERGENTHAL\*; J. C. BOUTEILLER; T. W. BERGER. *USC*.

- 9:00 MMM8 **525.18** Three-dimensional reconstructions of dorsal root ganglia morphometry and cell distribution. Z. J. SPERRY\*; N. PECK-DIMIT; R. D. GRAHAM; S. F. LEMPKA; T. M. BRUNS. *Univ. of Michigan, Univ. of Michigan*.
- 10:00 MMM9 **525.19** Bayesian inference of spontaneous neuronal assemblies. G. DIANA\*; T. SAINSBURY; M. MEYER. *King's Col. London, King's Col. London*.

## POSTER

### 526. Computation, Modeling, and Simulation: Optical Methods

#### Theme I: Techniques

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

- 8:00 MMM10 **526.01** Generating a post-twitching developmental atlas for *Caenorhabditis elegans*. R. CHRISTENSEN\*; A. BOKINSKY; A. SANTELLA; M. MOYLE; Y. WU; M. GUO; E. ARDIEL; W. DUNCAN; B. HARVEY; M. LEVIN; N. KARAJ; A. LAUZIERE; E. MCCREEDY; W. MOHLER; D. A. COLÓN-RAMOS; Z. BAO; H. SHROFF. *NIH, NIH, Mem. Sloan Kettering Cancer Ctr., Yale Univ., Harvard Univ., Univ. of Connecticut Hlth. Ctr., Yale Univ.*
- 9:00 MMM11 **526.02** High-throughput, cellular resolution neural circuit mapping with closed-loop adaptive experimental design. B. SHABABO\*; S. CHEN; K. KILBORN; X. DENG; A. SHARMA; J. FRIEDRICH; H. ADESNIK; L. PANINSKI. *Helen Wills Neurosci. Institute, UC Berkeley, Columbia Univ., 3i, Columbia Univ., Flatiron Inst., Univ. of California, Berkeley*.
- 8:00 DP15/MMM12 **526.03** (Dynamic Poster) Empirically constrained population models of whole brain cell-resolution activity. M. RUBINOV\*; Y. MU; C. WANG; N. VLADIMIROV; D. BENNETT; P. KELLER; M. AHRENS. *Howard Hughes Med. Inst., Max-Delbrueck Ctr.*
- 11:00 MMM13 **526.04** • EXTRACT: Automated cell sorting for large-scale neural calcium imaging based on the framework of robust statistics. H. INAN\*; C. SCHMUCKERMAIR; B. AHANONU; M. A. ERDOGDU; M. J. SCHNITZER. *Stanford Univ., Stanford Univ., Univ. of Toronto, Stanford Univ. Dept. of Biol.*
- 8:00 MMM14 **526.05** • An array tomography exploration tool: Exploring synapses from FMR1 knockout mice. A. K. SIMHAL\*; K. D. MICHEVA; Y. ZUO; R. J. WEINBERG; S. J. SMITH; G. SAPIRO. *Duke Univ., Stanford Univ. Sch. Med., UC Santa Cruz, Univ. North Carolina, Allen Inst. for Brain Sci.*
- 9:00 MMM15 **526.06** Improved deconvolution and image processing for oblique light sheet tomography. J. MIZRACHI\*; A. NARASIMHAN; K. UMADEVI VENKATARAJU; P. OSTEN. *Cold Spring Harbor Lab., Stony Brook Univ., Cold Spring Harbor Lab., Cold Spring Harbor Lab., Cold Spring Harbor Lab.*
- 10:00 MMM16 **526.07** Phenotypic profiling of neuronal synapses using highly multiplexed fluorescence imaging and quantitative analysis. E. W. DANIELSON\*; M. BATHE; S. GUO; S. GORDONOV; R. VENEZIANO; M. TOMOV; M. STONE; V. KULIKOV; A. GOODMAN; E. WAMHOFF; V. LEMPITSKY; A. CARPENTER; L. L. RUBIN; J. R. COTTRELL. *MIT, Broad Inst., Skoltech, Harvard Univ., Broad Inst.*

Tues. AM

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\* Indicates abstract's submitting author

11:00 MMM17 **526.08** Robust identification and removal of false transients in calcium fluorescence imaging data. J. L. GAUTHIER\*; A. S. CHARLES; J. W. PILLOW; D. W. TANK. *Princeton Univ.*

## POSTER

### 527. Electrophysiological and Behavioral Software and Hardware Tools

#### Theme I: Techniques

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

8:00 MMM18 **527.01** A comparison of the avisoft (5.2) and ultravox (2.0) recording systems: Implications for early life communication and vocalization research in mouse models. M. BINDER\*; C. HERNANDEZ-ZEGADA; C. POTTER; J. LUGO. *Baylor Univ.*

9:00 MMM19 **527.02** Semi-automated quantification of the CNS immune response at the probe-tissue-interface. M. JOHNSTON\*; T. BÖHM; K. JOSEPH; M. ASPLUND; U. G. HOFMANN; S. THIELE; C. A. HAAS. *Fac. of Medicine, Univ. of Freiburg, BrainLinks-BrainTools, Cluster of Excellence, Univ. of Freiburg, Fac. of Engineering, IMTEK, Univ. of Freiburg, Freiburg Ctr. for Interactive Materials and Bioinspired Technologies (FIT), Univ. of Freiburg, Neuroelectronic Systems, Dept. of Neurosurgery, Med. Ctr. - Univ. of Freiburg, Fac. of Medicine, Univ. of Freiburg, Bernstein Ctr. Freiburg, Univ. of Freiburg.*

10:00 MMM20 **527.03** ● Blackfynn: Rapid multimodal data integration for the neurosciences. L. A. GUERCIO; M. HOLLENBECK; J. B. WAGENAAR\*. *Blackfynn Inc.*

11:00 MMM21 **527.04** Amnet: Multi-modal multi-species network analysis toolbox for animal neuroimaging data. J. EO\*; S. JO; C. PAE; J. SOHN; K. JUNG; J. KANG; H. PARK. *Yonsei Univ., Lab. of Mol. Neuroimaging Technol., Ctr. for Systems and Translation Brain Sciences, Inst. of Human Complexity and Syst. Science, Yonsei Univ., Brain Korea 21 PLUS Project for Med. Science, Yonsei Univ. Col. of Med., Lab. of Mol. Neuroimaging Technol.*

8:00 MMM22 **527.05** ▲ Frequency-based separation of fast-scan cyclic voltammetry analytes. K. N. BAUSTERT; E. RAMSSON\*. *Grand Valley State Univ., Grand Valley State Univ.*

9:00 MMM23 **527.06** Analyzing EEG data in EEGLAB: One useful approach. R. MARTINEZ-CANCINO\*; S. MAKEIG; A. DELORME. *Swartz Ctr. for Computat. Neurosciences.*

10:00 MMM24 **527.07** Achieving reproducible data workflows: Lightweight tools for safe and efficient data management. C. GARBERS; M. SONNTAG; A. KOUTSOU; C. J. KELLNER; J. GREWE; T. WACHTLER\*. *Ludwig-Maximilians-Universität München, Eberhardt-Karls-Universität Tübingen.*

11:00 MMM25 **527.08** ICLabel: An automated electroencephalographic independent component classifier, dataset, and website. L. PION-TONACHINI\*; K. KREUTZ-DELGADO; S. MAKEIG. *UCSD, UCSD.*

8:00 MMM26 **527.09** Sexrat male: A smartphone and tablet application to record sexual behavior in male rodents. A. TAPIA DE JESUS\*. *Univ. Iberoamericana.*

9:00 MMM27 **527.10** Video tracking module for the real-time experimental control with graphical user interface (rec-gui) framework. B. KIM\*; H. LEE; H. X. CHAM; A. ROSENBERG. *Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison, Baylor Col. of Med.*

10:00 MMM28 **527.11** NWB:N: Advances towards an ecosystem for standardizing neurophysiology. O. RUEBEL\*; A. TRITT; N. H. CAIN; B. DICHTER; J. FILLION-ROBIN; D. OZTURK; L. M. FRANK; E. F. CHANG; F. T. SOMMER; K. SVOBODA; M. GRAUER; W. SCHROEDER; L. NG; K. BOUCHARD. *Lawrence Berkeley Natl. Lab., Lawrence Berkeley Natl. Lab., Allen Inst. for Brain Sci., Sanford Univ., Kitware, Inc., UC San Francisco, UCSF, Helen Wills Neurosci. Inst., HHMI / Janelia Farm Res. Campus, LBNL/UCB.*

11:00 MMM29 **527.12** A method for the precise detection and validation of spindle timing in rodents. B. HARPER\*; J. FELLOUS. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

8:00 MMM30 **527.13** InterLex: A community lexicon for crowd sourcing common data elements and terminologies in support of fair data. J. S. GRETHE\*; T. H. GILLESPIE; T. M. SINCOMB; J. GO; M. E. MARTONE. *Univ. of California San Diego.*

9:00 MMM31 **527.14** pyTral: Open source tool for time series by fractal figures. P. GONZALEZ-GASPAR\*; F. M. MONTES-GONZALEZ; C. MORGADO-VALLE; L. BELTRAN-PARRAZAL; C. ISLAS-MORENO; B. A. ITZA-ORTIZ; F. MENENDEZ-CONDE; R. LEONEL-GOMEZ; M. TETLALMATZI-MONTIEL; J. VIVEROS-ROGEL; E. RODRIGUEZ-TORRES. *Universidad Veracruzana, Univ. Veracruzana, Universidad Autonoma De La Ciudad De Mexico, Universidad Autonoma Del Estado De Hidalgo.*

10:00 MMM32 **527.15** A framework for pipeline optimization and deployment for large neuroscience datasets. E. C. JOHNSON; M. WILT; R. NORMAN-TENAZAS; L. RODRIGUEZ; J. DOWNS; E. REILLY; M. HUGHES; J. MATELSKY; N. DRENKOW; C. RIVERA; B. WESTER; E. L. DYER; K. P. KORDING; W. R. GRAY RONCAL\*. *Johns Hopkins Univ., Georgia Inst. of Technol., Univ. of Pennsylvania.*

11:00 MMM33 **527.16** Make electrophysiology great again (MEGA). K. NASIOTIS\*; M. COUSINEAU; F. TADEL; A. PEYRACHE; C. PACK; S. BAILLET. *Montreal Neurolog. Inst., Montreal Neurolog. Inst., INSERM.*

8:00 MMM34 **527.17** Introducing “RAVE” (R Analysis and Visualization of intracranial Electroencephalography), a free, open source software package. J. F. MAGNOTTI\*; P. J. KARAS; Z. WANG; M. LI; M. S. BEAUCHAMP. *Baylor Col. of Med., Rice Univ.*

9:00 MMM35 **527.18** Optogenetic approach in the study of synaptic transmission—application and limitation. X. WANG; Y. WU; J. HUANG; G. ZHU; Z. LIU; Y. YANG; S. ZHANG; J. SUN\*. *Univ. of Chinese Acad. of Sci., Inst. of Biophysics, CAS, Solomon H. Snyder Dept. of Neuroscience, Johns Hopkins Univ. Sch. of Med., Chinese Acad. of Sci.*

10:00 MMM36 **527.19** Adapting the ‘Patch-seq’ protocol to scaled morphological, electrophysiological, and transcriptomic data generation: Keys to maximizing triple modality data. K. HADLEY; B. R. LEE\*; A. BUDZILLO; T. JARSKY; T. BRAUN; D. HILL; L. KIM; R. MANN; L. NG; A. OLDRE; R. RAJANBABU; R. DALLEY; N. GOUWENS; T. KIM; O. PENN; K. SMITH; S. SORENSEN; B. TASIC; J. TING; Z. YAO; C. FARRELL; J. BERG; G. MURPHY; H. ZENG. *Allen Inst. for Brain Sci.*

11:00 MMM37 **527.20** Do neurons in the vicinity of chronic neural implants experience mitochondrial dysfunction? V. VOZIYANOV\*; A. SRIDHARAN; J. MUTHUSWAMY. *Arizona State Univ.*

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\* Indicates abstract's submitting author

- 8:00 MMM38 **527.21** Electrophysiological properties of SF1 neurons in ventromedial hypothalamus. J. SHAO\*; Y. LIU; S. CHEN; D. GAO; L. ZHANG; 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.*
- 9:00 MMM39 **527.22** Increasing FSCV dopamine microelectrode sensitivity with NCAM. D. P. DABERKOW\*; D. GINDER; N. SCHERR; J. SEIER. *Eastern Washington Univ.*
- 10:00 MMM40 **527.23** Pipette cleaning enables one hundred whole cell recordings with a single pipette. C. LANDRY; I. KOLB; W. STOY; M. YIP; C. LEWALLEN; C. FOREST\*. *Georgia Inst. of Technol., Georgia Inst. of Technol., Georgia Tech.*
- 11:00 MMM41 **527.24** Transmission electron microscope study of the foreign body response to implanted polyimide-based gold microelectrode platform under *in vivo* conditions. H. EREZ\*; N. SHMOEL; S. HUANG; M. M. JANKOWSKI; 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.*
- 8:00 MMM42 **527.25** Multi-modal *in vivo* electrophysiology with integrated glass microelectrodes. M. BARBIC\*; D. L. HUNT. *HHMI, HHMI-Janelia.*
- 9:00 MMM43 **527.26** All in one go: Expression, electrophysiology and imaging within 24 hours using Semliki Forest virus *in vivo* and *in vitro*. S. DOMINIAK\*; J. MÜLLER-PESTER; T. A. ZOLNIK; R. N. SACHDEV; M. E. LARKUM; A. GIDON. *Humboldt-Universität zu Berlin.*
- 10:00 MMM44 **527.27** Application of high-throughput automated patch-clamp techniques to the study of neurotransmitter receptor function: From engineered cell lines to cultured cortical neurons. M. TOH\*; J. M. BROOKS; T. STRASSMAIER; S. S. PIN. *Alkermes Inc, Nanion.*
- 11:00 MMM45 **527.28** Accelerating pain research via human dorsal root ganglia analysis. M. W. VONDRAN\*; S. SHAD; G. KOPEN; T. J. BELL; S. G. WAXMAN; S. DIB-HAJJ. *Natl. Dis. Res. Interchange, Yale Sch. of Med., Veterans Affairs Connecticut Healthcare Syst.*
- 8:00 MMM46 **527.29** A novel virtual reality based platform for understanding the mechanism of visually evoked anxiety and habituation in healthy and anxious subjects. M. YILMAZ BALBAN\*; A. D. HUBERMAN. *Stanford Univ. Sch. of Med., Stanford Univ. Sch. of Med., Stanford Univ. Sch. of Med., Stanford Univ. Sch. of Med.*
- 9:00 MMM47 **527.30** A surface design of polystyrene sheet by an inkjet printer for network architecture of cultured neurons. S. ISHIDA\*; K. UMETA; N. TESHIMA; Y. YOSHIMI. *Shibaura-Institute-of-Technology, Shibaura Inst. Technol., Shibaura Inst. 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

# Tuesday PM

## LECTURE San Diego Convention Center

### 528. Genetic Specification of Neuronal Identity — CME

Tue. 1:00 PM - 2:10 PM — SDCC Ballroom 20

*Speaker:* O. HOBERT, *Columbia Univ.*

How is the enormous diversity of cell types in a nervous system genetically specified? The answer to this question lies in defining the gene regulatory mechanisms that control the expression of neuron type-specific gene batteries. In this lecture, studies on the genetic specification of many different neuronal cell types in the nematode *C. elegans* that have led to the discovery of some commonly used strategies, by which diverse neuronal identities are instructed, will be discussed.

## SYMPOSIUM San Diego Convention Center

### 529. Organelle Dynamics and Proteostasis in Neuronal Homeostasis and Degeneration — CME

Tue. 1:30 PM - 4:00 PM — SDCC 6A

*Chair:* X. WANG, *Stanford University*

Neuronal organelles are highly dynamic, and their biogenesis is tightly regulated in the extended extremities of a neuron. How to maintain organelle homeostasis is a fundamental cellular concern and crucial to neuronal survival. Defects in organelle function have emerged as key contributors to several neurodegenerative disorders, including Alzheimer's and Parkinson's disease. This symposium will present cutting-edge research at the intersection of neuronal cell biology and neurodegeneration.

1:30 **529.01** Introduction.

1:35 **529.02** A localized autophagic filter depletes axons from damaged mitochondria. L. SCORRANO. *Univ. of Padova/Venetian Inst. of Mol. Med.*

2:10 **529.03** Synaptic autophagy in Parkinson's disease. P. VERSTREKEN. *VIB-KU Leuven Ctr. for Brain & Dis. Res.*

2:45 **529.04** A common risk factor for protein aggregation disorders mediates an extracellular vesicle pathway. L. PALLANCK. *Univ. of Washington.*

3:20 **529.05** A convergent molecular pathway in Parkinsonian neurodegeneration. X. WANG. *Stanford Univ.*

3:55 **529.06** Closing Remarks.

## SYMPOSIUM San Diego Convention Center

### 530. The Dynamic Brain: Signatures of Fast Functional Reconfiguration, Their Interpretability, and Clinical Value — CME

Tue. 1:30 PM - 4:00 PM — SDCC 6B

*Chair:* J. GONZALEZ-CASTILLO, *National Institute of Mental Health, NIH*

*Co-Chair:* P. BANDETTINI, *National Institute of Mental Health, NIH*

Communication across brain regions fluctuates tirelessly as we interact with our environment. Established patterns of functional connectivity (e.g., DMN) often disintegrate in the span of a few minutes, making the concept of networks elusive under such volatile conditions. This symposium will review how to best capture, model, and interpret dynamic patterns of functional connectivity in the human brain. It will then discuss in what ways aberrant dynamic connectivity underlies clinical conditions.

1:30 **530.01** Introduction.

1:35 **530.02** The dynamic functional connectome: State-of-the-art and methods. D. VAN DE VILLE. *Ecole Polytechnique Fédérale de Lausanne.*

2:10 **530.03** Modulating the stability and integration of intrinsic networks. B. MISIC. *McGill Univ.*

2:45 **530.04** Interpretability of dynamic FC based on concurrent neuronal and hemodynamic measures. E. M. HILLMAN. *Columbia Univ.*

3:20 **530.05** Dynamic functional connectivity biomarkers. V. CALHOUN. *Univ. of New Mexico.*

3:55 **530.06** Closing Remarks.

## SYMPOSIUM San Diego Convention Center

### 531. Language Networks Derived From Direct Intracranial Recordings in Humans — CME

Tue. 1:30 PM - 4:00 PM — SDCC 6C

*Chair:* N. TANDON, *University of Texas Health Science Center at Houston*

*Co-Chair:* S. DEHAENE, *INSERM-CEA-University Paris Saclay, National Institute for Health and Medical Research*

Intracranial recordings in humans provide data unsurpassed in spatiotemporal resolution that yield novel insight into the rapid computations that underlie language. This symposium details results from a broad array of questions asked and experimental paradigms used across five labs to probe language architecture — from reading and sentence comprehension to lexical retrieval and articulation processes. This new knowledge about language networks carries implications for learning and disease.

1:30 **531.01** Introduction.

1:35 **531.02** Computational neuroanatomy of speech production. G. HICKOK. *Univ. of California - Irvine.*

- 2:45 **531.03** Brain dynamics supporting lexical retrieval in language production. S. RIES-CORNOU. *San Diego State Univ.*
- 2:10 **531.04** Meaning composition in the human language network. E. FEDORENKO. *Massachusetts Gen. Hosp.*
- 3:20 **531.05** Intracranial studies of the constituent structure of language. S. DEHAENE. *Natl. Inst. for Hlth. and Med. Res.*
- 3:55 **531.06** Closing Remarks.

**MINISYMPOSIUM** *San Diego Convention Center*

**532. Neuropeptide Signaling: From Physiology to Behavior — CME**

Tue. 1:30 PM - 4:00 PM — SDCC 6E

*Chair:* J. GARRISON, *Buck Institute for Research on Aging*

Neuropeptides comprise the largest and most diverse class of neuromodulators, and they mediate integral processes ranging from energy homeostasis to behavior. This minisymposium will highlight recent experimental and technical advances in understanding mechanisms by which neuropeptide signaling can influence physiology and behavior at both the cellular and circuit level in a range of organisms.

- 1:30 **532.01** Introduction.
- 1:35 **532.02** Sensations driving oxytocin neurons towards sociality. V. GRINEVICH. *Heidelberg Univ. and DKFZ.*
- 1:55 **532.03** Neuropeptidergic control of defensive behavior in larval zebrafish. A. DOUGLASS. *Univ. of Utah.*
- 2:15 **532.04** Cellular and circuit mechanisms of neuropeptide signaling. J. GARRISON. *Buck Inst. for Res. on Aging.*
- 2:35 **532.05** Molecular basis of neuropeptidergic modulation on *Drosophila* aggression. K. ASAHINA. *Salk Inst.*
- 2:55 **532.06** Oxytocinergic modulation of midbrain dopamine systems. Y. KOZOROVITSKIY. *Northwestern Univ.*
- 3:15 **532.07** Neuropeptidomics: Unraveling peptidergic signaling in *C. elegans*. L. TEMMERMAN. *KU Leuven.*
- 3:35 **532.08** Closing Remarks.

**MINISYMPOSIUM** *San Diego Convention Center*

**533. Molecular and Nano-Organization of Synapses — CME**

Tue. 1:30 PM - 4:00 PM — SDCC 28A

*Chair:* T. BIEDERER, *Tufts University School of Medicine*

Recent progress has revealed that the nerve terminal, synaptic cleft, and postsynaptic site form a trans-cellular unit that is precisely aligned on a nanoscale to transmit information. This minisymposium will investigate the machinery of each compartment and how compartments are integrated by synaptic adhesion molecules and by glial- and neuron-secreted factors. Going beyond a static picture, the minisymposium will also address dynamic properties of synaptic compartments that contribute to remodeling.

- 1:30 **533.01** Introduction.
- 1:35 **533.02** Assembly and function of the presynaptic active zone. P. S. KAESER. *Harvard Med. Sch.*

- 1:55 **533.03** Tuning presynaptic inhibition by retrograde signals and a Contactin/Caspr co-receptor complex. J. KALTSCHMIDT. *Stanford Univ.*
- 2:15 **533.04** Super-resolution imaging of trans-synaptic neurexin-neuroligin adhesions with small monomeric probes. O. THOUMINE. *Univ. Bordeaux.*
- 2:35 **533.05** Molecular organization and dynamics of the synaptic cleft. T. BIEDERER. *Tufts Univ. Sch. of Med.*
- 2:55 **533.06** Control of synapse function by dynamic trans-neuronal nanostructure. T. A. BLANPIED. *Univ. of Maryland Sch. of Med.*
- 3:15 **533.07** Astrocyte regulation of neuronal glutamate receptors. N. J. ALLEN. *Salk Inst.*
- 3:35 **533.08** Closing Remarks.

**MINISYMPOSIUM** *San Diego Convention Center*

**534. Sex Differences and Hormone Action in the Limbic System — CME**

Tue. 1:30 PM - 4:00 PM — SDCC 29D

*Chair:* J. MEITZEN, *North Carolina State University*

Limbic system function is critical for the control of emotion, motivation, and memory. Sex differences and hormone effects have been demonstrated in the limbic system, including in the nucleus accumbens, amygdala, and hippocampus. This minisymposium will highlight recent work on the electrophysiological and molecular mechanisms underlying these differences, how they interact with environmental stimuli such as stress, and their relevance to mental illness and other disorders.

- 1:30 **534.01** Introduction.
- 1:35 **534.02** Sex differences in medium spiny neuron function in the nucleus accumbens. J. MEITZEN. *North Carolina State Univ.*
- 1:55 **534.03** Sex differences in nucleus accumbens inputs: Basal differences and influence of stress exposure. L. A. BRIAND. *Temple Univ.*
- 2:15 **534.04** Sex-specific regulation of stress-induced pre-synaptic plasticity in the nucleus accumbens: Implications for mood disorders. G. E. HODES. *Virginia Tech.*
- 2:35 **534.05** Sex differences in peptide and ethanol effects on amygdala synapses. D. KIRSON. *The Scripps Res. Inst.*
- 2:55 **534.06** Estradiol modulates hippocampal plasticity in paternal California mice. E. R. GLASPER. *Univ. of Maryland.*
- 3:15 **534.07** Electrophysiological analyses complement and extend the understanding of female and male hippocampus. H. E. SCHARFMAN. *The Nathan Kline Inst. For Psych. Res.*
- 3:35 **534.08** Closing Remarks.

Tues. PM

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 \* Indicates abstract's submitting author

**LECTURE** San Diego Convention Center

**535. HISTORY OF NEUROSCIENCE LECTURE: Deciphering Neural Circuits: From the Neuron Doctrine to the Connectome**

Tue. 2:30 PM - 3:40 PM — SDCC Ballroom 20

*Speaker:* M. BENTIVOGLIO, *Univ. of Verona.*

Neurons need to communicate, and they do so in neural circuits on which brain function is built. Our evolving understanding of neuronal connectivity of unfathomable complexity is key to progress in neuroscience. The enunciation in 1891 of the Neuron Doctrine led to the explosion of neuroscience in the 20th century; since the beginning of the 21st century, connectomics has introduced novel concepts, igniting hopes to crack the code of the human brain. Traversing the itinerary of paradigm shifts in the understanding of neural circuits, this lecture will highlight current challenges and foci of research.

**LECTURE** San Diego Convention Center

**536. PRESIDENTIAL SPECIAL LECTURE: From Salvia Divinorum to LSD: Toward a Molecular Understanding of Psychoactive Drug Actions**

Tue. 5:15 PM - 6:30 PM — SDCC Ballroom 20

*Speaker:* B. L. ROTH, *Univ. of North Carolina at Chapel Hill.*

How do psychoactive drugs as diverse as the potent hallucinogen LSD and the atypical antipsychotic drug clozapine exert their actions at the molecular level? This lecture will first show how research has illuminated the molecular targets responsible for the actions of psychoactive drugs. It will then illustrate how structural insight into psychoactive drug actions can be leveraged to create potentially safer and more effective medications for many neuropsychiatric disorders.

**NANOSYMPOSIUM**

**537. Autism: From Genetic Models to Insights**

**Theme A: Development**

Tue. 1:00 PM – San Diego Convention Center, SDCC 4

1:00 **537.01** Mendelian autism caused by mutations in BAF53b that disrupt activity-dependent chromatin repression. W. WENDERSKI\*; J. J. WALSH; H. LI; E. L. MILLER; S. GHOSH; R. D. GEORGE; L. ELIAS; M. A. GILLESPIE; E. Y. SON; A. KROKHOTIN; C. MONCADA; T. SULTAN; M. S. ZAKI; J. A. RANISH; L. LUO; R. C. MALENKA; J. G. GLEESON; G. R. CRABTREE. *Stanford Univ., Stanford Univ., Howard Hughes Med. Inst. - Stanford Univ., Howard Hughes Med. Inst. - Univ. of California, San Diego, Inst. for Systems Biol., Inst. of Child Health, Children Hosp. Lahore, Natl. Res. Ctr.*

1:15 **537.02** hiPSC-derived disease model for autism spectrum disorder associated with MEF2C haploinsufficiency. D. TRUDLER\*; S. GHATAK; J. PARKER; N. DOLATABADI; S. M. NOVERAL; K. LOPEZ; A. SULTAN; A. CHAN; Y. CHOI; M. V. TALANTOVA; N. SCHORK; N. NAKANISHI; S. CHAN; R. AMBASUDHAN; S. A. LIPTON. *The Scripps Res. Inst., Scintillon Inst., J Craig Venter Inst., J Craig Venter Inst., TGEN, UC San Diego, Scintillon Inst., Indiana University-Purdue Univ., The Scripps Res. Inst., The Scripps Res. Institute, UC San Diego.*

1:30 **537.03** The autism-associated chromatin remodeller CHD8 regulates neurodevelopmental gene expression, brain growth and functional connectivity. M. BASSON\*; P. SUETTERLIN; S. HURLEY; C. MOHAN; M. PAGANI; J. ELLEGOOD; A. GALBUSERA; K. L. RIEGMAN; A. CARUSO; C. MICHETTI; R. ELLINGFORD; J. P. LERCH; M. L. SCATTONI; A. GOZZI; C. FERNANDES. *King's Col. London, Fondazione Inst. Italiano Di Tecnologia, Hosp. For Sick Children, IIT, Inst. Superiore Di Sanità, Italian Inst. of Technol. (IIT), Hosp. for Sick Children, Inst. Superiore di Sanita, Fondazione Inst. Italiano Di Tecnologia.*

1:45 **537.04** Ultra Rare inherited and de novo mutations in eIF2a kinases disrupt protein synthesis and contribute to autism-associated clinical phenotypes. A. G. VOROBYEVA\*; I. IOSSIFOV; L. SHUFFREY; T. CHEN; S. ANIKINA; K. CHEN; M. KHOURY; E. KLANN. *New York Univ., New York Genome Ctr., Columbia Univ., New York Univ.*

2:00 **537.05** • Deletion of CACNG2 (Stargazin) in a personalized mouse model of autism spectrum disorder (ASD). M. KLEIBER\*; T. R. CHAPMAN; M. S. MAILE; A. LIPPA; R. PURCELL; J. L. SEBAT. *UCSD, RespireRx Pharmaceuticals, RespireRx Pharmaceuticals Inc.*

2:15 **537.06** Functional genomics approaches identify pathways dysregulated by the 16p11.2 autism-linked CNV. M. AMAR\*; P. M. LOSADA; P. ZHANG; J. URRESTI; V. HERRERA; N. YU; J. YATES III; A. R. MUOTRI; L. M. IAKOUCHEVA. *Univ. of California San Diego, The Scripps Res. Inst., UCSD.*

2:30 **537.07** Linking spatial gene expression patterns to sex-specific brain structural changes on a mouse model of 16p11.2 hemideletion. T. NICKL-JOCKSCHAT\*; V. KUMAR JANGIR; N. M. GRISSOM; S. WELSH; H. SCHOCH; N. M. BOWMAN; R. HAVEKES; M. KUMAR; S. PICKUP; H. POPTANI; T. M. REYES; M. J. HAWRYLYCZ; T. ABEL. *Dept. of Psychiatry, Iowa Neurosci. Instit, Max Planck Inst. for Biol. Cybernetics, Univ. of Minnesota, Inst. for Translational Med. and Therapeutics, Univ. of Pennsylvania, Univ. of California Irvine, Univ. of Pennsylvania Dept. of Psychiatry, Univ. of Groningen, Dept. of Radiology, Univ. of Pennsylvania, Univ. of Cincinnati, Allen Inst. Brain Sci., Univ. of Iowa.*

**NANOSYMPOSIUM**

**538. Neurotransmitter Release**

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

Tue. 1:00 PM – San Diego Convention Center, SDCC 32

1:00 **538.01** Ca<sup>2+</sup> dependence of inner hair cell transmitter release in near physiological conditions. L. M. JAIME TOBON\*; C. HUANG; T. MOSER. *Max Planck Inst. for Biophysical Chem., Univ. Med. Ctr. Goettingen, Univ. of Goettingen, Intl. Max Planck Res. Sch.*

1:15 **538.02** Optical detection of glutamate release at individual inner hair cell synapses. O. OEZCETE\*; T. MOSER. *Max-Planck Inst. for Exptl. Med., Univ. Med. Ctr. Goettingen, Univ. Med. Ctr. Goettingen, Intl. Max Planck Res. Sch. for Neurosciences (IMPRS), Univ. Med. Ctr. Goettingen.*

1:30 **538.03** Neuromodulation of presynaptic calcium channels by dopamine and GABA receptors produces distinct forms of synaptic depression in prefrontal cortex. K. BURKE\*; C. M. KEESHEN; K. J. BENDER. *UCSF, UCSF.*

1:45 **538.04** CAPS isoforms differentially regulate synaptic transmission and peptide secretion in sensory neurons. U. D. BECHERER\*; A. H. SHAIB; A. STAUDT; A. HARB; M. KLOSE; A. SHAABAN; C. SCHIRRA; R. MOHRMANN; J. RETTIG. *Univ. des Saarlandes, Univ. des Saarlandes.*

\* 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 **538.05** Interplay between VAMP2 and lipids in regulation of SNARE complex assembly. C. LIU\*; C. WANG; S. ZHANG. *Chinese Acad. of Sci.*
- 2:15 **538.06**  $\alpha$ -Synuclein modulates synaptic vesicle recycling. K. J. VARGAS\*; E. M. GIRARDI; P. L. COLOSI; S. S. CHANDRA. *Yale Univ., Brown Univ.*
- 2:30 **538.07** Withdrawn

## NANOSYMPOSIUM

### 539. Postsynaptic Organization and Structure

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

Tue. 1:00 PM – San Diego Convention Center, SDCC 31C

- 1:00 **539.01**  $\alpha$ 4 $\beta$  $\delta$  GABA<sub>A</sub> receptors trigger synaptic pruning during adolescence in layer 5 of the prelimbic medial prefrontal cortex. M. R. EVRARD\*; M. LI. *SUNY Downstate Med. Ctr., CUNY Hunter.*
- 1:15 **539.02** Shank3 as a component of synaptic Ras-dependent signaling pathways which are disrupted in autism. H. KREIENKAMP\*; F. HASSANI NIA; V. MARTENS. *UKE Hamburg, UKE Hamburg.*
- 1:30 **539.03** Vascular endothelial growth factor (VEGF) receptor VER-1 and VER-4 regulate glutamatergic behavior by promoting cell surface levels of GLR-1 glutamate receptors. P. JUO\*; E. LUTH; C. RICCIO; J. HOFER; K. MARKOJA. *Tufts Univ. Sch. of Med.*
- 1:45 **539.04** High spine turnover in the mouse hippocampus revealed by two-photon STED microscopy *in vivo*. S. POLL\*; T. PFEIFFER; S. BANCELIN; J. ANGIBAUD; K. V. V. G. INAVALLI; K. KEPPLER; M. MITTAG; V. U. NÄGERL; M. FUHRMANN. *German Ctr. for Neurodegenerative Dis. (DZNE), Interdisciplinary Inst. for Neurosci., Univ. of Bordeaux, German Ctr. for Neurodegenerative Dis. (DZNE).*
- 2:00 **539.05** A deformation-based morphometry on exercise-induced effects in hippocampal subregions. Y. CHEN\*; A. BECKE; A. CARDENAS-BLANCO; E. DUZEL. *Otto-von-guericke-University Magdeburg, DZNE, Inst. Cognitive Neurol. and Dementia Res.*
- 2:15 **539.06** Npas4 is a critical regulator of learning-induced plasticity at mossy fiber-CA3 synapses during contextual memory formation. F. WENG\*; R. I. GARCIA; S. LUTZU; K. ALVINA; Y. ZHANG; M. DUSHKO; T. KU; K. ZEMOURA; D. RICH; D. GARCIA-DOMINGUEZ; M. HUNG; T. D. YELHEKAR; A. T. SORENSEN; W. XU; K. CHUNG; P. E. CASTILLO; Y. LIN. *MIT, Albert Einstein Col. of Med., Texas Tech. Univ., Univ. of Copenhagen.*
- 2:30 **539.07** Regulation of Homeostatic Plasticity by Shank3. V. TATAVARTY\*; C. WU; H. K. LIN; K. B. HENGEN; A. TORRADO PACHECO; N. J. MISKA; G. TURRIGIANO. *Brandeis Univ., Washington Univ. In St. Louis, Brandeis Univ.*
- 2:45 **539.08** Short-term brain network changes following repeated optogenetic M1 stimulation. S. VAHDAT\*; M. CHENG; M. ITO; H. LEE; G. STEINBERG; J. LEE. *Stanford Univ., Stanford Univ.*
- 3:00 **539.09** Extracellular vesicle release facilitates rapid synaptic strengthening. Y. WANG\*; C. PIOCHON; Q. HE; S. MARSHALL; S. SMUKOWSKI; E. T. BARTOM; A. SHILATIFARD; A. CONTRACTOR; J. N. SAVAS. *Northwestern Univ., Northwestern Univ., Northwestern Univ. Dept. of Physiol., Northwestern Univ. Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Medici.*

- 3:15 **539.10** Molecular mechanisms of the EphB-NMDAR interaction. H. R. WASHBURN; N. XIA; W. ZHOU; S. HASSLER; T. J. PRICE; M. B. DALVA\*. *Thomas Jefferson Univ., UTD, Thomas Jefferson Univ.*
- 3:30 **539.11** PSD-95 deficiency alters afferent-specific projections in the mPFC. A. A. COLEY\*; S. YANG; B. XING; W. GAO. *Drexel Univ. Col. of Med., Drexel Univ. Sch. of Med., Drexel Univ. Col. of Med., Drexel Univ. Col. Med.*
- 3:45 **539.12** Both GluN2A and GluN2B NMDA receptors undergo Ca<sup>2+</sup>-dependent inactivation by accumulating in desensitized states. G. IACOBUCCI\*; G. K. POPESCU. *Univ. At Buffalo, Univ. at Buffalo, SUNY.*
- 4:00 **539.13** Regulation of NMDA receptor phosphorylation by PP1 targeting protein, spinophilin. A. BEIRAGHI SALEK\*; V. OLFOUSI; M. C. EDLER, JR; J. MCBRIDE; A. J. BAUCUM II. *IUPUI, Indiana university-Purdue university- Indianapolis, Indiana Univ. Purdue Univ. Indianapolis, Indiana university-Purdue university- Indianapolis, Indiana University-Purdue Univ. Indianapolis.*

## NANOSYMPOSIUM

### 540. Alzheimer's Disease and Other Dementias: ApoE and Associated Pathways

#### Theme C: Neurodegenerative Disorders and Injury

Tue. 1:00 PM – San Diego Convention Center, SDCC 24

- 1:00 **540.01** ApoE receptor sortilin affects brain lipid homeostasis in an apoE isoform-specific manner. T. WILLNOW\*; A. ASARO; A. CARLO. *Max-Delbrueck-Center, Max-Delbrueck Ctr. for Mol. Med.*
- 1:15 **540.02** Neuronal APOE modulates a sporadic Alzheimer's disease phenotype in patient-derived induced neurons. A. R. WADHWANI\*; J. A. KESSLER. *Northwestern Univ., Northwestern Univ.*
- 1:30 **540.03** • New paradigms in treating apoE4-associated Alzheimer's disease; Proof of concept and translational finding from studies with the ABCA1 agonist therapeutic CS6253. H. N. YASSINE; J. JOHANSSON\*; D. SVIRIDOV; H. ZETTERBERG; B. WINBLAD; J. K. BIELICKI; D. M. MICHAELSON. *USC, Artery Therapeutics, Inc, Baker Inst., Inst. of Neurosci. and Physiol., Karolinska Institute, Dept NVS, Div. of Neurogeriatrics, UC Berkeley, Tel Aviv Univ.*
- 1:45 **540.04** Amyloid-independent cerebrovascular dysfunctions in aged humanized APOE4 targeted replacement mice. A. MONTAGNE\*; S. BARNES; E. LAWSON; A. P. SAGARE; M. T. HUUSKONEN; A. M. NIKOLAKOPOULOU; D. LAZIC; S. REGE; C. HSU; E. ZUNIGA; M. LADU; R. E. JACOBS; B. V. ZLOKOVIC. *USC, Loma Linda Univ., Univ. of Illinois.*
- 2:00 **540.05** Effect of APOE and ABCA7 on memory decline in individuals with African ancestry. K. D. DETERS\*; V. NAPOLIONI; M. D. GREICIUS; E. C. MORMINO. *Stanford, Stanford Univ., MGH.*
- 2:15 **540.06** First degree family history of Alzheimer's disease influences paired associates performance and is modified by apolipoprotein e genotype, heart disease, and smoking. J. S. TALBOOM\*; A. K. HÄBERG; M. DE BOTH; M. NAYMIK; A. L. SINIARD; L. RYAN; E. L. GLISKY; M. J. HUENTELMAN. *The Translational Genomics Res. Inst., Arizona Alzheimer's Consortium, Univ. of Arizona, NTNU.*

• 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

**541. Neurotoxicity, Neuroinflammation, and Neurodegeneration****Theme C: Neurodegenerative Disorders and Injury**

Tue. 1:00 PM – San Diego Convention Center, SDCC 7

- 1:00 **541.01** Gray matter volume is more strongly associated with multiple sclerosis symptomatology compared to white matter volume. N. CHERBUIN\*; M. E. SHAW; C. J. LUECK; T. MADDESS. *Australian Natl. Univ.*
- 1:15 **541.02** The nexus of methionine and phosphatidylcholine metabolism in multiple sclerosis. F. MIR\*; M. MENDELSON; S. A. SADIQ. *Tisch MS Res. Ctr. of NY, Tisch MS Res. center of NY, Tisch MS Res. Ctr.*
- 1:30 **541.03** Neuroinflammation-related cytokine exposure alters extracellular vesicle secretion, microRNA profiles, and mitochondrial function in a neuronal cell line. A. RUSSELL\*; S. SARKAR; S. JUN; S. RELICK; S. LEWIS; J. SIMPKINS. *West Virginia Univ., Johns Hopkins Sch. of Med.*
- 1:45 **541.04** Peripheral inflammatory serum biomarkers associate with white matter injury. M. ALTENDAHL\*; S. WALTERS; A. WOLF; E. FOX; M. YOU; D. COTTER; J. KRAMER; C. DECARLI; J. HINMAN; F. ELAHI. *Univ. of California, San Francisco, Univ. of California, Davis, UCLA.*
- 2:00 **541.05** Targeting immunometabolic mechanisms in astroglia to enhance neuronal bioenergetics. J. A. FIELDS\*; C. L. ACHIM; M. SWINTON; E. QVALE; A. B. SANCHEZ. *UCSD, UCSD, UCSD, Univ. of California San Diego, UCSD.*
- 2:15 **541.06** Trail mediates tlr7 neuroimmune-mediated cell death. L. G. COLEMAN\*, JR.; J. Y. ZOU; L. QIN; C. J. LAWRIMORE; F. T. CREWS. *Univ. of North Carolina at Chapel Hill, Univ. North Carolina, Chapel Hill, Univ. North Carolina, Sch. Med., UNC Chapel Hill, Skipper Bowles Ctr. Alcohol.*
- 2:30 **541.07** TLR7 and imiquimod: Taking a toll on the blood-brain barrier. N. C. DERECKI\*; S. RAO; Y. HE; S. CAMPBELL; M. HESSE; A. BHATTACHARYA. *Janssen Res. and Develop. La Jolla, Janssen Res. and Develop. La Jolla.*
- 2:45 **541.08** Role of astrocytes in western pacific parkinsonism-dementia complex. X. DONG; G. KISBY; Y. HONG\*. *Western Univ. of Hlth. Sci., Western Univ. of Hlth. Sci.*
- 3:00 **541.09** Dysregulation of TGF-beta signaling in monocyte-derived macrophages results in fatal neurodegeneration. H. LUND\*; M. PIEBER; R. PARSA; D. GROMMISCH; E. EWOOD; L. KULAR; J. HAN; J. NIJSSEN; E. M. HEDLUND; M. NEEDHAMSEN; S. RUHRMANN; A. O. GUERREIRO-CACAIS; R. BERGLUND; M. J. FORTEZA; D. F. J. KETELHUTH; O. BUTOVSKY; M. JAGODIC; X. ZHANG; R. A. HARRIS. *Karolinska Institutet, Dept. of Neuroscience, Karolinska Institutet, Brigham and Women's Hosp.*
- 3:15 **541.10** Phosphorylation of ULK1 by p38 $\alpha$  MAPK promotes microglial inflammatory response. H. SHE\*; Y. HE; T. ZHANG; H. XU; Y. ZHAO; Z. MAO. *Emory Univ.*
- 3:30 **541.11** Dendrimer-PMPA decreases neuroinflammation in a rabbit model of cerebral palsy. Z. ZHANG\*; A. SHARMA; A. G. THOMAS; C. ROJAS; B. S. SLUSHER; R. KANNAN; S. KANNAN. *Johns Hopkins Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Drug Discovery, Johns Hopkins Univ.*

- 3:45 **541.12** ACE inhibitors in the treatment of microglial inflammation in neuropsychiatric systemic lupus erythematosus. J. NESTOR\*; Y. ARINUMA; T. HUERTA; C. KOWAL; Y. FUJIEDA; E. NASIRI; N. KELLO; A. BIALAS; T. R. HAMMOND; U. SRIRAM; B. A. STEVENS; P. HUERTA; B. VOLPE; B. DIAMOND. *Feinstein Inst. for Med. Res., Kitasato Univ. Sch. of Med., Hokkaido Univ., Boston's Children's Hosp., Boston Children's Hosp., Temple Univ., Boston Children's Hosp.*
- 4:00 **541.13** Involvement of the complement system in the SAH-induced hippocampal abnormalities. E. V. GOLANOV\*; E. I. BOVSHIK; M. A. SHARPE; A. S. REGNIER-GOLANOV; D. S. BASKIN; G. W. BRITZ. *The Houston Methodist Hosp.*

## NANOSYMPOSIUM

**542. Transplantation and Regeneration: PNS****Theme C: Neurodegenerative Disorders and Injury**

Tue. 1:00 PM – San Diego Convention Center, SDCC 25

- 1:00 **542.01** Promoting functional recovery after peripheral nerve injury by alteration of macrophage phenotype using exogenous interleukin10 delivery. M. GOLSHADI\*; E. F. CLAFFEY; T. P. MOORE; M. SLEDZIONA; J. CHEETHAM. *Cornell Univ., Cornell Univ.*
- 1:15 **542.02** Mature Schwann cells but not developing Schwann cells support axon regeneration after peripheral nerve injury. T. ENDO\*; K. KADOYA; Y. SUZUKI; Y. MATSUI; Y. RUFEL; Y. NAGANO; D. KAWAMURA; N. IWASAKI. *Hokkaido University, Grad. Sch. of Med.*
- 1:30 **542.03** Age-dependent macrophage defects in peripheral nerve injury repair. A. P. BRUNSON\*; K. SAGAR; J. CHEETHAM. *Cornell Univ., Cornell Univ., Cornell Univ.*
- 1:45 **542.04** Cellular dynamics of Sonic hedgehog transport and release in neurons. W. LU\*; A. S. BAGHEL; P. A. BEACHY. *Stanford Univ.*
- 2:00 **542.05** • ErbB family signaling drives supporting cell proliferation *in vitro* and supernumerary hair cell formation *in vivo* in the neonatal mouse cochlea. P. WHITE\*; J. ZHANG; Q. WANG; D. ABDUL-AZIZ; A. S. B. EDGE; J. MATTICIAO. *Dept. of Neurosci., Harvard Med. Sch., St. John's Fisher Col.*
- 2:15 **542.06** Regeneration of complex peripheral nerve defects using allografts treated with localized and temporary immunosuppressive therapy. J. S. BUSHMAN\*; S. DHUNGANA; K. ROBALLO; R. CZAIKOWSKI. *Univ. of Wyoming, Univ. of Wyoming.*
- 2:30 **542.07** Effect of Neuregulin 1 in repairing a 4 cm gap injury in the rabbit common peroneal nerve. G. S. BENDALE; B. T. TRAN; J. RYAN; F. RAHMAN; E. SHIMIZU; S. ANAND; M. I. ROMERO-ORTEGA\*. *Univ. of Texas at Dallas.*

## NANOSYMPOSIUM

### 543. Somatosensation: Peripheral Mechanisms and Spinal Circuits

#### Theme D: Sensory Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC 5

- 1:00 **543.01** Piezo2 mechanotransduction is regulated by the interplay of Mtmr2 and PI(3,5)P<sub>2</sub>. M. SCHMIDT\*; P. NARAYANAN; M. HUETTE; F. RÉHFELDT; G. KUDRYASHEVA; S. LECHNER; F. TABERNER; D. GOMEZ-VARELA. *MPI of Exptl. Med., 3rd Inst. of Physics - Biophysics, Inst. of Pharmacol.*
- 1:15 **543.02** Maintenance and postnatal development of peripheral neuronal endings requires Sarm1. R. CLARY\*; B. A. JENKINS; E. A. LUMPKIN. *Columbia Univ., Columbia Univ.*
- 1:30 **543.03** Identification of spinal neurons contributing to both the dorsal column projection mediating fine touch and corrective motor movements. S. PAIXAO\*; L. LOSCHEK; L. GAITANOS; R. KLEIN. *Max Planck Inst. of Neurobio.*
- 1:45 **543.04** Molecular characterization of nerve injury and regeneration by single-nucleus RNA sequencing. W. RENTHAL\*; I. TOCHITSKY; E. LI; M. A. NAGY; L. MCILVRIED; R. W. GEREAU, IV; C. J. WOOLF. *Harvard Med. Sch., Boston Children's Hosp. and Harvard Med. Sch., Washington Univ. at St. Louis, Washington Univ. Sch. Med., Children's Hosp. Boston.*
- 2:00 **543.05** A point missense mutation in nerve growth factor (NGFR<sup>100W</sup>) results in hereditary sensory and autonomic neuropathy type v. K. J. SUNG\*; W. YANG; C. WU. *Univ. of California San Diego, Dept. of Neurology, Ruijin Hosp., UCSD Sch. of Med.*
- 2:15 **543.06** Massively parallel single nucleus transcriptional profiling defines spinal cord neurons and their activity during behavior. A. SATHYAMURTHY\*; K. R. JOHNSON; K. J. E. MATSON; C. I. DOBROTT; L. LI; A. R. RYBA; T. B. BERGMAN; M. KELLY; M. KELLEY; A. J. LEVINE. *NINDS, NIH, Natl. Cancer Inst., Natl. Inst. on Deafness and Other Communication Disorders.*
- 2:30 **543.07** Gene expression profiling of four interneuron populations in the dorsal spinal cord. R. R. DAS GUPTA\*; L. SCHEURER; H. WILDNER; H. U. ZEILHOFER. *Univ. of Zurich, ETH Zurich.*
- 2:45 **543.08** The neuronal basis of chronic itch. R. Z. HILL\*; Z. RIFI; R. B. BREM; D. BAUTISTA. *UC Berkeley, Buck Inst. for Res. on Aging.*
- 3:00 **543.09** Neuro-immune interactions drive itch in early eczema development. C. M. WALSH\*; J. SCHWENDINGER-SCHRECK; J. DEGUINE; N. KUCIREK; E. BROCK; J. WEI; K. GRONERT; G. BARTON; D. BAUTISTA. *UC Berkeley, UC Berkeley.*
- 3:15 **543.10** Precise levels of PTF1A are required to generate itch-modulating neurons. B. MONA\*; J. VILLARREAL; R. K. KOLLIPARA; J. E. JOHNSON. *UT Southwestern Med. Ctr.*
- 3:30 **543.11** Neurons and pathways of stress-induced analgesia in mice. K. HAENRAETS\*; R. GANLEY; S. SCHALBETTER; F. LUZI; L. YANG; H. C. JOHANNSEN; H. WILDNER; H. U. ZEILHOFER. *Univ. of Zurich, Inst. of Pharmacol. and Toxicology, ETH Zurich, Inst. of Pharmaceut. Sci.*
- 3:45 **543.12** Role of neuropeptide Y in post-incisional pain in rats: An immunohistochemical and behavioral study. M. GAUTAM\*; P. PRASOON; S. B. RAY. *All India Inst. of Med. Sci. (AIIMS), All India Inst. of Med. Sci. (AIIMS).*

\* 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

### 544. Neuro-Oncology

#### Theme F: Integrative Physiology and Behavior

Tue. 1:00 PM – San Diego Convention Center, SDCC 1

- 1:00 **544.01** Fusion detection analysis of public single cell RNA sequencing datasets reveals natural selection of chimeric transcripts in tumor evolutionary microenvironment. M. CHUKHMAN\*; J. GU; H. LU. *Univ. of Illinois, Chicago, Shanghai Jiaotong Univ., Univ. of Illinois at Chicago.*
- 1:15 **544.02** Specific inhibition of gsk-3 $\beta$  by tideglusib: Potential therapeutic target for neuroblastoma and glioblastoma cancer stem cells. H. F. BAHMAD\*; R. M. CHALHOUB; T. ARAJI; S. ASSI; P. GHANEM; Z. ABOU MRAD; F. CHAMAA; H. KADARA; H. HARATI; W. ABOU-KHEIR. *American Univ. of Beirut, American Univ. of Beirut, Lebanese Univ.*
- 1:30 **544.03** A role for hypocretin/orexin in metabolic and sleep abnormalities in a mouse model of non-metastatic breast cancer. W. H. WALKER\*; J. C. BORNIGER; K. M. EMMER; R. J. NELSON; A. C. DEVRIES. *The Ohio State Univ., Stanford Univ., The Ohio State Univ., West Virginia Univ., West Virginia Univ.*
- 1:45 **544.04** Potential application of the novel dendrimer-cystamine-curcumin nanoparticle technology for treatment of glioblastoma. M. FANA\*; N. MUNRO; B. SRINAGESHWAR; B. KATHIRVELU; D. SWANSON; G. L. DUNBAR; A. SHARMA; J. ROSSIGNOL. *Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Field Neurosciences Inst., Central Michigan Univ.*
- 2:00 **544.05** Determining the elastic moduli and cellular properties of brain and gbm organoids to develop a biofabricated gbm model. T. RIGGINS\*; H. MCNALLY; L. SMITH; S. HARBIN; J. L. RICKUS. *Purdue Univ., Purdue Univ., IU Sch. of Med., Purdue Univ., Purdue Univ.*
- 2:15 **544.06** Modulation of TLR-4/Wnt pathways as new therapeutic strategy in the treatment of glioblastomas. E. ESPOSITO\*; G. CASILI; M. CAFFO; M. CAMPOLO; S. M. CARDALI; M. LANZA; A. FILIPPONE; A. CONTI; A. GERMANO; S. CUZZOCREA. *Univ. of Messina, Univ. of Messina.*
- 2:30 **544.07** Fyn kinase is a novel interactor of the central nervous system-specific protein Olig2. S. V. MEHTA\*; A. DEROGATIS; F. RAUF; R. KUPP; C. LOCASCIO; E. LUNA MELENDEZ; J. LABAER. *Barrow Neurolog. Inst., Barrow Neurolog. Inst., Arizona State Univ., Univ. of Cambridge.*

## NANOSYMPOSIUM

### 545. Human Cognition and Behavior: Human Long-Term Memory Representations: Network and Circuit Mechanisms

#### Theme H: Cognition

Tue. 1:00 PM – San Diego Convention Center, SDCC 33

- 1:00 **545.01** Measuring the relationship between memory performance and hippocampal structure/function in periadolescent children: A longitudinal investigation from the Dev-CoG project. D. E. WARREN\*; N. CHRISTOPHER-HAYES; A. RANGEL; J. M. STEPHEN; V. D. CALHOUN; Y. WANG; T. W. WILSON. *Univ. of Nebraska Med. Ctr., Univ. of Nebraska Med. Ctr., Mind Res. Network, The Mind Res. Network, Tulane Univ.*

- 1:15 **545.02** Right lateralized frontoparietal network subserves task-independent temporal context recollection. Q. YE\*; E. MACALUSO; S. KWOK. *East China Normal Univ., Univ. Claude Bernard Lyon 1.*
- 1:30 **545.03** Reinstatement of event details during episodic simulation in the hippocampus. P. P. THAKRAL\*; K. P. MADORE; D. ADDIS; D. L. SCHACTER. *Harvard Univ., Stanford Univ., The Univ. of Auckland.*
- 1:45 **545.04** Frontotemporal network temporally encodes emotional sequences in humans. J. ZHENG\*; L. MNATSAKANYAN; S. VADERA; R. T. KNIGHT; J. LIN. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California Berkeley, Univ. of California, Irvine.*
- 2:00 **545.05** Transformation of association- and item-specific neural representations across different memory stages. J. LIU\*; H. ZHANG; N. AXMACHER; G. XUE. *Beijing Normal Univ., Inst. of Cognitive Neurosci.*
- 2:15 **545.06** Forward and time-compressed replay of human episodic memories flexibly changes its speed. S. MICHELMANN\*; B. STARESINA; H. BOWMAN; S. HANSLMAYR. *Univ. of Birmingham, Univ. of Kent.*
- 2:30 **545.07** Concept neurons in the human medial temporal lobe reflect relational processing. M. BAUSCH\*; J. NIEDIEK; T. P. REBER; S. MACKAY; J. BOSTRÖM; C. E. ELGER; F. MORMANN. *Univ. of Bonn Med. Ctr., Fac. of Psychology, Swiss Distance Learning Univ., Univ. of Bonn Med. Ctr.*
- 2:45 **545.08** Time course of the development of episodic memory signals in the human hippocampus. J. T. WIXTED\*; L. R. SQUIRE; M. H. PAPESH; S. D. GOLDINGER; P. N. STEINMETZ. *UC San Diego, VA Med. Ctr., Louisiana State Univ., Arizona State Univ., NeurTex Brain Res. Inst.*
- 3:00 **545.09** Characterized neural correlates of successful memory in the hippocampus induced by direct stimulation in the lateral temporal cortex. S. JUN\*; J. KIM; S. RYUN; C. CHUNG. *Seoul Natl. Univ., Seoul Natl. Univ., Seoul Natl. Univ. Hosp.*

## NANOSYMPOSIUM

### 546. Human Cognition and Behavior: Working Memory III

#### Theme H: Cognition

Tue. 1:00 PM – San Diego Convention Center, SDCC 30B

- 1:00 **546.01** High-resolution fMRI reveals layer-specific activity in human prefrontal cortex during working memory. E. S. FINN\*; L. HUBER; D. C. JANGRAW; P. A. BANDETTINI. *Natl. Inst. of Mental Health.*
- 1:15 **546.02** Combined visual, auditory and tactile working memory fMRI reveals the topography of human sensory-selective and sensory-independent cerebral cortex. S. M. TOBYNE\*; J. A. BRISSENDEN; A. L. NOYCE; D. C. SOMERS. *Boston Univ., Boston Univ.*
- 1:30 **546.03** When less is more: Frontoparietal neurostimulation targets the cross-frequency neural code for working memory. E. L. JOHNSON\*; K. T. JONES; M. E. BERRYHILL. *Univ. of Nevada Reno, Colorado State Univ.*
- 1:45 **546.04** Resource overwrite model for sequential working memory in human. H. LEE\*; W. CHOI; Y. PARK; S. PAIK. *Korea Advanced Inst. of Sci. and Technol., Program of Brain and Cognitive Engin.*

- 2:00 **546.05** Event-related potential evidence for verbal and spatial modality-dependent brain activity during visual working memory. T. J. COVEY\*; D. W. SHUCARD; X. WANG; J. L. SHUCARD. *Univ. at Buffalo, Univ. at Buffalo, Univ. at Buffalo.*
- 2:15 **546.06** Comparison of spike sorting methods shows distributed coding of visual objects by single neurons in the human brain. P. N. STEINMETZ\*. *NeurTex Brain Res. Inst.*
- 2:30 **546.07** Feature-based attentional control over the contents of visual working memory. J. M. SCIMECA\*; Y. VAFAI; W. HUERTA; J. A. MILLER; M. D'ESPOSITO. *UC Berkeley.*
- 2:45 **546.08** Respective roles of frontoparietal and stimulus-selective visual regions in visual working memory for complex objects. E. S. LORENC\*; M. D'ESPOSITO. *Univ. of Texas at Austin, Univ. of California Berkeley.*

## NANOSYMPOSIUM

### 547. Human Cognition and Behavior: Neurocognitive Development

#### Theme H: Cognition

Tue. 1:00 PM – San Diego Convention Center, SDCC 23

- 1:00 **547.01** Early life shapes our brain: Prematurity and low birth weight. P. S. HUPPI\*; L. LORDIER; L. FREITAS; D. MESKALDJI; D. VAN DE VILLE; D. GRANDJEAN. *Geneva Univ. Hosp., Univ. of Geneva, Universtiy of Geneva, Univ. of Geneva, Neurosci. of Emotion and Affective Dynamics Lab.*
- 1:15 **547.02** Receptive field development in human visual cortex impacts viewing behavior and spatial coding. J. GOMEZ\*; A. DRAIN; V. S. NATU; B. L. JESKA; M. BARNETT; K. GRILL-SPECTOR. *Stanford Univ., California State Fullerton, Stanford Univ., Univ. of Pennsylvania.*
- 1:30 **547.03** Development of 3D vision in infants and children. A. M. NORCIA\*; P. J. KOHLER; W. J. MEREDITH. *Stanford Univ., Stanford Univ.*
- 1:45 **547.04** Cerebral bases of face perception during the first semester of life. G. DEHAENE-LAMBERTZ\*; P. ADIBPOUR; J. DUBOIS. *INSERM U992, INSERM U992.*
- 2:00 **547.05** Development of social and attentional fnirs responses in infants in their first year in the uk and the gambia. A. BLASI\*; S. L. LLOYD-FOX; L. MASON; S. MCCANN; M. ROZHKO; L. KISCHKEL; C. E. E. ELWELL. *Univ. Col. London, Ctr. for Brain and Cognitive Development, Birkbeck, Univ. of London, 3Medical Res. Council, The Gambia, Univ. Col. London.*
- 2:15 **547.06** Brain development in childhood: Longitudinal relationships between regional cortical area, global motion sensitivity and numerical/visuospatial cognition. O. J. BRADDICK\*; J. ATKINSON; W. ZHAO; W. THOMPSON; E. NEWMAN; C. A. AZAMA; H. BARTSCH; N. AKSHOOMOFF; C. CHEN; A. M. DALE; T. L. JERNIGAN. *Univ. Oxford, Univ. Col. London, UCSD, Univ. of California San Diego, UCSD, Univ. of California San Diego, Univ. of California San Diego, UCSD.*
- 2:30 **547.07** ● Brain development in children with perinatal brain injury: Relation of severity from MRI to dorsal stream deficits in attention and motion sensitivity. J. ATKINSON\*; M. ANDREW; C. MONTAGUE-JOHNSON; J. PARR; P. SULLIVAN; O. J. BRADDICK. *Univ. Col. London, Univ. of Oxford, Univ. of Newcastle, Univ. Oxford.*
- 2:45 **547.08** Development of early structural connectivity in autism spectrum disorder. E. CONTI\*. *IRCCS Stella Maris.*

\* 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 **547.09** Longitudinal functional connectivity changes in attention networks in early childhood. S. L. BRAY\*; C. ROHR; D. DIMOND; A. WEBBER; D. DEWEY. *Univ. of Calgary.*
- 3:15 **547.10** Automaticity in the reading circuitry. S. J. JOO\*; K. TAVABI; J. D. YEATMAN. *Univ. of Washington, Univ. of Washington.*
- 3:30 **547.11** Regional differences in cortical thickness associated with numerosity and math skills in 5 year-old children born very preterm. N. AKSHOOMOFF\*; F. HAIST; H. M. HASLER; J. STILES; T. L. JERNIGAN; T. T. BROWN; A. M. DALE. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego.*
- 3:45 **547.12** Cerebellar contributions to children's language processing. A. M. D'MELLO\*; R. R. ROMEO; J. LEONARD; A. MACKEY; J. D. E. GABRIELI. *MIT, Harvard Univ., Univ. of Pennsylvania.*
- 4:00 **547.13** How language facilitates theory of mind development: Behavioral and fMRI evidence in children with delayed access to language. H. RICHARDSON\*; J. KOSTER-HALE; N. CASELLI; R. MAGID; R. BENEDICT; H. OLSON; J. PYERS; R. SAXE. *MIT, Boston Univ., Wellesley Col.*
- 4:15 **547.14** Neurocognitive development of risky-decision making in young children. Y. ZHAO\*; L. ZHUANG; S. TAN; J. XU; J. WANG; L. HAO; M. CHEN; J. GAO; Y. HE; Q. DONG; S. TAO; S. QIN. *Beijing Normal Univ., IDG/McGovern Inst. for Brain Research, Beijing Normal Univ., Psychiatry Res. Center, Beijing Hui-Long-Guan Hosp., Peking Univ. Huilongguan Clin. Sch., Ctr. for MRI Research, Acad. for Advanced Interdisciplinary Studies, Peking Univ., Peking Univ.*

## NANOSYMPOSIUM

### 548. Physiological Methods: Electrophysiology: Stimulating Neurons and Electrode Arrays

#### Theme I: Techniques

Tue. 1:00 PM – San Diego Convention Center, SDCC 30E

- 1:00 **548.01** Non-invasive and selective brain stimulation by ultrasound via activation of mechanosensitive ion channels. Z. QIU\*; J. GUO; S. KALA; J. ZHU; Q. XIAN; T. ZHU; X. HOU; Y. YANG; L. SUN. *The Hong Kong Polytechnic Univ., The Hong Kong Polytechnic Univ.*
- 1:15 **548.02** A microscale, printable device for recording and manipulating activity in small peripheral nerves. T. M. OTCHY\*; C. MICHAS; B. LEE; K. GOPALAN; D. SEMU; J. GLEICK; A. E. WHITE; T. J. GARDNER. *Boston Univ.*
- 1:30 **548.03** Focal transcranial magnetic stimulation(TMS) of the rat and mouse brains. H. LU\*; Q. MENG; L. JING; S. UKANI; E. A. STEIN; Y. YANG; F. CHOA. *Natl. Inst. on Drug Abuse, Univ. of Maryland, Baltimore County, Tianjin Med. Univ.*
- 1:45 **548.04** Teasing apart the desired and unwanted effects of anesthetics at GABA<sub>A</sub> receptors. N. S. CAYLA\*; M. F. DAVIES; E. R. GROSS; B. D. HEIFETS; M. B. MACIVER; E. J. BERTACCINI. *Stanford Sch. of Med., VA Hlth. Care Syst.*
- 2:00 **548.05** ● Non invasive hepatic ultrasound improves insulin sensitivity and metabolic glucose status in animal models of insulin resistance. V. E. COTERO\*; C. PULEO; Y. FAN; S. KANUMALLE; J. ROBERTS; J. ASHE. *Gen. Electric-Global Res. Ctr., Gen. Electric- Global Res. Ctr.*

- 2:15 **548.06** A non-invasive non-contact MEMS sensor for electric vector field encephalography. J. BICKFORD; S. GOLMON; W. LENK; P. KUMAR; W. SAWYER; J. LEBLANC; J. J. WHEELER\*. *Draper Lab.*
- 2:30 **548.07** ● ▲ Automated perfusion and electrophysiological measurements for drug studies in iPS derived epileptic neurons. C. COLLINS; H. WONG; J. KOHANA; A. RANGEL; P. SCHWARTZ; J. COLLINS\*. *Univ. High Sch., Biopico Systems Inc, Children's Hosp. of Orange County.*
- 2:45 **548.08** ▲ Flexible, ultra-resolution, subdermal eeg probes. K. DESHPANDE\*; Z. AHMED; J. REDDY; A. KRISHNAN; P. VENKATESH; S. KELLY; P. GROVER; M. CHAMANZAR. *Carnegie Mellon Univ.*
- 3:00 **548.09** High-density microfabricated stainless steel neural probes for high-resolution recording in primates. Z. AHMED\*; J. REDDY; K. DESHPANDE; T. TEICHERT; R. S. TURNER; M. CHAMANZAR. *Carnegie Mellon Univ., Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 3:15 **548.10** Robotic, head-mountable intracellular systems (RHeMIS) for *in vivo* applications. S. SAMPATH KUMAR\*; M. BAKER; M. OKANDAN; J. MUTHUSWAMY. *Arizona State Univ., Sandia Natl. Labs.*

## NANOSYMPOSIUM

### 549. Computation, Modeling, and Simulation: Network Models: Theory and Experimentation

#### Theme I: Techniques

Tue. 1:00 PM – San Diego Convention Center, SDCC 2

- 1:00 **549.01** Witnessing the evolution of functional anatomy across the whole brain of living mice by MEMRI: Lessons for Alzheimer's disease, early life stress, and post-traumatic stress disorder. E. L. BEARER\*; D. BARTO; A. R. H. REVIERE; C. S. MEDINA; R. E. JACOBS. *UNM Sch. of Med., Caltech, USC Keck Sch. of Med.*
- 1:15 **549.02** Acute and persistent anxiety in the presence of fear: An memri approach to compare *invivo* global brain changes between wt and *sert-ko* mice across multiple timepoints. D. BARTO\*; A. R. H. REVIERE; R. E. JACOBS; E. L. BEARER. *Univ. of New Mexico Hlth. Sci. Ctr., USC Keck Sch. of Med., Univ. of New Mexico Hlth. Sci. Ctr., Caltech.*
- 1:30 **549.03** A novel connectome mapping method with infrared neural stimulation and ultra-high-field fMRI. A. G. XU\*; M. QIAN; J. WANG; X. SONG; X. ZHANG; A. W. ROE. *Qiushi Acad. for Advanced Studies, Zhejiang Univ.*
- 1:45 **549.04** ● Noninvasively mapping the neural functional connectome with ultrasonic drug uncaging. J. B. WANG\*; M. R. ARYAL; Q. ZHONG; D. B. VYAS; R. D. AIRAN. *Stanford Sch. of Med.*
- 2:00 **549.05** Fast objective coupled planar illumination microscopy. C. J. GREER\*; T. E. HOLY. *Washington Univ. in St. Louis, Washington Univ. Sch. of Med.*
- 2:15 **549.06** Investigating individual variability in behavior, functional networks and inherent vulnerability using the predator scent model of PTSD. D. DOPFEL\*; P. PEREZ; N. ZHANG. *Pennsylvania State Univ.*
- 2:30 **549.07** Segregation of learning and coding layer is required to explain memory ensemble dynamics observed in the basolateral amygdala. Y. PARK\*; S. PAIK. *KAIST, KAIST.*

\* 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

- 2:45 **549.08** Network controllability predicts rTMS-induced benefits to working memory ability. S. W. DAVIS\*; L. BEYNEL; L. DENG; C. CROWELL; S. HILBIG; H. PALMER; A. BRITO; A. V. PETERCHEV; S. H. LISANBY; B. LUBER; L. G. APPELBAUM; R. E. CABEZA. *Duke Univ., Duke Med., Duke Univ., NIH, Natl. Inst. of Mental Hlth.*
- 3:00 **549.09** Controllability of functional brain networks. S. GU\*; S. DENG; J. C. GEE. *Univ. of Electro. Sci. and Technol. of China, Univ. of Pennsylvania.*

## POSTER

### 550. Neurogenesis and Gliogenesis: Neuronal Development II

#### Theme A: Development

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 A1 **550.01** Neural mechanisms of chromatin remodeling: The role of cohesin complex proteins in memory and learning using *Drosophila melanogaster*. K. A. EDWARDS\*; B. Z. KACSOH; G. BOSCO. *Dartmouth Col.*
- 2:00 A2 **550.02** Chd7 regulates GABAergic network development in zebrafish. P. JAMADAGNI; E. SAMARUT; K. PATTEN\*. *INRS, CRCHUM.*
- 3:00 A3 **550.03** ▲ Long distance plasticity of callosal connections: From men to mice. D. SZCZUPAK\*; C. C. YEN; C. LIU; S. CHOI; F. MEIRELES; C. VICTORINO; A. C. SILVA; R. LENT; F. F. TOVAR-MOLL. *Natl. Inst. of Hlth., Federal Univ. of Rio de Janeiro, Inst. D'or for Res. and Educ.*
- 4:00 A4 **550.04** A3 regulates self-renewal maintenance of neural progenitors. M. OU\*; Z. LUO. *Inst. of Neuroscience, Chinese Acad. of Scie.*
- 1:00 A5 **550.05** Constitutively active MEK1 signaling drives selective death of cortical parvalbumin-expressing GABAergic interneurons in mouse embryonic brain development. M. HOLTER\*; G. R. BJORKLUND; S. SHAH; K. NISHIMURA; J. NEWBERN. *Arizona State Univ.*
- 2:00 A6 **550.06** Repeated exposure to brief periods of enhanced visual experience rehabilitates the injured brain in xenopus tadpoles. H. T. CLINE\*; A. C. GAMBRILL; R. L. FAULKNER; C. R. MCKEOWN. *The Scripps Res. Inst., The Scripps Res. Inst.*
- 3:00 A7 **550.07** Pak1ip1 gene mutation results in neural crest-dependent developmental defects. A. DE CRESCENZO\*; A. A. PANOUTSOPOULOS; A. LEE; K. S. ZARBALIS. *Univ. of California Davis.*
- 4:00 A8 **550.08** Nutrient restriction causes reversible G2 arrest in xenopus neuronal progenitors. C. R. MCKEOWN\*; H. T. CLINE. *The Scripps Res. Inst.*
- 1:00 A9 **550.09** Developmental changes in Gpnmb expression in the prenatal rat brain. S. YOKOYAMA\*; H. ZHU. *Kanazawa Univ., Res. Ctr. for Child Mental Develop.*
- 2:00 A10 **550.10** Consequences of heterozygous loss-of-function mutations to PAX6 in the adult mammalian brain. M. K. GRANT\*; A. M. BOBILEV; A. M. RASYS; A. E. BRANCH; J. B. BYERS; H. SCHRIEVER; K. HEKMATYAR; J. D. LAUDERDALE. *Univ. of Georgia, Univ. of Texas Southwestern Med. Ctr., Johns Hopkins Univ., Univ. of Georgia.*
- 3:00 A11 **550.11** Cortical and cerebellar neurodegeneration in the absence of the nuclear protein Akirin2. S. L. PEEK\*; J. A. WEINER. *Univ. of Iowa, Univ. of Iowa.*
- 4:00 A12 **550.12** Nervous system plasticity and regeneration in Hydra. A. S. PRIMACK\*; S. SIEBERT; C. JULIANO. *Univ. of California Davis.*
- 1:00 A13 **550.13** Early migratory neurons of the olfactory placode, the oral ectoderm, and the cephalic epithelium adjacent to the forebrain. I. BYSTRON\*. *Univ. of Oxford.*
- 2:00 A14 **550.14** FMRP regulates adult neural stem cell maintenance. X. ZHAO\*; Y. LI; M. E. STOCKTON; Y. ZHAO; J. L. MILLER; I. BHUIYAN. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*
- 3:00 A15 **550.15** Autophagy mediates astrogenesis of adult hippocampal neural stem cells. S. JEONG\*; S. HA; K. YI; J. J. CHU; S. YU. *DGIST.*
- 4:00 A16 **550.16** ▲ Functional *in vivo* screen of TSC1&2 missense mutants associated with ASD in cortical GABAergic interneurons. D. WUNDRACH; S. M. BILINOVICH; A. M. STAFFORD; D. B. CAMPBELL; J. W. PROKOP; D. VOGT\*. *Michigan State Univ.*
- 1:00 A17 **550.17** Efficient generation of dopaminergic neurons by transdifferentiation of cortical GABAergic neurons. A. RAINA\*; S. U. MAHAJANI; M. BAEHR; S. KUEGLER. *Universitätsmedizin Goettingen.*
- 2:00 A18 **550.18** The role of ECE2 in the human brain developmental disorder periventricular heterotopia. I. Y. BUCHSBAUM\*; G. GIORGIO; C. KYROUSI; A. O'NEILL; S. R. ROBERTSON; S. CAPPELLO. *Max Planck Inst. of Psychiatry, Grad. Sch. of Systemic Neurosciences, Ludwig Maximilians Univ., Univ. of Trieste, Helmholtz Ctr. Munich, Dunedin Sch. of Medicine, Univ. of Otago.*
- 3:00 A19 **550.19** Herpes simplex type-1 (HSV-1) infection inhibits adult hippocampal neurogenesis in mice via amyloid-β protein (Aβ) accumulation. D. D. LI PUMA\*; R. PIACENTINI; L. LEONE; K. GIRONI; M. E. MARCOCCI; G. DE CHIARA; A. T. PALAMARA; C. GRASSI. *Univ. Cattolica, Med. Sch., Sapienza Univ. of Rome, Natl. Res. Council, San Raffaele Pisana, IRCCS.*
- 4:00 A20 **550.20** Physiological maturation and network integration of non-proliferative neuronal precursors in the adult murine piriform cortex. B. BENEDETTI\*; R. KÖNIG; D. DANNEHL; C. KREUTZER; M. BELLES; M. RITTER; T. M. WEIGER; J. NACHER; M. ENGELHARDT; L. AIGNER; S. COUILLARD-DESPRES. *Paracelsus Med. Univ., Paracelsus Med. Univ., Paracelsus Med. Univ., Med. Fac. Mannheim, Heidelberg Univ., Univ. of Valencia, Paracelsus Med. Univ., Univ. of Salzburg.*
- 1:00 A21 **550.21** Anatomical and molecular characterization of the developing entorhinal cortex neuronal circuit in the pig. Y. LIU\*; T. B. BERGMANN; J. M. P. VIDAL; Y. MORI; M. PIHL; P. D. THOMSEN; P. HYTTTEL; K. MØLLGÅRD; M. P. WITTER; V. J. HALL. *Univ. of Copenhagen, Univ. of Copenhagen, Univ. of Copenhagen, Univ. of Copenhagen, Norwegian Univ. of Sci. and Technol.*
- 2:00 A22 **550.22** Inhibition of an autocrine activity-dependent insulin signal is required for sensory neuron differentiation in *C. elegans*. L. BAYER HOROWITZ\*; J. BRANDT; N. RINGSTAD. *NYU Sch. of Medicine, Skirball Inst.*
- 3:00 A23 **550.23** Genome-wide definition of regulatory regions and transcripts during the transition from pluripotent to neural-restricted stem cells. V. MENEGHINI\*; M. LUCIANI; L. PETITI; I. CIFOLA; C. PEANO; A. GRITTI; A. MICCIO. *Imagine Inst. of Genet. Dis., San Raffaele Scientific Inst., Inst. for Biomed. Technologies (ITB), Natl. Res. Council (CNR), Inst. of Genet. and Biomed. Res. UoS of Milan, Natl. Res. Council (CNR) - Humanitas Clin. and Res. 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

- 4:00 A24 **550.24** Hippocampal neurons from human pluripotent stem cells enables modeling of connectivity *in vitro*. A. SARKAR\*; A. MEI; S. STERN; A. C. M. PAQUOLA; M. SOKHIREV; H. KIM; F. H. GAGE. *Salk Inst., Salk Inst.*
- 1:00 A25 **550.25** Co-morbid HIV-Tat and morphine attenuate human neural stem cell neurogenesis and alter proteins regulating neural functions. S. MALIK\*; P. SETH. *Natl. Brain Res. Ctr.*
- 2:00 A26 **550.26** Integrative multi-omics analyses of iPSC-derived brain organoids identify early determinants of human cortical development. A. AMIRI\*; G. COPPOLA; S. SCUDERI; F. WU; T. ROYCHOWDHURY; F. LIU; S. POCHAREDDY; Y. SHIN; M. GERSTEIN; N. SESTAN; A. ABYZOV; F. M. VACCARINO. *Yale Univ., Mayo Clin.*
- 3:00 A27 **550.27** A dynamic view of the proteomic landscape during differentiation of human ReNcell-VM neural progenitor cells. Y. SONG\*; M. J. BERBERICH; K. SUBRAMANIAN; S. RODRIGUEZ; R. EVERLEY; T. J. MITCHISON; P. K. SORGER. *Harvard Med. Sch., Harvard Med. Sch.*
- 4:00 A28 **550.28** Role of piRNA and interacting exosome components in neuronal differentiation from human embryonal carcinoma cells. Q. HU\*; C. S. SUBHRAMANYAM. *Natl. Univ. of Singapore, Natl. Univ. Singapore.*

## POSTER

### 551. Neurogenesis and Gliogenesis: Glial Development and Interaction With Neurons

#### Theme A: Development

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 A29 **551.01** ▲ GLAST expression in different developmental stages of marine echinoderms. A. B. BENÍTEZ-MATA; R. A. ZÚÑIGA-ASTORGA; F. CORREA-SANDOVAL; A. ORTEGA; T. N. OLIVARES-BAÑUELOS\*. *Univ. Autónoma De Baja California, Ctr. de Investigación y de Estudios Avanzados del Inst. Politécnico Nacional.*
- 2:00 A30 **551.02** Cholinergic signaling between axon and oligodendrocyte: Implications for myelin abnormalities in Gulf War illness. J. BELGRAD\*; D. J. DUTTA; K. A. SULLIVAN; J. P. O'CALLAGHAN; R. D. FIELDS. *NIH, Henry M. Jackson Fndn. for the Advancement of Military Med., Boston Univ. Sch. of Publ. Hlth., Centers for Dis. Control and Prevention.*
- 3:00 A31 **551.03** Sox17 transgenesis reveals sonic hedgehog- and Gli2-mediated oligodendrocyte differentiation in adult white matter. X. MING; L. CHEW\*; J. L. DUPREE; B. MCELLIN; V. GALLO. *Children's Res. Inst., Virginia Commonwealth Univ.*
- 4:00 A32 **551.04** The *Drosophila* ADAM protein MMD participates in the early formation of both epithelial and glial boundaries. B. A. CHASE\*; C. SENIOR-REMSA; A. CASTRO; W. ZHOU; C. KERBER; G. E. GILSON; K. HIGGINS; E. KLUG. *Univ. Nebraska-Omaha, Univ. Nebraska-Omaha, Univ. of Nebraska at Omaha.*
- 1:00 A33 **551.05** Single cell RNA sequencing of the humanized glial chimeric mouse brain identifies the transcriptional concomitants to human white matter maturation and myelination. J. N. MARIANI\*; S. J. SCHANZ; K. M. CLARK; S. A. GOLDMAN. *Univ. of Rochester Med. Ctr., Univ. of Copenhagen Fac. of Hlth., Rigshospitalet.*
- 2:00 A34 **551.06** Unbiased stereological estimates of total number of astrocytes in the developing human cochlear nucleus. S. SAINI\*; T. G. JACOB; A. THAKAR; K. K. ROY; T. S. S. ROY. *All India Inst. of Med. Sci., All India Inst. of Med. Sci., All India Inst. of Med. Sci., All India Inst. of Med. Sci.*
- 3:00 B1 **551.07** FGF8 signaling plays an integral role during cuprizone-dependent astrocyte activation. C. E. STEWART\*; W. C. CHUNG. *Kent State Univ.*
- 4:00 B2 **551.08** Signaling pathways that regulate oligodendroglia migration and differentiation. D. J. OSTERHOUT\*; B. BADILLO; H. BHATTI; I. GENEVA. *SUNY Upstate Med. Univ.*
- 1:00 B3 **551.09** ● Rapid generation of mature cortical and spinal astrocytes from human iPSCs. B. DUNGAR\*; Z. DU. *BrainXell, BrainXell Inc.*
- 2:00 B4 **551.10** Decreased adenosine alters microglial morphology and activation during embryonic cortical development. J. ' KEITER\*; V. MARTINEZ-CERDENNO; S. C. NOCTOR. *UC Davis, UC Davis/Shriner's Hosp., UC Davis.*
- 1:00 DP01/B5 **551.11** (Dynamic Poster) Microglia and their associations with neural stem cells vary spatiotemporally in fetal human and nonhuman primate neocortical neurogenesis. N. BARGER\*; S. C. NOCTOR. *Univ. of California, Davis - MIND Inst., UC Davis.*
- 4:00 B6 **551.12** The retinoic acid-synthesizing enzyme retinaldehyde dehydrogenase 2 is required for normal oligodendrogenesis and myelination in the developing postnatal brain. V. MORRISON\*; J. K. HUANG. *Georgetown Univ.*
- 1:00 B7 **551.13** ▲ Identification of the Nab2 nuclear localization signal. J. M. LAVALLEE; T. GRANT; N. BERRY; S. KLETSOV; K. M. ABT; K. W. ADAMS\*. *Bridgewater State Univ.*
- 2:00 B8 **551.14** Hemocyte regulates the development of neuromuscular junctions in *Drosophila*. D. DUAN\*; J. CHU; C. WU; Z. TING; S. LU; Y. LIU; S. DUAN. *Zhejiang Univ., Zhejiang Univ. Med. Sch.*
- 3:00 B9 **551.15** A critical role of Autism-related chromatin remodeler CHD8 for oligodendrocyte development and myelination. C. ZHAO\*; C. DONG; R. LU. *Cincinnati Children'S Hosp. Med. Ctr.*

## POSTER

### 552. Stem Cells and Reprogramming: Neural Lineage Reprogramming

#### Theme A: Development

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 B10 **552.01** A noble finding of miRNAs in neurogenic differentiation of human adipose tissue derived mesenchymal stem cells. S. JANG\*; J. PARK; S. PARK; H. JEONG. *Chonnam Natl. Univ. Med. Sch.*
- 2:00 B11 **552.02** The influence of Wnt5a activator and antagonist in neurogenic differentiation of mesenchymal stem cell *in vitro*. H. JEONG\*; S. PARK; J. PARK; H. CHO; B. KIM; S. JANG. *Chonnam Natl. Univ., Chonnam Natl. Univ. Med. Sch., Chonnam Natl. Univ. Med. Sch.*
- 3:00 B12 **552.03** Differentiation of suprachiasmatic nucleus (SCN) neurons from mouse and human fibroblasts. M. HIRAYAMA\*; H. D. LE; L. S. MURE; S. PANDA. *Salk Inst. For Biol. Studies.*

\* 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 B13 **552.04** Neocortical projection neurons instruct inhibitory interneuron circuit development in a lineage dependent manner. J. C. WESTER\*; D. CALVIGIONI; S. HUNT; X. YUAN; C. J. MCBAIN. *NIH, Karolinska Institutet, NIH, NIH, NIH.*
- 1:00 B14 **552.05** Region and layer specific differences in astrocyte to neuron reprogramming after brain injury. N. MATTUGINI\*; C. LAO; O. TORPER; M. GÖTZ. *Biomed. Center, Ludwig-Maximilians-University, Inst. of Stem Cell Research, Helmholtz Ctr. Munich, Grad. Sch. of Systemic Neuroscience, Ludwig-Maximilians-University (LMU), Biomed. center (BMC), Ludwig-Maximilians-University (LMU), Lund Stem Cell Center, Lund Univ., SyNergy Excellence Cluster, Munich.*
- 2:00 B15 **552.06** Clonal lineage determines the direct conversion of thalamic astrocytes into subtype-specific thalamocortical neurons. A. HERRERO NAVARRO\*; V. MORENO-JUAN; A. SEMPERE; R. SUSÍN; B. ANDRÉS-BAYÓN; M. FIGUERES-OÑATE; J. LÓPEZ-ATALAYA; M. KAROW; L. LÓPEZ-MASCARAQUE; B. BERNINGER; G. LÓPEZ-BENDITO. *Inst. de Neurociencias de Alicante (UMH-CSIC), Inst. Cajal (CSIC), Inst. de Neurociencias de Alicante (UMH-CSIC), Biomed. Ctr. Ludwig-Maximilians-University Munich, Johannes Gutenberg University, Sch. of Med.*
- 3:00 B16 **552.07** Molecular mechanisms of direct astrocyte-to-neuron conversion revealed by transcriptome analysis. N. MA\*; B. PULS; J. YIN; G. CHEN. *Pennsylvania State Univ.*
- 4:00 B17 **552.08** The Autoinjector: An image guided microinjection platform for injecting progenitors in the mouse telencephalon. G. SHULL\*; C. HAFFNER; W. HUTTNER; E. TAVERNA; S. B. KODANDARAMAIAH. *Univ. of Minnesota, Max Planck Inst. of Mol. Cell Biol. and Genet., Max Planck Inst. for Evolutionary Anthropol., Univ. of Minnesota.*
- 1:00 B18 **552.09** A bio-inspired artificial transcription factor for effective cellular reprogramming. K. LEE\*; D. CHUENG; W. YOUNG; X. QIU; D. SUN. *Rutgers Univ., Rutgers Univ.*
- 2:00 B19 **552.10** Light responsive human stem cell derived retinal organoids for pharmacology and drug screening purposes. E. SERNAGOR\*; D. HALLAM; G. HILGEN; B. DORGAU; M. FELLENBAM; L. ARMSTRONG; M. LAKO. *Newcastle Univ., Newcastle Univ., Newcastle Univ.*
- 4:00 B23 **553.04** The organisation, dynamics and development of neural assemblies in the tectum. T. SAINSBURY\*; G. DIANA; M. MEYER. *King's Col. London, King's Col. London.*
- 1:00 B24 **553.05** Profiling synapse density changes across development in the visual cortex of rats using quantitative immunofluorescence. G. S. WITHERS\*; M. B. LAWRENCE; H. B. FADENRECHT; J. C. HODGSON; C. S. WALLACE. *Whitman Col.*
- 2:00 B25 **553.06** Mutant mouse models with reduced ionic signaling pathways have cochlear outer hair cells with disrupted efferent and afferent innervation patterns. D. D. SIMMONS\*; A. COX; J. MCCLUSKEY; F. CERIANI; A. HENDRY; J. JENG; W. MARCOTTI. *Baylor Univ., Univ. of Sheffield.*
- 1:00 DP02/B26 **553.07** (Dynamic Poster) Rapid terminal reorganization within local target territories during formation of the giant nerve terminal, the calyx of Held. D. R. JACKSON\*; J. M. HEDDLESTON; M. MOOREHEAD; T. CHEW; S. PIDHORSKYI; P. S. HOLCOMB; S. SIVARAMAKRISHNAN; S. M. YOUNG, JR; S. RAY; T. DEERINCK; M. H. ELLISMAN; G. A. SPIROU. *West Virginia Univ. Sch. of Med., Janelia Res. Campus, Univ. of Iowa, UCSD BSB 1000.*
- 4:00 B27 **553.08** Contributions of peri-neuronal nets to parvalbumin-positive interneuron excitability in developing mouse auditory cortex (A1). S. MAPLES; J. KOKASH; K. RAZAK; T. A. FIACCO; P. W. HICKMOTT\*. *Univ. California, Riverside, Univ. California, Riverside, Univ. California, Riverside.*
- 1:00 B28 **553.09** Clustered protocadherins regulated high reciprocal connectivity between clonal cortical neurons are selectively modified by short sensory deprivation in mouse barrel cortex. E. TARUSAWA\*; M. SANBO; M. HIRABAYASHI; T. YAGI; Y. YOSHIMURA. *Osaka Univ., Natl. Inst. for Physiological Sci., Natl. Inst. For Physiological Sci.*
- 2:00 B29 **553.10** Dynamics of dendritic tree selection revealed by long-term *in vivo* imaging of neonatal barrel cortex layer 4. S. NAKAZAWA\*; H. MIZUNO; T. IWASATO. *Natl. Inst. of Genet., SOKENDAI (The Grad. Univ. for Advanced Studies), Intl. Res. Ctr. for Med. Sci. (IRCMS), Kumamoto Univ.*
- 3:00 B30 **553.11** Effects of exogenously administered cannabinoids on axonal projections of L4 neurons in the mouse barrel cortex. C. ITAMI\*; J. HUANG; H. LU; F. KIMURA. *Saitama Med. Univ., Indiana Univ. Bloomington Dept. of Psychological and Brain Sci., Indiana Univ. Bloomington Dept. of Psychological and Brain Sci., Grad. Sch. Med., Osaka Univ.*
- 4:00 B31 **553.12** Single-cell molecular connectomics of somatosensory cortex circuit assembly. E. KLINGLER\*; J. PRADOS; J. KEBSCHULL; A. ZADOR; A. DAYER; D. JABAUDON. *Univ. of Geneva, Stanford university, Cold Spring Harbor Lab.*
- 1:00 B32 **553.13** Multiple morphological factors underlie experience-dependent crossmodal plasticity in the sensory cortices. M. WANG; Z. YU; X. YU\*. *Inst. of Neurosci.*

## POSTER

### 553. Sensory Circuit Assembly and Reorganization

#### Theme A: Development

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 B20 **553.01** Exploring the interaction between stage II retinal waves and the glutamate release from retinal ganglion cells during development. S. HSU\*; C. YANG; H. CHEN; C. WANG. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ. and Academia Sinica.*
- 2:00 B21 **553.02** Effects of the early eye removal on the visual DVR (molecular and neural) organization in chicks. R. REYES; C. NORAMBUENA; C. WEISS; G. MARIN; J. LETELIER\*; J. MPODOZIS. *Univ. of Chile.*
- 3:00 B22 **553.03** Cross-hierarchical corticothalamic plasticity following sensory deprivation in the mouse visual system. C. GIASAFAKI\*; E. GRANT; S. HAYASHI; A. HOERDER-SUABEDISSEN; Z. MOLNAR. *Univ. of Oxford.*



POSTER

554. Rett Syndrome

**Theme A: Development**

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 C1 **554.01** Integrative behavioral, molecular and electrophysiological analyses of female *Mecp2*<sup>tm1.1 Bird</sup> Rett syndrome model. J. A. SANCHEZ\*; J. PALMA; K. KRETSCHMANNOVA; J. BELTRAN; M. KWAN; L. THIEDE; T. HANANIA; A. GHAVAMI. *Psychogenics, Inc.*
- 2:00 C2 **554.02** Neuronal redox-imbalance in Rett syndrome affects mitochondria as well as cytosol, and is accompanied by intensified mitochondrial O<sub>2</sub> consumption and ROS release. K. CAN; C. MENZFELD; P. REHLING; S. KUEGLER; J. DUDEK; M. MUELLER\*. *Universitätsmedizin Göttingen.*
- 3:00 C3 **554.03** Vagus nerve stimulation therapy to restore auditory processing in a rat model of Rett syndrome. K. ADCOCK\*; B. R. SOLORZANO; C. CHANDLER; E. BUELL; K. LOERWALD; A. BERRY; G. SPURLIN; S. MCLEOD; C. ENGINEER; S. A. HAYS; M. P. KILGARD. *Univ. of Texas at Dallas, Texas Biomed. Device Ctr., Univ. of Texas at Dallas, Univ. of Texas at Dallas.*
- 4:00 C4 **554.04** Programmable transcription of MECP2 and CDKL5 suggests limited binding of dCas9 to the inactive X chromosome. J. A. HALMAI\*; P. DENG; J. L. CARTER; D. CAMERON; N. COGGINS; D. SEGAL; J. NOLTA; K. FINK. *UC Davis Med. Ctr., UC Davis, Univ. of California Davis Hlth. Systems, UC Davis, UC Davis Med. Ctr.*
- 1:00 C5 **554.05** Characterization of mammalian target of rapamycin (mTOR) pathway alterations in Rett syndrome mice model. S. RANGASAMY\*; B. GERALD; L. LLACI; M. STRINGER; G. MILLS; E. FRANKEL; R. GUPTA; V. NARAYANAN. *Translational Genomics Res. Inst. (TGen).*
- 2:00 C6 **554.06** Glial-targeted glutamate antagonism for the treatment of Rett Syndrome phenotype in *Mecp2*-deficient mice. E. S. SMITH\*; A. SHARMA; M. NEDELCOVYCH; C. O'FERRALL; R. RAIS; M. V. JOHNSTON; B. S. SLUSHER; R. M. KANNAN; M. BLUE; S. KANNAN. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ., Johns Hopkins Drug Discovery, Kennedy Krieger Inst.*
- 3:00 C7 **554.07** Effects of the antitussive cloperastine on a rett syndrome mouse model. C. M. JOHNSON\*; N. CUI; H. XING; Z. LI; C. JIANG. *Georgia State Univ.*
- 4:00 C8 **554.08** Reduction of aberrant NF-κB signaling and vitamin D supplementation ameliorate Rett syndrome cortical phenotypes in *Mecp2*-null mice. M. D. RIBEIRO\*; S. M. MOORE; N. KISHI; J. D. MACKLIS; J. L. MACDONALD. *Syracuse Univ., RIKEN Brain Sci. Inst., Harvard Univ.*
- 1:00 C9 **554.09** Identification of post-translational regulators of MeCP2 protein levels as treatment targets. M. ZAGHLULA\*; J. KIM; C. E. ALCOTT; H. JEONG; Z. LIU; W. KIM; S. J. ELLEDGE; H. Y. ZOGHBI. *Baylor Col. of Med., Harvard Med. Sch., Jan and Dan Duncan Neurolog. Res. Inst.*
- 2:00 C10 **554.10** Pontine modulation of laryngeal adductor reflex is suppressed in a *Mecp2* mutant mouse model of Rett syndrome. G. SONG\*; C. POON. *MIT, Mass Inst. Tech.*
- 3:00 C11 **554.11** Local CRISPR knockout of *Mecp2* at Kölliker-Fuse nuclei produces Rett-like respiratory abnormalities in adult rats without anxiety symptoms. G. SONG; A. CAO; C. POON\*. *Mass Inst. Tech.*

- 4:00 C12 **554.12** Characterization of the adenosinergic system and the BDNF-mediated signalling in heterozygous females of a Rett syndrome model. J. L. ROSA\*; C. MIRANDA-LOURENÇO; A. M. SEBASTIÃO; M. J. DIÓGENES. *Faculdade De Medicina Da Univ. De Lisboa, Inst. de Farmacologia e Neurociências, Faculdade de Medicina e Inst. de Medicina Molecular, Univ. de Lisboa.*
- 1:00 C13 **554.13** Adenosinergic system dysfunction in Rett syndrome. C. MIRANDA-LOURENÇO\*; C. PALMINHA; S. T. DUARTE; C. GASPAR; M. COLINO-OLIVEIRA; J. ROSA; R. GOMES; S. XAPELLI; S. FERREIRA; T. M. RODRIGUES; L. V. LOPES; A. M. SEBASTIÃO; M. J. DIÓGENES. *Inst. de Medicina Mol., Inst. de Medicina Mol.*
- 2:00 C14 **554.14** Pre-clinical study on CDKL5 deficiency disorder: Class I metabotropic glutamate receptors as a promising therapeutic target. A. GURGONE; R. PIZZO; A. RASPANTI; A. ALFIERI; N. MORELLO; F. PILOTTO; F. GARDONI; P. DEFILIPPI; E. TURCO; T. PIZZORUSSO; M. GIUSTETTO\*. *Univ. of Torino - Dept. of Neurosci., Univ. of Torino - Dept. of Mol. Biotech. and Hlth. Sci., Univ. of Milan - Dept. of Pharmacol. and Biomolecular Sci. (DiSFeB), Univ. of Firenze - Dept. NEUROFARBA., Inst. Neurosci. - CNR, Natl. Inst. of Neuroscience-Italy.*
- 3:00 C15 **554.15** Visual phenotypes of a mouse model of CDKL5 disorder: Neuroplasticity, behavioral correlates and therapeutic approaches. L. LUPORI; R. MAZZIOTTI; G. SAGONA; V. MARTINI; E. PUTIGNANO; M. GIUSTETTO; T. PIZZORUSSO\*. *Scuola normale superiore, Univ. of Florence, CNR, Univ. of Torino - Dept. of Neurosci.*
- 4:00 C16 **554.16** Testing functional and structural connectivity in CDKL5 disorder as novel biomarkers. P. N. AWAD\*; E. JOHNSON-VENKATESH; M. MARKICEVIC; E. CENTOFANTE; V. ZERBI; A. GOZZI; H. UMEMORI; M. FAGIOLINI. *Boston Children's Hosp., Neural Control of Movement Lab, ETH Zurich, Fondazione Inst. Italiano di Tecnologia.*

POSTER

555. Mechanisms of Developmental Disorders

**Theme A: Development**

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 C17 **555.01** A 3D epigenomic map of olfactory neuronal cells reveals schizophrenia-associated genes. S. K. RHIE\*; S. SCHREINER; H. WITT; C. ARMOSKUS; F. D. LAY; A. CAMARENA; V. N. SPITSYNA; Y. GUO; B. P. BERMAN; O. V. EVGRAFOV; J. A. KNOWLES; P. J. FARNHAM. *USC, USC, Cedars-Sinai Med. Ctr., SUNY Downstate Med. Ctr.*
- 2:00 C18 **555.02** Ketamine-induced mitochondrial toxicity in zebrafish embryos. J. KANUNGO\*; Q. GU; B. ROBINSON; S. F. ALI; M. G. PAULE; M. DUMAS. *Natl. Ctr. For Toxicological Research/Food and Drug Admin., FDA Natl. Ctr. for Toxicological Res., Natl. Ctr. For Toxicological Res., Neurochemistry Lab, Div. of Neurotoxicology, Natl. Ctr. Toxicological Res/Fda, FDA's Natl. Ctr. For Toxicological Res.*
- 3:00 C19 **555.03** Exploring mechanisms behind *zdhhc9* mutations that cause x-linked intellectual disability. K. S. SERRANEAU; L. N. KIROUAC\*; K. REDDY; R. DESCHENES. *Univ. of South Florida, Univ. of South 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

- 4:00 C20 **555.04** Exosome-derived mitochondrial components as a potential diagnostic/therapeutic markers for neurodevelopmental and neurodegenerative disorders. B. HA\*; J. HEO; Y. JANG; T. PARK; J. CHOI; J. JOO; S. JEONG. *Korea Brain Res. Inst.*
- 1:00 C21 **555.05** ▲ PQBP1 promotes protein translation through suppressing EEF2 phosphorylation. S. Y. QIAN\*; Z. Z. CHAO. *Inst. of Life Sci. Southeast Univ.*
- 2:00 C22 **555.06** Acute and early-life exposure effects of the pyrethroid insecticide deltamethrin on medium spiny neurons of the nucleus accumbens. C. M. TAPIA\*; O. FOLORUNSO; K. MCDONOUGH; L. HALLBERG; B. AMEREDDES; T. GREEN; F. LAEZZA. *Univ. of Texas Med. Br. Galveston, Univ. of Texas Med. Br., Univ. of Texas Med. Br., Univ. of Texas Med. Br.*
- 3:00 C23 **555.07** Environmental contribution to transcriptome and methylome dynamics of excitatory neurons in the maternal immune activation model of autism spectrum disorder. C. LAI\*; J. LI; J. D. LUCERO; R. G. CASTANON; J. R. NERY; A. PINTO-DUARTE; T. J. SEJNOWSKI; S. B. POWELL; J. R. ECKER; E. A. MUKAMEL; M. BEHRENS. *Salk Inst., Univ. of California San Diego, Salk Inst., Univ. of California San Diego.*
- 4:00 C24 **555.08** Human brain lysosomal cathepsin gene expression profiles during normal development from prenatal to infant, childhood, adolescent, and young adult. V. Y. HOOK\*; A. HSU; S. P. PODVIN. *Univ. of Calif., San Diego, Sch. of Medicine, UCSD, Sch. of Medicine, UCSD, Univ. of Calif., San Diego.*
- 1:00 C25 **555.09** Regulation of filamin and Fmn2 on proliferation and differentiation of neural progenitor cells. G. LIAN\*; V. EKUTA; V. SHEEN. *Dept. of Neurology, Beth Israel Deaconess Med. Center, Harvard Med. S.*
- 2:00 C26 **555.10** Mechanisms of glutamate release during neural tube formation. R. GOYAL; L. N. BORODINSKY\*. *Univ. of California Davis.*
- 3:00 C27 **555.11** βIV spectrinopathies cause profound intellectual disability, congenital hypotonia, and motor axonal neuropathy. C. WANG\*; X. R. ORTIZ-GONZALEZ; S. W. YUM; S. M. GILL; A. WHITE; E. KELTER; L. H. SEAVER; S. LEE; G. WILEY; P. M. GAFFNEY; K. J. WIERENGA; M. N. RASBAND. *Baylor Col. of Med., Children's Hosp. of Philadelphia, Women and Children's Hosp. of Buffalo, Spectrum Hlth. Med. Genetics, MSU Col. of Human Med., Hawaii Community Genet., Oklahoma Med. Res. Fndn., Oklahoma Univ. Hlth. Sci. Ctr.*
- 4:00 C28 **555.12** Single-cell genomic analyses of somatic mosaicism in fetal alcohol spectrum disorders. C. S. LIU\*; S. E. ROHRBACK; B. A. SIDDOWNAY; J. CHUN. *UC San Diego, Illumina Inc, Sanford Burnham Prebys Med. Discovery Inst., Sanford Burnham Prebys Med. Discovery Inst.*
- 1:00 C29 **555.13** Withdrawn
- 2:00 C30 **555.14** A novel pseudogene-encoded long noncoding RNA mediates fetal alcohol effects. N. A. SALEM\*; A. TSENG; A. H. MAHNKE; C. GARCIA; H. KOLAH-JAHROMI; R. C. MIRANDA. *Texas A&M Hlth. Sci. Ctr., Texas A&M Inst. for Neurosci.*
- 3:00 C31 **555.15** Regulation of the basic helix-loop-loop transcription factor TCF4 activity in neuronal cells. A. SIRP\*; K. ROOTS; K. LEITE; K. LUBERG; M. SEPP; T. TIMMUSK. *Tallinn Univ. of Technol.*
- 4:00 C32 **555.16** Analyzing pathogenic missense variants in GNB5. C. KITTOCK\*; J. ZHANG; P. ADIKARAM; M. PANDEY; W. F. SIMONDS. *NIH.*
- 1:00 C33 **555.17** Placental allopregnanolone loss alters fetal GABAergic signaling. J. J. O'REILLY\*; D. BAKALAR; J. ABBAH; C. M. VACHER; J. SALZBANK; H. LACAILE; V. GALLO; A. A. PENN. *George Washington Univ., Children's Natl. Hlth. Syst., Children's Natl. Hlth. Syst., Children's Natl. Hlth. Syst.*
- 2:00 C34 **555.18** E3 ubiquitin ligase mutations in X-linked intellectual disability. J. SONG\*; R. MERRILL; R. KEPHART; Y. LIU; M. SHAW; R. CARROLL; V. KALSCHUEUR; F. MCKENZIE; L. JOLLY; J. GECZ; S. STRACK. *Univ. of Iowa, The Univ. of Adelaide, The Univ. of Adelaide, Max Planck Inst. for Mol. Genet., Genet. Services of Western Australia.*
- 3:00 C35 **555.19** Determining pathogenesis of a rare pediatric intellectual disability and progressive microcephaly syndrome. K. JOHNSON\*; L. SCHAFER; A. SCHAFFER; G. YEO. *Case Western Reserve Univ., Univ. of California San Diego, Case Western Reserve Univ.*
- 4:00 C36 **555.20** Placental allopregnanolone loss alters postnatal cerebellar development and long-term function. J. SALZBANK\*; C. VACHER; H. LACAILE; D. BAKALAR; J. O'REILLY; A. A. PENN. *George Washington Univ., Children's Natl. Med. Ctr., Children's Natl. Med. Ctr.*
- 1:00 C37 **555.21** Ranbp1 mutations disrupt development of cranial neural crest. E. M. PARONETT\*; C. A. BRYAN; B. A. KARPINSKI; A. S. LAMANTIA; T. M. MAYNARD. *George Washington Univ.*
- 2:00 C38 **555.22** MMP9/RAGE pathway overactivation underlies the inhibitory/excitatory imbalance induced by the feedforward loop of oxidative stress and neuroinflammation: A translation study in schizophrenia patients. D. DWIR\*; B. GIANGRECO; L. XIN; L. TENENBAUM; J. CABUNGAL; P. STEULLET; A. GOUPIL; M. CLEUSIX; R. JENNI; P. BAUMANN; P. KLAUSER; P. CONUS; R. TIROUVANZIAM; M. CUENOD; K. Q. DO. *Ctr. for Psychiatric Neurosci. (CNP), Ctr. for Biomed. Imaging (CIBM), EPFL, Dept. of Clin. Neuroscience, CHUV, Dept. of Psychiatry, CHUV, Emory Univ. Sch. of Medicine, Dept. of Pediatrics.*
- 3:00 D1 **555.23** Somatic mutation in SLC35A2 leads to focal epilepsy. A. PODURI\*; M. R. WINAWER; P. B. CRINO; E. L. HEINZEN. *Boston Children's Hosp., Columbia Univ., Univ. of Maryland.*
- 4:00 D2 **555.24** Cortical malformations in pediatric epilepsy. L. SUBRAMANIAN\*; M. ANDREWS; A. BHADURI; M. PAREDES; A. R. KRIEGSTEIN. *UCSF.*
- 1:00 D3 **555.25** Defining links between an intellectual disability-associated RNA-binding protein and planar cell polarity in neurodevelopment. E. B. CORGIAT\*, III; J. ROUNDS; P. CHEN; W. LEE; P. SHENG; A. CORBETT; K. MOBERG. *Emory Univ., Emory Univ.*
- 2:00 D4 **555.26** The chromatin regulatory factor ASH1L regulates neuronal development by modulating the neurotrophin-signaling pathway. S. B. LIZARRAGA\*; S. H. CHEON; E. CHUKWURAH; A. BAGNELL. *Univ. of South Carolina.*
- 3:00 D5 **555.27** Altered gene expression in iPSC-derived cortical neurons predict risk for psychopathic violence. M. KOSKUVI\*; J. TIHONEN; I. HYÖTYLÄINEN; K. PUTTONEN; Y. GAO; O. VAURIO; I. OJANSUU; E. REPO-TIIHONEN; T. PAUNIO; M. RAUTIAINEN; S. TYNI; S. LEHTONEN; J. KOISTINAHO. *Univ. of Eastern Finland, Univ. of Eastern Finland, Karolinska Institutet, Natl. Inst. for Hlth. and Welfare, Univ. of Helsinki, Helsinki Univ. Central Hosp., Finnish Inst. of Occup. Hlth., Natl. Inst. for Hlth. and Welfare, The Criminal Sanctions Agency, Univ. of Helsinki.*

- 4:00 D6 **555.28** Dysregulation of developmental and synaptic networks in a cellular model of intellectual disability. B. J. WILKINSON\*; F. S. ALKURAYA; J. ICHIDA; M. P. COBA. *USC, King Faisal Specialist Hosp. and Res. Ctr.*
- 1:00 D7 **555.29** Human neural progenitor cells harbor DSB clusters in genes linked to Autism. M. WANG\*; P. WEI; S. MARSHALL; I. S. GALLINA; C. K. LIM; F. W. ALT; F. H. GAGE. *The Salk Inst. For Biol. Studies, Howard Hughes Med. Institute, Program in Cell. and Mol. Medicine, Boston Children's Hospital, Dept. of Genetics, and Dept. of Pediatrics, Harvard Med. Sch.*
- 2:00 D8 **555.30** Excitatory/Inhibitory imbalance in hiPSC derived cortical neurons from patients with autism associated with MEF2C haploinsufficiency. S. GHATAK\*; D. TRUDLER; J. PARKER; N. DOLATABADI; S. MCKERCHER; R. AMBASUDHAN; M. TALANTOVA; S. A. LIPTON. *The Scripps Res. Inst., The Scintillon Inst., Scripps Res. Inst, Scintillon Inst, UC San Diego.*
- 4:00 D16 **556.08** ● Cell-type-specific expression of neuropeptide precursor and receptor genes in mouse neocortical neurons. S. J. SMITH\*; F. C. COLLMAN; L. ELABBADY; O. GLIKO; L. T. GRAYBUCK; M. KARLSSON; M. NAUGLE; J. SCHARDT; R. SERAFIN; S. SESHAMANI; B. TASIC; Z. YAO; H. ZENG. *Allen Inst. for Brain Sci.*
- 1:00 D17 **556.09** Orphanin FQ/Nociceptin modulates energy homeostasis pleotropically by activating opioid receptor like-1 in a sex- and diet- dependent manner. J. HERNANDEZ\*; C. FABELO; R. CHANG; E. J. WAGNER. *Western Univ. of Hlth. Sci., Western Univ. of Hlth. Sci.*
- 2:00 D18 **556.10** ● Colocalization of mor1 and gad67 in mouse nucleus accumbens. C. HINKLE\*; T. N. FERRARO; E. I. DEDKOV; R. J. BUONO. *Cooper Med. Sch. of Rowan Univ.*
- 3:00 D19 **556.11** Evaluation of novel dual-activity opioid-NPFF ligands for receptor affinity, antinociception and tolerance liabilities. J. P. MCLAUGHLIN\*; K. L. MCPHERSON; M. MOTTINELLI; W. SHENG; S. O. EANS; V. B. JOURNIGAN; C. MESANGEAU; C. R. MCCURDY. *Univ. of Florida, Univ. of Florida, Marshall Univ., Univ. of Mississippi.*
- 4:00 D20 **556.12** Different roles of PD-L1 and PD-L2 in regulating nociceptive synaptic transmission in spinal cord dorsal horn neurons. C. JIANG\*; M. MATSUDA; Z. WANG; R. JI. *Duke Med.*
- 1:00 D21 **556.13** Examining the chronic effects of indirect and direct cannabinoid receptor agonists on dopamine transmission in the nucleus accumbens of mice. K. M. HONEYWELL; T. FREELS; A. CHAFFIN; M. MCWAIN; H. NOLEN; H. J. SABLE; D. B. LESTER\*. *Univ. of Memphis.*
- 2:00 D22 **556.14** ● 2-Aminoindan and its ring-substituted derivatives interact with plasma membrane monoamine transporters and  $\alpha_2$ -adrenergic receptors. A. L. HALBERSTADT\*; S. D. BRÄNDT; W. DONNA; M. H. BAUMANN. *UCSD, Liverpool John Moores Univ., Natl. Inst. on Drug Abuse.*
- 3:00 D23 **556.15** Encoding of phasic nucleus accumbens dopamine release by ventral tegmental area neurons revealed through simultaneous single-unit recording and fast-scan cyclic voltammetry. D. F. HILL\*; Z. OLSEN; M. L. HEIEN; S. L. COWEN. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 4:00 D24 **556.16** Electrochemical characterization of chemogenetically modulated dopamine transmission in the olfactory tubercle. R. BHIMANI\*; C. E. BASS; J. PARK. *Univ. at Buffalo, Univ. at Buffalo SUNY.*
- 1:00 D25 **556.17** ▲ Robust expression of 5HT2A and 5HT2B in glia cells: A comparative immunohistochemical study of non-principal cells. A. CONTRERAS\*; R. M. HINES; D. J. HINES. *Univ. of Nevada, Las Vegas, Univ. of Nevada Las Vegas.*
- 2:00 D26 **556.18** ▲ *Caenorhabditis elegans* as a molecular model organism for drug addiction. M. HAY\*; M. SMITH; R. EL BEJJANI. *Davidson Col.*
- 3:00 D27 **556.19** Role of dopaminergic modulation of thalamo-prefrontal connectivity in social behavior. J. IAFRATI\*; S. INCONTRO; C. C. BAVLEY; A. M. RAJADHYAKSHA; J. L. WHISTLER; V. S. SOHAL. *Univ. of California San Francisco Dept. of Psychiatry, UCSF, Weill Cornell Med., Joan and Sanford I Weill Med. Col. of Cornell Univ., Univ. of California Davis, U. California, San Francisco.*

## POSTER

### 556. Opiates, Cytokines, and Other Neuropeptides

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

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 D9 **556.01** The Unc93b1 mutation 3d attenuates neuropathic painthrough increasing M2 polarization of spinalmicroglia. S. LI\*; N. HIROSHI; D. SHUMIN. *Zhejiang Univ. Sch. of Med., Kyushu Univ. Fac. of Dent. Sci.*
- 2:00 D10 **556.02** Increased number of detected hypocretin (orexin) neurons in human heroin addicts. T. C. THANNICKAL\*; J. JOHN; L. SHAN; D. F. SWAAB; M. WU; L. RAMANATHAN; M. RONALD; K. CHEW; M. CORNFORD; A. YAMANAKA; A. INUTSUKA; R. FRONCZEK; G. LAMMERS; P. F. WORLEY; J. M. SIEGEL. *UCLA, VA Greater Los Angeles Healthcare Syst., Netherlands Inst. for Neurosci., Harbor UCLA, Res. Inst. of Envrn. Medicine, Nagoya Univ., Leiden Universuty Med. Ctr., Johns Hopkins Sch. Med.*
- 3:00 D11 **556.03** Protease systems in dense core secretory vesicles for neuropeptide biosynthesis and degradation analyzed via global proteomics, peptidomics, and multiplex substrate profiling-mass spectrometry (MSP-MS). C. B. LIETZ\*; Z. JIANG; T. TONEFF; C. MOSIER; S. PODVIN; A. J. O'DONOGHUE; V. HOOK. *Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego.*
- 4:00 D12 **556.04** Desynchronized lower alpha rhythms were associated with functional ischemia in the prefrontal cortex in heroin patients after protracted abstinence: A concurrent EEG-fNIRS study. H. IEONG\*; Z. YUAN. *Univ. of Macau/Icms, Univ. of Macau.*
- 1:00 D13 **556.05** ● ▲ Co-administration of mixed  $\mu$ /K-agonist attenuate the opioid dependence. R. RAGHAV\*; R. JAIN; T. ROY; A. DHAWAN; P. KUMAR. *All India Inst. of Med. Sci., All India Inst. of Med. Sci., All India Inst. of Med. Sci.*
- 2:00 D14 **556.06** Characterizing reproductive function in POMC-deficient mice. Z. THOMPSON\*; G. L. JONES; H. YU; M. J. LOW. *Univ. of Michigan, Univ. of Michigan.*
- 3:00 D15 **556.07** Human brain gene expression profiles of the cathepsin V and cathepsin L cysteine proteases, with the PC1/3 and PC2 serine proteases, involved in neuropeptide production. S. PODVIN\*; A. WOJNICZ; V. HOOK. *UCSD, Sch. of Medicine, UCSD, Sch. of Medicine, 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

- 4:00 D28 **556.20** A novel serotonergic microcircuit in the *Drosophila* visual system. M. M. SAMPSON\*; K. MYERS GSCHWENG; M. FRYE; D. KRANTZ. *UCLA, UCLA, UCLA.*
- 1:00 D29 **556.21** CTR1 in normal striatum, substantia nigra, and cortex. K. E. SCHOONOVER\*; C. NGUYEN; C. FARMER; R. C. ROBERTS. *Univ. of Alabama At Birmingham, Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama, Birmingham.*

## POSTER

### 557. Glycine Receptors and Other Ligand Gated Ion Channels

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

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 D30 **557.01** • Dual actions of Psalmotoxin at ASIC1a and ASIC2a heteromeric channels (ASIC1a/2a). R. H. HAGAN; J. SCHOELLERMAN; Y. LIU\*. *Janssen Res. and Develop. La Jolla.*
- 2:00 D31 **557.02** New insights into the pathology of glycine receptor autoantibodies in stiff person syndrome. V. ROEMER; N. VON WARDENBURG; N. SCHAEFER; E. TÜZÜN; C. L. SOMMER; C. VILLMANN\*. *Univ. Wuerzburg, Istanbul Univ., Univ. of Wuerzburg.*
- 3:00 D32 **557.03** Pka-mediated phosphorylation diminished single channel conductance of the glycine receptor alpha 3 subunit. G. MORAGA\*; V. SAN MARTIN; C. LARA; B. MUÑOZ; A. MARILEO; L. AGUAYO; J. FUENTEALBA; P. CASTRO; C. BURGOS; C. MUÑOZ-MONTESINO; J. GUZMAN; G. YEVENES. *Univ. of Concepcion, Univ. de Concepcion.*
- 4:00 D33 **557.04** Modulating ivermectin sensitivity at glutamate-gated chloride channels (GluCl<sub>s</sub>) of haemonchus contortus (Hco) and biophysical properties of inhibitory postsynaptic currents mediated by alpha and alphabeta HcoGluCl receptors. M. ATIF\*; J. SMITH; A. KERAMIDAS; J. LYNCH. *Univ. of Queensland - St. Lucia Campus, Univ. of Queensland, Univ. of Queensland.*
- 1:00 D34 **557.05** Modulation of inhibitory receptors by gelsemine, a gelsemium plant alkaloid. C. O. LARA\*; A. M. MARILEO; V. P. SAN MARTÍN; B. MUÑOZ; C. F. BURGOS; A. SAZO; L. G. AGUAYO; J. L. GUZMÁN; J. FUENTEALBA; G. MORAGA-CID; G. E. YÉVENES. *Univ. of Concepcion, Indiana Univ. Sch. of Med.*
- 2:00 D35 **557.06** The GLRB mouse mutant spastic - A model system to study agoraphobic behavior. N. SCHAEFER\*; C. VILLMANN. *Inst. For Clin. Neurobio.*
- 3:00 D36 **557.07** The role of phenylalanine residues in the extracellular domain of the glycine receptor. S. C. LUMMIS\*; B. TANG. *Univ. of Cambridge.*
- 4:00 D37 **557.08** Gastrokinetic agent, mosapride inhibits 5-hydroxytryptamine 3 receptor currents in NCB-20 cells. K. SUNG\*; S. JEUN; Y. PARK. *The Catholic Univ. of Korea, Med. Col., Catholic Univ., The Catholic Univ. of Korea.*
- 1:00 D38 **557.09** Effects of acid-sensing ion channels on modulation of locomotor activity by amphetamine. Q. JIANG; N. GOVALLA; X. CHU\*. *Univ. of Missouri Kansas City, Univ. of Missouri Kansas City.*
- 2:00 D39 **557.10** Development of GABA<sub>A</sub> receptor positive modulators with low abuse potential. M. CLAUDIO\*; R. HUANG; G. H. DILLON; K. A. EMMITTE; N. MISHRA. *UNT Hlth. Sci. Ctr., UNT Hlth. Sci. Ctr., UNT Hlth. Sci. Ctr.*
- 3:00 D40 **557.11** Function and pharmacology of the GABA<sub>A</sub> subunit. J. NUWER\*; M. W. FLECK. *Albany Med. Col.*
- 4:00 D41 **557.12** GABA accumulation during theta-rhythms is responsible for second order oscillations. A. V. SEMYANOV\*; A. PUSHKAREV; E. IVLEV; I. NOVOZHILOV; A. MIRONOV. *Inst. of Bioorganic Chem., Univ. of Nizhny Novgorod, All-Russian Res. Inst. of Medicinal and Aromatic Plants, Privolzhsky Res. Med. Univ.*
- 1:00 D42 **557.13** The GABA-A receptor antagonists TETS and RDX bind in the pore of the GABA-A channel. B. PRESSLY\*; I. PESSAH; H. WULFF. *UC DAVIS, Univ. of California Davis, Univ. of California Davis.*
- 2:00 D43 **557.14** Adapting the proteostasis network to restore function of epilepsy-associated GABA<sub>A</sub> receptors. T. MU\*; X. DI. *Case Western Reserve Univ.*
- 3:00 D44 **557.15** Impaired GABAergic signaling at the axon initial segment alters bursting activity and sleep architecture. A. J. BOREN\*; D. J. HINES; R. M. HINES. *Univ. of Nevada Las Vegas.*
- 4:00 D45 **557.16** Effects of neurosteroids and phosphorylation on GABA<sub>A</sub> receptor currents and piriform cortex circuit in epilepsy. J. JEONG\*; M. O. POULTER. *Robarts Res. Inst.*
- 1:00 D46 **557.17** Nonlinear α5-GABA<sub>A</sub>Rs effectively regulate NMDAR recruitment in CA1 pyramidal neuron dendrites. J. M. SCHULZ\*; F. KNOFLACH; M. HERNANDEZ; J. BISCHOFBERGER. *Univ. of Basel, F. Hoffmann-La Roche Ltd.*
- 2:00 D47 **557.18** Elevated O-GlcNAcylation depresses inhibitory transmission recorded from granule cells in the rat dentate gyrus. K. ABIRAMAN\*; L. T. STEWART; L. L. MCMAHON. *Univ. of Alabama at Birmingham, UAB.*
- 3:00 D48 **557.19** Cell-specific transgenic manipulation of GABA<sub>A</sub> receptor synaptic clustering in hippocampal neurons. S. GEORGE\*; A. L. DE BLAS. *Univ. of Connecticut Dept. of Physiol. and Neurobi.*
- 4:00 D49 **557.20** Neuroimmune interactions of interleukin 10 (IL-10) with GABA<sub>A</sub>R. S. DECKER\*; A. SURYANARAYANAN; E. ALTOWAIRQI. *Univ. of the Sci.*
- 1:00 D50 **557.21** Implications of trigeminal α6GABA<sub>A</sub> receptors in migraine and orofacial pain. H. TZENG\*; S. S. BALLON ROMERO; Y. CHEN; W. SIEGHART; D. E. KNUTSON; J. COOK; L. CHIOU. *Col. of Med. Natl. Taiwan Univ., China Med. Univ., Med. Univ. Vienna, Univ. of Wisconsin-Milwaukee, Col. of Medicine, Natl. Taiwan Univ.*
- 2:00 D51 **557.22** α6GABA<sub>A</sub>R-selective positive allosteric modulators: A novel pharmacotherapy for neuropsychiatric disorders. L. CHIOU\*; H. LEE; D. E. KNUTSON; C. WITZIGMANN; L. WIMMER; M. D. MIHOVILOVIC; M. ERNST; J. COOK; W. SIEGHART. *Col. of Medicine, Natl. Taiwan Univ., Col. of Medicine, Natl. Taiwan Univ., China Med. Univ., Univ. of Wisconsin-Milwaukee, Vienna Univ. of Technol., Med. Univ. Vienna.*
- 3:00 E1 **557.23** The α6-subunit-containing GABA<sub>A</sub> receptor is a novel drug target for migraine: Capsaicin-induced migraine model in rats. M. LEE\*; P. FAN; W. SIEGHART; D. E. KNUTSON; J. M. COOK; L. CHIOU. *Col. of Medicine, Natl. Taiwan Univ., Natl. Taiwan Univ. Hosp., Med. Univ. Vienna, Univ. of Wisconsin-Milwaukee, Univ. WI-Milwaukee, Col. of Medicine, Natl. Taiwan Univ., China Med. Univ.*

POSTER

558. Potassium Channels

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

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 E2 **558.01** Aromatic-dependent interactions control Kv1.1 voltage-gated potassium channel conformational equilibria. S. M. HASAN\*; T. HUNTER; G. HUNTER; M. PESSIA; M. C. D'ADAMO. *Kuwait Univ., Univ. of Malta, Univ. of Perugia.*
- 2:00 E3 **558.02** Regulation of Eag1 K<sup>+</sup> channel biosynthesis by a RING E3 ubiquitin ligase. Y. FANG; Y. GAN; C. TANG; C. JENG\*. *Dept. of Physiology, Col. of Medicine, Natl. Taiwan Univ., Natl. Yang-Ming Univ.*
- 3:00 E4 **558.03** Kv3.3 channels regulate the formation of multivesicular bodies. Y. ZHANG\*; L. VARELA; K. SZIGETI-BUCK; T. L. HORVATH; L. K. KACZMAREK. *Yale Univ. Sch. Med., Yale Univ., Yale Med. Sch.*
- 4:00 E5 **558.04** 1869 nm infrared laser pulses inhibit action potential firing and hyperpolarize the membrane potential in postnatal hippocampal neurons and neuroblastoma X glioma NG108-15 cells by modulating thermo-sensitive potassium channels. A. V. SEDELNIKOVA\*; G. P. TOLSTYKH; A. J. WALSH; A. S. TIJERINA; A. D. SHINGLEDECKER; C. M. VALDEZ; H. T. BEIER. *USAF Res. Laboratory, Ft Sam Houston, TX, Gen. Dynamics IT, Morgridge Inst. for Res., Conceptual MindWorks, Inc, Airman Systems Directorate, national research council research associateship program.*
- 1:00 E6 **558.05** Cooperative synaptic and intrinsic plasticity onto NAc D1MSNs drive depressive-like behavior induced by aversive learning. M. PIGNATELLI\*; H. TEJEDA; L. BONTEMPI; A. LOPEZ; D. BARKER; R. MARINO; S. PALMA RIBEIRO; J. WU; Z. CAI; M. XUE; M. MORALES; A. BONCI. *NIH, NIDA, NIDA, Baylor Col. of Med.*
- 2:00 E7 **558.06** SUMOylation of the mouse voltage-gated potassium channel Kv4.2 at two distinct sites independently regulates surface expression and the biophysical properties of the A-type potassium current (I<sub>A</sub>). M. A. WELCH\*; L. A. FORSTER; S. I. ATLAS; D. J. BARO. *Georgia State Univ., Georgia State Univ.*
- 3:00 E8 **558.07** Resistance to chronic stress by GABAergic regulation via TREK-1 channel. J. CHOI\*; H. JUNG; A. KIM; S. KIM; Y. KIM; E. HWANG. *Korea Inst. of Sci. and Technol., KIST Sch., Korea Univ. of Sci. and Technol.*
- 4:00 E9 **558.08** Role of G protein gated inwardly rectifying potassium (Kir3/GirK) channels in mouse dorsal hippocampus. L. JIMENEZ-DIAZ\*; S. TEMPRANO-CARAZO; I. SÁNCHEZ-RODRÍGUEZ; S. DJEBARI; A. NAJERA; M. O. NAVA-MESA; A. MÚNERA; J. YAJEYA; A. GRUART; J. DELGADO-GARCIA; J. D. NAVARRO-LOPEZ. *Neurophysiol & Behav Lab, Univ. Castilla La-Mancha, Univ. of Rosario, Univ. Nacional de Colombia, Univ. of Salamanca, Pablo de Olavide Univ.*
- 1:00 E10 **558.09** Characterization of Kir channels in neurovascular pericytes in the brain. X. ZHANG\*; X. HONG; X. TONG. *Shanghai Jiao Tong Univ. Sch. of Med., Shanghai Jiaotong University School of Medicine, Shanghai Jiao Tong Univ. Sch. of Med.*
- 2:00 E11 **558.10** Seizure induces Kv4.2 phosphorylation by p38 MAPK. J. HU\*; D. A. HOFFMAN. *NICHHD, NIH.*
- 3:00 E12 **558.11** The regulation of Kir4.1 in the development of epilepsy. J. BONI\*; A. RANDOLPH; M. L. OLSEN. *Virginia Tech, Sch. of Neurosci., Univ. of Alabama at Birmingham, Virginia Tech, Sch. of Neurosci.*
- 4:00 E13 **558.12** Missense epilepsy mutations in neuronal KCNQ/Kv7 channels occur at hotspots within highly conserved functional domains of Kv7.2 and Kv7.3. J. ZHANG\*; C. CHEN; E. KIM; E. PROCKO; J. PATEL; R. CHOI; M. HONG; D. JOSHI; G. LEE; A. GZAPLICKI; E. C. COOPER; E. BOLTON; H. CHUNG. *Univ. of Illinois Urbana-Champaign, Univ. of Illinois Urbana Champaign, Univ. of Illinois Urbana Champaign, Baylor Col. of Med.*
- 1:00 E14 **558.13** Neurocalcin delta translocation is not dependent on its dimerization. N. I. KONONENKO; A. DOVGAN; J. VIVIANO; A. DROMARETSKY; J. ZHANG; V. VENKATARAMAN; P. V. BELAN\*. *Bogomoletz Inst. of Physiol., Rowan Univ., Kyiv Academic Univ.*
- 2:00 E15 **558.14** • Localisation of Kv3 subunits within the spinal micturition reflex and the effect of novel modulation on bladder output. P. MULLEN\*; N. PILATI; C. H. LARGE; J. DEUCHARS; S. DEUCHARS. *Univ. of Leeds, Autifony Srl, Autifony Therapeut. Limited.*
- 3:00 E16 **558.15** Excitability increases while BK channel contribution decreases in neonatal hippocampal neurons. M. HUNSBERGER\*; A. MONICAL; M. MYNLIFF. *Marquette Univ.*
- 4:00 E17 **558.16** Mechanisms of suppression by the amyloid peptide fragments 1-42 and 25-35 on Kv1.1 channel activity. K. DEBOEUF\*; M. ISLAM; N. THELEN; J. FARLEY. *Indiana Univ. Bloomington.*
- 1:00 E18 **558.17** Novel enhancement of KCNQ M-type K<sup>+</sup> channels and TRPC cation channels after muscarinic receptor activity in hippocampus controlling neuromodulation and excitability. C. CARVER\*; M. S. SHAPIRO. *UT Hlth. Sci. Ctr. San Antonio.*
- 2:00 E19 **558.18** Deletion of KCNQ2/3 potassium channels from PV<sup>+</sup> interneurons leads to homeostatic potentiation of excitatory transmission. H. SOH\*; S. PARK; K. SPRINGER; K. RYAN; A. MAHESHWARI; A. TZINGOUNIS. *Neurosci. Grad. Program, Baylor Col. of Med., Univ. of Connecticut, Univ. of Connecticut.*
- 3:00 E20 **558.19** The action potential as a modulator of synaptic transmission. L. PANZERA\*; M. CHIN; M. B. HOPPA. *Dartmouth Col., Dartmouth Col.*
- 4:00 E21 **558.20** A *Drosophila* model of essential tremor. L. CLARK\*; P. SMITH; S. SONTI; Z. ODGEREL; I. SANTA-MARIA; B. MCCABE; K. TSANEVA-ATANASOVA; E. LOUIS; J. HODGE. *Columbia Univ. Med. Ctr., Univ. of Bristol, Columbia Univ. Med. Ctr., Columbia Univ., Brain Mind Inst. (EPFL), Univ. of Exeter, Yale Sch. of Med.*
- 1:00 E22 **558.21** Organization of Ca<sup>2+</sup> and lipid signaling domains by the Kv2 family of voltage-gated potassium channels. M. KIRMIZI\*; N. C. VIERRA; J. S. TRIMMER. *Univ. of California, Davis.*
- 2:00 E23 **558.22** Neuronal Kv2 channel-associated endoplasmic reticulum-plasma membrane junctions are sites of localized spontaneous Ca(2+) entry. N. VIERRA\*; M. KIRMIZI; J. S. TRIMMER. *Univ. of California, Davis.*
- 3:00 E24 **558.23** Activation of Slack potassium channels (KCNT1) triggers an increase in mRNA translation. T. J. MALONE\*; P. LICZNEFSKI; E. A. JONAS; L. K. KACZMAREK. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Yale 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

- 4:00 E25 **558.24** Interactions of Slack (KCNT1) channels with Phactr1 are altered by a human disease-causing mutation. S. R. ALI\*; T. MALONE; Y. ZHANG; L. KACZMAREK. *Yale Univ., Yale Univ.*
- 1:00 E26 **558.25** Role of kv1.3 potassium channels in the auditory function. L. EL-HASSAR\*; L. SONG; V. R. GAZULA; D. NAVARATNAM; J. SANTOS-SACCHI; L. K. KACZMAREK. *Yale Univ. Sch. of Med., Surgery, Neurol.*
- 2:00 E27 **558.26** ▲ A mutant SK channel that is hypersensitive to Ca<sup>2+</sup>. A. VIEGAS\*; Y. NAM; S. BASKOYLU; R. O. ORFALI; A. HART; M. ZHANG. *Chapman Univ. Sch. of Pharm., Brown Univ., Chapman Univ. Sch. of Pharm.*
- 3:00 E28 **558.27** Distinct subsets of presynaptic K<sup>+</sup> channels modulate frequency-dependent synaptic transmission in excitatory and inhibitory hippocampal neurons independent of net calcium influx. I. CHO\*; S. ALPIZAR; M. HOPPA. *Dartmouth Col.*
- 4:00 E36 **559.08** Role of serine arginine protein kinase 2 (SRPK2) on composition and function of the active zone. J. BETZIN\*; J. A. MÜLLER; A. OPRIȘOREANU; E. M. SCHÖNHENSE; K. ENGHOLM-KELLER; M. GRAHAM; A. J. BECKER; D. DIETRICH; S. SCHOCH. *Univ. Clin. Bonn, Childrens's Med. Res. Inst.*
- 1:00 E37 **559.09** Synaptic maintenance in the absence of synaptic activity in the auditory brainstem. C. KÖRBER\*; L. EBBERS; S. HOPPE; H. G. NOTHWANG. *Univ. of Heidelberg, Univ. of Oldenburg.*
- 2:00 E38 **559.10** A potential mechanism for locus coeruleus-dependent dopamine signalling. A. SONNEBORN\*; R. W. GREENE. *Univ. of Texas Southwestern Med. Ctr.*
- 3:00 E39 **559.11** Structural correlates of transmitter release and readily releasable pool at hippocampal mossy fiber synapses. C. BORGES-MERJANE\*; O. S. KIM; P. JONAS. *Inst. of Sci. and Technol. (IST) Austria.*
- 4:00 E40 **559.12** Single-cell RNA-seq data reveals developmental specification of alternative splicing profiles of synaptic molecules. D. LUKACSOVICH\*; J. WINTERER; W. LUO; L. QUE; C. FOLDY. *Brain Res. Institute, UZH, Brain Res. Institute, UZH.*

## POSTER

### 559. Presynaptic Organization

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

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 E29 **559.01** Proteomic and functional analysis of presynaptic actin regulation during synaptic transmission. S. DUBE\*; T. BRADSHAW; A. UEZU; E. SODERBLOM; B. RÁCZ; S. H. SODERLING. *Duke Univ., Duke Univ., Duke Univ., Univ. of Vet. Med. Budapest.*
- 2:00 E30 **559.02** Endocytic scaffold Intersectin 1 regulates vesicle reclustering in the reserve pool of the giant vertebrate synapse. O. SHUPLIAKOV\*; K. FREDRICH; A. PECHSTEIN; F. GERTH; O. VORONTSOVA; E. SOPOVA; O. KORENKOVA; V. HAUCKE; C. FREUND. *Karolinska Institutet, St Petersburg Univ., Freie Univ. Berlin, St Petersburg Univ., Leibniz-Forschungsinstitut für Molekulare Pharmakologie.*
- 3:00 E31 **559.03** MAP kinase phosphorylation gates regulation of SV trafficking and neurotransmitter release by J domain of synapsin III. S. SONG\*; G. J. AUGUSTINE. *Lee Kong Chian Sch. of Medicine, NTU.*
- 4:00 E32 **559.04** Neurexins mediate clustering of voltage-gated Ca<sup>2+</sup> channels at presynaptic active zone. F. LUO\*; M. JIANG; T. L. SÜDHOF. *Guangzhou Univ., Stanford Univ.*
- 1:00 E33 **559.05** Nanoscale organization of RIM-BP2 at the mammalian active zone. T. B. TARR\*; T. A. BLANPIED. *Univ. of Maryland Sch. of Med.*
- 2:00 E34 **559.06** RIM4y deficiency causes alterations in cerebellar Purkinje cell function. E. M. SCHÖNHENSE\*; K. MICHEL; H. T. KIM; A. J. BECKER; D. DIETRICH; S. SCHOCH. *Univ. Clin. Bonn.*
- 3:00 E35 **559.07** Acute homeostatic challenge induces a rapid active zone cytomatrix-dependent increase in synaptic calcium channel levels. S. J. GRATZ\*; J. J. BRUCKNER; R. X. HERNANDEZ; K. KHATEEB; G. T. MACLEOD; K. M. O'CONNOR-GILES. *Univ. of Wisconsin Madison, Univ. of Oregon, Florida Atlantic Univ., Univ. of Wisconsin-Madison, Florida Atlantic Univ.*
- 1:00 DP03/E41 **559.13** (Dynamic Poster) Architectural heterogeneity among ribbon synapse complexes in utricular hair cells. L. F. HOFFMAN\*; I. LOPEZ; R. SCHIALEK; M. TERASAKI; J. W. LICHTMAN; F. E. SCHWEIZER. *Geffen Sch. of Med., Harvard Univ., Univ. of Connecticut, UCLA, David Geffen Sch. of Med.*
- 2:00 E42 **559.14** Molecular anatomy of the average hippocampal neuron. S. JÄHNE\*; M. HELM; H. WILDHAGEN; S. MANDAD; M. WEIL; W. MÖBIUS; S. O. RIZZOLI. *Univ. Med. Ctr. Göttingen, Univ. Med. Ctr. Göttingen, Max-Planck-Institut für Experimentelle Medizin, Max-Planck-Institut für Experimentelle Medizin.*
- 3:00 E43 **559.15** The intra/perisynaptic CB<sub>1</sub> cannabinoid receptor pool tonically controls GABA release at mouse hippocampal synapses. B. BARTI\*; B. DUDOK; K. KENESEI; V. MICZÁN; M. LEDRI; I. SOLTESZ; I. KATONA. *Inst. of Exptl. Medicine, HAS, Szentágotthai János Doctoral Sch. of Neurosciences, Semmelweis Univ., Stanford Univ., Pázmány Péter Catholic Univ., Lund Univ.*
- 4:00 E44 **559.16** Large volume dSTORM imaging of presynaptic active zones. M. PAULI; M. M. PAUL; S. PROPPERT; F. REPP; P. KOLLMANNSBERGER; M. SAUER; M. HECKMANN; A. SIREN\*. *Univ. of Wuerzburg, Univ. of Wuerzburg, Univ. of Wuerzburg, Univ. Wuerzburg.*
- 1:00 E45 **559.17** Characterization of the role of *Drosophila melanogaster* Vwa8 in the regulation of synaptic growth and transmission. D. BEELER\*; F. L. LIEBL; J. E. RICHMOND; D. E. FEATHERSTONE. *Univ. of Illinois At Chicago, Southern Illinois Univ. Edwardsville, Univ. Illinois Chicago, Univ. of Illinois at Chicago.*
- 2:00 E46 **559.18** Analysing the 3D nanotopolgy of active zones at the *Drosophila* neuromuscular junction. J. SCHERBEL; M. PAULI; P. KOLLMANNSBERGER; F. REPP; S. PROPPERT; M. M. PAUL; R. J. KITTEL; A. SIRÉN; M. HECKMANN; N. EHMANN\*. *Univ. of Wuerzburg, Univ. of Wuerzburg, Univ. of Leipzig, Univ. Hosp. Wuerzburg.*
- 3:00 E47 **559.19** Super-resolution microscopy analysis of neuromuscular junction reveals degeneration of active zones in ALS model mice. Y. BADAWI; K. SHIGEMOTO; H. NISHIMUNE\*. *Univ. of Kansas Sch. of Med., Tokyo Metropolitan Inst. of Gerontology.*

4:00 E48 **559.20** Complexin regulates spontaneous synaptic transmission in a sub-population of active zones. H. R. ASTACIO\*; A. VASIN; M. BYKHOVSKAIA. *Wayne State Univ., Wayne State Univ.*

## POSTER

### 560. Mechanisms of Seizure Generation and Epilepsy

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

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

1:00 E49 **560.01** Automated electroencephalogram analysis for identifying and measuring spontaneous recurrent seizures and epileptiform activity following soman exposure in mice. P. DUBEE\*; C. E. ARDINGER; P. M. BODNER; E. N. DUNN; M. R. EISEN; K. M. HAINES; D. L. NGUYEN; K. T. PAGARIGAN; A. N. SANTORO; H. S. MCCARREN; P. M. MCNUTT. *US Army Med. Res. Inst. of Chem. Def.*

2:00 E50 **560.02** A predictive epilepsy index based on probabilistic classification of interictal spike waveforms. J. A. PFAMMATTER; R. A. BERGSTROM\*; E. P. WALLACE; R. K. MAGANTI; M. V. JONES. *Univ. of Wisconsin, Beloit Col., Univ. of Wisconsin.*

3:00 E51 **560.03** A highly sensitive and specific generalized linear model for seizure detection using a rat model of epilepsy. S. EBRAHIM\*; N. F. FUMEAUX; A. KADAMBI; M. F. MORAES; E. Y. KIMCHI; M. ABOU JAOUDE; S. B. NAGARAJ; S. ARROYO; S. S. CASH. *Mmass Gen. Hosp., EPFL, Massachusetts Gen. Hosp., Nucleo de Neurociencias (NNC) - Univ. Federal de Minas Gerais, Massachusetts Gen. Hosp., Mass Genl Hosp.*

4:00 F1 **560.04** Optimizing a mouse model of severe nerve agent intoxication for long-term survivability, incidence of neuropathology, and emergence of spontaneous recurrent seizures. H. S. MCCARREN\*; C. ARDINGER; P. BODNER; P. DUBEE; E. N. DUNN; M. R. EISEN; K. M. HAINES; D. L. NGUYEN; A. SANTORO; P. M. MCNUTT. *US Army Med. Res. Inst. of Chem. Def.*

1:00 F2 **560.05** Electrographic changes in the brain after trauma in wild-type and aquaporin-4 knockout mice. J. SZU\*; D. PATEL; C. JONAK; S. CHATURVEDI; J. LOVELACE; D. BINDER. *Univ. of California, Riverside.*

2:00 F3 **560.06** ▲ Kindled seizures accelerate forgetting of previous context fear memory. L. E. BRANDT; C. COLE; A. KALININA; H. LEHMANN; N. M. FOURNIER\*. *Trent Univ.*

3:00 F4 **560.07** Tracking brain state changes during epileptogenesis with seizure dynamics and probing. D. N. CRISP\*; W. CHEUNG; A. LAI; D. R. FREESTONE; D. B. GRAYDEN; M. J. COOK; W. C. STACEY. *Univ. of Michigan, Univ. of Melbourne, Univ. of Melbourne, Univ. of Melbourne, Univ. of Michigan.*

4:00 F5 **560.08** Glucose metabolism but not neuroinflammation during epileptogenesis correlates with chronic seizure outcome in a rat model of temporal lobe epilepsy. I. JAHREIS\*; P. BASCUÑANA; A. POLYAK; T. L. ROSS; W. LÖSCHER; F. M. BENDEL; J. P. BANKSTAHL; M. BANKSTAHL. *Hannover Med. Sch., Univ. of Vet. Med. Hannover.*

1:00 F6 **560.09** The possible role of spontaneous seizures on epileptogenesis. P. M. LAM; M. I. GONZALEZ\*. *Univ. of Colorado, Denver.*

2:00 F7 **560.10** Involvements of tryptophan metabolism in the pathogenesis of epilepsy. S. HASHIMOTO\*; J. MAEDA; Y. TAKADO; H. TAKUWA; M. SHIMOJO; M. TAKAHASHI; T. URUSHIHATA; K. KUMATA; Z. MING-RONG; T. SUHARA; M. HIGUCHI. *Natl. Inst. of Radiological Sciences, Natio, Tokyo Med. and Dent. Univ., Natl. Inst. of Radiological Sciences, Natl. Inst. for Quantum and Radiological Sci. and Technol.*

3:00 F8 **560.11** Inhibition of seizure-induced hippocampal neurogenesis by the chemotherapy drug temozolomide rescue cognitive deficits after kindling. T. J. FRANCIS\*; B. S. REIVE; K. BLEWETT; K. POST; J. REID; H. LEHMANN; N. M. FOURNIER. *Trent Univ.*

4:00 F9 **560.12** Diving responses elicited by nasopharyngeal irrigation compared to seizure-associated central apneic episodes in a rat model. M. G. STEWART\*; S. MOONEY; B. CHIN; S. VILLIERE; S. KIM; R. KOLLMAR; K. SUNDARAM; J. B. SILVERMAN. *SUNY Downstate Med. Ctr., SUNY Downstate Med. Ctr., SUNY Downstate Med. Ctr., Northwell Hlth. LIJ Med. Ctr.*

1:00 F10 **560.13** Calbindin immunoreactivity may be related to cognitive dysfunction in the epileptic brain. L. E. KALYNCHUK\*; N. NOGOVITSYN; J. J. BOTTERILL; H. CARUNCHO. *Univ. of Victoria, Univ. of Calgary, The Nathan Kline Inst. for Psychiatric Res.*

2:00 F11 **560.14** Brain-derived neurotrophic factor may contribute to ictogenesis in a mouse model of viral infection-induced temporal lobe epilepsy. D. C. PATEL\*; E. G. THOMPSON; H. SONTHEIMER. *Virginia Tech. Carilion Res. Inst., Virginia Tech. Sch. of Neurosci.*

3:00 F12 **560.15** Epistatic interaction between Stxbp1 and Snap25 genes produces super-additive effects on synaptic transmission and epileptic seizures. J. KOVACEVIC\*; K. D. B. WIERDA; J. B. SORENSEN; M. VERHAGE. *Vrije Univ. Amsterdam, VIB-KU Leuven Ctr. for Brain & Dis. Res., Univ. of Copenhagen, CNCR, Vrije Univ.*

4:00 F13 **560.16** Focal motor seizure model in mouse. T. SINGH\*; A. BRODOVSKAYA; J. M. WILLIAMSON; J. KAPUR. *Univ. of Virginia.*

1:00 F14 **560.17** ● Pharmacological augmentation of on-demand 2-arachidonoylglycerol (2-AG) signaling in the brain modulates epileptic seizures in rodents. A. VIADER\*; J. L. BLANKMAN; A. R. COPPOLA; R. A. HERBST; A. KNIZE; J. S. WARBURG; C. GRICE; G. O'NEIL; A. EZEKOWITZ; J. R. CLAPPER. *Abide Therapeut.*

2:00 F15 **560.18** Effects of the type 1 cannabinoid receptor positive allosteric modulator GAT211 on absence seizures and the anxiety-like phenotype of Genetic Absence Epilepsy Rats from Strasbourg. A. J. ROEBUCK\*; M. ALAVERDASHVILI; Q. GREBA; M. ANDERSON; W. N. MARKS; S. M. CAIN; T. P. SNUTCH; S. GURAI; G. A. THAKUR; R. B. LAPRAIRIE; J. G. HOWLAND. *Univ. of Saskatchewan, Univ. of Saskatchewan, Univ. of British Columbia, Michael Smith Lab, UBC, Northeastern Univ., Univ. Saskatchewan.*

3:00 F16 **560.19** Anticonvulsant effect of cannabidiol in female rats during two phases of estrous cycle on a PTZ-induced convulsive seizure model. N. L. JANISSET\*; B. M. LONGO. *Univ. Federal de Sao Paulo, Univ. Federal de Sao Paulo.*

• 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 F17 **560.20** Seizures frequency modifies cardiovascular responses *ex vivo* and cardiac tissue in rats submitted to electric amygdala kindling model of epilepsy. A. P. PANSANI\*; P. P. GHAZALE; E. G. DOS SANTOS; K. S. BORGES; K. P. GOMES; C. Q. DE LIMA, Jr.; P. P. P. BRAGA; B. P. DE SOUZA; C. H. DE CASTRO; C. H. X. CUSTÓDIO; E. P. MENDES; F. C. A. DOS SANTOS; M. F. BIANCARDI; F. A. SCORZA; D. B. COLUGNATI. *Federal Univ. of Goiás, Federal Univ. of São Paulo, Federal Univ. of Goiás.*
- 1:00 F18 **560.21** Validity of post traumatic epilepsy outcome following lateral fluid percussion injury. S. M. TATUM\*; Z. Z. SMITH; A. BERNIER; D. POULSEN; D. BARTH. *Univ. of Colorado-Boulder, Univ. of Colorado, Univ. at Buffalo.*
- 2:00 F19 **560.22** Intracerebral application of pilocarpine induces progressive limbic epilepsy in Wistar rats. O. GALVIS-ALONSO\*; A. N. QUEIROZ; L. H. MANIERO; B. F. D. ANDRADE; L. M. AGUERO; J. MEJIA. *Sao Jose do Rio Preto Med. Sch., Univ. Estadual Paulista "Júlio de Mesquita Filho" - UNESP/IBILCE, Univ. of Sao Paulo, Med. Sch. of Sao Jose do Rio Preto, Univ. Paulista, Inst. do Cérebro - Hosp. Israelita Albert Einstein.*
- 3:00 F20 **560.23** Combination intramuscular allopregnanolone and perampamil in the treatment of acute diisopropylfluorophosphate (DFP)-induced status epilepticus in rats. A. DHIR\*; D. J. TANCREDI; M. A. ROGAWSKI. *Univ. of California, Davis, Univ. of California, Davis.*
- 4:00 F21 **560.24** Effects of sleep deprivation on tonic GABAergic inhibition in the hippocampus. E. WALLACE\*; R. MAGANTI; M. V. JONES. *Univ. of Wisconsin - Madison, UW-Madison, UW-Madison.*
- 1:00 F22 **560.25** Abnormal hypersynchrony of neuronal activity and its relation to neuroinflammation, number and location of cysts in rats with neurocysticercosis. A. D. DELGADO\*; R. P. CARMEN; R. H. GILMAN; F. ANCAJIMA; L. E. BAQUEDANO; R. H. CELIZ; D. G. DAVILA; M. R. VERASTEGUI. *Univ. Peruana Cayetano Heredia, Univ. Peruana Cayetano Heredia, Johns Hopkins Univ.*
- 2:00 F23 **560.26** Carbamazepine and lamotrigine revert cardiovascular alterations in rats submitted to the pilocarpine model of epilepsy. D. B. COLUGNATI\*; B. P. DE SOUZA; K. P. GOMES; P. P. P. BRAGA; C. Q. DE LIMA, Jr.; F. C. A. DOS SANTOS; M. F. BIANCARDI; P. P. GHAZALE; E. P. MENDES; C. H. DE CASTRO; F. A. SCORZA; A. P. PANSANI. *Univ. Federal De Goiás, Univ. Federal de São Paulo.*
- 3:00 F24 **560.27** Hippocampal oxygen levels during the development and expression of epilepsy in two status epilepticus models: Intrahippocampal kainite and perforant path electrical stimulation. M. D. WOLFF\*; M. H. SCANTLEBURY; G. C. TESKEY. *Univ. of Calgary, Univ. of Calgary, Univ. of Calgary.*
- 4:00 F25 **560.28** • A noninvasive screening method for seizures and related behaviors in small animal models. A. AJWAD; H. WANG; F. YAGHOUBY; D. M. HUFFMAN; B. F. O'HARA\*; S. SUNDERAM. *Univ. of Kentucky, Univ. of Kentucky.*
- 1:00 F26 **560.29** Effect of the gut microbiome on seizure susceptibility in murine models of epilepsy. A. F. BOUSLOG\*; L. CHAUNSALI; H. SONTHEIMER; S. CAMPBELL. *Virginia Tech., Virginia Tech., Virginia Tech., Virginia Tech.*
- 2:00 G1 **560.30** A comprehensive investigation of human hippocampal mossy fiber transmission and plasticity. K. A. PELKEY; D. CALVIGIONI; R. CHITTAJALLU; K. A. ZAGHLOUL; C. J. MCBAIN\*. *NIH.*
- 3:00 G2 **560.31** • Multiparametric screening of compound-induced seizure risk. J. KANERVA\*; Y. CHEN; C. CARROMEU; O. GUICHERIT; J. MCDUFFIE. *Janssen Res. & Develop., Stemonix.*

## POSTER

### 561. Models of Developmental Epilepsies and Seizure Disorders

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

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 G3 **561.01** Limbic seizures depress cortical activation via subcortical pathways. J. POK; L. SIEU; L. FENG; C. MA; C. W. ZHAO; J. CARDIN; H. BLUMENFELD\*. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Yale Univ. Sch. of Med.*
- 2:00 G4 **561.02** Mouse model of electrically inducible focal seizures with impaired consciousness. L. SIEU\*; S. SINGLA; C. MCCAFFERTY; M. VALCARCE-ASPEGREN; A. NIKNAHAD; Q. PERRENOUD; J. CARDIN; H. BLUMENFELD. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Yale Univ. Sch. of Med.*
- 3:00 G5 **561.03** • *In vitro* anticonvulsant activity of pterolobium stellatum extracts. S. S. SALILE\*; H. J. LEE; J. V. RAIMONDO; T. A. ORJINO. *Addis Ababa University, Sch. of Pharm., Neurosci. Inst. and Inst. of Infectious Dis. and Mol. Medicine, Fac. of Hlth. Sciences, University of Cape Town.*
- 4:00 G6 **561.04** Suppression of HCN channel function in thalamocortical neurons prevents spontaneous and pharmacologically induced absence seizures. F. DAVID; N. CARCAK YILMAZ; S. FURDAN; F. ONAT; T. GOULD; A. MESZAROS; G. DI GIOVANNI; V. M. HERNANDEZ; S. CHAN; M. L. LORINCZ; V. CRUNELLI\*. *INSERM, Istanbul Univ., Univ. of Szeged, Marmara Univ. Sch. of Med., Cardiff Univ., Univ. of Malta, Northwestern Univ., Northwestern University, Feinberg Sch. of Med.*
- 1:00 G7 **561.05** Cortical drive and thalamic feed-forward inhibition control thalamic output synchrony during absence seizures. C. P. MCCAFFERTY; F. DAVID; M. VENZI; M. L. LORINCZ; F. DELICATA; Z. ATHERTON; G. RECCHIA; G. ORBAN; R. C. LAMBERT; G. DI GIOVANNI\*; N. LERESCHE; V. CRUNELLI. *Yale Univ., INSERM, Astrazeneca, Univ. of Szeged, Univ. of Malta, Cardiff Univ., Univ. of Malta, Sorbonne Univ., Univ. of Malta.*
- 2:00 G8 **561.06** Audiogenic seizure modeling SUDEP (sudden and unexpected death in epilepsy): comparative study between four inbred strains of mice. B. MARTIN\*; G. DIEUSET; N. COSTET. *LTSI - INSERM U1099, Inserm, EHESP, Irset, UMR\_S 1085.*
- 3:00 G9 **561.07** Sleep-like slow-wave oscillations can drive epileptic spike-wave discharges in an idiopathic generalized epilepsy model with GABAR  $\gamma 2$  Q390X mutation. C. ZHOU\*; L. DING; M. J. GALLAGHER; R. L. MACDONALD. *Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Sch. of Med., Vanderbilt Univ.*



- 4:00 G10 **561.08** Integration of dispersed CA2 pyramidal cells in the hippocampal network in a focal epilepsy model. A. KILIAS\*; S. TULKE; N. BARHEIER; K. HEINING; U. EGERT; C. A. HAAS; U. HÄUSSLER. *Bernstein Ctr. Freiburg, Univ. of Freiburg, Univ. of Freiburg, Univ. of Freiburg, Univ. of Freiburg, Fac. of Med., Univ. of Freiburg.*
- 1:00 G11 **561.09** Activity-dependent Arc expression is associated with synaptic plasticity of dentate granule cells during epileptogenesis. P. JANZ\*; P. HAUSER; K. HEINING; M. KIRSCH; U. EGERT; C. HAAS. *Univ. of Freiburg, Exptl. Epilepsy Research, Dept. of Neurosurgery, Med. Ctr. – Univ. of Freiburg, Fac. of Medicine, Univ. of Freiburg, Lab. for Biomicrotechnology, Dept. of Microsystems Engineering, Univ. of Freiburg, Dept. of Anat. and Cell Biology, Univ. of Freiburg, BrainLinks-BrainTools Cluster of Excellence, Univ. of Freiburg.*
- 2:00 G12 **561.10** Molecular and structural characterization of inhibitory innervation of the CA2 region in experimental epilepsy. S. TULKE\*; M. JOHNSTON; C. A. HAAS; U. HÄUSSLER. *Fac. of Medicine, Univ. of Freiburg, BrainLinks-BrainTools, Cluster of Excellence, Univ. of Freiburg, Fac. of Biology, Univ. Freiburg.*
- 3:00 H1 **561.11** Neural and hemodynamic mechanisms underlying variable consciousness impairment in rodent absence seizures. B. F. GRUENBAUM\*; C. P. MCCAFFERTY; Z. B. KRATOCHVIL; P. HERMAN; J. RYU; B. G. SANGANAHALLI; P. ANTWI; W. ISLAM; E. JOHNSON; P. VITKOVSKIY; I. G. FREEDMAN; A. J. KUNDISHORA; A. DEPAULIS; F. HYDER; H. BLUMENFELD. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Grenoble Inst. Neurosci, Yale Univ. Sch. of Med., Yale Univ. Sch. of Med.*
- 4:00 H2 **561.12** Awake fMRI in a rat model of absence epilepsy. Z. B. KRATOCHVIL\*; C. P. MCCAFFERTY; P. HERMAN; J. H. RYU; B. G. SANGANAHALLI; B. F. GRUENBAUM; P. ANTWI; W. ISLAM; E. A. JOHNSON; P. VITKOVSKIY; I. FREEDMAN; A. J. KUNDISHORA; A. DEPAULIS; F. HYDER; H. BLUMENFELD. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., INSERM and Univ. Grenoble Alpes.*
- 1:00 H3 **561.13** Increase of seizure activity by picrotoxin in thalamic reticular nucleus of the rat. V. M. MAGDALENO-MADRIGAL\*; F. J. HIDALGO-FLORES; G. CONTRERAS-MURILLO; S. ALMAZÁN-ALVARADO. *Inst. Nacional De Psiquiatría Ramón De La Fuente Muñiz.*
- 2:00 H4 **561.14** Experimental febrile status epilepticus increases seizure susceptibility in developing mice: A powerful experimental model? A. M. HALL\*; G. A. SANCHEZ; M. M. CURRAN; H. MUN; L. A. LUCERO; J. DAGLIAN; T. Z. BARAM. *Univ. of California, Irvine, Univ. of California Irvine, Univ. of California, Irvine, Univ. of California, Irvine.*
- 3:00 H5 **561.15** Hippocampal deletion of sodium channel Nav1.1 causes thermally evoked seizures and spatial learning deficits in a mouse model of Dravet Syndrome. R. E. STEIN\*; J. S. KAPLAN; W. A. CATTERALL. *Univ. of Washington.*
- 4:00 H6 **561.16** Characterization of kindled VGAT-Cre mice as a new animal model of pharmacoresistant epilepsy. J. STRAUB; A. GAWDA; P. RAVICHANDRAN; C. BURKE; J. KANG; I. VITKO; M. M. SCOTT; E. PEREZ-REYES\*. *Univ. of Virginia.*
- 1:00 DP04/H7 **561.17** ▲ (Dynamic Poster) Development of a zebrafish model to study childhood epileptic encephalopathy caused by dynamin 1 (DNM1) mutations. G. C. MILLS\*; E. FRANKEL; J. DODSON; L. LLACI; R. GUPTA; B. GERALD; M. STRINGER; V. NARAYANAN; S. RANGASAMY. *Translational Genomics Res. Inst.*
- 2:00 H8 **561.18** Deletion of a key Scn1a regulatory element causes severe phenotypes in mice. A. S. NORD\*; T. W. STRADLEIGH; I. ZDILAR; M. SRAMEK; A. NGUYEN; A. ADHIKARI; N. COPPING; J. L. SILVERMAN. *Univ. of California Davis Ctr. for Neurosci., Res. II, UC Davis, Sch. of Med., UC Davis Sch. of Med.*
- 3:00 H9 **561.19** ● A novel zebrafish model of GABRB3-linked childhood epilepsy. C. A. CARPENTER\*; B. P. GRONE; S. C. BARABAN. *Univ. of California, San Francisco.*
- 4:00 H10 **561.20** Status epilepticus induced in the infant rat by pentylentetrazol and lithium pilocarpine promotes similar c-Fos expression in the hippocampus and the cerebellum. L. LOPEZ-MERAZ\*; J. VELAZCO-HERNÁNDEZ; E. VELAZCO-CERCAS; L. BELTRÁN-PARRAZAL; C. MORGADO-VALLE. *Cice, Univ. Veracruzana, Cice, Univ. Veracruzana.*
- 1:00 H11 **561.21** Contributions of excitatory and inhibitory neurons to epilepsy and sudden death susceptibility in Leigh syndrome. A. M. BARD; I. T. BOLEA; N. SAHAL; J. RAMIREZ; A. QUINTANA; F. K. KALUME\*. *Seattle Children's, Autonomous Univ. of Barcelona, Univ. Washington, Univ. Autonoma De Barcelona.*
- 2:00 H12 **561.22** Using Dravet Syndrome mice to trace the progress of Dravet-associated comorbidities. M. RUBINSTEIN\*; S. FADILA; Y. ALMOG; K. ANDERSON. *Tel Aviv Univ., Tel Aviv Univ.*
- 3:00 H13 **561.23** Vasoactive intestinal peptide-expressing interneurons are impaired in a mouse model of Dravet syndrome. K. GOFF\*; E. M. GOLDBERG. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia.*
- 4:00 H14 **561.24** Interictal dentate gyrus hyperexcitation in a mouse model of Dravet syndrome. I. AIBA\*; J. L. NOEBELS. *Baylor Col. of Med.*
- 1:00 H15 **561.25** BRAFV600E expression in mouse neocortical progenitors is sufficient to induce glial activation, elevate neuronal excitability, and cause seizures in mice. R. GOZ\*; J. J. LOTURCO. *UCONN, UCONN.*
- 2:00 H16 **561.26** Transcriptomic and proteomic profiling in an epilepsy fly model reveals cell non-autonomous downregulation of synaptic proteins. K. A. HOPE\*; D. JOHNSON; D. KAKHNIASHVILI; L. REITER. *Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Tennessee Hlth. Sci. Ctr.*
- 3:00 H17 **561.27** Characterization of a novel antiepileptic therapy by targeting eEF2K/eEF2 pathway for Dravet syndrome. C. SALA\*; L. GRITTI; L. PONZONI; S. BERETTA; P. SCALMANI; M. A. MANTEGAZZA; M. SALA; C. VERPELLI. *CNR Neurosci. Inst., Dept. of Med. Biotech. and Translational Medicine, Univ. degli Studi di Milano, U.O. of Neurophysiopathology and Diagnos. Epileptology, Fndn. Inst. di Ricerca e Cura a Carattere Scientifico Neurolog. Inst. Carlo Besta, CNRS Inst. Mol. & Cell. Pharmacol.*
- 4:00 H18 **561.28** The comparison of high-frequency oscillations in three types of limbic seizures. H. SUN\*; C. R. STEPHENSONS. *Louisiana State Univ. Hlth. Sci. Ctr., Louisiana State Univ. Hlth. Sci. Ctr. Shreveport.*

\* 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 I1 **561.29** Hippocampal GLT1 regulation in the intrahippocampal kainic acid model of epilepsy. A. R. PETERSON\*; D. BINDER. *Univ. of California, Riverside, Univ. of California, Riverside.*
- 2:00 I2 **561.30** Are planarians a useful model organism for high throughput genetic and toxicological investigations of neurodevelopment? S. GUARIGLIA\*; J. GOTIANGCO; S. NARVAEZ. *New York State Inst. for Basic Reserch, St. Joseph by the Sea High Sch., CUNY Col. of Staten Island.*
- POSTER**
- 562. Neurotoxicity, Inflammation, and Neuroprotection: Cellular Stress and Death Mechanisms II**
- Theme C: Neurodegenerative Disorders and Injury**
- Tue. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*
- 1:00 I3 **562.01** Myeloid-macrogial crosstalk as a motor for optic nerve regeneration. I. BOLLAERTS\*; J. VAN HOUCKE; L. ANDRIES; A. BECKERS; S. VANHUNSEL; L. DE GROEF; L. MOONS. *KU Leuven.*
- 2:00 I4 **562.02** Inflammatory stimulation as motor for axonal regeneration: Elucidating the underlying cellular and molecular players. L. ANDRIES\*; L. DE GROEF; M. SALINAS-NAVARRO; I. BOLLAERTS; K. MOVAHEDI; L. MOONS. *KU Leuven, VUB.*
- 3:00 I5 **562.03** Paracrine effects of multiple sclerosis donor-derived mesenchymal stem cell-neural progenitors (MSC-NP) on glial cells. G. CARLING; S. ZANKER; S. A. SADIQ; V. K. HARRIS\*. *Tisch MS Res. Ctr. of New York.*
- 4:00 I6 **562.04** An estradiol mediated sensitive period in cerebellar development is disrupted by Poly I:C induced inflammation. A. HOLLEY\*; M. M. MCCARTHY. *Univ. of Maryland Baltimore, Univ. of Maryland Sch. of Med.*
- 1:00 I7 **562.05** Inflammatory cytokines contribute to dysregulation of Nrf1 and Nrf2 in astrocytes. K. L. SHANLEY; C. HU; A. S. GARDINER\*; O. A. BIZZOZERO. *Univ. of New Mexico.*
- 2:00 I8 **562.06** Neuroprotective effect of sirt1 in EAE. M. I. ARVAS\*; F. MUBARIZ; A. KATURI; S. ANDHAVARAPU; C. BEVER, Jr.; T. MAKAR. *Univ. of Maryland.*
- 3:00 I9 **562.07** Inhibition of autophagosome-lysosome fusion by ginsenoside Rk1 induces apoptosis in neuroblastoma cells. J. OH\*; S. CHUN. *Chonbuk Natl. Univ. Med. Sch., Chonbuk Natl. Univ. Med. Sch.*
- 4:00 I10 **562.08** Adult neurogenesis in the dentate gyrus induced by minor ginsenoside compound K. S. YU\*; S. CHUN. *Chonbuk Natl. Univ. Med. Sch., Chonbuk Natl. Univ. Med. Sch.*
- 1:00 I11 **562.09** Minor ginsenoside promotes strongly progenitor cell proliferation in the dentate gyrus of hippocampus. B. KIM\*; S. CHUN. *Chonbuk Natl. Univ. Med. Sch., Chonbuk Natl. Univ. Med. Sch., Chonbuk Natl. Univ. Med. Sch.*
- 2:00 I12 **562.10** ● Modulating microglial phenotypes via colony stimulating factor-1 receptor (CSF1R) inhibition for therapeutic benefit in multiple sclerosis. N. A. HAGAN\*; L. WOODWORTH; A. MAHAN; M. ZELIC; D. OFENGEIM. *Sanofi.*
- 3:00 I13 **562.11** Epigenetics of Cpt1, the key gene in the new paradigm of multiple sclerosis pathogenesis. J. LICHOTA\*; K. JØNSSON; J. D. NIELAND. *Aalborg Univ.*
- 4:00 I14 **562.12** Novel molecular marker DJ-1 indicates role in cognitive dysfunction in multiple sclerosis. N. FAVRET; A. IACOANGELI\*; S. A. SADIQ. *Tisch MS Res. Ctr.*
- 1:00 I15 **562.13**  $\beta$ -Chemokine Ccl5 deficiency preserves retinal ganglion cells in a murine model of optic neuropathy. R. L. WEINER\*; W. M. MCLAUGHLIN; M. G. DUBNER; C. R. FORMICHELLA; R. M. SAPPINGTON. *Vanderbilt Univ., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr.*
- 2:00 I16 **562.14** GABAergic synapses and tonic inhibition are upregulated by the HIV protein gp120 via pathways that diverge downstream of the interleukin-1 receptor. M. GREEN\*; X. ZHANG; S. A. THAYER. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota Med. Sch.*
- 3:00 I17 **562.15** Antiviral acute phase response induces neuronal generation of the chemokine CXCL10 in the hippocampus and cortex. T. J. PETRISKO\*; G. W. KONAT. *West Virginia Univ.*
- 4:00 J1 **562.16** Neurobehavioral and immunohistochemical alterations in immunocompetent mice with congenital zika virus infection. P. J. VIG\*; A. PAUL; M. LOPEZ; B. NEUPANE; F. BAI. *Univ. Mississippi Med. Ctr., NASA Ames Res. Ctr., Univ. of Southern Mississippi.*
- 1:00 J2 **562.17** Trigeminal root entry zone pathology in experimental autoimmune encephalomyelitis. K. C. THORBURN\*; J. W. PAYLOR; I. R. WINSHIP; B. J. KERR. *Univ. of Alberta, Univ. of Alberta, Univ. of Alberta.*
- 2:00 J3 **562.18** GP91 deficiency ameliorates oxidative stress associated neural damage and dysfunction in an experimental autoimmune encephalomyelitis mouse model. C. HU\*; S. CHEN, Senior; J. HONG. *Tri-Service Gen. Hosp., Tri-Service Gen. Hosp., NIEHS.*
- 3:00 J4 **562.19** Potential role of estrogen in maintaining the proNGF/NGF and Bax/Bcl2 ratio in hippocampus of aged female rat. P. KUMAR\*; P. KAUSHAL; P. DHAR. *All India Inst. of Med. Sciecnes, All India Inst. of Med. Sci.*
- 4:00 J5 **562.20** Environmental enrichment benefit on visual pathway damage induced by neuroinflammation of the optic nerve. M. L. ARANDA\*; M. F. GONZALEZ FLEITAS; P. H. SANDE; D. DORFMAN; R. E. ROSENSTEIN. *CEFYBO - CONICET, Sch. of Medicine, UBA, CEFYBO/CONICET, Sch. of Medicine/Cefybo, Univ. of Buenos Ai.*
- 1:00 J6 **562.21** Multiple sclerosis patient macrophages' transcriptomic signature unveils genetic networks behind their altered pro-regenerative capacity. J. FRANSSON\*; C. BACHELIN; F. DEKNUYDT; L. GUILLOT-NOËL; M. EL BEHI; A. TENENHAUS; H. ABDI; V. GUILLEMOT; G. BASSIGNANA; F. DE VICO FALLANI; O. COLIOT; C. LOUAPRE; B. FONTAINE; V. ZUJOVIC. *ICM, Sorbonne-universités-Upmc 06, INSERM, CNRS, Inst. of Cardiometabolism and Nutrition, Sorbonne-universités-Upmc 06, INSERM, CNRS, Sch. of Brain and Behavioral Sciences, The Univ. of Texas, Inst. Pasteur, Assistance Publique-Hôpitaux de Paris, Neurol. Dept. Pitié Salpêtrière Univ. Hosp., Assistance Publique-Hôpitaux de Paris, Neurol. Service, Hôpital St. Antoine-HUEP.*
- 2:00 J7 **562.22** Effect of anti-VEGF treatment on the innate immune response in a mouse model of multiple sclerosis. C. CARAVAGNA\*; A. JAOUËN; G. ROUGON; F. DEBARBIEUX. *Inst. De Neurosciences De La Timone, Aix-Marseille Univ., CNRS UMR 7289, CERIMED.*
- 3:00 J8 **562.23** Granulocyte-macrophage colony-stimulating factor (GM-CSF) improves mouse peripheral nerve regeneration following axotomy. A. L. BOMBEIRO\*; B. T. N. PEREIRA; A. L. R. OLIVEIRA. *Univ. of Campinas.*

4:00 J9 **562.24** The regulatory effect of a multiple sclerosis drug candidate on macrophages. B. LIN; B. KOFFMAN; J. DU\*. *Univ. of Toledo*.

## POSTER

### 563. Ischemia IV

#### Theme C: Neurodegenerative Disorders and Injury

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

1:00 J10 **563.01** Novel combinatory treatment for experimental ischemic stroke. L. S. BELAYEV\*; S. HONG; L. KHOUTOROVA; A. OBENAU; N. A. PETASIS; N. G. BAZAN. *LSUHSC, Univ. of California, Irvine, USC*.

2:00 J11 **563.02** Mesenchymal stem/stromal cell delivery through cardiopulmonary bypass modulates systemic inflammation and reduces microglia activation in a juvenile porcine model. T. MAEDA; K. SARKISLALI; C. LEONETTI; F. A. SOMAA; G. R. STINETT; Z. DHARI; B. K. LEWIS; M. M. NUSZKOWSKI; K. PANCHAPAKESAN; K. GRECCO; P. VYAS; P. J. HANLEY; R. ULREY; J. A. FRANK; R. A. JONAS; N. ISHIBASHI\*. *Children's Natl. Hlth. Syst., NIH, Children's Natl. Hlth. Syst., Children's Natl. Hlth. Syst., Children's Natl. Hlth. Syst., Children's Natl. Hlth. Syst.*

3:00 J12 **563.03** Gamma burst oscillations (gbos) using low field magnetic stimulation (lfms) improves post-stroke cognitive and psychiatric deficits in an animal stroke model. H. KIM\*; M. ZAKI; J. STOCKWELL; Y. ZHANG; F. S. CAYABYAB. *Univ. of Saskatchewan, Univ. of Saskatchewan, Univ. of Saskatchewan*.

4:00 J13 **563.04** The effect of sodium ozagrel, edaravone, or heparin on the development of infarcted lesions in our three-vessel occlusion (3-VO) model. K. YAMATO\*; Y. NAKAJO; J. C. TAKAHASHI; H. YANAMOTO. *Natl. Cerebral and Cardiovasc. Ctr., Rakuwa-kai Otowa Hosp., Natl. Cerebral and Cardiovasc. Ctr., Osaka Univ. Grad. Sch. of Med.*

1:00 J14 **563.05** ● Injury site-targeted complement inhibition improves motor & cognitive recovery after murine ischemic stroke. A. TOUTONJI\*; S. TOMLINSON. *Med. Univ. of South Carolina, Med. Univ. of South Carolina*.

2:00 K1 **563.06** Neuroprotective effects of palmitic acid methyl ester against cerebral ischemia. A. DO COUTO E SILVA\*; R. H. LEE; C. Y. WU; H. POSSOIT; C. T. CITADIN; P. CHEN; T. HSIEH; R. AZIZBAYEVA; J. T. NEUMANN; H. W. LIN. *LSU Hlth. Sci. Ctr. Shreveport, LSU Hlth. Sci. Ctr., West Virginia Univ. Sch. of Osteo. Med.*

3:00 K2 **563.07** Outcomes in mild acute ischemic stroke treated with intravenous thrombolysis. R. ZHANG\*; H. WEI; X. QIN. *The First Affiliated Hosp. of Chongqing Med.*

4:00 K3 **563.08** Protective and restorative effects of stem cell factor and granulocyte-colony stimulating factor on brain repair through VEGF-mediated angiogenesis in a mouse model of CADASIL. S. PING\*. *SUNY Upstate Med. Univ.*

1:00 K4 **563.09** ● SC411 improves cerebral blood cell flow after ischemia in the Townes mouse model of sickle cell disease. C. Y. WU\*; A. DAAK; M. A. LOPEZ-TOLEDANO; A. L. W. RABINOWICZ; H. LIN. *LSU Hlth. Sci. Ctr. Shreveport, Sancilio & Company, Inc.*

2:00 K5 **563.10** Impact of therapeutic hypothermia on cerebral autoregulation and neuroglial protection in an asymmetric ischemia-reperfusion model. E. CHOI\*; G. PARK; H. SHIN; S. LEE; M. CHOI; J. HONG. *Dept. of Neurology, Ajou Univ. Sch. of Med., Ajou Univ.*

3:00 K6 **563.11** Backward directional arteriogenesis by cranial burr hole and erythropoietin pretreatment in ischemic rat model with cerebral perfusion impairment. G. PARK\*; E. CHOI; H. SHIN; K. LEE; M. CHOI; S. LEE; J. HONG. *Dept. of Neurology, Ajou Univ. Sch. of Med., Dept. of biomedical science, Ajou Univ. Sch. of Med.*

4:00 K7 **563.12** The calcium binding protein apoaquorin alters cytokine expression following direct hippocampal brain infusion in a rat model. C. W. SMIES\*; J. R. MOYER, Jr. *Univ. of Wisconsin - Milwaukee*.

1:00 K8 **563.13** Mesenchymal stem cell-derived extracellular vesicles and retinal ischemia-reperfusion. B. MATHEW\*; S. RAVINDRAN; L. A. TORRES; C. HUANG; M. CHINNAKESAVALU; J. LOPEZ; M. SHARMA; X. LIU; S. ROTH. *Univ. of Illinois At Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Virginia, Univ. of Illinois at Chicago*.

2:00 K9 **563.14** ▲ Autophagy and retinal ischemic post-conditioning. M. CHENNAKESAVALU\*; B. MATHEW; C. STELMAN; M. SHARMA; L. TORRES; S. ROTH. *Univ. of Illinois at Chicago*.

3:00 K10 **563.15** Neuroprotective effects of astrocyte-specific overexpression of Nrf2 in a mouse model of stroke. J. H. FOWLER\*; M. AIMABLE; L. HEGARTY; K. NAGASSIMA; J. A. JOHNSON; G. E. HARDINGHAM; K. HORSBURGH. *Univ. of Edinburgh, Univ. of Edinburgh, Univ. of Wisconsin Madison, Univ. of Edinburgh*.

4:00 K11 **563.16** ● Dendrimer N-acetyl-cysteine to enhance glial restricted precursor transplantation and recovery following neonatal white matter injury in mice. S. N. TOMLINSON\*; C. L. NEMETH; M. R. ROSEN; P. HUBO; C. MURRAY; A. SHARMA; R. SHARMA; M. V. JOHNSTON; S. KANNAN; R. M. KANNAN; A. FATEMI. *Kennedy Krieger Inst., Kennedy Krieger Inst., The Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ.*

1:00 K12 **563.17** Using structural equation modeling to investigate predisposition of regional tetrahydrobiopterin for hypertonia following antenatal hypoxia-ischemia. S. TAN\*; Z. SHI; J. JEONG-WON; K. LUO; K. THIRUGNANAM; J. VASQUEZ-VIVAR. *Wayne State Univ., Med. Col. of Wisconsin*.

2:00 K13 **563.18** Neonatal anoxia in rats: Protein levels of hippocampal interneurons and spatial memory in adult rats. J. M. IKEBARA\*; D. S. CARDOSO; N. M. M. DIAS; S. H. TAKADA; A. H. KIHARA. *Univ. Federal do ABC*.

3:00 K14 **563.19** Neonatal anoxia in rats: Decrease of parvalbumin hippocampal interneurons during development of rats. D. S. CARDOSO\*; J. M. IKEBARA; N. M. M. DIAS; S. H. TAKADA; A. H. KIHARA. *Univ. Federal do ABC*.

4:00 K15 **563.20** Molecular mechanism of action of galantamine in reducing hyperoxia-induced brain injury in neonatal mice. K. R. AYASOLLA\*; N. ZAGHLOUL; N. S. COHEN; M. N. AHMED. *Feinstein Inst. for Med. Res., Cohen's Children Med. Ctr.*

1:00 K16 **563.21** Impact of sildenafil on vasculature, gliosis and inflammatory cytokine expression on retinal injury secondary to hypoxia-ischemia. P. BALIAN\*; A. YAZDANI; A. BÉLANGER; V. BLEAU; Z. KHOJA; P. WINTERMARK. *Res. Inst. of the McGill Univ. Hlth., McGill University, Montreal Children's Hospital, Div. of Newborn 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 K17 **563.22** The effects of sildenafil on the suppression of RNF213(a susceptibility gene of Moyamoya disease) under hypoxia. H. SHIN\*; G. PARK; E. CHOI; M. CHOI; S. LEE; J. HONG. *Ajou Univ. Sch. of Med., Dept. of Neurology, Ajou Univ. Sch. of Med., Dept. of Neurology, Ajou Univ. Sch. of Med., Ajou Univ.*
- 1:00 DP05/K18 **563.23** (Dynamic Poster) The effects of a one-year extensive exercise program on the progression of mild cognitive impairment. S. SCHNEIDER\*; M. OLDE RIKKERT; B. LAWLOR. *German Sport Univ. Cologne, Radboud Alzheimer Centrum, Trinity Col. Dublin.*
- 4:00 L1 **563.24** Multimodal detection of spreading depolarization and repolarization during cardiac arrest and resuscitation: An ultra-early biomarker of neurological outcome. Y. AKBARI\*; D. LEE; R. WILSON; C. CROUZET; D. DONGA; A. BAZRAFKAN; N. MAKI; M. MOSLEHYAZDI; N. NGUYEN; A. PATEL; M. AZADIAN; J. PHAM; J. ALCOCER; G. TIAN; B. TROMBERG; B. CHOI; O. STEWARD; B. LOPOUR. *UC Irvine, Univ. of California at Irvine.*
- 1:00 L2 **563.25** • Roflumilast, a phosphodiesterase 4 inhibitor, prevents memory impairments and increases hippocampal neurogenesis after transient global cerebral ischemia in rats. J. M. BONATO\*; E. MEYER; H. MILANI; J. PRICKAERTS; R. M. M. W. DE OLIVEIRA. *State of Maringá Univ., Maastricht Univ.*
- 2:00 L3 **563.26** Aberrant network activities in neural cultures from patients with chronic mountain sickness. H. YAO\*; H. W. ZHAO; W. WU; J. WANG; P. D. NEGRAES; A. R. MUOTRI; G. G. HADDAD. *UCSD, UCSD, UCSD, The Rady Children's Hosp.*
- 3:00 L4 **563.27** A role of aryl hydrocarbon receptor in vasogenic brain edema. M. TANAKA\*; Y. ISHIHARA; K. ITOH; C. VOGEL; A. ISHIDA; T. YAMAZAKI. *Hiroshima Univ., Tokushima Bunri University, Kagawa Sch. of Pharmaceut. Sci., Univ. of California.*
- 4:00 L5 **563.28** Regional heterogeneity in consequences of spreading depolarization in metabolically compromised tissues. K. M. REINHART\*; J. MENDEZ; P. D. PARKER; K. BRENNAN; C. W. SHUTTLEWORTH. *Univ. of New Mexico Sch. of Med., Univ. of Utah.*
- POSTER**
- 564. Brain Injury and Trauma: Cellular and Molecular Mechanisms II**
- Theme C: Neurodegenerative Disorders and Injury**
- Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H
- 1:00 L6 **564.01** Acrolein involvement in the aberrant presentation of alpha-synuclein post-mild blast traumatic brain injury. S. HERR\*; G. G. ACOSTA; N. RACE; R. SHI. *Purdue Univ., Purdue Univ., Purdue Univ.*
- 2:00 L7 **564.02** Mechanisms of secondary injury and auditory deficits following mild blast induced trauma. J. FERNANDEZ\*; E. X. HAN; N. RACE; J. LAI; E. L. BARTLETT; R. SHI. *Purdue Univ., Purdue Univ., Purdue Univ., Purdue Univ.*
- 3:00 L8 **564.03** Chronic epigenetic changes in hippocampal neural stem cells in a rat fluid percussion injury model of traumatic brain injury. E. BISHOP\*; D. R. BOONE; I. BOLDING; M. PARSLEY; D. DEWITT; D. PROUGH; M. MICCI. *Univ. of Texas Med. Br.*
- 4:00 L9 **564.04** Iron deposition and microglia activation in a rat model of chronic traumatic brain injury. J. GUPTARAK\*; A. C. GRANT; M. O. PARSLEY; K. M. JOHNSON; I. J. BOLDING; D. S. DEWITT; D. S. PROUGH; S. L. SELL; M. A. MICCI. *Univ. of Texas Med. Br.*
- 1:00 L10 **564.05** Traumatic brain injury causes chronic down-regulation of miR-124 in dentate gyrus. N. VUOKILA\*; K. LUKASIUK; A. PITKANEN; N. PUHAKKA. *Univ. of Eastern Finland, Nencki Inst. Exptl. Biol.*
- 2:00 L11 **564.06** Mechanisms underlying axonal swelling formation. V. M. POZO DEVOTO\*; V. LACOVICH; M. NOVAKOVA; M. FEOLE; K. TEXLOVA; G. B. STOKIN. *Fakultni Nemocnice U Sv. Anny V Brne.*
- 3:00 L12 **564.07** pH change-induced zinc release causes cell and tissue injury. Z. WANG\*; Y. V. LI. *Ohio Univ. Dept. of Biomed. Sci.*
- 4:00 L13 **564.08** Delayed effects of acute radiation exposure in BBT-059 treated survivors. N. K. SHARMA\*; S. BISWAS; S. STONE; C. FAM; G. COX; V. KUMAR; S. GHOSH. *Armed Forces Radiobiology Res. Inst., Bolder Biotech.*
- 1:00 L14 **564.09** Cerebral blood flow and cognitive deficits following a single and multiple mild traumatic brain injuries. R. A. MORTON\*; J. M. PACHECO; H. ZHANG; J. GUERIN; J. L. BRIGMAN. *Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico.*
- 2:00 L15 **564.10** *In vitro* assessments of brain injuries and different neuronal network topologies on development of epilepsy. S. GHIASVAND\*; Y. BERDICHEVSKY. *Lehigh Univ.*
- 3:00 L16 **564.11** Closed nest pre-weaning environment improves the development of physical characteristics and buffers hippocampal injury in neonatal hypoxic ischemic injury. L. ROLLINS\*; B. M. MASON; T. DONALDSON. *Univ. of Massachusetts Boston, Brown Univ., Univ. of Massachusetts Boston, Univ. of Massachusetts.*
- 4:00 L17 **564.12** Alterations in the deep layer cortex of SOD1<sup>G93A</sup> rats throughout disease progression and following repetitive mild TBI. M. ALKASLASI\*; N. CHO; N. DHILLON; N. LINAVAL; J. GHOULIAN; A. YANG; G. BARMPPARAS; E. LEY; G. M. THOMSEN. *Cedars-Sinai Med. Ctr.*
- 1:00 L18 **564.13** Transcriptional and epigenomic signatures identified via systems-based modeling of hippocampal pathology in a rat model of traumatic brain injury. I. ZDILAR\*; K. TERCOVICH; B. LYETH; G. GURKOFF; A. NORD. *Univ. of California Davis.*
- 2:00 M1 **564.14** Down-regulation of wnt/beta-catenin reduces new vessel formation and increases hemorrhage after traumatic brain injury. A. SALEHI\*; A. JULLIENNE; K. M. WENDEL; J. LEE; M. HAMER; J. TANG; J. ZHANG; W. J. PEARCE; A. OBENAU. *Univ. of California Riverside, Loma Linda Univ., Univ. of California, Irvine, Loma Linda Univ., Loma Linda Univ. Med. Ctr., Loma Linda Univ. Sch. of Med., Univ. of California Irvine.*
- 3:00 M2 **564.15** Gut microbes may decide the fate of brain injury. W. Z. AMARAL\*; L. ROYES; L. YING; I. AHN; J. LANG; X. YANG; A. LUSIS; F. GOMEZ-PINILLA. *UCLA, Univ. Federal de Santa Maria, UCLA, Univ. of California, Los Angeles, UCLA.*
- 4:00 M3 **564.16** Loss of pericyte impairs blood-brain barrier integrity following traumatic brain injury. S. BHOWMICK; V. D'MELLO; A. WALLERSTEIN; P. ABDUL-MUNEER\*. *Hackensack Meridian Hlth. JFK Med. Ctr., JFK Med. Ctr.*

- 1:00 M4 **564.17** ▲ Investigating late phase calcium dyshomeostasis in axon degeneration promoted by sarm1's nad cleavage activity. J. M. CROWLEY\*; W. BUCHSER; R. COLEMAN. *Col. of William and Mary, Washington Univ. Sch. of Med. in St. Louis, Col. of William and Mary.*
- 2:00 M5 **564.18** Role of CXCR3 in astrogliosis after mild traumatic brain injury. M. FOURNIER; J. AUSSUDRE; M. TORRES-NUPAN; F. CASSE; C. BILLOTET; A. BIKFALVI; J. BADAUT\*. *CNRS- Bordeaux Univ., INSERM U1029, Univ. of Bordeaux.*
- 3:00 M6 **564.19** Brain region-specific changes in microRNA expression in chronic traumatic brain injury. D. BOONE\*; H. WEISZ; H. SPRATT; D. PROUGH; D. DEWITT; H. HELLMICH. *Univ. of Texas Med. Br. at Galveston, Univ. of Texas Med. Br. at Galveston.*
- 4:00 M7 **564.20** Reversal of glutamate transport contributes to retinal zinc elevation and ganglion cell death after optic nerve injury. N. HANOVICE\*; Y. LI; N. C. DANBOLT; L. I. BENOWITZ; P. A. ROSENBERG. *Boston Children's Hospital/Harvard Med. Sch., State Key Lab. of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen Univ., Univ. of Oslo.*
- 1:00 M8 **564.21** Fibrosis genes over-expression rat model for neurocysticercosis. D. G. DÁVILA\*; R. P. CARMEN; R. H. GILMAN; R. CELIZ; E. BERNAL; A. D. DELGADO; C. QUISPE; B. J. CONDORI; F. ANCAJIMA; M. VERASTEGUI. *Univ. Peruana Cayetano Heredia, Johns Hopkins Univ.*
- 2:00 M9 **564.22** The role of interneuron death in traumatic brain injury. A. M. ORTIZ RIVERA\*; J. KOENIG; M. ARMBRUSTER; D. KONG; C. G. DULLA. *Tufts Univ. Sch. of Med., Tufts Univ. Sackler Sch. of Biomed. Sci., Tufts Univ. Sch. of Med.*
- 1:00 M14 **565.05** ▲ Morphological changes in prefrontal cortex, dentate gyrus and hippocampus CA1 in the animal model of metabolic syndrome. A. CASTRO-MENDEZ\*; J. C. PENAGOS-CORZO; R. A. VAZQUEZ, SR. *Univ. De Las Americas Puebla, Inst. De Fisiología Benemérita Univ. Autónoma De Puebla.*
- 2:00 M15 **565.06** Spatiotemporal astroglial evolution following juvenile mild traumatic brain injury. T. CLÉMENT\*; J. B. LEE; A. ICHKOVA; M. FOURNIER; J. AUSSUDRE; M. O. OGIER; F. CANINI; M. KOEHL; N. D. ABROUS; A. OBENAU; J. BADAUT. *INCIA CNRS UMR5287, Loma Linda Univ., French Armed Forces Biomed. Res. Inst., INSERM U1215, Univ. of California.*
- 3:00 M16 **565.07** Olfactory bulb lesion induces acute cell death in olfactory cortical areas and commissural fibers in rats. C. F. CHEN\*; C. LIN; H. YANG. *Natl. Def. Med. Ctr., Natl. Def. Med. Ctr.*
- 4:00 M17 **565.08** Temporal analysis of biomarkers of brain damage in ovine survival models of hemorrhage and blast / hemorrhage polytrauma with perfluorocarbon treatment. J. PARSONS\*; S. THUMMALA; J. MCCARTER; C. SWEENEY; P. MIDDLETON; J. ZHU; B. SPIESS. *Univ. of Florida, Virginia Commonwealth Univ.*
- 1:00 M18 **565.09** Temporal evolution of tau hyperphosphorylation in the lateral fluid percussion rat model of severe traumatic brain injury: An EpiBioS4Rx Project 2 Study. P. G. SALETTI\*; C. P. LISGARAS; W. B. MOWREY; Q. LI; W. LIU; P. M. CASILLAS-ESPINOSA; I. ALI; R. D. BRADY; N. JONES; S. R. SHULTZ; T. J. O'BRIEN; S. L. MOSHÉ; A. S. GALANOPOULOU. *Albert Einstein Col. of Med., Albert Einstein Col. of Med., Monash Univ., Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. of Med.*

## POSTER

### 565. Brain Injury and Trauma: Brain: Histology and Cellular Markers of Brain Injury

#### Theme C: Neurodegenerative Disorders and Injury

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 M10 **565.01** ▲ Diffuse axonal injury in the rat - a study of post-traumatic axonal injury and oligodendrocyte activity in a rotation injury model. M. LOSURDO; M. K. SKOLD\*. *Karolinska Institutet, Univ. of Pavia, Uppsala Univ.*
- 2:00 M11 **565.02** Intensity specific repetitive mild traumatic brain injury evokes an exacerbated burden of axonal injury in neocortical parvalbumin interneurons. Y. OGINO\*; M. VASCAK; J. T. POVLISHOCK. *Virginia Commonwealth Univ.*
- 3:00 M12 **565.03** Time span of neurodegenerations after traumatic brain injury in the mouse, as detected with Neurosilver impregnation, Fluoro-Jade C and APP immunohistochemical staining. G. XIONG\*; H. METHENY; A. S. COHEN. *Children's Hosp Philadelphia, Children's Hosp Philadelphia, Perelman Sch. of Medicine, Univ. of Pennsylvania.*
- 4:00 M13 **565.04** ▲ Astrocytic degeneration in chronic traumatic encephalopathy. E. T. HSU\*; M. GANGOLLI; S. SU; L. HOLLERAN; T. D. STEIN; V. E. ALVAREZ; A. C. MCKEE; R. E. SCHMIDT; D. L. BRODY. *Washington Univ. In St. Louis, Washington Univ. In St. Louis, Natl. Univ. of Ireland, Boston VA Med. Ctr., Boston Univ., Washington Univ. in St. Louis.*
- 2:00 N1 **565.10** CD8-expressing cell density is stage-specifically increased in chronic traumatic encephalopathy and comorbid Alzheimer's disease. B. R. HUBER\*; I. MAHAR; D. KWASNIK; R. MATHIAS; V. ALVAREZ; C. JONATHAN; A. MCKEE. *VA Boston Healthcare, Boston Univ. Sch. of Med.*
- 3:00 N2 **565.11** White matter microstructural changes in the corpus callosum and external capsule following highly repetitive subconcussive impacts in the awake adolescent rat. T. G. RUBIN\*; W. HOOGENBOOM; C. A. BRANCH; M. L. LIPTON. *Albert Einstein Col. of Med., Albert Einstein Col. Med., Albert Einstein Col. of Med., Albert Einstein Col. Med.*
- 4:00 N3 **565.12** MitoNEET (CISD1) knockout mice have increased susceptibility to intracranial hemorrhage. S. A. BENKOVIC\*, JR; C. M. BROWN; W. J. GELDENHUYS. *West Virginia Univ. Res. Corp., West Virginia Univ., West Virginia Univ.*
- 1:00 N4 **565.13** Hippocampal and entorhinal cortex Alzheimer's disease-like pathology in human chronic traumatic encephalopathy: A chronic effects of neurotrauma consortium study. C. M. KELLEY\*; M. NADEEM; F. C. CRAWFORD; A. C. MCKEE; S. E. PEREZ; E. J. MUFSON. *Barrow Neurolog. Inst., Roskamp Inst., 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

POSTER

566. Brain Injury and Trauma: Human Studies II

**Theme C: Neurodegenerative Disorders and Injury**

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 N5 **566.01** ▲ Putative dendritic correlates of repetitive traumatic brain injury: A quantitative Golgi study. A. WARLING; L. UCHIDA; V. NGUYEN; M. E. GARCIA; N. B. SHEA-SHUMSKY; S. SVIRSKY; T. D. STEIN; B. G. JACOBS\*. *Colorado Col., Boston Univ.*
- 2:00 N6 **566.02** ● Role of head impact exposure in concussion for college and high school football athletes. B. D. STEMPER\*; A. SHAH; R. CHIARIELLO; A. WILD; M. MCCREA. *Med. Col. of Wisconsin Dept. of Neurosurg., Marquette Univ. and Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin.*
- 3:00 N7 **566.03** Prospective study of blood biomarkers in mild traumatic brain injury patients. A. K. HABERG\*; G. CLARKE; C. EINARSEN; T. FOLLESTAD; H. ZETTERBERG; K. BLENNOW; A. VIK; T. SKANDSEN. *NTNU, Salgrenska, Univ. of Gothenburg, NTNU.*
- 4:00 N8 **566.04** Genetic basis of neurosurgically resected hemimegalencephaly and epilepsy. C. GARCIA\*; H. MACHADO; W. JUNIOR; J. GLESSON. *Univ. of São Paulo - USP, Howard Hughes Med. Inst.*
- 1:00 N9 **566.05** ● Functional brain changes in patients with traumatic brain injury. J. ASHLEY\*; N. G. HARRIS; M. J. ASHLEY; C. K. SINGH; M. ASHLEY; G. S. GRIESBACH. *Ctr. for Neuro Skills, UCLA, Ctr. For Neuro Skills, Ctr. for Neuro Skills, UCLA, Ctr. For Neuro Skills.*
- 2:00 N10 **566.06** In search of biomarkers for late recovery of patients with traumatic brain injury: A multimodal approach. E. ROSARIO\*; J. DIVINE; M. JOHNSON; C. SCHNAKERS. *Casa Colina Hosp. and Centers For Healthcare, Casa Colina Hosp. and Centers for Healthcare, UCLA, Casa Colina and Centers for Healthcare.*
- 3:00 N11 **566.07** A distinct population of cholinergic neurons in the human parabrachial nucleus. S. DE LACALLE\*. *Heritage Col. of Osteo. Med.*
- 4:00 N12 **566.08** Cumulative effects of sport related concussions on functional brain oxygenation. I. HELMICH\*; J. COENEN; S. SCHUPP; C. WAGNER; M. WERNKE; J. RUEHLING; S. EICH; E. PARDALIS; S. HENCKERT; H. LAUSBERG. *German Sports Univ.*
- 1:00 O1 **566.09** Functional connectivity of the sensorimotor network is influenced by the corticospinal tract wiring pattern in unilateral cerebral palsy. C. SIMON-MARTINEZ\*; E. JASPERS; K. ALAERTS; E. ORTIBUS; K. KLINGELS; N. WENDEROTH; H. FEYS. *KU Leuven, ETH Zurich, Hasselt Univ.*
- 2:00 O2 **566.10** ▲ Delayed frontal responses discriminate malingered individuals from patients with brain injury. S. STROTHKAMP\*; J. NEAL; E. BEDINGAR; B. WAGNER; V. VAGNINI; Y. JIANG. *Univ. of Kentucky Col. of Med., Univ. of Kentucky Chandler Med. Ctr.*
- 3:00 O3 **566.11** Cortical responses to 3D natural stimuli distinguishes between concussed and normal brains. T. RUIZ\*; R. FARIVAR-MOHSANI. *McGill MUHC, McGill Univ.*
- 4:00 O4 **566.12** Withdrawn
- 1:00 O5 **566.13** ● Heart rate variability during exercise is a biomarker distinguishing between subjects with post-concussive syndrome following mild traumatic brain injury and healthy volunteers. R. C. DUGGAN\*; E. DHAMALA; B. E. KOSOFISKY. *Weill Cornell Med. Col., Joan and Sanford I Weill Med. Col. of Cornell Univ.*
- 2:00 O6 **566.14** Longitudinal exRNA profiles in patients with aSAH. A. COURTRIGHT\*; I. MALENICA; A. YERI; E. HUTCHINS; E. ALSOP; B. MEECHOOVET; T. BEECROFT; E. CARLSON; P. NAKAJI; M. S. KALANI; K. R. VAN KEUREN-JENSEN. *Translational Genomics Res. Inst., Barrows Neurolog. Inst., Univ. of Virginia.*
- 3:00 O7 **566.15** ▲ Prevalence of homelessness in veterans of operation enduring freedom (OEF) and operation Iraqi freedom (OIF) with traumatic brain injury from blast versus non-blast exposure. K. L. PANIZZON\*; A. HARTOONIAN; N. CHOOHAKAN; J. RAVAYI; B. ARYANFAR; R. A. WALLIS. *VA Greater Los Angeles Healthcare Syst., VA Greater Los Angeles Healthcare Syst., David Geffen UCLA Sch. of Med.*
- 4:00 O8 **566.16** Altered brain functional connectivity after chemotherapy in men with gastric cancer. J. AHN\*; Y. JUNG. *Dept. of Psychiatry, Yonsei University, Colle, Inst. of Behavioral Sci. in Medicine, Yonsei Univ. Col. of Med., Yonsei University, Col. of Med.*
- 1:00 O9 **566.17** ● Classifying concussion in university athletes using diffusion tensor imaging. M. LY\*; S. SCARNEO; A. LEPLEY; K. COLEMAN; C. CHEN; D. J. CASA. *Univ. of Connecticut, Univ. of Connecticut, Korey Stringer Institute, Univ. of Connecticut, Univ. of Connecticut.*
- 2:00 O10 **566.18** Abnormal cerebral hemodynamic responses to postural change during acute concussion. J. LIU\*; M. FAVRE; A. KNOX; K. BREWER; M. FALVO; J. M. SERRADOR. *New Jersey Med. School, Rutgers Univ., New Jersey Med. School, Rutgers Univ., Veterans Admin. Hlth. Care Syst., Veterans Admin. Hlth. Care Syst.*
- 3:00 O11 **566.19** Post-traumatic epilepsy in childhood increases the risk to develop attention deficit hyperactivity disorder: A 9-year follow-up study in Taiwan. J. WANG\*; L. YANG; W. LO; C. HUANG. *Grad. Inst. of Med. Sci. TMU, Taipei Med. Univ., Inst. of Statistical Sci. Academia Sinica, Dept. of Pediatrics, Col. of Medicine, Taipei Med. Univ.*
- 4:00 O12 **566.20** Withdrawn
- 1:00 O13 **566.21** The morphology of the intraparietal sulcus of children prenatally exposed to alcohol and its role on number processing. M. GREEFF\*; E. M. MEINTJES; S. W. JACOBSON; C. D. MOLTENO; J. L. JACOBSON; F. L. WARTON; C. M. R. WARTON. *Univ. of Cape Town, Univ. of Cape Town, Wayne State Univ., Univ. of Cape Town.*
- 2:00 O14 **566.22** Changes in functional connectivity are associated with one season of head-to-ball exposure in male collegiate soccer athletes. D. C. MONROE\*; D. B. KEATOR; R. S. BLUMENFELD; J. W. HICKS; S. L. SMALL. *Univ. of California Irvine, California State Polytechnic University-Pomona.*
- 3:00 O15 **566.23** Identifying electrophysiological components of covert awareness in patients with disorders of consciousness. G. LAFORGE\*; A. M. OWEN; B. STOJANOSKI. *The 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

- 4:00 O16 **566.24** Functional deficits in combat-related mild traumatic brain injury revealed by MEG working memory N-back task. M. HUANG\*; S. L. NICHOLS; A. ROBB-SWAN; A. ANGELES-QUINTO; D. L. HARRINGTON; A. DRAKE; C. W. HUANG; T. SONG; M. DIWAKAR; V. B. RISBROUGH; S. MATTHEWS; R. CLIFFORD; C. CHENG; J. W. HUANG; K. A. YURGIL; Z. JI; I. R. LERMAN; R. R. LEE; D. G. BAKER. *UCSD, Univ. of California San Diego, Cedar Sinai Med. Group Chronic Pain Program, Univ. of California San Diego, Univ. of California San Diego, Univ. of California, San Francisco, Univ. of California San Diego, ASPIRE Center, VASDHS Residential Rehabil. Treatment Program, UCSD, Univ. of California San Diego, Columbia Univ., Loyola Univ. New Orleans, Univerisy of California San Diego.*
- 1:00 P1 **566.25** Influence of primary blast exposure on development of PTSD following deployment. K. H. TABER\*; J. A. ROWLAND; E. EPSTEIN; S. L. MARTINDALE; H. M. MISKEY; R. D. SHURA. *Salisbury VA Hlth. Care Syst., Via Col. of Osteo. Med., Mid-Atlantic Mental Illness Research, Educ. and Clin. Ctr., Salisbury VA Hlth. Care Syst., Wake Forest Sch. of Med., Salisbury VA Hlth. Care Syst.*

## POSTER

### 567. Brain Injury and Trauma: Pre-Clinical Therapeutic Strategies

#### Theme C: Neurodegenerative Disorders and Injury

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 P2 **567.01** Upregulation of lysosome by EGF-triggered endocytosis or trehalose attenuated zinc neurotoxicity via the increase of buffering capacity for intracellular free zinc. J. EOM\*; Y. KIM. *Sejong Univ.*
- 2:00 P3 **567.02** Neuroprotective strategies following experimental traumatic brain injury: Inhibition of mitochondrial permeability transition, lipid peroxidation-derived neurotoxic aldehyde scavenging and monoamine oxidase inhibition. J. R. KULBE\*; I. N. SINGH; J. A. DUNKERSON; J. A. WANG; P. F. HUETTL; R. L. HILL; R. SMITH; E. D. HALL. *Univ. of Kentucky, Univ. of Kentucky.*
- 3:00 P4 **567.03** Biophysical modeling reveals efficacious drug combinations for improved neuroprotection immediately after traumatic brain injury. S. SUDHAKAR\*; T. CHOI; V. HETRICK; O. AHMED. *Univ. of Michigan.*
- 4:00 P5 **567.04** Glycolytic inhibition with 2-deoxyglucose preserves inhibitory cortical network function following traumatic brain injury. J. B. KOENIG\*; D. CANTU; C. S. LOW; D. KONG; C. G. DULLA. *Tufts Univ. Sch. of Med., Tufts Univ.*
- 1:00 P6 **567.05** • Effects of an orally active, highly selective, arginine vasopressin V1a receptor antagonist on cerebral edema after moderate traumatic brain injury. T. R. MORRISON\*; N. G. SIMON; S. LU; Z. CHENG; C. F. FERRIS; P. P. KULKARNI. *Northeastern Univ., Lehigh Univ., Azevan Pharmaceuticals, Inc., Ctr. for Translational Neuroimaging.*
- 2:00 P7 **567.06** Fibroblast growth factor 21 enhances the therapeutic potential of mesenchymal stem cells in a mice model of traumatic brain injury. R. A. SHAHROR\*; Y. WANG; G. R. LINARES; Y. CHIANG; D. CHUANG; K. CHEN. *Taipei Med. Univ., Natl. Hlth. Res. Inst., USC, Natl. Inst. Mental Health/NIH, Taipei Med. Univ.*
- 3:00 P8 **567.07** Combined effects of suicidal gene-expressing mesenchymal stem cells and chemotherapy in experimental glioblastoma model. J. HAN\*; D. JANG; H. SUH-KIM; S. KIM. *Ajou Univ. Sch. of Med.*
- 4:00 P9 **567.08** • Inhaled nitric oxide protects cerebral autoregulation through prevention of impairment of ATP and calcium sensitive K channel mediated cerebrovasodilation after traumatic brain injury. W. M. ARMSTEAD\*; P. PASTOR; V. CURVELLO; H. HEKIERSKI. *Univ. of PA, Univ. of Pennsylvania.*
- 1:00 P10 **567.09** Aging in mice with repeated concussive injuries: Implications of n-3 polyunsaturated fatty acid deficiency. A. DESAI\*; H. CHEN; K. KEVALA; H. KIM. *Natl. Inst. On Alcohol Abuse and Alcoholism, Natl. Inst. on Alcohol Abuse and Alcoholism.*
- 2:00 P11 **567.10** Lithium improves striatal dopamine neurotransmission and synaptic dopaminergic protein abundance following traumatic brain injury. S. W. CARLSON\*; C. DIXON. *Univ. of Pittsburgh.*
- 3:00 P12 **567.11** Purinergic agonists reduce cerebral damage in a preclinical mouse model of Blast-induced traumatic brain injury. E. BOZDEMIR KURBANOV\*; F. A. VIGIL; V. BUGAY; S. H. CHUN; S. KHOURY; L. ESPINOZA; D. M. HOLSTEIN; H. AKAL; I. SANCHEZ; M. HOBBS; R. ELLIOT; C. SPRAGUE; G. RULE; J. CAVAZOS; B. LUND; M. SHAPIRO; R. BRENNER; J. D. LECHLEITER. *Univ. of Texas Hlth. Sci. Ctr. at San A, Berkshire Med. Ctr., U.S. Army Inst. of Surgical Res.*
- 4:00 P13 **567.12** A novel self-guided rehabilitation task activates limbic memory circuitry and preserves cognitive performance after diffuse traumatic brain injury in the rat. L. LAW\*; D. R. GRIFFITHS; J. LIFSHITZ. *Barrow Neurolog. Inst. at PCH, Barrow Neurolog. Inst. at PCH.*
- 1:00 P14 **567.13** Minocycline plus N-acetylcysteine improves structure and function of distal brain regions even when dosed days after closed head injury. K. WHITNEY\*; M. A. SANGOBOWALE; A. ALEXIS; E. NIKULINA; D. L. DICKSTEIN; T. C. SACKTOR; P. J. BERGOLD. *State Univ. of New York Downstate Med. Ctr., Penn Presbyteriam Med. Ctr., Uniformed Services Univ. of Hlth. Sci.*
- 2:00 P15 **567.14** • Towards developing methods for non-invasive and online suppression of cortical spreading depolarization simulated on a mesoscale model. A. CHAMANZAR\*; S. GEORGE; A. MENON; S. KELLY; M. CHAMANZAR; P. GROVER. *CMU.*
- 3:00 Q1 **567.15** • Brain repair after traumatic injury through NeuroD1-mediated astrocyte-to-neuron conversion. Z. LEI\*; F. ZHANG; G. CHEN. *Pennsylvania State Univ.*
- 4:00 Q2 **567.16** The use of pharmacokinetic and pharmacodynamic modeling and simulation to facilitate the screening and early-stage development of new therapies for post-traumatic epilepsy. L. COLES\*; C. K. LISGARAS; W. LIU; P. G. SALETTI; P. CASILLAS-ESPINOSA; S. SHULTZ; N. JONES; I. ALI; R. BRADY; J. CLOYD; T. O'BRIEN; S. L. MOSHE; A. S. GALANOPOULOU. *Univ. of Minnesota Twin Cities, Albert Einstein Col. of Med., Albert Einstein Col. of Med., The Alfred Centre, Monash Univ., The Univ. of Melbourne, Albert Einstein Col. Med., Albert Einstein Col. Med.*

Tues. 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 Q3 **567.17** From cancer to neurotrauma, potential for therapeutic repurposing of a clinically approved PARP1 inhibitor. J. ALLENDE LABASTIDA\*; J. GAO; T. J. DUNN; H. ZHANG; P. R. KLEIN; A. AHMAD; J. GUPTARAK; M. MICCI; D. S. PROUGH; C. SZABO; P. WU. *Univ. of Texas Med. Br., Univ. of Texas Med. Br., Debakey High Sch., Col. of Natural Sciences, Univ. of Texas at Austin, Univ. of Texas Med. Br., UTMB, The Univ. of Texas Med. Br., UTMB.*
- 2:00 Q4 **567.18** Lateral cerebellar nucleus stimulation promotes motor recovery and suppresses neuroinflammation in a fluid percussion injury rodent model. H. H. CHAN\*; C. A. WATHEN; N. D. MATHEWS; O. HOGUE; J. P. MODIC; R. KUNDALIA; C. WYANT; H. PARK; I. M. NAJM; B. D. TRAPP; A. G. MACHADO; K. B. BAKER. *Cleveland Clin., Cleveland Clin., Cleveland Clin., Cleveland Clin., Cleveland Clin.*
- 3:00 Q5 **567.19** Insulin-like growth factor-1 overexpression promotes survival of adult-born neurons and improved cognition following traumatic brain injury. E. LITTLEJOHN\*; D. SCOTT; K. E. SAATMAN. *Univ. of Kentucky, Univ. Kentucky.*
- 4:00 Q6 **567.20** Therapeutic tms reduces tbi-induced cognitive, anxiety, spasticity, and balance disabilities. F. J. THOMPSON\*; J. HOU; R. NELSON; S. TSUDA; G. MUSTAFA; J. WATTS; N. MOHAMMAD; A. LERNER; J. PEDRAZA; P. BOSE. *North Florida/South Georgia Veterans Hlth. Syst., Univ. of Florida, Univ. of Florida, Univ. of Florida.*
- 1:00 Q7 **567.21** Effects of the iron chelator on the blood-brain barrier (BBB) disruption and inflammatory responses following traumatic brain injury (TBI) in rats. S. TSUDA\*; J. HOU; R. NELSON; G. MUSTAFA; K. BUCKLEY; K. RICHARDSON; P. BERNAVIL; J. PEDRAZA; J. WEISER; 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.*
- 2:00 Q8 **567.22** Remote ischemic conditioning attenuates the peripheral component of neuroinflammation and improves chronic behavioral outcomes in diffuse brain injured female mice. M. SABER\*; Y. HUR; K. R. GIORDANO; I. CHRISTIE; R. K. ROWE; J. LIFSHITZ. *Uofa Col. of Med. - Phoenix, Barrow Neurolog. institute at Phoenix Children's Hosp., Phoenix VA Healthcare Syst.*
- 3:00 Q9 **567.23** RNA aptamers for FGFR3 to modulate glia function after brain injury. N. KAMATKAR\*; M. LEVY; J. HÉBERT. *Albert Einstein Col. of Med., Albert Einstein Col. of Med.*
- 4:00 Q10 **567.24** Prolonged dexamethasone release from gelatin/PLGA hydrogel for suppression of neuroinflammation after traumatic brain injury. T. ZHAO; N. GONZALEZ; J. JOHNSON; R. SAIGAL\*. *Univ. of Washington, UCLA, UW Neurolog. Surgery.*
- 2:00 Q12 **568.02** Longitudinal profiling of peripheral myeloid cells in a person with traumatic spinal cord injury. O. BLOOM\*; M. A. BANK; M. D. GALLO; D. GRIFFIN; A. B. STEIN. *The Feinstein Inst. for Med. Res., North Shore Univ. Hosp., Feinstein Inst. for Med. Res., Northwell Hlth., Zucker Sch. of Med. at Hofstra Northwell.*
- 3:00 Q13 **568.03** Spinal electromagnetic stimulation induces modulation of M-wave and H-reflex responses and recovery of frequency-dependent depression of H-reflex in chronic spinal cord injured rats. H. A. PETROSYAN\*; L. LIANG; A. TESFA; C. ZOU; S. SISTO; V. L. ARVANIAN. *Stony Brook Univ., Northport VA Med. Ctr., Stony Brook Univ.*
- 4:00 Q14 **568.04** 'Implant-host tissue matching' using ultrasound elastography for olfactory ensheathing cell transplantation in spinal cord injury: Measuring the stiffness of injured spinal cord using intraoperative ultrasound elastography in a natural canine model provides a target to create matched stiffness collagen hydrogels encapsulating olfactory ensheathing cells, which can increase cell survival after transplantation into sites of chronic spinal cord injury. J. PRAGER\*; D. ITO; C. ADAMS; A. DELANEY; D. CARWARDINE; G. CHANOIT; J. TARLTON; L. WONG; D. CHARI; N. GRANGER. *Univ. of Bristol, Nihon Univ., Keele Univ., Royal Vet. Col.*
- 1:00 R1 **568.05** Activity-based training effects on upper urinary tract function following spinal cord injury. J. GUMBEL\*; L. R. MONTGOMERY; C. H. HUBSCHER. *Univ. of Louisville, Univ. of Louisville, Univ. of Louisville.*
- 1:00 DP06/R2 **568.06** (Dynamic Poster) Open data commons for spinal cord injury (ODC-SCI<sub>beta</sub>): Community-driven datasharing infrastructure for research. C. A. ALMEIDA\*; M. S. BEATTIE; J. L. BIXBY; J. C. BRESNAHAN; A. CALLAHAN; J. S. GRETHE; J. HAEFELI; J. HUIE; V. LEMMON; M. E. MARTONE; D. S. MAGNUSON; D. M. MCTIGUE; J. L. NIELSON; P. G. POPOVICH; J. SCHWAB; W. TETZLAFF; A. TORRES ESPÍN; K. FOUAD; A. R. FERGUSON. *Brain and Spinal Injury Ctr. (BASIC), UCSF, Univ. of Miami Miller Sch. of Med., Stanford Univ., Neurosci. Information Framework (NIF), Univ. of California San Diego, Univ. of Louisville, Ohio State Univ., Univ. of Minnesota, Univ. of British Columbia, ICORD, Univ. of Alberta, San Francisco VA Med. Ctr.*
- 3:00 R3 **568.07** Loss of perfusion measured by ultrafast contrast enhanced ultrasound (CEUS) predicts injury severity following acute spinal cord injury. Z. Z. KHAING\*; L. CATES; J. HYDE; R. HAMMOND; M. F. BRUCE; C. P. HOFSTETTER. *Univ. of Washington, Univ. of Washington, Dept of Neurolog. Surgery, Univ. of Washington.*
- 4:00 R4 **568.08** Relationship of gender and inflammation to depression in a rodent model of spinal cord injury. K. BRAKEL\*; M. TERMINEL; S. KAPLER; K. NOVAK; M. HOOK. *Texas A&M Hlth. Sci. Ctr.*
- 1:00 R5 **568.09** Effects of a transection to the dorsolateral funiculus on ulnar nerve excitability in the rat. B. WILD\*; R. ARNOLD; R. MORRIS. *Univ. of New South Wales (UNSW Sydney).*
- 2:00 R6 **568.10** A translationally relevant model of inducible pneumonia after spinal cord injury. A. R. FILOUS\*; B. BROMMER; J. M. SCHWAB. *The Ohio State Univ., Childrens Hosp. Boston.*

## POSTER

### 568. Spinal Cord Injury and Plasticity: Animal Models and Human Studies

#### Theme C: Neurodegenerative Disorders and Injury

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 Q11 **568.01** Telemetric monitoring of penile pressure during mating in rats with different spinal cord contusion injury severities. C. J. STEADMAN\*; C. H. HUBSCHER. *Univ. of Louisville.*



- 3:00 R7 **568.11** Resting state functional connectivity of the thalamus in complete spinal cord injury. K. KARUNAKARAN\*; R. YUAN; J. HE; J. ZHAO; J. CUI; Y. ZANG; Z. ZHANG; B. B. BISWAL. *New Jersey Inst. of Technol., Stanford Sch. of Med., Hebei Med. Univ. Third Affiliated Hosp., Armed Police Force Hosp. of Sichuan, Hangzhou Normal Univ. Affiliated Hosp.*
- 4:00 R8 **568.12** Preliminary results of long term stability epidural ECoG recordings in Human with two wireless WIMAGINE implants. T. COSTECALDE\*; S. COKGUNGOR; T. AKSENOVA; A. YELISYEYEV; F. SAUTER-STARACE; G. CHARVET; A. BENABID. *CEA, Univ. Grenoble Alpes, CEA, LETI, CLINATEC, MINATEC Campus.*
- 1:00 R9 **568.13** Paralyzed and non-paralyzed muscle: A comparative analysis in an acute rat spinal cord injury model. M. E. HARRIGAN\*; A. R. FILOUS; T. WARNER; J. M. SCHWAB. *The Ohio State Univ.*
- 2:00 R10 **568.14** ▲ Spinal cord injury differentially modifies peripheral and central BDNF and TrkB expression. S. PARVIN\*; S. M. GARRAWAY. *Emory Univ., Emory Univ. Sch. of Med.*
- 3:00 R11 **568.15** Behavioral conditioning approaches to investigate and reverse effects of peripheral afferent stimulation in a mouse model of neuropathic pain after spinal cord injury. D. J. NOBLE\*; R. DONGMO; S. M. GARRAWAY. *Emory Univ.*
- 4:00 R12 **568.16** Assessment of bowel function after human spinal cord injury. A. N. HERRITY\*; K. JOHNSON; T. ABELL; S. J. HARKEMA; C. HUBSCHER. *Univ. of Louisville, Univ. of Louisville, Univ. of Louisville, Univ. of Louisville.*
- 1:00 R13 **568.17** Development of a comprehensive protocol for detecting bowel dysfunction after spinal cord contusion in wistar rats. R. F. HOEY\*; C. HUBSCHER. *Univ. of Louisville Sch. of Med., Univ. Louisville Sch. Med.*
- 2:00 R14 **568.18** The impact of high-thoracic spinal cord injury on cardiac contractility in a porcine model. N. MANOUCHEHRI\*; A. M. WILLIAMS; K. TAUH; M. POORMASJEDI-MEIBOD; R. BOUSHEL; K. SO; K. SHORTT; K. KIM; M. WEBSTER; F. STREIJGER; B. K. KWON; C. R. WEST. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Kyungpook Natl. Univ., Univ. of British Columbia.*
- 3:00 R15 **568.19** Quantitative 7T magnetic resonance imaging and histologic analysis of post-mortem human spinal cord injury specimens. C. LAULE\*; H. LIU; P. KOZLOWSKI; A. YUNG; A. T. BAUMAN; F. SAMADI; A. ALUDINO; L. PARKER; K. DONG; F. STREIJGER; W. MOORE; B. K. KWON. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Dept. of Anatom. Pathology, Univ. of British Columbia.*
- 4:00 R16 **568.20** Urodynamics and histological evaluation of the bladder in a porcine model of spinal cord injury. M. S. KEUNG\*; E. G. DEEGAN; F. STREIJGER; M. WEBSTER; C. MORRISON; E. B. OKON; N. MANOUCHEHRI; K. SHORTT; K. SO; K. KIM; L. C. SHERWOOD; A. HERRITY; C. HUBSCHER; D. R. HOWLAND; M. BOAKYE; L. STOTHERS; B. K. KWON. *Univ. of British Columbia, Univ. of British Columbia, Kyungpook Natl. Univ., Univ. of Louisville, Univ. of British Columbia, Univ. of British Columbia.*
- 1:00 R17 **568.21** MicroRNA biomarkers in CSF and serum reflect injury severity in human acute traumatic spinal cord injury. S. S. TIGCHELAAR\*; R. GUPTA; C. SHANNON; F. STREIJGER; S. SINHA; S. FLIBOTTE; M. A. RIZZUTO; J. STREET; S. PAQUETTE; T. AILON; N. DEA; C. FISHER; M. F. DVORAK; J. MAC-THIONG; S. PARENT; C. S. BAILEY; S. CHRISTIE; K. R. VANKEUREN-JENSEN; C. NISLOW; B. K. KWON. *ICORD, PROOF, Pharmaceut. Sciences, UBC, Vancouver Spine Surgery Inst., Vancouver Spine Surgery Inst., Hôpital du Sacré-Coeur de Montréal, Chu Sainte-Justine, Department of Surgery, Schulich Med. & Dent., Dalhousie Univ., Translational Genomics Res. Inst.*
- 2:00 R18 **568.22** Measuring the effects of mean arterial pressure changes on spinal cord hemodynamics in a large animal model of acute spinal cord injury, using a novel optical technique. B. SHADGAN\*; N. MANOUCHEHRI; K. SO; K. SHORTT; M. WEBSTER; K. KIM; A. FONG; F. STREIJGER; A. MACNAB; B. K. KWON. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Kyungpook Natl. Univ., Wallenberg Res. Ctr., Univ. of British Columbia.*
- 3:00 S1 **568.23** Differences in morphometric measures of the uninjured porcine spinal cord and dural sac predict histological and behavioral outcomes after traumatic sci. K. KIM\*; F. STREIJGER; K. SO; N. MANOUCHEHRI; K. SHORTT; E. B. OKON; S. TIGCHELAAR; C. MORRISON; A. FONG; M. S. KEUNG; J. SUN; E. LIU; B. K. KWON. *Univ. of British Columbia, Kyungpook Natl. Univ., Univ. of British Columbia.*
- 4:00 S2 **568.24** Diagnostic and prognostic potential of serum and CSF UCHL-1 in acute traumatic spinal cord injury. A. CHEUNG\*; S. STUKAS; J. GILL; K. DONG; F. STREIJGER; C. WELLINGTON; B. K. KWON. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia.*
- 1:00 S3 **568.25** Muscle and stepping response with electrical stimulation. G. F. FORREST\*; A. RAMANUJAM; K. MOMENI; E. GARBARINI; C. ANGELI; S. J. HARKEMA. *Kessler Fndn., Kessler Fndn., Univ. of Louisville.*
- 2:00 S4 **568.26** Neuromuscular responses to electrical stimulation ramping profiles. R. PILKAR\*; K. MOMENI; A. RAMANUJAM; E. GARBARINI; G. F. FORREST. *Kessler Fndn.*
- 3:00 S5 **568.27** Mechanical measurement of muscle contraction for individuals with spinal cord injury. K. MOMENI\*; A. RAMANUJAM; E. L. GARBARINI; G. F. FORREST. *Kessler Fndn.*
- 4:00 S6 **568.28** ▲ Identifying dorsal root ganglion subtype specific molecular changes following spinal nerve ligation in rat. M. J. GIACOBASSI\*; S. RAGHURAMAN; J. Y. XIE; K. CHASE; L. S. LEAVITT; R. W. TEICHERT; F. PORRECA; B. M. OLIVERA. *Univ. of Utah, Washington Univ., NYIT Col. of Osteo. Med. at Arkansas S, Univ. of Utah, Univ. of Utah, Univ. of Arizona Col. of Pharm., Univ. of Utah.*
- 1:00 S7 **568.29** A translational assessment of adult human and rat spinal cord neural stem/progenitor cell behaviour. A. GALUTA\*; C. D. GHINDA; M. BEDAIWY; M. S. TACCONI; M. ALSHARDAN; C. LAI; J. RABSKI; S. CHEN; E. C. TSAI. *Univ. of Ottawa, Ottawa Hosp. Res. Inst., The Ottawa Hosp., Ottawa Hosp. Res. Inst.*
- 2:00 S8 **568.30** Effect of patient-safety oriented enhanced recovery after surgery (pso-eras) on hospital stays of patients undergoing anterior cervical discectomy. J. C. WU\*; Y. CHIANG; W. LO; J. LIN; Y. YANG; Y. TSOU; K. CHEN. *Taipei Med. Univ., Taipei Med. Univ., Taipei Med. Univ. Hosp., Taipei Med. Univ. Hosp., Taipei Med. Univ. 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

POSTER

569. Spinal Cord Injury IV

**Theme C: Neurodegenerative Disorders and Injury**

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 S9 **569.01** Endothelin B receptor agonist, IRL-1620, significantly improves motor functions in an adult rat model of spinal cord injury. M. FORNARO\*; H. SHARTHIYA; K. RINEHART; J. RIDGEWAY; M. HORNICK; S. BRIYAL; A. GULATI. *Midwestern Univ., Midwestern Univ., Midwestern University, Chicago Col. of Osteo. Med., Midwestern University, Arizona Col. of Osteo. Med., Midwestern University, Chicago Col. of Pharm., Midwestern University, Chicago Col. of Pharm.*
- 2:00 S10 **569.02** The role of fast inhibition in facilitation of phrenic nerve and diaphragm activity during epidural stimulation following complete cervical spinal cord injury in rats. V. MARCHENKO\*; T. BEZDUDNAYA; M. A. LANE. *Drexel Univ. Col. of Med.*
- 3:00 S11 **569.03** Exploration of mechanisms of electrical stimulation of spinal cord microcircuits. M. K. CHARDON\*; M. D. JOHNSON; J. F. MILLER; C. J. HECKMAN. *Northwestern Univ.*
- 4:00 S12 **569.04** • Intravenous delivery of miR133b along with Argonaute-2 24hrs post-injury enhances spinal cord recovery following cervical contusion in mice. C. A. DANILOV\*; Y. GU; V. PUNJ; Z. WU; S. TAHARA; F. M. HOFMAN; T. C. CHEN. *USC, Second Military Med. Univ., USC, Tongji Univ., USC, USC.*
- 1:00 S13 **569.05** Controlled-releasing of epothilone B from functional self-assembling peptide nanohydrogel to improve neural regeneration after spinal cord injury. C. LI\*; S. RAMAKRISHNA; L. HE. *Guangdong-Hong Kong-Macau Inst. of CNS Regener.*
- 2:00 S14 **569.06** Reactive astrocytes inhibit neuronal regeneration after spinal cord injury. H. LEE\*; H. LEE; M. NAM; J. LEE; K. KIM; K. PARK; J. C. LEE; Y. HA. *Yonsei Univ., Yonsei Univ., Korea Inst. of Sci. and Technol.*
- 3:00 S15 **569.07** Development of advanced-*in vivo* reprogramming system for spinal cord injury therapy. H. LEE\*; H. LEE; K. KIM; Y. HA. *Yonsei Univ., Brain Korea 21 Plus Project For Med. Science, Y, Yonsei Univ., Yonsei Unuversity.*
- 4:00 S16 **569.08** Biomaterials-based drug delivery systems for promoting recovery after spinal cord injury. B. SHULTZ\*; J. NONG; Z. WANG; Z. ZHANG; Y. ZHONG. *Drexel Univ.*
- 1:00 S17 **569.09** Sodium butyrate exerts neuroprotective effects in spinal cord injury. M. CAMPOLO\*; M. LANZA; G. CASILI; A. FILIPPONE; S. CUZZOCREA; E. ESPOSITO. *Univ. of Messina.*
- 2:00 S18 **569.10** Combinatorial treatment of rolipram and rhoa sirna delivered by pqp nanoparticle increases functional recovery in a rat contusion spinal cord injury model. J. LEE\*; S. GWAK; J. YU; C. MACKS; H. ZHU; M. LYNN; K. WEBB; K. MARK. *Clemson Univ., Univ. of South Florida, Greenville Hlth. Syst.*
- 3:00 T1 **569.11** Repeated activation of adult dorsal root ganglion neurons using designer receptors exclusively activated by designer drugs (DREADDs) enhances functional sensory axon regeneration after dorsal root crush injury. D. WU\*; T. SALTOS; V. J. TOM. *Drexel Univ. Col. of Med.*
- 4:00 T2 **569.12** Hemostatic nanoparticles to enhance local blood clotting and limit secondary injury after a moderate contusion spinal cord injury in rodents. C. P. HOFSTETTER; L. N. CATES\*; J. E. HYDE; R. L. HAMMOND; N. M. CHAKRAVARTY; N. MAISHA; J. SILVER; E. B. LAVIK; M. F. BRUCE; Z. Z. KHAING. *Univ. of Washington, Univ. of Maryland, Case Western Reserve Univ.*
- 1:00 T3 **569.13** Testing robustness of promising FDA approved neuro-protective drug candidates in a cervical hemi-contusion model of rats. W. T. PLUNET\*; N. JANZEN; J. LIU; E. RAFFAELE; S. KAMAKARI; O. SEIRA; K. KOLE; Y. JIANG; L. MCPHAIL; W. TETZLAFF. *Univ. of British Columbia.*
- 2:00 T4 **569.14** Regeneration of dorsal horn spinal cord neurons after injury via *in situ* NeuroD1-mediated astrocyte-to-neuron conversion. B. PULS\*; H. LI; M. METZGER; T. RANA; Y. DING; M. PAN; G. CHEN. *Pennsylvania State Univ.*
- 3:00 T5 **569.15** Motor neuron regeneration study on microfluidic platform incorporating microelectrode array. H. JEONG; Y. A. CHO; H. YOO; S. JUN\*. *Ewha Womans Univ., Ewha Womans Univ.*
- 4:00 T6 **569.16** Intermittent hypoxia enhances connectivity between neuronal progenitors and injured cervical spinal cord. L. ZHOLUDEVA\*; M. L. RANDELMAN; R. DILBAROVA; L. QIANG; I. FISCHER; M. A. LANE. *Drexel Univ. Col. of Med.*
- 1:00 T7 **569.17** Moderate hypoxia produces voiding in rats with spinal cord injury-induced severe urinary dysfunction. W. F. COLLINS\*, III; M. E. TORPIE; C. WANG; I. C. SOLOMON. *Stony Brook Univ., Stony Brook Univ.*
- 2:00 T8 **569.18** Chronic hypoxia induced by pericytes contributes to hypersensitivity and allodynia after spinal cord injury. A. M. LUCAS-OSMA; Y. LI; K. HOLYK; S. LIN; L. SANELLI; K. FOUAD; D. J. BENNETT\*. *Univ. of Alberta, Univ. of Alberta, Univ. of Alberta.*
- 3:00 T9 **569.19** Overcoming anddegrading inhibitory proteoglycans globally to promote axonal regeneration andfunctional recovery after a chronic thoracic spinal cord injury. A. MILTON\*; M. A. DEPAUL; J. VERHAAGEN; E. J. BRADBURY; J. SILVER. *Case Western Reserve Univ., Neth Inst. Neurosc, King's Col. London, Case Western Reserve Univ.*
- 4:00 T10 **569.20** Targeting the acetyltransferase with a small-molecule activator to enhance axon regeneration and functional recoveryafter spinal cord injury. T. H. HUTSON\*; L. ZHOU; I. PALMISANO; F. DE VIRGILIIS; E. MCLACHLAN; C. KATHE; K. BARTHOLDI; Q. BARRAUD; M. C. DANZI; A. MEDRANO-FERNÁNDEZ; J. P. LOPEZ-ATALAYA; A. BOUTILLIER; S. HALDER SINHA; L. D. MOON; T. KUNDU; J. L. BIXBY; V. LEMMON; A. BARCO; G. COURTINE; S. DI GIOVANNI. *Imperial Col. London, Hertie Inst. for Clin. Brain Res., Imperial Col. London, Imperial Col. London, Imperial Col. London, École Polytechnique Fédérale de Lausanne, EPFL, EPFL - Ctr. for Neuroprosthetics, Univ. of Miami, Inst. de Neurociencias de Alicante, UMH-CSIC, Inst. de Neurociencias, UMR 7364 Unistra Cnrs, Nanomaterials and Catalysis Laboratory, Chem. and Physics of Materials Unit, King's Col. London, Univ. Miami, Miller Sch. Med., Univ. of Miami, Inst. de Neurociencias (UMH-CSIC), Imperial Col. London.*
- 1:00 T11 **569.21** *In vivo* cellular reprogramming to restore respiratory function after SCI. S. FERNANDES; L. V. ZHOLUDEVA; Y. LI; P. W. BAAS; M. A. LANE; L. QIANG\*. *Drexel Univ., Drexel Univ. 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

- 2:00 T12 **569.22** A “stealth” gene switch for GDNF to define the therapeutic time window for motor neuron regeneration following ventral root avulsion/reimplantation. F. DE WINTER; R. EGGERS; E. R. BURNSIDE; B. HOBO; S. HOYNG; M. R. TANNEMAAT; M. J. A. MALESSY; E. MUIR; E. BRADBURY; J. VERHAAGEN\*. *Neth Inst. Neurosc, King’s Col. London, Leiden Univ. Med. Ctr., Leiden Univ. Med. Ctr., Univ. of Cambridge.*
- 3:00 T13 **569.23** Descending motor tracts synapse formation with spinally-grafted porcine iPSC-NPCs: A systematic study using a novel subpial vector-labeling technique in the rat. Y. KOBAYASHI\*; M. SHIGYO; T. TADOKORO; S. MARSALA; M. MARSALA. *Univ. of California San Diego.*
- 4:00 T14 **569.24** Three dimensional quantitative evaluation of descending tracts after spinal cord injury. M. SHINOZAKI\*; N. NAGOSHI; K. NAKANISHI; O. TSUJI; F. M. RENAULT; M. NAKAMURA; H. OKANO. *Dept. of Physiology, Keio Univ. Sch. of Med., Dept. of Orthopedics, Keio Univ. Sch. of Med.*
- 1:00 T15 **569.25** Suppression of PTEN expression in neural stem cells enhances neurite growth from graft-derived neurons in the injured spinal cord. H. PARK\*; D. HWANG; H. KIM; Y. OH; B. KIM. *Ajou Univ. of Med., Ajou Univ. Sch. of Med., Ajou Univ. of Sch. of Med.*
- 2:00 T16 **569.26** ENDF1, a hops-derived neuroregenerative flavonoid to enhance neurite regrowth. L. BIELER\*; M. VOGL; M. KIRCHINGER; C. URMANN; J. TEVINI; T. K. FELDER; L. AIGNER; H. RIEPL; S. COUILLARD-DESPRÉS. *Paracelsus Med. Univ., Paracelsus Med. Univ., Univ. of Applied Sci. Weihenstephan-Triesdorf, Paracelsus Med. Univ., Paracelsus Med. Univ., Paracelsus Med. Univ.*
- 1:00 U3 **570.05** Detecting tinnitus in nonhuman primates by using a non-acoustic startle paradigm. L. ROGENMOSER\*; P. KUSMIEREK; D. ARCHAKOV; J. RAUSCHECKER. *Georgetown Univ.*
- 2:00 U4 **570.06** ▲ Retinal albinism and abnormal electroretinograms in VAMP7 null. N. ORTIZ VEGA\*; I. D. SANTIAGO; B. MELENDEZ; J. SEVILLA; R. A. JORQUERA. *Univ. Central Del Caribe, Univ. de Puerto Rico, Univ. Mayor.*
- 3:00 U5 **570.07** ● Effect of Vestibular Galvanic Stimulation on eye movements and orientation of the head and body. O. GONZÁLEZ; R. VEGA\*; E. SOTO. *Benemérita Univ. Autónoma de Puebla, Benemérita Univ. Autónoma De Puebla, Benemérita Univ. Autónoma de Puebla.*
- 4:00 U6 **570.08** Involvement of pedunculopontine tegmental nuclei in sensorimotor gating: Chemogenetic-induced inhibition of general, cholinergic and glutamatergic PPTg neurons. N. FULCHER\*; E. AZZOPARDI; C. DE OLIVEIRA; S. SCHMID. *Univ. of Western Ontario, Univ. of Western Ontario.*
- 1:00 U7 **570.09** Blast-induced structural and transcriptome changes in the ear lead to hearing impairments in rats. Y. WANG\*; R. URIOSTE; Y. WEI; D. WILDER; Y. CHENG; S. SAJJA; I. GIST; P. ARUN; J. LONG. *Walter Reed Army Inst. of Res.*
- 2:00 U8 **570.10** Salicylate enhanced the neural synchrony at the auditory cortex in behaving rats. T. CHIU\*; S. HSU; D. SUTA. *Dept of Biol. Sci. and Technology, NCTU, Natl. Chiao Tung Univ., CIIRC Czech Tech. Univ.*
- 3:00 U9 **570.11** Anti-VEGF antibody and kinin B1 receptor blockade differently impact laser-induced choroidal neovascularization. E. H. VAUCHER\*; S. HACHANA; O. FONTAINE; R. COUTURE. *Univ. of Montreal, Univ. Montreal Med. Sch.*

## POSTER

### 570. Sensory Disorders: Visual and Auditory

#### Theme D: Sensory Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 T17 **570.01** Clinical use of optical density ratio in determining the prognosis of central serous chorioretinopathy. J. WON\*; Y. PARK. *St. Paul’s Hosp., St. Seoul Hosp.*
- 2:00 T18 **570.02** System  $x_c^-$  expression during diabetic retinopathy development: Modulation by Nrf2. R. C. SANTOS\*; K. D. CALAZA. *Univ. Federal Do Rio De Janeiro, Fluminense Federal Univ.*
- 3:00 U1 **570.03** ● The medial geniculate body as a target for deep brain stimulation to treat tinnitus: A rodent study. G. VAN ZWIETEN\*; M. L. F. JANSSEN; J. V. SMIT; A. M. L. JANSSEN; M. ROET; A. JAHANSHAHI; R. J. STOKROOS; Y. TEMEL. *Maastricht Univ., Maastricht Univ. Med. Ctr., Maastricht Univ. Med. Ctr., Maastricht Univ., Maastricht Univ. Med. Ctr., Maastricht Univ. Med. Ctr., Maastricht Univ. Med. Ctr.*
- 4:00 U2 **570.04** Analysis of ketamine-induced gamma burst pattern in rats using k-means clustering of continuous wavelet transform power-frequency estimates. J. A. GUIDERA\*; N. E. TAYLOR; J. T. LEE; K. VLASOV; J. PEI; E. N. BROWN; K. SOLT. *Univ. of California, San Francisco, Massachusetts Gen. Hosp., MIT, MIT, MIT, Massachusetts Gen. Hosp.*

## POSTER

### 571. Pain Models: Pharmacology

#### Theme D: Sensory Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 U10 **571.01** Photomodulation of spontaneous electrical activity in guinea pig corneal cold nerve terminals by means of a p2x channel -permeant photoswitch. V. MESEGUER\*; D. ARES; E. VELASCO; S. QUIRCE; M. ACOSTA; C. BELMONTE; J. GALLAR. *Inst. de Neurociencias UMH-CSIC.*
- 2:00 U11 **571.02** Spiperone produces nociception in rats by activation of calcium-activated chloride channels. A. PLUMA\*; I. VELAZQUEZ-LAGUNAS; J. MURBARTIAN; V. GRANADOS-SOTO. *Cinvestav, Unidad Coapa, Cinvestav, Coapa, Cinvestav, Sede Sur, Dept. De Farmacobiologia, Cinvestav, Coapa.*
- 3:00 U12 **571.03** Analgesic and anti-inflammatory screening of two regioisomers of phenylisolin-1,3-dione, thalidomide analogues. I. M. CUMBRES-VARGAS; C. CAMPOS RODRIGUEZ; S. R. ZAMUDIO; J. G. TRUJILLO-FERRARA; E. RAMIREZ-SAN JUAN\*. *Escuela Nacional De Ciencias Biologicas, Escuela Nacional De Ciencias Biologicas, IPN, Inst. Politécnico Nacional, Escuela Superior de Medicina, IPN.*

• 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 V1 **571.04** ● A novel lysophosphatidic acid receptor 5 antagonist, AS2717638, exerts analgesic effects in rodents. N. MURAI\*; H. HIYAMA; T. KISO; T. SEKIZAWA; T. WATABIKI; H. OKA; T. AOKI. *Astellas Pharma Inc.*
- 1:00 V2 **571.05** ● Fingolimod does not reduce pain behavior in the spinal nerve ligation model of pain or prevent the development of morphine tolerance in rat. V. JOKINEN\*; T. LILIUS; P. RAUHALA; E. KALSO. *Univ. of Helsinki, Univ. of Helsinki.*
- 2:00 V3 **571.06** ● Antinociceptive and antipruritic effects of kappa opioid receptor agonists on pain and itch models. A. ZANON, Jr; Y. DARBAKY; L. DIOP\*. *ANS Biotech, ANS Biotech.*
- 3:00 V4 **571.07** Anxiety-like behaviors are attenuated by a NTS2-selective analgesic in rats experiencing chronic inflammatory pain. M. VIVANCOS\*; R. FANELLI; M. ORLIAGUET; J. LONGPRÉ; J. MARTINEZ; F. CAVELIER; P. SARRET. *Univ. De Sherbrooke, IBMM, UMR-CNRS-5247.*
- 4:00 V5 **571.08** ● Trk inhibitor ameliorates spontaneous pain behaviors in rats treated with complete Freund's adjuvant (CFA). S. KOYAMA\*; Y. OHTSUKA; M. WAKABAYASHI; Y. ENDO; H. ARAI; S. MIHARA; T. KOMATSU; M. MICHISHITA; N. SHINOTSUKA; T. TABATA; K. FUKANO; M. TANAKA; A. KAGEYAMA; T. SHIRAI; K. YAMAMOTO; K. KAWASAKI; S. YOSHIKAWA. *Asahi Kasei Pharma Corp.*
- 1:00 V6 **571.09** ● Combined treatment with low doses of ibuprofen and dexamethasone attenuate trigeminal neuropathic pain. D. K. AHN\*; S. KANG; M. PARK; J. SON; J. JU; M. LEE. *Dentistry, Kyungpook Univ., Kyung-Woon Univ., Dong-Eui Univ.*
- 2:00 V7 **571.10** ● The antinociceptive effects of low dose morphine but not pregabalin are enhanced by the selective Cav2.2 blocker CNV2197944 in the rat. N. UPTON; A. S. FISHER\*; C. TAYLOR; K. GIBSON; Z. ALI. *Transpharmation, Calchan.*
- 3:00 V8 **571.11** Drug induced pain responses in human iPSC derived sensory neurons using MEA system. A. ODAWARA\*; N. SHUHEI; M. NAOKI; I. SUZUKI. *Tohoku Inst. of Technol., Tohoku Univ., Japan Society for the Promotion of Sci., Tohoku Inst. of Technol.*
- 4:00 V9 **571.12** Effect of midazolam on morphine-mediated analgesia, tolerance, and respiration in a rat model. B. CHEPPUDIRA\*; H. KLEMCKE; A. TREVINO; R. CHRISTY; S. CRIMMINS. *US Army Inst. of Surgical Res.*
- 1:00 V10 **571.13** Mechanism of the analgesic effect of duloxetine in oxaliplatin-induced neuropathic pain. W. KIM\*; J. LEE; S. WOO; S. KIM. *Col. of Korean Med., Grad. School, Kyung Hee Univ., Kyung Hee Univ. Col. of Korean Med.*
- 2:00 V11 **571.14** ● Synergistic effect of treatment with NMDA antagonists and muscarinic M1 positive allosteric modulator in the rat neuropathic pain model. A. VUYURU; V. GOURA; R. KALLEPALLI; P. JAYARAJAN\*; R. ABRAHAM; R. NIROGI. *Suven Life Sci. Ltd.*
- 3:00 V12 **571.15** Exploring the effects of neurotensin receptor 1 gene (NTSR1) polymorphisms on receptor function. E. EISELT\*; S. GRASTILLEUR; S. BEAULIEU; J. LONGPRÉ; L. GENDRON; P. SARRET. *Sherbrooke Univ.*
- 4:00 V13 **571.16** MMG22 efficacy and target receptor expression in the dorsal root ganglia after peripheral nerve injury. R. SPELTZ-PAIZ\*; M. M. LUNZER; E. AKGÜN; R. REED; A. E. KALYUZHNY; P. S. PORTOGHESE; D. A. SIMONE. *Univ. of Minnesota, Univ. of Minnesota, Bio-Techne, Univ. Minnesota.*
- 1:00 V14 **571.17** Novel neuroactive steroid with hypnotic properties exerts analgesia in post-surgical pain model. S. JOKSIMOVIC\*; K. KRISHNAN; D. F. COVEY; V. JEVTOVIC-TODOROVIC; S. M. TODOROVIC. *Univ. of Colorado, Anschutz Med. Campus, Washington Univ. Sch. Med.*
- 2:00 V15 **571.18** Glial glutamate transporter activator attenuates nociception and rescues hippocampal memory deficit in mice. G. ALOTAIBI\*; S. RAHMAN. *South Dakota State Univ.*
- 3:00 V16 **571.19** ▲ Anti-hyperalgesic effect of haloperidol and morphine combined therapy on chronic constriction injury-induced neuropathic pain in rats. L. MENA-VALDÉS; J. V. ESPINOSA-JUÁREZ; O. A. JARAMILLO-MORALES; A. ALEJO-MARTÍNEZ; F. J. LOPEZ MUNOZ\*. *Cinvestav-Unidad Coapa, Cinvestav.*
- 4:00 W1 **571.20** Spinal 15-*l*-ox-1 contributes to NSAID-unresponsive hyperalgesia. A. GREGUS\*; M. W. BUCZYNSKI; D. S. DUMLAO; P. C. NORRIS; G. RAI; A. SIMEONOV; D. J. MALONEY; A. JADHAV; Q. XU; S. C. WEI; B. L. FITZSIMMONS; E. A. DENNIS; T. L. YAKSH. *Virginia Tech., Univ. of California San Diego, NIH, Univ. of California San Diego, Univ. of California San Diego.*
- 1:00 W2 **571.21** Analysis of frontal electroencephalogram after fentanyl administration. A. C. MULLEN\*; J. A. DONOGHUE; E. N. BROWN; P. L. PURDON. *MIT, MIT, Massachusetts Gen. Hosp.*
- 2:00 W3 **571.22** Loss of GluN2B impacts nociceptive processing of intrathecal NMDA. C. PETERSON\*; K. F. KITTO; K. R. PFLEPSEN; O. NGUYEN; E. DELPIRE; G. L. WILCOX; C. A. FAIRBANKS. *Univ. of Minnesota, Univ. of Minnesota, Vanderbilt Sch. of Med., Univ. Minnesota Med. Sch., Univ. Minnesota.*
- 3:00 W4 **571.23** Antinociceptive effect of a modified pronectin isolated from *Parachartergus fraternus* wasp. P. GALANTE\*; M. MORTARI. *Univ. of Brasilia, Univ. of Brasilia.*
- 4:00 W5 **571.24** ▲ Comparative analysis of the antinociceptive effect of naproxen-arginine and sodium naproxen. N. VEGA CABRERA\*; A. ALEJO-MARTÍNEZ. *UNAM, Cinvestav-Unidad Coapa.*
- 1:00 W6 **571.25** ▲ Comparative analysis of the antinociceptive effect of naproxen-arginine and sodium naproxen. A. ALEJO-MARTÍNEZ\*; O. A. JARAMILLO-MORALES; J. V. ESPINOSA-JUÁREZ; L. MENA-VALDÉS; F. J. LÓPEZ-MUÑOZ. *CINVESTAV-IPN, Cinvestav-Unidad Coapa.*
- 2:00 W7 **571.26** Peripherally-restricted opioids and cannabinoids attenuates neuropathic pain in mice. S. GREINALD\*; Z. CHEN; Q. HUANG; S. HE; Y. GUAN; S. RAJA. *Johns Hopkins Univ., Johns Hopkins Univ.*

## POSTER

### 572. Peripheral Mechanisms of Persistent Pain

#### Theme D: Sensory Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 W8 **572.01** Analysis of 3'UTR isoform diversity in human dorsal root ganglia (DRG) neurons using PacBio IsoSeq and CSI-UTR. M. MICHAEL\*; E. GRICKOVA-DUZEVIK; J. C. PETRUSKA; E. C. ROUCHKA; B. J. HARRISON. *Univ. of New England, Univ. of Louisville, Univ. of Louisville, Univ. of Louisville.*

\* 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 W9 **572.02** Analysis of 3'UTR-RNA Binding Protein (RBP) interactions in dorsal root ganglia (DRG) neurons. E. GRLOCKOVA-DUZEVIK\*; M. MICHAEL; B. J. HARRISON. *Univ. of New England*.
- 3:00 W10 **572.03** ▲ The differential roles of collateral sprouting and regeneration in the development of neuropathic pain following nerve injury. S. DINSDALE\*; E. GRLOCKOVA-DUZEVIK; M. MICHAEL; J. C. PETRUSKA; B. J. HARRISON. *Univ. of New England, Univ. of New England, Univ. of Louisville, Univ. of Louisville*.
- 4:00 W11 **572.04** ▲ Development of a high-throughput aptamer screen to target the Nerve Growth Factor (NGF) pathway. E. D. MCCORMAC\*; E. GRLOCKOVA-DUZEVIK; M. MICHAEL; B. J. HARRISON. *Univ. of New England, Univ. of New England*.
- 1:00 W12 **572.05** ● An *in vitro* approach to investigate excitability differences in DRG neurons from neuropathic and inflammatory pain disease models. A. BERSELLINI FARINOTTI\*; D. NASCIMENTO; R. RUDJITO; K. SANDOR; S. LARDELL; P. KARILA; C. SVENSSON. *Karolinska Institutet, Celectricon AB*.
- 2:00 W13 **572.06** ▲ Amelioration of neurogenic and inflammatory hyperalgesia through modulation of iNOS, COX-2 and inflammatory cytokines by bergapten and mixture design in mice. G. SINGH\*, JR; R. BHATTI, Jr; P. SINGH. *Guru Nanak Dev Univ., Guru Nanak Dev Univ.*
- 3:00 W14 **572.07** Inflammation-induced hyper-excitability and spontaneous activity of trigeminal afferent neurons that innervate subcutaneous orofacial regions: Implications in orofacial pain. V. VIATCHENKO-KARPINSKI\*; F. EROL; J. LING; J. GU. *Univ. of Alabama At Birmingham*.
- 4:00 W15 **572.08** Anaplerosis in the transition of acute pain to chronic. O. K. MELEMEDJIAN\*; T. LUDMAN. *Univ. of Maryland Dent. Sch.*
- 1:00 W16 **572.09** legumain, a cysteine protease produced by oral cancer, generates trigeminal nociception through PAR<sub>2</sub>. E. W. CHEN\*; N. H. TU; R. KLARES, III; D. CHO; M. KIM; L. EDGINGTON-MITCHELL; N. W. BUNNETT; B. L. SCHMIDT. *Bluestone Ctr. for Clin. Research, New York U, Bluestone Ctr. for Clin. Res., Bluestone Ctr. for Clin. Research, New York Univ. Col. of Dent., Bluestone Ctr. for Clin. Research, New York Univ. Col. of Dentistry, New York, NY., Univ. of Melbourne, Columbia Univ. Col. of Physicians and Surg, New York Univ. Col. of Dent.*
- 2:00 W17 **572.10** Cellular and molecular mechanism of HIV-gp120 induced sensory neuropathy. S. YUAN\*; J. DU; Y. SHI; W. RU; M. CABO JAUME; X. LIU; S. TANG. *Univ. of Texas Med. Br. at Galveston*.
- 3:00 W18 **572.11** Epigenetic changes in DRG neurons under hyperglycemia. M. CHATTOPADHYAY\*; V. S. THAKUR. *Texas Tech. Univ. Hlth. Sci. Ctr. - El Paso Campus*.
- 4:00 X1 **572.12** ● How the activation of macrophages by a novel neuropeptide leads to hypersensitivity of peripheral sensory neurons? N. DEMCHENKO; B. ABDELKADER; K. OKUSE\*. *Imperial Col. London*.
- 1:00 X2 **572.13** Endometriosis (ENDO) induced vaginal hyperalgesia in the rat: Influence of the endocannabinoid system on sensory and sympathetic cyst innervation. S. L. MCALLISTER\*; N. DMITRIEVA. *Stanford Univ. Sch. of Med., Florida State Univ.*
- 2:00 X3 **572.14** Dorsal root ganglionic field stimulation selectively blocks nociceptive sensory afferents. B. PAN\*; D. CHAO; Q. H. HOGAN. *Med. Col. of Wisconsin, Med. Col. of Wisconsin*.
- 3:00 X4 **572.15** Linking toll like receptor activation to Fcγ receptor mediated pain. M. A. HUNT\*; A. B. FARINOTTI; D. S. M. NASCIMENTO; K. SANDOR; T. L. YAKSH; C. I. SVENSSON. *UC San Diego, Karolinska Institutet*.
- 4:00 X5 **572.16** Sigma-1 receptor chaperones substance P in the mouse dorsal root ganglions. H. WU\*; T. SU. *IRP/ NIDA/NIH*.
- 1:00 X6 **572.17** Human carbonic anhydrase-8 AAV8 gene therapy produces prolonged analgesia and anti-hyperalgesia in mice by inhibiting nerve growth factor signaling. G. Z. ZHUANG\*; U. UPADHYAY; X. TONG; Y. KANG; D. M. ERASSO; E. S. FU; K. D. SARANTOPOULOS; E. R. MARTIN; R. C. LEVITT. *Univ. of Miami Miller Sch. of Med., Univ. of Miami Miller Sch. of Med.*

## POSTER

### 573. Auditory Processing: Circuits, Synapses, and Neurotransmitters

#### Theme D: Sensory Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 X7 **573.01** Triadic forebrain structures that directly control the auditory midbrain of echolocating bats. T. ITO\*; R. YAMAMOTO; T. FURUYAMA; K. HASE; K. I. KOBAYASHI; S. HIRYU. *Kanazawa Med. Univ., Kanazawa Med. Univ., Doshisha Univ.*
- 2:00 X8 **573.02** Elevated cochlear adenosine-mediated metabolic disruption causes hearing loss. J. M. MANALO\*; H. LIU; M. ADEBIYI; D. DING; T. NEMKOV; A. D'ALESSANDRO; R. SALVI; F. PEREIRA; Y. XIA. *MD Anderson Uthealth GSBS, MD Anderson Uthealth GSBS, The State Univ. of New York at Buffalo, Univ. of Colorado Denver-Anschutz Med. Campus, Baylor Col. of Med.*
- 3:00 X9 **573.03** Both lemniscal and non-lemniscal pathways define auditory responses in the mouse orbitofrontal cortex (OFC). H. K. SRIVASTAVA\*; S. BANDYOPADHYAY. *Indian Inst. of Technol. Kharagpur, Indian Inst. of Technol. Kharagpur*.
- 4:00 X10 **573.04** Plasticity in the ventral cochlear nucleus in response to age-related hearing loss. K. M. SCHRODE\*; H. JAVAID; J. ENGEL; A. M. LAUER. *Johns Hopkins Hosp.*
- 1:00 X11 **573.05** Descending projections from the auditory cortex and inferior colliculus contact GABAergic cells in the ventral nucleus of the trapezoid body. N. L. BEEBE\*; W. A. NOFTZ; B. R. SCHOFIELD. *Northeast Ohio Med. Univ.*
- 2:00 X12 **573.06** Cortico-subcortical monosynaptic excitatory loops that originate and terminate in the auditory cortex. H. TSUKANO\*; X. HOU; M. HORIE; H. TAKEBAYASHI; S. SUGIYAMA; K. SHIBUKI. *Brain Res. Institute, Niigata Univ., Niigata Univ., Kagoshima Univ., Niigata Univ.*
- 3:00 X13 **573.07** Unable to Attend Control of firing of dorsal cochlear nucleus cartwheel neurons by ATP-sensitive K<sup>+</sup> channels. R. M. LEAO\*; P. S. STRAZZA, Jr. *Univ. of Sao Paulo, Univ. of Sao Paulo*.

Tues. 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 X14 **573.08** Inhibition differentially affects auditory evoked P1-N1 response generation in a morphologically realistic model of auditory cortex. D. BEEMAN\*; P. KUDELA; D. BOATMAN-REICH; W. S. ANDERSON. *Univ. of Colorado Boulder, Johns Hopkins Univ., Johns Hopkins Sch. of Med.*
- 1:00 Y1 **573.09** Voltage-sensitive potassium currents contribute to sound processing during prepulse inhibition in the goldfish startle circuit. D. R. BRONSON\*; T. PREUSS. *The Grad. Center, CUNY, City Univ. of New York, Hunter Col.*
- 2:00 Y2 **573.10** Auditory representation in cortex and striatum during audiomotor learning. K. A. MARTIN\*; R. C. FROEMKE. *New York Univ., New York Univ. Sch. of Med., New York Univ. Sch. of Med., HHMI Fac. Scholar.*
- 3:00 Y3 **573.11** Contributions of feedforward inhibition to feature selectivity and critical period plasticity in primary auditory cortex. S. MASRI\*; S. BAO. *Univ. of Arizona, Univ. of Arizona.*
- 4:00 Y4 **573.12** Layer 6b modulation of sensory processing in the adult mouse auditory cortex. R. J. MORRILL; A. R. HASENSTAUB\*. *Univ. of California, San Francisco, UCSF.*
- 1:00 Y5 **573.13** The cerebellar vermis robustly modulates neural activity in the inferior colliculus. R. J. SIMA\*; T. KODAMA; H. FUJITA; S. DU LAC. *Johns Hopkins Univ., Johns Hopkins Univ.*
- 2:00 Y6 **573.14** Central auditory pathway corticotropin releasing factor signaling elements and their correlation to known regional and cellular markers in central auditory target regions. K. T. YEE\*; S. G. COLLINS; J. S. GILBERT; D. E. VETTER. *Univ. of Mississippi Med. Ctr., Murrah High Sch. / Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr., Univ. of Mississippi Med. Ctr.*
- 3:00 Y7 **573.15** Modulation of auditory responses by visual inputs in the mouse auditory cortex (ACX). S. SHARMA\*; H. K. SRIVASTAVA; S. BANDYOPADHYAY. *Indian Inst. of Technol. Kharagpur, Indian Inst. of Technol. Kharagpur.*
- 4:00 Y8 **573.16** An atlas of the subcortical auditory system from post mortem human MRI. K. R. SITEK\*; E. CALABRESE; G. A. JOHNSON; S. S. GHOSH. *MIT, Duke Univ., Duke Univ.*
- 1:00 Y9 **573.17** The effects of early postnatal noise exposure on the development of perineuronal nets in the rat auditory cortex. J. SVOBODOVA BURIANOVA\*; J. SYKA. *Inst. of Exptl. Medicine, CAS.*
- 2:00 Y10 **573.18** Ultra-small, transparent and genetically accessible vertebrate brain with rich behavior. L. SCHULZE\*; J. HENNINGER; T. CHAIGNE; M. KADOBANSKYI; A. FAUSTINO; S. ALBADRI; N. HAKIY; M. SCHUELKE; L. MALER; F. DEL BENE; B. JUDKEWITZ. *Neurocure Charite Berlin, Inst. Curie - Ctr. de Recherche, Charite Universitätsmedizin Berlin, Univ. of Ottawa, Charite Berlin / Humboldt Univ.*
- 3:00 Y11 **573.19** Presynaptic modulation and inhibitory feedback in the avian cochlear nucleus angularis. K. M. MACLEOD\*; S. L. EISENBACH; S. E. SOUEIDAN. *Univ. of Maryland.*
- 4:00 Y12 **573.20** Modulation of auditory cortical information processing by movement and VIP interneuron activation. J. BIGELOW\*; J. DEKLOE; R. MORRILL; A. HASENSTAUB. *UCSF.*
- 1:00 Y13 **573.21** ▲ Short-term synaptic plasticity evoked by electrical and optical stimulation in neurons of the gerbil medial geniculate body. A. MILLER; K. V. NGUYEN; C. MARTINEZ; J. BRODEUR; A. J. CARRERA; D. MANDALAPU; S. GOOCH; M. HOOPER; L. A. MORENO-ELLIS; S. D. STOLLE; L. E. WAGNER; B. WILKINS; L. J. KREEGER; D. B. HAIMES; N. L. GOLDING\*. *Univ. of Texas at Austin.*
- 2:00 Y14 **573.22** Vagal nerve stimulation strongly activates cortical networks, centered around sensorimotor cortex. L. N. COLLINS; L. J. BODDINGTON\*; P. J. STEFFAN; D. NESTVOGEL; S. JO; R. C. FROEMKE; M. J. MCGINLEY; D. A. MCCORMICK. *Univ. of Oregon, New York Univ. Sch. of Med., Baylor Col. of Med.*
- 3:00 Y15 **573.23** Inactivation of primary auditory cortex decrease the overall cortical burst activity in isoflurane-induced burst suppression state. M. J. ROJAS\*; M. D. SUAREZ. *Univ. Nacional De Colombia.*
- 4:00 Y16 **573.24** Cholecystokinin neurons of the inferior colliculus provide direct and powerful excitation and inhibition to the medial geniculate body of the gerbil. L. KREEGER\*; P. MEHTA; B. V. ZEMELMAN; N. L. GOLDING. *The Univ. of Texas At Austin.*
- 1:00 Y17 **573.25** Amygdala-TRN projections amplify tone-evoked activity in auditory thalamus and cortex. S. ROLÓN-MARTÍNEZ\*; M. AIZENBERG; M. N. GEFFEN. *Univ. of Pennsylvania, Univ. of Pennsylvania.*
- 2:00 Y18 **573.26** Pharmacologic and optogenetic manipulation of the dopamine system alters auditory processing in the inferior colliculus. J. M. HOYT\*; D. J. PERKEL; C. V. PORTFORS. *Washington State Univ. Vancouver, Univ. of Washington, Washington State Univ. Vancouver.*
- 3:00 Z1 **573.27** Connectional modularity within the lateral cortex of the mouse inferior colliculus gives rise to partially segregated processing streams for auditory and multisensory information. A. M. LESICKO\*; D. A. LLANO. *Univ. of Illinois at Urbana-Champaign.*
- 4:00 Z2 **573.28** Astrocytes and potassium buffering at a fast auditory synapse. B. J. LUJAN\*; H. VON GERSDORFF. *OHSU.*
- 1:00 Z3 **573.29** Ca<sup>2+</sup>-dependent vesicle replenishment in inhibitory synapses in the auditory brainstem allows for faithful and robust inhibition during high frequency activity. D. J. WEINGARTEN\*; N. MÜLLER; E. FRIAUF; H. P. VON GERSDORFF. *Oregon Hlth. & Sci. Univ., Univ. of Kaiserslautern.*
- 2:00 Z4 **573.30** Development of functional responses to sound in primary auditory cortex. K. SHILLING-SCRIVO\*; K. SOLARANA; N. A. FRANCIS; X. MENG; P. O. KANOLD. *Univ. of Maryland Sch. of Med., U.S. Food and Drug Admin., Univ. of Maryland, Univ. of Maryland.*

## POSTER

### 574. Auditory Processing: Adaptation, Learning, and Memory

#### Theme D: Sensory Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 Z5 **574.01** Neural indices of auditory reflective attention during word-in-noise identification. T. M. V. CHAN\*; C. ALAIN. *Univ. of Toronto, Baycrest.*

\* 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 Z6 **574.02** Functional polymorphism of MMP9 and BDNF as a potential biomarker of neuroplasticity in prelingual deafness treatment with cochlear implantation - A retrospective cohort analysis. M. E. MATUSIAK\*; A. OBRYCKA; D. OZIEBLO; M. OLDAK; L. KACZMAREK; H. SKARZYNSKI. *Inst. of Physiol. and Pathology of Hearing, World Hearing Ctr., Nencki Inst. of Exptl. Biol.*
- 3:00 Z7 **574.03** PET and MR evidence of functional connectivity between hearing and working memory in rat model. M. PARK\*; H. LEE; J. KIM. *Boramae Med. Center, Seoul Metropolitan Governm, Col. of Medicine, Seoul Natl. Univ., Mol. Imaging Res. Center, Korea Inst. of Radiological and Med. Sci.*
- 4:00 Z8 **574.04** Dopaminergic modulation of noise vocoded speech learning in patients with Parkinson's disease. C. M. THIEL\*; M. CONTY; L. WURST; A. PFEIFFER; A. ENGELHARDT; S. PUSCHMANN. *Univ. of Oldenburg, Cluster of Excellence "Hearing4all", McGill Univ.*
- 1:00 Z9 **574.05** Reorganization of cortical population neuronal activity following auditory fear conditioning. K. WOOD\*; R. BETZEL; D. S. BASSETT; M. N. GEFFEN. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*
- 2:00 Z10 **574.06** Effects of auricular vagus nerve stimulation on novel orthography acquisition. T. M. CENTANNI\*; V. THAKKAR; A. JEFFERSON; C. STACEY; N. KHODAPARAST. *Texas Christian Univ., Nexxon MedSystems, Inc.*
- 3:00 Z11 **574.07** Brain activities under culturally familiar and unfamiliar music: fMRI evidence of musical culture effect. S. GUO; Y. HE; J. LU\*. *UESTC.*
- 4:00 Z12 **574.08** Predictive coding on auditory processing: Spatio-temporal structure of signal flow in whole-cortical electrocorticograms. M. KOMATSU\*; N. ICHINOHE. *RIKEN Ctr. for Brain Sci., Natl. Ctr. of Neurol. and Psychiatry.*
- 1:00 Z13 **574.09** Effects of peristimulus vagal nerve stimulation on responses in ferret auditory cortex. J. B. FRITZ\*; A. MOHAMMED; J. VISWANATHAN; P. YIN; D. ELGUEDA; E. CAUSEY; J. LAI; S. V. DAVID; S. A. SHAMMA. *Univ. of Maryland, Univ. of Maryland, Oregon Hlth. & Sci. Univ.*
- 2:00 Z14 **574.10** Neuromodulation and plasticity for a rodent model of cochlear implant use. E. G. GLENNON\*; J. MULTANI; I. CARCEA; M. SVIRSKY; R. C. FROEMKE. *New York Univ., NYU Med. Ctr., NYU Med. Ctr., NYU Med. Ctr., NYU Med. Ctr., NYU Med. Ctr.*
- 3:00 Z15 **574.11** Binaural interactions in the inferior colliculus following unilateral noise induced hearing loss. J. NGUYEN; J. W. MORLEY; C. H. PARSONS\*. *Western Sydney Univ.*
- 4:00 Z16 **574.12** Circuits for opposite valences learning in auditory cortex studied by inference of plastic connectivity. J. LEGER\*; X. LIU; A. LOURDIANE; C. VENTALON; L. BOURDIEU; Y. BOUBENEC; S. SHAMMA; S. WOLF; S. COCCO; R. MONASSON. *CNRS - Ecole Normale Supérieure, PSL, Lab. des Systèmes Perceptifs, Ecole Normale Supérieure, PSL, Lab. de Physique Théorique, CNRS-Ecole Normale Supérieure, PSL, Lab. de Physique Statistique, CNRS - Ecole Normale Supérieure, PSL.*
- 1:00 Z17 **574.13** Influence of various auditory stimuli conditions on P3-like auditory event-related potentials in rodent model. J. LEE\*; Y. LEE; Y. A. CHO; S. KIM; K. KIM; J. SUNG; S. JUN. *Ewha Womans Univ., Ewha Womans Univ., Yonsei Univ., Dept. of Communication Disorders, Grad. School, EwhaWomans Univ., Ewha Womans Univ.*
- 2:00 Z18 **574.14** Role of inhibitory interneurons in long time scale adaptation based changes in coding of sound sequences in the mouse auditory cortex (ACX). M. MEHRA\*; M. PARASHAR; H. K. SRIVASTAVA; A. MUKESH; S. BANDYOPADHYAY. *Indian Inst. of Technology, Kharagpur, Indian Inst. of Technology, Kharagpur, Indian Inst. of Technology, Kharagpur, Indian Inst. of Technology, Kharagpur.*
- 3:00 AA1 **574.15** Auditory oddball response in dorsolateral prefrontal cortex and basolateral amygdala is distinct from that in auditory cortex of macaque. C. R. CAMALIER\*; K. SCARIM; M. MISHKIN; B. B. AVERBECK. *NIH, Natl. Inst. of Mental Hlth., NIMH, NIMH/NIH.*
- 4:00 AA2 **574.16** Ensemble encoding of redundant and novel stimuli in auditory cortex. Y. SHYMKIV\*; J. P. HAMM; R. YUSTE. *Columbia Univ., Columbia Univ.*
- 1:00 AA3 **574.17** Vagus nerve stimulation modulates cortical activity in the common marmoset. S. D. KOEHLER\*; L. SANTOS; X. WANG. *The Johns Hopkins Sch. of Med., Johns Hopkins Univ. Sch. Med.*
- 2:00 AA4 **574.18** Recalibration of excitatory and inhibitory local cortical networks supports neural and perceptual recovery of simple - but not complex - sound processing. J. RESNIK\*; D. B. POLLEY. *Harvard Med. Sch.*
- 3:00 AA5 **574.19** Adaptive noise reduction in human auditory cortex. N. MESGARANI\*; B. KHALIGHINEJAD; J. L. HERRERO; A. D. MEHTA. *Columbia Univ., Dept. Electrical Engineering, Columbia Univ., Hofstra-Northwell Sch. of Med. and Feinstein Inst. for Med. Res., Hofstra North Shore LIJ Sch. of Med.*
- 4:00 AA6 **574.20** Dissociation in behavioral effects of perineuronal net degradation in premotor nuclei of adult songbirds. L. DARKWA\*; V. NERURKAR; D. SEMU; T. M. OTCHY. *2018, Boston Univ., Boston Univ.*
- 1:00 AA7 **574.21** Chronic vagus nerve stimulation enables long-term plasticity in mouse auditory cortex. E. PAPADOYANNIS\*; K. A. MARTIN; J. K. SCHIAVO; N. Z. TEMIZ; D. A. MCCORMICK; M. J. MCGINLEY; R. C. FROEMKE. *New York Univ. Sch. of Med., New York Univ. Sch. of Med., Univ. of Basel, Univ. of Oregon, Baylor Col. of Med., Baylor Col. of Med., Howard Hughes Med. Inst.*
- 2:00 AA8 **574.22** Interhemispheric projections regulate sensory processing in primary auditory cortex. B. J. SLATER\*; J. S. ISAACSON. *UCSD.*
- 3:00 AA9 **574.23** Brain state-dependent modulation of sensory representations in layer 2/3 of primary auditory cortex. P. LIN\*; S. K. ASINOF; J. S. ISAACSON. *Univ. of California San Diego, Univ. of California San Diego, UCSD.*
- 4:00 AA10 **574.24** Adaptive efficient coding of correlated acoustic features in primary auditory cortex of the awake ferret. K. LU\*; W. LIU; J. B. FRITZ; S. A. SHAMMA. *Univ. of Maryland.*
- 1:00 AA11 **574.25** Brain state regulates network-level control of the strength and tuning of tone-evoked responses in primary auditory cortex. S. K. ASINOF\*; P. LIN; J. S. ISAACSON. *Univ. of California San Diego, Univ. of California San Diego, UCSD.*
- 2:00 BB1 **574.26** Functional investigation of a brainstem excitatory connection relevant to sensorimotor gating. L. E. MARTINETTI\*; E. PERU; A. TENA; C. D. LOYOLA; K. FÉNELON. *The Univ. of Texas At El Paso.*
- 3:00 BB2 **574.27** Shining light on a key amygdala-brainstem connection important for attention processing. J. CANO; K. FENELON\*. *Univ. of Texas at El Paso.*

\* 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 BB3 **574.28** Habituation of neural responses to complex sounds in secondary auditory cortex of ferrets reflects long-term auditory memory. W. LIU\*; K. LU; S. V. DAVID; P. ZAN; J. B. FRITZ; S. A. SHAMMA. *Univ. of Maryland, Univ. of Maryland, Oregon Hlth. and Sci. Univ., Univ. of Maryland, Colleg Park.*
- 1:00 BB4 **574.29** The protective effects of ferostatin-1 (fer-1) in response to excitotoxicity in mouse hippocampal slices. V. I. NAVARRO\*; M. N. RAMIREZ; C. D. LOYOLA BALTAZAR; R. SKOUTA; K. FENELON. *Univ. of Texas At El Paso, Univ. of Texas at El Paso, Univ. of Texas at El Paso.*
- POSTER**
- 575. Auditory Processing: Perception, Cognition, and Action II**
- Theme D: Sensory Systems**
- Tue. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*
- 1:00 BB5 **575.01** Cortical network topology across awareness states during sleep and anesthesia: An intracranial electrophysiology study. M. I. BANKS\*; K. V. NOURSKI; H. KAWASAKI; M. A. HOWARD, III. *Univ. of Wisconsin, Univ. of Iowa Hosp. and Clinics.*
- 2:00 BB6 **575.02** ▲ Auditory and premotor cortex connectivity in the rat brain. C. I. DE LEÓN-ANDREZ\*; G. ROJAS-PILONI; L. CONCHA; P. GARCÍA; H. MERCHANT. *Inst. de Neurobiología, UNAM, Univ. Natl. Autonoma Mexico, Inst. de Neurobiología, UNAM, Inst. de Neurobiología UNAM.*
- 3:00 BB7 **575.03** Oscillatory correlates of auditory working memory as revealed by electrocorticography. T. D. GRIFFITHS\*; P. GANDER; K. V. NOURSKI; C. KOVACH; H. OYA; H. KAWASAKI; M. HOWARD, III; S. KUMAR. *Inst. of Neurosci., The Univ. of Iowa.*
- 4:00 BB8 **575.04** Modulation of low frequency oscillations by human speech control. A. RAMÍREZ-CÁRDENAS\*; D. R. PETERS; R. BEHROOZMAND; R. M. KELLEY; C. KOVACH; H. KAWASAKI; M. A. HOWARD, III; J. D. W. GREENLEE. *Univ. of Iowa Hosp. and Clinics, Univ. of Iowa, Univ. of South Carolina.*
- 1:00 BB9 **575.05** Alpha oscillations index the temporal dynamics of exerted cognitive effort during listening. B. HERRMANN\*; B. MAESS; I. S. JOHNSRUDE. *The Univ. of Western Ontario, Max Planck Inst. for Human Cognitive and Brain Sci., Univ. of Western Ontario.*
- 2:00 BB10 **575.06** Cross-frequency coupling in human auditory cortex measured by complex modulation. U. MALINOWSKA; M. ZIELENIEWSKA; D. F. BOATMAN\*; P. J. FRANASZCZUK. *Johns Hopkins Sch. of Med., Univ. of Warsaw, Johns Hopkins Sch. of Med., US Army Res. Lab.*
- 3:00 BB11 **575.07** Neural oscillations predict stuttering disfluency on a single trial basis. J. MYERS\*; J. MOCK; E. GOLOB. *Univ. of Texas At San Antonio.*
- 4:00 BB12 **575.08** Neural substrates of auditory rhythm processing and language skill in early-to-mid adolescence. M. GRUBE\*; F. SMITH; S. KUMAR; H. SLATER; T. D. GRIFFITHS. *Aarhus Univ., Newcastle Univ.*
- 1:00 BB13 **575.09** Dissociating task acquisition from expression during learning reveals latent knowledge. T. HINDMARSH STEN\*; K. KUCHIBHOTLA; E. PAPAIOYANNIS; R. KUMAR; Y. BOUBENEC; P. C. HOLLAND; S. OSTOJIC; R. C. FROEMKE. *The Rockefeller Univ., Johns Hopkins Univ., New York Univ. Sch. of Med., Ecole Normale Superieure, NYU Med.*
- 2:00 BB14 **575.10** Gender differences in DPOAE in mice. T. MAKISHIMA\*; T. SUZUKI; J. MARUYAMA; S. PAESSLER. *Univ. of Texas Med. Br. at Galveston.*
- 3:00 BB15 **575.11** Sensory-evoked cholinergic dynamics in auditory cortex during sensorimotor learning. K. KUCHIBHOTLA\*; T. DESBORDES; S. OSTOJIC. *Johns Hopkins Univ., Ecole Normale Superieure.*
- 4:00 BB16 **575.12** Understanding word representations in the brain using ECoG. S. RAHIMPOUR; M. M. HAGLUND; S. R. SINHA; C. R. MUH; G. B. COGAN\*. *Duke Univ., Duke Univ.*
- 1:00 BB17 **575.13** The neural processing of phonemes is shaped by linguistic analysis. J. C. LEE\*; T. OVERATH. *Duke Univ.*
- 2:00 CC1 **575.14** Electrocoorticographic (ECoG) analysis of dialog-based paradigms for assessing speech, language and cognitive functions: A case report. M. STEINSCHNEIDER\*; K. V. NOURSKI. *Albert Einstein Col. of Med., The Univ. of Iowa.*
- 3:00 CC2 **575.15** Resting-state functional imaging of chronic tinnitus. L. B. HINKLEY\*; A. FINDLAY; D. MIZUIRI; S. W. CHEUNG; S. S. NAGARAJAN. *UC San Francisco, UCSF, UCSF Otolaryngology, UCSF.*
- 4:00 CC3 **575.16** Changes in the grey and white matters in the human auditory system due to presbycusis and tinnitus. O. PROFANT\*; J. SYKA; A. SKOCH; J. TINTERA; V. SVOBODOVA; D. KUCHAROVA. *Inst. of Exptl. Medicine, Acad. of Sci., 3rd Fac. of Med. of Charles University, Fac. Hosp. Kralovske Vinohrady, Inst. of Clin. and Exptl. Med., 1st Fac. of Med. of Charles University, Univ. Hosp. Motol.*
- 1:00 CC4 **575.17** Anticipated ITD statistics built-in human sound localization. J. L. PENA\*; R. PAVÃO; E. S. SUSSMAN; B. J. FISCHER. *Albert Einstein Col. of Med., Univ. Federal do ABC, Albert Einstein Col. of Med., Seattle Univ.*
- 2:00 CC5 **575.18** Electrocoorticographic responses to vowel sequences in awake and anesthetized states. K. V. NOURSKI\*; M. STEINSCHNEIDER; A. E. RHONE; R. N. MUELLER; H. KAWASAKI; M. A. HOWARD, III; M. I. BANKS. *The Univ. of Iowa, Albert Einstein Col. of Med., Univ. of Wisconsin - Madison.*
- 3:00 CC6 **575.19** Experience-dependent tuning of song discrimination in *Drosophila*. X. LI\*; H. ISHIMOTO; A. KAMIKOUCHI. *Nagoya Univ.*
- 4:00 CC7 **575.20** How do neurons overcome developmental hearing loss induced deficits during auditory learning? T. M. MOWERY\*; N. PARAOUTY. *New York Univ., New York Univ.*



POSTER

576. Vestibular Physiology and Anatomy

Theme D: Sensory Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 CC8 **576.01** Central mechanism of thermoregulation via the vestibular system in mice. C. ABE<sup>\*</sup>; Y. YAMAOKA; H. MORITA. *Gifu Univ. Grad. Sch. of Med.*
- 2:00 CC9 **576.02** Peripheral mechanism of thermoregulation via the vestibular system in mice. Y. YAMAOKA<sup>\*</sup>; C. ABE; H. MORITA. *Dept. of Physiol. Gifu Univ. Grad.*
- 3:00 CC10 **576.03** Anatomical and functional convergence of otolith afferents onto vestibulospinal neurons in larval zebrafish. Z. LIU<sup>\*</sup>; J. ELSNER; Y. KIMURA; S. HIGASHIJIMA; D. G. HILDEBRAND; J. L. MORGAN; M. W. BAGNALL. *Washington Univ. in St. Louis, Natl. Inst. Natl. Sci., Okazaki Inst. for Integrative Biosci., Harvard Univ., Washington Univ. in St. Louis.*
- 4:00 CC11 **576.04** Spatial tuning for translation in the posterior cerebellar vermis across changes in head-re-body and body-re-world orientation. C. MARTIN<sup>\*</sup>; J. X. BROOKS; A. M. GREEN. *Univ. de Montreal.*
- 1:00 CC12 **576.05** Vestibular neurons mediating the vestibulo-ocular reflex optimally encode natural self-motion through temporal whitening. I. MACKROUS<sup>\*</sup>; J. CARRIOT; K. E. CULLEN; M. CHACRON. *McGill, The Johns Hopkins Univ.*
- 2:00 CC13 **576.06** Thalamus coding strategies for representing natural self-motion. J. CARRIOT<sup>\*</sup>; I. MACKROUS; G. MCALLISTER; H. HOOSHANGNEJAD; A. DALE; C. MCNICOLL; K. E. CULLEN; M. J. CHACRON. *McGill Univ., McGill, McGill Univ., The Johns Hopkins Univ.*
- 3:00 CC14 **576.07** Adaptation to the distribution of vestibular stimuli in the thalamus. G. MCALLISTER<sup>\*</sup>; J. CARRIOT; J. X. BROOKS; K. E. CULLEN; M. J. CHACRON. *McGill Univ., The Johns Hopkins Univ.*
- 4:00 CC15 **576.08** Complete and irreversible unilateral vestibular loss induces reactive neurogenesis in the vestibular nuclei in adult rats. G. RASTOLDO<sup>\*</sup>; D. PERICAT; I. WATABE; N. EL MAHMOUDI; C. CHABBERT; B. TIGHILET. *Aix-Marseille Univ.*
- 1:00 CC16 **576.09** Stochastic noise alters the sensitivity of medial vestibular nucleus neurons *in vitro*. S. STEFANI; P. BREEN; J. SERRADOR; M. SCHUBERT; A. J. CAMP<sup>\*</sup>. *Univ. of Sydney, Univ. of Western Sydney, Rutgers Univ., Johns Hopkins Med. Inst., Univ. of Sydney.*
- 2:00 DD1 **576.10** Pulsed infrared neural stimulation of vestibular system endorgans evokes sinusoidal vestibulo-sympathetic reflex responses. D. RICE; W. JIANG; G. P. MARTINELLI; G. R. HOLSTEIN; S. RAJGURU<sup>\*</sup>. *Univ. of Miami, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Univ. of Miami.*
- 3:00 DD2 **576.11** Vestibular nucleus neurons that activate vestibulo-sympathetic reflex pathways following single end organ labyrinthine stimulation. G. R. HOLSTEIN<sup>\*</sup>; E. K. CHAPMAN; D. L. RICE; W. JIANG; S. RAJGURU; G. P. MARTINELLI. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, U. Miami, Univ. of Miami, Univ. of Miami, Icahn Sch. of Med. at Mount Sinai.*
- 4:00 DD3 **576.12** The effect of dynamic upper limb movements on perception of gravitational direction during prolonged whole-body tilt. K. TANI<sup>\*</sup>; S. YAMAMOTO; Y. KODAKA; K. KUSHIRO. *Hamamatsu Univ. Sch. of Med., Nihon Fukushi Univ., Natl. Inst. AIST Tsukuba Central 2, Kyoto Univ.*
- 1:00 DD4 **576.13** Vestibular adaptation time constants to mechanical and virtual rotation. A. CHEN<sup>\*</sup>; N. KHOSRAVI-HASHEMI; J. L. K. KRAMER; J. BLOUIN. *Univ. of British Columbia.*
- 2:00 DD5 **576.14** Multisensory signals underlie self-motion representation in the retrosplenial cortex. S. KESHAVARZI<sup>\*</sup>; C. V. ROUSSEAU; S. LENZI; T. W. MARGRIE. *Sainsbury Wellcome Centre, Univ. Col. Lond.*
- 3:00 DD6 **576.15** You must stop the postural control of balance before you can move. R. TISSERAND<sup>\*</sup>; C. J. DAKIN; M. H. F. VAN DER LOOS; E. A. CROFT; T. J. INGLIS; J. BLOUIN. *Univ. of British Columbia, Utah State Univ., Monash Univ.*
- 4:00 DD7 **576.16** Galvanic vestibular stimulation revisited: A current path account. K. AOYAMA<sup>\*</sup>; N. HAGURA; E. R. FERRÉ; T. MAEDA; Y. IKEGAYA; H. ANDO. *Univ. of Tokyo, CiNet, Osaka Univ., RHUL, Osaka Univ., Osaka Univ., CiNet, Grad Sch. Pharma Sci, Univ. Tokyo.*
- 1:00 DD8 **576.17** The effects of repetitive subconcussive head impacts on vestibular processing and balance during walking. J. B. CACCESE<sup>\*</sup>; F. V. SANTOS; M. GONGORA; I. SOTNEK; E. KAYE; F. YAMAGUCHI; J. J. JEKA. *Univ. of Delaware.*
- 2:00 DD9 **576.18** The effects of subconcussive head impacts on vestibular processing and balance during walking. F. V. SANTOS<sup>\*</sup>; J. B. CACCESE; M. GONGORA; I. S. SOTNEK; F. S. YAMAGUCHI; J. J. JEKA. *Univ. of Delaware, Univ. of Delaware.*
- 3:00 DD10 **576.19** Customizing galvanic vestibular stimulation amplitude using postural sway: Sensitivity thresholds are reduced without vision and disrupted proprioceptive feedback. M. MURARIK; S. B. DOUGLAS; E. R. STEELE; M. M. FEYRER-MELK; H. S. LEE; J. M. SERRADOR; S. J. WOOD<sup>\*</sup>. *Azusa Pacific Univ., Rutgers.*
- 4:00 DD11 **576.20** Neural correlates of vestibular processing during exposure to a spaceflight analog with elevated carbon dioxide. K. E. HUPFELD<sup>\*</sup>; J. K. LEE; N. E. GADD; I. S. KOFMAN; Y. E. DE DIOS; J. J. BLOOMBERG; A. P. MULAVARA; R. D. SEIDLER. *Univ. of Florida, NASA Johnson Space Ctr., KBRwyle, Univ. of Florida.*
- 1:00 DD12 **576.21** Application of virtual reality immersion in postural control assessment. E. SON<sup>\*</sup>; K. ROH; I. KIM. *Yonsei Univ. Col. of Med., Inje Univ. Col. of Med., Yonsei Univ. Col. of Med.*
- 2:00 DD13 **576.22** Vestibular contribution to balance control during stair negotiation and locomotion vestibular contribution to balance control during stair negotiation and locomotion. C. DAKIN<sup>\*</sup>; M. ELWOOD; A. KERN; E. BRESSEL. *Utah State Univ.*
- 3:00 DD14 **576.23** Statistical characterization of heading stimuli in natural environments using SLAM. C. SINNOTT<sup>\*</sup>; T. DANG; C. PAPACHRISTOS; K. ALEXIS; P. MACNEILAGE. *Univ. of Nevada Reno.*
- 4:00 DD15 **576.24** A novel apparatus for open- and closed-loop vestibular stimulation in head-fixed mice. E. A. RANCZ<sup>\*</sup>; B. A. HOROBET; A. P. TRAN-VAN-MINH; Z. YE. *The Francis Crick Inst.*

Tues. PM

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

POSTER

577. Vision: Retina: Photoreceptors

**Theme D: Sensory Systems**

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 DD16 **577.01** High-resolution photostimulation strategy using organic light-sensitive nanoparticles to rescue retinal dystrophy. J. F. MAYA-VETENCOURT\*; E. COLOMBO; C. G. ELEFThERIOU; A. DESII; M. METE; M. ZANGOLI; F. DI MARIA; G. BARBARELLA; G. PERTILE; G. LANZANI; F. BENFENATI. *Inst. Italiano Di Tecnologia, Inst. Italiano di Tecnologia, Inst. Italiano di Tecnologia, Ophthalmology Department, Sacro Cuore Hosp., Natl. Res. Council - CNR.*
- 2:00 DD17 **577.02** Targeting Neogenin as a novel therapeutic approach for the treatment of inherited retinal degeneration. J. CHARISH\*; H. HARADA; X. WANG; S. SETHURAMANUJAM; G. B. AWATRAMANI; R. BREMNER; P. P. MONNIER. *Krembil Res. Inst., Univ. of Victoria, Lunenfeld-Tanenbaum Res. Inst., Toronto Western Res. Inst.*
- 3:00 DD18 **577.03** Protective effects of zinc and cAMP against A2E-induced toxicity in ARPE19 cells: Possible involvement of lysosomal acidification. J. CHOI\*; B. SEO; J. KOH; Y. YOON. *Asan Inst. For Life Sci., Asan Inst. for Life Sci., ASAN Med. Center, Col. of Medicine, Univ. of Ulsan, ASAN Med. Center, Col. of Medicine, Univ. of Ulsan.*
- 4:00 EE1 **577.04** A subpopulation of GABAergic intrinsically photosensitive retinal ganglion cells in the mouse retina. T. SONODA\*; T. M. SCHMIDT. *Northwestern Univ. Dept. of Neurobio. and Physiol.*
- 1:00 EE2 **577.05** Effect of long-term iron administration on retinal photoreceptor cells. P. KUMAR\*; T. C. NAG; T. S. ROY; T. VELPANDIAN; S. WADHWA. *All India Institute of Medical Sciences, North Delhi Municipal Corporation Medical College.*
- 2:00 EE3 **577.06** Differential distribution of molecularly distinct M1 intrinsically photosensitive retinal ganglion cells in mouse retina. S. LEE\*; T. M. SCHMIDT. *Northwestern Univ.*
- 3:00 EE4 **577.07** The role of syntaxin 3 in the human retina. R. JANZ\*; S. PUNURU; X. LIU; R. HEMMATI; R. HEIDELBERGER. *UT-Houston Med. Schl.*
- 4:00 EE5 **577.08** Effect of electrical stimulation on mouse retinal tissues via microelectrode array. H. YOO\*; H. YOON HEE; H. JEONG; S. HWANG; S. JUN. *Ewha Womans Univ., Ewha Womans Univ.*
- 1:00 EE6 **577.09** Changes in photoreceptor synapses and expressions of BDNF and Trk-B in postnatal chick retina exposed to light of variable photoperiods. M. MAURYA\*; T. C. NAG; T. S. ROY. *All India Inst. of Med. Sci. New Delhi.*
- 2:00 EE7 **577.10** Histology of the eye of the crepuscular crab. J. R. BARRADAS\*; E. VALERO-PACHECO; M. ALVARADO; P. PACHECO; F. ROJAS; F. ALVAREZ. *Inst. de Neuroetologia, Facultad de Biologia, Inst. de Neuroetologia, Univ. Nacional Autonoma de México, Inst. de Ciencias Cerebrales, Inst. de Biologia.*
- 3:00 EE8 **577.11** Unique dual rhabdom organization in the fusion stemmata of the firefly (*Photuris* sp.) larval visual system. F. L. MURPHY\*; A. MOISEFF. *Univ. of Connecticut.*
- 4:00 EE9 **577.12** The cytoarchitecture of the degenerating eye of the blind cavefish *Astyanax mexicanus*. D. SOARES\*; M. YOFFE; Z. TANVIR; S. ALI. *NJIT, NJIT, NJIT.*

POSTER

578. Visual System: Responses During Behavior

**Theme D: Sensory Systems**

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 EE10 **578.01** Presaccadic modulation of sensory responses in primary visual cortex. J. YATES\*; S. H. COOP; J. F. MITCHELL. *Univ. of Rochester, Univ. of Rochester - River Campus, Univ. of Rochester.*
- 2:00 EE11 **578.02** Visual strategies of elite athletes during attacks. M. TAKAYOSE\*; Y. SATO; M. FUKAMI; H. SATO; T. HIRAKI; R. KOSHIZAWA; S. UMESHITA; S. SHIROMA. *Nihon Univ. Col. of Industrial Technol., Nihon Univ. Col. of Commerce, Nihon Univ. Col. of Law, Nihon Univ. Col. of Econ., Nihon Univ. Col. of Sports Sci., Nihon Univ. Col. of Humanities and Sci.*
- 3:00 EE12 **578.03** Active task engagement and congruent visuomotor feedback enhance experience-dependent network activity in mouse primary visual cortex. J. M. PAKAN\*; E. DYLD; J. U. HENSCHKE; S. P. CURRIE; N. L. ROCHEFORT. *Otto-von-Guericke Univ., Ctr. for Behavioral Brain Sci., German Ctr. for Neurodegenerative Dis., Univ. of Edinburgh, Univ. of Edinburgh.*
- 4:00 EE13 **578.04** Measuring mouse vision using innate behavioral responses. R. STORCHI\*. *Univ. of Manchester.*
- 1:00 EE14 **578.05** ▲ Visuomotor reflexes differ across *Drosophila* species. I. D'ALESSANDRO; E. J. PARK; S. M. WASSERMAN\*. *Wellesley Col.*
- 2:00 FF1 **578.06** Learning from the past and predicting the future: The role of auditory and retrosplenial cortex input on coding in visual cortex during associative learning. A. R. GARNER\*; G. B. KELLER. *Friedrich Miescher Inst. for Biomed. Resear.*
- 3:00 FF2 **578.07** Visual psychophysical measurements in head-fixed mice with classical conditioning. O. ARROYO, Jr; N. W. OESCH\*. *Univ. of California San Diego, Univ. of California San Diego.*
- 4:00 FF3 **578.08** Neural variability quenching increases with learning. A. ARAZI\*; I. DINSTEIN. *Ben Gurion Univ., Ben Gurion Univ., Ben Gurion Univ.*
- 1:00 FF4 **578.09** All-optical stimulation and imaging in macaque V1 reveals neural and behavioral masking effects of optogenetic stimulation in a threshold detection task. S. C. CHEN\*; G. BENVENUTI; M. P. WHITMIRE; Y. CHEN; W. S. GEISLER; E. SEIDEMANN. *Univ. of Texas At Austin.*
- 2:00 FF5 **578.10** A framework to interpret population activity of neurons tuned to multiple signals: Visual speed and self-motion. E. A. B. HORROCKS; I. MARESCHAL; A. B. SALEEM\*. *Univ. Col. London, Queen Mary Univ. of London.*
- 3:00 FF6 **578.11** V1 layer 6 corticothalamic feedback encodes behavioral state by complementary activity of two neuronal populations. S. AUGUSTINAITE\*; B. KUHN. *Okinawa Inst. of Sci. and Technol. Grad. Univ.*
- 4:00 FF7 **578.12** Pathological cortical regions in patients with refractory epilepsy display normal physiological responses during cognitive tasks. S. LIU\*; J. PARVIZI. *Stanford Univ.*
- 1:00 FF8 **578.13** ▲ The functional role of human early visual areas during blinks and saccades as revealed by intracranial EEG. M. J. KERN\*. *Univ. Med. Ctr. Freiburg.*

- 2:00 FF9 **578.14** Predicting perceptual decisions using visual cortical population responses and choice history. A. I. JASPER\*; S. TANABE; A. KOHN. *Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. of Med.*
- 3:00 FF10 **578.15** ▲ Suppression & sparsification of visual responses during perceptual learning. P. THAMIZHARASU\*; C. V. TOGT; E. RUIMSCHOTEL; I. F. PICA; L. D. KRAKER; C. LEVELT. *Netherlands Inst. For Neurosci.*
- 4:00 FF11 **578.16** Two complementary population coding schemes in primate V1 contribute to scale-invariant pattern discrimination. G. BENVENUTI\*; Y. CHEN; W. S. GEISLER; E. SEIDEMANN. *The Univ. of Texas At Austin, The Univ. of Texas at Austin.*
- 1:00 FF12 **578.17** Visual responses are more robust during navigation than passive viewing. E. M. DIAMANTI\*; K. D. HARRIS; A. B. SALEEM; M. CARANDINI. *Univ. Col. London.*
- 2:00 FF13 **578.18** Effects of single-cell stimulation in macaque V1 on performance in a threshold detection task. N. J. PRIEBE\*; B. LI; E. SEIDEMANN. *Univ. Texas, Austin, Univ. of Texas at Austin.*
- 3:00 FF14 **578.19** Behavioral state and experience modify natural behavioral responses to visual stimuli in mice. R. IJEKAH\*; J. HOY. *The Univ. of Nevada, Reno.*
- 4:00 FF15 **578.20** Human detection of occluding targets is near optimal for natural scenes. R. C. WALSHE; W. S. GEISLER\*. *The Univ. of Texas at Austin, Univ. Texas Austin.*
- 1:00 FF16 **578.21** Hemodynamic response function (HRF) used to predict brain imaging responses from spiking switches sign and functional form between task-engaged and drowsy states. A. DAS\*; M. M. B. CARDOSO; B. R. LIMA; Y. B. SIROTIN. *Columbia Univ., New York Univ., Federal Univ. of Rio de Janeiro, Columbia Univ.*
- 2:00 FF17 **578.22** Effect of eye movement on orientation tuning of neurons in visual cortex - a modeling study. M. HOBBI MOBARHAN\*; I. E. AASEBØ; M. B. RØE; K. K. LENSJØ; G. T. EINEVOLL; T. HAFTING-FYHN; M. FYHN. *Univ. of Oslo, Norwegian Univ. Life Sci., Univ. of Oslo.*
- 3:00 GG1 **578.23** Stable orientation tuning in the freely moving rat: Movement-robust orientation selective neurons in the deep layers of the primary visual cortex. M. B. RØE\*; I. E. AASEBØ; M. HOBBI MOBARHAN; K. K. LENSJØ; G. T. EINEVOLL; T. HAFTING-FYHN; M. FYHN. *Univ. of Oslo, Norwegian Univ. Life Sci., Univ. of Oslo.*
- 3:00 GG4 **579.03** Interrelated gradients of orientation, spatial frequency, and ON/OFF selectivity in primary visual cortex. E. KOCH\*; J. JIN; Q. ZAIDI; J. ALONSO. *SUNY Optometry, SUNY Optometry.*
- 4:00 GG5 **579.04** Human amblyopia increases perceptual dark dominance. C. PONS\*; R. MAZADE; J. JIN; M. DUL; Q. ZAIDI; J. ALONSO. *State Univ. of New York.*
- 1:00 GG6 **579.05** Sub-millimeter resolution fmri reveals interdigitated body- and disparity-selective columns within macaque parietal cortex. X. LI\*; Q. ZHU; W. VANDUFFEL. *Res. Group Neurophysiology, KU Leuven, Harvard Med. Sch., A. A. Martinos Ctr. for Biomed. Imaging, MGH.*
- 2:00 GG7 **579.06** Expanding the luminance range increases ON/OFF response asymmetries in visual cortex. H. RAHIMI NASRABADI\*; J. JIN; R. MAZADE; C. PONS; Q. ZAIDI; J. ALONSO. *SUNY Optometry.*
- 3:00 GG8 **579.07** Functional organization of cortical maps for ocular dominance and light-dark polarity in primary visual cortex. S. NAJAFIAN\*; J. JIN; Q. ZAIDI; J. ALONSO. *State Univ. of New York Col. of Optometry.*
- 4:00 GG9 **579.08** Multimodal functional mapping of posterior parietal cortex in mice. R. HIRA\*; L. B. TOWNSEND; I. T. SMITH; S. L. SMITH. *UNC Chapel Hill.*
- 1:00 GG10 **579.09** A model for the development and dynamics of visual orientation selectivity. A. W. FREEMAN\*; G. NGUYEN. *Univ. of Sydney.*
- 2:00 GG11 **579.10** Thalamic and feedback connections to mouse V1 differentially drive excitation and inhibition within distinct subnetworks. R. D'SOUZA\*; P. BISTA; A. BURKHALTER. *Washington Univ. Sch. of Med., The Univ. of Melbourne.*
- 3:00 GG12 **579.11** Excitatory and inhibitory presynaptic networks supporting orientation selectivity in primary visual cortex. L. F. ROSSI\*; K. D. HARRIS; M. CARANDINI. *Univ. Col. London.*
- 4:00 GG13 **579.12** Modeling feedback for a large set of visual stimuli in a detailed, spiking model of macaque V1. C. L. CHARIKER\*; L. YOUNG; R. SHAPLEY. *New York Univ., New York Univ.*
- 1:00 GG14 **579.13** Specific intracortical connectivity rules reconcile push-pull and broad inhibition in V1 simple cells. M. TAYLOR\*; R. BENOSMAN; D. CONTRERAS; A. DESTEXHE; Y. FREGNAC; J. ANTOLIK. *Univ. of Pennsylvania Perelman Sch. of Med., Inst. de la Vision, UNIC-CNRS.*
- 2:00 GG15 **579.14** Receptive field size and spatial phase organization in macaque V1 with two-photon imaging. I. M. NAUHAUS\*; K. NIELSEN; E. M. CALLAWAY; H. KO; B. ZEMELMAN; E. SEIDEMANN; Y. Y. CHEN. *Univ. of Texas at Austin, Johns Hopkins Univ., Salk Inst., The Univ. of Texas At Austin, Univ. of Texas at Austin, Univ. of Texas at Austin.*
- 3:00 GG16 **579.15** Role of neuropilin-2 in the establishment of a functional neuronal connectivity in the mouse primary visual cortex. H. KHDOUR\*; T. S. TRAN; P. POLACK. *Rutgers Univ. Newark, Rutgers Univ., Rutgers Univ., Rutgers Univ. Newark Ctr. for Mol. and Behavioral Neurosci.*
- 4:00 GG17 **579.16** Spatial organization of simple and complex cells in the primary visual cortex. G. KIM\*; J. JANG; S. PAIK. *KAIST, KAIST, KAIST.*

## POSTER

### 579. Visual Cortex: Functional Architecture and Circuits II

#### Theme D: Sensory Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 GG2 **579.01** Luminance enhances ON/OFF asymmetries in primary visual cortex by increasing the excitation/suppression ratio of the stimulus response. R. MAZADE\*; J. JIN; C. PONS; J. ALONSO. *State Univ. of New York Col. of Optometry.*
- 2:00 GG3 **579.02** High-accuracy decoding of complex visual scenes from neuronal calcium responses. R. J. ELLIS\*; M. MICHAELIDES. *Icahn Sch. of Med. At Mount Sinai, NIDA IRP.*

\* 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 HH1 **579.17** Cellular and circuit mechanisms underlying processing of binocular visual information in visual cortex. S. HONNURAIHAH\*; H. H. HUANG; G. TESTA-SILVA; W. M. CONNELLY; G. J. STUART. *Australian Natl. Univ.*
- 2:00 HH2 **579.18** Mapping cortico-cortical network activity with fmri elicited by optogenetic stimulation of primate v1. M. ORTIZ-RIOS\*; M. HAAG; B. AGAYBY; F. BALEZEAU; M. C. SCHMID. *Inst. of Neurosci.*
- 3:00 HH3 **579.19** Mapping functional synaptic weights with *in vivo* spine imaging and correlated ultrastructural anatomy. B. SCHOLL\*; C. THOMAS; D. GUERRERO-GIVEN; N. KAMASAWA; D. FITZPATRICK. *Max Planck Florida Inst., Max Planck Florida Inst.*
- 4:00 HH4 **579.20** Propagation of "network belief" in the primary visual cortex: Synaptic contribution of the horizontal intrinsic connectivity. B. LE BEC; C. DESBOIS; X. TRONCOSO; Y. FREGNAC; M. PANANCEAU\*. *UNIC-CNRS, FRE 3693.*
- 1:00 HH5 **579.21** Functional mapping of the primary visual areas in awake non-human primates with ultrafast ultrasound imaging. F. ARCIZET\*; K. BLAIZE; M. GESNIK; H. AHNINE; T. DEFFIEUX; P. POUGET; F. Y. CHAVANE; M. FINK; J. SAHEL; M. TANTER; S. A. PICAUD. *Inst. De La Vision, Inst. De La Vision - Fondation Voir Et Entendre, Inst. Langevin-ESPCI, Inst. de la Vision, Inst. Langevin / Inserm U979, ICM, INSERM UMRS 975, CNRS UMR 7225, UPMC, CNRS & Aix-Marseille Univ., INSERM, Univ. Pierre Et Marie Curie.*
- 2:00 HH6 **579.22** Prediction of future input explains lateral connectivity in primary visual cortex. E. FRISTED\*; Y. SINGER; A. J. KING; M. F. IACARUSO; N. S. HARPER. *Univ. of Oxford.*
- 3:00 HH7 **579.23** Mapping thalamic projections onto L2/3 pyramidal neurons of visual cortex. A. BALCIOGLU\*. *MIT.*
- 4:00 HH8 **579.24** Modelling contour integration in deep artificial neural networks. S. KHAN; A. WONG; B. P. TRIPP\*. *Univ. of Waterloo, Univ. of Waterloo.*
- 1:00 HH9 **579.25** Functional topography and synaptic targets of a new cell type in the primary visual cortex of the cat. Z. F. KISVARDAY\*; M. SRIVASTAVA; C. ANGEL; S. MOHAMMED; A. NADHEM. *Univ. Debrecen.*
- 2:00 HH10 **579.26** Mesoscale and cellular scale calcium imaging of the primary and secondary visual cortex in marmoset monkeys. T. MATSUI\*; T. HASHIMOTO; T. MURAKAMI; M. UEMURA; K. KIKUTA; T. KATO; K. OHKI. *Univ. of Tokyo.*
- 2:00 HH12 **580.02** Establishing optogenetics in pigeons on a histological, physiological and behavioral level. N. ROOK\*; J. TUFF; S. ISPARTA; O. MASSECK; S. HERLITZE; R. PUSCH; O. GUNTURKUN. *Ruhr-University Bochum, Ruhr-University Bochum, Ruhr-University Bochum.*
- 3:00 HH13 **580.03** Age dependence of visual gamma oscillations elicited by Cartesian gratings in human EEG. ; S. RAY. *Indian Inst. of Sci.*
- 4:00 HH14 **580.04** The cortical dynamics underlying contour integration in human visual system. Y. LI\*; Y. WANG; S. LI. *Shaanxi Normal Univ., Shaanxi Normal Univ., Peking Univ.*
- 1:00 HH15 **580.05** Late positivity component as neural correlate of post-perceptual processing in different version of visual backward masking task. M. DERDA\*; M. KOCULAK; K. GOCIEWICZ; M. WIERZCHON; M. BINDER. *Jagiellonian Univ.*
- 2:00 HH16 **580.06** Two-photon imaging evidence for neuronal responses to superimposed cross-gratings in macaque V1. S. GUAN\*; N. JU; S. ZHANG; S. TANG; C. YU. *Peking Univ., Peking Univ., Peking Univ., Peking Univ.*
- 3:00 HH17 **580.07** Location-specific attentional modulation of neural representation of color in the human LGN. S. PARK\*; S. HONG; Y. LEE; W. SHIM. *Ctr. for Neurosci. Imaging Research, IBS, Florida Atlantic Univ., Ctr. for Complex Systems and Brain Sciences, Florida Atlantic Univ., Sungkyunkwan Univ.*
- 4:00 I11 **580.08** Spatio-temporal processing of rod and cone inputs to mouse V1. I. RHIM\*; G. COELLO-REYES; I. NAUHAUS. *The Univ. of Texas At Austin, The Univ. of Texas at Austin, The Univ. of Texas at Austin.*
- 1:00 I12 **580.09** Neuronal specialization for object size detection by higher order visual projection neurons in *Drosophila*. C. STAEDELE\*; M. A. FRYE. *UCLA.*
- 2:00 I13 **580.10** Contribution of inhibitory cell types in mouse primary visual cortex to perceived contrast. R. BLAZING\*; J. R. SIMS; R. KIRK; M. FOWLER; A. MCKINNEY; M. JIN; L. L. GLICKFELD. *Duke Univ.*
- 3:00 I14 **580.11** Can the inclusion of a specialized sensory-preprocessing stage lessen the training requirements and improve the generalization behavior of a deep network? A. S. RIOS\*; G. C. MEL; V. AKOPIAN; L. ITTI; B. W. MEL. *USC, Stanford Univ.*
- 4:00 I15 **580.12** Disentangling feature complexity and pooling region size in metameric texture perception. A. V. JAGADEESH\*; J. L. GARDNER. *Stanford Univ.*
- 1:00 I16 **580.13** Shady: A software engine for real-time visual stimulus manipulation. J. HILL\*; S. W. J. MOONEY; E. RYKLIN; G. T. PRUSKY. *Burke Neurolog. Inst., Ryklin Software, Burke Med. Res. Inst.*
- 2:00 I17 **580.14** Curveball: A tool for rapid measurement of contrast sensitivity based on smooth eye movements. S. W. J. MOONEY; J. HILL; M. S. TUZUN; N. M. ALAM; J. B. CARMEL; G. T. PRUSKY\*. *Burke Neurolog. Inst., Blythedale Children's Hosp.*

## POSTER

### 580. Vision: Processing of Contrast, Form, and Color

#### Theme D: Sensory Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 HH11 **580.01** Contextual effects of high dynamic range (HDR) luminance flankers on orientation discrimination. C. P. HUNG\*; A. V. HARRISON; A. J. WALKER; M. WEI; B. D. VAUGHAN. *US Army Res. Lab., Georgetown Univ. Sch. Med., US Army Res. Lab., DCS Corp.*

## POSTER

### 581. Multisensory Integration and Cross-Modal Processing

#### Theme D: Sensory Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 DP07/II8 **581.01** (Dynamic Poster) Multiple sensory inputs modulate a short-lived sleep-like state in *C. elegans*. D. L. GONZALES\*; J. ZHOU; J. T. ROBINSON. *Rice Univ., Rice Univ., Rice Univ., Baylor Col. of Med.*
- 2:00 II9 **581.02** The effects of early sensory deprivation on multisensory thalamocortical and intracortical connections. J. HENSCHKE\*; T. MACHARADZE; A. M. OELSCHLEGEL; J. M. PAKAN; J. GOLDSCHMIDT; P. O. KANOLD; E. BUDINGER. *Otto von Guericke Univ., Leibniz Inst. for Neurobio., Otto-von-Guericke-University Magdeburg, Otto-von-Guericke Univ., Leibniz-Institute for Neurobio., Univ. of Maryland, Leibniz Inst. for Neurobio. Magdeburg.*
- 3:00 II10 **581.03** Early loss of vision leads to enhanced performance on tactilely mediated behaviors in the short-tailed opossum (*monodelphis domestica*). M. ENGLUND\*; C. IYER; S. FARIDJOO; L. KRUBITZER. *Univ. of California Davis, Univ. of California Davis.*
- 4:00 II11 **581.04** Associative interaction among sensory cortices consolidated by the first and second-order conditionings. G. TASAKA; M. YAMASHITA; Y. IDE; E. HIDA\*; T. AIHARA. *Tamagawa Univ., Tamagawa Univ., Pharmacol. Evaluation Inst. of Japan (PEIJ), Tamagawa Univ.*
- 1:00 II12 **581.05** Connectivity of ferret multisensory cortical LRSS area assessed by tracer (BDA) and by rsfMRI methods. M. A. MEREDITH\*; E. H. PRICKETT; R. P. GULLAPALLI; S. TANG; A. E. MEDINA. *Virginia Commonwealth Univ. Sch. Med., Virginia Commonwealth Univ. Sch. of Med., Univ. of Maryland, Univ. of Maryland.*
- 2:00 II13 **581.06** Comparison of visual processing during visual-only and audiovisual contexts in the mouse primary visual cortex. J. MCCLURE\*, JR; H. KHDOUR; P. POLACK. *Rutgers Univ.*
- 3:00 II14 **581.07** Multisensory processing of external salinity by larval zebrafish. K. J. HERRERA\*; F. ENGERT. *Harvard Univ.*
- 4:00 II15 **581.08** Claustral neurons projecting to the anterior cingulate cortex receive preferential synaptic inputs from higher order and not primary sensory cortical regions. Z. CHIA\*; G. J. AUGUSTINE; G. SILBERBERG. *Karolinska Institutet, Nanyang Technological Univ.*
- 1:00 II16 **581.09** Toward a unified coding of motion: Multisensory integration of moving visual and somatosensory cues in the associative parietal cortex (APC) of the rat. J. CARON-GUYON\*; J. CORBO; Y. ZENNOU-AZOGUI; C. XERRI; N. CATZ. *Aix-Marseille Univ.*
- 2:00 II17 **581.10** Parietal inputs convey multisensory visuo-tactile synaptic inputs to nociceptive-sensitive midcingulate circuits and facilitate their premotor output. S. PAPAIOANNOU\*; E. MALININA; A. TRIPATHI; P. MEDINI. *Umeå Univ.*
- 3:00 II18 **581.11** Sensory projections towards the mouse posterior parietal cortex. S. R. GILISSEN\*; K. BUTTIENS; K. FARROW; V. BONIN; L. ARCKENS. *KU Leuven, NERF / Imec, Imec NERF.*

- 4:00 JJ1 **581.12** • Cross-modal plasticity of inhibitory thalamic gating in adults. D. CHAKRABORTY\*; J. L. WHITT; H. LEE. *Johns Hopkins Univ., Johns Hopkins Univ.*
- 1:00 JJ2 **581.13** Cross-modal gain control in sensory thalamus. M. LOHSE\*; J. C. DAHMEN; V. M. BAJO-LORENZANA; A. J. KING. *Univ. of Oxford.*
- 2:00 JJ3 **581.14** ▲ Effects of congenital blindness on olfactory functions and brain plasticity. J. THIBAUT; E. LUNA AMIRAL; G. BRONCHTI; S. ALAIN\*. *Univ. Du Québec à Trois-Rivières.*
- 3:00 JJ4 **581.15** Biologically plausible deep learning with segregated dendrites and multiplexing. J. GUERGUEV\*; T. MESNARD; B. A. RICHARDS. *Univ. of Toronto Scarborough, École Normale Supérieure, Univ. of Toronto Scarborough.*
- 4:00 JJ5 **581.16** Can machine learning models account for predictive coding-like features observed in sensory cortex? C. J. GILLON\*; J. GUERGUEV; B. A. RICHARDS. *Univ. of Toronto Scarborough.*

## POSTER

### 582. Multisensory Integration: Cross-Modal Processing in Humans II

#### Theme D: Sensory Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 JJ6 **582.01** Neural correlates of sound symbolic crossmodal correspondences. S. M. LIST\*; S. LACEY; L. C. NYGAARD; K. SATHIAN. *Emory Univ., Emory Univ., Emory Univ., Milton S. Hershey Med. Ctr. & Penn State SOM, Emory Univ.*
- 2:00 JJ7 **582.02** Age-related hearing loss impacts functional connectivity at rest. S. ROSEMANN\*; C. M. THIEL. *Univ. of Oldenburg, Cluster of Excellence "Hearing4all".*
- 3:00 JJ8 **582.03** Effects of ownership sense of the virtual body induced by the full body illusion on the sound localization. C. TOI\*; A. ISHIGUCHI. *Ochanomizu Univ.*
- 4:00 KK1 **582.04** Indexing multisensory integration of natural speech using canonical correlation. A. E. O'SULLIVAN\*; M. J. CROSSE; G. M. DI LIBERTO; J. MAJESKI; A. DE CHEVEIGNE; E. C. LALOR. *Trinity Col. Dublin, Univ. of Rochester, Albert Einstein Col. of Med., École Normale Supérieure, UCL Ear Inst., Univ. of Rochester, Trinity Col. Dublin.*
- 1:00 KK2 **582.05** Enhanced functional connectivity correlated with weight-loss at pre-match period in professional boxers. Y. OGINO\*; H. KAWAMICHI; D. TAKIZAWA; S. K. SUGAWARA; Y. H. HAMANO; M. FUKUNAGA; Y. WATANABE; K. TOYODA; O. ABE; N. SADATO; S. SAITO; S. FURUI. *Gunma Univ. Grad Sch. Med., Natl. Inst. for Physiological Sci., Japanese Red Cross Med. Ctr., Natl. Inst. for Physiological Sci., Natl. Inst. For Physiological Sci., The Univ. of Tokyo, Teikyo Univ., Natl. Inst. Physiol Sci.*
- 2:00 KK3 **582.06** Multisensory processing in the elderly. B. M. SEXTON\*; H. BLOCK. *Indiana Univ. Bloomington.*
- 3:00 KK4 **582.07** The perceptual illusions of dual body ownership and dual self-location. A. GUTERSTAM\*; J. SZCZOTKA; D. LARSSON; H. EHRSSON. *Princeton Univ., Karolinska Institutet, 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

- 4:00 KK5 **582.08** Rapid modulation of activity in auditory cortex by visual speech information revealed by electrocorticography. P. J. KARAS; B. METZGER\*; J. F. MAGNOTTI; Z. WANG; D. YOSHOR; M. S. BEAUCHAMP. *Baylor Col. of Med., Rice Univ.*
- 1:00 KK6 **582.09** Children with idiopathic toe walking showed differences in areas of tactile and vestibular processing. V. W. CHU\*; J. LEE; B. CHAN. *Virginia Commonwealth Univ.*
- 2:00 KK7 **582.10** ▲ Evaluating the effects of english second language status on fixations and first-pass skip rates during a continuous reading task. C. Y. DELGADO\*; T. A. DOTY; D. L. LARRANAGA; D. A. DEL CID; C. MCGINNIS. *California State Univ. Northridge, Cal State Northridge, VISN Lab. at California State University, Northridg, Vision Sci. Information Lab. @ CSUN, California State Univ. Northridge.*
- 3:00 KK8 **582.11** Brain regions involved in sound-to-meaning mapping and its relationship to phoneme perception. S. ITAGAKI\*; S. MURAI; K. I. KOBAYASI. *Doshisha Univ.*
- 4:00 KK9 **582.12** The pre- and post-stimulus dynamics of the brain's multisensory causal inferences. T. ROHE\*; A. EHLIS; U. NOPPENY. *Univ. of Tuebingen, Univ. of Tuebingen, Univ. of Birmingham.*
- 1:00 KK10 **582.13** Use of click-based echolocation may preserve retinotopic-like representation of space in calcarine cortex in early-blind people. L. J. NORMAN\*; L. THALER. *Durham Univ.*
- 2:00 KK11 **582.14** Neural correlates of cross-modal influences in top-down processing of visual speech. R. THÉZÉ\*; A. GIRAUD; P. MEGEVAND. *Univ. of Geneva, Geneva Univ. Hosp.*
- 3:00 KK12 **582.15** Multisensory data-driven modeling of fMRI responses across primate species. M. ARMENDARIZ\*; D. MANTINI; W. VANDUFFEL. *KU Leuven, KU Leuven, Harvard Med. Sch.*
- 4:00 LL1 **582.16** The effect of head direction on gait trajectory in human. H. JOO\*; S. KIM; J. RYU; K. LEE. *Seoul Natl. Univ., Seoul Natl. Univ., Gachon Univ., Seoul Natl. Univ., Seoul Natl. Univ. Hosp.*
- 1:00 LL2 **582.17** Anisotropic decline of ownership illusion intensity in spatial mismatch condition: A guideline to modulating pain signal. M. SEO\*; S. KIM; J. RYU; K. LEE. *Seoul Natl. Univ., Gachon Univ.*
- 2:00 LL3 **582.18** Grapheme-color synesthetes and inhibitory differences during an anti-saccade task. D. L. LARRANAGA\*; R. ESQUENAZI; M. F. AWAD; S. A. DREW. *VISN Lab. at California State University, Northridg, California State University, Northridge.*
- 3:00 LL4 **582.19** The peripersonal space representation in paraplegic patients depends on the level of lower-limb residual neurological functions. S. SHOKUR\*; F. ASNIS; S. ALMEIDA; M. A. NICOLELIS. *Associação Alberto Santos Dumont para Apoio à Pesq, Associação de Assistência à Criança Deficiente (AACD), Duke Univ., Edmond and Lily Safra Intl. Inst. of Neurosci.*
- 4:00 LL5 **582.20** Directional visual motion is represented in the auditory and association cortices of early deaf individuals. T. L. RETTER\*; M. A. WEBSTER; F. JIANG. *Univ. of Nevada, Reno, Univ. of Louvain.*

## POSTER

### 583. Cerebellum: Cortex and Nuclei I

#### Theme E: Motor Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 LL6 **583.01** ● TMEM240: A novel cerebellar synaptic protein. M. L. HOMA\*; A. LOYENS; D. MAZUR; V. HUIN; L. BUÉE; B. SABLONNIÈRE. *UMR-S 1172 Ctr. De Recherches Jean Pierre Aubert.*
- 2:00 LL7 **583.02** Cortex-cerebellum dynamics in the execution and learning of a motor task. M. J. WAGNER\*; T. H. KIM; J. KADMON; N. D. NGUYEN; S. GANGULI; M. J. SCHNITZER; L. LUO. *Stanford Univ.*
- 3:00 LL8 **583.03** The role of the medial cerebellum in modulating synaptic responses in the ventrolateral periaqueductal gray. C. E. VAAGA\*; I. M. RAMAN. *Northwestern Univ.*
- 4:00 LL9 **583.04** Midlateral cerebellar purkinje neurons participate in visuomotor associative learning. N. SENDHILNATHAN\*; M. E. GOLDBERG. *Columbia Univ. Dept. of Neurosci., Columbia Univ.*
- 1:00 LL10 **583.05** Computations in the cerebellar flocculus - Divide and conquer. R. A. HENS BROEK; J. MARUTA; B. J. VAN BEUGEN; T. BELTON; J. I. SIMPSON\*. *New York Univ. Sch. of Med.*
- 2:00 LL11 **583.06** Synaptic responses and spiking of cerebellar output neurons in larval zebrafish during fictive swimming. T. HARMON\*; D. L. MCLEAN; I. M. RAMAN. *Northwestern Univ., Northwestern Univ.*
- 3:00 LL12 **583.07** Diversity of cellular morphology and physiology of Purkinje cells in the adult zebrafish cerebellum. V. Z. HAN\*. *Seattle Children's.*
- 1:00 DP08/LL13 **583.08** (Dynamic Poster) Heterogeneous mossy fiber activity patterns and their implications for sensorimotor encoding in the cerebellar cortex. H. ROS\*; S. SADEH; N. CAYCO-GAJIC; R. SILVER. *Univ. Col. London.*
- 1:00 LL14 **583.09** Sensorimotor processing in the cerebellar corticonuclear circuit amplifies reflexive whisking via well-timed spiking. S. BROWN\*; I. M. RAMAN. *Northwestern Univ.*
- 2:00 MM1 **583.10** Lugaro cells in the avian cerebellum (?). D. R. WYLIE\*; I. CRACIUN; C. G. GUTIERREZ-IBANEZ; A. S. M. CHAN; H. LUKSCH. *Univ. of Alberta, Tech. Univ. of Munich.*
- 3:00 MM2 **583.11** Activation of purkinje cells of the cerebellum during the appetitive and consummatory phase of sexual behavior in the wistar male rat. B. A. LARA\*; G. J. SANCHEZ; D. HERRERA; F. ROJAS; G. A. CORIA-AVILA; J. MANZO; R. TOLEDO-CARDENAS. *Doctorado en Investigaciones Cerebrales, UV, Ctr. de Investigaciones Cerebrales.*
- 4:00 MM3 **583.12** Cerebellar involvement in controlling the intrinsic variability of the respiratory rhythm in mice. Y. LIU; S. QI; R. V. SILLITOE; D. H. HECK\*. *Univ. of Tennessee, Baylor Col. of Med.*
- 1:00 MM4 **583.13** The cellular mechanism of Prrt2-associated paroxysmal dystonia. B. LU\*; Z. XIONG. *Inst. of Neurosci., Inst. of Neurosci.*

- 2:00 MM5 **583.14** Cerebellar modules in the olivo-cortico-nuclear loop labeled by *pcdh10* expression in the adult mouse. G. A. SARPONG; S. VIBULYASECK; Y. LUO; M. S. BISWAS; H. FUJITA; S. HIRANO; I. SUGIHARA\*. *Tokyo Med. & Dent. Univ., Johns Hopkins Univ., Kansai Med. Univ.*
- 3:00 MM6 **583.15** Spatial and temporal locomotor learning in mouse cerebellum. D. M. DARMOHRAY; J. R. JACOBS; M. R. CAREY\*. *Champalimaud Ctr. For the Unknown.*
- 4:00 MM7 **583.16** Changes in the pattern of multiunit activity in cerebellum after electrolytic lesion of the ventrolateral striatum. L. VASQUEZ CELAYA\*; J. R. GUTIÉRREZ PÉREZ; M. G. ROCHA; C. GONZÁLEZ; P. CARRILLO; G. A. CORIA ÁVILA; J. MANZO DENES; M. MIQUEL; L. I. GARCIA. *Doctorado en Investigaciones Cerebrales, UV, Univ. Veracruzana, Univ. Veracruzana, Ctr. de Investigaciones Cerebrales, Jaume I Univ.*
- 1:00 MM8 **583.17** The activity of Purkinje cells in the vestibular cerebellum during active versus passive rotational head movements. O. ZOBEIRI\*; K. E. CULLEN. *Johns Hopkins Univ.*
- 2:00 MM9 **583.18** M1 and cerebellar responses to spatial and temporal perturbations during visuomotor tracking. W. XU\*; A. JACKSON. *Newcastle Univ.*
- 3:00 MM10 **583.19** Organization of the functional inputs from the sensorimotor cortex to the cerebellum revealed by transcranial optogenetic mapping. M. CHOO\*; R. HIRA; M. MATSUZAKI; K. IKEZOE; G. J. AUGUSTINE; M. KANO; K. KITAMURA. *The Univ. of Tokyo, Univ. of Yamanashi, Natl. Inst. for Basic Biol., The Univ. of Tokyo, Lee Kong Chian Sch. of Med.*
- 4:00 MM11 **583.20** The cerebellar vermis modulates activity in the prefrontal cortex. H. FUJITA\*; T. KODAMA; S. DU LAC. *Johns Hopkins Univ.*
- 1:00 MM12 **583.21** Cerebellar granule cells acquire a predictive neural signal in the go-no go associative learning task. M. MA\*; G. FUTIA; B. OZBAY; E. GIBSON; D. RESTREPO. *Univ. of Colorado-Anschutz Med. Campus, Univ. of Colorado Denver | Anschutz Med. C, Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado Denver, Univ. of Colorado Anschutz Med. Campus.*
- 2:00 MM13 **583.22** • Occupancy of sigma-1 receptors- A mass spectrophotometry based assay. J. B. THENTU\*; K. BANDARU; G. BHYRAPUNENI; R. DYAVARASHETTY; A. MOHAMMED; R. ALETI; N. PADALA; D. AJJALA; R. NIROGI. *Suven Life Sci. Ltd., Suven Life Sci. Ltd., Suven Life Sci. Ltd.*
- 3:00 MM14 **583.23** Alternation of cortical synaptic plasticity delays peripheral nervous system regeneration. L. H. WEERASINGHE ARACHCHIGE\*; K. K. SINGH; G. KUMAR; P. ASTHANA; W. Y. TAM; K. M. KWAN; C. H. E. MA. *City Univ. of Hong Kong, The Chinese Univ. of Hong Kong, Ctr. for Biosystems, Neuroscience, and Nanotechnology, City Univ. of Hong Kong.*
- 4:00 NN1 **583.24** Control of skilled reach through modulation of specific forelimb muscles by the IntA nucleus of the cerebellum. A. R. THANAWALLA\*; A. I. CHEN. *Nanyang Technological Univ., Nanyang Technological Univ.*

## POSTER

### 584. Cerebellum: Cortex and Nuclei II

#### Theme E: Motor Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 NN2 **584.01** Novel substructure in input layer of cerebellar cortex depending on projection of granule cell. T. KIM\*; Y. YAMAMOTO; K. TANAKA-YAMAMOTO. *KIST.*
- 2:00 NN3 **584.02** Role of the organized formation of parallel fibers during the cerebellar development. H. PARK\*; T. KIM; Y. YAMAMOTO; K. TANAKA-YAMAMOTO. *KIST, Korea Univ. of Sci. and Technol.*
- 3:00 NN4 **584.03** Projection-dependent labeling of cerebellar granule cells. Y. YAMAMOTO\*; T. KIM; K. TANAKA-YAMAMOTO. *KIST.*
- 4:00 NN5 **584.04** Transient stimulation of the inhibitory cerebello-olivary pathway generates a negative prediction error and causes extinction of conditioned eyelid responses. O. A. KIM\*; J. F. MEDINA. *Baylor Col. of Med.*
- 1:00 NN6 **584.05** Plasticity of ponto-cerebellar circuits generates predictive responses in climbing fibers. S. OHMAE\*; J. F. MEDINA. *Baylor Col. of Med.*
- 1:00 DP09/NN7 **584.06** (Dynamic Poster) Predictive control of a motor synergy by the cerebellum. S. A. HEINEY\*; J. F. MEDINA. *Univ. of Iowa, Baylor Col. of Med.*
- 3:00 NN8 **584.07** Cerebellar participation in a cognitive timing task in mice. G. J. WOJACZYNSKI\*; J. F. MEDINA. *Baylor Col. of Med.*
- 4:00 NN9 **584.08** Regional differences in the development of the cerebellar cortex. M. SCHONEWILLE\*; G. C. BEEKHOF; C. OSORIO; F. BLOT; J. J. WHITE. *Erasmus MC, Erasmus MC Rotterdam.*
- 1:00 NN10 **584.09** The zona incerta modulation of precerebellar nuclei. R. BHUVANASUNDARAM\*; S. WASHBURN; J. E. KRZYSPIAK; K. KHODAKHAH. *Albert Einstein Col. of Med.*
- 2:00 NN11 **584.10** Serotonin regulates tonic inhibition at the input stage of cerebellar processing. E. FLEMING\*; C. HULL. *Duke Univ.*
- 3:00 NN12 **584.11** Drd1 receptor activation in cerebellar cortex increases granular cell layer activity. J. CANTON-JOSH\*; Y. KOZOROVITSKIY. *Northwestern Univ.*
- 4:00 NN13 **584.12** Monosynaptic tracing within the cerebellum reveals distinct Purkinje innervation patterns of diverse cell types within the nuclei. S. M. LEWIS; D. G. HECK; A. L. PERSON\*. *Univ. of Colorado Sch. of Med.*
- 1:00 NN14 **584.13** Spontaneous activity change of Purkinje cell under direct current stimulation. T. YANG\*; M. KC; L. LAM; H. LU. *Philadelphia Col. of Osteo. Med. - Geo, PCOM - Georgia Campus.*
- 2:00 NN15 **584.14** Anatomical analysis of afferents to the red nucleus in mice. C. S. BEITZEL\*; B. D. HOUCK; A. L. PERSON. *Univ. of Colorado Denver Sch. of Med., Hendrix Col., Univ. of Colorado Sch. of Med.*
- 3:00 NN16 **584.15** Mechanisms underlying stress-induced motor attacks in a mouse model of episodic ataxia type 2. H. D. SNELL\*; A. VITENZON; E. TARA; K. KHODAKHAH. *Albert Einstein Col. of Med.*

Tues. 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 OO1 **584.16** Intensity dependent effects of cathodal tDCS on cerebellum using an *in vivo* approach. J. SELZMAN; V. YARABARLA; A. JAMSHAD; C. PICOU; H. LU\*. *PCOM - Georgia Campus*.
- 1:00 OO2 **584.17** Serotonergic modulation of cerebellar circuitry. K. PALARZ\*; K. KHODAKHAH. *Albert Einstein Col. of Med.*
- 2:00 OO3 **584.18** The cerebellar representation of learning in smooth pursuit eye movements across hundreds of trials. N. J. HALL\*; Y. YANG; S. G. LISBERGER. *Duke Univ., Inst. of Biophysics, CAS*.
- 3:00 OO4 **584.19** Regulation of flexible learning, social interaction, and whole-brain cellular activity by lobule VI of posterior vermis. J. VERPEUT\*; T. PISANO; M. KISLIN; L. WILLMORE; L. TAO; D. PACUKU; T. D. PEREIRA; A. M. BADURA; S. S. WANG. *Princeton Univ., Mol. Biol. Princeton Univ., Rutgers-Robert Wood Johnson Med. Sch., Netherlands Inst. For Neurosci.*
- 4:00 OO5 **584.20** Selective activation of cerebellar granule cells and molecular layer interneurons has distinct impact on performance in watermaze tasks. T. SURDIN\*; M. D. MARK; S. HERLITZE. *Ruhr-Universität Bochum, Ruhr Univ. Bochum, Ruhr-University Bochum*.
- 1:00 OO6 **584.21** Probing the functional interactions between distinct elements of the cerebellar cortex and deep nuclei circuitry in awake behaving mice. M. BEAU\*; D. KOSTADINOV; Y. CHUNG; M. HAUSSER. *UCL, Univ. Col. London*.
- 2:00 OO7 **584.22** Transcriptional role of mef2 in cerebellar granule neurons. S. P. MAJIDI\*; N. C. REDDY; T. YAMADA; L. HU; T. CHERRY; M. E. GREENBERG; A. BONNI. *Washington Univ. In St. Louis Sch. of Medic, Harvard Med. Sch., Seattle Children's Res. Inst., Washington Univ. in St. Louis, Sch. of Medi.*

## POSTER

### 585. Voluntary Movements: Cortical Planning and Execution: Behavior

#### Theme E: Motor Systems

Tue. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*

- 1:00 OO8 **585.01** Similarity of execution and observation neuronal population activity in macaque motor and ventral premotor cortex. S. J. JERJIAN\*; G. VIGNESWARAN; R. N. LEMON; M. SAHANI; A. KRASKOV. *UCL Inst. of Neurol., Univ. Col. London*.
- 2:00 OO9 **585.02** A newly learned controller is inflexible and computationally demanding. S. A. HUTTER\*; J. A. TAYLOR. *Princeton Univ.*
- 3:00 OO10 **585.03** Exploring motor repertoires induced by optical stimulation of corticospinal neurons. N. SALAH\*; Y. LIU; Z. HE. *Boston Childrens Hospital-Harvard Med. Sch., Swiss Federal Inst. of Technol., Children's Hosp. At Boston, Children's Hosp Boston*.
- 4:00 OO11 **585.04** Cortico-striatal contribution to the execution of a chain of sequences. A. SANCHEZ-FUENTES\*; K. RAMÍREZ-ARMENTA; J. RAMÍREZ-JARQUÍN; F. TECUAPETLA. *Natl. Autonomous Univ. of Mexico*.
- 1:00 OO12 **585.05** Fast, flexible, real-time closed-loop manipulation of voluntary whisking behavior. K. SEHARA\*; V. BAHR; B. MITCHINSON; S. E. DOMINIAC; M. STAAB; M. A. NASHAAT; M. PEARSON; M. E. LARKUM; R. N. S. SACHDEV. *Humboldt Univ. of Berlin, Eridian Systems, Univ. of Sheffield, Univ. of Bristol and Univ. of the West of England*.
- 2:00 OO13 **585.06** Perturbation of ipsilateral motor cortex is detrimental to healthy human motor learning. A. JOHNSTONE\*; M. NOWAK; H. JOHANSEN-BERG; C. J. STAGG. *Univ. of Oxford, Univ. of Oxford*.
- 3:00 OO14 **585.07** Motor cortex descending projections drive orofacial behaviors through specific brainstem premotor networks. N. MERCER LINDSAY\*; P. M. KNUTSEN; H. J. KARTEN; D. KLEINFELD. *Univ. of California San Diego, Univ. of Oslo, Univ. of California San Diego, Univ. of California San Diego*.
- 4:00 OO15 **585.08** Multimodal signal processing for grasp planning in the primate brain. D. BUCHWALD\*; B. DANN; H. SCHERBERGER. *German Primate Ctr., Fac. of Biol. and Psychology, Univ. of Goettingen*.
- 1:00 OO16 **585.09** Sex-related differences in the relationship between dementia risk and cognitive-motor integration performance. A. ROGOJIN\*; D. J. GORBET; K. M. HAWKINS; L. E. SERGIO. *York Univ., York Univ., York Univ.*
- 2:00 OO17 **585.10** Sequence learning improves horizon and speed of motor planning. G. ARIANI\*; N. KORDJAZI; J. DIEDRICHSEN. *The Brain and Mind Institute, Western Univ.*
- 3:00 OO18 **585.11** Sex, age, and strain differences result in different behavioral responses to ritalin (methylphenidate) exposure. A. KABANI; P. B. YANG; P. DASH\*; N. DAFNY. *Univ. of Texas Med. Sch. at Houston*.
- 4:00 PP1 **585.12** Dorsal premotor contributions to auditory timing: Causal transcranial magnetic stimulation studies of interval, tempo, and phase. J. M. ROSS\*; J. R. IVERSEN; R. BALASUBRAMANIAM. *Univ. of California, Merced, UC San Diego, Univ. of California, Merced*.
- 1:00 PP2 **585.13** Neurobehavioural imaging of natural motor learning in a complex human skill. S. HAAR\*; C. M. VAN ASSEL; A. A. FAISAL. *Imperial Col. London*.
- 2:00 PP3 **585.14** Transcranial static magnetic stimulation over human primary motor cortex can modulate implicit motor learning. I. NOJIMA\*; T. WATANABE; M. HIRAYAMA; H. SUGATA; T. IKEDA; T. MIMA. *Nagoya Univ. Grad. Sch. of Medicine., Nagoya Univ. Grad. Sch. of Med., Oita Univ., Kanazawa Univ., Ritsumeikan Univ.*
- 3:00 PP4 **585.15** ● Improving motor learning via phase-amplitude coupled theta-gamma tACS. H. AKKAD\*; J. DUPONT-HADWEN; S. BESTMANN; C. J. STAGG. *Univ. of Oxford, Inst. of Neurol.*
- 4:00 PP5 **585.16** Non-invasive EEG based assessment of laparoscopic clinical simulation based training with first time users. F. UCRAK; M. B. BAYRAM\*; I. A. OZCAN; M. E. AKSOY; B. ERKMEN. *Bogazici Univ., Yildiz Tech. Univ., Acibadem Mehmet Ali Aydinlar Univ., Acibadem Mehmet Ali Aydinlar Univ.*
- 1:00 PP6 **585.17** Low-frequency modulation of discrete goal-directed force contractions. S. L. BRACKSIECK\*; E. SAJJADI; A. CASAMENTO MORAN; B. YACOUBI KEYHANI; E. CHRISTOU. *Univ. of Florida, Univ. of Florida*.
- 2:00 PP7 **585.18** Conflict and suppression during action preparation: Suppression of task set, not responses. J. XU\*; L. ELPHAGE; A. M. HAITH. *Johns Hopkins Univ.*



- 3:00 PP8 **585.19** Individuals with an ACL reconstruction have altered neuromotor function. C. N. ARMITANO\*; S. MORRISON; D. M. RUSSELL. *Old Dominion Univ.*
- 4:00 PP9 **585.20** Eye movements in real baseball batting by elite players. Y. KISHITA\*; M. KASHINO. *Tokyo Inst. of Technol., NTT communication science laboratories.*
- 1:00 PP10 **585.21** Cognition-action behavior of top athletes in experimental batting explains their performance in real games. D. NASU\*; A. KOBAYASHI; M. YAMAGUCHI; N. SAIJO; M. KASHINO; T. KIMURA. *NTT Communication Sci. Labs.*
- 2:00 PP11 **585.22** Availability of pitching motion information in batting timing control revealed by virtual reality. T. KIMURA\*; D. NASU; M. YAMAGUCHI; M. KASHINO. *NTT Communication Sci. Labs.*
- 3:00 PP12 **585.23** Increased gain in online correction of a reaching task in ball game athletes. T. IJIRI\*; H. KOBAYASHI; K. NAKAZAWA. *The Univ. of Tokyo, The Univ. of Tokyo.*
- 4:00 PP13 **585.24** Efficient cortical coding of 3D posture in freely behaving rats. B. MIMICA\*; B. A. DUNN; T. TOMBAZ; S. BOJJA; J. R. WHITLOCK. *NTNU.*
- 1:00 PP14 **585.25** Task-dependence of movement coding in mouse parietal cell populations. T. TOMBAZ\*; B. A. DUNN; R. J. A. CUBERO; P. MAMIDANNA; K. HOVDE; B. MIMICA; J. R. WHITLOCK. *NTNU, Eberhard Karls Univ.*
- 2:00 PP15 **585.26** Neural representations of discrete, sequential behaviors in the rodent posterior parietal and frontal motor cortices. B. DUNN\*; T. TOMBAZ; B. MIMICA; K. HOVDE; J. R. WHITLOCK. *Kavli Inst. for Systems Neuroscience, NTNU, NTNU, Kavli Inst. for Systems Neurosci.*
- 3:00 PP16 **585.27** Uncorrelated low-dimensional population response and noise correlation network structure in the macaque fronto-parietal grasping network. B. DANN\*; H. SCHERBERGER. *German Primate Ctr., Univ. of Göttingen.*
- 1:00 PP21 **586.05** Brain preparation to self-paced movements using TMS-EEG: New insights into the role of preparatory cortical inhibition. J. IBANEZ PEREDA\*; A. REKA; R. HANNAH; L. ROCCHI; J. C. ROTHWELL. *Univ. Col. London, UCL, UCL Inst. of Neurol., Inst. Neurol.*
- 2:00 PP22 **586.06** Effects of behavioral tasks on neural activity relevant to motor preparation. T. KUBO; Y. MATSUMOTO; T. URAKAWA\*; O. ARAKI. *Dept. of Applied Physics.*
- 3:00 QQ1 **586.07** Beta-band intramuscular coherence in the tibialis anterior predicts temporal gait adaptation on a split-belt treadmill. S. SATO\*; J. T. CHOI. *Univ. of Massachusetts, Amherst, Univ. of Massachusetts Amherst.*
- 4:00 QQ2 **586.08** Neural correlates of impaired speech and hand motor timing processing in Parkinson's disease. K. JOHARI\*; R. BEHROOZMAND. *Univ. of South Carolina, Univ. of South Carolina.*
- 1:00 QQ3 **586.09** Visual stimulation facilitates cervical interneuron systems mediating corticospinal excitation to motoneurons in arm muscles. T. NAKAJIMA\*; H. OHTSUKA; S. IRIE; R. ARIYASU; S. SUZUKI; T. KOMIYAMA; Y. OHKI. *Kyoin University Sch. of Med., Kyoin Univ. Sch. of Med., Chiba Univ., Kyoin Univ. Sch. Med.*
- 2:00 QQ4 **586.10** Motor planning muscle activation patterns and reaction time. S. DELMAS\*; A. CASAMENTO-MORAN; S. H. PARK; B. YACOUBI; E. A. CHRISTOU. *Univ. of Florida.*
- 3:00 QQ5 **586.11** Neurophysiological biomarkers of the psychological flow in realworld tightrope walking. G. CHERON\*; A. LEROY. *Fsm-Université Libre De Bruxelles, Univ. Libre de Bruxelles.*
- 4:00 QQ6 **586.12** ▲ Corticospinal excitability changes during a complex locomotor task in humans. C. DAMBREVILLE\*; C. NEIGE; C. MERCIER; A. BLANCHETTE; L. BOUYER. *Univ. Laval.*
- 1:00 QQ7 **586.13** ▲ Predicting corticospinal excitability from oscillatory activity over motor cortex. C. K. TISCHLER\*; L. LABRUNA; A. BRESKA; R. IVRY. *Univ. of California Berkeley, Univ. of California, Berkeley, Univ. California.*

## POSTER

### 586. Voluntary Movements: Cortical Planning and Execution: Neurophysiology: Human

#### Theme E: Motor Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 PP17 **586.01** Modulation of corticomotor excitability in response to localized cooling. Y. ANSARI; A. REMAUD; F. TREMBLAY\*. *Univ. of Ottawa, Bruyere Res. Inst.*
- 2:00 PP18 **586.02** The inhibition of voluntary muscle relaxations depends on similar mechanisms to the inhibition of muscle contractions. J. DE HAVAS\*; S. ITO; H. GOMI. *NTT Communication Sci. Labs., JSPS Intl. Res. Fellow.*
- 3:00 PP19 **586.03** Cerebellar-motor cortex connectivity: One or two different networks? D. SPAMPINATO\*; P. A. CELNIK; J. ROTHWELL. *Univ. Col. of London, Johns Hopkins Univ., Univ. Col. of London.*
- 4:00 PP20 **586.04** Do the facial primary motor cortices communicate directly with each other? F. GINATEMPO; N. G. MANZO; J. C. ROTHWELL\*; F. DERIU. *Univ. of Sassari, Sapienza Univ. of Rome, Inst. Neurol.*
- 2:00 QQ8 **586.14** Contributions of the ipsilateral hemisphere to motor control. C. MERRICK\*; T. C. DIXON; J. J. LIN; I. GREENHOUSE; A. BRESKA; P. B. WEBER; D. KING-STEPHENS; K. D. LAXER; E. F. CHANG; J. M. CARMENA; R. T. KNIGHT; R. B. IVRY. *Univ. of California Berkeley, Univ. of California Berkeley, Univ. of California, Irvine, Univ. of Oregon, California Pacific Med. Ctr., UCSF, UC Berkeley, Univ. of California Berkeley, Univ. California.*
- 3:00 QQ9 **586.15** Putative propriospinal modulation of premotor and motor cortical output during grasping. K. L. BUNDAY\*; Z. POH; S. AZZOPARDI; M. DAVARE. *Univ. of Westminster, UCL, Inst. of Neurol.*
- 4:00 QQ10 **586.16** ERNing performance improvements: Error related negativity (ERN) is associated with errors in lifting performance during an object manipulation task. K. A. FERCHO\*; G. R. LYNCH; L. A. BAUGH. *Univ. of South Dakota, Billings Senior High Sch.*
- 1:00 QQ11 **586.17** Interactions between intracortical and interhemispheric inhibition in chronic stroke. C. PATTEN\*; Q. DING; W. J. TRIGGS. *Univ. of California Davis, Sch. of Med., Northern California VA Hlth. Care Syst., Univ. of California Davis, Univ. of Florida, Malcom Randall VA 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 QQ12 **586.18** Differences in motor unit discharge characteristics between ankle plantarflexors and dorsiflexors during steady contractions. L. M. MCPHERSON; C. KIM\*; N. RENDOS; A. CHU; A. ESPINAL; S. ZAVERI; J. CARRENO; P. VEGA; R. VARGHESE. *Florida Intl. Univ., Andrews Res. and Educ. Fndn., Florida Intl. Univ.*

## POSTER

### 587. Voluntary Movements: Cortical Planning and Execution: Neurophysiology: Animal II

#### Theme E: Motor Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

1:00 QQ13 **587.01** Cortical, callosal and thalamic inputs to the neck and jaw motor representations in rats. H. MOHAMMED\*; N. JAIN. *Burke Med. Res. Inst., Natl. Brain Res. Ctr.*

2:00 QQ14 **587.02** Macaque premotor cortex activity and behavior support embodied choice model of decision-making. M. WANG\*; C. CHANDRASEKARAN; K. V. SHENOY. *Stanford Univ., Stanford Univ., Howard Hughes Med. Inst. - Stanford Univ.*

3:00 QQ15 **587.03** Reward-dependent modulation of correlated neural variability mediates trial-by-trial motor learning. J. WANG\*; E. HOSSEINI; M. JAZAYERI. *MIT McGovern Inst. For Brain Res., Univ. of Missouri, MIT, MIT.*

4:00 QQ16 **587.04** The role of anterior corpus callosum in bimanual coordination in head-fixed rats. M. IGARASHI\*; Y. AKAMINE; J. R. WICKENS. *Okinawa Inst. of Sci. and Technol.*

1:00 QQ17 **587.05** Mirror neuron populations lead non-mirror neuron populations during execution of a reach, grasp, and manipulate task. K. A. MAZUREK\*; M. H. SCHIEBER. *Univ. of Rochester, Univ. of Rochester.*

2:00 QQ18 **587.06** Cortical activity during a motor task in behaving mice. N. C. GIORDANO\*; C. ALIA; A. CATTANEO; M. CALEO. *CNR - IN / Scuola Normale Superiore, Neurosci. Institute, Natl. Res. Council, Scuola Normale Superiore.*

3:00 QQ19 **587.07** ▲ Distribution of layer 5 sensorimotor cortex neurons projecting to mesencephalic nuclei. V. LOPEZ-VIRGEN\*; R. OLIVARES-MORENO; G. ROJAS-PILONI. *Univ. Nacional Autónoma De México.*

4:00 QQ20 **587.08** Representation of multiple grip types in the primary motor cortex of capuchin monkeys. A. MAYER\*; M. K. BALDWIN; D. F. COOKE; B. R. LIMA; J. J. PADBERG; G. LEWENFUS; J. G. FRANCA; L. A. KRUBITZER. *Federal Univ. of Santa Catarina, Univ. of California Davis, Simon Fraser Univ., Federal Univ. of Rio de Janeiro, Univ. of Central Arkansas, Federal Univ. of Rio de Janeiro, Univ. Federal do Rio de Janeiro, UC Davis.*

1:00 QQ21 **587.09** Normal and perturbed neural dynamics in motor cortex during a reach-to-grab task. B. SAUERBREI\*; J. GUO; J. ZHENG; W. GUO; M. KABRA; N. VERMA; M. MISCHIATI; K. BRANSON; A. HANTMAN. *Janelia Res. Campus.*

2:00 QQ22 **587.10** Does the medial reach-to-grasp network host mirror neurons? R. BREVEGLIERI\*; F. E. VACCARI; A. BOSCO; M. GAMBERINI; P. FATTORI; C. GALLETI. *Univ. di Bologna.*

3:00 QQ23 **587.11** Single neuron defined cortico-subcortical mesoscale networks are associated with specific motor actions in awake chronic mice. D. XIAO\*; J. M. LEDUE; M. P. VANNI; T. H. MURPHY. *Univ. of British Columbia.*

4:00 QQ24 **587.12** Encoding of contralateral and ipsilateral hand movements by neurons and local field potentials in the primary motor cortex in monkeys. Y. NAKAYAMA\*; O. YOKOYAMA; E. HOSHI. *Tokyo Metropolitan Inst. of Med. Sci.*

1:00 QQ25 **587.13** Stability and independence of the ipsilateral representation of reaching movements in motor cortex. T. C. DIXON\*; C. M. MERRICK; R. T. KNIGHT; R. B. IVRY; J. M. CARMENA. *Univ. of California Berkeley, Univ. of California Berkeley, Univ. of California Berkeley.*

2:00 QQ26 **587.14** Cholinergic modulation enhances the performance of skilled motor behaviors. X. PENG\*; D. C. DONEGAN; J. L. HICKMAN; C. G. WELLE. *Univ. of Colorado Denver.*

3:00 RR1 **587.15** Mesoscale analysis of decision making, motor planning and movement initiation. L. D. LIU\*; T. WANG; S. CHEN; O. MARSCHALL; S. DRUCKMANN; N. LI; K. SVOBODA; X. WANG. *HHMI, Baylor Col. of Med., New York Univ., Stanford Univ.*

4:00 RR2 **587.16** The effects of sensory loss on the neurobiomechanics of sensorimotor behavior. F. I. ARCE-MCSHANE\*; N. G. HATSOPOULOS; C. F. ROSS; B. J. SESSLE. *Univ. of Chicago, Univ. of Chicago, Univ. of Chicago, Fac. of Dent.*

1:00 RR3 **587.17** Sensory-motor sequence generation and learning of tongue movements. D. XU\*; Y. CHEN; A. M. DELGADO; D. H. O'CONNOR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ.*

2:00 RR4 **587.18** Cortical dynamics associated with multiple timescales of sensorimotor adaptation. N. MEIRHAEGHE\*; H. SOHN; M. JAZAYERI. *Harvard-MIT, MIT, Massachusetts Inst. of Technol. Dept. of Brain and Cognitive Sci.*

3:00 RR5 **587.19** Directional selectivity across macaque motor cortical layers during reach planning and execution. B. E. KILAVIK\*. *INT, CNRS - Aix-Marseille Univ.*

4:00 RR6 **587.20** A robust brain-spinal interface using local field potentials and epidural stimulation. M. AMBROISE\*; A. JACKSON. *Newcastle Univ.*

1:00 RR7 **587.21** Epidural and transcutaneous spinal cord stimulation facilitates descending inputs to upper-limb motoneurons. T. GUIHO\*; J. KERSEY; S. N. BAKER; A. JACKSON. *Univ. of Newcastle.*

2:00 RR8 **587.22** Parietal and premotor planning signals for walk-and-reach movements towards far-located goals in unrestrained rhesus macaques. M. BERGER\*; A. GAIL. *German Primate Ctr., Univ. of Goettingen, Bernstein Ctr. for Computat. Neurosci.*

3:00 RR9 **587.23** Encoding of licking direction in a shared space of neuronal ensemble activities in anterior lateral motor cortex in rodents. S. CHAE\*; S. KIM. *Ulsan Natl. Inst. of Sci. and Technol., Ulsan Natl. Inst. of Sci. and Technol.*

4:00 RR10 **587.24** The organization of motor cortex in the Egyptian fruit bat (*Rousettus aegyptiacus*): Specializations of the tongue representation associated with echolocation. A. C. HALLEY\*; M. M. YARTSEV; L. A. KRUBITZER. *Univ. of California, Davis, Univ. of California Berkeley.*

- 1:00 RR11 **587.25** Long-term stability of single channel neural activity during execution of gross and fine reaching in rats. D. T. BUNDY\*; D. J. GUGGENMOS; M. D. MURPHY; M. SAMI; R. J. NUDO. *Univ. of Kansas Med. Ctr., Univ. of Kansas, Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr.*
- 2:00 RR12 **587.26** Sensorimotor cortical population responses across natural behaviors. J. WALKER\*; F. PIRSCHER; J. N. MACLEAN; N. G. HATSOPOULOS. *Univ. of Chicago, Univ. of Chicago, The Univ. of Chicago, Univ. of Chicago.*
- 3:00 RR13 **587.27** Distinct descending motor cortex pathways and their roles in movement. M. N. ECONOMO\*; S. VISWANATHAN; B. TASIC; E. BAS; J. WINNUBST; V. MENON; L. T. GRAYBUCK; T. NGUYEN; L. WANG; C. R. GERFEN; J. V. CHANDRASHEKAR; H. ZENG; L. LOOGER; K. SVOBODA. *Howard Hughes Med. Inst. Janelia Farm Res. Campus, HHMI, Allen Inst. for Brain Sci., HHMI/Janelia research campus, HHMI Janelia Res. Campus, HHMI Janelia Res. Campus, Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., HHMI/Janelia Res. Campus, NIMH, Janelia Res. Campus, HHMI, Allen Inst. for Brain Sci., HHMI / Janelia Farm Res. Campus.*
- 4:00 RR14 **587.28** Grip affordances are encoded in conjunction with grasping movements in M1. R. N. TIEN\*; A. B. SCHWARTZ. *Univ. of Pittsburgh.*

## POSTER

### 588. Vocal and Oral Control Mechanisms From Song to Speech

#### Theme E: Motor Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 SS1 **588.01** Multimodal measurement of swallowing using human electrocorticograms, Kinect v2, an electroglottography and a throat microphone in order to reveal swallowing-related neural activities. H. HASHIMOTO\*; M. HIRATA; K. TAKAHASHI; S. KAMEDA; F. YOSHIDA; T. YANAGISAWA; S. OSHINO; T. YOSHIMINE; H. KISHIMA. *Osaka Univ., Osaka Univ., Univ. of Chicago, Kyushu Univ.*
- 2:00 SS2 **588.02** ▲ Differential modulation of neural activity in the ventral lateral nucleus of the thalamus during speech production. D. WANG\*; W. J. LIPSKI; A. BUSH; C. DASTOLFO-HROMACK; A. CHRABASZCZ; D. J. CRAMMOND; S. SHAIMAN; R. S. TURNER; J. A. FIEZ; M. RICHARDSON. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 3:00 SS3 **588.03** Peripheral constraints on motor learning: Maximal speed of adult vocal muscles is not available during song learning. I. ADAM\*; M. VELLEMA; C. P. ELEMANS. *Univ. of Southern Denmark.*
- 4:00 SS4 **588.04** Fundamental frequency control by dynamic actuation of the songbird syrinx. C. P. ELEMANS\*; A. MAXWELL; C. LAUGESEN; B. J. KNÖRLEIN; D. N. DÜRING. *Univ. of Southern Denmark, Univ. of Southern Denmark, Brown Univ., Univ. of Zurich.*
- 1:00 SS5 **588.05** Stability in postural tongue control: Response to transient mechanical perturbations. T. ITO\*; J. CAILLET; P. PERRIER. *Gipsa Lab, CNRS.*
- 2:00 SS6 **588.06** Oral cavity numbing reduces sensorimotor adaptation to altered auditory feedback. I. RAHARJO\*; H. KOTHARE; J. F. HOUDE; S. S. NAGARAJAN. *UC San Francisco.*
- 3:00 SS7 **588.07** Sound naturalness of wideband speech affects articulatory compensation for altered formant feedback. Y. UEZU\*; S. HIROYA; T. MOCHIDA. *NTT Communication Sci. Labs.*
- 4:00 SS8 **588.08** Adaptive song modification is impaired following FoxP2 overexpression in adult zebra finches. N. F. DAY\*; S. N. FREDA; S. A. WHITE. *Univ. of California Los Angeles.*
- 1:00 SS9 **588.09** A songbird model system for understanding the biological evolution of human language. M. FARIAS-VIRGENS\*; P. INGLE; T. DEACON; K. OKANOYA; S. A. WHITE; E. HUERTA-SANCHEZ. *Univ. of California Los Angeles, Univ. of California Berkeley, RIKEN-Brain Sci. Institute, Univ. of Tokyo, Univ. of California Merced.*
- 2:00 SS10 **588.10** Bengalese finches can use learned sensory cues to flexibly shift between opposing song modifications. L. VEIT\*; L. Y. TIAN; C. J. M. HERNANDEZ; M. S. BRAINARD. *UCSF, Univ. of New Orleans.*
- 3:00 SS11 **588.11** Testing whether LMAN acoustically biases juvenile zebra finch song. S. N. BRUDNER\*; R. MOONEY. *Duke Univ.*
- 4:00 SS12 **588.12** Motor contributions to vocal sequence learning biases. L. S. JAMES\*; R. DAVIES, Jr; C. MORI; K. WADA; J. T. SAKATA. *McGill Univ., Ctr. for Res. in Brain, Language, and Music, McGill Univ., Hokkaido Univ., McGill Univ., Integrated Program in Neurosci.*
- 1:00 SS13 **588.13** Visual reinforcement of vocal pitch in deaf songbirds. A. T. ZAI\*; S. CAVÉ-LOPEZ; N. GIRET; R. H. HAHNLOSER. *ETH Zurich / Univ. of Zurich, ETH Zurich / Univ. of Zurich, Neurosci. Paris Saclay Institute, UMR CNRS 9197.*
- 2:00 SS14 **588.14** Is there synergy between song learning and vocal stimuli discrimination? K. WATANABE\*; K. TOKAREV; O. TCHERNICHOVSKI. *City Univ. of New York, Hunter Col., Hunter College, CUNY, Hunter Col.*
- 3:00 TT1 **588.15** Performance error computation in zebra finch song at sub-syllabic time scales. D. LIPKIND\*; O. TCHERNICHOVSKI; R. H. R. HAHNLOSER. *Hunter Col., Inst. of Neuroinformatics, Univ. of Zurich/ETH Zurich.*
- 4:00 TT2 **588.16** Understanding the origin of introductory vocalizations in a song bird, the zebra finch. S. KALRA\*; V. YAWATKAR; L. S. JAMES; J. T. SAKATA; R. RAJAN. *Indian Inst. of Sci. Educ. and Res., McGill Univ., McGill Univ.*
- 1:00 TT3 **588.17** Analysing the role of sensory feedback in the initiation of zebra finch song. D. RAO\*; A. KUMAR; S. KOJIMA; R. RAJAN. *Indian Inst. of Sci. Educ. and Res., Korea Brain Res. Inst.*
- 2:00 TT4 **588.18** Sensorimotor learning in children and adults who stutter. K. S. KIM\*; L. MAX. *Univ. of Washington, Univ. Washington.*
- 3:00 TT5 **588.19** Song preference predicts vocal development in juvenile zebra finches. C. A. RODRÍGUEZ-SALTOS\*; G. RAMSAY; T. J. LIBECAP; D. MANEY. *Emory Univ., Marcus Autism Ctr., Emory Univ.*
- 4:00 TT6 **588.20** The role of new neurons in the emergence of precisely timed bursts in songbird HVC. Y. TUPIKOV\*; D. Z. JIN. *The Pennsylvania State Univ.*
- 1:00 TT7 **588.21** Cortical adaptations to enable enhanced vocalization. C. M. CERKEVICH\*; P. L. STRICK. *Univ. Pittsburgh Sch. Med., Univ. Pittsburgh Sch. Med., Univ. Pittsburgh Sch. Med., Univ. Pittsburgh 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

- 2:00 TT8 **588.22** Cortical control of vocal interactions in a neotropical singing mouse. A. BANERJEE\*; D. E. OKOBI, Jr; G. A. CASTELLUCCI; S. M. PHELPS; M. A. LONG. *NYU Sch. of Med., Yale Sch. of Med., Univ. of Texas At Austin.*
- 3:00 TT9 **588.23** Stable sequential activity underlying the maintenance of a precisely executed skilled behavior. K. KATLOWITZ\*; M. A. PICARDO; M. A. LONG. *New York Univ., New York Univ. Sch. of Med., NYU Sch. of Med.*
- 4:00 TT10 **588.24** Local network mechanisms for sequence generation underlying a complex learned behavior. R. EGGER\*; Y. TUPIKOV; K. KATLOWITZ; S. E. BENEZRA; M. A. PICARDO; F. MOLL; J. KORNFELD; D. Z. JIN; M. A. LONG. *NYU Sch. of Med., Pennsylvania State Univ., Max Planck Inst. of Neurobio.*

## POSTER

### 589. Novel Electrode Designs, CNS, and Periphery

#### Theme E: Motor Systems

Tue. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*

- 1:00 TT11 **589.01** Improving usability of silicone-based neural electrodes by introducing color labels. M. ULLOA; M. SCHUETTLER\*; R. PFEIFER; C. BIERBRAUER; S. BENSCH; C. HENLE. *Cortec GmbH.*
- 2:00 TT12 **589.02** Stability of siloxane sensors *in vivo* for real-time, spatiotemporal mapping of oxygen in brain tissue. L. DE MESQUITA TEIXEIRA\*; A. SRIDHARAN; B. MOGHADAS; V. KODIBAGKAR; J. MUTHUSWAMY. *Arizona State Univ.*
- 3:00 TT13 **589.03** ▲ Brain-like, soft, silicone scaffolds improve stability of enzyme based electrochemical sensors for chronic applications. J. SARBOLANDI; A. SRIDHARAN; J. MUTHUSWAMY\*. *Arizona State Univ., Arizona State Univ.*
- 4:00 TT14 **589.04** Single unit recordings from central and peripheral nervous system using metallized graphene electrodes. M. GONZÁLEZ-GONZÁLEZ\*; A. KANNEGANTI; C. L. FREWIN; J. J. PANCAZIO; R. A. JALILI; G. G. WALLACE; M. I. ROMERO-ORTEGA. *The Univ. of Texas at Dallas, RMIT Univ., Univ. of Wollongong.*
- 1:00 TT15 **589.05** ● Implantable amplifiers for chronic *in vivo* research. D. MCDONNALL\*; I. MYERS; B. CROFTS; A. M. WILDER; S. HIATT. *Ripple, Ripple LLC, Ripple.*
- 2:00 TT16 **589.06** The biocompatibility of diamond ultramicroelectrode materials for neural sensing applications. M. B. SETIEN; S. DANIELS; C. RUSINEK; Y. GUO; R. RECHENBERG; M. BECKER; W. LI; E. K. PURCELL\*. *Michigan State Univ., Fraunhofer USA, Inc. - CCD.*
- 3:00 TT17 **589.07** Neurotransmitter analysis with all-diamond microfiber electrodes using fast scan cyclic voltammetry. C. RUSINEK\*; J. GOPINATH; M. BECKER; Y. GUO; R. RECHENBERG; M. SETIEN; S. DANIELS; E. K. PURCELL; C. MCKINNEY; W. LI. *Fraunhofer USA Inc. Ctr. For Coatings and Diamon, Fraunhofer USA, Inc. Ctr. for Coatings and Diamond Technologies, Michigan State Univ., Univ. of North Carolina Chapel Hill.*
- 4:00 TT18 **589.08** Mechanical characteristics of microfabricated diamond ultramicroelectrode fibers for neural sensing applications. W. LI\*; Y. GUO; R. RECHENBERG; C. A. RUSINEK; M. SETIEN; S. DANIELS; M. F. BECKER; E. K. PURCELL. *Michigan State Univ., Fraunhofer USA, Ctr. for Coatings and Diamond Technologies.*
- 1:00 TT19 **589.09** ● Multi-neuromodulator measurements in the behaving macaque cortex and basal ganglia using solid-phase micro-extraction fibres. S. HASSANI\*; S. LENDOR; E. BOYACI; V. SINGH; J. PAWLISZYN; T. WOMELSDORF. *Vanderbilt Univ., York Univ., Univ. of Waterloo.*
- 2:00 TT20 **589.10** CMOS technology for three dimensional neural recording using microwire arrays. N. MELOSH\*; A. OBAID. *Stanford Univ.*
- 3:00 TT21 **589.11** High-density microwires array for neurochemical monitoring. N. HEMED\*; A. OBAID; P. WANG; N. MELOSH. *Stanford university, Stanford Univ.*
- 4:00 TT22 **589.12** Neuroroots, an ultra-low damage scalable neural interface. M. D. FERRO\*; A. GONZALEZ; E. ZHAO; L. M. GIOCOMO; N. MELOSH. *Stanford Univ., Stanford Univ., Stanford Univ.*
- 1:00 TT23 **589.13** Simultaneous detection of dopamine and 5-hydroxytryptamine through fast scan cyclic voltammetry using glassy carbon microelectrode arrays. E. CASTAGNOLA\*; S. NIMBALKAR; B. CARIAPPA; C. CEA; A. GAUTAM; S. KASSENE. *San Diego State Univ., Ctr. for Sensorimotor Neural Engin.*
- 2:00 TT24 **589.14** Cyclic voltammetry and impedance characterization of modified electrodes in physiological levels of dopamine. R. KEITH\*; N. PEIXOTO. *George Mason Univ. Krasnow Inst., George Mason Univ. Krasnow Inst.*
- 3:00 UU1 **589.15** Development of a multi-functional glassy-carbon electrode for simultaneous stimulation and measurement of neurotransmitter response in the spinal cord. S. THONGPANG\*; M. HIRABAYASHI; E. CASTAGNOLA; S. NIMBALKAR; B. CARIAPPA; C. CEA; A. FISCHEDICK; P. E. PHILLIPS; S. KASSENE; C. T. MORITZ. *Mahidol Univ., Univ. of Washington, The Ctr. for Sensorimotor Neural Engineering, An NSF Engin. Res. Ctr., San Diego State Univ., Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington Inst. for Neuroengineering (UWIN), Washington State Spinal Cord Injury Consortium.*
- 4:00 UU2 **589.16** A novel osseointegrated neural interface (ONI) with percutaneous connections for chronic electrophysiology in the rabbit. A. M. DINGLE\*; J. P. NESS; J. NOVELLO; W. ZENG; B. NEMKE; Y. LU; M. D. MARKEL; A. J. SUMINSKI; J. C. WILLIAMS; S. O. POORE. *Univ. of Madison, WI, Univ. of Madison, WI, Univ. of Madison, WI, Univ. of Madison, WI, Univ. of Madison, WI.*
- 1:00 UU3 **589.17** Development and validation of HYPE, a novel floating array for intrafascicular peripheral neural interfacing. I. STRAUSS\*; F. M. PETRINI; A. CUTRONE; F. BERNINI; K. GABISONIA; L. CARLUCCI; S. RASPOPOVIC; F. RECCHIA; S. MICERA. *Scuola Superiore Sant'Anna, Ctr. for Neuroprosthetics and Inst. of Bioengineering, École Polytechnique Fédérale de Lausanne (EPFL), Inst. di Scienze della Vita (ISV), Inst. of Robotics and Intelligent Systems, ETH.*
- 2:00 UU4 **589.18** Tissue-engineered electronic nerve interfaces (teeni): Functional and histological evaluation. E. ATKINSON\*; E. A. NUNAMAKER; A. GORMALEY; A. BRAKE; M. YUSUFALI; B. SPEARMAN; C. KULIASHA; A. FURNITUREWALA; P. RUSTOGI; S. MOBINI; C. SCHMIDT; J. W. JUDY; K. J. OTTO. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

3:00 UU5 **589.19** ▲ Tissue-engineered electronic nerve interfaces (TEENI): Foreign body response in the peripheral nervous system. A. K. GORMALEY\*; E. ATKINSON; E. NUNAMAKER; J. GRAHAM; A. M. BRAKE; M. YUSUFALI; B. SPEARMAN; C. KULIASHA; A. FURNITUREWALLA; P. RUSTOGI; S. MOBINI; C. SCHMIDT; J. W. JUDY; K. J. OTTO. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

4:00 UU6 **589.20** Tissue-engineered electronic nerve interfaces (TEENI): Design, fabrication, and reliability testing. C. A. KULIASHA; P. RUSTOGI; A. S. FURNITUREWALLA; B. S. SPEARMAN; E. W. ATKINSON; E. A. NUNAMAKER; K. J. OTTO; C. E. SCHMIDT; J. W. JUDY\*. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*

1:00 UU7 **589.21** An experimental model for assessing long-term safety and efficacy of vagus nerve stimulation. F. YAGHOUBY\*; B. SHAFER; S. ASGARI; S. VASUDEVAN. *FDA, Food and Drug Administration, U.S. Food and Drug Admin.*

## POSTER

### 590. Brain-Machine: Speech and Other Motor Systems

#### Theme E: Motor Systems

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

1:00 UU8 **590.01** Deep learning for neural data: Speech classification and cross-frequency coupling in human cortex. J. LIVEZEY\*; K. E. BOUCHARD; E. F. CHANG. *E O Lawrence Berkeley Natl. Lab., UCSF.*

2:00 UU9 **590.02** Synthesizing speech from the human sensorimotor cortex. G. K. ANUMANCHIPALLI\*; J. CHARTIER; E. F. CHANG. *UCSF, UCSF, UC Berkeley.*

3:00 UU10 **590.03** Using single unit bursts to decode audible and silent speech recorded chronically from a speaking human. P. R. KENNEDY\*. *Neural Signals Inc.*

4:00 UU11 **590.04** Real-time decoding of question-and-answer speech dialogue using human cortical activity. D. A. MOSES\*; M. K. LEONARD; J. G. MAKIN; E. F. CHANG. *UC Berkeley - UC San Francisco, UCSF, Univ. of California, San Francisco, UCSF.*

1:00 UU12 **590.05** LFP based classification of vocalizations in free-behaving zebra finch. D. E. BROWN\*, JR; E. M. ARNEODO; S. CHEN; T. GENTNER; V. GILJA. *UCSD, Biocircuits Inst., UCSD, UCSD, UCSD.*

2:00 UU13 **590.06** A brain-machine-interface to generate vocal communications. S. CHEN\*; E. M. ARNEODO; D. E. BROWN, II; V. GILJA; T. Q. GENTNER. *UCSD, UCSD, UCSD, UCSD.*

3:00 UU14 **590.07** Tracking longitudinal changes in sleep features in an intracortical brain-computer interface user with tetraplegia. D. J. THENGONE\*; T. HOSMAN; J. SAAB; J. D. SIMERAL; L. R. HOCHBERG. *Brown Univ., Brown Univ., Massachusetts Gen. Hosp., VA RR&D Ctr. for Neurorestoration and Neurotechnology, Brown Univ., Harvard Med. Sch.*

4:00 UU15 **590.08** Single unit activity in middle frontal gyrus of a person with tetraplegia reveals sensory specific modulation. K. G. WILCOXEN\*; C. E. VARGAS-IRWIN; J. B. HYNES; T. HOSMAN; J. SAAB; B. FRANCO; J. KELEMAN; E. N. ESKANDAR; J. P. DONOGHUE; L. R. HOCHBERG. *Brown Univ., Brown Univ., Brown Univ., VA RR&D Ctr. for Neurorestoration and Neurotechnology, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Wyss Ctr., Harvard Med. Sch.*

1:00 UU16 **590.09** The effect of default mode network disruption on reaction-timing and cortical activity in a modified Stroop task. N. R. WILSON\*; K. WEAVER; J. WU; J. G. OJEMANN; R. P. N. RAO. *Univ. of Washington, Univ. of Washington, Ctr. for Sensorimotor Neural Engin., Univ. of Washington, Univ. of Washington.*

2:00 UU17 **590.10** A novel ischemic stroke model for non-human primate: Quantitative estimate of the scale of photochemically induced infarction in primate cortex. Z. YAO\*; E. P. BURUNOVA; W. Y. HAN; W. K. S. OJEMANN; A. YAZDAN-SHAHMORAD. *Univ. of Washington, Univ. of Washington, Univ. of Washington.*

3:00 UU18 **590.11** Virtual navigation via a closed-loop brain-machine interface. K. E. SCHROEDER\*; S. M. PERKINS; Q. WANG; M. M. CHURCHLAND. *Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ.*

4:00 UU19 **590.12** Development of cortically controlled FES following spinal cord injury in the rat. F. BARROSO; B. YODER; J. WALLNER; D. TENTLER; P. TOSTADO; L. E. MILLER; M. C. TRESCH\*. *Northwestern Univ., UCSD, Northwestern Univ.*

1:00 UU20 **590.13** Classification of flexion and extension of upper limb joints from the sensorimotor cortex using electrocorticography. T. M. THOMAS\*; D. N. CANDREA; N. E. CRONE. *Johns Hopkins Univ., Johns Hopkins Hosp.*

2:00 UU21 **590.14** Effects of dorsal root ganglia microstimulation in advance of postural perturbation on hindlimb motor output in behaving cats. M. URBIN\*; E. C. BOTTORFF; R. A. GAUNT; L. E. FISHER; D. J. WEBER. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

3:00 UU22 **590.15** Characterizing neural responses and organization in the dorsal root. D. SARMA\*; M. F. LIU; C. GOPINATH; L. E. FISHER; R. A. GAUNT; D. J. WEBER. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*

4:00 VV1 **590.16** Patterns of cortical population activity during intentional control of single neurons. A. S. WHITFORD\*; S. M. CHASE; A. B. SCHWARTZ. *Carnegie Mellon Univ., Univ. of Pittsburgh, Carnegie Mellon Univ., Carnegie Mellon Univ., Univ. of Pittsburgh.*

1:00 VV2 **590.17** Brain-machine interface controlled by non-motor brain area. Y. A. CHO\*; Y. LEE; J. LEE; D. YEO; K. KIM; S. JUN. *Ewha Womans Univ., Ewha Womans Univ., Yonsei Univ., Ewha Womans Univ., Ewha Womans Univ.*

2:00 VV3 **590.18** Local network coordination supports neuroprosthetic control. W. A. LIBERTI\*, III; L. XUE GONG; A. YOU; N. VENDRELL LLOPIS; T. ROSEBERRY; R. M. COSTA; J. M. CARMENA. *Boston Univ., UC Berkeley, Columbia Univ.*

Tues. 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

591. Behavioral Neuroendocrinology: Parental Behavior

**Theme F: Integrative Physiology and Behavior**

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 VV4 **591.01** ▲ The effects of a hypocretin receptor 1 antagonist on a pup retrieval task relevant for maternal motivation. A. SELKE; C. J. WHITTEN; K. L. D'ANNA\*. *Cal State San Marcos, California State University, San Marcos.*
- 2:00 VV5 **591.02** The role of hypocretin in postnatal anxiety and reward responses to pup sensory stimuli. G. H. LEE\*; J. KUSKE; K. L. D'ANNA-HERNANDEZ. *California State Univ. San Marcos, California State Univ. San Marcos.*
- 3:00 VV6 **591.03** Corticosterone alters genomic activity of the reproductive axis. A. M. BOOTH\*; S. AUSTIN; A. S. LANG; V. FARRAR; O. CALISI; T. CHEN; B. NAVA; M. MACMANES; R. M. CALISI. *Univ. of California, Davis, Univ. of California, Davis, Univ. of New Hampshire, Boston Univ.*
- 4:00 VV7 **591.04** ▲ Assessing behavioral preference for mouse pup calls as a function of maternal experience and oxytocin signaling. K. L. FURMAN\*; I. CARCEA; A. C. MAR; R. C. FROEMKE. *New York Univ., NYU Sch. of Med., Howard Hughes Med. Inst.*
- 1:00 VV8 **591.05** Late emerging effects of perinatal undernutrition on the dendritic spines of BLA neurons underlying the maternal response in the rat. M. ORTIZ\*; M. REGALADO; C. TORRERO; M. SALAS. *UNAM.*
- 2:00 VV9 **591.06** What makes a parent? Genome to phenome changes in parental care of rock doves (*columba livia*). S. AUSTIN\*; A. LANG; M. MACMANES; R. M. CALISI. *UC Davis, Univ. of New Hampshire, Univ. of California - Davis.*
- 3:00 VV10 **591.07** Lactating birds: Gene expression of prolactin and its receptor in male and female rock doves. V. S. FARRAR\*; B. M. NAVA ULTRERAS; S. H. AUSTIN; M. MACMANES; R. M. CALISI. *Univ. of California Davis, Univ. of New Hampshire, Univ. of California - Davis.*
- 4:00 VV11 **591.08** Effects of pregnancy stress on postpartum socioemotional behaviors and central serotonin 2A and 2C receptor expression. E. M. VITALE\*; J. S. LONSTEIN. *Michigan State Univ., Michigan State Univ.*
- 1:00 VV12 **591.09** Molecular and functional profiling of neural populations involved in parental behavior. V. M. SEDWICK; I. CARTA; A. E. AUTRY\*. *Albert Einstein Col. of Med.*
- 2:00 VV13 **591.10** RNAseq analysis of the mPOA in early postpartum Wistar-Kyoto rats reveals candidate genes associated with parenting deficits characteristic of postpartum depression. S. B. WINOKUR\*; M. PEREIRA. *Univ. of Massachusetts, Amherst.*
- 3:00 VV14 **591.11** Auditory cortex dependent reprogramming of an innate maternal behavior. A. G. DUNLAP; R. C. LIU\*. *Georgia Inst. of Technol. and Emory Univ., Emory Univ. Dept. of Biol.*
- 4:00 VV15 **591.12** Effects of breastfeeding and oxytocin on the perception and recognition of facial expressions in mothers. M. MATSUNAGA\*; T. KIKUSUI; R. OYAMA; M. MYOWA. *Kyoto Univ., Azabu Univ.*
- 1:00 VV16 **591.13** Altered maternal investment in vasopressin 1b receptor knockout mice. E. A. AULINO\*; S. K. WITCHEY; A. R. FREEMAN; H. K. CALDWELL. *Kent State Univ., Cornell Univ.*

- 2:00 VV17 **591.14** The effect of maternal experiences on spatial learning and hippocampal neural plasticity. M. FURUTA\*; A. FUKUSHIMA; T. AKEMA; T. FUNABASHI. *St. Marianna Univ.*
- 3:00 VV18 **591.15** Impaired aspects of maternal behavior in virgin mice lacking melanin concentrating hormone receptors. L. ALHASSEN\*; A. ALACHKAR; K. ONOUE; H. SHAHARUDDIN; A. LO; O. CIVELLI. *Univ. of California, Irvine.*

POSTER

592. Behavioral Neuroendocrinology: Modulation of Defensive and Aggressive Behaviors

**Theme F: Integrative Physiology and Behavior**

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 VV19 **592.01** ● Neuroticism predicts the impact of serotonin challenges on fear processing in subgenual anterior cingulate cortex. O. B. PAULSON\*; B. HORNBOLE; J. MACOVEANU; A. NEJAD; J. B. ROWE; R. ELLIOTT; G. M. KNUDSEN; H. R. SIEBNER. *Rigshospitalet & Univ. of Copenhagen, Hvidovre Hosp., Univ. of Copenhagen, Capital Region Psychiatry, Cambridge Univ. Dept. Clin. Neurosciences, Univ. of Manchester, Rigshospitalet.*
- 2:00 VV20 **592.02** Identify the whole brain inputs to different cell types in the LDT. W. XIAOMENG\*; H. YANG; S. HAO; H. WANG. *Institute of Neuroscience, Zhejiang University Scho.*
- 3:00 VV21 **592.03** Nucleus accumbens cell-type specific control of operant aggression reward and relapse in hybrid transgenic mice. S. A. GOLDEN\*; M. JIN; C. HEINS; M. MICHAELIDES; Y. SHAHAM. *Natl. Inst. on Drug Abuse.*
- 4:00 VV22 **592.04** Individual difference of aggression and interleukin 1 beta in the dorsal raphe nucleus. A. TAKAHASHI\*; H. ALEYASIN; M. A. STAVARACHE; M. E. FLANIGAN; A. BRANCATO; C. MENARD; M. L. PFAU; G. E. HODES; S. OGAWA; B. S. MCEWEN; S. J. RUSSO. *Univ. of Tsukuba, Icahn Sch. of Med. at Mount Sinai, The Rockefeller Univ., Weill Cornell Med. Col.*
- 1:00 WW1 **592.05** Aggressive behavior in forebrain-specific Ctgf knockout mice. H. CHANG\*; L. LEE. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ.*
- 2:00 WW2 **592.06** Role of medial amygdala - hypothalamic GABA projections in aggression control. A. BALEISYTE; R. SCHNÉGGENBURGER; O. KOCHUBEY\*. *Brain Mind Institute, EPFL.*
- 3:00 WW3 **592.07** Maternal aggression depends on a prolactin- and oxytocin-sensitive switch in ventral premammillary nucleus (PMv) network behaviour. A. S. STAGKOURAKIS\*; P. WILLIAMS; G. SPIGOLON; S. KHANAL; K. ZIEGLER; L. HEIKKINEN; G. FISIONE; C. BROBERGER. *Karolinska Institutet, Ludwig-Maximilians-Universität München, Heidelberg Univ.*
- 4:00 WW4 **592.08** ▲ Intranasal vasopressin increases aggression during courtship in a dose-dependent manner in California mice (*peromyscus californicus*). E. KASTAR\*; C. D. GUOYNES; A. P. AUGER; C. MARLER. *Univ. of Wisconsin-Madison.*
- 1:00 WW5 **592.09** Prefrontal cortex exerts top down control over the ventromedial hypothalamus to regulate aggressive behaviors. N. MACK\*; B. XING; W. GAO. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med., Drexel Univ. Col. Med.*

- 2:00 WW6 **592.10** Novel mechanistic insights on panic disorder. A. WINTER\*; R. AHLBRAND; R. SAH. *Univ. of Cincinnati, Univ. Cincinnati.*
- 3:00 WW7 **592.11** Effects of prenatal exposure to endocrine disruptors and chronic exposure to estradiol in adulthood on stress-related behavior in female rats. A. KAIMAL\*; J. M. HOOVERSMITH; A. D. CHERRY; N. M. MARTIN; H. E. BUECHTER; P. V. HOLMES; S. M. MOHANKUMAR; P. S. MOHANKUMAR. *Univ. of Georgia, Univ. of Georgia, Univ. of Georgia.*
- 4:00 WW8 **592.12** Tactile stimulation facilitates flight responses via ventral zona incerta. X. WANG\*; X. CHOU; L. I. ZHANG; H. TAO. *USC, Zilkha Neurogenetic Inst., USC Keck Sch. Med.*
- 1:00 DP10/WW9 **592.13** (Dynamic Poster) Subcortical circuits balancing attack and defense during predatory hunting. D. ROSSIER\*; V. LA FRANCA; C. GROSS. *European Mol. Biol. Lab. (EMBL) Rome.*
- 2:00 WW10 **592.14** Functional mapping of periaqueductal gray cell types identifies innate defense circuits. E. F. TSANG\*; I. PRANKERD; C. T. GROSS. *EMBL Epigenetics & Neurobio. Unit.*
- 3:00 WW11 **592.15** Social challenge: Understanding dynamics of VMH in defence and aggression. P. KRZYWKOWSKI\*; C. T. GROSS. *European Mol. Biol. Lab., EMBL.*
- 4:00 WW12 **592.16** Localization of aggression-induced c-Fos immunoreactivity in the brain of male layer chicks. S. KAWAKAMI\*. *Hiroshima Univ. Grad. Sch. of Biosphere Sci.*
- 1:00 WW13 **592.17** The *Drosophila* nery gene functions in octopaminergic neurons to suppress aggressive behaviors. K. ISHII\*; K. ASAHINA. *The Salk Inst. for Biol. Studies.*
- 2:00 WW14 **592.18** Characterization of the olfactory response in the establishment of hierarchical order in crayfish. I. HERNÁNDEZ-PRIOR; Z. PEÑA-LEAL; F. U. ROSAS-VALDÉZ; Y. PITALUGA-JAVIER; K. MENDOZA-ÁNGELES; J. HERNANDEZ-FALCON\*. *Univ. Nacional Autónoma de México.*
- 3:00 XX1 **592.19** ● ▲ Analytical and behavioral characterization of *procambarus clarkii* after chronic serotonin exposure. N. K. MCLAUGHLIN\*; I. J. HARRIS; K. STUMPO. *Univ. of Scranton.*
- 4:00 XX2 **592.20** ▲ Effects of testosterone manipulation and personality traits on arginine vasopressin immunoreactivity in brook trout (*salvelinus fontinalis*). E. G. PLOPPERT\*; C. GOWAN; M. BARDI. *Randolph-Macon Col., Randolph-Macon Col.*
- 2:00 XX4 **593.02** Structural changes of songs in adult zebra finch by chronic application of thyroid hormone. M. IWANAGA\*; K. HOTTA; K. OKA. *Keio Univ., Keio Univ., Keio Univ.*
- 3:00 XX5 **593.03** Role of estrogen in mediating the effects of exposure to space radiation on cognitive performance in female rats. B. M. RABIN\*; M. G. MILLER; E. M. HAWKINS; A. N. LARSEN; C. SPADAFORA; N. N. ZOLNEROWICH; L. DELL'ACQUA; W. PAGDEN; V. ROTTMAN; B. SHUKIT-HALE. *Univ. Maryland Baltimore County, USDA-ARS Human Nutr. Res. Ctr. on Aging.*
- 4:00 XX6 **593.04** ▲ Rapid ejaculator rats have more copulatory analgesia than intermediate and sluggish ejaculator rats. C. E. AGUILAR PÉREZ\*, SR; R. A. LUCIO; J. C. MORALES-MEDINA; P. GÓMORA ARRATI; O. GONZÁLEZ FLORES. *Univ. Autónoma De Tlaxcala, Univ. Autónoma De Tlaxcala, Ctr. for Res. and Advanced Studies, Ctr. de Investigación en Reproducción Animal, Carlos Beyer UATx-CINVESTAV-Lab-Tlaxcala.*
- 1:00 XX7 **593.05** ▲ Physiological markers and personality differences in first and lastborn students. K. C. SÁNCHEZ\*; V. REYES; R. HUDSON; A. BAUTISTA. *Ctr. Tlaxcala Biología De La Conducta, Psychology/Upaep, Inst. de Investigaciones Biomédicas, Ctr. Tlaxcala Biología de la Conducta.*
- 2:00 XX8 **593.06** Hippocampus-synthesized estrogen and androgen modulate dendritic spines and LTP in non-genomic manner. S. KAWATO\*; Y. KOMATSUZAKI; M. SOMA. *Univ. of Tokyo, Col. of Sci. and Technology, Nihon Universit, Teikyo Univ.*
- 3:00 XX9 **593.07** Chronic stress and mental health from a psychobiological approach. L. P. MORERA\*, SR; M. TRÓGOLO; L. LAPUENTE; L. A. MEDRANO. *Univ. Siglo 21, Univ. Siglo 21, Univ. Siglo 21.*
- 4:00 XX10 **593.08** ▲ Oxytocin decreases impulsive choice in rats. M. D. SINGSTOCK\*; D. TAPP; M. S. MCMURRAY. *Miami Univ.*
- 1:00 XX11 **593.09** Effects of dorsal hippocampal inhibition of actin polymerization or protein synthesis on rapid estrogen-facilitated social recognition, dendritic spines, and Arc protein expression in ovariectomized female mice. P. A. SHEPPARD\*; H. A. ASLING; S. E. ARMSTRONG; V. M. ELAD; A. WALCZYK-MOORADALLY; J. LALONDE; E. CHOLERIS. *Univ. of Guelph, Univ. of Guelph, Univ. of Guelph.*
- 2:00 XX12 **593.10** Genomic and non-genomic effects of progesterone on memory bias in female rats. J. M. LACASSE\*; W. G. BRAKE; S. PATEL; V. PERONACE; A. LESTAGE; C. GAGNE. *Concordia Univ., Concordia Univ.*
- 3:00 XX13 **593.11** Modulation of postmenopause and premenopause on interhemispheric electroencephalographic activity on resting-state in women. E. G. GONZÁLEZ-PÉREZ\*; M. S. SOLIS-ORTIZ. *Univ. de Guanajuato, Univ. of Guanajuato.*
- 4:00 XX14 **593.12** Exposure to bisphenol-a and estrogen during adolescence: Effects on behavior and spine density. R. E. BOWMAN\*; E. MADDEN; J. HAGEDORN; M. FRANKFURT. *Sacred Heart Univ., Donald and Barbara Zucker Sch. of Med. at Hofstra/Northwell.*
- 1:00 YY1 **593.13** Cue-triggered food seeking is modulated by ovarian hormones in female rats. Y. ALONSO CARABALLO\*; C. FERRARIO. *Univ. of Michigan.*

## POSTER

### 593. Behavioral Neuroendocrinology: Hormones and Cognition II

#### Theme F: Integrative Physiology and Behavior

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 XX3 **593.01** Expanding the use of recognition memory paradigms with the what-when-where episodic-like memory task to assess effects of gonadal hormones on cognitive function in adult rats. M. CONNER\*; B. J. ANDERSON; M. F. KRITZER. *Stony Brook Univ., 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

- 2:00 YY2 **593.14** 3beta-OH is a novel sedative/hypnotic with sex specific effects. F. M. MANZELLA\*; D. WILKEY; D. F. COVEY; S. M. TODOROVIC. *Univ. of Colorado Anschutz Med. Campus, Univ. of Colorado, Washington Univ. Sch. Med.*
- 3:00 YY3 **593.15** Sex-specific effects of dietary isoflavones on peripheral estradiol and brain estrogen  $\alpha$  and  $\beta$  receptor expression in the rat. C. FINNEY\*; N. W. PROSCHOGO; N. M. HOLMES; R. F. WESTBROOK; K. J. CLEMENS. *Univ. of New South Wales, Univ. of Sydney.*
- 4:00 YY4 **593.16** Impact of oral hormonal contraceptives on the CNS: Developing a population neuroimaging study. C. TAYLOR\*; E. G. JACOBS. *Univ. of California, Santa Barbara.*
- 1:00 YY5 **593.17** Developmental exposure to the synthetic progestin 17 $\alpha$ -hydroxyprogesterone caproate alters decision making in adulthood. A. PHILLIPS\*; G. LI; C. K. WAGNER; R. I. WOOD. *Univ. At Albany State Univ. of New York, USC, Univ. Albany, Keck Sch. Med. USC.*
- 2:00 YY6 **593.18** Differential gene expression in response to estradiol withdrawal in perimenopausal depression. S. A. RUDZINSKAS\*; J. HOFFMAN; D. R. RUBINOW; D. GOLDMAN; P. J. SCHMIDT. *NIH/NIMH & NIH/NIAAA, Natl. Inst. of Mental Hlth., Univ. of North Carolina at Chapel Hill Sch. of Med., Natl. Inst. on Alcohol Abuse and Alcoholism Lab. of Neurogenetics.*
- 3:00 YY7 **593.19** The role of brain FNDC5/irisin in synaptic plasticity and memory in mice. R. A. LIMA-FILHO\*; M. V. LOURENCO; O. ARANCIO; S. T. FERREIRA; F. G. DE FELICE. *Federal Univ. of Rio De Janeiro, Federal Univ. of Rio De Janeiro, Columbia Univ., Federal Univ. of Rio de Janeiro, Federal Univ. of Rio de Janeiro.*
- 4:00 YY8 **593.20** Perinatal sucrose exposure in rats disrupts hormones, brain, and behavior in adulthood. D. J. TOBIANSKY\*; G. KACHKOVSKI; R. T. ENOS; K. L. SCHMIDT; C. MA; J. E. HAMDEN; C. JALABERT; S. B. FLORESCO; E. A. MURPHY; K. K. SOMA. *The Univ. of British Columbia, The Univ. of British Columbia, Univ. of South Carolina, Simon Fraser Univ., The Univ. of British Columbia.*
- 1:00 YY9 **593.21** • Gradual loss of ovarian function exacerbates age-dependent cognitive dysfunction in an Alzheimer's disease mouse model. S. V. MAURER\*; S. S. VASHISTH; C. GRANT; E. M. REYNOLDS; E. A. GRZESIAK; C. A. COLTON; E. A. FINCH; C. L. WILLIAMS. *Duke Univ., Duke Univ. Med. Ctr.*
- 2:00 YY10 **593.22** Prenatal testosterone affects social and anxiety-like behaviours in a sexually dimorphic and hormone-dependent manner. E. R. MARTIN\*; C. S. WASSON; C. HOWES; A. J. GIUGA; M. CASTRO; H. A. WILSON; N. J. MACLUSKY; E. CHOLERIS. *Univ. of Guelph.*
- 3:00 YY11 **593.23** Assessment of peripheral BDNF variability over 30 days in healthy adults. S. HANG; J. RODRIGUEZ-ZAMORA; B. CHU; R. C. GARCIA; H. M. KILGORE; E. B. GAHTAN\*. *Humboldt State Univ.*
- 4:00 YY12 **593.24** Neuronal stem cell transcriptomic response to ovarian steroid hormones in women with Premenstrual Dysphoric Disorder: Beyond lymphoblastoid cell lines. A. GOFF\*; H. LI; J. F. HOFFMAN; C. MARIETTA; P. E. MARTINEZ; D. R. RUBINOW; P. J. SCHMIDT; D. GOLDMAN. *Georgetown University/NIH, NIH, NIH, Uniformed Services Univ., NIH, Natl. Inst. of Health/Nimh, Univ. of North Carolina at Chapel Hill Sch. of Med., Natl. Inst. of Mental Hlth., Natl. Inst. on Alcohol Abuse and Alcoholism Lab. of Neurogenetics.*
- 1:00 YY13 **593.25** ▲ Working to run: Assessing motivation for wheel running in female rats. W. A. KRIEGER; D. J. TOBIANSKY; M. A. TURCOTT; C. MA; S. B. FLORESCO; K. K. SOMA\*. *Univ. British Columbia.*
- 2:00 YY14 **593.26** Gonadal status modifies the ratio of GABA expressing neurons in limbic areas of the rat brain. V. S. HERNANDEZ\*; A. NAVA-KOPP; O. HERNÁNDEZ PEREZ; L. ZHANG. *Natl. Autonomous Univ. of Mexico.*
- 3:00 YY15 **593.27** Estrogen, dopamine d<sub>2</sub>-type receptors, and self-control. N. ERTMAN\*; K. OKITA; M. E. FRY; Z. ZHANG; A. J. RAPKIN; M. A. MANDELKERN; B. BYCH; E. D. LONDON. *UCLA, Howard Hughes Med. Inst. - Univ. of California Los Angeles, UCLA, VA Greater Los Angeles Healthcare Syst., UCLA.*

## POSTER

### 594. Neuroimmunology: Regulating Systems

#### Theme F: Integrative Physiology and Behavior

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 YY16 **594.01** ▲ Artificial sweetener consumption induces changes in expression of c-Fos and NeuN in hypothalamus and hippocampus of rats. L. E. MACIAS\*; M. DE LA CRUZ; D. MILLAN ALDACO; D. SORIANO NAVA; R. DRUCKER COLÍN; E. MURILLO RODRÍGUEZ. *Univ. Anáhuac Mayab, Univ. Anáhuac Mayab, Univ. Nacional Autónoma de México.*
- 1:00 DP11/YY17 **594.02** (Dynamic Poster) Discovery of a sensory pathway to detect pathogens invading the cerebrospinal fluid during meningitis. C. WYART\*; A. E. PRENDERGAST; F. QUAN; K. JIM; L. DJENOUNE; L. DESBAN; H. MARNAS; Y. CANTAUT-BELARIF; C. VAN DEN BROUCKE-GRAULS. *Inst. Cerveau Et Moelle Epiniere (ICM), Inst. du Cerveau et de la Moelle épinière (ICM), VU Univ. Med. Ctr., Inst. Cerveau et Moelle épinière (ICM), Inst. Cerveau Et Moelle épinière (ICM).*
- 3:00 YY18 **594.03** Complement and psychiatric disorder: The role of C3/C3aR in fear and anxiety. L. J. WESTACOTT\*; N. HAAN; S. MITTON; E. BUSH; T. HUGHES; J. HALL; P. MORGAN; W. GRAY; T. HUMBY; L. WILKINSON. *Cardiff Univ., Cardiff Univ., Cardiff Univ.*
- 4:00 YY19 **594.04** • Two-year safety and efficacy of ultra-low duty cycle stimulation of the vagus nerve as a first-in-class bioelectronic therapy in rheumatoid arthritis. Y. A. LEVINE\*; D. CHERNOFF. *Setpoint Med. Corp.*
- 1:00 YY20 **594.05** Circadian gating of hepatic spinal inflammatory input shapes cytokine response by liver and spleen. E. C. SOTO-TINOCO\*; E. SANTACRUZ; R. M. BUIJS. *Univ. Nacional Autónoma De México.*
- 2:00 YY21 **594.06** A pilot randomized control trial investigating brain-body mechanisms of Qigong meditative movement practice for cancer-related fatigue. C. ZIMMERMAN; C. PENNER; S. TEMEREANCA\*; D. DANIELS; B. CULLEN; S. JONES; C. E. KERR. *Brown Univ., Brown Univ., Univ. of Oregon.*
- 3:00 YY22 **594.07** Sexual dimorphism of the CCL2/CCR2 chemokine system in the lateral hypothalamus (LH) as it relates to the neuropeptide melanin-concentrating hormone (MCH), responds to ethanol exposure during pregnancy, and contributes to excess ethanol consumption in adolescent offspring. S. F. LEIBOWITZ\*; G. CHANG; O. KARATAYEV; V. HALKINA; J. EDELSTIEN; E. RAMIREZ; V. KEWALDAR. *Rockefeller Univ.*



- 4:00 YY23 **594.08** The human brain microbiome; there are bacteria in our brains!. R. C. ROBERTS\*; C. B. FARMER; C. K. WALKER. *Univ. of Alabama, Birmingham.*
- 1:00 YY24 **594.09** The alternation of the molecules associated with chronic inflammation in the postmortem brains from patients with schizophrenia. A. WADA; Y. KUNII\*; M. HINO; J. MATSUMOTO; A. NAGAOKA; S. NIWA; A. TAKESHIMA; H. NAWA; A. KAKITA; K. KASAI; H. YABE. *The Univ. of Tokyo Hosp., Aizu Med. Center, Fukushima Med. Univ., Fukushima Med. Univ. Sch. of Med., BRI, Univ. of Niigata, Niigata Univ.*
- 2:00 ZZ1 **594.10** Sex differences in the expression of neuroimmune genes during withdrawal from acute or chronic ethanol exposure: A comparison of adolescent and adult ethanol exposures. P. MARSLAND\*; A. S. VORE; A. GANO; T. DEAK. *Binghamton Univ.*
- 3:00 ZZ2 **594.11** Assessment of neuroinflammation in the aging brain using large-molecule microdialysis: Sex differences and involvement of purigenic receptors. T. BARNEY\*; A. E. PERKINS; M. PIAZZA; T. DEAK. *SUNY Binghamton, Binghamton Univ., SUNY Binghamton, Binghamton University-SUNY.*
- 4:00 ZZ3 **594.12** Negative association between T.gondii oocyst serointensity and cortical thickness in the Old Order Amish. T. T. POSTOLACHE\*; D. HILL; J. CHIAPELLI; M. DAUE; A. DAGDAG; N. CONSTANTINE; L. A. BRENNER; J. W. STILLER; P. KOCHUNOV; L. E. HONG. *Univ. of Maryland Sch. of Med., Rocky Mountain Mental Illness Res. Educ. and Clin. Ctr. (MIRECC), VISN 5 Capitol Hlth. Care Network Mental Illness research Educ. and Clin. Ctr. (MIRECC), United States Dept. of Agr., Maryland Psychiatric Res. Ctr., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Rocky Mountain MIRECC, St. Elizabeth Hosp., Univ. of Maryland Sch. of Med.*
- 1:00 ZZ4 **594.13** Differential expression of TGFb and angiogenesis related genes between anterior and posterior areas of rats brain. R. P. CARMEN\*; D. DAVILA; R. H. GILMAN; R. HOMERO; D. ANA; G. IZABO; M. VERASTEGUI. *Univ. Peruana Cayetano Heredia, Johns Hopkins Univ.*
- 2:00 ZZ5 **594.14** Galantamine, a cholinergic drug for treating Alzheimer's disease alleviates inflammatory responses and liver injury induced by APAP/Tylenol in mice. V. A. PAVLOV\*; X. XUE; P. K. CHATTERJEE; M. ADDORISIO; K. J. TRACEY; C. N. METZ. *The Feinstein Inst. For Med. Res., Donald and Barbara Zucker Sch. of Med. at Hofstra/Northwell.*
- 3:00 ZZ6 **594.15** Characterization of white adipose tissue in young and aged rats and its possible role in neuroinflammation. R. M. BARRIENTOS\*; L. S. TODD; M. KOVACS; E. R. LANGDON. *Univ. of Colorado Boulder, The Ohio State Univ.*
- 4:00 ZZ7 **594.16** Impact of neonatal hypoxia-ischemia and inflammation on cerebellum development. S. E. ARAMBULA\*; E. L. REINL; J. WADDELL; M. M. MCCARTHY. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*
- 1:00 ZZ8 **594.17** Inflammatory mediators regulate DNA methylation during sexual differentiation of the brain. E. L. REINL\*; C. L. WRIGHT; S. L. STOCKMAN; M. M. MCCARTHY. *Univ. of Maryland Sch. of Med.*
- 2:00 ZZ9 **594.18** Microglial phagocytosis shapes the cellular composition of the neonatal rat amygdala in a sex dependent manner. A. E. MARQUARDT\*; J. W. VANRYZIN; M. M. MCCARTHY. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*
- 3:00 ZZ10 **594.19** Microglial phagocytosis of newborn cells is induced by endocannabinoids and sculpts sex differences in social play. J. W. VANRYZIN\*; A. E. MARQUARDT; S. E. ARAMBULA; K. J. ARGUE; M. M. MCCARTHY. *Univ. of Maryland, Baltimore.*
- 4:00 ZZ11 **594.20** Disrupted place cell dynamics in the CA1 region of the hippocampus in long-term sepsis survivors. J. J. STROHL\*; T. S. HUERTA; P. T. HUERTA. *The Feinstein Inst. For Med. Res.*
- 1:00 ZZ12 **594.21** Modulation of proinflammatory cytokine production by specific vagus nerve stimulation parameters. T. TSAAVA\*; T. DATTA-CHAUDHURI; M. E. ADDORISIO; E. B. MASI; H. A. SILVERMAN; J. E. NEWMAN; C. BOUTON; K. J. TRACEY; S. S. CHAVAN. *Feinstein Inst. at Northwell Hlth., Feinstein Inst. at Northwell Hlth., Donald and Barbara Zucker Sch. of Med. at Hofstra/Northwell.*
- 2:00 ZZ13 **594.22** Optogenetic stimulation of cholinergic neurons in the brainstem induces splenic nerve activity and attenuates systemic inflammation. A. M. KRESSEL\*; T. TSAAVA; E. H. CHANG; Q. CHANG; V. A. PAVLOV; S. S. CHAVAN; K. J. TRACEY. *Feinstein Inst. of Med. Research-Northwell, Northwell Hlth., The Elmezzzi Grad. Sch. of Mol. Med., The Feinstein Inst. for Med. Res.*
- 3:00 ZZ14 **594.23** ● Recording neural activity of intact nodose ganglia to examine TRPA1 in vagal afferent signaling. E. H. CHANG\*; M. GUNASEKARAN; H. A. SILVERMAN; L. RIETH; S. S. CHAVAN; K. J. TRACEY. *Feinstein Inst. For Med. Res., Feinstein Inst. For Med. Res., Feinstein Inst. at Northwell Hlth., Feinstein Inst. for Med. Res., Feinstein Inst. For Med. Res., Feinstein Inst. For Med. Res.*
- 4:00 ZZ15 **594.24** ● Bench test validation of a novel flexible microelectrode for stimulating and recording from murine small diameter nerves for bioelectronic medicine. T. LIU\*; J. D. FALCONE; J. WANG; M. OCHANI; D. D. POGUE; T. DATTA; R. SHARMA; H. S. SOHAL; L. RIETH. *Feinstein Inst. for Med. Res., Univ. of Utah.*
- 1:00 ZZ16 **594.25** Disrupted place cell encoding and theta-gamma coupling in the hippocampus of a murine model of lupus. T. S. HUERTA\*; J. J. STROHL; P. T. HUERTA. *Feinstein Inst. For Med. Res., Feinstein Inst. For Med. Res., Northwell Hlth.*
- 2:00 ZZ17 **594.26** Validation of awake chronic functional recordings in the murine cervical vagus nerve with a low-cost, rapid prototype wrappable microwire electrode for high-throughput chronic interfacing. J. D. FALCONE; T. LIU; L. GOLDMAN; D. D. POGUE; M. STRAKA; L. RIETH; C. E. BOUTON; H. SOHAL\*. *Feinstein Inst. For Med. Res., Feinstein Inst. For Med. Res.*
- 3:00 ZZ18 **594.27** ● A novel flexible microelectrode for stimulation and recording in acute and chronic awake models in murine small diameter nerves for bioelectronic medicine. J. FALCONE\*; T. LIU; J. WONG; M. OCHANI; D. POGUE; R. SHARMA; T. LEVY; T. ZANOS; T. DATTA; L. RIETH; H. SOHAL. *Feinstein Inst. For Med. Res., Univ. of Utah.*

• 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 ZZ19 **594.28** Electrical stimulation of the afferent cervical vagus nerve mediates skeletal muscle glucose uptake. E. B. MASI\*; H. SILVERMAN; T. TSAAVA; J. NEWMAN; M. ADDORISIO; C. BOUTON; S. S. CHAVAN; K. J. TRACEY. *Feinstein Inst. at Northwell Hlth., Donald and Barbara Zucker Sch. of Med. at Hofstra/Northwell, Feinstein Inst. at Northwell Hlth.*
- 1:00 ZZ20 **594.29** From the gut to the brain: Intestinal inflammation as a driver of parkinsonian neuropathology. M. G. TANSEY\*; M. C. HOUSER; J. CHANG; S. A. FACTOR; E. S. MOLHO; C. P. ZABETIAN; E. HILL-BURNS; H. PAYAMI; V. S. HERTZBERG. *Emory Univ. Sch. of Med., Emory Univ., Emory Univ., Albany Med. Col., Univ. of Washington Sch. of Med., Univ. of Alabama at Birmingham, Emory Univ. Nell Hodgson Woodruff Sch. of Nursing.*
- POSTER**
- 595. Neuroimmunology: Behavioral Effects**
- Theme F: Integrative Physiology and Behavior**
- Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H
- 1:00 ZZ21 **595.01** ▲ Immune system response in zebrafish with disrupted sleep. A. R. PHILLIPS; C. N. NGO; D. A. LEE; G. OIKONOMOU; D. A. PROBER; A. CHEN\*. *Pomona Col., Harvey Mudd Col., Caltech, Univ. of California, Irvine.*
- 2:00 ZZ22 **595.02** Adult and aged TLR4 deficient mice show sex-dependent enhancements in spatial memory and alterations in interleukin-1 related genes. R. A. KOHMAN\*; O. V. POTTER; M. E. GIEDRAITIS; C. D. JOHNSON; M. N. COX. *Univ. of North Carolina Wilmington.*
- 3:00 ZZ23 **595.03** Central immune alterations in a gestational stress model of postpartum depression. C. POST\*; A. CASTANEDA; P. BANTA; L. NELSON; A. SAULSBERY; K. LENZ; B. LEUNER. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*
- 4:00 ZZ24 **595.04** Examining the impact of a two-hit model of neuroinflammation on social behavior in male and female juvenile rats. A. TURANO\*; M. S. WOOD; N. A. HAAS; J. M. SCHWARZ. *Univ. of Delaware.*
- 1:00 ZZ25 **595.05** The impact of exercise in an enriched environment on Parkinson's disease pathology. U. ROY\*; M. GIL; G. A. DE ERAUSQUIN. *Univ. of Texas Rio Grande Valley, The Univ. of Texas Rio Grande Valley, UTRGV Sch. of Med.*
- 2:00 ZZ26 **595.06** ▲ Interaction of light, sex and gut microbiota in a diurnal model of depression. H. XIONG\*; Y. LIU; W. LIAO; L. YAN. *Michigan State Univ.*
- 3:00 AAA1 **595.07** Unique neurophysiological vulnerability of the orienting network in inflammation - Evidence from the vaccination model of inflammation. L. J. BALTER\*; S. HIGGS; S. ALDRED; J. A. BOSCH; M. T. DRAYSON; J. J. C. S. VELDHIJZEN VAN ZANTEN; J. E. RAYMOND; A. MAZAHERI. *Univ. of Amsterdam, Univ. of Birmingham, Univ. of Birmingham.*
- 4:00 AAA2 **595.08** ● Treatment with heat-killed mycobacterium vaccae enhances fear extinction in the rat fear-potentiated startle paradigm. J. E. HASSELL\*, JR.; K. T. NGUYEN; J. H. FOX; M. R. ARNOLD; P. H. SIEBLER; M. W. LIEB; D. SCHMIDT; E. J. SPRATT; T. M. SMITH; C. A. GATES; K. S. HOLMES; K. S. SCHNABEL; K. M. LOUPY; M. ERBER; C. A. LOWRY. *Univ. of Colorado.*
- 1:00 AAA3 **595.09** Sensitization to a cow's milk protein results in behavioral changes and altered expression of genes associated with neuroinflammation and vascular integrity in the brain. N. A. SMITH\*; D. L. GERMUNDSON; K. NAGAMOTO-COMBS. *Univ. of North Dakota Sch. of Med. and Hlth. Sci.*
- 2:00 AAA4 **595.10** Hypothalamic lipotoxicity leads to microglia activation and ghrelin signaling disruption in rats. R. MALDONADO\*; M. RODRIGUEZ PADILLA; A. CAMACHO. *Autonomous Univ. of Nuevo Leon, Fac. of Biol. Sciences, Univ. Autonoma de Nuevo Leon., Univ. Autónoma de Nuevo León.*
- 3:00 AAA5 **595.11** Microglia regulate developmental myelination, mood-related behavior and stress axis function. L. H. NELSON\*; S. WARDEN; K. M. LENZ. *Ohio State Univ., Ohio State Univ. Dept. of Psychology.*
- 4:00 AAA6 **595.12** Calorie restriction only partially attenuates sickness behaviour induced by a viral mimic polyinosinic:polycytidylic acid (poly I:C). S. KENT\*; L. KIVIVALI; K. CHONG; A. KIRBY. *La Trobe Univ.*
- 1:00 AAA7 **595.13** Platelet activation in postpartum depression. R. SEGMAN\*; T. GOLTSEY-DUBNER; T. SHIMONOVITZ; S. KLAR; L. CANNETI; D. PEVZNER; E. GALILI-WEISSTUB; D. HOCHNER-CELNIKIER. *Hadassah Univ. Hosp., Hadassah Univ. Hosp., Hadassah Univ. Hosp., Hadassah Univ. Hosp.*
- 2:00 AAA8 **595.14** Vulnerability to inflammation-induced neuropsychiatric symptoms in obese individuals: Using the model of lipopolysaccharide administration in humans. J. LASSELIN\*; K. BOY; V. WESKAMP; A. HANDKE; M. UNTEROBERDÖRSTER; A. BRINKHOFF; S. BENSON; H. ENGLER; M. SCHEDLOWSKI. *Univ. Hosp. Essen.*
- 3:00 AAA9 **595.15** Brain-derived neurotrophic factor polymorphism val66met expression in mice is associated with exaggerated behavioral and neuroinflammatory response to peripheral immune challenge. A. M. GARRISON\*; J. C. O'CONNOR. *Univ. of Texas Hlth. Sci. Ctr. at San Antonio.*
- 4:00 AAA10 **595.16** An IL-6 receptor antagonist effectively attenuates postpartum anhedonia in the female rat, but has no effect on anhedonia precipitated by sub chronic stress. N. A. HAAS; J. GOMEZ; J. M. SCHWARZ\*. *Univ. of Delaware.*
- 1:00 AAA11 **595.17** Effects of chemogenetic inhibition of the ventral hippocampus on anxiety-like defensive behaviors in rats. C. R. MAESTAS-OLGUIN\*; S. J. BOUQUIN; J. W. FENELLY; N. S. PENTKOWSKI. *Univ. of New Mexico, Univ. of New Mexico.*
- 2:00 AAA12 **595.18** ● The effects of early-life prebiotic feeding on adult rat hippocampal function, behaviour and gut bacteria. S. O. SPITZER\*; A. TKACZ; E. O. MANN; P. S. POOLE; D. M. BANNERMAN; D. C. ANTHONY; P. W. J. BURNET. *Univ. of Oxford, Univ. of Oxford, Univ. of Oxford, Oxford Univ., Univ. of Oxford, Univ. of Oxford.*
- 3:00 AAA13 **595.19** ▲ Latent infection of Herpes Simplex Virus Type I impacts exploratory behavior in mice. I. HOUGH; E. KAIN; N. SHAW; G. D. GRIFFIN\*. *Hope Col., Hope Col., Hope Col.*
- 4:00 AAA14 **595.20** Neurochemical alterations underlying traumatic memory formation in a predator exposure model of post-traumatic stress disorder (PTSD). D. P. KELLEY\*; K. E. VENABLE; P. EBENEZER; C. C. LEE; J. FRANCIS. *Louisiana State Univ., Louisiana State Univ. Sch. of Vet. Med.*

1:00 AAA15 **595.21** Persistent memory deficits and neuroimmune dysfunction after immune challenge. D. TCHESALOVA\*; N. C. TRONSON. *Univ. of Michigan, Univ. of Michigan.*

## POSTER

### 596. Biological Rhythms and Sleep: Regulators

#### Theme F: Integrative Physiology and Behavior

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 AAA16 **596.01** Brain-wide imaging of *Drosophila* sleep/wake behavior at near-cellular resolution. P. LUU\*; Y. HAN; A. NADTOCHIY; D. K. DICKMAN; S. E. FRASER; T. V. TRUONG. *USC, USC, USC, USC, USC, USC.*
- 2:00 AAA17 **596.02** ▲ The bantam microRNA regulates cell proliferation and sleep in multiple mushroom body output neurons in *Drosophila melanogaster*. K. DORFMAN\*; M. HOBIN; L. C. GRIFFITH. *Brandeis Univ.*
- 1:00 DP12/AAA18 **596.03** (Dynamic Poster) Evolutionarily conserved regulation of sleep by epidermal growth factor receptor signaling. D. A. LEE\*; J. LIU; Y. HONG; A. J. HILL; J. M. LANE; H. WANG; G. OIKONOMOU; U. PHAM; J. ENGLE; R. SAXENA; D. A. PROBER. *Caltech, Harvard Med. Sch., Broad Inst.*
- 4:00 AAA19 **596.04** Unraveling miR-190 and its role in sleep. E. J. RIVERA\*; P. GOODWIN; M. HOBIN; Z. BLEICHER; L. C. GRIFFITH. *Brandeis Univ.*
- 1:00 AAA20 **596.05** Daytime illumination modulates spatial learning through the orexinergic pathways in the diurnal Nile grass rat (*arvicanthis niloticus*). L. YAN\*; J. SOLER; A. NUNEZ. *Michigan State Univ.*
- 2:00 AAA21 **596.06** Intermittent fasting increases slow wave sleep duration in mice. R. WAN\*; Y. LIU; M. MATTSO. *Natl. Inst. On Aging/ Natl. Inst. of Hlth.*
- 3:00 AAA22 **596.07** Neural circuits in the VTA govern vigilance state. X. YU\*; N. P. FRANKS; W. WISDEN. *Imperial Col. London.*
- 4:00 AAA23 **596.08** Role of parabrachial glutamatergic signaling in the regulation of arousal. M. A. KHANDAY\*; S. KAUR; C. B. SAPER. *Beth Israel Deaconess Med. Ctr. & Harvard Med. S, Harvard Med. Sch. Dept. of Neurol.*
- 1:00 AAA24 **596.09** Adiponectin and leptin regulate VLPO activity. O. RAMÍREZ PLASCENCIA\*; S. CÁRDENAS-ROMERO; L. AZUARA-ALVAREZ; A. BÁEZ-RUIZ; M. MIRANDA-MORALES; M. ATZORI; N. SADERI; R. C. SALGADO-DELGADO. *Facultad de Ciencias, Univ. Autónoma de San.*
- 2:00 AAA25 **596.10** Sleep rebound and orexin administration change neuroglobin immunoreactivity in the rat brain. F. A. GARCÍA-GARCÍA\*; L. RENDON; M. A. MELGAREJO; C. MORGADO-VALLE; G. HERNANDEZ-MARQUEZ. *Univ. Veracruzana, Univ. Veracruzana, AV MEDICOS Y ODONTOLOGOS SN, Univ. Veracruzana.*
- 3:00 AAA26 **596.11** A neuronal hub binding sleep initiation and body cooling in response to a warm external stimulus. E. HARDING\*; W. WISDEN; N. P. FRANKS. *Imperial Col. London.*

4:00 BBB1 **596.12** Chemogenetic activation of corticotropin releasing factor neurons in the hypothalamic paraventricular nucleus does not disrupt the homeostatic response to acute sleep deprivation. J. HSIEH\*; S. KUMAR; D. J. MCGINTY; R. S. SZYMUSIAK. *VA Greater Los Angeles, UCLA, Webosciences Intl., California Hlth. Sci. Univ., UCLA.*

1:00 BBB2 **596.13** Dopamine terminal neurotransmission varies across sleep-wake state. I. P. ALONSO\*; J. A. PINO; G. E. TORRES; R. A. ESPAÑA. *Drexel Univ., Univ. of Florida.*

2:00 BBB3 **596.14** Beta3-adrenergic receptor agonist-induced sleep in tumor necrosis factor alpha knockout mice. E. SZENTIRMAI\*; A. MASSIE; L. KAPAS. *Washington State Univ., Washington State Univ., Washington State University, Spokane.*

3:00 BBB4 **596.15** Sleep and fever caused by cell wall components of bacteria: The role of tumor necrosis factor- $\alpha$ . A. R. MASSIE\*; N. MILLICAN; L. KAPAS; E. SZENTIRMAI. *Washington State Univ., Washington State Univ.*

4:00 BBB5 **596.16** The effects of antibiotic-induced gut-microbiome depletion on sleep in mice. N. S. MILLICAN\*; A. R. MASSIE; E. SZENTIRMAI; L. KAPAS. *Washington State Univ., Washington State Univ., Washington State University, Spokane.*

1:00 BBB6 **596.17** Role of macrophages in bacterial cell wall components-induced sleep in mice. L. KAPAS\*; N. S. MILLICAN; E. SZENTIRMAI. *Washington State University, Spokane, Washington State Univ., Washington State Univ.*

2:00 BBB7 **596.18** Fur seals suppress REM sleep for days or weeks without subsequent rebound, a finding with implications for REM sleep function. O. LYAMIN\*; P. KOSENKO; S. KORNEVA; A. VYSSOTSKI; L. MUKHAMETOV; J. SIEGEL. *Dept Psychiat, Univ. California Los Angeles, Severtsov Inst. of Ecology and Evolution, Utrish dolphinarium, Southern Federal Univ., Inst. of Neuroinformatics.*

3:00 BBB8 **596.19** ● The effect of ketamine on slow-wave activity (SWA) in patients with treatment resistant depression compared with healthy controls. M. OPPENHEIMER\*; N. HEJAZI; B. FALODUN; W. DUNCAN; C. A. ZARATE, JR. *Natl. Inst. of Mental Hlth.*

## POSTER

### 597. Biological Rhythms and Sleep: Systems

#### Theme F: Integrative Physiology and Behavior

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

1:00 BBB9 **597.01** Roles for state-dependent corticothalamic and thalamocortical activity in visual system plasticity. J. DURKIN\*; A. K. SURESH; B. C. CLAWSON; E. J. PICKUP; S. J. ATON. *Univ. of Michigan, Univ. of Chicago, Univ. of Michigan, Univ. of Michigan.*

2:00 BBB10 **597.02** Role of activity across cortex and striatum during sleep in motor skill learning. S. M. LEMKE\*; D. S. RAMANATHAN; K. GANGULY. *Univ. of California, San Francisco, UCSD.*

3:00 BBB11 **597.03** Role of the OLM interneurons during sleep-dependent memory consolidation. M. A. FRAZER\*; G. POE. *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

- 4:00 BBB12 **597.04** Differential suppression of locus coeruleus activity in REM during low estrogen phases compared with males may contribute to memory processing differences. Y. CABRERA\*; J. JIMENEZ; J. HOLLOWAY; C. V. CHEN; I. LIBERZON; G. R. POE. *UCLA, Univ. of Michigan, Univ. of Michigan Hlth. Syst.*
- 1:00 BBB13 **597.05** Sex differences in murine cataplexy following conditional hypocretin degeneration. M. D. SCHWARTZ\*; C. WONG; T. DATTOLO; S. R. MORAIRTY; A. YAMANAKA; T. S. KILDUFF. *SRI Intl., Res. Inst. of Envrn. Medicine, Nagoya Univ.*
- 2:00 BBB14 **597.06** Hippocampal ripples initiate cortical-hippocampal communication. H. V. NGO\*; J. FELL; B. STARESINA. *Univ. of Birmingham, Univ. of Bonn.*
- 3:00 CCC1 **597.07** Cross-dynamical delay differential analysis reveals information flow during hippocampal ripples. A. L. SAMPSON\*; C. LAINSCSEK; C. E. GONZALEZ; X. JIANG; J. GONZALEZ-MARTINEZ; E. HALGREN; T. J. SEJNOWSKI. *Salk Inst. for Biol. Studies, Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego, Cleveland Clin., Univ. of California San Diego, Univ. of California San Diego.*
- 4:00 CCC2 **597.08** Role of glutamate produced by melanin-concentrating hormone neurons in sleep-wake regulation. F. NAGANUMA; S. BANDARU; G. ABSI; M. CHEE; R. VETRIVELAN\*. *Beth Israel Deaconess Med. Ctr., Carleton Univ., Harvard Med. Sch.*
- 1:00 CCC3 **597.09** An *in vitro* study of parahypoglossal cholinergic inputs to hypoglossal motor neurons in adult mice. L. ZHU\*; E. ARRIGONI. *Beth Israel Deaconess Med. Center/ Harvard Med. Sch.*
- 2:00 CCC4 **597.10** ● Lateral parabrachial neurons innervate arousal-promoting regions in the rat brainstem via orexin neurons in the hypothalamus. Y. ARIMA\*; S. YOKOTA; M. FUJITANI. *Shimane Univ.*
- 3:00 CCC5 **597.11** Orexin agonist modified the sleep-wake pattern in narcoleptic taiep rat. C. CORTES\*; C. DE OVANDO; S. RUGERIO; A. UGARTE; J. R. EGUIBAR. *B. Univ. Autonoma de Puebla, B. Univ. Autonoma de Puebla, B. Univ. Autonoma de Puebla.*
- 4:00 CCC6 **597.12** The response of nitrenergic neurons in the dorsal raphe nucleus to acute sleep loss. I. S. NICHOLS\*; E. CHIEM; C. VAN; A. TUCKER; F. NAJJAR; K. PAUL. *UCLA.*
- 1:00 CCC7 **597.13** Thalamic dual control of sleep and wakefulness. A. R. ADAMANTIDIS\*, Dr; M. BANDARABADI; C. G. HERRERA; T. GENT. *Univ. of Bern, Hosp. Univ. of Bern, Inselspital Univ. of Bern, Univ. of Bern.*
- 2:00 CCC8 **597.14** An intracellular study of GABAergic processes in the control of activity of neurons in the pontine reticular formation of the cat. M. XI; S. J. FUNG; S. SAMPOGNA; M. H. CHASE\*. *Websciences Intl., UCLA Sch. of Med.*
- 3:00 CCC9 **597.15** Spatio-temporal organization of sleep spindles and slow waves in naturally sleeping cats. O. BUKHTIYAROVA\*; S. CHAUVETTE; S. SOLTANI; I. TIMOFEEV. *Univ. Laval, CERVO Brain Res. Ctr.*
- 4:00 CCC10 **597.16** Spatiotemporal dynamics in human infant sleep spindles. L. MULLER; S. E. PETERS; A. A. BENASICH; T. J. SEJNOWSKI\*. *Salk Inst., Rutgers Univ. - Newark, Rutgers University-Newark.*
- 1:00 CCC11 **597.17** Characterizing the functional role of global and local sleep slow oscillations using ECoG. N. NATRAJ\*; E. F. CHANG; K. GANGULY. *Univ. of California, San Francisco.*
- 2:00 CCC12 **597.18** Vagal-evoked cortical potentials in monkeys follow a circadian pattern. I. REMBADO\*; D. SU; A. LEVARI; L. SHUPE; E. E. FETZ; S. ZANOS. *Univ. of Washington, Neurolog. Surgery, Univ. of Washington, Leadership and Strategic Thinking, Univ. of Washington, Dept. of Physiol. & Biophysics, Univ. of Washington, Univ. of Washington, Feinstein Inst. for Med. Res.*
- 3:00 CCC13 **597.19** Quantitative analysis of polysomnograms can stratify risk of adverse cardiovascular events in older adults with sleep disordered breathing. S. V. GLISKE\*. *Univ. of Michigan.*
- 4:00 CCC14 **597.20** Intracranial electrical closed loop stimulation locked to hippocampal sleep-slow-oscillations in humans. M. GEVA-SAGIV\*; E. A. MANKIN; D. ELIASHIV; N. TCHEMODANOV; Y. NIR; I. FRIED. *Univ. of California, Tel Aviv Univ., Univ. of California, Tel Aviv Univ., Tel-Aviv Sourasky Med. Ctr., Univ. of California.*
- 1:00 DDD1 **597.21** Bistability and complexity within the sleeping brain: Simultaneous intracranial eeg and high-density scalp eeg recordings. A. PIGORINI\*; S. SARASSO; M. FECCHIO; A. GIRARDI CASALI; C. CAMPANA; A. RUBINO; S. PARMIGIANI; A. CATTANI; E. MIKULAN; S. RUSSO; A. MAZZA; G. LO RUSSO; L. NOBILI; M. MASSIMINI. *Univ. of Milan, Univ. of Sao Paulo, Ctr. for epilepsy surgery, Ctr. for epilepsy surgery "C.Munari", Niguarda hospital.*
- 2:00 DDD2 **597.22** Detecting causal interactions between brain regions during human sleep spindles. C. E. GONZALEZ\*; A. L. SAMPSON; R. KIM; C. LAINSCSECK; R. MAK-MCCULLY; H. BASTUJI; P. CHAUVEL; M. REY; E. HALGREN; T. J. SEJNOWSKI. *Univ. of California San Diego, Salk Inst. For Biol. Studies, Salk Inst. for Biol. Studies, Salk Inst. for Biol. Studies, Univ. of California, Berkeley, Central Integration of Pain, Lyon Neurosci. Res. Ctr., Aix-Marseille Univ., Aix Marseille Univ., Univ. of California San Diego, Salk Inst.*

## POSTER

### 598. Non-Peptide Regulation of Food Intake and Energy Balance

#### Theme F: Integrative Physiology and Behavior

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 DDD3 **598.01** Effect of sigma-1 receptor antagonist PD144418 on motivational aspects of feeding behaviors in male and female rats. M. TAPIA\*; J. R. LEE; D. K. MILLER; M. J. WILL. *Univ. of Missouri.*
- 2:00 DDD4 **598.02** Mice lacking PTP1B in astrocyte protect against obesity induced by a high fat diet. M. SUGIYAMA\*; R. BANNO; H. YAGINUMA; K. TAKI; A. MIZOGUCHI; T. TSUNEKAWA; H. TAKAGI; Y. ITO; K. YAMANAKA; H. ARIMA. *Nagoya Univ. Grad. Sch. of Med., Res. Ctr. of Health, Physical Fitness and Sports, Nagoya Univ., Res. Inst. of Envrn. Medicine, Nagoya Univ.*
- 3:00 DDD5 **598.03** ▲ High-fat feeding causes microglial activation and inflammation in ventral tegmental area in mice. A. MIZOGUCHI\*; R. BANNO; H. YAGINUMA; K. TAKI; M. SUGIYAMA; T. TSUNEKAWA; H. TAKAGI; Y. ITO; H. ARIMA. *Dept. of Endocrinol. and Diabetes, Nagoya U, Res. Ctr. of Health, Physical Fitness and Sports, Nagoya U.*
- 4:00 DDD6 **598.04** Reward sensitivity deficits in rats following intermittent access to a palatable diet. C. F. MOORE\*; V. SABINO; P. COTTONE. *Boston Univ.*

- 1:00 DDD7 **598.05** A locus coeruleus to lateral hypothalamus circuit for suppression of feeding. N. R. SCIOLINO\*; C. M. MAZZONE; N. W. PLUMMER; J. AMIN; K. G. SMITH; C. A. MCGEE; C. X. YANG; M. J. KRASHES; A. V. KRAVITZ; M. R. BRUCHAS; J. D. CUSHMAN; G. CUI; P. JENSEN. *NIH - NIEHS, NIH, Washington Univ.*
- 2:00 DDD8 **598.06** • Effects of lisdexamfetamine on instrumental and consummatory behaviors supported by foods with varying degrees of palatability: Exploration of a binge eating model. R. PRESBY\*; R. A. ROTOLO; J. YANG; M. CORREA; J. D. SALAMONE. *Univ. of Connecticut, Psicobiologia. Univ. Jaume I.*
- 3:00 DDD9 **598.07** • The endocannabinoid AEA amplifies food preferences in *C. elegans*. S. FAUMONT; S. LEVICHEV-CONNOLLY; R. BERNER; S. R. LOCKERY\*. *Inst. Neurosci, Univ. of Oregon.*
- 4:00 DDD10 **598.08** Effects of maternal docosahexaenoic acid (DHA) supplementation on lipid peroxidation products in offspring mouse. T. WOO\*; B. YANG; R. LI; K. FRITSCH; G. Y. SUN; M. GREENLIEF; D. Q. BEVERSDORF. *Univ. of Missouri, Univ. of Missouri-Columbia, Univ. of Missouri, Univ. of Missouri, Univ. Missouri, Univ. of Missouri Columbia.*
- 1:00 DDD11 **598.09** Non-canonical dopamine circuit causes metabolic disorganization and obesity. R. M. GRIPPO\*; Q. TANG; Q. ZHANG; S. R. CHADWICK; A. M. PUROHIT; M. D. SUNKARA; M. M. SCOTT; A. D. GÜLER. *Univ. of Virginia, Johns Hopkins Univ.*
- 2:00 DDD12 **598.10** Acquisition and expression of sucrose conditioned flavor preferences following dopamine D1, opioid and NMDA receptor antagonism in C57BL/6 mice. B. ISKHAKOV; G. FAZILOV; M. SHENOUDA; A. BURAS; D. BHATTACHARJEE; P. DOHNALOVA; J. ISKHAKOVA; F. BOURIE; R. J. BODNAR\*. *Queens Col.*
- 3:00 DDD13 **598.11** Blockade of dopamine D2 receptors in the nucleus accumbens prevents the behavioral changes induced by intermittent access to sucrose. R. ESCARTIN-PEREZ\*; J. SUÁREZ-ORTÍZ; A. MALAGÓN-CARRILLO; V. LÓPEZ-ALONSO; A. HERNÁNDEZ-GUTIÉRREZ; J. MANCILLA-DÍAZ. *UNAM, FES Iztacala, Inst. Politécnico Nacional.*
- 4:00 DDD14 **598.12** Dopamine neuromodulation of host-seeking behavior in the female mosquito. T. R. SORRELLS\*; L. B. VOSSHALL. *Rockefeller Univ.*
- 1:00 DDD15 **598.13** Central effects of the satiety signal oleoylethanolamide in an animal model of frustration stress-induced binge eating disorder. C. A. GALLELLI\*; A. ROMANO; M. V. MICONI DI BONAVENTURA; J. B. KOCZWARA; M. E. GIUSEPPONI; T. CASSANO; C. CIFANI; S. GAETANI. *Sapienza Univ. of Rome, Univ. of Camerino, Univ. of Foggia.*
- 2:00 DDD16 **598.14** Common neural underpinnings between anorexia, memory and addiction. V. COMPAN\*; G. CONDUCTIER. *Nimes Univ., Monash Inst.*
- 3:00 DDD17 **598.15** Impact of nutrition on risk decision making. L. LIU\*; S. STRANG; S. O. ARTIGAS; A. ULRICH; J. TARDU; O. UHL; B. KOLETZKO; S. M. SCHMID; S. Q. PARK. *Dept. of Psychology I, Univ. of Lübeck, Dept. of Intrnl. Med. I, Univ. of Lübeck, Dr. von Hauner Children's Hospital, Univ. of Munich Med. Center, Ludwig-Maximilians-Universität Munich, German Ctr. for Diabetes Res. (DZD).*
- 4:00 DDD18 **598.16** Involvement of transient receptor potential vanilloid (trpv) type channels in olanzapine-induced hyperphagia and weight gain. R. SINGH\*; Y. BANSAL; T. SOGA; I. PARHAR; A. KUHAD. *Panjab Univ., Monash Univ.*
- 1:00 DDD19 **598.17** Nutritional lipids and glial remodeling. C. ROVERE\*; C. CANSELL; O. LE THUC; K. STOBBE; C. MOSSER; F. BRAU; N. DEVAUX; C. LEBEAUPIN; E. AUDINAT; J. NAHON; N. BLONDEAU. *Univ. of Nice Sophia Antipolis, IPMC-CNRS, INSERM U1128, CNRS UMR 5203 - INSERM U1191.*
- 2:00 DDD20 **598.18** The effect of naloxone in the consumption of a high carbohydrate diet at weaning and its repercussion on the intake of hypercaloric diet in adult male rats. J. A. MATA-LUÉVANOS\*, JR; J. JUAREZ. *Inst. De Neurociencias, Univ. De Guadalajara, Univ. Guadalajara.*
- 3:00 DDD21 **598.19** An animal model of binge-like eating using short vs long access self-administration. G. R. CURTIS\*; L. SANZALONE; N. MACK; J. R. BARSON. *Drexel Univ. Col. of Med.*
- 4:00 DDD22 **598.20** High-fat diet induced obesity and weight loss - searching for epigenetic mechanisms / markers. M. COHEN-OR; Y. GERBERG; T. KISLIOUK; N. MEIRI; A. WELLER\*. *Bar-Ilan Univ., Bar-Ilan Univ., The Volcani Ctr., Bar-Ilan Univ.*

## POSTER

### 599. Appetitive and Incentive Learning and Memory II

#### Theme G: Motivation and Emotion

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 DDD23 **599.01** Effects of neonatal limited nesting stress on anxiety-like behavior and impulsivity in adult rats. A. C. TALK\*; C. JEREMY; J. SHERREY; S. FISHER; A. HAMLIN; E. KYONKA. *Univ. of New England.*
- 2:00 DDD24 **599.02** Activation of leptin receptor-expressing neurons in lateral hypothalamus enhances food-seeking without altering food intake in mice. Y. LEE\*; D. HA; M. KIM; H. SONG; C. NAMKOONG; D. CHUN; H. CHOI. *Seoul Natl. Univ.*
- 3:00 EEE1 **599.03** The effects of novelty on food consumption in male and female rats. E. GREINER\*; G. D. PETROVICH. *Boston Col., Boston Col.*
- 4:00 EEE2 **599.04** Context-induced renewal of responding to food cues: The effect of context pre-exposure in male and female rats. D. LAFFERTY\*; G. D. PETROVICH. *Boston Col.*
- 1:00 EEE3 **599.05** The pharmacological stressor yohimbine, but not U50,488, increases responding for conditioned reinforcers previously paired with alcohol or sucrose. R. I. TABBARA\*; A. RAHBARNIA; A. D. LÊ; P. J. FLETCHER. *Univ. of Toronto, Campbell Family Mental Hlth. Res. Institute, Ctr. for Addiction and Mental Hlth., Univ. of Toronto, Univ. of Toronto, Campbell Family Mental Hlth. Res. Institute, Ctr. for Addiction and Mental Hlth.*
- 2:00 EEE4 **599.06** Cannabinoid agonist effects on pavlovian conditioned approach behavior. A. GHEIDI\*; B. N. FROELICH; C. J. FITZPATRICK; R. L. ATKINSON; C. N. BARCELO; J. D. MORROW. *Univ. of Michigan, Univ. of Michigan.*
- 3:00 EEE5 **599.07** Are cues pursued for their own sake, or because they lead to rewards? C. E. MARÍA-RÍOS\*; C. J. FITZPATRICK; T. GEARY; J. D. MORROW. *Univ. of Michigan, Univ. of Michigan.*

Tues. 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 EEE6 **599.08** Incentive salience attribution predicts task-irrelevant attention biases in human sign- and goal-trackers. M. DIBARTOLO\*; K. M. FRASER; V. NICHOLAS; P. H. JANAK; S. M. COURTNEY. *Johns Hopkins Univ., Johns Hopkins Univ., Kennedy Krieger Inst.*
- 1:00 EEE7 **599.09** Insular cortex and sympathetic nervous system responses to motivational salience. K. G. WARTHEN\*; A. BOYSE-PEACOR; B. SANFORD; B. J. MICKY. *Univ. of Utah, Univ. of Utah Sch. of Med., Univ. of Michigan.*
- 2:00 EEE8 **599.10** Individual differences in the effects of chronic nicotine on autoshaping learning. L. A. ORTEGA MURILLO\*; M. LAMPREA; J. CIFUENTES; E. OCAMPO; L. GARCIA; C. NOVOA; J. SOLANO. *Fundacion Universitaria Konrad Lorenz, Univ. Nacional de Colombia.*
- 3:00 EEE9 **599.11** Systemic and intracerebroventricular nicotine administration increases goal-tracking during Pavlovian conditioned approach paradigms in Long-Evans rats. H. A. PEARSON\*; P. J. MEYER. *Univ. at Buffalo - The State Univ. of Ne.*
- 1:00 DP13/EEE10 **599.12**(Dynamic Poster) Acid sensing ion channel-1a in pavlovian reward conditioning. A. GHOBBEH\*; R. J. TAUGHER; R. FAN; R. T. LALUMIERE; J. A. WEMMIE. *The Univ. of Iowa, The Univ. of Iowa.*
- 1:00 EEE11 **599.13** Transient activation of VTA afferent input from the parabrachial nucleus disengages reward seeking. H. YAU\*; J. TSOU; F. GUO; A. BONCI. *Grad. Inst. of Brain and Mind Sci., NIDA/NIH.*
- 2:00 EEE12 **599.14** Decoding neuroanatomy and behavioral roles of distinct subpopulations in the ventral tegmental area (VTA) to advance potential for selective treatment in substance use disorder, mood disorders and Parkinson's disease. Z. BIMPIDIS\*; N. KÖNIG; B. VLCEK; A. WALLÉN-MACKENZIE. *Uppsala Univ.*
- 3:00 EEE13 **599.15** Activation of GABA projection neurons from the ventral tegmental area to the nucleus accumbens enhances adaptive reward learning without affecting motivation in rats. M. FEJA\*; K. T. WAKABAYASHI; M. P. K. LEIGH; K. A. HAUSKNECHT; R. SHEN; S. HAJ-DAHMANE; C. E. BASS. *Univ. At Buffalo SUNY, Res. Inst. on Addictions, Univ. at Buffalo.*
- 4:00 EEE14 **599.16** Altered reinforcement learning dynamics in heterozygous DAT-Cre KI mice. K. M. COSTA\*; J. ROEPER. *Goethe Univ., Natl. Inst. for Drug Abuse.*
- 1:00 EEE15 **599.17** Influence of stress on decision-making behavior in mice. R. G. WILLIAMS\*; S. SANDBERG; P. E. M. PHILLIPS. *Univ. of Washington, Seattle.*
- 2:00 EEE16 **599.18** Effect of blood pressure reduction on working memory performance in spontaneously hypertensive rats: Characteristics of response latency in the delayed-matching-to-place task. T. SATO\*. *Nagano Univ.*
- 2:00 EEE18 **600.02** Elevated dorsal striatal brain response when satiated during delay discounting in women remitted from bulimia nervosa. A. BISCHOFF-GRETHER\*; C. E. WIERENGA; U. F. BAILER; W. H. KAYE. *UCSD.*
- 3:00 EEE19 **600.03** Projections from the nucleus accumbens shell to the ventral pallidum are involved in the control of palatable food intake in adult female rats. S. CHOMETTON\*; G. GUËVREMONT; J. SEIGNEUR; E. TIMOFEEVA; I. V. TIMOFEEV. *CRIUCPQ, CERVO.*
- 4:00 EEE20 **600.04** Optogenetic stimulation of the orbitofrontal cortex enhances food 'liking' vs 'wanting'. I. MORALES\*; K. C. BERRIDGE. *Univ. of Michigan, Univ. of Michigan.*
- 1:00 EEE21 **600.05** Optogenetic stimulation of the paraventricular nucleus reduces motivation to self-administer sucrose. C. MITCHELL\*; J. YEOH; C. ADAMS; E. CAMPBELL; J. BAINS; G. MCNALLY; B. GRAHAM; C. DAYAS. *Univ. of Newcastle, Florey Inst. of Neurosci. and Mental Hlth., Univ. of Calgary, Univ. New South Wales.*
- 2:00 EEE22 **600.06** • Activation of glucagone-like peptide-1 receptors reduces the motivation to consume sucrose pellets during skilled reach foraging via neurotransmission in nucleus accumbens shell. J. VESTLUND\*; F. BERGQUIST; V. LICHERI; L. ADERMARK; E. JERLHAG. *Inst. of Neurosci. and Physiol., Inst. of Neurosci. and Physiol.*
- 3:00 EEE23 **600.07** Mapping behaviors elicited by optogenetic stimulation of lateral hypothalamic and lateral preoptic subregions. K. URSTADT\*; N. KAPILA; E. KOKOSZKA; K. C. BERRIDGE. *Occidental Col., Univ. of Michigan, Univ. of Michigan.*
- 4:00 EEE24 **600.08** Optogenetic excitation of limbic corticotropin releasing factor neurons modulates motivation. H. M. BAUMGARTNER\*; J. SCHULKIN; K. C. BERRIDGE. *Univ. of Michigan, Georgetown Univ.*
- 1:00 EEE25 **600.09** Medial preoptic circuit induces hunting-like actions to target objects and prey. Y. JEONG\*; S. PARK; D. KIM. *KAIST.*
- 2:00 EEE26 **600.10** Chemogenetic stimulation of posterior ventral tegmental area-nucleus accumbens shell circuitry prolongs novelty response in rats. J. M. ILLENBERGER\*; H. LI; M. N. CRANSTON; C. F. MACTUTUS; K. A. MCLAURIN; R. M. BOOZE. *Univ. of South Carolina.*
- 3:00 FFF1 **600.11** Low frequency stimulation has a bidirectional effect on plasticity in periaqueductal gray and rostromedial tegmental nucleus GABAergic synapses in the ventral tegmental area. R. ST. LAURENT\*; J. A. KAUER. *Brown Univ., Brown Univ.*
- 4:00 FFF2 **600.12** Activation of a hypothalamic-ventral tegmental circuit gates motivation. J. N. SIEMIAN\*; F. L. SCHIFFINO; M. PETRELLA; J. E. SLOCOMB; S. SARFIELD; M. L. ZUCCOLI; M. SLOMP; Y. APONTE. *Natl. Inst. On Drug Abuse.*
- 1:00 FFF3 **600.13** Exploring the neural mechanism by which optogenetic stimulation of ventral tegmental area dopamine neurons prevents extinction of cued approach behavior. C. M. REYES\*; S. M. NICOLA. *Albert Einstein Col. of Med., Albert Einstein Coll Med.*
- 2:00 FFF4 **600.14** Effort-related choice behavior is regulated by cholinergic signaling in the ventral tegmental area. J. L. HAIGHT\*; E. J. NUNES; D. J. RATHI; N. A. ADDY. *Yale Univ.*

## POSTER

### 600. Subcortical Neurocircuitry in Motivated Behaviors

#### Theme G: Motivation and Emotion

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 EEE17 **600.01** Amygdala and thalamic inputs to the nucleus accumbens similarly regulate feeding and reinforcement. C. LAFFERTY\*; S. REED; J. MENDOZA; A. YANG; J. P. BRITT. *McGill Univ., McGill Univ.*

- 3:00 FFF5 **600.15** Role of reward expectation on dopaminergic signals and medium spiny neurons in the dorsal striatum. C. H. DONAHUE\*; J. A. NADEL; A. C. KREITZER. *The Gladstone Inst., Oberlin Col., Gladstone Inst. of Neurolog. Dis.*
- 4:00 FFF6 **600.16** Pramipexole enhances disadvantageous probabilistic decision-making via D<sub>3</sub>, but not D<sub>2</sub>, dopamine receptors. R. CADEDDU\*; M. ORRU\*; H. STRATHMAN; M. BORTOLATO. *Univ. of Utah.*
- 1:00 FFF7 **600.17** MPA-induced drive-assisted steering (MIDAS) system for behavior experiment. D. KIM\*; Y. JEONG; S. PARK; P. LEE; D. KIM. *KAIST, KAIST.*
- 2:00 FFF8 **600.18** Withdrawn
- 3:00 FFF9 **600.19** Single cell transcriptomic profiling reveals distinct subtypes of serotonergic neurons in the mouse dorsal raphe nucleus. K. HUANG\*; N. E. OCHANDARENA; A. C. PHILSON; M. HYUN; B. L. SABATINI. *Harvard Med. Sch., Harvard Med. Sch., Harvard Med. Sch. Dept. of Neurobio.*
- 4:00 FFF10 **600.20** Glutamate and GABA neurons of the ventral pallidum: Opponent roles in motivated behavior. L. FAGET\*; V. ZELL; E. SOUTER; A. MCPHERSON; R. RESSLER; D. DULCIS; T. S. HNASKO. *UCSD.*
- 1:00 FFF11 **600.21** The anterior caudate nucleus supports impulsive choices triggered by pramipexole. E. MARTINEZ; B. PASQUEREAU; Y. SAGA; V. SGAMBATO-FAURE; L. TREMBLAY\*. *Univ. of Lyon 1, CNRS, Ctr. de Neurosci. Cognitive, Neurosci. Cognitive Ctr. - CNRS UMR 5229, CNRS UMR-5229.*
- 2:00 FFF12 **600.22** Separate neural mechanisms underlie mean reward and reward variance in risky decision making. S. SUN\*; R. YU. *Caltech, Natl. Univ. of Singapore.*
- 3:00 FFF13 **600.23** GABAergic ventral pallidum neuron roles in risky decision making. M. R. FARRELL\*; C. RUIZ; J. HEYER; S. MAHLER. *Univ. of California Irvine.*
- 4:00 FFF14 **600.24** Neural mechanism of valence control in the Brainstem. W. SHIN\*; J. KIM. *Korea Inst. of Sci. and Technol. (KIST).*
- 1:00 FFF15 **600.25** Chemogenetic inhibition of neurons in the paraventricular thalamus that project to the nucleus accumbens has no effect on the expression of morphine conditional place preference. X. DONG\*; S. LI; Y. LI; G. J. KIROUAC. *Univ. of Manitoba, Key Lab. of Mental Health, Inst. of Psychology, Chinese Acad. of Sci., Dept. of Psychology, Univ. of Chinese Acad. of Sci., Dept. of Psychiatry, Col. of Med.*
- 2:00 FFF16 **600.26** Dissociable effects of M4 and M3 muscarinic cholinergic receptor antagonism in the rostromedial tegmental nucleus on reward and locomotor activation. S. STEIDL\*; R. HARB; L. RIEDY; S. SCHEINMAN. *Loyola Univ. Chicago.*
- 3:00 FFF17 **600.27** Exploring the effects of tetrahydrobiopterin on motivation, dopamine release and acute inflammation in mice. H. FANET\*; A. OUMMADI; A. LO; F. DUCROCQ; M. TOURNISSAC; P. BOURASSA; F. MOUSSA; L. CAPURON; S. LAYÉ; S. CAILLE; P. TRIFILIEFF; F. CALON; S. VANCASSEL. *Laval Univ., CHU de Québec - Res. Ctr., Univ. of Bordeaux, OptiNutriBrain - Intl. associated laboratory, Inst. of Nutr. and Functional Foods - Laval Univ., Univ. Paris Sud, CNRS UMR 5287, Laval Univ.*
- 4:00 FFF18 **600.28** Releasing motivation: Direct inhibition of nucleus accumbens shell neurons promotes motivated behaviors. J. J. OLNEY\*; K. C. BERRIDGE. *Univ. of Michigan, Univ. of Michigan.*
- 1:00 FFF19 **600.29** Optogenetic stimulation of the medial amygdala may focus pursuit for a cocaine reward. E. E. NAFFZIGER\*; K. C. BERRIDGE. *Univ. of Michigan.*
- 2:00 FFF20 **600.30** ▲ Dissecting the addiction-like preference created by optogenetic stimulation of the central amygdala. C. L. POISSON; M. MIAN; D. VAAMONDE; J. M. CHABOT; H. XU; C. FREELAND; M. J. ROBINSON\*. *Wesleyan Univ., Wesleyan Univ., Wesleyan Univ., Wesleyan Univ.*

## POSTER

### 601. Drugs of Abuse and Addiction: Alcohol: Neural Mechanisms II

#### Theme G: Motivation and Emotion

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 FFF21 **601.01** Alcohol dependence and withdrawal alter serotonergic modulation of GABA transmission in the CeA. S. KHOM; R. R. PATEL; D. HEDGES; F. P. VARODAYAN; M. BAJO\*; M. Q. STEINMANN; R. VLKOLINSKY; D. KIRSON; M. ROBERTO. *The Scripps Res. Inst.*
- 2:00 FFF22 **601.02** Ethanol enhancement of dopamine release in the nucleus accumbens and ethanol reward are mediated by peripheral neuroimmune interactions. J. D. OBRAY\*; E. Y. JANG; T. J. CLARKE; A. KLOMP; A. P. RICHARDSON; M. PARSONS; C. H. YANG; J. T. YORGASON; S. C. STEFFENSEN. *Brigham Young Univ., Daegu Haany Univ., Brigham Young Univ.*
- 3:00 FFF23 **601.03** Effects of low-dose embryonic ethanol on the early development of hypocretin/orexin neurons and behavior in larval zebrafish. A. COLLIER\*; V. HALKINA; S. MIN; O. KARATAYEV; G. Q. CHANG; S. F. LEIBOWITZ. *The Rockefeller Univ.*
- 4:00 FFF24 **601.04** ● Effects of systemic and intra-ventral tegmental area administration of 5-HT<sub>1B</sub> receptor agonist CP94253 on oral self-administration of ethanol in rats. J. C. JIMÉNEZ\*; F. CORTES-SALAZAR; L. N. CEDILLO; R. I. RUÍZ-GARCÍA; C. E. MÉNDEZ-CORONEL; A. I. BARRIENTOS-NORIEGA; F. MIRANDA-HERRERA\*. *Facultad de Estudios Superiores Iztacala.*
- 1:00 GGG1 **601.05** Acute stress and alcohol exposure produce a common alteration in ventral tegmental area inhibitory signaling. B. A. KIMMEY\*; A. OSTROUMOV; R. WITTENBERG; J. A. DANI. *Univ. of Pennsylvania.*
- 2:00 GGG2 **601.06** Plasticity of cingulate cortex intrinsic excitability following voluntary ethanol consumption. R. D. CANNADY\*; P. J. MULHOLLAND. *Med. Univ. of South Carolina, MUSC.*
- 3:00 GGG3 **601.07** Effect of voluntary binge drinking on microglial cells in the medial prefrontal cortex and hippocampus of male and female adolescent rats. A. SILVA-GOTAY\*; W. VARGAS RIAD; E. TAVARES; A. LIN; M. K. HOLDER; H. N. RICHARDSON. *Univ. of Massachusetts Amherst, BGB Group, Georgia State Univ.*
- 4:00 GGG4 **601.08** ▲ Better insights with ISC when using a multi-sensory fMRI paradigm. D. SINGLA\*; J. KAUR; A. DHAWAN; V. MAHAJAN; R. GARG. *Indian Inst. of Technology, Delhi, Indian Inst. of Technology, Delhi, All India Inst. of Med. Sci., Mahajan Imaging Pvt. Ltd.*

Tues. 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 GGG5 **601.09** Liver alcohol metabolism directly fuels histone acetylation in the brain. P. MEWS\*; G. EGERVARI; S. SIDOLI; R. NATIVIO; G. DONAHUE; D. C. ALEXANDER; E. J. NESTLER; B. A. GARCIA; S. L. BERGER. *Univ. of Pennsylvania, Icahn Sch. Med. At Mount Sinai.*
- 2:00 GGG6 **601.10** ▲ D2 dopamine receptor in ethanol-induced behaviors. N. M. DELGADO\*; A. CEBALLOS; P. R. SABANDAL; K. HAN. *Univ. of Texas At El Paso.*
- 3:00 GGG7 **601.11** Optogenetic modulation of dopamine release in the nucleus accumbens and ethanol self-administration. W. M. DOYON\*, JR; S. VILLATORO; D. A. CONNOR; J. A. DANI. *Univ. of Pennsylvania, Univ. of Pennsylvania.*
- 4:00 GGG8 **601.12** Excessive ethanol consumption elevates GABAergic inputs onto cholinergic interneuron in the dorsomedial striatum. H. GANGAL\*; J. LU; X. WANG; J. WANG. *Texas A&M Univ.*
- 1:00 GGG9 **601.13** Effects of different modes of alcohol administration on hypothalamic synaptic plasticity and HPA axis hormonal and behavioral responses to stress. V. N. MARTY\*; Y. Mulpuri; J. MUNIER; S. LELE; R. H. VO; I. YENOKIAN; I. SPIGELMAN. *UCLA.*
- 2:00 GGG10 **601.14** Individual differences in alcohol consumption in relation to instrumental extinction learning and dorsomedial striatal parvalbumin expressing neurons. A. LENSING\*; A. PAJSER; H. FISHER; R. BOERGER; S. GILBERT; H. LIN; C. PICKENS. *Kansas State Univ.*
- 3:00 GGG11 **601.15** Amino acid neurotransmitter release in the nucleus accumbens differs between mice exhibiting low and high sensitization to ethanol. M. G. NASHED\*; D. CHATTERJEE; D. NGUYEN; M. DIWAN; J. N. NOBREGA. *Ctr. for Addiction and Mental Hlth.*
- 4:00 GGG12 **601.16** Pituitary adenylate cyclase-activating polypeptide in the nucleus accumbens shell reduces ethanol drinking. A. T. GARGIULO\*; L. SANZALONE; P. S. SHAH; J. R. BARSON. *Drexel Univ. Col. of Med., Drexel Univ.*
- 1:00 GGG13 **601.17** Identifying neural ensembles that mediate EtOH seeking by stimuli conditioned to withdrawal alleviation by EtOH in dependent subjects using pharmacogenetic inactivation in transgenic rats. O. O. KOZANIAN\*; F. WEISS. *The Scripps Res. Inst., The Scripps Res. Inst.*
- 2:00 GGG14 **601.18** Interleukin 10 increases dopamine neuron activity in the ventral tegmental area and increases dopamine release in the nucleus accumbens via reduction of GABA inhibition. A. J. PAYNE\*; S. D. WILLIAMS; T. J. CLARKE; J. D. OBRAY; E. EISINGER; N. LEWIS; M. C. WOODBURY; S. C. STEFFENSEN. *Brigham Young Univ.*
- 3:00 GGG15 **601.19** Acute ethanol increases monocyte infiltration of the CNS and influences microglia activation. S. C. STEFFENSEN\*; T. J. CLARKE; J. D. OBRAY; J. BRUNDAGE; D. RUTTER; S. B. WILLIAMS; J. T. YORGASON; S. HOPE. *Brigham Young Univ., Brigham Young Univ., Brigham Young Univ.*
- 4:00 GGG16 **601.20** Effects of chronic ethanol and stress on spontaneous and sensory-evoked responses of locus coeruleus noradrenergic neurons. C. R. DEN HARTOG\*; D. E. MOORMAN; E. M. VAZEY. *Univ. of Massachusetts at Amherst, Univ. of Massachusetts Amherst, Univ. of Massachusetts.*
- 1:00 GGG17 **601.21** Voluntary binge drinking disrupts myelin-associated proteins in the medial prefrontal cortex and hippocampus of adolescent rats. S. AKLI\*; E. R. TAVARES; A. SILVA-GOTAY; R. WYROFKSKY; W. M. VARGAS RIAD; E. VAN BOCKSTAELE; H. N. RICHARDSON. *Univ. of Massachusetts, Drexel Univ., BGB Group.*
- 2:00 GGG18 **601.22** Ethanol and migration of immature GABAergic interneurons: From chloride to calcium. S. M. LEE\*; P. W. L. YEH; H. H. YEH. *Geisel Sch. of Med. at Dartmouth Col.*
- 3:00 GGG19 **601.23** Adolescent intermittent binge ethanol alters the expression of GABAergic interneurons in the prelimbic cortex of adult rat brain. W. LIU\*; F. T. CREWS. *Univ. of North Carolina at Chapel Hill.*
- 4:00 GGG20 **601.24** Altered pyramidal neuron function persists in the somatosensory cortex following prenatal ethanol exposure. L. C. DELATOUR\*; H. H. YEH. *The Geisel Sch. of Med. At Dartmouth.*
- 1:00 GGG21 **601.25** Adolescent exposure to cuprizone leads to demyelination and increased microglia cell number in the corpus callosum of male rats. E. TAVARES\*; A. SILVA-GOTAY; A. LIN; G. MOLICA; S. HURWITZ; H. N. RICHARDSON. *Univ. of Massachusetts - Amherst, Univ. of Massachusetts Amherst, Univ. of Massachusetts Amherst.*

## POSTER

### 602. Cannabinoids: Neural Mechanisms

#### Theme G: Motivation and Emotion

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 GGG22 **602.01** ▲ Cnr1 polymorphism, adverse childhood experience and their interaction on cannabis use and resilience abilities. E. I. ORTEGA MORA\*; U. CABALLERO-SÁNCHEZ; T. V. ROMÁN-LÓPEZ; J. A. GONZALEZ-BARRIOS; M. MÉNDEZ-DÍAZ; O. PROSPÉRO-GARCÍA; A. E. RUIZ-CONTRERAS. *Univ. Nacional Autónoma de México, Fac. Psi, Hosp Regional Octubre, ISSSTE, Univ. Nacional Autónoma de México, Lab. de Cannabinoides, Depto. Fisiología, Fac. Medicina.*
- 2:00 GGG23 **602.02** Testing the role of the posterior cingulate cortex in processing salient stimuli in cannabis users: An rTMS study. S. PRASHAD\*; E. S. DEDRICK; W. TO; S. VANNESTE; F. FILBEY. *Univ. of Texas at Dallas.*
- 3:00 GGG24 **602.03** (Un)like two peas in a pod? Unexpected results from a preliminary study on the persistent depressive-like phenotype induced by chronic exposure to HU-210 during adolescence in female rats. M. FERREIRA\*; F. M. MOURO; A. M. SEBASTIÃO. *Faculdade de Medicina, Univ. de Lisboa, Faculdade de Medicina, Univ. de Lisboa.*
- 4:00 GGG25 **602.04** Effects of parasympathetic activation on large-scale brain networks in adolescents with cannabis use disorder in withdrawal. D. G. GHAREMANI\*; L. KESSLER; N. AZZIZI; D. SARRAF; A. C. DEAN; E. D. LONDON. *UCLA, UCLA, Marlborough Sch.*
- 1:00 GGG26 **602.05** Impaired segregation between cognitive and emotional processes in cannabis dependence. P. MANZA\*; E. SHOKRI-KOJORI; N. D. VOLKOW. *NIH, NIH, NIH/NIDA.*
- 2:00 GGG27 **602.06** White matter alterations in heavy cannabis users. G. P. MONTEVERDE\*; A. ANGULO; L. NAVA; S. ALCAUTER. *UNAM, Univ. Nacional Autónoma de México.*

\* 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 HHH1 **602.07** Adolescent cannabinoid exposure increases nigrostriatal dopaminergic transmission. E. PÉREZ\*; A. A. GRACE; M. E. ANDRÉS; J. A. FUENTEALBA. *Pontificia Univ. Católica De Chile, Univ. of Pittsburgh Dept. of Neurosci., Pontificia Univ. Católica De Chile.*
- 4:00 HHH2 **602.08** ● Effects of exogenous cannabinoids on vagal afferent signaling. C. W. KOWALSKI\*; F. J. SHAFFER; J. E. M. LINDBERG; B. PETERSON; J. H. PETERS. *Washington State Univ., Washington State Univ.*
- 1:00 HHH3 **602.09** Differential adaptive properties of mesolimbic and mesocortical dopamine transmission to taste stimuli after repeated exposure to the synthetic cannabinoid JWH-018. M. A. DE LUCA\*; N. PINTORI; C. MILIANO; M. DE FELICE; C. SAGHEDDU; G. MARGIANI; M. ENNAS; M. PISTIS; G. DI CHIARA; M. CASTELLI. *Univ. of Cagliari, Univ. of Cagliari.*
- 2:00 HHH4 **602.10** Tetrahydrocannabinol-induced hypernausea assessed in the conditioned gaping model in rats. M. DEUONO\*; K. M. HERLJA; E. M. ROCK; L. SABAZIOTIS; A. RAJNA; C. L. LIMEBEER; D. M. MUTCH; L. A. PARKER. *Univ. of Guelph, Univ. of Guelph.*
- 3:00 HHH5 **602.11** Cannabinoid/Serotonin interactions in the interoceptive insular cortex in the regulation of LiCl-induced nausea in rats. L. A. PARKER\*; C. L. LIMEBEER; E. M. ROCK. *Univ. of Guelph.*
- 4:00 HHH6 **602.12** THC and stress exposure during adolescence alters behaviour in adult male Wistar rats. A. C. WEEKS\*; H. QUIGLEY; B. PULYK; T. MCCHARLES; H. DOMSY; S. KILBY; T. BENT; B. REIMER; A. STILLAR. *Nipissing Univ.*
- 1:00 HHH7 **602.13** Cannabinoid pre-exposure does not induce sensitization or conditioned activity in adolescent rats. M. J. STONE; B. C. ADAME; B. L. OLIVER; D. O. SANCHEZ; C. A. CRAWFORD\*. *California State Univ.*
- 2:00 HHH8 **602.14** Working memory training reduces drug-seeking for the cannabinoid WIN 55,212-2. S. J. STRINGFIELD\*; E. K. KIRSCHMANN; M. M. TORREGROSSA. *Univ. of Pittsburgh, Univ. of Pittsburgh, Immaculata Univ., Univ. of Pittsburgh.*
- 3:00 HHH9 **602.15** Cocaine-induced increases in motivation require CB1 receptor activation. V. M. AYVAZIAN\*; J. M. WENZEL; N. E. ZLEBNIK; A. BOWS; J. F. CHEER. *Univ. of Maryland Baltimore, Univ. of Maryland Baltimore.*
- 4:00 HHH10 **602.16** Cell type and pathway-specific imaging of cannabinoid receptor modulation at cholinergic terminals. E. HERNANDEZ\*; D. P. COVEY; J. F. CHEER. *Univ. of Maryland Sch. of Med.*
- 1:00 HHH11 **602.17** Chronic D9-tetrahydrocannabinol (THC) causes pathway-specific synaptic plasticity in the nucleus accumbens. E. HWANG\*; C. R. LUPICA. *NIDA IRP, NIH.*
- 2:00 HHH12 **602.18** Acute THC impairs voluntary locomotor activity through both CNR1 and non- CNR1 ammonia-mediated mechanisms. M. ZUCCOLI\*; S. SANSFIELD; L. WHITAKER; O. A. ABULSEUD; Y. APONTE. *NIDA IRP, Univ. of Genoa.*
- 3:00 HHH13 **602.19** The cognitive effects of delta-9-tetrahydrocannabinol and cannabidiol in the ventral hippocampus are mediated through differential modulation of the c-jun-n-terminal kinase pathway and prefrontal cortex neuronal activity. R. M. HUDSON\*; W. RUSHLOW; S. R. LAVIOLETTE. *Univ. of Western Ontario, Univ. of Western Ontario.*
- 4:00 HHH14 **602.20** Measuring 2-arachidonoylglycerol hydrolyzing activity by ABHD6. S. SINGH\*; N. STELLA. *Univ. of Washington, Univ. Washington.*

## POSTER

### 603. Drugs of Abuse and Addiction: Cocaine Seeking and Reinstatement II

#### Theme G: Motivation and Emotion

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 HHH15 **603.01** Sex differences in the potentiation of intermittent self-administration on incubation of cocaine craving: Effect of estrous cycle. C. NICOLAS\*; T. I. RUSSELL; A. PIERCE; A. HOLLEY; Z. YOU; M. M. MCCARTHY; Y. SHAHAM; S. IKEMOTO. *Natl. Inst. On Drug Abuse-Irp, Univ. of Maryland Sch. of Med.*
- 2:00 HHH16 **603.02** Neural encoding of reward seeking in the medial prefrontal cortex. Y. ZHANG\*; G. BARBERA; L. ZHANG; B. LIANG; Y. LI; Y. SHAHAM; D. LIN. *NIH.*
- 3:00 HHH17 **603.03** Reward- and context-specific ensembles following sucrose or cocaine self-administration in mice. M. SLAKER\*; N. N. NAWARAWONG; C. M. OLSEN. *Med. Col. of Wisconsin, Med. Col. of Wisconsin.*
- 4:00 HHH18 **603.04** Conditioned gaping produced by delayed, but not immediate, exposure to cocaine in rats. K. GUENTHER\*; C. E. WIDEMAN; E. M. ROCK; C. L. LIMEBEER; L. A. PARKER. *Univ. of Guelph.*
- 1:00 HHH19 **603.05** Alpha<sub>2a</sub>-adrenergic hetero-receptors are necessary for stress and agonist regulation of BNST activity and stress-induced reinstatement of cocaine-associated behaviors. R. PEREZ\*; N. HARRIS; B. NABIT; S. FLAVIN; K. MERKEL; R. GILSBACH; L. HEIN; D. WINDER. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Univ. of Friedburg.*
- 2:00 HHH20 **603.06** Novelty place preference predicts addiction-like behavior in C57BL/6J mice self-administering cocaine. D. GUZMAN\*; K. LINDQUIST; S. G. BIRNBAUM; D. W. SELF. *UT Southwestern Med. Ctr.*
- 3:00 HHH21 **603.07** Effects of chronic stress exposure during withdrawal on the incubation of cocaine craving in adult female rats. C. M. CORBETT; E. BABENKO; J. A. LOWETH\*. *Rowan Univ. Sch. of Osteo. Med., Rowan Univ. Sch. of Osteo. Med.*
- 4:00 HHH22 **603.08** DBS-like optogenetic stimulation of accumbens dopamine D2 receptor-containing neurons attenuates cocaine reinstatement. P. J. HUFFMAN\*; M. C. KNOUSE; S. E. SWINFORD-JACKSON; A. U. DEUTSCHMANN; A. S. THOMAS; L. A. BRIAND; R. C. PIERCE. *Univ. of Pennsylvania, Univ. of Pennsylvania, Temple Univ.*
- 1:00 HHH23 **603.09** Stress-induced reinstatement requires PAC1 receptor endosomal MEK signaling. O. MILES\*; S. BRAINARD; V. MAY; M. E. BOUTON; S. E. HAMMACK. *Univ. of Vermont, Univ. of Vermont.*
- 2:00 HHH24 **603.10** Impact of endogenous ghrelin on the maintenance and reinstatement of cocaine addiction-like behaviors in self-administration trained rats. Z. YOU\*; B. WANG; G. BI; F. ALLEN; Z. XI; R. A. WISE; E. L. GARDNER. *NIDA-IRP/NIH/DHHS, NIDA-IRP/NIH/DHHS, NIDA-IRP/NIH/DHHS.*

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• Indicated a real or perceived conflict of interest, see page 148 for details.

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\* Indicates abstract's submitting author

- 3:00 HHH25 **603.11** Inhibition of glycogen synthase kinase 3 disrupts cocaine-associated memories in the rat self-administration model. J. L. BARR\*; X. SHI; E. M. UNTERWALD. *Temple Univ. Sch. of Med.*
- 4:00 HHH26 **603.12** Impact of intra-nucleus accumbens administration of MS-275, a class I HDAC inhibitor, on cocaine-seeking behavior. D. K. FISCHER\*; A. S. THOMAS; S. E. SWINFORD-JACKSON; M. C. KNOUSE; R. C. PIERCE. *Univ. of Pennsylvania.*
- 1:00 HHH27 **603.13** Silence is golden: A “quieter” brain response to 6 sec cocaine video cues is linked to better drug use outcomes. A. R. CHILDRESS\*; K. JAGANNATHAN; P. REGIER; J. J. SUH; Z. MONGE; K. A. YOUNG; S. DARNLEY; E. BERKOWITZ-STURGIS; M. TAYLOR; M. GAWRYSIAK; T. FRANKLIN; R. WETHERILL; D. LANGLEBEN; K. KAMPMAN; C. P. O'BRIEN. *Univ. PENN Perelman Sch. Med.*
- 2:00 HHH28 **603.14** Prelimbic Ca<sub>v</sub>1.2 channels mediate stress-induced reinstatement via enhanced projection activity to nucleus accumbens core. C. C. BAVLEY\*; C. E. BURGDORF; D. FISCHER; R. N. FETCHO; B. S. HALL; C. M. LISTON; A. M. RAJADHYAKSHA. *Weill Cornell Med., Weill Cornell Med., Univ. of Pennsylvania, Weill Cornell Med. Col., Weill Cornell Med. Col., Joan and Sanford I Weill Med. Col. of Cornell Univ.*
- 3:00 HHH29 **603.15** Chromatin remodeler INO80 mediates cocaine craving during prolonged withdrawal. C. T. WERNER\*; J. A. MARTIN; A. F. STEWART; A. LEPACK; Z. WANG; S. MITRA; P. N. GOBIRA; A. CACCAMISE; R. L. NEVE; I. S. MAZE; D. M. DIETZ. *State Univ. of New York at Buffalo, Icahn Sch. of Med. At Mount Sinai, Massachusetts Gen. Hosp.*
- 4:00 HHH30 **603.16** Epigenetic priming in the nucleus accumbens underlies relapse of cocaine-associated behaviors. A. J. LOPEZ\*; M. KUTLU; A. R. JOHNSON; L. J. BRADY; K. C. THIBEAULT; E. S. CALIPARI. *Univ. of California Irvine Dept. of Neurobio. and Behavior, Vanderbilt Univ.*
- 1:00 HHH31 **603.17** Pairing extinction of cocaine-seeking with vagus nerve stimulation reduces contextual reinstatement and modulates plasticity in extinction networks. J. CHILDS\*; S. KROENER; C. DRISKILL; S. KIM. *Univ. of Texas at Dallas Sch. of Behavioral and Brain Sci., Univ. of Texas at Dallas Sch. of Behavioral and Brain Sci., Univ. of Texas at Dallas, Univ. of Texas at Dallas.*
- 2:00 HHH32 **603.18** Cholinergic receptors in the ventral tegmental area mediate both cue-induced cocaine-seeking and anxiety-related behaviors during cocaine abstinence. E. J. NUNES\*; L. BITNER; S. WALTON; S. HUGHLEY; K. SMALL; L. E. RUPPRECHT; N. A. ADDY. *Yale Univ.*

## POSTER

### 604. Place Cells

#### Theme H: Cognition

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 HHH33 **604.01** Item-location representations in the medial temporal lobe of non-human primates during a short-term-retention task. H. CHEN\*; Y. NAYA. *Peking Univ. Ctr. for Life Sciences, Peking Univ., Acad. for Advanced Interdisciplinary Studies, Peking Univ., Sch. of Psychology and Cognitive Sciences, Peking Univ., IDG/McGovern Inst. for Brain Research, Peking Univ., Interdisciplinary Inst. of Neurosci. and Technology, Zhejiang Univ.*
- 2:00 HHH34 **604.02** Spatial view cells in the primate hippocampus: Properties demonstrated during active locomotion. E. T. ROLLS\*. *Oxford Ctr. For Computat. Neurosci.*
- 3:00 HHH35 **604.03** Reference frames for encoding of eye movements: A comparison between lateral prefrontal cortex and hippocampus in non-human primates. B. W. CORRIGAN\*; R. A. GULLI; G. DOUCET; M. ROUSSY; R. LUNA; J. C. MARTINEZ-TRUJILLO. *Univ. of Western Ontario, Western Univ., McGill Univ., Univ. of Western Ontario, Univ. of Western Ontario.*
- 4:00 HHH36 **604.04** Spatial information encoding across multiple neocortical regions. I. ESTEVES\*; H. CHANG; A. R. NEUMANN; S. JIANJUN; M. H. MOHAJERANI; B. L. MCNAUGHTON. *Univ. of Lethbridge, Canadian Ctr. For Behavioral Neurosci., Univ. of Lethbridge, Univ. of Lethbridge, The Univ. of Lethbridge, Univ. of California.*
- 1:00 HHH37 **604.05** Imaging long-term population dynamics of rat hippocampal place cells. G. BLAIR\*; A. G. HOWE; P. GOLSHANI; H. T. BLAIR. *UCLA, UCLA, UCLA Dept. of Neurol., UCLA.*
- 2:00 HHH38 **604.06** Probing neurophysiological substrates of LSD-induced hallucinations in freely behaving rats. C. DOMENICO\*; D. C. HAGGERTY; X. MOU; D. JI. *Baylor Col. of Med.*
- 3:00 HHH39 **604.07** Changes in synchronous spike patterns of hippocampal neurons associated with learning of an optimal route in a spatial detour task. H. IGATA\*; T. SASAKI; Y. IKEGAYA. *The Univ. of Tokyo, Japan Sci. and Technol. Agency.*
- 4:00 HHH40 **604.08** Serial cells track the global temporal ordering of discrete episodic events. C. SUN\*; W. YANG; J. MARTIN; S. TONEGAWA. *MIT, The University of Edinburgh.*
- 1:00 HHH41 **604.09** Activity-regulated cytoskeleton-associated protein, Arc, is required for the broad tuning of neuronal firing in the hippocampal CA1 area. L. YUAN; M. FALLAHNEZHAD; Y. WANG; I. AMELLEM; C. CHANG; A. TASHIRO\*. *Nanyang Technological Univ.*
- 2:00 HHH42 **604.10** ● Long term characterisation of pyramidal cell activity in the hippocampal CA1 area using microendoscopic calcium imaging. C. P. KOH\*; L. F. COBAR ZELAYA; A. TASHIRO. *Nanyang Technological Univ. (NTU), Nanyang Technological Univ.*
- 3:00 HHH43 **604.11** Place cells represent three-dimensional, volumetric space anisotropically. R. GRIEVES\*; S. JEDIDI-AYOUB; K. MISHCHANCHUK; K. J. JEFFERY. *Univ. Col. London.*

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\* Indicates abstract's submitting author

- 4:00 HHH44 **604.12** All-optical manipulation of place cells drives spatially associated behaviour. N. T. ROBINSON\*; L. A. L. DESCAMPS; L. E. RUSSELL; C. SCHMIDT-HIEBER; M. HAUSSER. *Univ. Col. London, Inst. Pasteur.*
- 1:00 HHH45 **604.13** Investigating multisensory integration by place cells in visual + olfactory virtual reality. B. A. RADVANSKY\*; D. A. DOMBECK. *Northwestern Univ., Northwestern Univ.*
- 2:00 HHH46 **604.14** CA3 population activity during free running on a virtual circular track. B. A. SUTER\*; C. BORGES-MERJANE; Y. BEN SIMON; P. JONAS. *Inst. of Sci. and Technol. (IST) Austria.*
- 3:00 HHH47 **604.15** Spatial and temporal stability deficits in hippocampal place cells following moderate prenatal alcohol exposure. R. E. HARVEY\*; L. E. BERKOWITZ; D. D. SAVAGE; D. A. HAMILTON; B. J. CLARK. *Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico, New Mexico.*
- 4:00 HHH48 **604.16** Neurobiology of learning to learn; long-lasting, input-specific synaptic circuit function changes in hippocampus. A. CHUNG\*; A. A. FENTON. *New York Univ.*
- 1:00 HHH49 **604.17** Remapping 2.0 : Ensemble coding in the hippocampus. E. R. LEVY\*; E. PARK; A. A. FENTON. *New York Univ.*
- 2:00 HHH50 **604.18** Linear self-motion cues contribute to hippocampal place cells: Functional implications. R. M. YODER\*; R. E. HARVEY; S. A. RUTAN; L. C. CARSTENSEN; G. R. WILLEY; C. A. TERRY; J. J. SIEGEL; B. J. CLARK. *Coastal Carolina Univ., Univ. of New Mexico, Indiana University-Purdue Univ. Fort Wayne, Boston Univ., Baylor Col. of Med.*
- 3:00 HHH51 **604.19** Dentate spike modulation of hippocampal activity. D. DVORAK\*; A. CHUNG; N. HUSSAIN; A. A. FENTON. *New York Univ., New York Univ.*
- 4:00 HHH52 **604.20** The effect of moderate prenatal alcohol exposure on object discrimination by adult rats. L. M. SANCHEZ\*; S. D. BENTHEM; S. A. JOHNSON; S. M. TURNER; D. D. SAVAGE II; S. N. BURKE; B. J. CLARK. *Univ. of New Mexico, Univ. of Florida, Univ. of New Mexico Sch. of Med., Univ. of Florida, Univ. of New Mexico.*
- 1:00 HHH53 **604.21** Cognitive control and the dynamic grouping of spatial frame-specific hippocampus discharge in the absence and presence of task demands. A. A. FENTON\*; Z. TALBOT; M. VAN DIJK. *New York Univ.*
- 2:00 HHH54 **604.22** Investigating task-adaptive position coding in MEC neurons. K. HARDCASTLE\*; W. N. BUTLER; L. M. GIOCOMO. *Stanford Univ.*
- 3:00 HHH55 **604.23** Heterogeneous coding for position and context across hippocampal subregions. M. PLITT\*; L. GIOCOMO. *Stanford Univ.*
- 4:00 HHH56 **604.24** Distinguishing grid from non-grid cells in virtual reality. M. G. CAMPBELL\*; M. PLITT; C. S. MALLORY; L. M. GIOCOMO. *Stanford Univ.*
- 1:00 HHH57 **604.25** Experience-dependent evolution of place cell coding during spatial learning. Y. SUN\*; L. M. GIOCOMO. *Stanford Univ.*
- 2:00 HHH58 **604.26** Dorsal-Ventral place cell representations in multi-scale environments. B. HARLAND\*; M. CONTRERAS; P. SCLEIDOROVICH; A. WEITZENFELD; J. FELLOUS. *Univ. of Arizona, USF.*
- 3:00 HHH59 **604.27** An empirically driven hierarchical anti-hebbian network model for the formation of spatial cells in three-dimensional space. K. SOMAN\*; V. CHAKRAVARTHY; M. M. YARTSEV. *Indian Inst. of Technol. Madras, Univ. of California Berkeley.*
- 4:00 HHH60 **604.28** Multiplexed continuous tracking of spatial location and navigational choice values in the posterior parietal cortex of foraging bats. N. M. DOTSON\*; M. M. YARTSEV. *Univ. of California Berkeley, Univ. of California Berkeley.*
- 1:00 HHH61 **604.29** The automated flight room: Studying complex three-dimensional spatial navigation and its underlying neural codes in freely-flying bats. D. GENZEL\*; M. M. YARTSEV. *Univ. of California.*
- 2:00 III1 **604.30** Explaining place field differences in hippocampal region CA3 and CA2. The role of spatial attractors and regulated plasticity. T. STÖBER\*; A. B. LEHR; J. K. LEUTGEB; M. FYHN; T. SOLSTAD. *Simula Res. Lab., Univ. of Oslo, Univ. of Göttingen, UCSD, Dept. of Biosci., Norwegian Univ. of Sci. and Technol.*

## POSTER

### 605. Animal Cognition and Behavior: Associative, Nonassociative, and Skill Learning

#### Theme H: Cognition

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 III2 **605.01** Enhanced associative competition by a latent inhibitor with a retention interval: Role of incubation. R. RICHARDSON; T. KILLMADE; D. KLAKOTSKAIA; P. MICHENER; T. SCHACHTMAN\*. *Univ. of Missouri, Univ. of Missouri, Univ. of Missouri.*
- 2:00 III3 **605.02** Processing of associatively-activated representation requires PLCβ1 of the left mPFC. H. KIM; H. KOH\*. *Korea Inst. of Sci. & Technol.*
- 3:00 III4 **605.03** ● Characterizing a simple, automated active avoidance task for mice that leads to persistent avoidance behavior. M. WEBER\*; A. EASTON. *Genentech Inc, Genentech Inc.*
- 4:00 III5 **605.04** The ability of song recognition learning does not depend on age in male and female zebra finches. D. LEE\*; K. KAI; S. KOJIMA. *Korea Brain Res. Inst.*
- 1:00 III6 **605.05** Effect of long term sugar consumption on insular cortex glutamate levels during new aversive learning. D. BADILLO JUAREZ\*; M. I. MIRANDA. *Inst. de Neurobiología UNAM, Inst. de Neurobiología.*
- 2:00 III7 **605.06** ● CA1 hippocampal ensemble neural activity reveals associative representations in mice acquiring a context-dependent learning task. T. ROGERSON\*; J. MAXEY; P. JERCOG; T. H. KIM; S. EISMANN; B. AHANONU; B. F. GREWE; J. LI; M. J. SCHNITZER. *Stanford Univ., IDIBAPS & Cellex Inst., ETH Zurich.*
- 3:00 III8 **605.07** Unable to Attend Conditions that govern false fear memories in rats. N. W. LINGAWI\*; V. LAURENT; R. F. WESTBROOK; N. M. HOLMES. *Univ. of New South Wales, Univ. of New South Wales, Univ. of New South Wales.*

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\* Indicates abstract's submitting author

- 4:00 III9 **605.08** Sustained temporal attention prevents habit formation in rats. Z. LIN\*; H. NISHIKAWA; Y. IGUCHI; A. IWANAMI; Y. MINABE; S. TODA. *Dept. of Psychiatry & Behavioral Science, Kan, Dept. of Mol. Genetics, Inst. of Biomed. Sciences, Fukushima Med. Univ., Dept. of Psychiatry, Showa Univ. Sch. of Med.*
- 1:00 III10 **605.09** All-go behavioral state with resetting cue-outcome associations in ventral striatum during reversal learning. Y. TANISUMI\*; Y. SAKURAI; J. HIROKAWA; H. MANABE. *Doshisha Univ.*
- 2:00 III11 **605.10** The effect of habit formation on reinforcer devaluation in rhesus macaques. E. LAFLAMME\*; P. A. FORCELLI; L. MALKOVA. *Georgetown Univ., Georgetown Univ.*
- 3:00 III12 **605.11** The spatiotemporal profile of diffusion MRI based measures of microstructural tissue changes evoked by learning novel skills. C. THOMAS\*; M. B. MOYER; B. COLEMAN; P. BROWNING; F. Q. YE; D. K. YU; A. AVRAM; C. I. BAKER; E. A. MURRAY. *NIMH, NIMH, NIBIB.*
- 4:00 III13 **605.12** Developmental experience of food insecurity reduces cognitive flexibility in a rodent model. W. LIN\*; L. TAI; E. GALARCE; L. WILBRECHT. *Univ. of California Berkeley, Robert Wood Johnson Fndn.*
- 1:00 III14 **605.13** Renewal attenuation by extinction in multiple contexts after amphetamine-induced place preference conditioning. R. RUÍZ GARCÍA\*; L. N. CEDILLO; L. D. GUTIERREZ; S. Y. NUÑEZ; J. C. JIMENEZ; F. MIRANDA-HERRERA\*. *FES, Iztacala.*
- 2:00 III15 **605.14** Characterization of lynx1 in sensory processing, learning and memory function. Y. SHERAFAT\*; J. P. FOWLER; C. D. FOWLER. *Univ. of California of Irvine.*
- 3:00 III16 **605.15** A cortical reinforcement prediction error computed by VIP interneurons. Q. CHEVY\*; H. PI; E. T. GIBSON; A. KEPECS. *Cold Spring Harbor Lab.*
- 4:00 III17 **605.16** Development of a raven's progressive matrices to examine fluid intelligence in the pigeon, columba livia. M. FLAIM\*; A. P. BLAISDELL. *Univ. of California Los Angeles, UCLA.*
- 1:00 III18 **605.17** Allyl isothiocyanate (mustard oil) mediates short-term sensitization in restrained larval zebrafish (danio rerio). J. ALZAGATITI\*; D. T. LUY; J. CHORNAK; J. RICHARDS; G. ZAVRADYAN; A. BAIBUSSINOV; A. RAZEE; F. OSADI; Y. MA; C. S. CAMPBELL; E. DEUTSCH; S. C. HERNANDEZ; J. CARMONA; A. C. ROBERTS; D. L. GLANZMAN. *Univ. of California Los Angeles, Univ. of California Los Angeles, Rowan Univ., CSUF, Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles, Univ. of California Los Angeles.*
- 2:00 III19 **605.18** Allyl isothiocyanate-induced sensitization of movement in freely swimming larval zebrafish (Danio Rerio). D. T. LY\*; J. ALZAGATITI; J. CHORNAK; A. KUMAR; U. KHAN; M. GARCIA; A. JAFARPOUR; R. STARK; A. NATARAJAN; J. LEWIS; A. ROBERTS; D. L. GLANZMAN. *UCLA, UCLA, UCLA, UCLA, CSU Fullerton, UCLA.*
- 3:00 III20 **605.19** Understanding sensorimotor processing via a novel close-loop odor tracking task for head-fixed mice. P. GUPTA\*; M. DUSSAUZE; U. LIVNEH; D. F. ALBEANU. *Cold Spring Harbor Lab., Ecole Normale Supérieure.*
- 4:00 III21 **605.20** Deterministic and stochastic influences in oscillatory synchronization for information transfer: Complementary roles affecting global regulation. D. C. LARRIVEE\*. *Intl. Assn. Catholic Bioethicists.*
- 1:00 III22 **605.21** Mu- and delta-opioid receptors differentially modulate thalamo-cortico-striatal pain circuitry. W. BIRDSONG\*; B. C. JONGBLOETS; K. A. ENGELN; D. WANG; G. SCHERRER; T. MAO. *Oregon Hlth. & Sci. Univ., Stanford Univ.*
- 2:00 III23 **605.22** ● Neuromodulatory pathways required for targeted plasticity therapy. D. HULSEY\*; S. SADMAAN; S. ABE; S. HAYS; M. KILGARD. *Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas.*
- 3:00 III24 **605.23** Cross-modal association learning in humans and monkeys. T. VAN KERKOELE\*; L. E. PAPE; M. EKRAMNIA; J. TASSERIE; M. DUPONT; B. JARRAYA; S. DEHAENE; G. DEHAENE-LAMBERTZ. *NeuroSpin, CEA Saclay.*
- 4:00 III25 **605.24** Reward associations do not explain performance on transitive inference tasks in monkeys. V. P. FERRERA\*; G. G. JENSEN; Y. ALKAN; H. TERRACE. *Columbia Univ., Columbia Univ.*

## POSTER

### 606. Human Cognition and Behavior: Working Memory II

#### Theme H: Cognition

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 III26 **606.01** Theta phase-coupled gamma power in human memory structures strongly correlates with memory performance. Y. SALIMPOUR\*; W. S. ANDERSON. *Johns Hopkins Sch. of Med., The Johns Hopkins Hosp.*
- 2:00 III27 **606.02** The primacy of processing speed: Distributed neural activity during digit-symbol performance discriminates individual differences in working memory. Y. ZHAO\*; M. MOTES; N. HUBBARD; M. TURNER; B. RYPMA. *Univ. of Texas at Dallas, MIT.*
- 3:00 III28 **606.03** Event segmentation reveals working memory forgetting rate. A. JAFARPOUR\*; E. A. BUFFALO; R. T. KNIGHT; A. G. COLLINS. *Univ. of Washington, Univ. of Washington, Univ. of California Berkeley, Helen Wills Neurosci. Inst.*
- 4:00 III29 **606.04** Recovery of working memories after delay-period interference. R. MALLETT\*; J. A. LEWIS-PEACOCK. *The Univ. of Texas At Austin.*
- 1:00 III30 **606.05** Predicting memory formation using theta oscillations and temporal-frontal oscillatory coupling. T. TRAN\*; B. VOYTEK. *UCSD, Univ. of California San Diego Dept. of Cognitive Sci.*
- 2:00 III31 **606.06** Maintenance and manipulation components of working memory and associated structural brain regions in bipolar disorder. I. CHO\*; M. K. SHAKEEL; V. GOGHARI. *Univ. of Toronto Scarborough, Univ. of Calgary.*
- 3:00 III32 **606.07** Evidence for domain-specific working memory buffers from human single-neuron recordings. J. KAMINSKI\*; A. BRZEZICKA; J. M. CHUNG; C. M. REED; A. N. MAMELAK; U. RUTISHAUSER. *Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr., Caltech.*
- 4:00 III33 **606.08** ▲ Sex differences in electroencephalographic activity in default mode related with process of attention and memory. Y. M. SERRATO\*. *Univ. Nacional Autonoma de Mexico.*

- 1:00 III34 **606.09** EEG Neurofeedback training for memory enhancement and rehabilitation. G. B. PATRUDU\*. *Andhra Med. Col. & King George Hosp.*
- 2:00 III35 **606.10** Perceptually-matched images that are meaningful are remembered better and result in increased CDA in visual working memory. I. E. ASP\*; V. S. STÖRMER; T. F. BRADY. *Univ. of California San Diego.*
- 3:00 III36 **606.11** Glutamatergic modulation of working memory precision and serial biases. H. STEIN\*; D. LOZANO-SOLDEVILLA; J. DALMAU; A. COMPTE. *IDIBAPS, IDIBAPS, ICREA.*
- 4:00 III37 **606.12** Structural support for brain state transitions that contribute to working memory. E. J. CORNBATH\*; R. CIRIC; G. L. BAUM; K. RUPAREL; T. M. MOORE; R. C. GUR; R. E. GUR; D. R. ROALF; T. D. SATTERTHWAITTE; D. S. BASSETT. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*
- 1:00 III38 **606.13** An fMRI study of cognition in early post-treatment Lyme disease. C. L. MARVEL\*; J. A. CREIGHTON; O. P. MORGAN; M. B. SLAPIK; E. A. MIHM; A. W. REBMAN; C. B. NOVAK; J. N. AUCOTT. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*
- 2:00 III39 **606.14** A comprehensive paradigm to test neurocognitive and neuromotor effects of shift work. M. O. CONRAD\*; N. A. DIB; C. EDWARDS; E. CARPER; A. HARRINGTON; A. STEWART; A. MIDDLEMAN; J. FELLOW; M. T. MAHAR; H. S. BAWEJA. *Univ. of Detroit Mercy, San Diego State Univ.*
- 3:00 III40 **606.15** ▲ Multiple visual working memory items can guide attention and facilitate perceptual processing. J. R. WILLIAMS\*; T. F. BRADY; V. S. STÖRMER. *Univ. of California San Diego.*
- 4:00 III41 **606.16** Speeded visual working memory performance during standing and exercise: New insights from event-related EEG lateralizations. T. TÖLLNER\*; G. DODWELL; H. J. MÜLLER. *Ludwig-Maximilians-University Munich, Grad. Sch. of Systemic Neurosciences, Birkbeck Col.*
- 1:00 III42 **606.17** ● Shift in representation explains error in precision working memory tasks. M. WOLFF\*; J. JOCHIM; T. BUSCHMAN; E. AKYÜREK; M. G. STOKES. *Univ. of Groningen, Univ. of Oxford, Princeton Univ.*
- 2:00 III43 **606.18** A look into the dimensionality of recurrent neural networks. M. S. FARRELL\*; E. SHEA-BROWN; S. RECANATESI; G. LAJOIE. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. de Montréal.*
- 3:00 III44 **606.19** Both facilitation and impairment: Similarity affects interference during visual working memory. L. YANG\*; T. XIA; L. MO; C. SEGER. *Colorado State Univ., Ctr. for Studies of Psychological Application, South China Normal Univ., South China Normal Univ., Guangdong Key Lab. of Mental Hlth. and Cognitive Science, South China Normal Univ., Guangdong Univ. of Technol.*
- 4:00 III45 **606.20** Attentional effects on working memory representations: Comparing information-detection techniques and metrics. J. MILLER\*; J. M. SCIMECA; N. S. ROSE; M. DESPOSITO. *UC Berkeley, Univ. of Notre Dame, Univ. of California Berkeley.*
- 1:00 III46 **606.21** ● Trends in interictal epileptiform activity are correlated with free recall performance. S. MEISENHELTER\*; B. C. JOBST. *Dartmouth Col. Geisel Sch. of Med., Dartmouth-Hitchcock Med. Ctr.*
- 2:00 III47 **606.22** Task switching and network inflexibility in obsessive compulsive disorder. A. Z. CHOWDURY\*; L. PIVETTA; P. EASTER; P. ARNOLD; G. HANNA; D. R. ROSENBERG; V. A. DIWADKAR. *Wayne State Univ. Sch. of Med., Univ. of Calgary, Univ. of Michigan Sch. of Med.*
- 3:00 III48 **606.23** Working memory EEG power spectrum and academic achievement. M. L. GARCIA-GOMAR\*; B. JIMÉNEZ-HIGUERA; A. J. NEGRETE-CORTÉS; P. FERNÁNDEZ-RUIZ. *Escuela de Ciencias de la Salud UABC.*
- 4:00 III49 **606.24** 5Hz repetitive transcranial magnetic stimulation to enhance working memory and neural factors underlying the rTMS induced behavioral plasticity in old and young adults. L. BEYNEL\*; S. W. DAVIS; C. CROWELL; S. HILBIG; W. LIM; H. PALMER; A. BRITO; A. V. PETERCHEV; B. LUBER; S. H. LISANBY; R. E. CABEZA; L. G. APPELBAUM. *Duke Univ., Natl. Inst. of Mental Hlth.*
- 1:00 III50 **606.25** Identifying Chronic Cognitive and Electrophysiological deficits in individuals with and without a history of Concussion. A. TAPPER\*; E. NIECHWIEJ-SZWEDO; R. STAINES. *Univ. of Waterloo, Univ. of Waterloo.*
- 2:00 III51 **606.26** ▲ A scalp EEG signature of delay period activity in verbal working memory. A. D. FRIEDMAN\*; P. K. BISARYA; V. MURALHIDARAN; A. R. ARON. *UC San Diego.*

## POSTER

### 607. Human Cognition and Behavior: Cognitive Aging II

#### Theme H: Cognition

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 III52 **607.01** Spontaneous resolution of competing memories is impaired with age. B. CORBETT\*; S. M. POLYN; M. R. DULAS; A. L. DUARTE. *Georgia Tech., Vanderbilt Univ., Univ. of Illinois - Urbana-Champaign, Georgia Inst. Technol.*
- 2:00 III53 **607.02** Cognitive and subjective side effect ratings following exposure to oxycodone in middle age and older adults with healthy and unhealthy alcohol consumption patterns. M. CHERRIER\*; C. KRAY; X. TAO; J. LI; R. WANG; W. YEUNG; G. W. TERMAN; T. SIMPSON; A. SAXON; D. SHEN. *Univ. Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*
- 3:00 III54 **607.03** Aging affects integration of multiple episodic details. T. JAMES\*; M. N. RAJAH; A. L. DUARTE. *Georgia Inst. of Technol., McGill Univ., Georgia Inst. Technol.*
- 4:00 III55 **607.04** Aging is linked to a dissociation of future prospection from other autobiographical memory abilities. C. FAN\*; H. ABDI; A. ESLAMI; B. LEVINE. *Rotman Res. Institute, Baycrest, Univ. of Texas at Dallas, Univ. of British Columbia.*
- 1:00 III56 **607.05** Memory benefits in older adults following real-world environmental enrichment training. B. KOLARIK\*; S. RUTLEDGE; S. STARK; C. STARK. *Univ. of California, Irvine.*

Tues. 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 III57 **607.06** Diffusion mri metrics of brain aging in the adni3 study: Relation to clinical impairment and scanning protocol. A. ZAVALIANGOS-PETROPULU\*; T. M. NIR; S. I. THOMOPOULOS; N. JAHANSHAD; R. I. REID; M. A. BERNSTEIN; B. BOROWSKI; C. R. JACK; M. W. WEINER; P. M. THOMPSON. *USC, Dept. of Information Technology, Mayo Clin. and Fndn., Dept. of Radiology, Mayo Clin. and Fndn., Dept. of Radiology, Univ. of California San Francisco Sch. of Med.*
- 3:00 III58 **607.07** ▲ Generating cognitive reserve activities and the relationship with cognitive performance in healthy elderly. C. GARCÍA-CAMACHO\*; T. VILLASEÑOR-CABRERA; M. JIMÉNEZ-MALDONADO; J. RUIZ-SANDOVAL; F. JAUREGUI. *Univ. de Guadalajara, Hosp. Civil de Guadalajara, Hosp. Civil de Guadalajara.*
- 4:00 III59 **607.08** Identifying brain and cognitive deficits in older adults at-risk for diabetes. J. A. FURLANO\*; L. S. NAGAMATSU. *Western Univ.*
- 1:00 III60 **607.09** Reproductive aging shapes top-down, goal-directed modulation of visual processing. L. A. PRITSCHET\*; E. G. JACOBS. *Univ. of California, Santa Barbara.*
- 2:00 III61 **607.10** BDNF polymorphisms are associated with local gyrification and default mode network integrity in healthy middle-aged adults. J. K. BLUJUS\*; L. E. KORTHAUER; I. DRISCOLL. *Univ. of Wisconsin-Milwaukee, Univ. of Wisconsin-Milwaukee.*
- 3:00 III62 **607.11** Age-dependent differences in cued peripheral visual perception and motor performance during dual-task natural walking. J. PROTZAK\*; K. GRAMANN. *TU Berlin, TU Berlin, Inst. of Psychology and Ergonomics.*
- 4:00 III63 **607.12** BOLD hemodynamic response function changes significantly with healthy aging: A population-based study. M. D. ZUPPICHINI\*; K. WEST; M. P. TURNER; D. SIVAKOLUNDU; D. ABDELKARIM; Y. ZHAO; J. SPENCE; B. P. RYPMA. *Univ. of Texas At Dallas, Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas At Dallas, Univ. of Texas at Dallas.*
- 1:00 III64 **607.13** Decoding context memory representations during retrieval across the adult lifespan. P. S. POWELL\*; J. STRUNK; T. JAMES; S. M. POLYN; A. L. DUARTE. *Georgia Inst. of Technol., Vanderbilt Univ.*
- 2:00 III65 **607.14** Music training as aneuro-cognitive protector for brain aging: Cognitive and neuropsychological profiles in professional musicians. C. E. SCHNEIDER\*; Y. JIANG; J. WATKINS. *Univ. of Kentucky, Univ. of Kentucky Chandler Med. Ctr., Univ. of Kentucky.*
- 3:00 III66 **607.15** Age-related impairment of semantic integration into long-term memory is related to theta-alpha and low beta oscillations. P. A. PACKARD\*; T. STEIGER; L. FUENTEMILLA; N. BUNZECK. *Univ. of Luebeck,, Univ. Barcelona.*
- 4:00 III67 **607.16** Age-related decreases in the retrieval practice effect directly relate to changes in alpha-beta oscillations. C. GURAN\*; N. A. HERWEG; N. BUNZECK. *Inst. of Psychology I, Univ. zu Lübeck, Univ. of Pennsylvania.*
- 1:00 III68 **607.17** Activation of kynurenine pathway correlates with cognitive decline in non-demented elderly men. L. A. RAMOS\*; P. CARRILLO-MORA; B. GARCÍA; D. GONZÁLEZ-ESQUIVEL; D. RAMÍREZ-ORTEGA; B. PINEDA; C. RIOS; G. ROLDÁN-ROLDÁN; V. PÉREZ-DE LA CRUZ. *Univ. Nacional Autónoma de México, Inst. Nacional de Neurología y Neurocirugía Manuel Velasco Suárez, Inst. Nacional de Rehabilitación, Inst. Nacional de Neurología y Neurocirugía Manuel Velasco Suárez, Univ. Nacional Autónoma de México.*
- 2:00 JJJ1 **607.18** The positive effects of a 4-week cognitive training are not modulated by contextual novelty. D. BIEL\*; T. STEIGER; T. VOLKMANN; N. JOCHEMS; N. BUNZECK. *Univ. of Luebeck.*
- 3:00 JJJ2 **607.19** Characterizing age-related changes in brain connectivity using sparse graphs. S. HRYBOUSKI\*; I. CRIBBEN; J. MCGONIGLE; R. CARTER; F. OLSEN; P. SERES; N. V. MALYKHIN. *Univ. of Alberta, Alberta Sch. of Business, Imperial Col. London, Univ. of Alberta, Univ. of Alberta.*
- 4:00 JJJ3 **607.20** The relationships between regional cortical thickness, intra-scan motion and associative recognition memory performance as a function of age. M. A. DE CHASTELAINE\*; B. E. DONLEY; K. KENNEDY; M. D. RUGG. *Univ. of Texas At Dallas.*
- 1:00 JJJ4 **607.21** Longitudinal frontostriatal functional connectivity and gray matter changes related to motor and cognitive symptoms in early-stage Parkinson's disease. S. KANN\*; C. CHANG; R. WALES; H. LEUNG. *Stony Brook Univ., Stony Brook Univ. Sch. of Med.*
- 2:00 JJJ5 **607.22** Enhanced associative memory and mid-cingulate activity during memory retrieval in 'superagers'. J. M. ANDREANO\*; A. TOUROUTOGLOU; H. POPAL; B. C. DICKERSON; L. F. BARRETT. *Massachusetts Gen. Hosp., Northeastern Univ.*
- 3:00 JJJ6 **607.23** Age-related declines in neural-vascular coupling: Regional variability, effects of task demand, and relationship to cognitive performance. M. P. TURNER; K. WEST; D. SIVAKOLUNDU; Y. ZHAO; D. ABDELKARIM; B. P. THOMAS; H. LU; B. P. RYPMA\*. *Univ. of Texas At Dallas, Univ. of Texas At Dallas, Univ. of Texas Southwestern Med. Ctr., Johns Hopkins Univ.*
- 4:00 JJJ7 **607.24** Age-related decline in arterio-venous compliance and relationships to cognitive performance. D. H. ABDELKARIM\*; M. P. TURNER; D. SIVAKOLUNDU; Y. ZHAO; K. WEST; B. P. THOMAS; H. LU; B. P. RYPMA. *Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas Southwestern Med. Ctr., Johns Hopkins Univ.*
- 1:00 JJJ8 **607.25** Cortical thickness as a predictor of memory success across the lifespan and in the 90+. E. DOMINGUEZ; M. CORRADO; C. KAWAS; S. STARK; C. E. STARK\*. *Univ. of California Irvine.*
- 2:00 JJJ9 **607.26** Metformin associated with mild cognitive impairment in an older adult diabetes mellitus type 2 patient. A case report. A. ALCAZAR-RAMOS; K. LIRA-DE LEON\*; M. MERAZ-RIOS; G. SOTO-OJEDA; M. OCAÑA-SANCHEZ; M. HERNANDEZ-LOZANO. *Univ. Autonoma De Queretaro-Fac Quimica, CINVESTAV-IPN, Univ. Veracruzana, Univ. Veracruzana.*
- 3:00 JJJ10 **607.27** ●▲ Can a deep learning neural network improve ability of the MOCA (Montreal cognitive assessment) score to predict amyloid pet positives? Sensitivity and specificity analyses from a memory clinic. S. P. NAIR; A. K. NAIR\*. *WHS, Alzheimer Dis. Ctr.*

- 4:00 JJJ11 **607.28** Feature fusion based cad system for a detailed diagnosis of mild cognitive impairment diagnosis using smri. X. QIU\*; F. GAMAL; M. ELMOGY; M. GHAZAL; H. SOLIMAN; A. ATWAN; R. KEYNTON; G. N. BARNES; A. EL-BAZ. *Univ. of Louisville Autism Ctr., Univ. of Louisville, Univ. of Louisville, Univ. of Louisville Sch. of Med.*
- 1:00 JJJ12 **607.29** Human motion discrimination, confidence in it, and metacognitive sensitivity decrease with age, while selective visual attention effects on these visual perception performance measures do not. L. ZIZLSPERGER\*; H. EITLER-KLENK; T. HAARMEIER. *Univ. Hosp. and Univ. of Zuerich, Cognitive Neurology, Tübingen Univ., RWTH Aachen Univ.*
- 2:00 JJJ13 **607.30** Age-differences in canonicity of the hemodynamic response function and relationships to cognitive performance: A population-based study. V. PRABHAKARAN\*; M. P. TURNER; K. WEST; M. D. ZUPPICHINI; D. SIVAKOLUNDU; Y. ZHAO; D. H. ABDELKARIM; B. P. RYPMA. *Univ. of Wisconsin Madison, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas Dallas, Univ. of Texas at Dallas.*

## POSTER

### 608. Human Cognition and Behavior: Cognitive Aging III

#### Theme H: Cognition

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 JJJ14 **608.01** Neural compensation for proactive inhibitory control in healthy aging. S. HU\*; M. JOB; S. K. JENKS; C. R. LI. *SUNY Oswego, SUNY Oswego, Yale Univ.*
- 2:00 JJJ15 **608.02** The neural basis of metacognition in lesion models. I. R. GARCIA CORDERO\*; L. SEDEÑO; A. BABINO; M. MELLONI; M. MARTORELL; M. DOTTORI; M. SIGMAN; A. GARCIA; F. MANES; A. IBÁÑEZ. *Inst. of Cognitive and Translational Neuroscie, Univ. Torcuato Di Tella.*
- 3:00 JJJ16 **608.03** Age differences in brain mechanisms underlying processing of a face and its components: An fMRI study. G. C. SHYI\*; P. CHENG; Y. CHEN; A. KUO; T. HUANG; M. LIAO. *Natl. Chung Cheng Univ., Natl. Chung Cheng Univ., Natl. Chung Cheng Univ., Natl. Tsing Hua Univ.*
- 4:00 JJJ17 **608.04** The neuromodulatory effects of L-DOPA across human verbal memory processes. H. K. ISOTALUS\*; J. P. GROGAN; N. IRIGORAS IZAGIRRE; A. HOWAT; L. KNIGHT; R. A. KAUPPINEN; E. J. COULTHARD. *Univ. of Bristol, Univ. of Bristol, Univ. Hosp. Bristol, North Bristol NHS Trust.*
- 1:00 JJJ18 **608.05** TDCS in a verbal recognition task: Boosting older participants' word recognition time. L. S. BALDUIN-PHILIPPS\*; S. WEISS; H. M. MUELLER. *Bielefeld Univ.*
- 2:00 JJJ19 **608.06** Frequency oscillations in error processing: An EEG study on age-related effects. J. KRAUSS\*; E. NIESSEN; N. ROSJAT; S. DAUN; J. STAHL; G. R. FINK; P. H. WEISS. *Forschungszentrum Jülich, Univ. of Cologne.*
- 3:00 JJJ20 **608.07** Behavioral and neurophysiological differences in cognitive and motor inhibition of aging musicians and non-musicians. P. IZBICKI\*; E. L. STEGEMOLLER. *Iowa State Univ., Iowa State Univ.*
- 4:00 JJJ21 **608.08** Fronto-parietal functional connectivity during an n-back task decreases across the adult lifespan and predicts working memory performance. E. E. PONGPIPAT\*; C. M. FOSTER; K. M. KENNEDY; K. M. RODRIGUE. *The Univ. of Texas at Dallas.*
- 1:00 JJJ22 **608.09** Hearing impairment and cognitive decline among older, community dwelling adults. A. A. ALATTAR; J. BERGSTROM; G. A. LAUGHLIN; D. KRITZ-SILVERSTEIN; E. RICHARD; E. T. REAS; J. HARRIS; E. BARRETT-CONNOR; L. K. MCEVOY\*. *UCSD, UCSD.*
- 2:00 JJJ23 **608.10** • Remediating age-related cognitive decline in older adults through exercise and mindfulness. H. RIPPERGER; K. AHERN; N. HARPER; M. YINGLING; J. A. SCHWEIGER\*; E. LENZE. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. Med.*
- 3:00 JJJ24 **608.11** Age-related differences in some but not all cognitive control functions are mediated by frontal lobe markers. S. HSIEH\*; M. YANG. *Natl. Cheng Kung Univ.*
- 1:00 DP14/JJJ25 **608.12** (Dynamic Poster) Optimized multi-modal prediction of cognitive function from brain data for different age ranges. C. G. HABECK\*; Y. STERN. *Columbia Univ., Cognitive Neuroscience Division, Columbia Univ.*
- 1:00 JJJ26 **608.13** Dendritic spine structural remodeling accompanies Alzheimer's disease pathology in cognitively normal human aging. J. H. HERSKOWITZ\*; B. D. BOROS; K. GREATHOUSE; M. GEARING. *The Univ. of Alabama At Birmingham, Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham, Emory Univ.*
- 2:00 JJJ27 **608.14** Differences in functional activation and fractional anisotropy between an age-stable ability, vocabulary, and an age-declining ability, perceptual speed, provides support for greater resilience in neural processes for vocabulary. Y. GAZES\*; C. G. HABECK; Q. R. RAZLIGHI; P. LI. *Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ. Med. Ctr.*
- 3:00 JJJ28 **608.15** Mind over matter, understanding the relationship between memory self-efficacy, cognition and activation in older adult women with probable mild cognitive impairment. B. R. HORST\*; L. S. NAGAMATSU. *Western Univ., Western Univ.*
- 4:00 JJJ29 **608.16** Age differences in spatial navigation: Allocentric versus egocentric strategies. M. FRICKE\*; O. L. BOCK. *German Sport Univ.*
- 1:00 JJJ30 **608.17** Hybrid foraging in healthy aging. H. SCHILL\*; I. WIEGAND; C. SEIDEL; J. WOLFE. *Brigham & Women's Hosp., Max Planck UCL Ctr. for Computat. Psychiatry and Ageing Res., Univ. of Frankfurt, Brigham & Women's Hospital, Harvard Med. Sch.*
- 2:00 JJJ31 **608.18** Age-related differences in executive function are mediated by white matter integrity and underlying white matter hyperintensity burden. D. A. HOAGEY\*; L. T. T. LAZARUS; K. M. RODRIGUE; K. M. KENNEDY. *The Univ. of Texas At Dallas.*
- 3:00 JJJ32 **608.19** HIPPOCAMPAL volume, and sub regions along the anterior-to-posterior axis contributes to maintenance of episodic recall and recognition over five years: Longitudinal findings from the Betula study. N. PERSSON\*. *Karolinska Inst.*
- 4:00 JJJ33 **608.20** Cost-benefit arbitration between model-free and model-based learning strategies in human aging. F. BOLENZ\*; W. KOOL; A. M. F. REITER; S. J. KIEBEL; B. EPPINGER. *Technische Univ. Dresden, Harvard Univ., Concordia 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 JJJ34 **608.21** Age-related differences in the variability of BOLD signal manifest differently across tasks, and influence information processing capacity. H. WANG; M. N. RAJAH; F. BURLES; S. PASVANIS; A. B. PROTZNER\*. *Univ. of Calgary, McGill Univ., Douglas Inst.*
- 2:00 JJJ35 **608.22** ● Relationships between hippocampal volume, subjective cognition, and cognitive performance in healthy older adults. L. FENTON\*; S. LANDAU; W. JAGUST. *UC Berkeley, UC Berkeley, UC Berkeley.*
- 3:00 JJJ36 **608.23** Cortical thickness mediates the relationship between the drd2 c957t polymorphism and executive function across the adult lifespan. G. G. MIRANDA\*; K. M. RODRIGUE; K. M. KENNEDY. *The Univ. of Texas at Dallas.*
- 4:00 JJJ37 **608.24** Differential effects of healthy aging on directed and random exploration. J. MIZELL\*; S. WANG; M. FRANCHETTI; W. KEUNG; M. H. SUNDMAN; Y. CHOU; G. E. ALEXANDER; R. C. WILSON. *Univ. of Arizona.*
- 1:00 JJJ38 **608.25** The impact of habitual sleep quality on memory-related neural oscillations in young and older adults. E. HOKETT\*; A. L. DUARTE. *Georgia Tech., Georgia Inst. Technol.*
- 3:00 JJJ45 **609.07** ▲ Abnormalities of glucose metabolism in schizophrenia. E. MCCULLUMSMITH; C. R. SULLIVAN; R. E. MCCULLUMSMITH\*; A. FUNK; S. M. O'DONOVAN. *Univ. of Cincinnati, Univ. of Cincinnati, Univ. of Cincinnati.*
- 4:00 JJJ46 **609.08** Bioinformatic analysis of bioenergetic changes in schizophrenia. C. R. SULLIVAN\*; C. A. MIELNIK; E. BENTEA; S. M. O'DONOVAN; A. FUNK; E. DEPASQUALE; A. J. RAMSEY; J. MELLER; R. E. MCCULLUMSMITH. *Univ. of Cincinnati, Univ. of Toronto, Vrije Univ. Brussel, Univ. of Cincinnati, Univ. of Cincinnati, Univ. of Toronto, Cincinnati Children's Hosp. Med. Ctr.*
- 1:00 JJJ47 **609.09** Exploratory use of machine learning to model metabolic outcomes based on genetic risk factors in patients with schizophrenia. A. C. BASU\*; S. R. STOCK; G. W. CAVANAUGH; M. YU; D. C. HENDERSON. *Col. of the Holy Cross, Col. of the Holy Cross, Boston Univ. Sch. of Med., Massachusetts Gen. Hosp.*
- 2:00 JJJ48 **609.10** Inhibition of brain and liver kynurenine aminotransferase II activity by N-acetylcysteine in rodent, pig and human. K. V. SATHYASAIKUMAR\*; T. BLANCO AYALA; A. E. S. FOO; M. A. R. THOMAS; L. S. PIDUGU; R. SCHWARCZ. *MPRC, Univ. of Maryland Sch. of Med., Univ. of Sch. of Med.*
- 3:00 JJJ49 **609.11** Effects of acute tryptophan depletion on blood kynurenic acid concentrations and reinforcement learning performance in individuals with schizophrenia. F. M. NOTARANGELO\*; J. A. WALTZ; M. A. R. THOMAS; K. V. SATHYASAIKUMAR; Y. MURTAZA; A. K. WELLS; R. R. RUIZ; R. SCHWARCZ. *Univ. of Maryland Sch. of Med.*
- 4:00 JJJ50 **609.12** Prenatal THC exposure permanently disturbs kynurenic acid and glutamate levels and amplifies the responsiveness to an acute kynurenine challenge in the rat prefrontal cortex. S. BEGGIATO\*; L. FERRARO; R. SCHWARCZ. *Univ. of Ferrara, Maryland Psychiatric Res. Ctr.*
- 1:00 JJJ51 **609.13** ● Perivascular and putative parenchymal macrophages are increased in people with schizophrenia who also demonstrate signs of cortical inflammation. H. Q. CAI\*; V. S. CATTI; M. J. WEBSTER; C. S. WEICKERT. *Neurosci. Res. Australia, Univ. of New South Wales, Stanley Med. Res. Inst.*
- 2:00 JJJ52 **609.14** Topographic biomarkers reveal defective neurovascular units in schizophrenia. S. YEO\*; J. YOON; H. JUNG; Y. CHOI; D. KIM; S. CHOI; Y. CHOE. *Korea Brain Res. Inst.*
- 3:00 JJJ53 **609.15** Plasma metabolites on first-onset psychosis: Schizophrenia and bipolar disorder biomarkers. H. P. JOAQUIM\*; A. C. COSTA; L. L. TALIB; W. F. GATTAZ. *Psychiatry Institute HCFMUSP, Lim-27.*
- 4:00 JJJ54 **609.16** Role of the glycogen synthase kinase 3 pathway in the pathophysiology of schizophrenia. J. DI RE\*; W. J. HSU; L. STERTZ; K. KHANIPOV; Y. FOFANOV; H. RAVENTOS; C. WALSS-BASS; F. LAEZZA. *Univ. of Texas Med. Br., Univ. of Texas Med. Br., Univ. of Texas Med. Br., Univ. of Texas Med. Br., Univ. of Texas Hlth. Sci. Ctr., Univ. of Costa Rica.*
- 1:00 JJJ55 **609.17** Disruption of the axonal initial segment composition in schizophrenia. M. A. ALSHAMMARI\*; T. K. ALSHAMMARI; J. DI RE; F. LAEZZA. *Col. of Pharmacy, King Saud Univ., Univ. of Texas Med. Br., Univ. of Texas Med. Br. at Galveston.*
- 2:00 JJJ56 **609.18** Dysbindin regulates axonal mitochondrial movement. B. SUH\*; S. LEE; C. PARK; S. LEE; S. PARK. *Postech, SK Biopharmaceuticals, UCSF Sch. of Med.*

## POSTER

### 609. Schizophrenia: Genetic, Cellular, and Molecular Features

#### Theme H: Cognition

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 JJJ39 **609.01** Co-localization of eqtl and gwas in schizophrenia. L. MA\*; S. CHETTY. *Stanford Univ. Sch. of Med., Stanford Univ. Sch. of Med.*
- 2:00 JJJ40 **609.02** Parallel enhancer analysis in mouse brain to characterize regulatory variants in development and disease. J. L. HAIGH\*; L. SU-FEHER; I. ZDILAR; K. J. LIM; D. M. QUINTERO; S. J. MORSE; T. W. STRADLEIGH; K. HINO; S. SIMO; L. C. BYRNE; A. S. NORD. *Univ. of California, Davis, Univ. of California, Davis, Univ. of Pittsburgh.*
- 3:00 JJJ41 **609.03** Regulatory changes or alterations in cellular proportions? Re-evaluation of pathways affected in psychiatric disorders in light of cell type proportion changes. L. TOKER\*; O. MANCARCI; S. TRIPATHY; P. PAVLIDIS. *Univ. of British Columbia, Univ. of British Columbia, Univ. British Columbia.*
- 4:00 JJJ42 **609.04** A protein interaction network in human neurons of risk factors incriminated by genetics in schizophrenia. E. NACU\*; A. KIM; W. CROTTY; E. MALOLEPSZA; N. PETROSSIAN; K. LILLIEHOOK; J. JAFFE; K. EGGAN; K. LAGE. *Harvard Univ., Broad Inst.*
- 1:00 JJJ43 **609.05** Synaptic protein-protein interactions in schizophrenia. A. FUNK\*; G. LABILLOY; K. GREIS; J. MELLER; R. E. MCCULLUMSMITH. *Univ. of Cincinnati, Cincinnati Children's.*
- 2:00 JJJ44 **609.06** ● Effects of risperidone on the proteome in olfactory cells from individuals with schizophrenia and at-risk for the illness. K. BORGMANN-WINTER\*; M. DSOUZA; S. BANDYOPADHYAY; N. MIRZA; M. CALKINS; B. TURETSKY; C. HAHN. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia, Hosp. of the Univ. of Pennsylvania, Univ. of Pennsylvania.*



- 3:00 JJJ57 **609.19** Targeted and genome-wide approaches reveal alterations to the JAK-STAT1 transcriptional signature in psychosis. J. K. MELBOURNE\*; B. FEINER; Y. PANG; M. PARK; C. ROSEN; R. P. SHARMA. *Univ. of Illinois At Chicago*.
- 4:00 JJJ58 **609.20** ▲ Characterization of foxo1 in the anterior cingulate cortex in schizophrenia. E. A. DEVINE\*; S. M. O'DONOVAN; C. R. SULLIVAN; R. E. MCCULLUMSMITH. *Univ. of Cincinnati Col. of Med., Univ. of Cincinnati, Univ. of Cincinnati, Univ. of Cincinnati*.
- 1:00 JJJ59 **609.21** Computational analysis of genetic and transcriptional landscapes of the caudate nucleus in schizophrenia. K. J. BENJAMIN\*; A. PAQUOLA. *Lieber Inst. for Brain Develop.*
- 2:00 JJJ60 **609.22** Novel, non-catechol dopamine d1 receptor agonists exhibit g protein biased, beta-arrestin independent signaling. A. N. NILSON\*; D. E. FELDSING; P. WANG; J. ZHOU; J. A. ALLEN. *Univ. of Texas Med. Br.*
- 3:00 JJJ61 **609.23** Dopaminergic networks bias phenotypic expression and genetic risk for schizophrenia. J. MOLINA\*; J. ARNEDO; D. KAMIS; I. ZWIR; M. CORAL DE VAL MUÑOZ; C. CLONINGER; M. CALVO; E. PADILLA; G. GONZALEZ ALEMAN; J. TORANZO; M. SEDO; N. V. FLORENZANO; G. A. DE ERAUSQUIN. *UCSD, Univ. of Texas, Rio Grande Valley, Stanford Univ., Washington Univ., Univ. of Granada, Fundación de Lucha contra los Trastornos Neurológicos y Psiquiátricos en Minorías*.
- 4:00 JJJ62 **609.24** Transcriptional regulation of dopamine D1 receptor by DISC1-DRRF repressor complex. Y. SUH\*; S. LEE; S. NOH; S. KIM; S. PARK. *Pohang Univ. of Sci. and Technol., Johns Hopkins Med. Inst.*
- 1:00 JJJ63 **609.25** Altered subcellular EAAT2 localization in the DLPFC in schizophrenia. S. M. O'DONOVAN\*; R. C. ROBERTS; J. ROCHE; C. DORSETT; C. R. SULLIVAN; K. A. HASSELFELD; R. KOENE; E. DEVINE; R. MEEKS; R. E. MCCULLUMSMITH. *Univ. of Cincinnati, Univ. of Alabama, Birmingham, Univ. of Alabama, Univ. of Cincinnati, Univ. of Cincinnati, Univ. of Cincinnati*.
- 2:00 JJJ64 **609.26** JNK1 provides a point of convergence for schizophrenia polygenes and controls cell surface availability of NMDA receptors. Y. HONG\*; A. VARIDAKI; P. CIFANI; R. MYSORE; L. ELO; P. JAMES; E. T. COFFEY. *Univ. of Turku, Åbo akademi, Lund Univ., Turku Univ., ABO Akademi Univ. Turku*.
- 3:00 JJJ65 **609.27** The role of HINT1 in several neuropsychiatric diseases. Y. DANG\*; P. LIU; G. LEI. *Xi'an Jiaotong Univ., Xi'an Jiaotong Univ.*
- 4:00 JJJ66 **609.28** AMPK dysregulation in a human induced pluripotent stem cell model of DISC1-related schizophrenia. E. BENTEVA\*; S. O'DONOVAN; E. DEPASQUALE; J. MELLER; C. XU; Z. WEN; R. MCCULLUMSMITH. *Univ. of Cincinnati, Cincinnati Children's Hosp. Med. Ctr., Emory Univ. Sch. of Med.*
- 1:00 JJJ67 **609.29** ▲ Characterization of adenosine kinase in schizophrenia. C. MOODY\*; A. FUNK; R. E. MCCULLUMSMITH; S. M. O'DONOVAN. *Univ. of Cincinnati, Univ. of Cincinnati*.

## POSTER

### 610. Molecular, Biochemical, and Genetic Techniques: Molecular Techniques II

#### Theme I: Techniques

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 JJJ68 **610.01** Easy tissue clearing mediated imaging of the brain and tissues using sunhyun 3dimensionalimage kit. S. PARK\*; K. KIM. *Korea Inst. of Toxicology, Korea Inst. of Toxicology*.
- 2:00 JJJ69 **610.02** Viral-mediated transgenesis in the brain as a method to determine molecular mechanisms of aggression in stickleback fish. N. JAMES\*; A. BELL. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign*.
- 3:00 JJJ70 **610.03** Development of temporal sensitive lentiviral-based luciferase reporter for real-time monitoring of stress-induced GR activations in mouse infralimbic prefrontal cortex. S. HER\*. *KBSI*.
- 4:00 LLL1 **610.04** PET imaging of immature neural cells following human induced pluripotent stem-cell-derived neurospheres transplantation with TSPO ligand. T. YUJI\*; N. NAGOSHI; O. TSUJI; I. AOKI; T. YAMASAKI; B. JI; M. ZHANG; Y. FUJIBAYASHI; M. MATSUMOTO; M. ZINZAKI; H. OKANO; M. NAKAMURA. *Dept. of Orthopaedic Surgery, Keio Univ., Dept. of Orthopaedic Surgery, Keio Univ. Sch. of Med., Mol. Imaging Center, Natl. Inst. of Radiological Sci., Dept. of Radiology, Keio Univ. Sch. of Med., Dept. of Physiology, Keio Univ. Sch. of Med.*
- 1:00 LLL2 **610.05** Monomeric and dimeric RFP-dependent Cre and its application to detect glucocorticoid receptor activation. A. INUTSUKA\*; H. MIZOGUCHI; R. KANEKO; R. NOMURA; K. TAKANAMI; H. SAKAMOTO; T. ONAKA. *Jichi Med. Univ., Nagoya Univ., Gunma Univ., Okayama Univ.*
- 2:00 LLL3 **610.06** Targeting mesocortical and mesoaccumbens dopamine neurons with DREADDs using the combination of adeno associated viral vectors and retrograde transported herpes simplex viral vectors. J. B. EELLS\*; J. M. NUTTER; H. S. PARTINGTON. *East Carolina Univ. Sch. of Med., East Carolina Univ. Sch. of Med.*
- 3:00 LLL4 **610.07** Revealing the chromatin-bound long noncoding RNA landscape of the brain. H. M. CATES\*; S. AKBARIAN. *Icahn Sch. of Med. at Mt. Sinai*.
- 4:00 LLL5 **610.08** Mapping of schizophrenia risk genes and isoforms using *in situ* RNA sequencing. M. M. HILSCHER\*; C. YOKOTA; D. MALHOTRA; M. NILSSON. *Sci. for Life Lab., F. Hoffmann-La Roche Ltd.*
- 1:00 LLL6 **610.09** rsCaMPARI: An erasable marker of neuronal activity. F. SHA\*; E. R. SCHREITER. *Howard Hughes Med. Inst.*
- 2:00 LLL7 **610.10** Molecular profiling of reticular gigantocellularis neurons indicates that eNOS modulates environmentally-dependent levels of activity. I. TABANSKY\*; Y. LIANG; M. FRANKFURT; M. DANIELS; M. HARRIGAN; S. A. STERN; T. A. MILNER; R. LESHAN; R. RAMA; T. MOLL; J. FRIEDMAN; D. W. PFAFF; J. N. STERN. *The Rockefeller Univ., Hofstra Univ. North Shore Long Island Jewish Sch. of Med., Charite, Rockefeller Univ., Weill Cornell Med., Rockefeller Univ., Rockefeller Univ/ HHMI, Hofstra Northwell Sch. of Med.*

Tues. 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 LLL8 **610.11** *In vitro* delivery of large plasmids with temporal control of gene expression via polyamidoamine (PAMAM) dendrimer nanoparticles. M. FLORENDO\*; B. SRINAGESHWAR; A. FIGACZ; R. KIM; C. THOMPSON; D. SWANSON; G. L. DUNBAR; A. SHARMA; J. ROSSIGNOL. *Central Michigan Univ. Col. of Med., Field Neurosciences Inst. Lab., Central Michigan Univ., Central Michigan Univ., Central Michigan Univ.*
- 4:00 LLL9 **610.12** Nanobody-assisted large volume immunostaining for ultrastructure-preserved clem. X. LU\*; T. FANG; D. R. BERGER; R. L. SCHALEK; H. L. PLOEGH; J. W. LICHTMAN. *Harvard Univ., Boston Children's Hospital, Boston.*
- 1:00 LLL10 **610.13** Systems-level analysis of gene expression heterogeneity in the songbird song system. B. COLQUITT\*; F. GREEN; M. S. BRAINARD. *UCSF Ctr. For Integrative Neurosci., Howard Hughes Med. Inst., Chan Zuckerberg BioHub.*
- 2:00 LLL11 **610.14** Development of efficient autophagosome sensors by detecting endogenous LC3 using modified Legionella RavZ. Y. JUN; S. JUN; P. JEON; J. LEE; D. JANG\*. *Kyungpook Natl. Univ., Hannam Univ.*
- 3:00 LLL12 **610.15** ● SUVN-I2004: *In vitro* pharmacological profile of a novel muscarinic M1 positive allosteric modulator. R. SUBRAMANIAN; V. MEKALA; M. SRIRANGAVARAM; N. PRAVEENA; S. EDULA; S. PETLU; G. BHYRAPUNENI; S. GAGGINAPALLY; A. MOHAMMED; S. M. IRAPPANAVAR\*; R. NIROGI. *Suven Life Sci. LTD.*
- 4:00 LLL13 **610.16** Characterising the schizophrenia-associated dysregulation of microRNA biogenesis. M. GEAGHAN\*; M. J. CAIRNS. *Univ. of Newcastle, Australia.*
- 1:00 LLL14 **610.17** Rapid phenotyping of CNS development with single-cell mass cytometry. A. VANDEUSEN\*; I. CHENG; A. KEELER; C. WILLIAMS; T. LARSON; K. FREAD; K. MCNEELY; N. DWYER; A. SPANO; C. DEPPMANN; E. ZUNDER. *Univ. of Virginia, Univ. of Virginia, Univ. of Virginia, Univ. of Virginia.*
- 2:00 LLL15 **610.18** Using enhancer-driven gene expression (EDGE) to generate viral vectors capable of driving transgene expression in particular cell types of targeted brain regions in any species. R. R. NAIR\*; S. BLANKVOORT; C. KENTROS. *The Kavli Inst. for Systems Neurosci. / CNC.*
- 3:00 LLL16 **610.19** ▲ Biolistic gene transfer reveals diverse synaptic organization of retinal ganglion cells. F. HASAN\*; B. G. BORGHUIS; A. LOVETT. *COMSATS Univ., Univ. of Louisville.*
- 4:00 LLL17 **610.20** Flexible and inducible BDNF gene knockdown in rat neurons. M. T. WONG-RILEY\*; D. WANG; M. GRZYBOWSKI; L. MU; D. A. BAKER; S. CHOI; A. M. GEURTS. *Med. Col. of Wisconsin, Med. Col. of Wisconsin, Med. Col. of Wisconsin, Marquette Univ., Marquette Univ.*
- 1:00 LLL18 **610.21** Composite viral vectors for receptor-mediated gene delivery. A. ZDECHLIK; Y. HE; D. SCHMIDT\*. *Univ. of Minnesota, Univ. of Minnesota Twin Cities.*
- 2:00 LLL19 **610.22** ● Cell type classification by multiplexed *in situ* RNA sequencing. T. HAULING\*; X. QIAN; R. K. RAGHUPATHY; C. REDDY; S. BUGEON; Y. ISOGAI; J. HJERLING LEFFLER, Dr; M. NILSSON; K. D. HARRIS. *Wolfson Inst. for Biomed. Res., Stockholm University/ Sci. for Life Lab., Univ. Col. London, Karolinska Institutet.*
- 3:00 LLL20 **610.23** A real time screening assay for cannabinoid cb1 receptor-mediated signaling. H. K. ANDERSEN\*; K. B. WALSH. *Univ. of South Carolina - Sch. of Med.*
- 4:00 LLL21 **610.24** Improving genetically encoded voltage indicators with a novel screening system. S. W. EVANS\*; D. SHI; M. CHAVARHA; L. PRADHAN; I. DIMOV; R. YANG; J. B. DING; M. J. SCHNITZER; M. Z. LIN. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford, Stanford Univ. Dept. of Neurosurg., Stanford Univ. Dept. of Biol., Stanford.*
- 1:00 LLL22 **610.25** ● Combinatorial cadherin expressions in the mouse visual cortex detected by targeted *in situ* sequencing. Y.-C. SUN\*; X. CHEN; A. M. ZADOR. *Cold Spring Harbor Lab.*
- 2:00 LLL23 **610.26** A single spectrum of neuronal identities across thalamus. J. PHILLIPS; A. SCHULMANN\*; E. HARA; C. LIU; L. WANG; B. SHIELDS; W. KORFF; A. LEMIRE; J. T. DUDMAN; S. NELSON; A. HANTMAN. *HHMI, CUNY Sch. of Med., Brandeis Univ., Duke Univ.*
- 3:00 LLL24 **610.27** ● Biodistribution of AAVHSCs in the central nervous system of non-human primates. J. GINGRAS\*; K. OLIVIERI; N. ZAPATA; L. SMITH; H. RUBIN; P. MORALES; J. ELLSWORTH; A. SEYMOUR. *Homology Medicines Inc, Homology Medicines Inc, The Mannheimer Foundation, Inc.*
- 4:00 LLL25 **610.28** Fluorescent biosensors for the "inside-out pharmacology" of nicotinic and opioid drugs. A. K. MUTHUSAMY\*; A. V. SHIVANGE; P. M. BORDEN; A. L. NICHOLS; A. KAMAJAYA; J. JEON; J. S. MARVIN; E. K. UNGER; B. N. COHEN; H. BAO; E. R. CHAPMAN; L. TIAN; L. LOOGER; H. A. LESTER. *Caltech, Caltech, Janelia Res. Campus, Univ. of California, Davis, Univ. of Wisconsin-Madison, Howard Hughes Med. Inst.*
- 1:00 LLL26 **610.29** Engineering a fluorescent serotonin sensor using machine learning. E. K. UNGER; R. LIANG; C. E. DONG; J. SUN; D. A. JAFFE; G. J. BROUSSARD, JR; G. O. MIZUNO; P. M. BORDEN; A. L. NICHOLS; A. K. MUTHUSAMY; L. UNGER\*; H. A. LESTER; S. HARTANTO; A. J. FISHER; V. YAROV-YAROVY; J. S. MARVIN; L. L. LOOGER; L. TIAN. *UC Davis, Univ. of California at Davis, Janelia Res. Campus, Caltech, Caltech, Caltech.*
- 2:00 LLL27 **610.30** Molecular-fMRI of intracellular calcium using a novel, small molecule sensor. B. B. BARTELLE\*; A. BARANDOV; C. G. WILLIAMSON; A. JASANOFF. *MIT, MIT.*

## POSTER

### 611. Anatomical Methods: Staining, Tracing, and Imaging Techniques

#### Theme I: Techniques

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 LLL28 **611.01** Multimodal microscopic imaging of atherosclerosis plaque multi-composition for cerebrovascular events study. H. HUI; X. YANG\*; J. TIAN. *Inst. of Automation, Chinese Acad. of Scienc, Key Lab. of Mol. Imaging, CAS.*
- 2:00 LLL29 **611.02** ● Fast 3D imaging method for long-term recording neuronal activity and plasticity by acousto-optical two-photon microscopy. D. PINKE\*; M. MAROSI; G. DOBOS; G. SZALAY; D. NAGY; C. CSUPERNYÁK; A. PLAUSKA; G. KATONA; B. RÓZSA. *IEM-HAS, Bay Zoltán Fndn. for Applied Res., Pázmány Péter Catholic Univ.*
- 3:00 LLL30 **611.03** ● Machine learning for conjugate light-electron array tomography. O. GLIKO\*; S. SESHAMANI; F. COLLMAN; L. ELABBADY; M. KARLSSON; M. NAUGLE; R. SERAFIN; J. SCHARDT; S. J. SMITH. *Allen 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

- 4:00 LLL31 **611.04** Beam shaping oblique light sheet tomography. X. QI\*; A. NARASIMHAN; K. U. VENKATARAJU; D. F. ALBEANU; P. OSTEN. *Cold Spring Harbor Lab.*
- 1:00 LLL32 **611.05** Somato-dendritic morphological analysis using oblique light sheet tomography. A. NARASIMHAN\*; U. SÜMBÜL; K. UMADEVI VENKATARAJU; R. PALANISWAMY; D. ALBEANU; P. OSTEN. *Cold Spring Harbor Lab., Allen Inst. For Brain Sci.*
- 2:00 LLL33 **611.06** Light sheet fluorescence expansion microscopy: Fast mapping of neuronal connectivity at super resolution. J. E. RODRIGUEZ GATICA\*; I. PAVLOVA; J. BÜRGER; M. K. SCHWARZ; U. KUBITSCHKE. *Rheinische Friedrich-Wilhelms-University Bonn, Rheinische Friedrich-Wilhelms-University Bonn.*
- 3:00 LLL34 **611.07** • Generalized registration of multiple views in light sheet microscopy. N. PAPP; K. KILBORN\*. *3i.*
- 4:00 LLL35 **611.08** Advanced Light sheet Imaging Center (ALICE): Development of a full service imaging platform - from sample clarification to 3D VR visualization. S. PAGÈS\*; F. F. VOIGT; G. REYMOND; L. BATTI; C. BRANA; A. TISSOT; R. CHEREAU; Q. BARRAUD; N. CHO; J. SQUAIR; F. MOREILLON; P. PASSERAUB; F. HELMCHEN; M. GOUBRAN; M. ZENEIH; R. TOMER; K. DEISSEROTH; A. HOLTMAAT; G. COURTIME; C. LÜSCHER; J. DONOGHUE. *Wyss Ctr. for Neuro and Bioengineering, Univ. of Geneva, Brain Res. Inst., Neurosci. Ctr. Zürich, Ctr. for Neuroprosthetics and Brain Mind Institute, Sch. of Life Sci., Univ. of Applied Sci. and Arts Western Switzerland (HES-SO), Stanford Univ., Columbia Univ.*
- 1:00 DP15/LLL36 **611.09** (Dynamic Poster) The mesoSPIM initiative - open-source light-sheet microscopes for imaging in cleared tissue. F. F. VOIGT\*; D. KIRSCHENBAUM; S. PAGES; L. EGOLF; R. KASTLI; A. VAN DER BOURG; K. LE CORF; K. HAENRAETS; N. FREZEL; F. MOREILLON; E. PLATONOVA; A. IQBAL; T. TOPILKO; N. RENIER; H. U. ZEILHOFER; T. KARAYANNIS; A. A. FRICK; U. ZIEGLER; L. BATTI; A. HOLTMAAT; C. LUSCHER; A. AGUZZI; F. HELMCHEN. *Brain Res. Inst., Neurosci. Ctr. Zurich, Univ. Hosp. Zurich, Wyss Ctr. For Bio and Neuroengineering, Brain Res. Institute, Univ. of Zurich, Brain Res. Inst., Neurocenter Magendie, Univ. of Zurich, Inst. of Pharmacol. and Toxicology, Inst. of Pharmaceut. Sciences, ETH Zurich, Inst. for Pharmacol. and Toxicology, Univ. of Zurich, Univ. of Applied Sciences, Western Switzerland, Ctr. for Microscopy and Image Analysis, Univ. of Zurich, ICM - Brain & Spine Inst., Inst. of Pharmacology, Univ. of Zurich, INSERM U1215, Wyss Ctr., Univ. of Geneva, Univ. Geneva, Brain Res. Inst. / Univ. of Zurich.*
- 2:00 LLL37 **611.10** SPED microscopy with GPU accelerated deconvolution. P. SCHWARZ\*; M. HIRTE; C. R. YU. *Stowers Inst. for Med. Res.*
- 3:00 LLL38 **611.11** Multicolor large volume imaging using chromatic serial multiphoton microscopy. L. ABDELADIM\*; K. S. MATHO; S. CLAVREUL; P. MAHOU; J. SINTES; X. SOLINAS; I. ARGANDA-CARRERAS; S. TURNEY; J. W. LICHTMAN; A. BEMELMANS; K. LOULIER; W. SUPATTO; J. LIVET; E. BEAUREPAIRE. *Ecole Polytechnique, Ecole Polytechnique, CNRS, INSERM, Inst. de la Vision, Sorbonne Universités, INSERM, CNRS, CSHL, Univ. of the Basque Country (Ikerbasque) and Donostia Intl. Physics Ctr., Harvard Univ., CEA.*
- 4:00 LLL39 **611.12** Registration methodology for cleared rodent brain tissue. A. E. BRANCH\*; D. J. TWARD; V. CHANDRASHEKHAR; M. MILLER; J. T. VOGELSTEIN; M. GALLAGHER. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ. Dept. of Psychological and Brain Sci.*
- 1:00 LLL40 **611.13** Whole brain cellular resolution imaging reveals layer-specific neuronal deficits upon cortical topoisomerase I deletion. O. KRUPA\*; Q. WANG; G. FRAGOLA; P. ARIEL; E. HADDEN-FORD; Z. HUMPHREY; T. LIU; S. FRIDAY; S. WANG; M. J. ZYLKA; G. WU; J. L. STEIN. *Univ. of North Carolina - Chapel Hill, Univ. of North Carolina - Chapel Hill, Univ. of North Carolina - Chapel Hill, Univ. of North Carolina - Chapel Hill, Univ. of North Carolina - Chapel Hill.*
- 2:00 LLL41 **611.14** Optimizing tissue clearing method for human brain tissue: Preparing methods, clearing efficiency, staining methods, and imaging strategy. K. MIN SUN\*; J. AHN; J. MO; H. SONG; H. CHOI. *Seoul Natl. Univ., Functional Neuroanatomy of Metabolism Regulation laboratory.*
- 3:00 LLL42 **611.15** Creation and anatomically based registration of 3D histological brain atlas in the prairie vole. R. MUÑOZ CASTAÑEDA\*; K. UMADEVI VENKATARAJU; T. BURKHARD; S. M. PHELPS; P. OSTEN. *Cold Spring Harbor Lab., Univ. of Texas at Austin.*
- 4:00 LLL43 **611.16** Identification in male rats by manganese enhanced magnetic resonance, of the neural circuits controlling sexually motivated behaviors. L. GAYTAN\*; R. PAREDES. *UNAM, UNAM.*
- 1:00 LLL44 **611.17** Identification of brain regions by hyperspectral imaging without staining. S. INOUE\*; K. HOTTA; K. OKA. *Keio Univ., Keio Univ.*
- 2:00 LLL45 **611.18** 3D brain structure in zebra finch by CUBIC and voronoi tessellation. M. ENDO\*; S. INOUE; M. INDA; K. HOTTA; K. OKA. *Keio- Univ.*
- 3:00 LLL46 **611.19** Precise calculations of Iba-1 positive cells in cerebral hemispheres of mice. D. E. KACZYNSKA\*; S. KANATANI; N. TANAKA; P. UHLÉN. *Karolinska Institutet, Keio Univ. Sch. of Med.*
- 4:00 LLL47 **611.20** • Volumetric analysis of hexachlorophene-treated rats by MRM and stereology for neuropathology. M. A. STAUP\*; D. BROWN; C. JOHNSON; P. LITTLE; R. SILLS; G. A. JOHNSON. *Charles River, Exptl. Pathology Laboratories, Inc., Natl. Inst. of Envrn. Hlth. Sci., Duke Univ.*
- 1:00 LLL48 **611.21** Optogenetic blood oxygenation level dependent (BOLD) and cerebral blood volume (CBV) fMRI. F. SCHMID\*; M. CHOY; A. J. WEITZ; J. H. LEE. *Stanford Univ., Stanford Univ.*
- 2:00 LLL49 **611.22** • Accurate and rapid estimation of cell culture confluency, transfection efficiency and total cell number. L. ANTANAVICIUTE\*; S. DUBACQ; O. VARET. *Bertin Corp, Bertin Technologies.*
- 3:00 LLL50 **611.23** Optimizing photoacoustic imaging of lacZ cleavage products. J. I. MATCHYNSKI\*; R. MANWAR; K. KRATKIEWICZ; S. A. PERRINE; A. C. CONTI; M. R. N. AVANAKI. *Wayne State Univ. Sch. of Med., Wayne State Univ., Wayne State Univ.*
- 4:00 LLL51 **611.24** • Three-dimensional single-cell-resolution whole-brain atlas using CUBIC-X expansion microscopy and tissue clearing. T. MURAKAMI\*; T. MANO; H. UEDA. *The Univ. of Tokyo.*

• 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

**612. Physiological Methods: Optical Methodology: Development II**

**Theme I: Techniques**

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 LLL52 **612.01** Temporal dynamics of spatial information encoding within retrosplenial cortex. M. SEHGAL\*; S. MARTIN; A. PEKCAN; D. AHARONI; A. LAVI; D. J. CAI; M. R. MEHTA; A. J. SILVA. *Univ. of California Los Angeles, UCLA, Icahn Sch. of Med. at Mount Sinai, Univ. of California at Los Angeles (UCLA), UCLA Med. Ctr.*
- 2:00 LLL53 **612.02** Miniaturized open source devices for calcium imaging, electrophysiology, and real-time control of neural activity. D. AHARONI\*; M. SEHGAL; Z. CHEN; L. YANG; O. SKOCEK; A. J. SILVA; A. VAZIRI; H. T. BLAIR, IV; J. CONG; S. C. MASMANIDIS; P. GOLSHANI. *UCLA, Univ. of California Los Angeles, UCLA, The Rockefeller Univ., UCLA Med. Ctr., UCLA, UCLA, UCLA, UCLA Dept. of Neurol.*
- 3:00 LLL54 **612.03** Open-source silicon microprobes for large-scale neural recordings. L. YANG\*; K. LEE; S. C. MASMANIDIS. *UCLA.*
- 4:00 LLL55 **612.04** CCR5 closes the window for contextual memory linking by regulating neuronal ensemble overlap. M. ZHOU\*; Y. SHEN; D. CAI; Y. CAI; A. LAVI; S. HUANG; T. SILVA; A. J. SILVA. *Univ. of California Los Angeles, Mount Sinai Sch. of Med.*
- 1:00 LLL56 **612.05** Deficits in shared neuronal ensemble between multiple contextual exposures in mouse model of Noonan Syndrome. Y. CAI\*; A. J. MACALINO; L. CHIU; M. MAYASHIRO; Y. SHEN; M. ZHOU; M. SEHGAL; A. LAVI; D. AHARONI; S. K. CHEUNG; Y. LEE; A. J. SILVA. *UCLA, UCLA, uCLA, Univ. of California Los Angeles, UCLA, Seoul Natl. Univ. Col. of Med., UCLA Med. Ctr.*
- 2:00 LLL57 **612.06** Engineering designer AAVs for non-invasive systemic delivery to specific cell-types or organs using CREATE 2.0. S. RAVINDRA KUMAR\*; Q. HUANG; X. CHEN; X. DING; E. MACKEY; N. FLYTZANIS; N. GOEDEN; D. BROWN; Y. LUO; T. DOBREVA; K. CHAN; B. DEVERMAN; V. GRADINARU. *Caltech.*
- 3:00 LLL58 **612.07** Ultrafast neuronal imaging of dopamine dynamics with designed genetically encoded sensors. L. TIAN\*; T. PATRIARCHI; J. CHO; K. MERTEN; M. HOWE; A. MARLEY; W. XIONG; G. J. BROUSSARD, JR; R. LIANG; H. ZHONG; D. A. DOMBECK; M. VON ZASTROW; A. NIMMERJAHN; V. GRADINARU; J. T. WILLIAMS. *Univ. of California, Davis, Caltech, Salk Inst., Northwestern Univ., UCSF, Oregon Hlth. Sci. Univ., Univ. of California at Davis, Northwestern Univ., Salk Inst. for Biol. Studies.*
- 4:00 LLL59 **612.08** ● Wide-area all-optical neurophysiology mapping using hadamard microscopy. V. J. PAROT\*; S. L. FARHI; A. GRAMA; M. YAMAGATA; A. S. ABDELFAHATTAH; Y. ADAM; S. LOU; J. KIM; R. E. CAMPBELL; D. D. COX; A. E. COHEN. *Harvard Univ., Harvard Univ., Harvard Univ. Ctr. for Brain Sci., Janelia Res. Campus, Cygnal Therapeut., Univ. of Alberta, Harvard Univ., Harvard Univ.*
- 1:00 LLL60 **612.09** Minimally-invasive optogenetic circuit modulation with designer channelrhodopsin variants and systemic AAVs. C. N. BEDBROOK; J. E. ROBINSON\*; K. K. YANG; F. H. ARNOLD; V. GRADINARU. *Caltech, Caltech, Caltech.*
- 2:00 LLL61 **612.10** Scalable single-cell profiling by systemic AAVs for sparse stochastic labeling compatible with tissue clearing and multiplexed RNA labeling, applied to mouse GnRH neurons. G. M. COUGHLIN; A. KAHAN\*; M. JANG; V. GRADINARU. *Caltech.*
- 3:00 MMM1 **612.11** Tissue clearing and optogenetics help reveal pathological effects of seeding alpha synuclein fibrils in enteric and olfactory systems. C. CHALLIS\*; T. R. SAMPSON; B. B. YOO; S. K. MAZMANIAN; L. A. VOLPICELLI-DALEY; V. GRADINARU. *Caltech, Univ. of Alabama At Birmingham.*
- 4:00 MMM2 **612.12** Multiplexing imaging development using phase light interference and fluorescence microscopy to bridge the scales from single molecule to whole organ. J. A. MALDONADO\*; C. BEST; A. SMITH; G. POPESCU. *Univ. of Illinois Urbana Champaign, Univ. of Illinois Urbana Champaign, Univ. of Illinois Urbana Champaign, Univ. of Illinois At Urbana-Champaign.*
- 1:00 MMM3 **612.13** Optical activity readout and modulation of serotonergic neurons in the dorsal raphe show frequency-dependent, bidirectional effects on sleep. M. ALTERMATT\*; J. CHO; G. OIKONOMOU; D. PROBER; V. GRADINARU. *Caltech.*
- 2:00 MMM4 **612.14** Engineering better, brighter bioluminescent light sources for neuronal imaging. L. M. BARNETT; G. G. LAMBERT; N. C. SHANER\*. *Scintillon Inst.*
- 3:00 MMM5 **612.15** Bioluminescence driven optogenetics for investigating functional synaptic communication across co-cultured neuronal networks on multi-electrode arrays. M. PRAKASH\*; R. S. LAURENT; A. PAL; A. BJOREFELDT; B. W. CONNORS; D. LIPSCOMBE; J. A. KAUER; C. I. MOORE; U. H. HOCHGESCHWENDER. *Central Michigan Univ., Brown Univ., Brown Univ.*
- 4:00 MMM6 **612.16** A multifunctional bioluminescent calcium indicator. A. PAL\*; W. E. MEDENDORP; S. DASH; T. BROWN; Z. ZALDI; M. PRAKASH; D. LIPSCOMBE; C. I. MOORE; U. HOCHGESCHWENDER. *Central Michigan Univ., Brown Univ., Brown Univ., Central Michigan Univ.*
- 1:00 MMM7 **612.17** ▲ Bioluminescent Optogenetics produces fewer nonspecific effects compared to DREADDs. M. L. WADDELL\*; W. E. MEDENDORP; U. HOCHGESCHWENDER. *Central Michigan Univ., Central Michigan Univ., Central Michigan Univ.*
- 2:00 MMM8 **612.18** Tracking neocortical dynamics using genetically-encoded bioluminescent molecules *in vivo*. M. GOMEZ-RAMIREZ\*; J. W. MURPHY; A. I. MORE; A. PAL; D. LIPSCOMBE; U. HOCHGESCHWENDER; C. I. MOORE. *Brown Univ., Brown Univ., Central Michigan Univ., Brown Univ., Central Michigan Univ.*
- 3:00 MMM9 **612.19** Radiationless bioluminescence resonance energy transfer from luciferase to opsin in the luminopsin fusion protein. K. BERGLUND\*; U. HOCHGESCHWENDER; R. E. GROSS. *Emory Univ., Central Michigan Univ.*
- 4:00 MMM10 **612.20** Effect of chemogenetic inhibition of mammillary bodies in a rat pentylenetetrazole seizure model. A. FERNANDEZ\*; K. BERGLUND; F. SHIU; C. GUTEKUNST; R. E. GROSS. *Emory Univ. Sch. of Med., Emory Univ. Sch. of Med.*
- 1:00 MMM11 **612.21** ▲ Imaging and control of neurons in mice expressing luminopsins. D. K. JOHNSTON; J. R. ZENCHAK; W. E. MEDENDORP; A. BJOREFELDT; U. HOCHGESCHWENDER\*. *Central Michigan Univ.*

- 2:00 MMM12 **612.22** Chemogenetic modulation with luminopsin in rat septo-hippocampal pathway. S. PARK\*; A. FERNANDEZ; K. BERGLUND; C. N. GUTEKUNST; R. E. GROSS. *Georgia Inst. of Technol., Emory Univ. Sch. Med.*
- 3:00 MMM13 **612.23** Dual-plane two-photon mesoscopy: Multi-column calcium imaging of mouse visual cortex. N. ORLOVA\*; D. TSYBOULSKI; F. GRIFFIN; J. LECOQ; P. SAGGAU. *Allen Inst.*
- 4:00 MMM14 **612.24** Dual-plane two-photon mesoscopy: System design and characterization. D. TSYBOULSKI\*; N. ORLOVA; F. GRIFFIN; J. LECOQ; P. SAGGAU. *Allen Inst.*
- 1:00 MMM15 **612.25** Development of 3D imaging processing system for neural network analysis. N. KIM\*; J. CHOI; B. KANG; S. JEONG. *Korea Brain Res. Inst., SYSOFT.*
- 2:00 MMM16 **612.26** Thermal model for *in vivo* temporally focused light-shaped optogenetics. V.; A. PICOT; C. LIU; P. BERTO; N. ACCANTO; D. TANESE; C. MOLINIER; E. RONZITTI; D. SOLEDAD; I. CHEN; G. TESSIER; B. C. FORGET; E. PAPAGIAKOU MOU. *Cnrs-University Paris Descartes, Sorbonne Université, Inserm, CNRS, The Vision Inst., Inst. Natl. de la Santé et de la Recherche Médicale.*

## POSTER

### 613. Neuronal Networks Widescale, Multimodal, and Electrophysiological

#### Theme I: Techniques

Tue. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 MMM17 **613.01** • The International Brain Laboratory: Reproducing a single decision-making behavior in mice across labs. V. AGUILLON RODRIGUEZ; N. BONACCHI; M. CARANDINI; F. CAZETTES; A. K. CHURCHLAND\*; I. LARANJEIRA; Z. F. MAINEN; M. MURAKAMI; J. SANDERS; A. E. URAI; M. J. WELLS; L. E. WOOL; A. M. ZADOR; .. INTERNATIONAL BRAIN LABORATORY. *Cold Spring Harbor Lab., Champalimaud Ctr. for the Unknown, Univ. Col. London, Sanworks LLC.*
- 2:00 MMM18 **613.02** The international brain laboratory: Data architecture. N. BONACCHI; K. D. HARRIS\*; M. L. HUNTER; C. REDDY; C. ROSSANT; N. ROY; N. A. STEINMETZ; M. J. WELLS; O. WINTER; .. THE INTERNATIONAL BRAIN LABORATORY. *Champalimaud Ctr. for the Unknown, Univ. Col. London, Princeton Univ., .*
- 3:00 MMM19 **613.03** Beyond correlation in zebrafish whole brain activity. C.-M. YEH\*; G. PAO; A. GROISMAN; J. R. FETCHO; S. CHALASANI. *Salk Inst. for Biol. Studies, Salk Inst., UCSD, Cornell Univ., The Salk Inst. for Biol. Studies.*
- 4:00 MMM20 **613.04** Loss of inhibitory control causes network-specific functional underconnectivity: A DREADD-fMRI study in C57BL/6J and PV-Cre mice. M. MARKICEVIC\*; B. D. FULCHER; M. RUDIN; N. WENDEROTH; V. ZERBI. *ETH Zurich, Univ. of Sydney, Univ. and ETH Zürich, Neural Control of Movement Lab, ETH Zurich.*
- 1:00 MMM21 **613.05** The importance of empirical data on the anatomical connectivity of mouse neocortex. A. GAMANUT\*; K. KNOBLAUCH; B. GAMANUT; A. H. BURKHALTER; H. KENNEDY. *Univ. Lyon, Univ. Claude Bernard Lyon 1, Inovarion, Washington Univ. Med. Sch., Inst. of Neuroscience, State Key Lab. of Neuroscience, Chinese Acad. of Sci. (CAS) Key Lab. of Primate Neurobiology, CAS.*
- 2:00 MMM22 **613.06** State dependent large scale integration from whole brain embedology at single neuron resolution. G. PAO\*; C. YEH; S. CHALASANI; J. R. FETCHO; G. SUGIHARA. *Salk Inst., Scripps Inst. of Oceanography, UC San Diego, Salk Inst., The Salk Inst. For Biol. Studies, Cornell Univ.*
- 3:00 MMM23 **613.07** Combining mGRASP and optogenetics enables high-resolution functional mapping of descending cortical projections. J. SONG\*; D. LUCACI; I. CALANGIU; J. PARK; J. KIM; S. G. BRICKLEY; P. CHADDERTON. *Korea Inst. of Sci. and Technol., Imperial Col. London, Imperial Col. London, ETH Zurich, Univ. of Sci. and Technol., KIST Korea Inst. of Sci. & Tech., Univ. of Bristol.*
- 4:00 MMM24 **613.08** Wide-field calcium imaging deconvolution methods. M. STERN\*; D. WITTEN; E. T. SHEA-BROWN. *Univ. of Washington, Univ. of Washington.*
- 1:00 MMM25 **613.09** An unbiased workflow for isolating and mapping functional dynamics across the developing neocortex. B. R. MULLEN\*; S. C. WEISER; J. E. LAMB; C. P. SANTO TOMAS; J. B. ACKMAN. *UC Santa Cruz.*
- 2:00 MMM26 **613.10** MRI marker to predict subcortical vascular cognitive impairment: Comparison among integrity of normal appearing white matter, integrity of white matter hyperintensities, and cortical thickness. J.-J. YANG\*; B.-H. KIM; G. PARK; S. SEO; J.-M. LEE. *Hanyang Univ., Samsung Med. Center, Sungkyunkwan Univ. Sch. of Med.*
- 3:00 MMM27 **613.11** DBScope: Visualizing DBS effects mapped to standard space. W. OH\*; H. JEON; Y. LIM; S. PAEK; J. KIM. *Korea Inst. of Sci. and Technol. (KIST), Seoul Natl. Univ. Hospital, Seoul Natl. Univ. Col. of Med., KIST-School, Univ. of Sci. and Technol.*
- 4:00 MMM28 **613.12** Intrinsic connectivity network efficiency for evaluating its contribution to brain network integration. Y.-H. PARK\*; J.-J. YANG; J.-M. LEE. *Hanyang Univ.*
- 1:00 MMM29 **613.13** Genetic risk factors for cortical thickness in patients with Alzheimer's disease. B.-H. KIM\*; Y.-H. CHOI; J.-M. LEE. *Hanyang Univ.*
- 2:00 MMM30 **613.14** Convergent excitatory and inhibitory connectivity in the subthalamic nucleus. H. LEE\*; W. OH; H. JEON; J. KIM; L. FENG; J. KIM. *Korea Inst. of Sci. and Technol. (KIST), KIST-School, Univ. of Sci. and Technol.*
- 3:00 MMM31 **613.15** Detecting neural assemblies in calcium imaging data. J. MÖLTER\*; L. AVITAN; G. J. GOODHILL. *The Univ. of Queensland, The Univ. of Queensland.*
- 4:00 MMM32 **613.16** • Neuro-imaging in the common marmoset. S. FREY\*; S. G. NUARA; A. MATHIEU; G. MASSARWEH; M. S. KANG; P. ROSA-NETO; J. C. GOURDON; D. BÉDARD; A. HAMADJIDA; P. HUOT. *Rogue Res. Inc., McGill Univ., Douglas Inst. Res. Ctr., Montreal Neurolog. Inst., McGill Univ., Montreal Neurolog. Inst.*

Tues. 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

# 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	PRESENTATION NUMBER	STATEMENT
434.05	<b>R.A. Segal:</b> Other; Dr. Segal's spouse serves as consultant for Amgen and Decibel Therapeutics.	446.01	<b>M. Sahin:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; research support from Roche, Novartis, Pfizer, LAM Therapeutics, Neuren, Ibsen, and Rugen unrelated to this study.
437	<b>F.M. Longo:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pharmatrophix founder, Chairman of the Board, equity holder and consultant, holder of IP. F. Consulting Fees (e.g., advisory boards); Pharmatrophix.	447.02	<b>A. Laperle:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent holder. <b>S. Sances:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent holder. <b>N. Yucer:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent holder. <b>C.N. Svendsen:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent holder.
437.03	<b>O. Arancio:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurokine Therapeutics: Founder and Shareholder, Holder of IP; ALSP: Holder of IP.	447.03	<b>T.A. Yacoubian:</b> Other; I have a US patent on the use of 14-3-3 proteins for neurodegeneration.
437.06	<b>S. Parmentier-Batteur:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Merck & Co, Inc.	447.05	<b>J.D. Graef:</b> A. Employment/Salary (full or part-time); Fulcrum Therapeutics. <b>V. Villegas:</b> A. Employment/Salary (full or part-time); Fulcrum Therapeutics. <b>A.M. Cacace:</b> A. Employment/Salary (full or part-time); Fulcrum Therapeutics.
437.07	<b>F.M. Longo:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pharmatrophix founder, Chairman of the Board, equity holder and consultant, holder of IP. F. Consulting Fees (e.g., advisory boards); Pharmatrophix.	452.07	<b>D. Okuda:</b> F. Consulting Fees (e.g., advisory boards); Biogen, Genzyme, Teva.
439	<b>H.R. Ueda:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); A coinventor on patent application owned by RIKEN covering the CUBIC reagents.	455.07	<b>C.C. Chang:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Ayumu Tashiro.
439.02	<b>H.R. Ueda:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); A coinventor on patent application owned by RIKEN covering the CUBIC reagents.	456.10	<b>J.L. Rubenstein:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Neurona Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona Therapeutics.
439.03	<b>A. Miyawaki:</b> F. Consulting Fees (e.g., advisory boards); A coinventor on patent application owned by RIKEN covering Scale reagents.	459.21	<b>C.M. Niswender:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder. <b>C. Lindsley:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder. <b>C.K. Jones:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder. <b>P. Conn:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder.
439.04	<b>H. Dodt:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); H. Dodt filed a patent on light sheet technology and a patent on microscope objectives for immersion media.	460.01	<b>E. Kim:</b> A. Employment/Salary (full or part-time); UIUC. <b>J. Zhang:</b> A. Employment/Salary (full or part-time); UIUC.
439.05	<b>A. Erturk:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); A. Erturk filed a patent on DISCO technologies.	460.05	<b>D.N. Shinde:</b> A. Employment/Salary (full or part-time); Ambry Genetics.
439.07	<b>K. Chung:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); A coinventor on patent application owned by MIT covering the MAP technology (US Provisional Patent Application 62/330,018).	460.09	<b>P. Karimi Tari:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>K. Nelkenbrecher:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>M. Waldbrook:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>G.</b>
440	<b>F. Solzbacher:</b> ; Blackrock Microsystems, Sentiomed, Blackrock Neuromed, Blackrock Microsystems, Fraunhofer.		
443.07	<b>H. Okano:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 AMED: Investigation of Pathogenic Mechanisms and Development of New Therapies for Neurological Diseases-Specific iPSC. F. Consulting Fees (e.g., advisory boards); Advisory Boards of SanBio Co Ltd and K Pharma Inc.		
443.08	<b>F.H. Gage:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Takeda-Sanford Consortium for Regenerative Medicine Alliance Innovative Grant.		

PRESENTATION NUMBER	STATEMENT
	<b>de Boer:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>R. Kwan:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>C.M. Dube:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>T. Focken:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>C. Dehnhardt:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>N. Shuart:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>S. Goodchild:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>L. Sojo:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>J. Empfield:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>C.J. Cohen:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals. <b>J. Johnson:</b> A. Employment/Salary (full or part-time); Xenon Pharmaceuticals.
461.03	<b>K. Eggan:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Q-State Biosciences.
461.08	<b>R.V. Omkumar:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Designated as inventor in patents, but not involving the data reported in this abstract. <b>M. Madhavan:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Designated as inventor in patents, but not involving the data reported in this abstract.
465.23	<b>E. Kandel:</b> A. Employment/Salary (full or part-time); HHMI.
466.03	<b>F. Xue:</b> A. Employment/Salary (full or part-time); The University of Texas at Dallas. <b>Z. Xuan:</b> A. Employment/Salary (full or part-time); The University of Texas at Dallas. <b>L. Guo:</b> A. Employment/Salary (full or part-time); The University of Texas at Dallas. <b>H. Du:</b> A. Employment/Salary (full or part-time); The University of Texas at Dallas.
466.19	<b>K. Estrada:</b> A. Employment/Salary (full or part-time); Biogen.
466.23	<b>T. Wagner:</b> A. Employment/Salary (full or part-time); nference, inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); nference, inc. <b>S. Ebrahim:</b> A. Employment/Salary (full or part-time); nference, inc.
467.04	<b>S.J. Sukoff Rizzo:</b> A. Employment/Salary (full or part-time); The Jackson Laboratory. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>K.D. Onos:</b> A. Employment/Salary (full or part-time); The Jackson Laboratory. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>K.J. Keezer:</b> A. Employment/Salary (full or part-time); The Jackson Laboratory. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>S.K. Quinney:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>D.R. Jones:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>A.R. Masters:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even

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	if those funds come to an institution.; U54 AG054345-01. <b>I. Metzger:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>J.A. Meyer:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>J. Peters:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>S.A. Persohn:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>B.P. McCarthy:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>A.A. Bedwell:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>M. Sasner:</b> A. Employment/Salary (full or part-time); The Jackson Laboratory. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>H. Williams:</b> A. Employment/Salary (full or part-time); The Jackson Laboratory. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>G.R. Howell:</b> A. Employment/Salary (full or part-time); The Jackson Laboratory. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>A. Oblak:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>B.T. Lamb:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01. <b>P.R. Territo:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; U54 AG054345-01.
468.03	<b>M. Kim:</b> A. Employment/Salary (full or part-time); Shine Biopharma Inc. <b>S. Han:</b> A. Employment/Salary (full or part-time); Shine Biopharma Inc.
468.15	<b>S. Sundaram:</b> Other; University of South Florida. <b>D. Gulick:</b> A. Employment/Salary (full or part-time); University of South Florida.
468.19	<b>M. Loos:</b> A. Employment/Salary (full or part-time); Sylics (Synaptologics BV). <b>B. Koopmans:</b> A. Employment/Salary (full or part-time); Sylics (Synaptologics BV). <b>E. Rimmelink:</b> A. Employment/Salary (full or part-time); Sylics (Synaptologics BV). <b>M. Verhage:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
	funds); Sylics (Synaptologics BV). <b>A.B. Smit:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sylics (Synaptologics BV).		diversified mutual funds); Surgical Information Sciences. <b>F. Consulting Fees</b> (e.g., advisory boards); Boston Scientific Neuromodulation, Kernel.
469.01	<b>J. Hwang:</b> A. Employment/Salary (full or part-time); MilliporeSigma. <b>L. Chen:</b> A. Employment/Salary (full or part-time); MilliporeSigma. <b>A. Saporita:</b> A. Employment/Salary (full or part-time); MilliporeSigma. <b>Q. Xiao:</b> A. Employment/Salary (full or part-time); MilliporeSigma.	470.15	<b>J.K. Bowden-Verhoek:</b> A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. <b>E. Stocking:</b> A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. <b>J.L. Wong:</b> A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. <b>W. Wrasidlo:</b> A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. <b>D. Price:</b> A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. <b>M. Gill:</b> A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc. <b>D. Bonhaus:</b> A. Employment/Salary (full or part-time); Neuropore Therapies, Inc. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuropore Therapies, Inc.
469.08	<b>C. DeCarli:</b> F. Consulting Fees (e.g., advisory boards); consultant to Novartis Pharmaceuticals.		
469.19	<b>H. Borghys:</b> A. Employment/Salary (full or part-time); Janssen. <b>B. Van Broeck:</b> A. Employment/Salary (full or part-time); Janssen. <b>C. Theunis:</b> A. Employment/Salary (full or part-time); Janssen. <b>F. Tekle:</b> A. Employment/Salary (full or part-time); Janssen. <b>D. Dhuyvetter:</b> A. Employment/Salary (full or part-time); Janssen.	470.16	<b>M.J. Workman:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder. <b>S. Sances:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder. <b>A. Laperle:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder. <b>R.J. Barrett:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder. <b>C.N. Svendsen:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder.
469.26	<b>C.T. Nguyen:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AstraZeneca, Biogen. <b>A.J. Vingrys:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AstraZeneca, Biogen. <b>J. Mullen:</b> A. Employment/Salary (full or part-time); AstraZeneca. <b>B.V. Bui:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AstraZeneca, Biogen.	470.17	<b>V.R. Lingappa:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Prosetta Biosciences. <b>C. Korth:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Prosetta Biosciences Inc.
469.27	<b>D.R. Herr:</b> A. Employment/Salary (full or part-time); National University of Singapore. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Ministry of Education, Singapore. <b>W.S. Chew:</b> A. Employment/Salary (full or part-time); National University of Singapore. <b>M.K.P. Lai:</b> A. Employment/Salary (full or part-time); National University of Singapore.	471.09	<b>K. Sowalsky:</b> A. Employment/Salary (full or part-time); APDM. <b>F.B. Horak:</b> A. Employment/Salary (full or part-time); APDM. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); APDM. <b>M. El-Gohary:</b> A. Employment/Salary (full or part-time); APDM. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); APDM.
469.28	<b>S. Waninger:</b> A. Employment/Salary (full or part-time); Advanced Brain Monitoring. <b>M. Benesh:</b> A. Employment/Salary (full or part-time); Advanced Brain Monitoring Inc. <b>C. Berka:</b> A. Employment/Salary (full or part-time); Advanced Brain Monitoring Inc. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Advanced Brain Monitoring Inc. <b>E. Ratti:</b> A. Employment/Salary (full or part-time); Biogen. <b>P. von Rosenstiel:</b> A. Employment/Salary (full or part-time); Biogen. <b>M. Mendez:</b> A. Employment/Salary (full or part-time); University of California Los Angeles. <b>A. Verma:</b> A. Employment/Salary (full or part-time); United Neuroscience.	471.19	<b>H.L. Paulson:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Cydan Development Inc. <b>M. Costa:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Cydan Development Inc.
470.01	<b>D. Ho:</b> A. Employment/Salary (full or part-time); Wonkwnag University, Sanbon Medical Center. <b>D. Nam:</b> A. Employment/Salary (full or part-time); Wonkwnag University, Sanbon Medical Center. <b>W. Seol:</b> A. Employment/Salary (full or part-time); Wonkwnag University, Sanbon Medical Center. <b>I. Son:</b> A. Employment/Salary (full or part-time); Wonkwnag University, Sanbon Medical Center.		
470.05	<b>B. Kantor:</b> A. Employment/Salary (full or part-time); Viral Vector Core.		
470.14	<b>M. Langlois:</b> A. Employment/Salary (full or part-time); Abbvie, Boston Scientific, Allergan, Merz, Sunovion. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Abbvie, NINDS. <b>C.C. McIntyre:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding		



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471.24	<b>H.T. Zhao:</b> 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>H.B. Kordasiewicz:</b> 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.		consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Revasio Corp.	
472.05	<b>J. Sugam:</b> A. Employment/Salary (full or part-time); Merck and Co., Inc. <b>J. Wong:</b> A. Employment/Salary (full or part-time); Merck and Co., Inc. <b>S. Niroomand:</b> A. Employment/Salary (full or part-time); Merck and Co., Inc. <b>H. Zariwala:</b> A. Employment/Salary (full or part-time); Merck and Co., Inc. <b>D. Zhou:</b> A. Employment/Salary (full or part-time); Merck and Co., Inc. <b>R. Gentzel:</b> A. Employment/Salary (full or part-time); Merck and Co., Inc. <b>Y. Hu:</b> A. Employment/Salary (full or part-time); Merck and Co., Inc. <b>T. Rosahl:</b> A. Employment/Salary (full or part-time); Merck and Co., Inc. <b>S. Parmentier-Batteur:</b> A. Employment/Salary (full or part-time); Merck and Co., Inc.	477.03	<b>J. Chio:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Baxter/Shire.	
473.30	<b>Í. Szabó:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Gedeon Richter Plc. (H-1103 Budapest, Gyömrői út 19-21.).	477.20	<b>V.R. Edgerton:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroRecovery Technologies.	
474.04	<b>F. Zanella:</b> A. Employment/Salary (full or part-time); StemoniX. <b>I. Slavin:</b> A. Employment/Salary (full or part-time); Vertex. <b>S. Dea:</b> A. Employment/Salary (full or part-time); StemoniX. <b>C. Carromeu:</b> A. Employment/Salary (full or part-time); StemoniX.	478.03	<b>M.I. Ferdousi:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Inc., Science Foundation Ireland. <b>P. Calcagno:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Inc., Science Foundation Ireland. <b>M. Clarke:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Inc., Science Foundation Ireland. <b>S. Aggarwal:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Inc., Science Foundation Ireland. <b>C. Sanchez:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Inc., Science Foundation Ireland. <b>K. Smith:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Inc., Science Foundation Ireland. <b>M. Roche:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Inc., Science Foundation Ireland. <b>D.P. Finn:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Inc., Science Foundation Ireland.	
474.05	<b>P. McDonough:</b> A. Employment/Salary (full or part-time); Vala Sciences Inc. <b>R.C.B. Basa:</b> A. Employment/Salary (full or part-time); Vala Sciences Inc. <b>J.V. Karpiak:</b> A. Employment/Salary (full or part-time); Vala Sciences Inc. <b>J.H. Price:</b> A. Employment/Salary (full or part-time); Vala Sciences Inc.		478.08	<b>S.C. Cheetham:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; RenaSci is an organization providing 'fee for service' experimental services. <b>A. Needham:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; RenaSci is an organization providing 'fee for service' experimental services. <b>L. Jagger:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; RenaSci is an organization providing 'fee for service' experimental services.
474.06	<b>K.L. Gordon:</b> A. Employment/Salary (full or part-time); Vala Sciences, Inc. <b>R.C.B. Basa:</b> A. Employment/Salary (full or part-time); Vala Sciences, Inc. <b>J.V. Karpiak:</b> A. Employment/Salary (full or part-time); Vala Sciences, Inc. <b>S. Feng:</b> A. Employment/Salary (full or part-time); Vala Sciences, Inc. <b>S. Ankam:</b> A. Employment/Salary (full or part-time); Vala Sciences, Inc. <b>B. Azimi:</b> A. Employment/Salary (full or part-time); Vala Sciences, Inc. <b>R. Ingermanson:</b> A. Employment/Salary (full or part-time); Vala Sciences, Inc. <b>J. Hilton:</b> A. Employment/Salary (full or part-time); Vala Sciences, Inc. <b>J. Price:</b> A. Employment/Salary (full or part-time); Vala Sciences, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vala Sciences, Inc. <b>P. McDonough:</b> A. Employment/Salary (full or part-time); Vala Sciences, Inc. <b>D. Rines:</b> A. Employment/Salary (full or part-time); Vala Sciences, Inc.			
474.11	<b>S.L. Wagner:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurogenetic Pharmaceuticals. <b>R.E. Tanzi:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurogenetic Pharmaceuticals.			
474.18	<b>M.L. Hendrickson:</b> A. Employment/Salary (full or part-time); BrainXell, Inc. <b>Z. Du:</b> A. Employment/Salary (full or part-time); BrainXell, Inc.			
474.22	<b>J. Vukasinovic:</b> A. Employment/Salary (full or part-time); Lena Biosciences, Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); BrainXell. <b>J.T. Shoemaker:</b> A. Employment/Salary (full or part-time); Lena Biosciences, Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); BrainXell.			
475.06	<b>M. Shamloo:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); BioTime Inc.			
475.10	<b>D.J. Cook:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or			

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478.09	<b>L. VanderVeen:</b> A. Employment/Salary (full or part-time); Nektar Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nektar Therapeutics. <b>T. Miyazaki:</b> A. Employment/Salary (full or part-time); Nektar Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nektar Therapeutics. <b>S.K. Doberstein:</b> A. Employment/Salary (full or part-time); Nektar Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nektar Therapeutics. <b>J. Zalevsky:</b> A. Employment/Salary (full or part-time); Nektar Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Nektar Therapeutics.		
479.09	<b>T.L. Yaksh:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 with Kalyra Pharmaceuticals. <b>K.D. Bunker:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Kalyra collaborated on a research project with UCSD and provided funding.		
480.13	<b>S.A. Hires:</b> A. Employment/Salary (full or part-time); University of Southern California, Department of Biological Sciences, Neuroscience.		
481.21	<b>A. Ray:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorygen Inc, Founder & President.		
482.02	<b>B.E. Jacques:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy, Inc. <b>N. Tsivkovskaia:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy, Inc. <b>R. Fernandez:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy, Inc. <b>X. Wang:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy, Inc. <b>A. Jones:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy, Inc. <b>T. Altmann:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy, Inc. <b>J. Hou:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy, Inc. <b>F. Piu:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy, Inc.		
482.12	<b>S. Szobota:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy, Inc. <b>P.D. Mathur:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy,		
			<b>Inc. S. Siegel:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy, Inc. <b>H. Saragovi:</b> F. Consulting Fees (e.g., advisory boards); Otonomy, Inc. <b>A.C. Foster:</b> A. Employment/Salary (full or part-time); Otonomy, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Otonomy, Inc.
		482.15	<b>J. Dyhrfeld-Johnsen:</b> A. Employment/Salary (full or part-time); Sensorion. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorion. <b>M. Petremann:</b> A. Employment/Salary (full or part-time); Sensorion. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorion. <b>C. Romanet:</b> A. Employment/Salary (full or part-time); Sensorion. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorion. <b>C. Tran Van Ba:</b> A. Employment/Salary (full or part-time); Sensorion. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorion. <b>P. Liaudet:</b> A. Employment/Salary (full or part-time); Sensorion. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorion. <b>V. Descosy:</b> A. Employment/Salary (full or part-time); Sensorion. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sensorion.
		492.03	<b>S. Choudhury:</b> A. Employment/Salary (full or part-time); Institute of Neuroscience Kolkata. <b>R. Singh:</b> A. Employment/Salary (full or part-time); Institute of Neuroscience Kolkata. <b>A. Shobhana:</b> A. Employment/Salary (full or part-time); Institute of Neuroscience Kolkata. <b>D. Sen:</b> A. Employment/Salary (full or part-time); Institute of Neuroscience Kolkata. <b>S.S. Anand:</b> A. Employment/Salary (full or part-time); Institute of Neuroscience Kolkata. <b>S. Shubham:</b> A. Employment/Salary (full or part-time); Institute of Neuroscience Kolkata. <b>M.R. Baker:</b> A. Employment/Salary (full or part-time); Institute of Neurosciences, Newcastle, United Kingdom. <b>H. Kumar:</b> A. Employment/Salary (full or part-time); Institute of Neuroscience Kolkata. <b>S.N. Baker:</b> A. Employment/Salary (full or part-time); Institute of Neurosciences, Newcastle, United Kingdom.
		492.05	<b>J.L. Alberts:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent holder.
		493.12	<b>K. Shenoy:</b> F. Consulting Fees (e.g., advisory boards); Neurolink.
		493.15	<b>K.V. Shenoy:</b> 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. and Heal Inc. These entities did not support this work.
		497.08	<b>F.S. Guimaraes:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); F.S.G. is a co-inventor of the patent "Fluorinated CBD compounds, compositions and uses thereof". Pub. No.: WO/2014/108899. International Application No.: PCT/IL2014/050023.
		499.07	<b>A.A. Grace:</b> F. Consulting Fees (e.g., advisory boards); AAG has received funds from Lundbeck, Pfizer, Otsuka, Lilly, Roche, Asubio, Abbott, Autofony, Janssen, Alkermes, Newron, and Takeda.
		499.09	<b>K.G. Bath:</b> F. Consulting Fees (e.g., advisory boards); Prothera Biologics.

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499.10	<b>M.E. Gallo:</b> A. Employment/Salary (full or part-time); Brown University. <b>K.G.G. Gallo:</b> A. Employment/Salary (full or part-time); Brown University. <b>F. Consulting Fees</b> (e.g., advisory boards); Prothera Biologics.	517.06	<b>M. Didier:</b> A. Employment/Salary (full or part-time); Sanofi.
500.07	<b>V. Nold:</b> A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. <b>N. Denoix:</b> A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. <b>B. Hengerer:</b> A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma. <b>K.A. Allers:</b> A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma.	517.09	<b>M. Ghazemzadeh:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AviMed Pharmaceuticals, LLC. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AviMed Pharmaceuticals, LLC.
500.18	<b>K.G. Bath:</b> F. Consulting Fees (e.g., advisory boards); Prothera Biologics.	517.19	<b>H.Y. Meltzer:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Allergan, Sunovion, Acadia,.
503.05	<b>M.J. Schnitzer:</b> Other; MJS is a scientific co-founder of and consults for Inscopix Inc., which makes the miniature microscope used in this work.	518.10	<b>K.M. Gamber:</b> A. Employment/Salary (full or part-time); Canopy Biosciences. <b>R. Delston:</b> A. Employment/Salary (full or part-time); Canopy Biosciences. <b>E. Weinstein:</b> A. Employment/Salary (full or part-time); Canopy Biosciences.
509.14	<b>S. Power:</b> Other; School of Biochemistry and Immunology Trinity College Dublin, Trinity College Institute of Neuroscience.	518.13	<b>H. Kwon:</b> A. Employment/Salary (full or part-time); Max Planck FL Institute.
512.02	<b>S. Yanai:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Otsuka Pharmaceutical Co., Ltd. <b>T. Arasaki:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Otsuka Pharmaceutical Co., Ltd. <b>S. Endo:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Otsuka Pharmaceutical Co., Ltd.	518.16	<b>Z. Liu:</b> A. Employment/Salary (full or part-time); Horizon Discovery. <b>G. Zhao:</b> A. Employment/Salary (full or part-time); Horizon Discovery. <b>A. Brown:</b> A. Employment/Salary (full or part-time); Horizon Discovery. <b>K. Forbes:</b> A. Employment/Salary (full or part-time); Horizon Discovery.
512.07	<b>K. Yasuda:</b> A. Employment/Salary (full or part-time); euglena Co., Ltd. <b>A. Nakashima:</b> A. Employment/Salary (full or part-time); euglena Co., Ltd. <b>S. Kengo:</b> A. Employment/Salary (full or part-time); euglena Co., Ltd.	519.02	<b>J.M. Kornhauser:</b> A. Employment/Salary (full or part-time); Cell Signaling Technology. <b>B. Zhang:</b> A. Employment/Salary (full or part-time); Cell Signaling Technology. <b>E. Skrzypek:</b> A. Employment/Salary (full or part-time); Cell Signaling Technology. <b>B. Murray:</b> A. Employment/Salary (full or part-time); Cell Signaling Technology. <b>V. Latham:</b> A. Employment/Salary (full or part-time); Cell Signaling Technology. <b>V. Nandhikonda:</b> A. Employment/Salary (full or part-time); Cell Signaling Technology. <b>P.V. Hornbeck:</b> A. Employment/Salary (full or part-time); Cell Signaling Technology. <b>F. Gnad:</b> A. Employment/Salary (full or part-time); Cell Signaling Technology.
513.02	<b>S.J. Smith:</b> A. Employment/Salary (full or part-time); Advanced Brain Monitoring. <b>B. Stone:</b> A. Employment/Salary (full or part-time); ADVANCED BRAIN MONITORING. <b>A. Meghdadi:</b> A. Employment/Salary (full or part-time); ADVANCED BRAIN MONITORING. <b>A. Spurgin:</b> A. Employment/Salary (full or part-time); University of Iowa. <b>T. Brown:</b> A. Employment/Salary (full or part-time); University of Iowa. <b>C. Berka:</b> A. Employment/Salary (full or part-time); ADVANCED BRAIN MONITORING.	520.08	<b>A.R. McKinstry-Wu:</b> A. Employment/Salary (full or part-time); University of Pennsylvania.
513.05	<b>K. Marinkovic:</b> A. Employment/Salary (full or part-time); San Diego State University.	520.09	<b>G. Bonmassar:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; National Institutes of Health (R01MH111875).
513.22	<b>M.S. Keshavan:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Sunovion, GlaxoSmithKline. <b>C.A. Tamminga:</b> F. Consulting Fees (e.g., advisory boards); Intra-Cellular Therapies, Inc. Other; Eli Lilly, Pfizer, American Psychiatric Association, National Academy of Medicine, Sunovion, Merck, Autifony, Astellas, National Alliance on Mental Illness, The Brain and Behavior Foundation.	520.13	<b>A. Jannati:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NSERC PDF 454617, CIHR 41791. <b>P.J. Fried:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 R21 NS082970, NIH R21 AG051846. <b>A. Pascual-Leone:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 MH100186, NIH R01 HD069776, NIH R01 NS073601, NIH R21 MH099196, NIH R21 NS085491, NIH R21 HD07616, NIH UL1 RR025758, Sidney R. Baer Jr. Foundation, Harvard Catalyst   The Harvard Clinical and Translational Science Center. <b>M.M. Shafi:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 R21 NS082870, NIH R01 NS073601, Broad Institute at MIT and Harvard,, Citizens United for Research in Epilepsy.
515.16	<b>A. Pascual-Leone:</b> Other; Scientific Advisory Board, Starlab Neuroscience, Neurolectrics, Cognito, Constant Therapy, Neosync.	520.20	<b>G.R. Souza:</b> A. Employment/Salary (full or part-time); full. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt
516.19	<b>S. Weech:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Oculus. <b>M. Barnett-Cowan:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Oculus Research.		
516.20	<b>O. Clafilin:</b> A. Employment/Salary (full or part-time); Lumos Labs. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Lumos Labs. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Lumos Labs. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lumos Labs. F. Consulting Fees (e.g., advisory boards); Lumos Labs.		
516.29	<b>M. El Zein:</b> A. Employment/Salary (full or part-time); Wellcome Trust.		

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	of intellectual property rights/patent holder, excluding diversified mutual funds); stock, stock option, royalty. <b>W. Haisler:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock option.		consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mead Johnson Nutrition/Reckitt Benckiser Group.
523.08	<b>N. Maling:</b> A. Employment/Salary (full or part-time); Boston Scientific Neuromodulation. <b>H.S. Mayberg:</b> F. Consulting Fees (e.g., advisory boards); Abbott Neuromodulation. <b>C.C. McIntyre:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Surgical Information Sciences. F. Consulting Fees (e.g., advisory boards); Boston Scientific Neuromodulation, Kernel.	533.05	<b>T. Biederer:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mead Johnson Nutrition.
523.12	<b>E. Brown:</b> D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Masimo. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Masimo.	536	<b>B.L. Roth:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-Founder Epiodyne. F. Consulting Fees (e.g., advisory boards); Biogen Scientific Advisory Board.
524.01	<b>M.I.W. Grivich:</b> A. Employment/Salary (full or part-time); Neurobehavioral Systems, Inc. <b>P.A.W. Pebler:</b> A. Employment/Salary (full or part-time); Neurobehavioral Systems, Inc. <b>D.L. Woods:</b> A. Employment/Salary (full or part-time); Matthew I. Grivich, Neurobehavioral Systems, Inc.	537.05	<b>A. Lippa:</b> A. Employment/Salary (full or part-time); RespireRX Pharmaceuticals Inc. <b>R. Purcell:</b> A. Employment/Salary (full or part-time); RespireRx Pharmaceuticals Inc.
524.11	<b>N. Kuster:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ZMT Zurich MedTech AG. <b>E. Neufeld:</b> A. Employment/Salary (full or part-time); ZMT Zurich MedTech AG. <b>N. Chavannes:</b> A. Employment/Salary (full or part-time); ZMT Zurich MedTech AG. <b>B. Lloyd:</b> A. Employment/Salary (full or part-time); ZMT Zurich MedTech AG.	540.03	<b>J. Johansson:</b> A. Employment/Salary (full or part-time); Artery Therapeutics, Inc. <b>J.K. Bielicki:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder, minor ownership. <b>D.M. Michaelson:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); minor shareholder.
524.12	<b>J. Hua:</b> Other; Inst. of Automation, Chinese Academy of Sciences.	542.05	<b>A.S.B. Edge:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Decibel Therapeutics.
525.05	<b>F. Rothganger:</b> A. Employment/Salary (full or part-time); Sandia National Labs.	547.07	<b>P. Sullivan:</b> D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Nestec, Danone.
526.04	<b>M.A. Erdogdu:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Vector Institute. <b>M.J. Schnitzer:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Howard Hughes Medical Institute. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inscopix.	548.05	<b>V.E. Cotero:</b> A. Employment/Salary (full or part-time); General Electric-Global Research. <b>C. Puleo:</b> A. Employment/Salary (full or part-time); General Electric-Global Research. <b>Y. Fan:</b> A. Employment/Salary (full or part-time); General Electric-Global Research. <b>S. Kaanumalle:</b> A. Employment/Salary (full or part-time); General Electric-Global Research. <b>J. Roberts:</b> A. Employment/Salary (full or part-time); General Electric-Global Research. <b>J. Ashe:</b> A. Employment/Salary (full or part-time); General Electric-Global Research.
526.05	<b>K.D. Micheva:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aratome, LLC. <b>S.J. Smith:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aratome, LLC.	548.07	<b>H. Wong:</b> A. Employment/Salary (full or part-time); Biopico Systems Inc. <b>P. Schwartz:</b> A. Employment/Salary (full or part-time); children's hospital of orange county. <b>J. Collins:</b> A. Employment/Salary (full or part-time); Biopico Systems Inc, Children's Hospital of Orange County.
527.03	<b>L.A. Guercio:</b> A. Employment/Salary (full or part-time); Blackfynn Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Blackfynn Inc. <b>M. Hollenbeck:</b> A. Employment/Salary (full or part-time); Blackfynn Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Blackfynn Inc. <b>J.B. Wagenaar:</b> A. Employment/Salary (full or part-time); Blackfynn Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Blackfynn Inc.	549.04	<b>Q. Zhong:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Applied for patent on nanoparticles for ultrasonic drug uncaging. <b>R.D. Airan:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Applied for patent on nanoparticles for ultrasonic drug uncaging.
530.04	<b>E.M. Hillman:</b> 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.	551.09	<b>B. Dungar:</b> A. Employment/Salary (full or part-time); BrainXell, Inc. <b>Z. Du:</b> A. Employment/Salary (full or part-time); BrainXell, Inc.
533	<b>T. Biederer:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or	556.05	<b>R. Raghav:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Financially supported by Indian Council of Medical Research, Govt. of India. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Nalbuphine drug was gifted by RUSAN PHARMA Ltd. <b>R. Jain:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Financially supported by Indian Council of Medical Research, Govt. of India. C. Other Research Support

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	(receipt of drugs, supplies, equipment or other in-kind support); Nalbuphine drug was gifted by RUSAN PHARMA Ltd.	560.28	<b>B.F. O'Hara:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Signal Solutions LLC.
556.08	<b>S.J. Smith:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aratome, LLC.	560.31	<b>J. Kanerva:</b> A. Employment/Salary (full or part-time); Janssen Research & Development. <b>Y. Chen:</b> A. Employment/Salary (full or part-time); Janssen Research & Development. <b>C. Carromeu:</b> A. Employment/Salary (full or part-time); Stemonix, Inc. <b>O. Guicherit:</b> A. Employment/Salary (full or part-time); Stemonix, Inc. <b>J. McDuffie:</b> A. Employment/Salary (full or part-time); Janssen Research & Development.
556.10	<b>T.N. Ferraro:</b> A. Employment/Salary (full or part-time); Cooper Medical School of Rowan University. <b>E.I. Dedkov:</b> A. Employment/Salary (full or part-time); Cooper Medical School of Rowan University. <b>R.J. Buono:</b> A. Employment/Salary (full or part-time); Cooper Medical School of Rowan University.	561.03	<b>S.S. Saile:</b> A. Employment/Salary (full or part-time); Arbaminch University, Ethiopia. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Addis Ababa University, Ethiopia. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); University of Cape Town, South Africa. <b>J.V. Raimondo:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); University of Cape Town, South Africa. <b>T.A. Orjino:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Addis Ababa University, Ethiopia.
556.14	<b>A.L. Halberstadt:</b> A. Employment/Salary (full or part-time); UCSD, Veteran's Administration. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIDA. <b>S.D. Brandt:</b> A. Employment/Salary (full or part-time); Liverpool John Moores University. <b>W. Donna:</b> A. Employment/Salary (full or part-time); NIDA. <b>M.H. Baumann:</b> A. Employment/Salary (full or part-time); NIDA.	561.19	<b>S.C. Baraban:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); S.C.B is a co-founder, scientific advisor and shareholder of EpyGenix Therapeutics.
557.01	<b>R.H. Hagan:</b> A. Employment/Salary (full or part-time); Janssen R&D. <b>J. Schoellerman:</b> A. Employment/Salary (full or part-time); Janssen R&D. <b>Y. Liu:</b> A. Employment/Salary (full or part-time); Janssen R&D.	562.10	<b>N.A. Hagan:</b> A. Employment/Salary (full or part-time); Sanofi. <b>L. Woodworth:</b> A. Employment/Salary (full or part-time); Sanofi. <b>A. Mahan:</b> A. Employment/Salary (full or part-time); Sanofi. <b>M. Zelic:</b> A. Employment/Salary (full or part-time); Sanofi. <b>D. Ofengeim:</b> A. Employment/Salary (full or part-time); Sanofi.
558.14	<b>P. Mullen:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Pharmacological compounds and support from Autifony Therapeutics Ltd. <b>N. Pilati:</b> A. Employment/Salary (full or part-time); Senior electrophysiologist at Autifony Therapeutics Ltd. <b>C.H. Large:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CEO Autifony Therapeutics Ltd.	563.05	<b>S. Tomlinson:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder.
560.17	<b>A. Viader:</b> A. Employment/Salary (full or part-time); Abide Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Abide Therapeutics. <b>J.L. Blankman:</b> A. Employment/Salary (full or part-time); Abide Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Abide Therapeutics. <b>A.R. Coppola:</b> A. Employment/Salary (full or part-time); Abide Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Abide Therapeutics. <b>R.A. Herbst:</b> A. Employment/Salary (full or part-time); Abide Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Abide Therapeutics. <b>A. Knize:</b> A. Employment/Salary (full or part-time); Abide Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Abide Therapeutics. <b>J.S. Warburg:</b> A. Employment/Salary (full or part-time); Abide Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Abide Therapeutics. <b>C. Grice:</b> A. Employment/Salary (full or part-time); Abide Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Abide Therapeutics. <b>G. O'Neil:</b> A. Employment/Salary (full or part-time); Abide Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Abide Therapeutics. <b>A. Ezekowitz:</b> A. Employment/Salary (full or part-time); Abide Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Abide Therapeutics. <b>J.R. Clapper:</b> A. Employment/Salary (full or part-time); Abide Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Abide Therapeutics.	563.09	<b>C.Y. Wu:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; SCI and LSU.
		563.16	<b>S. Kannan:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Opheris. <b>R.M. Kannan:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Opheris. <b>A. Fatemi:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder.
		563.25	<b>J.M. Bonato:</b> A. Employment/Salary (full or part-time); Capes. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; SFN-IBRO award.
		566.02	<b>B.D. Stemper:</b> A. Employment/Salary (full or part-time); Medical College of Wisconsin, Zablocki VA Medical Center.
		566.05	<b>J. Ashley:</b> A. Employment/Salary (full or part-time); Centre for Neuro Skills. <b>M.J. Ashley:</b> A. Employment/Salary (full or part-time); Centre for Neuro Skills. <b>C.K. Singh:</b> A. Employment/Salary (full or part-time); Centre for Neuro Skills. <b>M. Ashley:</b> A. Employment/Salary (full or part-time); Centre for Neuro Skills. <b>G.S. Griesbach:</b> A. Employment/Salary (full or part-time); Centre for Neuro Skills.
		566.13	<b>B.E. Kosofsky:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); b2d2.

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566.17	<b>S. Scarneo:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Brainscope Company, Inc. contracted from US Army Medical and Material Command. <b>K. Coleman:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Brainscope Company, Inc. contracted from US Army Medical and Material Command. <b>D.J. Casa:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Brainscope Company, Inc. contracted from US Army Medical and Material Command.	571.05	<b>P. Rauhala:</b> A. Employment/Salary (full or part-time); part-time medical advisor for Orion Pharma during the experiments.
567.05	<b>N.G. Simon:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Simon holds equity in Azevan Pharmaceuticals, Inc. F. Consulting Fees (e.g., advisory boards); Paid consultant to Azevan Pharmaceuticals, Inc. <b>S. Lu:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Lu holds equity in Azevan Pharmaceuticals, Inc. <b>C.F. Ferris:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ferris holds equity in Azevan Pharmaceuticals, Inc.	571.06	<b>A. Zanon:</b> A. Employment/Salary (full or part-time); Andrea Zanon. <b>Y. Darbaky:</b> A. Employment/Salary (full or part-time); Yassine Darbaky. <b>L. Diop:</b> A. Employment/Salary (full or part-time); Laurent Diop.
567.08	<b>W.M. Armstead:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); funded by Mallinckrodt Pharmaceuticals.	571.08	<b>S. Koyama:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>Y. Ohtsuka:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>M. Wakabayashi:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>Y. Endo:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>H. Arai:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>S. Mihara:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>T. Komatsu:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>M. Michishita:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>N. Shinotsuka:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>T. Tabata:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>K. Fukano:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>M. Tanaka:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>A. Kageyama:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>T. Shirai:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>K. Yamamoto:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>K. Kawasaki:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation. <b>S. Yoshikawa:</b> A. Employment/Salary (full or part-time); Asahi Kasei Pharma Corporation.
567.14	<b>A. Chamanzar:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent holder: Carnegie Mellon University. <b>S. George:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent holder: Carnegie Mellon University. <b>A. Menon:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); patent holder: Carnegie Mellon University. <b>P. Grover:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Chuck Noll grant.	571.09	<b>S. Kang:</b> A. Employment/Salary (full or part-time); full-time. <b>M. Park:</b> A. Employment/Salary (full or part-time); full-time. <b>J. Son:</b> A. Employment/Salary (full or part-time); full-time. <b>J. Ju:</b> A. Employment/Salary (full or part-time); full-time. <b>M. Lee:</b> A. Employment/Salary (full or part-time); full-time.
567.15	<b>G. Chen:</b> Other; Gong Chen is a co-founder of NeuExcell Therapeutics inc.	571.10	<b>N. Upton:</b> A. Employment/Salary (full or part-time); Transpharmation Ltd.,. <b>A.S. Fisher:</b> A. Employment/Salary (full or part-time); Transpharmation Ltd.,. <b>C. Taylor:</b> A. Employment/Salary (full or part-time); Transpharmation Ltd.,. <b>K. Gibson:</b> A. Employment/Salary (full or part-time); Calchan. <b>Z. Ali:</b> A. Employment/Salary (full or part-time); Calchan.
569.04	<b>T.C. Chen:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeOnc Technologies.	571.14	<b>A. Vuyyuru:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>V. Goura:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>R. Kallepalli:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>P. Jayarajan:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>R. Abraham:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>R. Nirogi:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd.
570.03	<b>G. Van Zwieten:</b> A. Employment/Salary (full or part-time); Maastricht University Medical Center.	572.05	<b>S. Lardell:</b> A. Employment/Salary (full or part-time); Cellectricon AB. <b>P. Karila:</b> A. Employment/Salary (full or part-time); Cellectricon AB.
570.07	<b>R. Vega:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent. <b>E. Soto:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent.	572.12	<b>N. Demchenko:</b> A. Employment/Salary (full or part-time); Orion Corporation. <b>K. Okuse:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Orion Corporation.
571.04	<b>N. Murai:</b> A. Employment/Salary (full or part-time); Astellas Pharma Inc. <b>H. Hiyama:</b> A. Employment/Salary (full or part-time); Astellas Pharma Inc. <b>T. Kiso:</b> A. Employment/Salary (full or part-time); Astellas Pharma Inc. <b>T. Sekizawa:</b> A. Employment/Salary (full or part-time); Astellas Pharma Inc. <b>T. Watabiki:</b> A. Employment/Salary (full or part-time); Astellas Pharma Inc. <b>H. Oka:</b> A. Employment/Salary (full or part-time); Astellas Pharma Inc. <b>T. Aoki:</b> A. Employment/Salary (full or part-time); Astellas Pharma Inc.	581.12	<b>H. Lee:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Johns Hopkins University.
		583.01	<b>M.L. Homa:</b> A. Employment/Salary (full or part-time); University Lille.
		583.22	<b>J.B. Thentu:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>K. Bandaru:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>G. Bhyrapuneni:</b> A. Employment/Salary (full or part-

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
	time); Suven Life Sciences Ltd. <b>R. Dyavarashetty:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>A. Mohammed:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>R. Aleti:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>N. Padala:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>D. Ajjala:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>R. Nirogi:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd.	595.18	<b>P.W.J. Burnet:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Clasado Biosciences Ltd.
585.15	<b>H. Akkad:</b> A. Employment/Salary (full or part-time); Wellcome Centre for Integrative Neuroimaging, FMRIB, Nuffield Department of Clinical Neurosciences, University of Oxford.	596.19	<b>C.A. Zarate:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Listed as co-inventor on government owned patents for ketamine and metabolites in depression treatment, will share a percentage of any royalties received.
589.05	<b>D. McDonnall:</b> A. Employment/Salary (full or part-time); Ripple LLC. <b>I. Myers:</b> A. Employment/Salary (full or part-time); Ripple LLC. <b>B. Crofts:</b> A. Employment/Salary (full or part-time); Ripple LLC. <b>A.M. Wilder:</b> A. Employment/Salary (full or part-time); Ripple LLC. <b>S. Hiatt:</b> A. Employment/Salary (full or part-time); Ripple LLC.	597.10	<b>Y. Arima:</b> A. Employment/Salary (full or part-time); Shimane university. <b>S. Yokota:</b> A. Employment/Salary (full or part-time); Shimane University. <b>M. Fujitani:</b> A. Employment/Salary (full or part-time); Shimane university.
589.09	<b>J. Pawliszyn:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Owner of the intellectual rights (IP) of SPME technology.	598.06	<b>R. Presby:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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. <b>R.A. Rotolo:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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. <b>J. Yang:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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. <b>M. Correa:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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. <b>J.D. Salamone:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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.
592.01	<b>J.B. Rowe:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AZ-Medimmune.	598.07	<b>S.R. Lockery:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NemaMetrix, Inc.
592.19	<b>K. Stumpo:</b> A. Employment/Salary (full or part-time); University of Scranton.	600.06	<b>E. Jerlhag:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Novo Nordisk Foundation.
593.21	<b>C.A. Colton:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Mouse models of disease co-patented with Duke University.	601.04	<b>J.C. Jiménez:</b> A. Employment/Salary (full or part-time); Universidad Nacional Autónoma de México.
594.04	<b>Y.A. Levine:</b> A. Employment/Salary (full or part-time); SetPoint Medical, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SetPoint Medical, Inc. <b>D. Chernoff:</b> A. Employment/Salary (full or part-time); SetPoint Medical, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); SetPoint Medical, Inc., Adamas Pharmaceuticals, OLLY Nutrition, NAIA Pharma, Aquinox Pharma. F. Consulting Fees (e.g., advisory boards); Adamas Pharmaceuticals, OLLY Nutrition, NAIA Pharma, Aquinox Pharma, Crescendo Bioscience.	602.08	<b>C.W. Kowalski:</b> A. Employment/Salary (full or part-time); Washington State University. <b>F.J. Shaffer:</b> A. Employment/Salary (full or part-time); Washington State University. <b>J.E.M. Lindberg:</b> A. Employment/Salary (full or part-time); Washington State University. <b>B. Peterson:</b> A. Employment/Salary (full or part-time); Washington State University. <b>J.H. Peters:</b> A. Employment/Salary (full or part-time); Washington State University.
594.23	<b>K.J. Tracey:</b> F. Consulting Fees (e.g., advisory boards); Consultant for SetPoint Medical.	604.10	<b>C.P. Koh:</b> A. Employment/Salary (full or part-time); School of Biological Sciences, Nanyang Technological University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AcRF Tier 2 (MOE2015-T2-2-035), Ministry of Education, Singapore. <b>L.F. Cobar Zelaya:</b> A. Employment/Salary (full or part-time); School of Biological Sciences, Nanyang Technological University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AcRF Tier 2 (MOE2015-T2-2-035), Ministry of Education, Singapore. <b>A. Tashiro:</b> A. Employment/Salary (full or part-time); School of Biological Sciences, Nanyang Technological University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator
594.24	<b>T. Liu:</b> A. Employment/Salary (full or part-time); Feinstein Institute for Medical Research.		
594.27	<b>J. Falcone:</b> A. Employment/Salary (full or part-time); Feinstein Institute for Medical Research. <b>T. Liu:</b> A. Employment/Salary (full or part-time); Feinstein Institute for Medical Research. <b>J. Wong:</b> A. Employment/Salary (full or part-time); Feinstein Institute for Medical Research. <b>M. Ochani:</b> A. Employment/Salary (full or part-time); Feinstein Institute for Medical Research. <b>D. Pogue:</b> A. Employment/Salary (full or part-time); Feinstein Institute for Medical Research. <b>R. Sharma:</b> A. Employment/Salary (full or part-time); University of Utah. <b>T. Levy:</b> A. Employment/Salary (full or part-time); Feinstein Institute for Medical Research. <b>T. Zanos:</b> A. Employment/Salary (full or part-time); Feinstein Institute for Medical Research. <b>T. Datta:</b> A. Employment/Salary (full or part-time); Feinstein Institute for Medical Research. <b>L. Rieth:</b> A. Employment/Salary (full or part-time); Feinstein Institute for Medical Research. <b>H. Sohal:</b> A. Employment/Salary (full or part-time); Feinstein Institute for Medical Research.		
595.08	<b>C.A. Lowry:</b> F. Consulting Fees (e.g., advisory boards); CAL serves on the Scientific Advisor Board of Immodulon Therapeutics, Ltd.		

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
	or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AcRF Tier 2 (MOE2015-T2-2-035), Ministry of Education, Singapore.		
605.03	<b>M. Weber:</b> A. Employment/Salary (full or part-time); Genentech Inc. <b>A. Easton:</b> A. Employment/Salary (full or part-time); Genentech Inc.		Salary (full or part-time); Suven Life Sciences Ltd. <b>S. Edula:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>S. Petlu:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>G. Bhyrapuneni:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>S. Gagginapally:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>A. Mohammed:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>S.M. Irappanavar:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>R. Nirogi:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd.
605.06	<b>M.J. Schnitzer:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MJS is a scientific co-founder of and consults for Inscopix Inc., which makes the miniature microscope used in this study.	610.22	<b>T. Hauling:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CartaNA AB. <b>X. Qian:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CartaNA AB. <b>J. Hjerling Leffler:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CartaNA AB. <b>M. Nilsson:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); CartaNA AB.
605.22	<b>M. Kilgard:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MicroTransponder Inc.	610.25	<b>A.M. Zador:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); owner and founder of MapNeuro.
606.17	<b>M.G. Stokes:</b> A. Employment/Salary (full or part-time); University of Oxford.	610.27	<b>J. Gingras:</b> A. Employment/Salary (full or part-time); Homology Medicines Inc. <b>K. Olivieri:</b> A. Employment/Salary (full or part-time); Homology Medicines. <b>N. Zapata:</b> A. Employment/Salary (full or part-time); Homology Medicines. <b>L. Smith:</b> A. Employment/Salary (full or part-time); Homology Medicines. <b>H. Rubin:</b> A. Employment/Salary (full or part-time); Homology Medicines. <b>P. Morales:</b> A. Employment/Salary (full or part-time); The Mannheimer Foundation, Inc. <b>J. Ellsworth:</b> A. Employment/Salary (full or part-time); Homology Medicines. <b>A. Seymour:</b> A. Employment/Salary (full or part-time); Homology Medicines.
606.21	<b>S. Meisenhelter:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NeuroPace, Inc. provided some equipment for this study. <b>B.C. Jobst:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NeuroPace, Inc. provided some equipment for this study.	611.02	<b>D. Pinke:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; ERC grant 682426, EFOP-3.6.3-VEKOP-16-2017-00009.
607.27	<b>A.K. Nair:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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 Clinical Trial (Site PI) for Avanir, Lilly, Genentech, Otsuka, Acadia, Axovant, Avid, Piramal, MNI, Allergan, Novartis, Pfizer, VTV.	611.03	<b>S.J. Smith:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aratome LLC.
608.10	<b>E. Lenze:</b> A. Employment/Salary (full or part-time); Washington University School of Medicine. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Takeda, Lundbeck. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NIMH, NIA, NCCIH, OBSSR, FDA, PCORI, MCKnight Brain Research Foundation, Taylor Family Institute for Innovative Psychiatric Research, Barnes Jewish Hospital Foundation. F. Consulting Fees (e.g., advisory boards); Aptinyx, Alkermes.	611.07	<b>K. Kilborn:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); K. Kilborn is part owner of 3i.
608.22	<b>W. Jagust:</b> F. Consulting Fees (e.g., advisory boards); Banner Alzheimer's Institute, Genentech, Novartis, Bioclinica, Merck.	611.20	<b>M.A. Staup:</b> A. Employment/Salary (full or part-time); Charles River Labs, Inc. <b>D. Brown:</b> A. Employment/Salary (full or part-time); Charles River Labs, Inc. <b>C. Johnson:</b> A. Employment/Salary (full or part-time); Charles River Labs, Inc.
609.06	<b>K. Borgmann-Winter:</b> A. Employment/Salary (full or part-time); University of Pennsylvania. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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. <b>M. Dsouza:</b> A. Employment/Salary (full or part-time); University of Pennsylvania. <b>S. Bandyopadhyay:</b> A. Employment/Salary (full or part-time); University of Pennsylvania. <b>M. Calkins:</b> A. Employment/Salary (full or part-time); University of Pennsylvania. <b>B. Turetsky:</b> A. Employment/Salary (full or part-time); University of Pennsylvania. <b>C. Hahn:</b> A. Employment/Salary (full or part-time); University of Pennsylvania. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending 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.	611.22	<b>L. Antanaviciute:</b> A. Employment/Salary (full or part-time); Bertin Corp. <b>S. Dubacq:</b> A. Employment/Salary (full or part-time); Bertin Technologies. <b>O. Varet:</b> A. Employment/Salary (full or part-time); Bertin Technologies.
609.13	<b>C.S. Weickert:</b> F. Consulting Fees (e.g., advisory boards); Lundbeck Australia PTY Ltd. Other; Astellas Pharma Inc. Japan.	611.24	<b>T. Murakami:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Olympus. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Tokyo Chemical Industry. <b>H. Ueda:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Olympus. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Tokyo Chemical Industry.
610.15	<b>R. Subramanian:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>V. Mekala:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>M. Srirangavaram:</b> A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. <b>N. Praveena:</b> A. Employment/	612.08	<b>V.J. Parot:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on Hadamard microscopy patent. <b>A.E. Cohen:</b> E. Ownership Interest



PRESENTATION NUMBER	STATEMENT
	(stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on Hadamard microscopy patent.
613.01	<b>J. Sanders:</b> A. Employment/Salary (full or part-time); Sanworks LLC.
613.16	<b>S. Frey:</b> A. Employment/Salary (full or part-time); Stephen Frey, Rogue Research Inc.

PRESENTATION NUMBER	STATEMENT
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# Hotel Floor Plans

## MANCHESTER GRAND HYATT

1 Market Pl  
San Diego, CA 92101

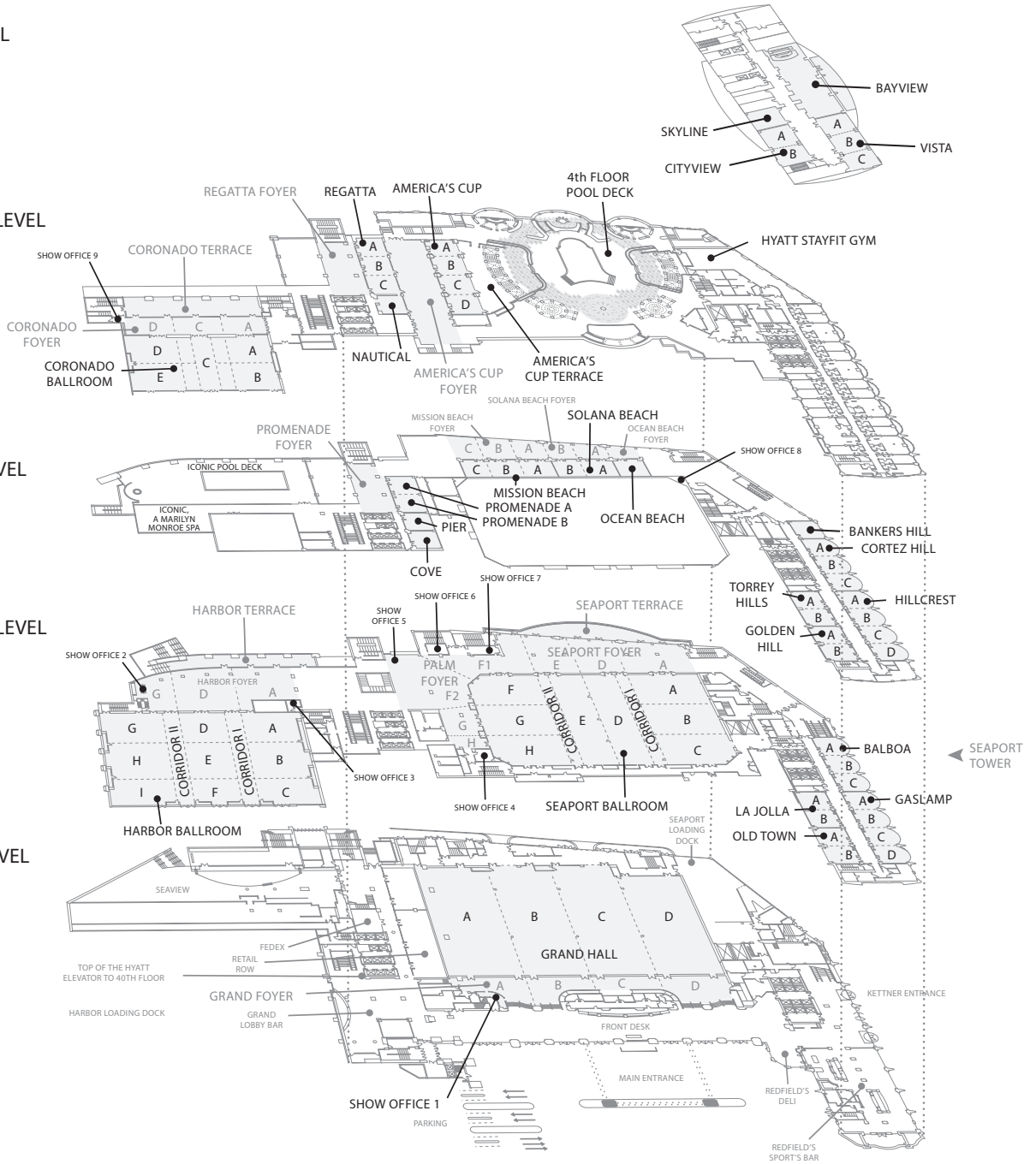
32<sup>ND</sup> LEVEL

FOURTH LEVEL

THIRD LEVEL

SECOND LEVEL

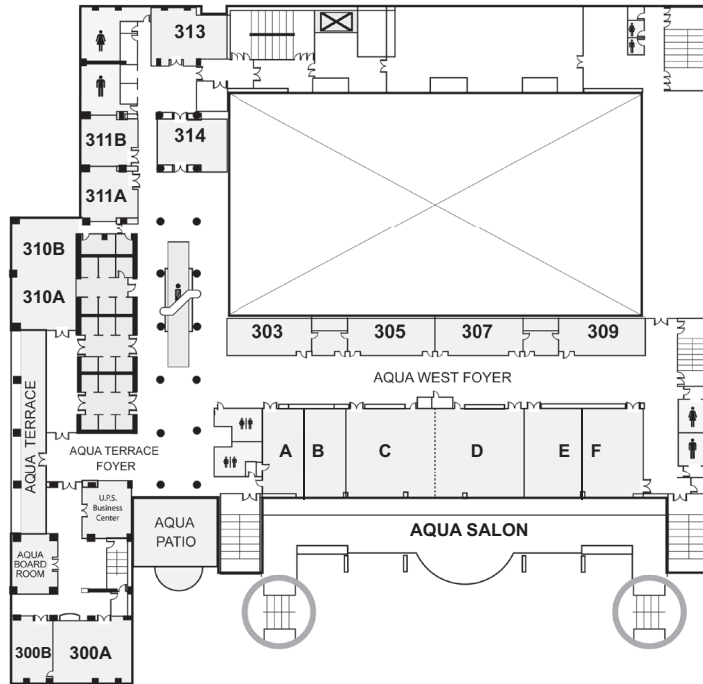
LOBBY LEVEL



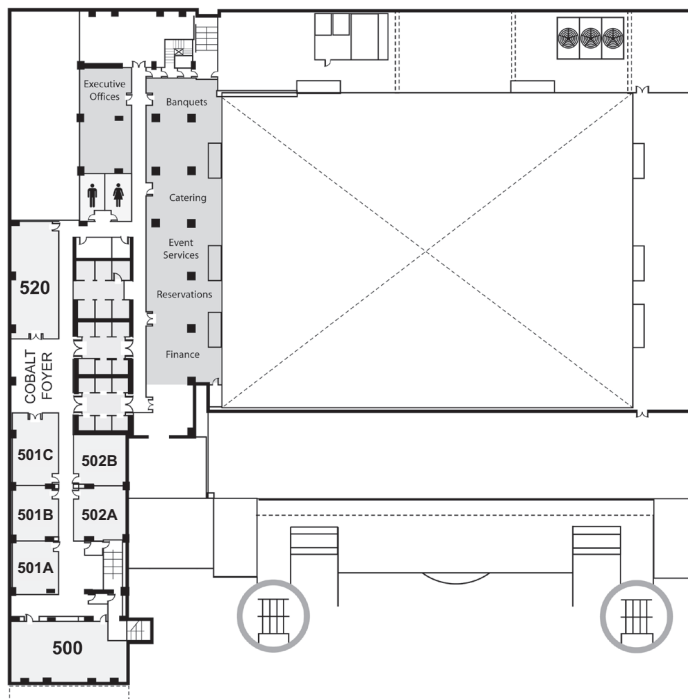
# HILTON SAN DIEGO BAYFRONT

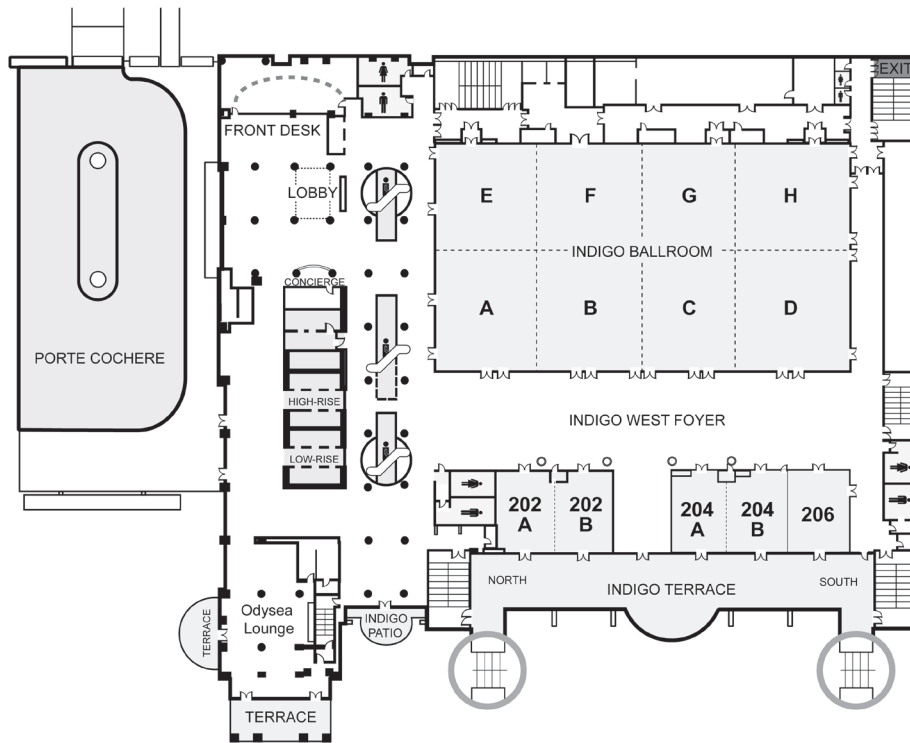
1 Park Blvd  
San Diego, CA 92101

## AQUA LEVEL

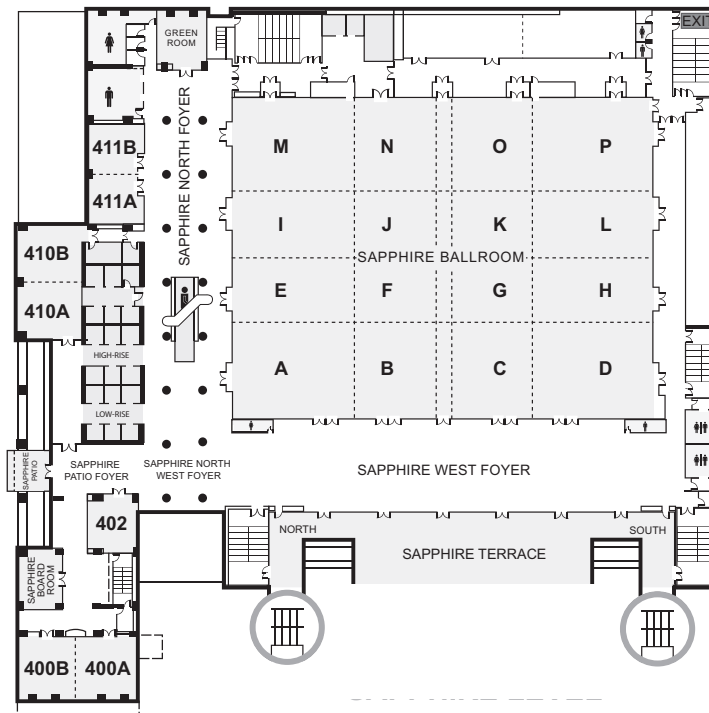


## COBALT LEVEL





**INDIGO LEVEL**

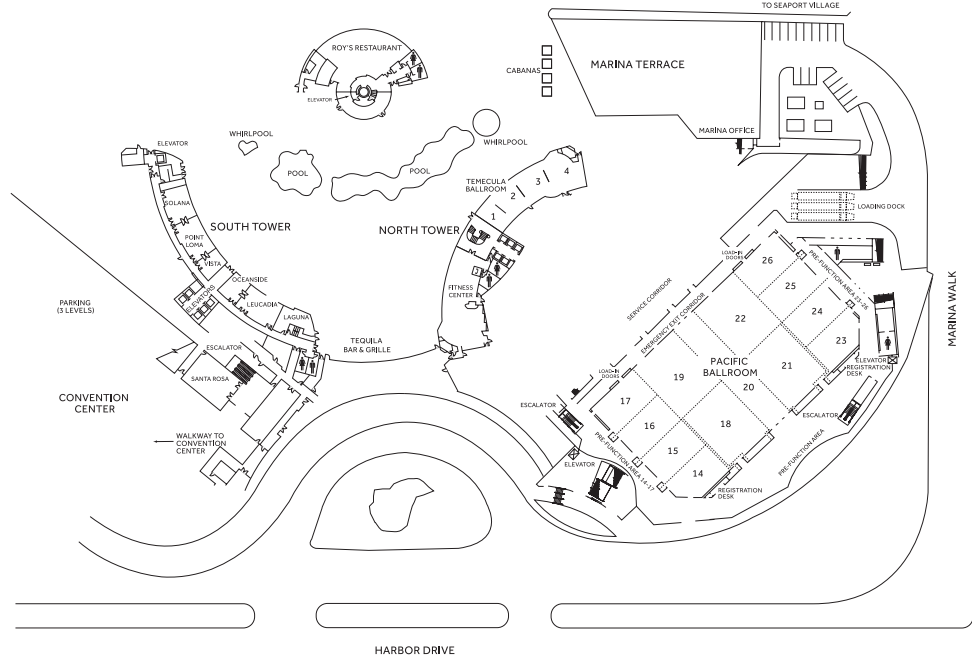


**SAPPHIRE LEVEL**

# MARRIOTT MARQUIS SAN DIEGO MARINA

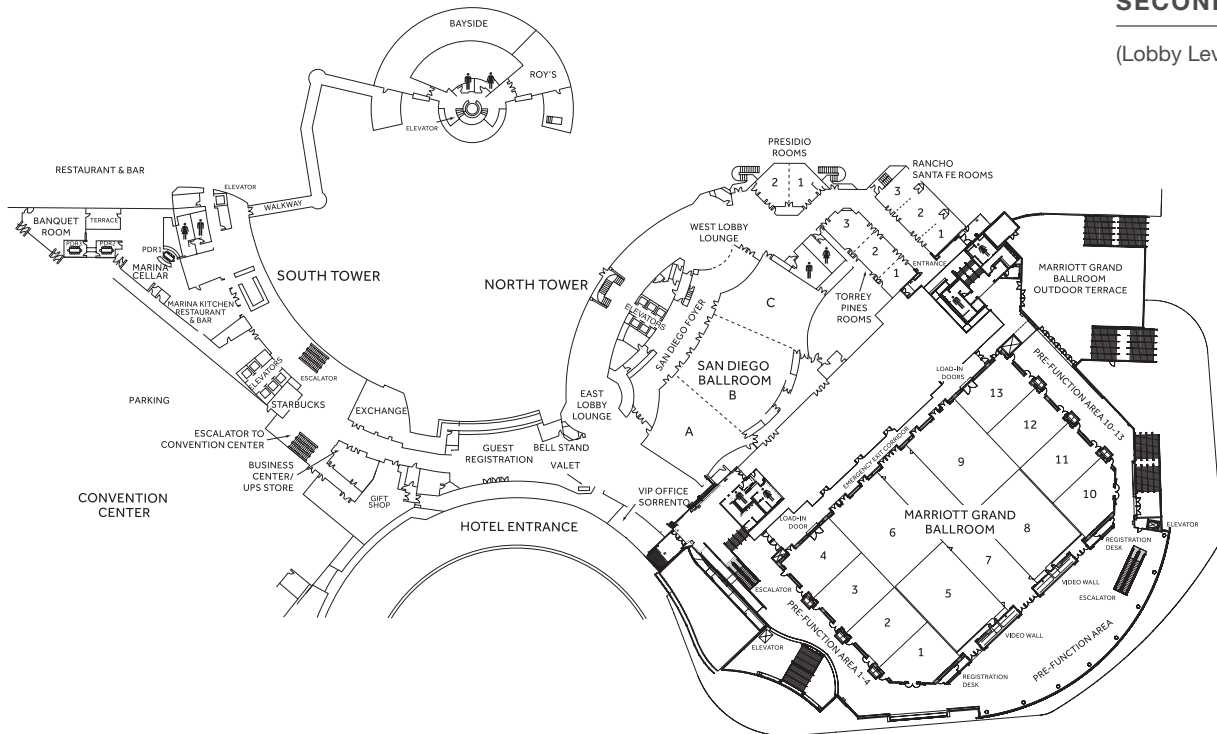
333 W Harbor Dr

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

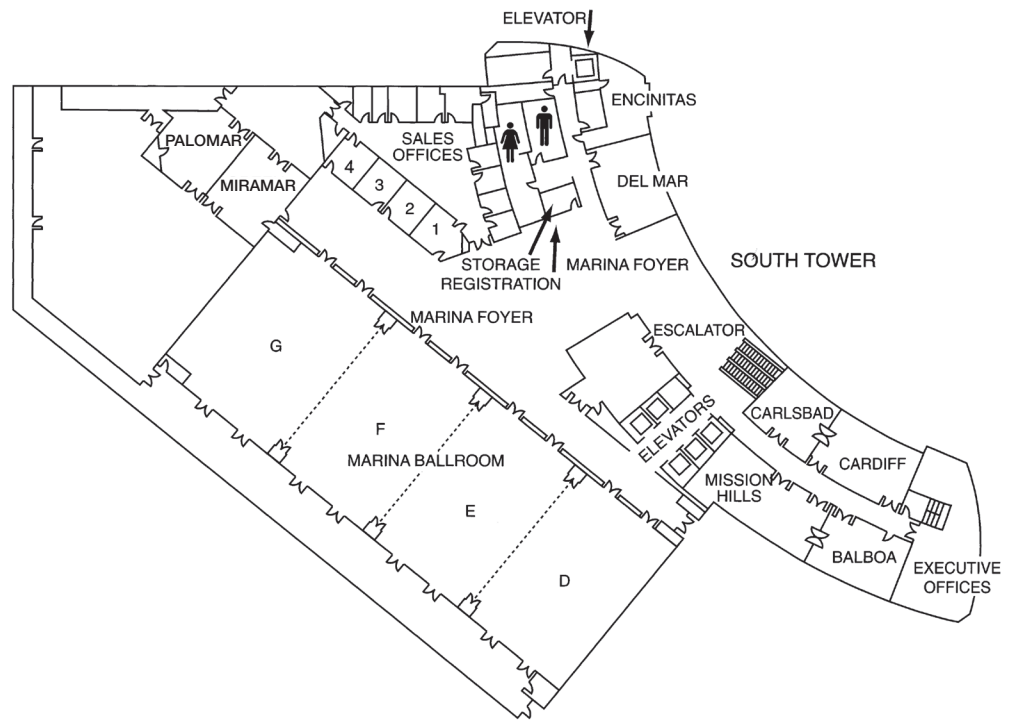
La Costa

La Jolla

La Mesa

Malibu

Newport Beach



## NORTH TOWER

### Lobby Level

Marriott Grand Ballroom 1-13

Presidio 1-2

Rancho Santa Fe 1-3

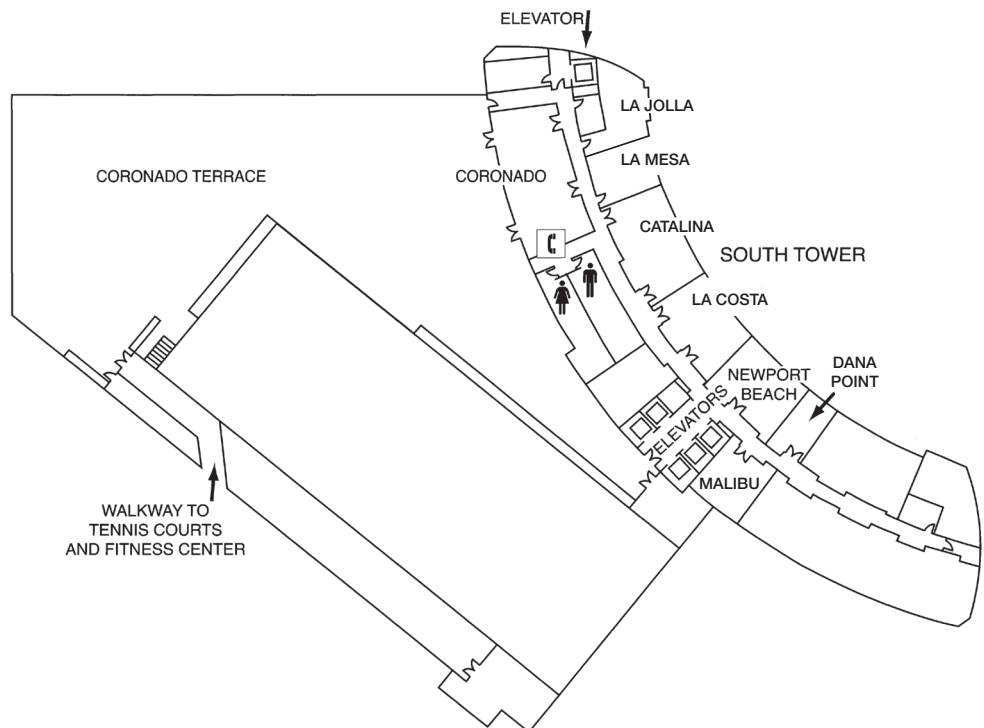
San Diego Ballrooms A-C

Torrey Pines 1-3

### 1st Floor

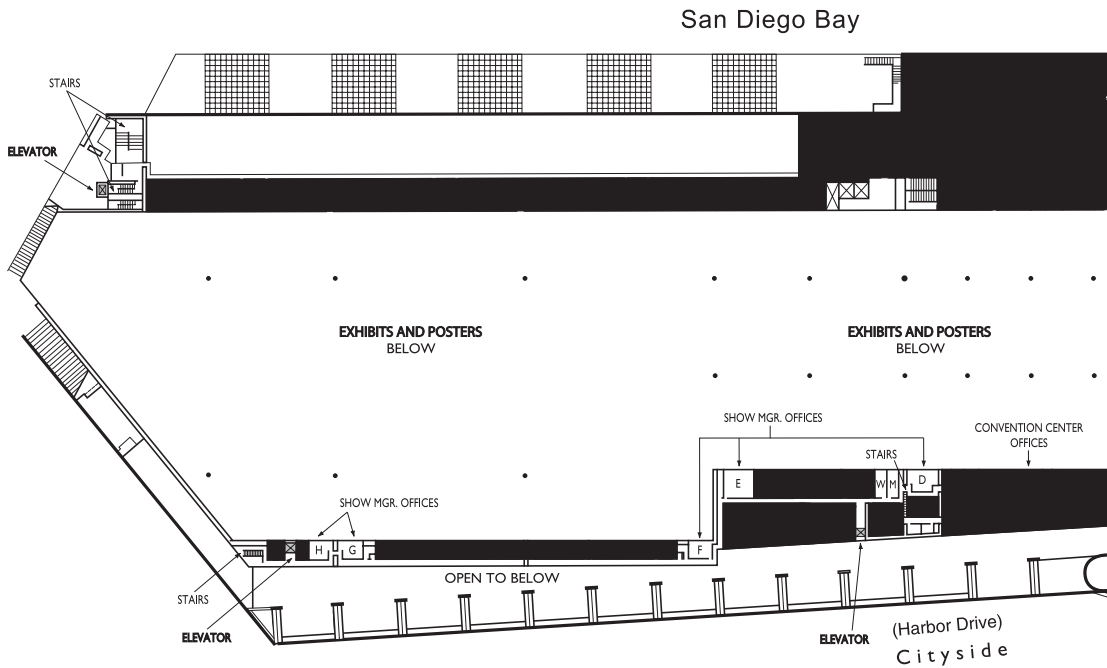
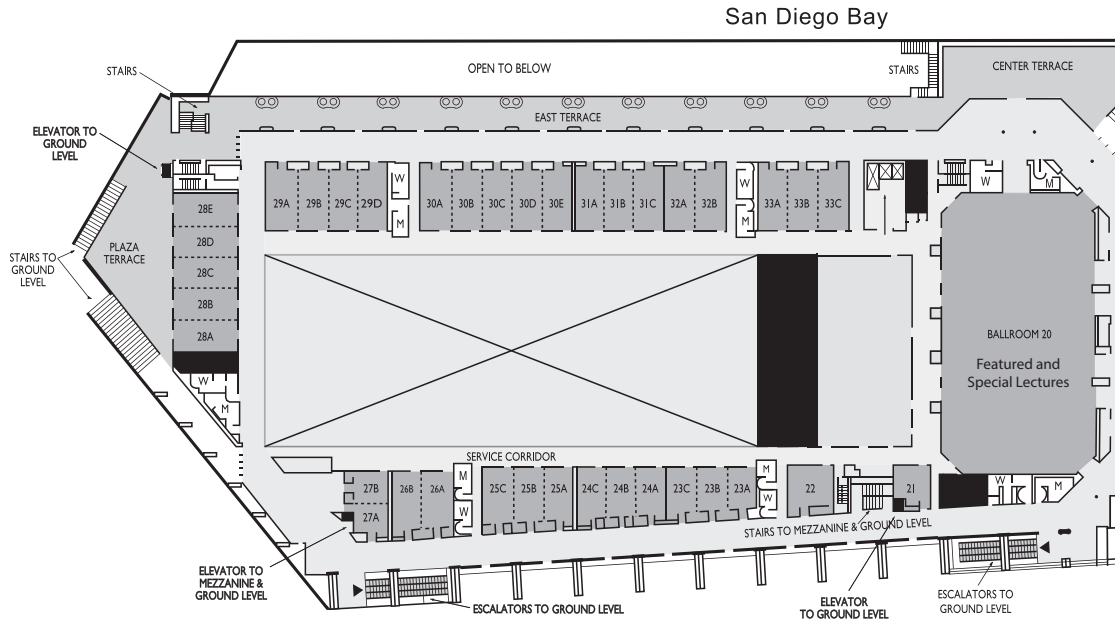
Pacific Ballroom 17-26

Temecula

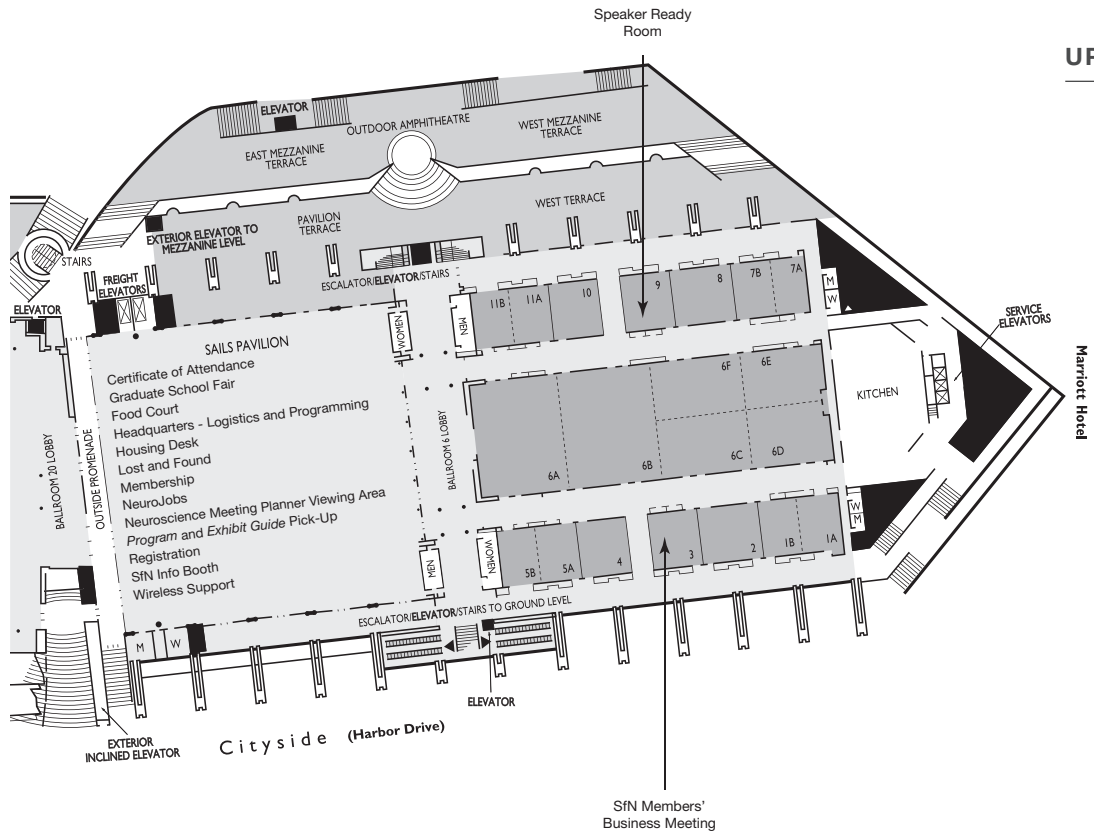


# SAN DIEGO CONVENTION CENTER

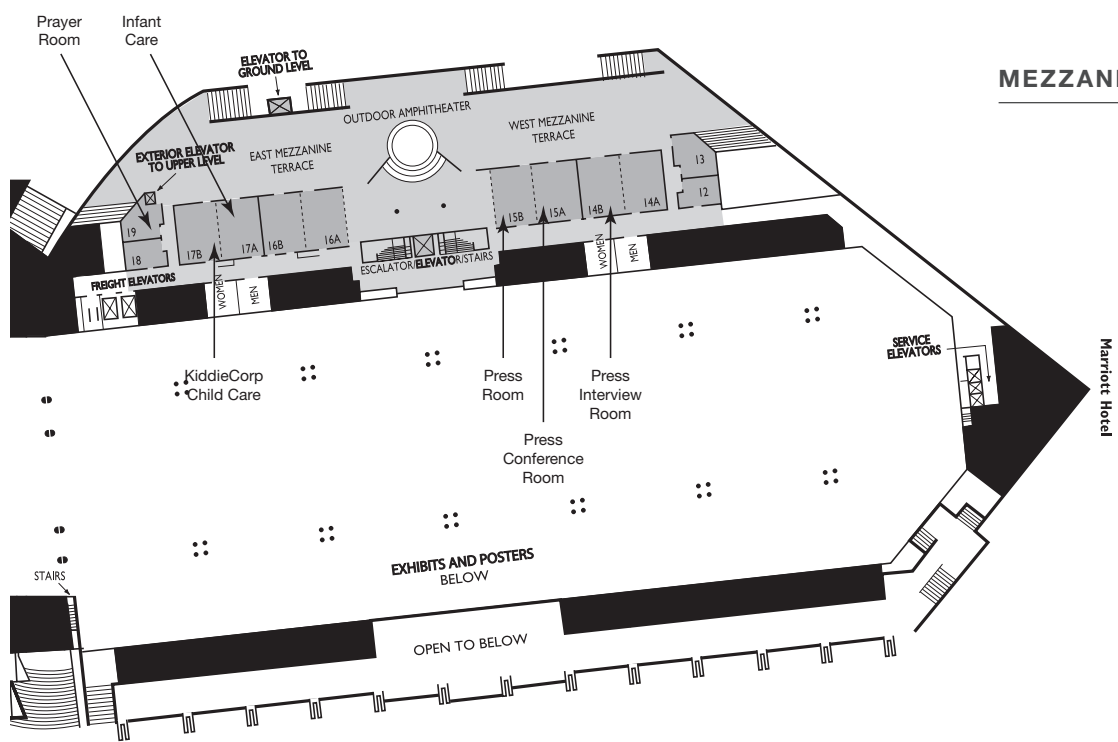
111 W Harbor Dr  
San Diego, CA 92101



**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.

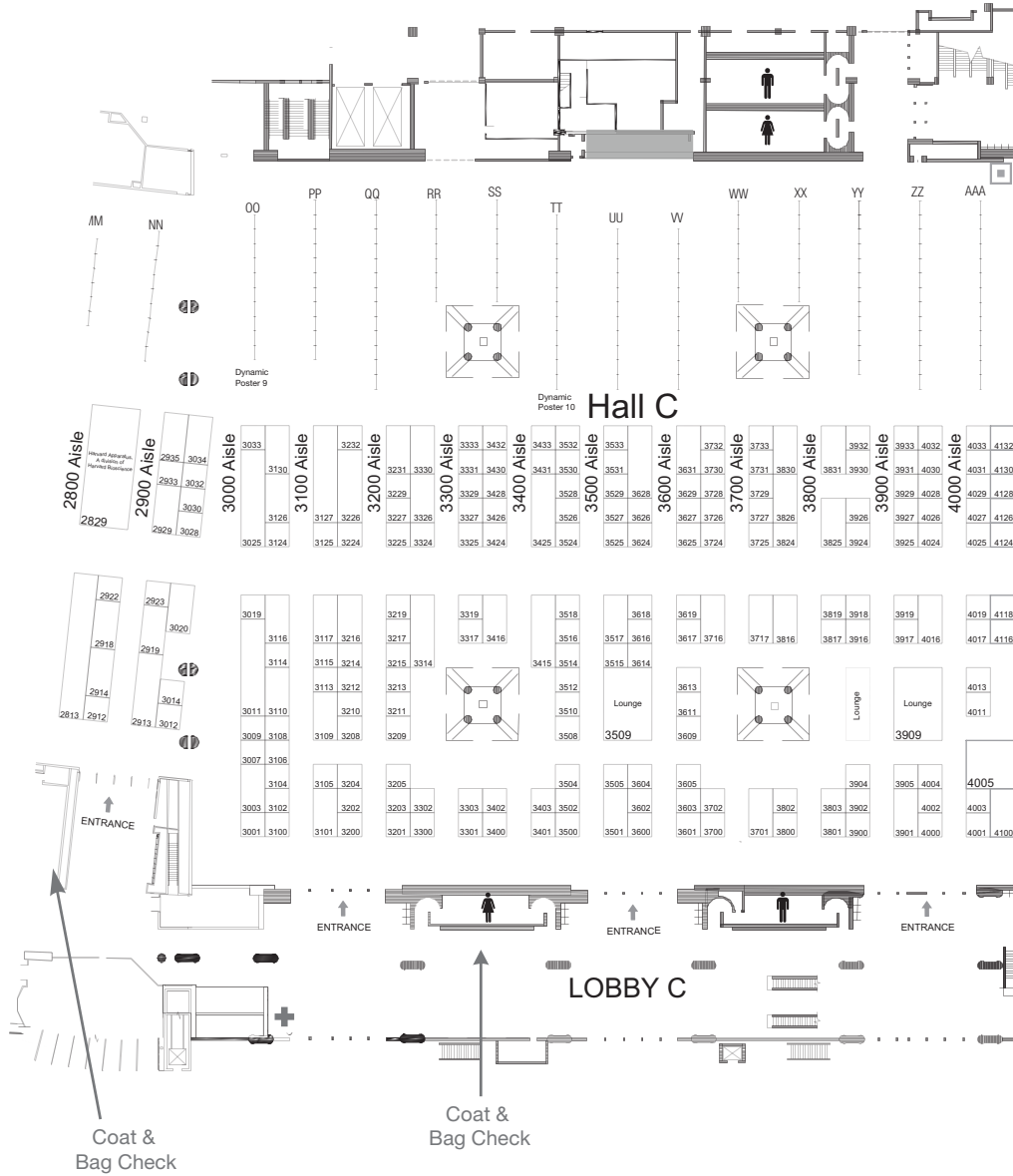
Floor plans subject to change. For current floor plan, visit [SfN.org/exhibits](http://SfN.org/exhibits).



- 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



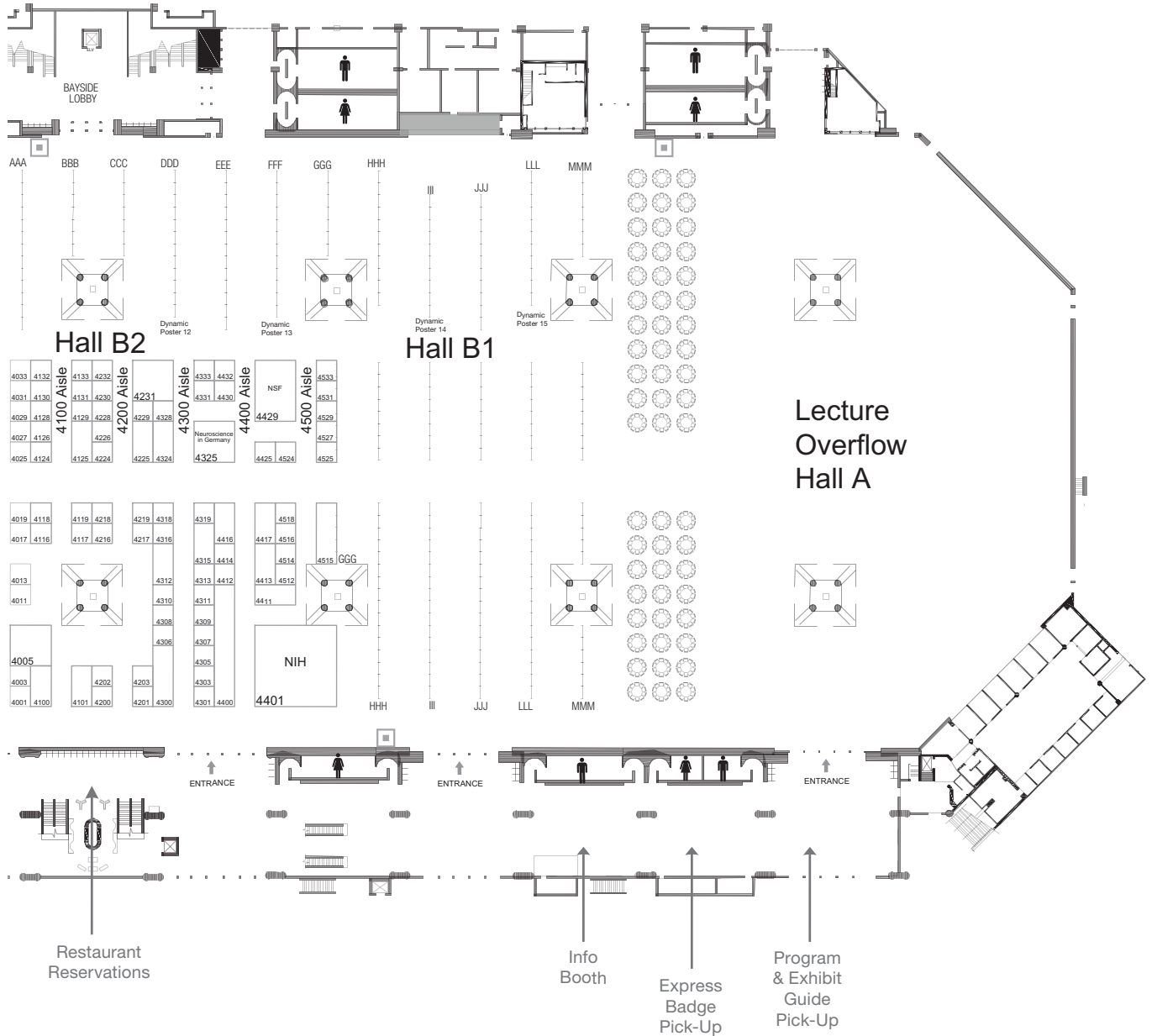
# SAN DIEGO CONVENTION CENTER



Gaslamp District

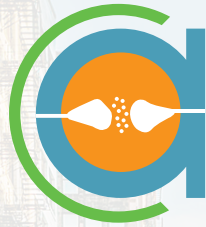


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**Marriott Marquis  
San Diego Marina**





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