

# The Journal of Neuroscience

January 23, 2013 • Volume 33 Number 4 • www.jneurosci.org



**Cover legend:** Confocal image of a wild-type *Drosophila* visual system early in pupal development. All photoreceptor neurons (R1–R8) and their axons are labeled by anti-Chaoptin (red). The R7 photoreceptor neurons (green) extend axons from their cell bodies in the retina (top), beyond the plexus of R1–R6 axon terminals in the lamina, and into the developing medulla (bottom). For details on how R7s halt the growth of their axons, see the article by Kniss et al. (pages 1509–1520).

## i This Week in The Journal

### Journal Club

- 1293 **Decoding the Contents of Visual Working Memory: Evidence for Process-Based and Content-Based Working Memory Areas?**  
Ilja G. Sligte, Dirk van Moorselaar, and Annelinde R. E. Vandenbroucke
- 1295 **Disinhibition of Histaminergic Neurons: Lack of Effect on Arousal Switch Following Propofol Hypnosis**  
Brian P. Weiser and Hilary S. McCarren

### Brief Communications

- 1326 **Cortical Adaptation to a Chronic Micro-Electrocorticographic Brain Computer Interface**  
Adam G. Rouse, Jordan J. Williams, Jesse J. Wheeler, and Daniel W. Moran
- 1411 **Persistent Reversal of Enhanced Amphetamine Intake by Transient CaMKII Inhibition**  
Jessica A. Loweth, Dongdong Li, James J. Cortright, Georgia Wilke, Okunola Jeyifous, Rachael L. Neve, K. Ulrich Bayer, and Paul Vezina
- 1535 **On High-Frequency Field Oscillations (> 100 Hz) and the Spectral Leakage of Spiking Activity**  
Robson Scheffer-Teixeira, Hindiael Belchior, Richardson N. Leão, Sidarta Ribeiro, and Adriano B. L. Tort
- 1728 **Indian Hedgehog b Function Is Required for the Specification of Oligodendrocyte Progenitor Cells in the Zebrafish CNS**  
Ah-Young Chung, Suhyun Kim, Eunmi Kim, Dohyun Kim, Inyoung Jeong, Young Ryun Cha, Young-ki Bae, Seung Woo Park, Jehee Lee, and Hae-Chul Park

### Articles

#### CELLULAR/MOLECULAR

- 1297 **Glial Cells Decipher Synaptic Competition at the Mammalian Neuromuscular Junction**  
Houssam Darabid, Danielle Arbour, and Richard Robitaille
- 1357 **Declines in Drp1 and Parkin Expression Underlie DNA Damage-Induced Changes in Mitochondrial Length and Neuronal Death**  
David B. Wang, Gwenn A. Garden, Chizuru Kinoshita, Cody Wyles, Nasim Babazadeh, Bryce Sopher, Yoshito Kinoshita, and Richard S. Morrison

- 1427 **Bradykinin-Induced Chemotaxis of Human Gliomas Requires the Activation of  $K_{Ca}3.1$  and  $ClC-3$**   
Vishnu Anand Cuddapah, Kathryn L. Turner, Stefanie Seifert, and Harald Sontheimer
- 1615 **Peptide Inhibitors Disrupt the Serotonin 5-HT<sub>2C</sub> Receptor Interaction with Phosphatase and Tensin Homolog to Allosterically Modulate Cellular Signaling and Behavior**  
Noelle C. Anastasio, Scott R. Gilbertson, Marcy J. Bubar, Anton Agarkov, Sonja J. Stutz, Yowjiun Jeng, Nicole M. Bremer, Thressa D. Smith, Robert G. Fox, Sarah E. Swinford, Patricia K. Seitz, Marc N. Charendoff, John W. Craft Jr, Fernanda M. Laezza, Cheryl S. Watson, James M. Briggs, and Kathryn A. Cunningham
- 1714 **Complexin Activates Exocytosis of Distinct Secretory Vesicles Controlled by Different Synaptotagmins**  
Peng Cao, Xiaofei Yang, and Thomas C. Südhof

#### DEVELOPMENT/PLASTICITY/REPAIR

- 1314 **Distal Dendritic Inputs Control Neuronal Activity by Heterosynaptic Potentiation of Proximal Inputs**  
Edward B. Han and Stephen F. Heinemann
- 1344 **Differential Balance of Prefrontal Synaptic Activity in Successful versus Unsuccessful Cognitive Aging**  
Cyril Bories, Zoé Husson, Matthieu J. Guitton, and Yves De Koninck
- 1366 **Serotonergic Neurosecretory Synapse Targeting Is Controlled by Netrin-Releasing Guidepost Neurons in *Caenorhabditis elegans***  
Jessica C. Nelson and Daniel A. Colón-Ramos
- 1462 **Aging-Induced *Nrf2-ARE* Pathway Disruption in the Subventricular Zone Drives Neurogenic Impairment in Parkinsonian Mice via *PI3K-Wnt/ $\beta$ -Catenin* Dysregulation**  
Francesca L'Episcopo, Cataldo Tirolo, Nunzio Testa, Salvatore Caniglia, Maria C. Morale, Francesco Impagnatiello, Stefano Pluchino, and Bianca Marchetti
- 1509 **R7 Photoreceptor Axon Growth Is Temporally Controlled by the Transcription Factor *Ttk69*, Which Inhibits Growth in Part by Promoting Transforming Growth Factor- $\beta$ /Activin Signaling**  
Jonathan S. Kniss, Scott Holbrook, and Tory G. Herman
- 1564 **Selective Ablation of Pillar and Deiters' Cells Severely Affects Cochlear Postnatal Development and Hearing in Mice**  
Marcia M. Mellado Lagarde, Brandon C. Cox, Jie Fang, Ruth Taylor, Andrew Forge, and Jian Zuo
- 1589 **Presenilin1 Regulates Histamine Neuron Development and Behavior in Zebrafish, *Danio rerio***  
Maria Sundvik, Yu-Chia Chen, and Pertti Panula
- 1660 **Retinoic Acid Induces Blood–Brain Barrier Development**  
Mark R. Mizee, Desiree Wooldrik, Kim A. M. Lakeman, Bert van het Hof, Joost A. R. Drexhage, Dirk Geerts, Marianna Bugiani, Eleonora Aronica, Reina E. Mebius, Alexandre Prat, Helga E. de Vries, and Arie Reijerkerk

## SYSTEMS/CIRCUITS

- 1377 **Spatiotemporal Dynamics of Functional Clusters of Neurons in the Mouse Motor Cortex during a Voluntary Movement**  
Riichiro Hira, Fuki Ohkubo, Katsuya Ozawa, Yoshikazu Isomura, Kazuo Kitamura, Masanobu Kano, Haruo Kasai, and Masanori Matsuzaki
- 1441 **Amygdala  $\beta$ -Noradrenergic Receptors Modulate Delayed Downregulation of Dopamine Activity following Restraint**  
Chun-hui Chang and Anthony A. Grace
- 1451 **Receptive Field Properties of Color Opponent Neurons in the Cat Lateral Geniculate Nucleus**  
Péter Buzás, Péter Kóbor, Zoltán Petykó, Ildikó Telkes, Paul R. Martin, and László Lénárd
- 1486 **Glutamatergic Neurotransmission between the C1 Neurons and the Parasympathetic Preganglionic Neurons of the Dorsal Motor Nucleus of the Vagus**  
Seth D. DePuy, Ruth L. Stornetta, Genrieta Bochorishvili, Karl Deisseroth, Ilana Witten, Melissa Coates, and Patrice G. Guyenet
- 1498 **Laminar Transformation of Frequency Organization in Auditory Cortex**  
Daniel E. Winkowski and Patrick O. Kanold
- 1552 **Interglomerular Lateral Inhibition Targeted on External Tufted Cells in the Olfactory Bulb**  
Jennifer D. Whitesell, Kyle A. Sorensen, Brooke C. Jarvie, Shane T. Hentges, and Nathan E. Schoppa
- 1577 **Central Amygdala GluA1 Facilitates Associative Learning of Opioid Reward**  
You-Qing Cai, Wei Wang, Yuan-Yuan Hou, Zhi Zhang, Jun Xie, and Zhizhong Z. Pan
- 1598 **Target-Specific IPSC Kinetics Promote Temporal Processing in Auditory Parallel Pathways**  
Ruili Xie and Paul B. Manis
- 1678 **Target Selectivity of Feedforward Inhibition by Striatal Fast-Spiking Interneurons**  
Susanne N. Szydlowski, Iskra Pollak Dorocic, Henrike Planert, Marie Carlén, Konstantinos Meletis, and Gilad Silberberg
- 1684 **Gating of Sensory Input by Spontaneous Cortical Activity**  
Artur Luczak, Peter Bartho, and Kenneth D. Harris
- 1696 **Stream-Related Preferences of Inputs to the Superior Colliculus from Areas of Dorsal and Ventral Streams of Mouse Visual Cortex**  
Quanxin Wang and Andreas Burkhalter

## BEHAVIORAL/COGNITIVE

- 1331 **The Occipital Place Area Is Causally and Selectively Involved in Scene Perception**  
Daniel D. Dilks, Joshua B. Julian, Alexander M. Paunov, and Nancy Kanwisher
- 1337 **Uncovering the Mechanisms of Conscious Face Perception: A Single-Trial Study of the N170 Responses**  
Joaquin Navajas, Maryam Ahmadi, and Rodrigo Quian Quiroga

- 1400 **Prestimulus Oscillatory Activity over Motor Cortex Reflects Perceptual Expectations**  
Floris P. de Lange, Dobromir A. Rahnev, Tobias H. Donner, and Hakwan Lau
- 1417 **Visual Input Enhances Selective Speech Envelope Tracking in Auditory Cortex at a “Cocktail Party”**  
Elana Zion Golumbic, Gregory B. Cogan, Charles E. Schroeder, and David Poeppel
- 1521 **Covariance-Based Synaptic Plasticity in an Attractor Network Model Accounts for Fast Adaptation in Free Operant Learning**  
Tal Neiman and Yonatan Loewenstein
- 1631 **Sustained Transcription of the Immediate Early Gene *Arc* in the Dentate Gyrus after Spatial Exploration**  
Victor Ramirez-Amaya, Arafat Angulo-Perkins, Monica K. Chawla, Carol A. Barnes, and Susanna Rosi
- 1640 **Affective and Sensorimotor Components of Emotional Prosody Generation**  
Swann Pichon and Christian A. Kell
- 1672 **Appetitive Learning Requires the Alpha1-Like Octopamine Receptor OAMB in the *Drosophila* Mushroom Body Neurons**  
Young-Cho Kim, Hyun-Gwan Lee, Junghwa Lim, and Kyung-An Han
- 1706 **Neural Integration of Risk and Effort Costs by the Frontal Pole: Only upon Request**  
Christopher J. Burke, Christian Brünger, Thorsten Kahnt, Soyoung Q. Park, and Philippe N. Tobler
- 1734 **MicroRNA-182 Regulates Amygdala-Dependent Memory Formation**  
Erica M. Griggs, Erica J. Young, Gavin Rumbaugh, and Courtney A. Miller

#### NEUROBIOLOGY OF DISEASE

- 1391 **Ataxia with Cerebellar Lesions in Mice Expressing Chimeric PrP-Dpl Protein**  
Catherine Lemaire-Vieille, Yannick Bailly, Paul Erlich, Corinne Loeuillet, Jacques Brocard, Anne-Marie Haeberlé, Guy Bombarde, Camille Rak, Valérie Demais, Chantal Dumestre-Pérard, Jean Gagnon, and Jean-Yves Cesbron
- 1540 **The Upregulation of Translocator Protein (18 kDa) Promotes Recovery from Neuropathic Pain in Rats**  
Xu-Hong Wei, Xiao Wei, Feng-Ying Chen, Ying Zang, Wen-Jun Xin, Rui-Ping Pang, Yuan Chen, Jun Wang, Yong-Yong Li, Kai-Feng Shen, Li-Jun Zhou, and Xian-Guo Liu
- 1651 **Tau Loss Attenuates Neuronal Network Hyperexcitability in Mouse and *Drosophila* Genetic Models of Epilepsy**  
Jerrah K. Holth, Valerie C. Bomben, J. Graham Reed, Taeko Inoue, Linda Younkin, Steven G. Younkin, Robia G. Pautler, Juan Botas, and Jeffrey L. Noebels
- 1741 **Calcium Channel Agonists Protect against Neuromuscular Dysfunction in a Genetic Model of TDP-43 Mutation in ALS**  
Gary A.B. Armstrong and Pierre Drapeau

1753 **Correction:** The article “Anxiety-Like Behavior of Prenatally Stressed Rats Is Associated with a Selective Reduction of Glutamate Release in the Ventral Hippocampus” by Jordan Marrocco, Jérôme Mairesse, Richard Teke Ngomba, Viviana Silletti, Gilles Van Camp, Hammou Bouwalerh, Maria Summa, Anna Pittaluga, Ferdinando Nicoletti, Stefania Maccari, and Sara Morley-Fletcher appeared on pages 17143–17154 of the November 28, 2012 issue. A correction for that article appears on page 1753.

---

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](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](mailto:jn@sfn.org).