

The Journal of Neuroscience

November 6, 2013 • Volume 33 Number 45 • www.jneurosci.org



Cover legend: Three-dimensional projection of the innervation of an embryonic day 14.5 mouse forelimb with whole-mount immunostaining against TrkA, peripherin, and NF165. Artwork by Saida Hadjab. For more information, see the article by Hadjab et al. (17656–17666).

i This Week in The Journal

Journal Club

- 17551 **Modulation of Cortical Network Activity by Transcranial Alternating Current Stimulation**
Randolph F. Helfrich and Till R. Schneider

Symposium and Mini-Symposium

- 17553 **The Choroid Plexus and Cerebrospinal Fluid: Emerging Roles in Development, Disease, and Therapy**
Maria K. Lehtinen, Christopher S. Bjornsson, Susan M. Dymecki, Richard J. Gilbertson, David M. Holtzman, and Edwin S. Monuki
- 17560 **New Approaches for Studying Synaptic Development, Function, and Plasticity Using *Drosophila* as a Model System**
C. Andrew Frank, Xinnan Wang, Catherine A. Collins, Avital A. Rodal, Quan Yuan, Patrik Verstreken, and Dion K. Dickman
- 17569 **New Insights into the Specificity and Plasticity of Reward and Aversion Encoding in the Mesolimbic System**
Susan F. Volman, Stephan Lammel, Elyssa B. Margolis, Yunbok Kim, Jocelyn M. Richard, Mitchell F. Roitman, and Mary Kay Lobo
- 17577 **The Role of Transposable Elements in Health and Diseases of the Central Nervous System**
Matthew T. Reilly, Geoffrey J. Faulkner, Joshua Dubnau, Igor Ponomarev, and Fred H. Gage
- 17587 **How Do Immune Cells Support and Shape the Brain in Health, Disease, and Aging?**
Michal Schwartz, Jonathan Kipnis, Serge Rivest, and Alexandre Prat
- 17597 **Perceptual Spaces: Mathematical Structures to Neural Mechanisms**
Qasim Zaidi, Jonathan Victor, Josh McDermott, Maria Geffen, Sliman Bensmaia, and Thomas A. Cleland
- 17603 **The Neuronal Code(s) of the Cerebellum**
Detlef H. Heck, Chris I. De Zeeuw, Dieter Jaeger, Kamran Khodakhah, and Abigail L. Person
- 17610 **Food for Thought: Hormonal, Experiential, and Neural Influences on Feeding and Obesity**
Ilia N. Karatsoreos, Joshua P. Thaler, Stephanie L. Borgland, Frances A. Champagne, Yasmin L. Hurd, and Matthew N. Hill
- 17617 **Pathological Choice: The Neuroscience of Gambling and Gambling Addiction**
Luke Clark, Bruno Averbeck, Doris Payer, Guillaume Sescousse, Catharine A. Winstanley, and Gui Xue

- 17624 **Law and Neuroscience**
Owen D. Jones, René Marois, Martha J. Farah, and Henry T. Greely
- 17631 **Imaging Neuronal Populations in Behaving Rodents: Paradigms for Studying Neural Circuits Underlying Behavior in the Mammalian Cortex**
Jerry L. Chen, Mark L. Andermann, Tara Keck, Ning-Long Xu, and Yaniv Ziv

Disease Focus

- 17641 **Drug-Evoked Synaptic Plasticity Causing Addictive Behavior**
Christian Lüscher

Toolbox

- 17647 **Investigating Axonal Guidance with Microdevice-Based Approaches**
Isabelle Dupin, Maxime Dahan, and Vincent Studer

Brief Communications

- 17675 **The GLRA1 Missense Mutation W170S Associates Lack of Zn²⁺ Potentiation with Human Hyperekplexia**
Ning Zhou, Chen-Hung Wang, Shu Zhang, and Dong Chuan Wu

Articles

CELLULAR/MOLECULAR

- 17691 **Modality-Based Organization of Ascending Somatosensory Axons in the Direct Dorsal Column Pathway**
Jingwen Niu, Long Ding, Jian J. Li, Hyukmin Kim, Jiakun Liu, Haipeng Li, Andrew Moberly, Tudor C. Badea, Ian D. Duncan, Young-Jin Son, Steven S. Scherer, and Wenqin Luo
- 17763 **EML1 (CNG-Modulin) Controls Light Sensitivity in Darkness and under Continuous Illumination in Zebrafish Retinal Cone Photoreceptors**
Juan I. Korenbrot, Milap Mehta, Nomingere Tserentsoodol, John H. Postlethwait, and Tatiana I. Rebrik
- 17777 **Ca²⁺ Sparks and Puffs Are Generated and Interact in Rat Hippocampal CA1 Pyramidal Neuron Dendrites**
Kenichi Miyazaki and William N. Ross
- 17836 **Dopamine Transporter Endocytic Trafficking in Striatal Dopaminergic Neurons: Differential Dependence on Dynamin and the Actin Cytoskeleton**
Luke R. Gabriel, Sijia Wu, Patrick Kearney, Karl D. Bellvé, Clive Standley, Kevin E. Fogarty, and Haley E. Melikian
- 17884 **KIF5B Promotes the Forward Transport and Axonal Function of the Voltage-Gated Sodium Channel Na_v1.8**
Yuan-Yuan Su, Mingyu Ye, Lei Li, Chao Liu, Jing Pan, Wen-Wen Liu, Yanbo Jiang, Xing-Yu Jiang, Xu Zhang, Yousheng Shu, and Lan Bao

DEVELOPMENT/PLASTICITY/REPAIR

- 17656 **A Local Source of FGF Initiates Development of the Unmyelinated Lineage of Sensory Neurons**
Saida Hadjab, Marina C. M. Franck, Yiqiao Wang, Ulrich Sterzenbach, Anil Sharma, Patrik Ernfors, and Francois Lallemand
- 17724 **Terminal Schwann Cells Participate in the Competition Underlying Neuromuscular Synapse Elimination**
Ian W. Smith, Michelle Mikesch, Young il Lee, and Wesley J. Thompson

- 17789 **Visual Acuity Development and Plasticity in the Absence of Sensory Experience**
Erin Kang, Severine Durand, Jocelyn J. LeBlanc, Takao K. Hensch, Chinfei Chen,
and Michela Fagiolini
- 17863 **Loss of the Spectraplakins Short Stop Activates the DLK Injury Response Pathway
in *Drosophila***
Vera Valakh, Lauren J. Walker, James B. Skeath, and Aaron DiAntonio
- 17937 **Retrograde BMP Signaling at the Synapse: A Permissive Signal for Synapse
Maturation and Activity-Dependent Plasticity**
Brett Berke, Jessica Wittnam, Elizabeth McNeill, David L. Van Vactor,
and Haig Keshishian

SYSTEMS/CIRCUITS

- 17667 **Older Adults Benefit from Music Training Early in Life: Biological Evidence for Long-
Term Training-Driven Plasticity**
Travis White-Schwoch, Kali Woodruff Carr, Samira Anderson, Dana L. Strait,
and Nina Kraus
- 17710 **Neural Encoding and Integration of Learned Probabilistic Sequences in Avian
Sensory-Motor Circuitry**
Kristofer E. Bouchard and Michael S. Brainard
- 17797 **Genetic Dissection of Retinal Inputs to Brainstem Nuclei Controlling
Image Stabilization**
Onkar S. Dhande, Maureen E. Estevez, Lauren E. Quattrochi, Rana N. El-Danaf,
Phong L. Nguyen, David M. Berson, and Andrew D. Huberman
- 17847 **Development and Plasticity of Outer Retinal Circuitry Following Genetic Removal of
Horizontal Cells**
Patrick W. Keeley, Gabriel Luna, Robert N. Fariss, Kimberly A. Skyles,
Nils R. Madsen, Mary A. Raven, Ross A. Poché, Eric C. Swindell, Milan Jamrich,
Edwin C. Oh, Anand Swaroop, Steven K. Fisher, and Benjamin E. Reese
- 17874 **Leptin Signaling in GABA Neurons, But Not Glutamate Neurons, Is Required for
Reproductive Function**
Wieteke A. Zuure, Amy L. Roberts, Janette H. Quennell, and Greg M. Anderson
- 17897 **Axonal Sprouting and Formation of Terminals in the Adult Cerebellum during
Associative Motor Learning**
Henk-Jan Boele, Sebastiaan K. E. Koekkoek, Chris I. De Zeeuw,
and Tom J. H. Ruigrok
- 17921 **When and Why Noise Correlations Are Important in Neural Decoding**
Hugo Gabriel Eyherabide and Inés Samengo
- 17951 **Differential Modulation of Spontaneous and Evoked Thalamocortical Network
Activity by Acetylcholine Level *In Vitro***
Jason C. Wester and Diego Contreras

BEHAVIORAL/COGNITIVE

- 17682 **The Role of the Amygdala-Striatal Pathway in the Acquisition and Performance of
Goal-Directed Instrumental Actions**
Laura H. Corbit, Beatrice K. Leung, and Bernard W. Balleine
- 17827 **The Phase of Thalamic Alpha Activity Modulates Cortical Gamma-Band Activity:
Evidence from Resting-State MEG Recordings**
Frédéric Roux, Michael Wibral, Wolf Singer, Jaan Aru, and Peter J. Uhlhaas

NEUROBIOLOGY OF DISEASE

- 17737 **Surgical Incision-Induced Nociception Causes Cognitive Impairment and Reduction in Synaptic NMDA Receptor 2B in Mice**
Xiaoqin Zhang, Xin Xin, Yuanlin Dong, Yiyang Zhang, Buwei Yu, Jianren Mao, and Zhongcong Xie
- 17749 **Specific Impairment of “What-Where-When” Episodic-Like Memory in Experimental Models of Temporal Lobe Epilepsy**
Marion Inostroza, Jorge R. Brotons-Mas, François Laurent, Elena Cid, and Liset Menendez de la Prida
- 17814 **Neuroprotective Role of a Brain-Enriched Tyrosine Phosphatase, STEP, in Focal Cerebral Ischemia**
Ishani Deb, Namratta Manhas, Ranjana Poddar, Sathyanarayanan Rajagopal, Andrea M. Allan, Paul J. Lombroso, Gary A. Rosenberg, Eduardo Candelario-Jalil, and Surojit Paul
- 17908 **Human Immunodeficiency Virus-1 Tat Protein Increases the Number of Inhibitory Synapses between Hippocampal Neurons in Culture**
Nicholas J. Hargus and Stanley A. Thayer
-

Persons interested in becoming members of the Society for Neuroscience should contact the Membership Department, Society for Neuroscience, 1121 14th St., NW, Suite 1010, Washington, DC 20005, phone 202-962-4000.

Instructions for Authors are available at <http://www.jneurosci.org/misc/itoa.shtml>. Authors should refer to these Instructions online for recent changes that are made periodically.

Brief Communications Instructions for Authors are available via Internet (http://www.jneurosci.org/misc/ifa_bc.shtml).

Submissions should be submitted online using the following url: <http://jneurosci.msubmit.net>. Please contact the Central Office, via phone, fax, or e-mail with any questions. Our contact information is as follows: phone, 202-962-4000; fax, 202-962-4945; e-mail, jn@sfn.org.