

# JNeurosci

THE JOURNAL OF NEUROSCIENCE

August 19, 2020 • Volume 40 Number 34 • www.jneurosci.org



**Cover legend:** This is a photograph of Thor, a Norwegian forest cat. The primary visual cortex of higher mammals, including cats, is organized into an orderly tiling of sensory modules. Computer simulations show that spontaneous retinal waves mirrored from the retinal mosaics initiate this clustering of functional circuits in visual cortex. For more information, see the article by Kim and Song et al. Cover Image: Se-Bum Paik. (pages 6584–6599).

## 6459 This Week in The Journal

### Viewpoints

#### 6460 How the Barrel Cortex Became a Working Model for Developmental Plasticity: A Historical Perspective

Reha S. Erzurumlu and Patricia Gaspar

### Journal Club

#### 6474 Selecting and Executing Actions for Rewards

Pierre Vassiliadis and Gerard Derosiere

### Research Articles

#### CELLULAR/MOLECULAR

#### 6477 Mechanisms Mediating High-Molecular-Weight Hyaluronan-Induced Antihyperalgesia

Ivan J.M. Bonet, Dionéia Araldi, Eugen V. Khomula, Oliver Bogen, Paul G. Green, and Jon D. Levine

#### 6489 D-Serine Signaling and NMDAR-Mediated Synaptic Plasticity Are Regulated by System A-Type of Glutamine/D-Serine Dual Transporters

Oded Bodner, Inna Radziszhevsky, Veronika N. Foltyn, Ayelet Touitou, Alec C. Valenta, Igor F. Rangel, Rogerio Panizzutti, Robert T. Kennedy, Jean Marie Billard, and Herman Wolosker

#### 6503 A Developmental Analysis of Juxtavascular Microglia Dynamics and Interactions with the Vasculature

Erica Mondo, Shannon C. Becker, Amanda G. Kautzman, Martina Schifferer, Christina E. Baer, Jiapei Chen, Eric J. Huang, Mikael Simons, and Dorothy P. Schafer

#### 6522 Depolarization-Dependent C-Raf Signaling Promotes Hyperexcitability and Reduces Opioid Sensitivity of Isolated Nociceptors after Spinal Cord Injury

Anibal Garza Carbajal, Alexis Bavencoffe, Edgar T. Walters, and Carmen W. Dessauer

#### DEVELOPMENT/PLASTICITY/REPAIR

#### 6536 Experience-Dependent Development of Dendritic Arbors in Mouse Visual Cortex

Sarah E.V. Richards, Anna R. Moore, Alice Y. Nam, Shikhar Saxena, Suzanne Paradis, and Stephen D. Van Hooser

#### 6557 Histaminergic Control of Corticostriatal Synaptic Plasticity during Early Postnatal Development

Sungwon Han, Ricardo Márquez-Gómez, Myles Woodman, and Tommas Ellender

## SYSTEMS/CIRCUITS

- 6572 **Temporal Signatures of Criticality in Human Cortical Excitability as Probed by Early Somatosensory Responses**  
Tilman Stephani, Gunnar Waterstraat, Stefan Haufe, Gabriel Curio, Arno Villringer, and Vadim V. Nikulin
- 6584 **Spontaneous Retinal Waves Can Generate Long-Range Horizontal Connectivity in Visual Cortex**  
Jinwoo Kim, Min Song, Jaeson Jang, and Se-Bum Paik

## BEHAVIORAL/COGNITIVE

- 6600 **Causal Inference in Audiovisual Perception**  
Agoston Mihalik and Uta Noppeney
- 6613 **Adaptation to Noise in Human Speech Recognition Depends on Noise-Level Statistics and Fast Dynamic-Range Compression**  
Miriam I. Marrufo-Pérez, Dora del Pilar Sturla-Carreto, Almudena Eustaquio-Martín, and Enrique A. Lopez-Poveda
- 6624 **Dissociable Neural Systems Support the Learning and Transfer of Hierarchical Control Structure**  
Adam Eichenbaum, Jason M. Scimeca, and Mark D'Esposito
- 6638 **Discrete Patterns of Cross-Hemispheric Functional Connectivity Underlie Impairments of Spatial Cognition after Stroke**  
Radek Ptak, Alexia Bourgeois, Silvia Cavelti, Naz Doganci, Armin Schnider, and Giannina Rita Iannotti

## NEUROBIOLOGY OF DISEASE

- 6649  **$\alpha$ -Synuclein Induces Progressive Changes in Brain Microstructure and Sensory-Evoked Brain Function That Precedes Locomotor Decline**  
Winston T. Chu, Jesse C. DeSimone, Cara J. Riffe, Han Liu, Paramita Chakrabarty, Benoit I. Giasson, Vinata Vedam-Mai, and David E. Vaillancourt
- 6660 **Erratum:** The article “Medial Nucleus Accumbens Projections to the Ventral Tegmental Area Control Food Consumption,” by Colin W. Bond, Richard Trinko, Ethan Foscue, Kara Furman, Stephanie M. Groman, Jane R. Taylor, and Ralph J. DiLeone, appeared on pages 4727–4738 of the June 10, 2020 issue. An erratum for this article appears on page 6660.
- Erratum:** The article “Proteoglycan IMPG2 Shapes the Interphotoreceptor Matrix and Modulates Vision” by Ezequiel M. Salido and Visvanathan Ramamurthy, appeared on pages 4059–4072 of the May 13, 2020 issue. An erratum for this article appears on page 6660.

---

Persons interested in becoming members of the Society for Neuroscience should contact the Membership Department at [membership@sfn.org](mailto: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](mailto:jn@sfn.org) or 202-962-4000.