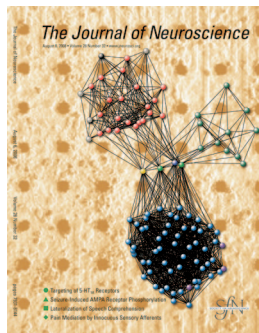


# The Journal of Neuroscience

August 6, 2008 • Volume 28 Number 32 www.jneurosci.org



**Cover legend:** The functional connections within a network of neurons reorganize following rhythmic stimulation. The cover shows a network of synaptic connectivity for simulated neurons overlaid on an image of cultured E18 rat cortical neurons. The simulated neurons are arranged in space according to a multidimensional scaling, and different communities of neurons in the network are labeled by color. (Courtesy of T. K. Ahuja, J. Tauskela, R. Monette, and G. A. R. Mealing, National Research Council of Canada.) For more information, see the article by Thivierge et al. in this issue (pages 7968–7978).

## i This Week in The Journal

### Journal Club

- 7931 **Neural Correlates of Internal Models**  
Jean-Jacques Orban de Xivry and Vincent Ethier
- 7933 **The Arrow of Time: How Does the Brain Represent Natural Temporal Structure?**  
Fabiana Mesquita Carvalho and Nikolaus Kriegeskorte

### Brief Communications

- 8034 **Potential Adaptive Function for Altered Long-Term Potentiation Mechanisms in Aging Hippocampus**  
Katica Boric, Pablo Muñoz, Michela Gallagher, and Alfredo Kirkwood

### Articles

#### CELLULAR/MOLECULAR

- 7945 **Presynaptic Release Probability and Readily Releasable Pool Size Are Regulated by Two Independent Mechanisms during Posttetanic Potentiation at the Calyx of Held Synapse**  
Jae Sung Lee, Myoung-Hwan Kim, Won-Kyung Ho, and Suk-Ho Lee
- 7954 **Multiple RIBEYE–RIBEYE Interactions Create a Dynamic Scaffold for the Formation of Synaptic Ribbons**  
Venkat Giri Magupalli, Karin Schwarz, Kannan Alpadi, Sivaraman Natarajan, Gail M. Seigel, and Frank Schmitz
- 7991 **Application of an Epac Activator Enhances Neurotransmitter Release at Excitatory Central Synapses**  
Isabella Gekel and Erwin Neher
- 8063 **Targeting of the 5-HT<sub>1A</sub> Serotonin Receptor to Neuronal Dendrites Is Mediated by Yif1B**  
Damien Carrel, Justine Masson, Sana Al Awabdh, Catherine Borg Capra, Zsolt Lenkei, Michel Hamon, Michel Boris Emerit, and Michèle Darmon

#### DEVELOPMENT/PLASTICITY/REPAIR

- 7979 **Early Alterations of AMPA Receptors Mediate Synaptic Potentiation Induced by Neonatal Seizures**  
Sanjay N. Rakhade, Chengwen Zhou, Paven K. Aujla, Rachel Fishman, Nikolaus J. Sucher, and Frances E. Jensen

- 8138 **Developmental Neuronal Death in Hippocampus Requires the Microglial CD11b Integrin and DAP12 Immunoreceptor**  
Shirley Wakselman, Catherine Béchade, Anne Roumier, Delphine Bernard, Antoine Triller, and Alain Bessis

#### BEHAVIORAL/SYSTEMS/COGNITIVE

- 7968 **Nonperiodic Synchronization in Heterogeneous Networks of Spiking Neurons**  
Jean-Philippe Thivierge and Paul Cisek
- 8003 **Excitatory Effects of the Puberty-Initiating Peptide Kisspeptin and Group I Metabotropic Glutamate Receptor Agonists Differentiate Two Distinct Subpopulations of Gonadotropin-Releasing Hormone Neurons**  
Iryna Dumalska, Min Wu, Elena Morozova, Rongjian Liu, Anthony van den Pol, and Meenakshi Alreja
- 8025 **Dopamine Signaling through D<sub>1</sub>-Like versus D<sub>2</sub>-Like Receptors in the Nucleus Accumbens Core versus Shell Differentially Modulates Nicotine Reward Sensitivity**  
Steven R. Laviolette, Nicole M. Lauzon, Stephanie F. Bishop, Ninglei Sun, and Huibing Tan
- 8053 **Frontal Cortex Mediates Unconsciously Triggered Inhibitory Control**  
Simon van Gaal, K. Richard Ridderinkhof, Johannes J. Fahrenfort, H. Steven Scholte, and Victor A. F. Lamme
- 8074 **Impaired Fear Extinction Learning and Cortico-Amygdala Circuit Abnormalities in a Common Genetic Mouse Strain**  
Kathryn Hefner, Nigel Whittle, Jaynann Juhasz, Maxine Norcross, Rose-Marie Karlsson, Lisa M. Saksida, Timothy J. Bussey, Nicolas Singewald, and Andrew Holmes
- 8086 **Semicircular Canal Size Determines the Developmental Onset of Angular Vestibuloocular Reflexes in Larval *Xenopus***  
François M. Lambert, James C. Beck, Robert Baker, and Hans Straka
- 8096 **The Orientation Selectivity of Color-Responsive Neurons in Macaque V1**  
Elizabeth N. Johnson, Michael J. Hawken, and Robert Shapley
- 8107 **Cross-Correlation in the Auditory Coincidence Detectors of Owls**  
Brian J. Fischer, G. Björn Christianson, and José Luis Peña
- 8116 **Bilateral Speech Comprehension Reflects Differential Sensitivity to Spectral and Temporal Features**  
Jonas Obleser, Frank Eisner, and Sonja A. Kotz
- 8124 **Superior Colliculus Inactivation Causes Stable Offsets in Eye Position during Tracking**  
Ziad M. Hafed, Laurent Goffart, and Richard J. Krauzlis

#### NEUROBIOLOGY OF DISEASE

- 7936 **Innocuous, Not Noxious, Input Activates PKC $\gamma$  Interneurons of the Spinal Dorsal Horn via Myelinated Afferent Fibers**  
Simona Neumann, Joao M. Braz, Kate Skinner, Ida J. Llewellyn-Smith, and Allan I. Basbaum
- 8014 **Zn<sup>2+</sup> Influx Is Critical for Some Forms of Spreading Depression in Brain Slices**  
Robert M. Dietz, John H. Weiss, and Claude W. Shuttleworth

**8040 Electrophysiology and Pharmacology of Striatal Neuronal Dysfunction Induced by Mitochondrial Complex I Inhibition**

Cinzia Costa, Vincenzo Belcastro, Alessandro Tozzi, Massimiliano Di Filippo, Michela Tantucci, Sabrina Siliquini, Alessia Autuori, Barbara Picconi, Maria Grazia Spillantini, Ernesto Fedele, Anna Pittaluga, Maurizio Raiteri, and Paolo Calabresi

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://sfn.manuscriptcentral.com>. 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).