

# JNeurosci

THE JOURNAL OF NEUROSCIENCE

February 8, 2017 • Volume 37 Number 6 • www.jneurosci.org



**Cover legend:** This image shows mitochondria (magenta) in the processes of primary oligodendrocytes expressing myelin basic protein (green). The oligodendrocytes were purified via magnetic activated cell separation and cultured for 10 days *in vitro*. For more information, see the article by Chamberlain et al. (pages 1479–1492).

## i This Week in The Journal

### Journal Club

- 1375 Restoring Lost Excitability: Regenerating CNS Axons Inch Toward Electrogenicity  
Randa Abu-Youssef

### Research Articles

#### CELLULAR/MOLECULAR

- 1505 Functional Organization of Cutaneous and Muscle Afferent Synapses onto Immature Spinal Lamina I Projection Neurons  
Jie Li and Mark L. Baccei
- 1628 Soluble cpg15 from Astrocytes Ameliorates Neurite Outgrowth Recovery of Hippocampal Neurons after Mouse Cerebral Ischemia  
Jing-Jing Zhao, Jie-Xian Hu, De-Xin Lu, Chun-Xia Ji, Yao Qi, Xiao-Yan Liu, Feng-Yan Sun, Fang Huang, Ping Xu, and Xian-Hua Chen

#### DEVELOPMENT/PLASTICITY/REPAIR

- 1439 Adenosine Shifts Plasticity Regimes between Associative and Homeostatic by Modulating Heterosynaptic Changes  
Nicholas M. Bannon, Marina Chistiakova, Jen-Yung Chen, Maxim Bazhenov, and Maxim Volgushev
- 1479 Creatine Enhances Mitochondrial-Mediated Oligodendrocyte Survival After Demyelinating Injury  
Kelly A. Chamberlain, Kristen S. Chapey, Sonia E. Nanescu, and Jeffrey K. Huang
- 1532 Sex-Dependent Regulation of Aromatase-Mediated Synaptic Plasticity in the Basolateral Amygdala  
Roland A. Bender, Lepu Zhou, Ricardo Vierk, Nicola Brandt, Alexander Keller, Christine E. Gee, Michael K.E. Schäfer, and Gabriele M. Rune
- 1557 Visual Stimulus Speed Does Not Influence the Rapid Emergence of Direction Selectivity in Ferret Visual Cortex  
Neil J. Ritter, Nora M. Anderson, and Stephen D. Van Hooser
- 1568 Calpain-Mediated Proteolysis of Talin and FAK Regulates Adhesion Dynamics Necessary for Axon Guidance  
Patrick C. Kerstein, Kevin M. Patel, and Timothy M. Gomez

- 1648 MAP7 Regulates Axon Collateral Branch Development in Dorsal Root Ganglion Neurons**

Stephen R. Tymanskyj, Benjamin Yang, Aditi Falnikar, Angelo C. Lepore, and Le Ma

#### SYSTEMS/CIRCUITS

- 1378 5-HT<sub>2C</sub> Receptor Knockdown in the Amygdala Inhibits Neuropathic-Pain-Related Plasticity and Behaviors**

Guangchen Ji, Wei Zhang, Lenin Mahimainathan, Madhusudhanan Narasimhan, Takaki Kiritoshi, Xiuzhen Fan, Jigong Wang, Thomas A. Green, and Volker Neugebauer

- 1428 Differences in Glomerular-Layer-Mediated Feedforward Inhibition onto Mitral and Tufted Cells Lead to Distinct Modes of Intensity Coding**

Matthew Geramita and Nathan N. Urban

- 1468 A Mammalian Retinal Ganglion Cell Implements a Neuronal Computation That Maximizes the SNR of Its Postsynaptic Currents**

Jan Homann and Michael A. Freed

- 1518 Impact of Altered Cholinergic Tones on the Neurovascular Coupling Response to Whisker Stimulation**

Clotilde Lecrux, Claire H. Sandoe, Sujaya Neupane, Pascal Kropf, Xavier Toussay, Xin-Kang Tong, María Lacalle-Auriolles, Amir Shmuel, and Edith Hamel

- 1581 Dampened Amphetamine-Stimulated Behavior and Altered Dopamine Transporter Function in the Absence of Brain GDNF**

Jaakko J. Kopra, Anne Panhelainen, Sara af Bjerkén, Lauriina L. Porokuokka, Kärt Varenni, Sophie Olfat, Heidi Montonen, T. Petteri Piepponen, Mart Saarma, and Jaan-Olle Andressoo

#### BEHAVIORAL/COGNITIVE

- 1394 Spatiotemporal Filter for Visual Motion Integration from Pursuit Eye Movements in Humans and Monkeys**

Trishna Mukherjee, Bing Liu, Claudio Simoncini, and Leslie C. Osborne

- 1453 A Model of the Superior Colliculus Predicts Fixation Locations during Scene Viewing and Visual Search**

Hossein Adeli, Françoise Vitu, and Gregory J. Zelinsky

- 1493 Dopamine Modulates the Functional Organization of the Orbitofrontal Cortex**

Thorsten Kahnt and Philippe N. Tobler

- 1546 Visual Population Receptive Fields in People with Schizophrenia Have Reduced Inhibitory Surrounds**

Elaine J. Anderson, Marc S. Tibber, D. Sam Schwarzkopf, Sukhwinder S. Shergill, Emilio Fernandez-Egea, Geraint Rees, and Steven C. Dakin

- 1591 Posterior  $\alpha$  EEG Dynamics Dissociate Current from Future Goals in Working Memory-Guided Visual Search**

Ingmar E.J. de Vries, Joram van Driel, and Christian N.L. Olivers

- 1604 Cerebellar tDCS Modulates Neural Circuits during Semantic Prediction: A Combined tDCS-fMRI Study**

Anila M. D'Mello, Peter E. Turkeltaub, and Catherine J. Stoodley

- 1614 Human Exploration of Enclosed Spaces through Echolocation**

Virginia L. Flanagan, Sven Schörnich, Michael Schranner, Nadine Hummel, Ludwig Wallmeier, Magnus Wahlberg, Thomas Stephan, and Lutz Wiegreb

NEUROBIOLOGY OF DISEASE

1413 Targeting Extracellular Cyclophilin A Reduces Neuroinflammation and Extends

Survival in a Mouse Model of Amyotrophic Lateral Sclerosis

Laura Pasetto, Silvia Pozzi, Mariachiara Castelnovo, Manuela Basso,

Alvaro G. Estevez, Stefano Fumagalli, Maria Grazia De Simoni,

Valeria Castellaneta, Paolo Bigini, Elena Restelli, Roberto Chiesa, Francesca Trojsi,

Maria Rosaria Monsurrò, Leonardo Callea, Miroslav Malešević, Gunter Fischer,

Mattia Freschi, Massimo Tortarolo, Caterina Bendotti, and Valentina Bonetto

---

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/content/information-authors>. Authors should refer to these Instructions online for recent changes that are made periodically.

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; e-mail, [jn@sfn.org](mailto:jn@sfn.org).