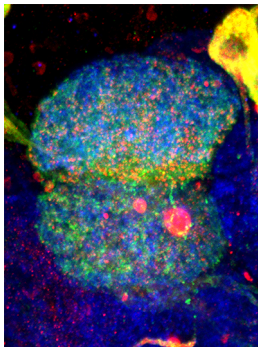


JNeurosci

THE JOURNAL OF NEUROSCIENCE

January 4, 2023 • Volume 43 Number 1 • www.jneurosci.org



Cover legend: This image shows Projection Neurons in the DA1 and VA1d glomeruli of the *Drosophila* antennal lobes in the brain of a male fly that has just emerged from its pupal casing (0 days old). Synaptic puncta were identified throughout the glomeruli (red) through expression of a tagged variant of the presynaptic active zone protein Bruchpilot. The neurites and cell bodies of these neurons were visualized with a membrane-bound GFP tag (green) and the antennal lobe itself was labelled using N-Cadherin (blue). For more information, see the article by Aimino et al. (pages 28–55). Cover image: Mike Aimino.

Editorial

- 1 **Welcome from the New Editor-in-Chief**
Sabine Kastner

Research Articles

CELLULAR/MOLECULAR

- 2 **Trapping of Nicotinic Acetylcholine Receptor Ligands Assayed by *In Vitro* Cellular Studies and *In Vivo* PET Imaging**
Hannah J. Zhang, Matthew Zammit, Chien-Min Kao, Anitha P. Govind, Samuel Mitchell, Nathaniel Holderman, Mohammed Bhuiyan, Richard Freifelder, Anna Kucharski, Xiaoxi Zhuang, Jogeshwar Mukherjee, Chin-Tu Chen, and William N. Green
- 14 **Pharmacological Signature and Target Specificity of Inhibitory Circuits Formed by Martinotti Cells in the Mouse Barrel Cortex**
Cristina Donato, Daniella Balduino Victorino, Carolina Cabezas, Andrea Aguirre, Joana Lourenço, Marie-Claude Potier, Javier Zorrilla de San Martin, and Alberto Bacci

DEVELOPMENT/PLASTICITY/REPAIR

- 28 **Synaptic Development in Diverse Olfactory Neuron Classes Uses Distinct Temporal and Activity-Related Programs**
Michael A. Aimino, Alison T. DePew, Lucas Restrepo, and Timothy J. Mosca

SYSTEMS/CIRCUITS

- 56 **Preferential Modulatory Action of 5-HT_{2A} Receptors on the Dynamic Regulation of Basal Ganglia Circuits**
Lise Guilhemsang, Amaia Gutierrez-Ceballos, Mario Antonazzo, Nicolas P. Mallet, Luisa Ugedo, and Teresa Morera-Herreras
- 68 **Parallel Pathways Provide Hippocampal Spatial Information to Prefrontal Cortex**
Kokoe Fany Messanvi, Kathleen Berkun, Aster Perkins, and Yogita Chudasama
- 82 **Creation of Neuronal Ensembles and Cell-Specific Homeostatic Plasticity through Chronic Sparse Optogenetic Stimulation**
Benjamin Liu, Michael J. Seay, and Dean V. Buonomano
- 93 **A Redundant Cortical Code for Speech Envelope**
Kristina B. Penikis and Dan H. Sanes

BEHAVIORAL/COGNITIVE

- 113 **Activity Patterns of Individual Neurons and Ensembles Correlated with Retrieval of a Contextual Memory in the Dorsal CA1 of Mouse Hippocampus**
Han-Sol Lee and Jin-Hee Han
- 125 **Action Observation Network Activity Related to Object-Directed and Socially-Directed Actions in Adolescents**
Mathieu Lesourd, Alia Afyouni, Franziska Geringswald, Fabien Cignetti, Lisa Raoul, Julien Sein, Bruno Nazarian, Jean-Luc Anton, and Marie-Hélène Grosbras
- 142 **Rapid Interactions of Widespread Brain Networks Characterize Semantic Cognition**
Katherine S. Aboud, Tin Q. Nguyen, Stephanie N. Del Tufo, Catie Chang, David H. Zald, Alexandra P. Key, Gavin R. Price, Bennett A. Landman, and Laurie E. Cutting
- 155 **Selective TLR4 Antagonism Prevents and Reverses Morphine-Induced Persistent Postoperative Cognitive Dysfunction, Dysregulation of Synaptic Elements, and Impaired BDNF Signaling in Aged Male Rats**
Stephanie M. Muscat, Nicholas P. Deems, Michael J. Butler, Emmanuel A. Scaria, Menaz N. Bettés, Sean P. Cleary, Ross H. Bockbrader, Steven F. Maier, and Ruth M. Barrientos

NEUROBIOLOGY OF DISEASE

- 173 **The Neural Signature of Impaired Inhibitory Control in Individuals with Heroin Use Disorder**
Ahmet O. Ceceli, Sarah G. King, Natalie McClain, Nelly Alia-Klein, and Rita Z. Goldstein

Persons interested in becoming members of the Society for Neuroscience should contact the Membership Department at membership@sfn.org or 202-962-4911.

For current submission policies and manuscript preparation guidelines, authors should refer to our Information for Authors at <https://www.jneurosci.org/content/information-authors>.

Manuscripts should be submitted online at <https://jneurosci.msubmit.net>. Please contact the Central Office with any questions at jn@sfn.org or 202-962-4000.