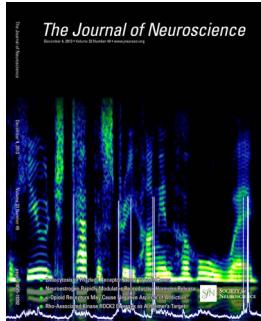


The Journal of Neuroscience

December 4, 2013 • Volume 33 Number 49 • www.jneurosci.org



Cover legend: The background shows the spectrogram of one of the speech segments used in the study "Independent Population Coding of Speech with Sub-Millisecond Precision" by Garcia-Lazaro et al.

The superimposed trace shows the response of a neuron recorded intracellularly in gerbil primary auditory cortex (A1) by Jose Garcia-Lazaro and Roberta Donato at the UCL Ear Institute. See Garcia-Lazaro et al. (pages 19362–19372).

i This Week in The Journal

Journal Club

- 19045 **The Rules of Entrainment: Are CA1 Gamma Oscillations Externally Imposed or Locally Governed?**
Antonio Fernández-Ruiz and Erik W. Schomburg
- 19048 **Contribution of Postsynaptic Molecules to AMPA Receptor Nanodomain Organization**
Alvaro Barrera-Ocampo and Thomas E. Chater

Brief Communications

- 19238 **Circadian Variation in Gastric Vagal Afferent Mechanosensitivity**
Stephen J. Kentish, Claudine L. Frisby, David J. Kennaway, Gary A. Wittert, and Amanda J. Page

Articles

CELLULAR/MOLECULAR

- 19099 **Peripheral TGF- β 1 Signaling Is a Critical Event in Bone Cancer-Induced Hyperalgesia in Rodents**
Qian Xu, Xiao-Meng Zhang, Kai-Zheng Duan, Xi-Yao Gu, Mei Han, Ben-Long Liu, Zhi-Qi Zhao, and Yu-Qiu Zhang
- 19131 **Distinct Determinants of Sparse Activation during Granule Cell Maturation**
Cristina V. Dieni, Angela K. Nietz, Roberto Panichi, Jacques I. Wadiche, and Linda Overstreet-Wadiche
- 19143 **Secretagogue Stimulation of Neurosecretory Cells Elicits Filopodial Extensions Uncovering New Functional Release Sites**
Andreas Papadopoulos, Sally Martin, Vanesa M. Tomatis, Rachel S. Gormal, and Frederic A. Meunier
- 19176 **Nitric Oxide Mediates Activity-Dependent Plasticity of Retinal Bipolar Cell Output via S-Nitrosylation**
Ryan E. Tooker, Mikhail Y. Lipin, Valerie Leuranguer, Eva Rozsa, Jayne R. Bramley, Jacqueline L. Harding, Melissa M. Reynolds, and Jozsef Vigh
- 19262 **FAIM-L Is an IAP-Binding Protein That Inhibits XIAP Ubiquitinylation and Protects from Fas-Induced Apoptosis**
Rana S. Moubarak, Laura Planells-Ferrer, Jorge Urresti, Stéphanie Reix, Miguel F. Segura, Paulina Carriba, Fernando Marqués-Fernández, Carme Sole, Nuria Llecha-Cano, Joaquín López-Soriano, Daniel Sanchis, Victor J. Yuste, and Joan X. Comella

- 19295 **Regulation of Spine Formation by ErbB4 in PV-Positive Interneurons**
Dong-Min Yin, Xiang-Dong Sun, Jonathan C. Bean, Thiri W. Lin, Anupama Sathyamurthy, Wen-Cheng Xiong, Tian-Ming Gao, Yong-Jun Chen, and Lin Mei
- 19314 **β -Hydroxybutyrate Modulates N-Type Calcium Channels in Rat Sympathetic Neurons by Acting as an Agonist for the G-Protein-Coupled Receptor FFA3**
Yu-Jin Won, Van B. Lu, Henry L. Puhl III, and Stephen R. Ikeda
- DEVELOPMENT/PLASTICITY/REPAIR**
- 19071 **Antagonistic Functions of Dishevelleds Regulate Frizzled3 Endocytosis via Filopodia Tips in Wnt-Mediated Growth Cone Guidance**
Keisuke Onishi, Beth Shafer, Charles Lo, Fadel Tissir, Andre M. Goffinet, and Yimin Zou
- 19112 **Synaptic Plasticity and PDGF Signaling Defects Underlie Clinical Progression in Multiple Sclerosis**
Francesco Mori, Silvia Rossi, Sonia Piccinini, Caterina Motta, Dalila Mango, Hajime Kusayanagi, Alessandra Bergami, Valeria Studer, Carolina G. Nicoletti, Fabio Buttari, Francesca Barbieri, Nicola B. Mercuri, Gianvito Martino, Roberto Furlan, Robert Nisticò, and Diego Centonze
- 19341 **Atp6ap2/(Pro)renin Receptor Interacts with Par3 as a Cell Polarity Determinant Required for Laminar Formation during Retinal Development in Mice**
Atsuhiro Kanda, Kousuke Noda, Kenya Yuki, Yoko Ozawa, Takahisa Furukawa, Atsuhiro Ichihara, and Susumu Ishida
- SYSTEMS/CIRCUITS**
- 19051 **Neuroestradiol in the Hypothalamus Contributes to the Regulation of Gonadotropin Releasing Hormone Release**
Brian P. Kenealy, Amita Kapoor, Kathryn A. Guerriero, Kim L. Keen, James P. Garcia, Joseph R. Kurian, Toni E. Ziegler, and Ei Terasawa
- 19154 **Integration over Multiple Timescales in Primary Auditory Cortex**
Stephen V. David and Shihab A. Shamma
- 19167 **Direction Selectivity Mediated by Adaptation in the Owl's Inferior Colliculus**
Yunyan Wang and José Luis Peña
- 19223 **Electrophysiological Properties of Rostral Ventrolateral Medulla Presynaptic Neurons Modulated by the Respiratory Network in Rats**
Davi J. A. Moraes, Melina P. da Silva, Leni G. H. Bonagamba, André S. Mecawi, Daniel B. Zoccal, José Antunes-Rodrigues, Wamberto A. Varanda, and Benedito H. Machado
- 19326 **A Computational Model for Epidural Electrical Stimulation of Spinal Sensorimotor Circuits**
Marco Capogrosso, Nikolaus Wenger, Stanisa Raspopovic, Pavel Musienko, Janine Beauparlant, Lorenzo Bassi Luciani, Grégoire Courtine, and Silvestro Micera
- 19352 **The Visual Representation of 3D Object Orientation in Parietal Cortex**
Ari Rosenberg, Noah J. Cowan, and Dora E. Angelaki
- 19362 **Independent Population Coding of Speech with Sub-Millisecond Precision**
Jose A. Garcia-Lazaro, Lucile A. C. Belliveau, and Nicholas A. Lesica

BEHAVIORAL/COGNITIVE

- 19060 **The Irrationality of Categorical Perception**
Stephen M. Fleming, Laurence T. Maloney, and Nathaniel D. Daw
- 19120 **Effort-Related Motivational Effects of the VMAT-2 Inhibitor Tetrabenazine: Implications for Animal Models of the Motivational Symptoms of Depression**
Eric J. Nunes, Patrick A. Randall, Evan E. Hart, Charlotte Freeland, Samantha E. Yohn, Younis Baqi, Christa E. Müller, Laura López-Cruz, Mercè Correa, and John D. Salamone
- 19205 **Transcranial Direct Current Stimulation (tDCS) of Left Parietal Cortex Facilitates Gesture Processing in Healthy Subjects**
Peter H. Weiss, Elisabeth I. S. Achilles, Katharina Moos, Maike D. Hesse, Roland Sparing, and Gereon R. Fink
- 19212 **Simultaneous EEG-fMRI Reveals Temporal Evolution of Coupling between Supramodal Cortical Attention Networks and the Brainstem**
Jennifer M. Walz, Robin I. Goldman, Michael Carapezza, Jordan Muraskin, Truman R. Brown, and Paul Sajda
- 19243 **Consecutive TMS-fMRI Reveals an Inverse Relationship in BOLD Signal between Object and Scene Processing**
Caitlin R. Mullin and Jennifer K. E. Steeves
- 19304 **Hippocampus and Retrosplenial Cortex Combine Path Integration Signals for Successful Navigation**
Katherine R. Sherrill, Uğur M. Erdem, Robert S. Ross, Thackery I. Brown, Michael E. Hasselmo, and Chantal E. Stern
- 19373 **Memory Consolidation by Replay of Stimulus-Specific Neural Activity**
Lorena Deuker, Jan Olligs, Juergen Fell, Thorsten A. Kranz, Florian Mormann, Christian Montag, Martin Reuter, Christian E. Elger, and Nikolai Axmacher
- 19384 **Long-Term Antagonism of κ Opioid Receptors Prevents Escalation of and Increased Motivation for Heroin Intake**
Joel E. Schlosburg, Timothy W. Whitfield Jr, Paula E. Park, Elena F. Crawford, Olivier George, Leandro F. Vendruscolo, and George F. Koob

NEUROBIOLOGY OF DISEASE

- 19086 **Pharmacologic Inhibition of ROCK2 Suppresses Amyloid- β Production in an Alzheimer's Disease Mouse Model**
Jeremy H. Herskowitz, Yangbo Feng, Alexa L. Mattheyses, Chadwick M. Hales, Lenora A. Higginbotham, Duc M. Duong, Thomas J. Montine, Juan C. Troncoso, Madhav Thambisetty, Nicholas T. Seyfried, Allan I. Levey, and James J. Lah
- 19194 **Diabetes Augments *In Vivo* Microvascular Blood Flow Dynamics after Stroke**
Kelly A. Tennant and Craig E. Brown
- 19250 **Sodium Channels Contribute to Degeneration of Dorsal Root Ganglion Neurites Induced by Mitochondrial Dysfunction in an *In Vitro* Model of Axonal Injury**
Anna-Karin Persson, Inslil Kim, Peng Zhao, Mark Estacion, Joel A. Black, and Stephen G. Waxman
- 19276 **Neuronal Clearance of Amyloid- β by Endocytic Receptor LRP1**
Takahisa Kanekiyo, John R. Cirrito, Chia-Chen Liu, Mitsuru Shinohara, Jie Li, Dorothy R. Schuler, Motoko Shinohara, David M. Holtzman, and Guojun Bu

19284 Membrane-Anchored A β Accelerates Amyloid Formation and Exacerbates Amyloid-Associated Toxicity in Mice

Amudha Nagarathinam, Philip Höflinger, Anika Bühler, Claudia Schäfer, Gillian McGovern, Martin Jeffrey, Matthias Staufenbiel, Mathias Jucker, and Frank Baumann

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@sfm.org.