



**Cover legend:** This composite image shows a cultured hippocampal neuron, rotated at different angles in three dimensions, as it becomes polarized.

The neuron is labeled for actin (green), beta-III Tubulin (red) and DAPI (blue). For more information, see the article by Bradke. (pages 8393–8405). Cover image: Telma Santos (German Center for Neurodegeneration, Bonn, Germany).

## Progressions

- 8393 Mechanisms of Axon Growth and Regeneration: Moving between Development and Disease**  
Frank Bradke
- 8406 Cerebellar Contributions to the Basal Ganglia Influence Motor Coordination, Reward Processing, and Movement Vigor**  
Junichi Yoshida, Maritza Oñate, Leila Khatami, Jorge Vera, Farzan Nadim, and Kamran Khodakhah

## Viewpoints

- 8416 A Neurosurgical Functional Dissection of the Middle Precentral Gyrus during Speech Production**  
Alexander B. Silva, Jessie R. Liu, Lingyun Zhao (赵凌云), Deborah F. Levy, Terri L. Scott, and Edward F. Chang

## Dual Perspectives

- 8427 Better Inference in Neuroscience: Test Less, Estimate More**  
Robert J. Calin-Jageman
- 8432 Neuroscience Needs to Test Both Statistical and Scientific Hypotheses**  
Bradley E. Alger

## Symposia

- 8439 Psychedelics and Neural Plasticity: Therapeutic Implications**  
Steven F. Grieco, Eero Castrén, Gitte M. Knudsen, Alex C. Kwan, David E. Olson, Yi Zuo, Todd C. Holmes, and Xiangmin Xu
- 8450 Making Sense of the Multiplicity and Dynamics of Navigational Codes in the Brain**  
David J.-N. Maisson, Andrew Wikenheiser, Jean-Paul G. Noel, and Alexandra T. Keinath
- 8460 Dendritic Mechanisms for *In Vivo* Neural Computations and Behavior**  
Lukas Fischer, Raul Mojica Soto-Albors, Vincent D. Tang, Brendan Bicknell, Christine Grienberger, Valerio Francioni, Richard Naud, Lucy M. Palmer, and Naoya Takahashi
- 8468 Prefrontal Interneurons: Populations, Pathways, and Plasticity Supporting Typical and Disordered Cognition in Rodent Models**  
David A. Kupferschmidt, Kirstie A. Cummings, Max E. Joffe, Andrew MacAskill, Ruchi Malik, Candela Sánchez-Bellot, Hugo A. Tejada, and Hector Yarur Castillo

- 8477 Neural Mechanisms Mediating Sex Differences in Motivation for Reward: Cognitive Bias, Food, Gambling, and Drugs of Abuse**  
Caitlin A. Orsini, Travis E. Brown, Travis E. Hodges, Yanaira Alonso-Caraballo, Catharine A. Winstanley, and Jill B. Becker
- 8488 Super-Resolution Microscopy Opens New Doors to Life at the Nanoscale**  
Martin Fuhrmann, Nala Gockel, Misa Arizono, Yulia Dembitskaya, U. Valentin Nägerl, Francesca Pennacchietti, Martina Damenti, Ilaria Testa, and Katrin I. Willig
- 8498 Music and Brain Circuitry: Strategies for Strengthening Evidence-Based Research for Music-Based Interventions**  
Wen Grace Chen, John Rehner Iversen, Mimi H. Kao, Psyche Loui, Aniruddh Dhiren Patel, Robert J. Zatorre, and Emmeline Edwards
- 8508 What Does the Frontopolar Cortex Contribute to Goal-Directed Cognition and Action?**  
Jeremy Hogeveen, Maria Medalla, Matthew Ainsworth, Juan M. Galeazzi, Colleen A. Hanlon, Farshad Alizadeh Mansouri, and Vincent D. Costa
- 8514 Recent Advances at the Interface of Neuroscience and Artificial Neural Networks**  
Yarden Cohen, Tatiana A. Engel, Christopher Langdon, Grace W. Lindsay, Torben Ott, Megan A. K. Peters, James M. Shine, Vincent Breton-Provencher, and Srikanth Ramaswamy

## Research Articles

### CELLULAR/MOLECULAR

- 8524 Retrograde Axonal Autophagy and Endocytic Pathways Are Parallel and Separate in Neurons**  
Vineet Vinay Kulkarni, Max Henry Stempel, Anip Anand, David Kader Sidibe, and Sandra Maday

### DEVELOPMENT/PLASTICITY/REPAIR

- 8542 *Olig2* Ablation in Immature Oligodendrocytes Does Not Enhance CNS Myelination and Remyelination**  
Jiajia Wang, Lijun Yang, Mingqing Jiang, Chuntao Zhao, Xuezhao Liu, Kalen Berry, Ari Waisman, Abraham J. Langseth, Bennett G. Novitch, Dwight E. Bergles, Akiko Nishiyama, and Q. Richard Lu

### SYSTEMS/CIRCUITS

- 8556 Integrating Visual Information into the Auditory Cortex Promotes Sound Discrimination through Choice-Related Multisensory Integration**  
Song Chang, Jinghong Xu, Mengyao Zheng, Les Keniston, Xiaoming Zhou, Jiping Zhang, and Liping Yu

### BEHAVIORAL/COGNITIVE

- 8569 The Theta Paradox: 4-8 Hz EEG Oscillations Reflect Both Sleep Pressure and Cognitive Control**  
Sophia Snipes, Elena Krugliakova, Elias Meier, and Reto Huber

NEUROBIOLOGY OF DISEASE

**8587 Integrity of Neuronal Size in the Entorhinal Cortex Is a Biological Substrate of Exceptional Cognitive Aging**

Caren Nassif, Allegra Kawles, Ivan Ayala, Grace Minogue, Nathan P. Gill, Robert A. Shepard, Antonia Zouridakis, Rachel Keszycki, Hui Zhang, Qinwen Mao, Margaret E. Flanagan, Eileen H. Bigio, M.-Marsel Mesulam, Emily Rogalski, Changiz Geula, and Tamar Gefen

---

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.