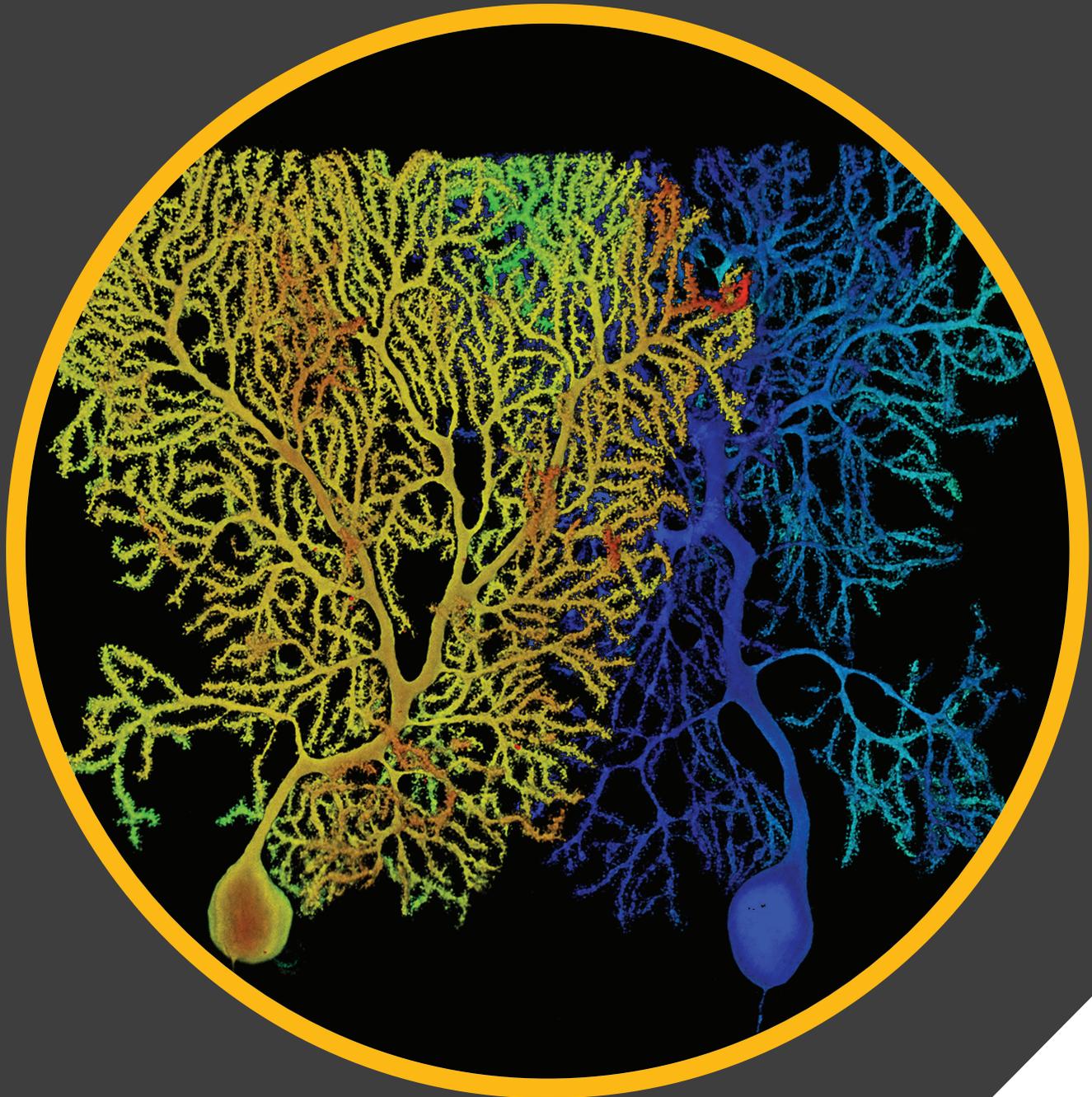


GENERAL INFORMATION

# Program

SAN DIEGO | NOVEMBER 3-7



**REMINDER: DAYLIGHT SAVINGS TIME  
ENDS SUNDAY AT 2 A.M.**

Don't forget to set your clock back  
one hour before going to bed.



# Information at a Glance

---

## Important Phone Numbers

### Annual Meeting

#### Headquarters Office

#### Logistics and Programming

San Diego Convention Center:  
Sails Pavilion  
Logistics: (619) 525-6200  
Programming: (619) 525-6205

#### Volunteer Leadership Lounge

San Diego Convention Center:  
Room 14A  
(619) 525-6235

### Annual Meeting Information

#### Booths

#### San Diego Convention Center

Lobby A: (619) 525-6224  
Lobby D: (619) 525-6225  
Sails Pavilion: (619) 525-6226

#### Press Office

San Diego Convention Center:  
Room 15B  
(619) 525-6230

### Exhibit Management

San Diego Convention Center:  
Lobby D  
(619) 525-6240

### First Aid and Hospital Numbers

#### First Aid Room

San Diego Convention Center:  
Lobby C  
(619) 525-6211

#### Scripps Mercy Hospital

4077 Fifth Avenue  
San Diego, CA 92103  
(619) 294-8111

#### Sharp Rees – Stealy Downtown

#### San Diego Urgent Care

300 Fir Street  
San Diego, CA 92101  
(858) 499-2600

### Key to Poster Floor by Themes

The poster floor begins with Theme A in Hall H and ends with Theme J in Hall B. Refer to the poster floor map at the end of this booklet.

#### Theme

- A .....Development
- B .....Neural Excitability, Synapses, and Glia
- C .....Neurodegenerative Disorders and Injury
- D .....Sensory Systems
- E .....Motor Systems
- F .....Integrative Physiology and Behavior
- G .....Motivation and Emotion
- H .....Cognition
- I .....Techniques
- J .....History and Education

NOTE: Theme J Posters will be on display in Hall B beginning at 1 p.m. on Saturday, Nov. 3, and will remain posted until 5 p.m., Sunday, Nov. 4. One-hour presentations will occur either Saturday afternoon or Sunday morning.

Information in the General Information *Program* is current as of September 19, 2018. See SfN.org for the most up-to-date annual meeting information.

---

### Code of Conduct at SfN Events

SfN is committed to supporting discovery and scientific dialogue, and to fostering a welcoming community in which all scientists are able to contribute fully. The Society asserts that sexual harassment and other harassing behaviors have no place in a healthy scientific enterprise. We expect all attendees, media, speakers, volunteers, organizers, venue staff, guests, and exhibitors at SfN-organized events to help us ensure a safe and positive

environment. At the convention center, onsite medical and security personnel are available directly or through the SfN headquarters office.

If attendees experience unwelcome or unsafe situations anywhere in the city, attendees should swiftly contact local authorities (dial 9-1-1), and additional local social services resources are listed in one convenient location at the federal website [www.changingourcampus.org](http://www.changingourcampus.org). Any official report of sexual harassment

should be brought to the designated Human Resources Officer in the SfN headquarters office at each meeting convention center, or sent via email to [hrofficer@sfn.org](mailto:hrofficer@sfn.org). The HR Officer will facilitate the completion of a report by a complainant.

For more information on SfN's policy, please go to: [sfn.org/Membership/Professional-Conduct/Code-of-Conduct-at-SfN-Events](http://sfn.org/Membership/Professional-Conduct/Code-of-Conduct-at-SfN-Events)

# Table of Contents

---

## Scientific Content

Program at a Glance .....	10
Featured Lectures .....	14
Special Lectures .....	18
Symposia and Minisymposia.....	22
Dual Perspectives .....	32
Basic-Translational-Clinical	
Roundtables.....	32
SfN Preconference Sessions.....	34
Workshops, Meetings, and Events .....	38
SfN-Sponsored Socials .....	44
Satellite Events and Non-SfN Socials	50
List of Sessions by Theme and Day ...	54
Clinician-Scientists and Continuing	
Medical Education .....	78
Awards in Neuroscience .....	79

## Registration, Hotel, and Travel

Registration .....	82
Navigating the Meeting .....	83
Hotel Map.....	84
Hotel List .....	85
Travel Information .....	88
Shuttle Schedule.....	89

## Resources

Attendee Resources .....	92
Exhibitor List .....	96
Hotel Floor Plans.....	101
Convention Center Floor Plans.....	108
Photo Credits .....	112
Council and Program Committee .....	113





## President's Letter

---

Welcome to the Society for Neuroscience's 48th Annual Meeting. I am pleased to be here in San Diego with some of the most enterprising minds from around the world, across the field, and at all stages of their scientific careers.

As neuroscientists, our enthusiasm for the field may have developed from any number of factors. Perhaps it was a natural curiosity about what makes us who we are, sparked by a teacher or mentor, or perhaps our motivation grew from a desire to help a loved one struggling with a neurological or psychiatric condition.

Whatever it is that drives us to understand the brain and the nervous system, it is imperative that we remember the reward of scientific discovery, the value of collaboration, and our capacity to innovate together. As neuroscientists throughout the world increasingly form initiatives to trace neural connections, develop neuroimaging techniques, categorize

brain cell types, and more, we are revolutionizing how we look at, measure, and manipulate brain activity. This accelerates our ability as a field to make scientific progress.

As you explore the vast array of scientific sessions, workshops, and other events at Neuroscience 2018, I encourage you to bring the passion that you have for your work to every interaction that you have at the meeting, from seeking feedback on your research to building your professional network. The connections you make at the meeting will strengthen your research, the field, and the global neuroscience community.

Sincerely,

Richard L. Huganir, PhD  
President, Society for Neuroscience



Richard L. Huganir, PhD  
SfN President

# Welcome to Neuroscience 2018

---

## Plan Your Neuroscience 2018 Experience

Keep the Neuroscience 2018 Program at your fingertips with these tools for navigating the meeting and building your personal itinerary:

- Neuroscience Meeting Planner (NMP), available at the convention center's NMP Viewing Area in the Sails Pavilion or via [SfN.org/NMP](http://SfN.org/NMP). Search abstracts, download curated itineraries, and customize your schedule.
- Neuroscience 2018 Mobile App, available from the iTunes or Google Play app stores. Sync your NMP-created itinerary with the mobile app by logging in to both resources with your SfN username and password. Browse sessions, view maps of the convention center and hotels, search exhibitors, take notes, and more!
- Curated Itineraries, available through the NMP or mobile app. Plan your experience around a specific research area, with relevant sessions and events selected by SfN's Program Committee.

Providing electronic alternatives for navigating *Program* content is just one of the ways in which the Society upholds its commitment to fulfill its mission in a socially, economically, and environmentally responsible fashion. Printed copies of the *Exhibit Guide* and this general information *Program* book continue to be available free of charge, and a limited number of daily books are available for purchase on-site. Visit the *Program* and *Exhibit Guide* Pick-Up counter for details.

## New for 2018

- Dual Perspectives: Learn about the history, research, and multiple viewpoints surrounding a hot topic in the field at the new Dual Perspectives session (pg. 32). This year's session on gamma oscillations will take place Monday, November 5, from 1 to 2 p.m.
- Telling Stories of Science: Discover how storytelling can transform science communication and promote scientific progress. Hear three powerful personal stories and learn why and how to tell your own stories at this minisymposium (pg. 31) taking place Sunday, November 4, from 1:30 to 4 p.m.
- Expanded Programming: Take advantage of an enhanced variety of subject matter represented at this year's meeting. Expanded sessions — including the popular Meet-the-Expert Series, Meet-the-Clinician-Expert sessions, and Basic-Translational-Clinical Roundtables — will feature even more hot topics and presentations from leaders in the field.

## Don't Miss Dynamic Posters

Stop by Halls B–H to check out this year's 135 interactive multimedia poster presentations — use the NMP or mobile app to add these to your schedule.

## Stay Up to Date on Social Media

Keep up with the latest at Neuroscience 2018 by liking the Society for Neuroscience on Facebook, following @SfNtweets and @Neurosci2018 on Twitter, and connecting with us on Instagram at @societyforneuroscience. Share your annual meeting experience using our hashtag #SfN18.

## Daylight Savings Time Ends Sunday, Nov. 4

San Diego, CA, is in the Pacific Time Zone. The state of California participates in Daylight Savings Time. Daylight Savings Time will end at 2 a.m. PDT on Sunday, November 4th. At this time, you will have to set your clock back one hour. Please plan accordingly.

---

## See You in Chicago!

Mark your calendars for Neuroscience 2019, October 19–23 in Chicago, IL.



# Annual Meeting Contributors

The Society for Neuroscience would like to recognize the generous contributions from the following annual meeting program contributors and advertisers:



Amgen  
• Trainee Professional Development Awards

## Bernice Grafstein, PhD

- Bernice Grafstein Award for Outstanding Accomplishments in Mentoring



Biogen  
• Trainee Professional Development Awards



Burroughs Wellcome Fund  
• Trainee Professional Development Awards



The Dana Foundation  
• Science Educator Award



David Kopf Instruments  
• David Kopf Lecture on Neuroethics



Eli Lilly and Company Foundation  
• Julius Axelrod Prize



Elsevier  
• Dialogues Between Neuroscience and Society Lecture



eNeuro  
• International Fellows, Diversity Fellows, and Trainee Professional Development Awardee Poster Sessions  
• Graduate Student Reception



Friends of SfN Fund  
• Trainee Professional Development Awards



The Grass Foundation  
• Albert and Ellen Grass Lecture  
• Donald B. Lindsley Prize in Behavioral Neuroscience  
• Latin America Training Program Challenge Grant



The Gruber Foundation  
• Peter and Patricia Gruber International Research Award in Neuroscience  
• Peter and Patricia Gruber Lecture



Janssen Research and Development LLC  
• Presidential Special Lecture

## John Simpson, PhD

- Latin America Training Program Challenge Grant
- JNS Professional Development Awards



JNeurosci  
• International Fellows, Diversity Fellows, and Trainee Professional Development Awardee Poster Sessions  
• Graduate Student Reception



MilliporeSigma  
• Meet-the-Expert Sessions  
• Neuroscience Extra! and Mobile App



Molecular Devices  
• Sponsored Seating Area and Neuroscience Extra!

## Nancy Rutledge Zahniser Fund

- Nancy Rutledge Zahniser Trainee Professional Development Awards



National Center for Complementary and Integrative Health  
• Neurobiology of Disease Workshop



National Institute on Alcohol Abuse and Alcoholism  
• Neurobiology of Disease Workshop



National Institute of Neurological Disorders and Stroke  
• Neurobiology of Disease Workshop  
• Neuroscience Scholars Program



National Primate Research Centers  
• Animals in Research Panel

The Society for Neuroscience gratefully acknowledges the generous support of its Sustaining Associate Members:

**Platinum**

Carl Zeiss Microscopy, LLC

**Gold**

Elsevier

Olympus America Inc.

**Silver**

The Lundbeck Foundation,  
The Brain Prize

Nikon Instruments Inc.

Siskiyou Corporation

Sutter Instrument

**Nonprofit**

National Institute on Drug Abuse

Rainwater Charitable Foundation

**The Nemko Family**

- Nemko Prize in Cellular or Molecular Neuroscience



NeuroLux

NeuroLux

- Meet-the-Expert Sessions



Sunovion

- Young Investigator Award



The Swartz Foundation

- Swartz Prize for Theoretical and Computational Neuroscience



NOVARTIS  
INSTITUTES FOR  
BIOMEDICAL RESEARCH

Novartis Institutes for BioMedical Research

- Trainee Professional Development Awards



Tianqiao & Chrissy Chen Institute

- Presidential Special Lecture



Plexon Inc.

- Charging Stations



Thermo Fisher Scientific

- Wireless Landing Page and Mobile App



Precisionary Instruments

- Mobile App

**The Trubatch Family**

- Janett Rosenberg Trubatch  
Career Development Awards



Sanofi

- Trainee Professional Development Awards

**The Waletzky Award Prize Fund  
and the Waletzky Family**

- Jacob P. Waletzky Award

The Society for Neuroscience (SfN) gratefully acknowledges the generous contributions made in the past year in memory of the following individuals through the

## Friends of SfN Fund

Donations to the Friends of SfN Fund support the Society's mission of advancing the understanding of the brain and nervous system.

Visit [SfN.org/donate](http://SfN.org/donate) to give or contact [development@sfn.org](mailto:development@sfn.org) to learn more.



Ralph Adams	Robert W. McCarley
Ruben Adler	Patricia Milner
Ben Barres	Malcom and Leonie Morrison
Mariann Blum	Dennis Murphy
Larry Butt	Joe Palmieri
Diana Casper	Larry Parsons
John Coote	Donald Partridge
René Drucker-Colin	Daniel Pollen
Howard Eichenbaum	Ramon Perez, Sr.
Marie Filbin	Karl Pribram
Walter Jackson Freeman III	Wilfrid Rall
Robert Galambos	Aryeh Routtenberg
Karen Gale	Miriam Salpeter
Patricia Goldman-Rakic	Elizabeth Samson
Menek Goldstein	Fred Samson
James Goodson	Andrew Scallet
Ulrike Grunert	David Smith
Ray Guillery	Louis Sokoloff
Glen Hatton	Bosco Tjan
James N. Kew	Mark Walker
Daniel Leventhal	Josh Wallman
Pinggan Li	Robert Wenthold
John Lisman	Richard Whalen
Arthur DeCosta Loewy	Elizabeth Young
Clyo Xunaxi Ruiz Lopez	Nancy Rutledge Zahniser
Gary Matthews	

# NeuroJobs

SfN's ONLINE CAREER CENTER

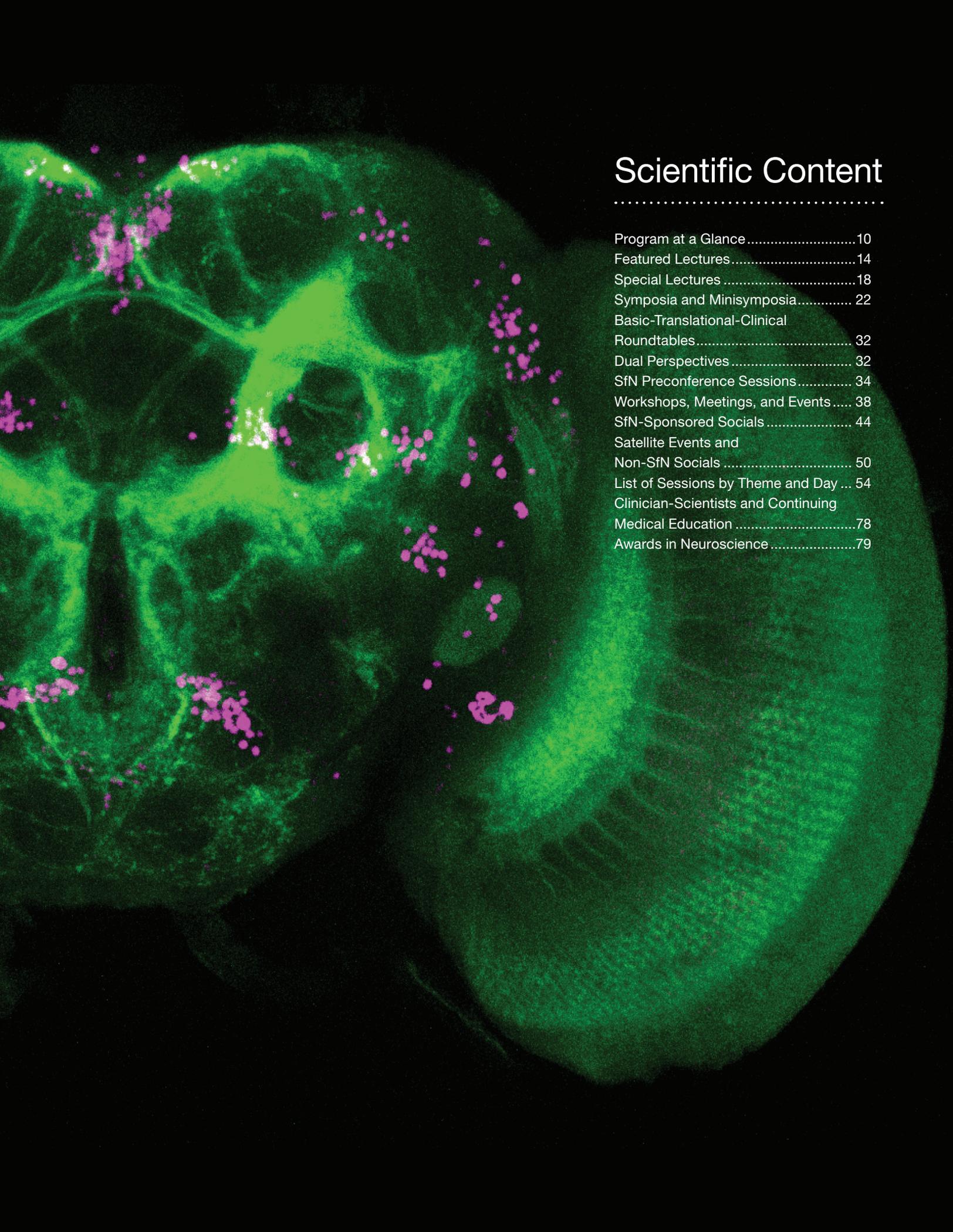
[Neurojobs.sfn.org](http://Neurojobs.sfn.org)

## Are you a job seeker or an employer?

During Neuroscience 2018, visit the Sails Pavilion to apply for or post an open position and to schedule job interviews.

- Saturday, November 3–Tuesday, November 6  
8 a.m.–5 p.m.
- Wednesday, November 7  
8 a.m.–3 p.m.





# Scientific Content

---

Program at a Glance .....	10
Featured Lectures .....	14
Special Lectures .....	18
Symposia and Minisymposia .....	22
Basic-Translational-Clinical Roundtables .....	32
Dual Perspectives .....	32
SfN Preconference Sessions .....	34
Workshops, Meetings, and Events .....	38
SfN-Sponsored Socials .....	44
Satellite Events and Non-SfN Socials .....	50
List of Sessions by Theme and Day ...	54
Clinician-Scientists and Continuing Medical Education .....	78
Awards in Neuroscience .....	79

# Program at a Glance

FRIDAY, NOV. 2	
8 a.m.–5 p.m.	<b>NEUROBIOLOGY OF DISEASE WORKSHOP (P.34)</b> The Role of Innate Immunity in CNS Disorders Throughout the Lifespan Organizers: Gwenn A. Garden, MD, PhD; Stuart A. Lipton, MD, PhD; John F. Neumaier, MD, PhD
8 a.m.–6 p.m.	<b>SHORT COURSE 1 (P.34)</b> Sex Differences in the Brain: Balancing Sex in Preclinical Research Organizers: Jill B. Becker, PhD; Jessica Tollkuhn, PhD
8 a.m.–6 p.m.	<b>SHORT COURSE 2 (P.34)</b> Functional, Structural, and Molecular Imaging, and Big Data Analysis Organizers: Edward S. Boyden, PhD; Kwanghun Chung, PhD
1–5:30 p.m.	<b>SHORT COURSE 3 (P.35)</b> Recognizing and Addressing Power Dynamics in Academia Organizers: Story C. Landis, PhD; Marguerite Matthews, PhD; Cheryl L. Sisk, PhD; Keith A. Trujillo, PhD; Elisabeth J. Van Bockstaele, PhD
SATURDAY, NOV. 3	
8–9:15 a.m.	<b>MEET-THE-EXPERT SERIES: SESSION 1 (P.35)</b>
8 a.m.–5 p.m.	NeuroJobs Career Center (p.38)
9–11 a.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.38)</b> Building a Supportive Global Network Organizer: Emmeline Edwards, PhD
9–11 a.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.38)</b> Improving Your Science: Better Inference, Reproducible Analyses, and the New Publication Landscape Organizer: Robert Calin-Jageman, PhD
9:30–10:45 a.m.	<b>MEET-THE-EXPERT SERIES: SESSION 2 (P.36)</b>
10–11 a.m.	Meeting Mobile App Tutorial (p.38)
11 a.m.–1 p.m.	<b>DIALOGUES BETWEEN NEUROSCIENCE AND SOCIETY (P.14)</b> Music and the Brain Speaker: Pat Metheny
Noon–2 p.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.38)</b> Careers in Making Medicines: Translating Basic Research Into Therapeutics Organizer: Fiona Randall, PhD
Noon–2 p.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.38)</b> How SfN Helped My Career: Expanding Your Neural Network at the Annual Meeting Organizer: Robert Burgess, PhD
1–3 p.m.	Graduate School Fair (p.39)
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Symposia/Minisymposia (p.22)
2–3:10 p.m.	<b>SPECIAL LECTURE (P.20)</b> Neural Dynamics of the Primate Attention Network Lecturer: Sabine Kastner, MD
2:30–4 p.m.	<b>BRAIN AWARENESS CAMPAIGN EVENT (P.39)</b> Action and Potential in Outreach, Education, and Research
3–5 p.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.39)</b> How to Thrive as a Woman in Neuroscience Organizer: Melissa Harrington, PhD
5:15–6:30 p.m.	<b>PRESIDENTIAL SPECIAL LECTURE (P.15)</b> The dArc Matter of Synaptic Communication Lecturer: Vivian Budnik, PhD
6:30–8:30 p.m.	Diversity Poster Session (p.39)
6:30–8:30 p.m.	International Fellows Poster Session (p.40)
6:30–8:30 p.m.	Trainee Professional Development Awards Poster Session (p.40)

7:30–9:30 p.m.	Career Development Topics: A Networking Event (p.40)
<b>SUNDAY, NOV. 4</b>	
8 a.m.–noon	Posters/Nanosymposia
8 a.m.–5 p.m.	NeuroJobs Career Center (p.38)
8:30–9:40 a.m.	<b>SPECIAL LECTURE (P.20)</b> Bidirectional Interactions Between the Brain and Implantable Computers Lecturer: Eberhard E. Fetz, PhD
8:30–11 a.m.	<b>BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLES (P.32)</b> What We Know, What We Don't Know: How Can We Better Understand Alzheimer's Disease to Develop Effective Treatments? Organizer: David M. Holtzman, MD
8:30–11 a.m.	Symposia/Minisymposia (p.22)
9–11 a.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.40)</b> Bringing a Student-Run Outreach Program to Your Institution Organizers: Alice Dallstream, Barbara Terzic
9–11 a.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.40)</b> Face-to-Face Networking: Building and Maintaining Professional Relationships Organizer: Rae Nishi, PhD
9–11 a.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.40)</b> Fixing the Leaky Pipeline for Women in Science: Addressing Issues Facing New Moms Organizer: Jamie Krueger
9:30 a.m.–5 p.m.	Exhibits (p.94)
10–11:10 a.m.	<b>SPECIAL LECTURE (P.21)</b> Neural Data Science: Accelerating the Experiment-Analysis-Theory Cycle in Large-Scale Neuroscience Lecturer: Liam Paninski, PhD

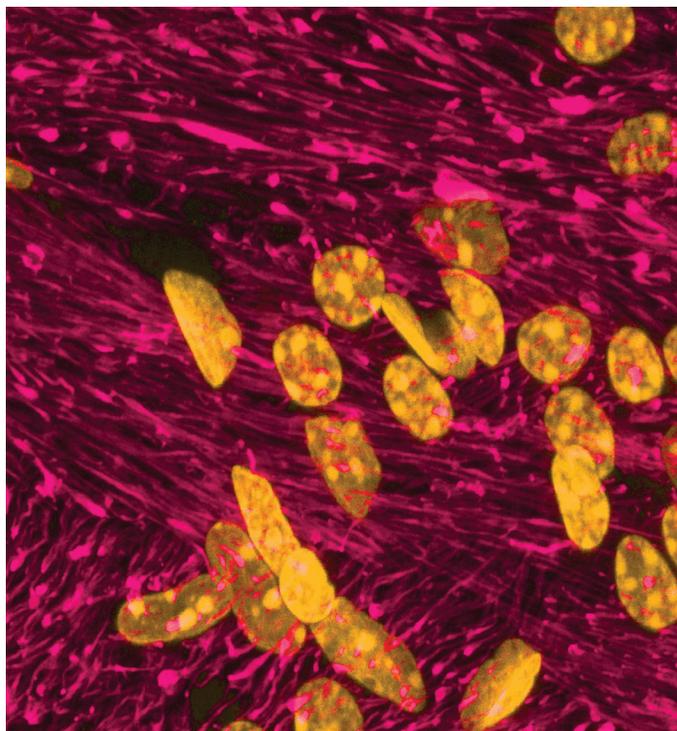
11:30 a.m.– 12:40 p.m.	<b>SPECIAL LECTURE (P.19)</b> Sensorimotor Circuits for Social Communication Lecturer: Mala Murthy, PhD
Noon–2 p.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.40)</b> Career Planning and Explorations for Biomedical PhD Scientists and Physician-Scientists (MD/PhD) Organizer: Nancy Schwartz, PhD
Noon–2 p.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.41)</b> Cultivating Leadership in Multidisciplinary Research: Bridging Gaps Across Campuses, Countries, and Continents Organizer: Sadye Paez, PhD
Noon–2 p.m.	Graduate School Fair (p.39)
1–2:10 p.m.	<b>CLINICAL NEUROSCIENCE LECTURE (P.18)</b> From Axon Regeneration to Functional Recovery After CNS Injury Lecturer: Zhigang He, PhD
1–3 p.m.	<b>SOCIAL ISSUES ROUNDTABLE (P.41)</b> Solitary Confinement: Psychological and Neurobiological Insights Into Isolation Organizer: Michael J. Zigmond, PhD
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Symposia/Minisymposia (p.22)
2:30–3:40 p.m.	<b>PETER AND PATRICIA GRUBER LECTURE (P.15)</b> Decision, Reward, and the Basal Ganglia Lecturers: Ann M. Graybiel, PhD; Okihide Hikosaka, MD, PhD; Wolfram Schultz, MD
2:30–5 p.m.	<b>NEUROSCIENCE DEPARTMENTS AND PROGRAMS WORKSHOP (P.41)</b> Breaking Through: Pathways to Independence for Early Career Neuroscientists Organizers: Rosalind A. Segal, MD, PhD; Elisabeth J. Van Bockstaele, PhD
3–5 p.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.41)</b> How a Journal Handles Your Paper Organizer: J. Paul Bolam, PhD

5:15–6:30 p.m.	<b>PRESIDENTIAL SPECIAL LECTURE (P.16)</b> Neurobiology of Social Behavior Circuits Lecturer: Catherine Dulac, PhD
6:45–8:45 p.m.	SfN-Sponsored Socials (p.44)
<b>MONDAY, NOV. 5</b>	
8 a.m.–noon	Posters/Nanosymposia
8 a.m.–5 p.m.	NeuroJobs Career Center (p.38)
8:30–9:40 a.m.	<b>SPECIAL LECTURE (P.21)</b> Organelle Structure and Dynamics: What High-Resolution Imaging Is Uncovering Lecturer: Jennifer Lippincott-Schwartz, PhD
8:30–11 a.m.	<b>BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLES (P.32)</b> Molecular Therapies for Neurological Diseases Organizer: Frank Bennett, PhD
8:30–11 a.m.	Symposia/Minisymposia (p.22)
9–11 a.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.41)</b> FAIR Neuroscience: Sharing and Collaborating for Reproducible Data Organizer: Linda Lanyon, PhD
9–11 a.m.	<b>PROFESSIONAL DEVELOPMENT WORKSHOP (P.42)</b> Teaching Neuroscience: Emotion and Learning Organizer: Richard Olivo, PhD
9:30 a.m.–5 p.m.	Exhibits (p.94)
10–10:30 a.m.	<b>NEUROJOBS CAREER CENTER WORKSHOP (P.41)</b> Best Practices for Filling Your Open Position With the Perfect Candidate
10–11:10 a.m.	<b>DAVID KOPF LECTURE ON NEUROETHICS (P.16)</b> When Is an Adolescent an Adult?: Implications for Justice Policy Lecturer: B.J. Casey, PhD
11:30 a.m.–12:40 p.m.	<b>SPECIAL LECTURE (P.21)</b> New Computational Perspectives on Serotonin Function Lecturer: Zachary F. Mainen, PhD

Noon–2 p.m.	<b>ANIMALS IN RESEARCH PANEL (P.42)</b> Gaining Public Support for Animal Research: A Proposal for Openness Organizer: Mar Sanchez, PhD
Noon–2 p.m.	Graduate School Fair (p.39)
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	<b>BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE (P.32)</b> Rapid Antidepressant Action: Synaptic Mechanisms and Clinical Aspects Organizer: Ege T. Kavalali, PhD
1:30–4 p.m.	Symposia/Minisymposia (p.22)
3:15–4:25 p.m.	<b>ALBERT AND ELLEN GRASS LECTURE (P.17)</b> Neural Sequences in Memory and Cognition Lecturer: David W. Tank, PhD
5:15–6:30 p.m.	<b>PRESIDENTIAL SPECIAL LECTURE (P.17)</b> From Nanoscale Dynamic Organization to Plasticity of Excitatory Synapses and Learning Lecturer: Daniel Choquet, PhD
6:45–8:45 p.m.	<b>SfN CHAPTERS WORKSHOP AND RECEPTION (P.42)</b>
6:45–8:45 p.m.	SfN-Sponsored Socials (p.44)
<b>TUESDAY, NOV. 6</b>	
8 a.m.–Noon	Posters/Nanosymposia
8 a.m.–5 p.m.	NeuroJobs Career Center (p.38)
8:30–9:40 a.m.	<b>SPECIAL LECTURE (P.19)</b> Understanding Regeneration of Complex Body Parts Lecturer: Elly M. Tanaka, PhD
8:30–11 a.m.	<b>BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE (P.32)</b> Neuroprosthetic Devices: A Patient's Perspective on Brain Computer Interfaces Organizer: Florian Solzbacher, PhD
8:30–11 a.m.	Symposia/Minisymposia (p.22)
9:30 a.m.–5 p.m.	Exhibits (p.94)

10–11:10 a.m.	<b>SPECIAL LECTURE (P.20)</b> The Genetics, Neurobiology, and Evolution of Natural Behavior Lecturer: Hopi E. Hoekstra, PhD
11:30 a.m.–12:40 p.m.	<b>SPECIAL LECTURE (P.18)</b> Neuronal Diversity Within the Ventral Tegmental Area and Co-Release of Neurotransmitters Lecturer: Marisela Morales, PhD
Noon–2 p.m.	A Celebration of Women in Neuroscience Luncheon (p.42)
Noon–2 p.m.	Graduate School Fair (p.39)
1–2:10 p.m.	<b>SPECIAL LECTURE (P.18)</b> Genetic Specification of Neuronal Identity Lecturer: Oliver Hobert, PhD
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Symposia/Minisymposia (p.22)
2–3:30 p.m.	<b>PUBLIC ADVOCACY FORUM (P.43)</b> Advocacy in Four Dimensions Organizer: William J. Martin, PhD
2:30–3:40 p.m.	<b>HISTORY OF NEUROSCIENCE LECTURE (P.17)</b> Deciphering Neural Circuits: From the Neuron Doctrine to the Connectome Lecturer: Marina Bentivoglio, MD
5:15–6:30 p.m.	<b>PRESIDENTIAL SPECIAL LECTURE (P.17)</b> From Salvia Divinorum to LSD: Toward a Molecular Understanding of Psychoactive Drug Actions Lecturer: Bryan L. Roth, MD, PhD
6:45–7:30 p.m.	SfN Members' Business Meeting (p.43)
6:45–8:45 p.m.	SfN-Sponsored Socials (p.44)
8:30–11:30 p.m.	Graduate Student Reception (p.43)
<b>WEDNESDAY, NOV. 7</b>	
8 a.m.–Noon	Posters/Nanosymposia
8 a.m.–3 p.m.	NeuroJobs Career Center (p.38)

8:30–9:40 a.m.	<b>SPECIAL LECTURE (P.18)</b> Biochemical Computation in Postsynaptic Compartments: Implications for Synaptic Plasticity, Learning, and Memory Lecturer: Ryohei Yasuda, PhD
8:30–11 a.m.	Symposia/Minisymposia (p.22)
9:30 a.m.–5 p.m.	Exhibits (p.94)
10–11:10 a.m.	<b>SPECIAL LECTURE (P.19)</b> A Genetic Roadmap to Understanding Auditory Perception Mechanisms Lecturer: Christine Petit, MD, PhD
11:30 a.m.–12:40 p.m.	<b>SPECIAL LECTURE (P.20)</b> Reward Processing by the Dorsal Raphe Lecturer: Minmin Luo, PhD
1–2:10 p.m.	<b>SPECIAL LECTURE (P.19)</b> Light Detection in the Eye: The Big Picture Lecturer: King-Wai Yau, PhD
1–5 p.m.	Posters/Nanosymposia
1:30–4 p.m.	Symposia/Minisymposia (p.22)



## Featured Lectures

---

All lectures will take place in Ballroom 20 of the San Diego Convention Center. Overflow seating will be available in Hall A.



**DIALOGUES BETWEEN NEUROSCIENCE AND SOCIETY** / *Support contributed by: Elsevier*

### Music and the Brain

Pat Metheny / Musician & Composer

Saturday, Nov. 3, 11 a.m.–1 p.m.

---

Music is a universal language and a powerful force in the world. It can have incredible impact on our brain and easily make us cry or make us joyful. Just a few notes of a song can cause us to remember memories long past. Pat Metheny is a legendary jazz guitarist who understands the power of music. He has received three gold albums and 20 Grammy Awards. In this dialogue, Mr. Metheny will discuss, with a panel of SfN members, the impact of music on the brain and on our emotions and memory, as well as the process of creativity in music, art, and science and the role of music in healing.





**PRESIDENTIAL SPECIAL LECTURE**

**The dArc Matter of Synaptic Communication CME**

Vivian Budnik, PhD / University of Massachusetts Medical School  
Saturday, Nov. 3, 5:15–6:30 p.m.

Recent advances in cell biology have uncovered new mechanisms by which synaptic partners in the nervous system communicate. These include the release and uptake of extracellular vesicles, such as exosomes and microvesicles, which carry proteins and RNAs. They also involve the use of mechanisms resembling those used by viruses during infection. The discovery of these mechanisms is offering new perspectives for our understanding of synapse development and plasticity.



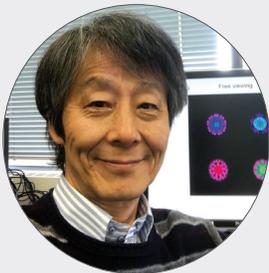
**PETER AND PATRICIA GRUBER LECTURE / DECISION, REWARD, AND THE BASAL GANGLIA**

*Support contributed by: The Gruber Foundation*

**The Striatum and Decision-Making Based on Value**

Ann M. Graybiel, PhD / McGovern Institute for Brain Research at the Massachusetts Institute of Technology / Sunday, Nov. 4, 2:30–3:40 p.m.

The striatum was once thought to be a primitive part of the forebrain, despite evidence that basal ganglia dysfunction underlies major extrapyramidal disorders. Our work has contributed to the surprising realizations that the striatum actually has a sophisticated compartmental structure, that striatal circuits are implicated in decision-making and in neuropsychiatric as well as motor disorders, and that special modules in the striatum, called striosomes, are focal points in circuits linking mood-related neocortex with midbrain dopamine-containing neurons and other neuromodulatory regions. The striatum thus modulates a broad range of circuits affecting our behavioral state in health and disease.



**Parallel Basal Ganglia Circuits for Cooperative and Competitive Decision-Making**

Okihide Hikosaka, MD, PhD / National Eye Institute, NIH / Sunday, Nov. 4, 2:30–3:40 p.m.

The basal ganglia control active behavior by disinhibiting a goal-directed action while inhibiting irrelevant actions. This is based on short-term and long-term memories, which are selectively processed in parallel circuits in the basal ganglia including dopamine neurons. These parallel circuits, together or separately, are essential for engendering motivation, attention, and skill.



**About Reward**

Wolfram Schultz, MD / University of Cambridge / Sunday, Nov. 4, 2:30–3:40 p.m.

The talk will describe the properties of neurons in the brain's reward systems and how their action contributes to economic decision-making. Each of several reward systems, including those involving the dopamine neurons, striatum, amygdala, and orbitofrontal cortex, plays a unique role in this process. The details of this function are currently being investigated using designs based on behavioral theories, such as animal learning theory, machine learning, and economic utility theory.

All lectures will take place in Ballroom 20 of the San Diego Convention Center. Overflow seating will be available in Hall A.



**PRESIDENTIAL SPECIAL LECTURE**

*Support contributed by: Tianqiao & Chrissy Chen Institute*

**Neurobiology of Social Behavior Circuits CME**

Catherine Dulac, PhD / Harvard University, Howard Hughes Medical Institute  
Sunday, Nov. 4, 5:15–6:30 p.m.



Social interactions are essential for animals to reproduce, defend their territory, and raise their young. This lecture will describe new data aimed at deciphering the identity and functioning principles of neural circuits underlying various social behaviors, with an emphasis on a particularly important form of social interaction: parental care. This lecture will discuss how these findings open new avenues to deconstruct the neural bases of maternal and paternal behaviors and may help to further understanding of variations in the neural control of parenting in different animal species.

**DAVID KOPF LECTURE ON NEUROETHICS**

*Support contributed by: David Kopf Instruments*

**When Is an Adolescent an Adult?: Implications for Justice Policy**

BJ Casey, PhD / Yale University / Monday, Nov. 5, 10–11:10 a.m.



Advances in brain imaging techniques are providing new insight as to why adolescents experience and respond to the world in unique ways. These developmental findings have influenced a series of Supreme Court decisions on the treatment of adolescents. Now, emerging evidence of developmental changes in the brains of young adults (ages 18 to 21) suggest that they, too, may be immature in ways that are relevant to justice policy.



**ALBERT AND ELLEN GRASS LECTURE**

*Support contributed by: The Grass Foundation*

**Neural Sequences in Memory and Cognition CME**

David W. Tank, PhD / Princeton University / Monday, Nov. 5, 3:15–4:25 p.m.

The BRAIN Initiative is transforming neuroscience through improved methods for large-scale neural recording at cellular resolution. The application of these methods during working memory, decision-making, and navigation tasks has repeatedly demonstrated sequences of activity across the recorded neural population that tile the behavior. New analysis and modeling efforts are providing clues as to the functional roles and mechanisms of this widely observed form of neural circuit dynamics.



**PRESIDENTIAL SPECIAL LECTURE**

*Support contributed by: Janssen Research & Development LLC*

**From Nanoscale Dynamic Organization to Plasticity of Excitatory Synapses and Learning CME**

Daniel Choquet, PhD / CNRS, University of Bordeaux / Monday, Nov. 5, 5:15–6:30 p.m.

Regulation of receptor trafficking has emerged as a key mechanism for activity-dependent plasticity of synaptic transmission, a process important for learning and memory. The advent of super-resolution microscopy and single-molecule tracking has helped to uncover the intimacy of synapse dynamic organization at the nanoscale. Using new tools for further understanding the link between receptor dynamics and synapse plasticity is unveiling some of the molecular mechanisms of learning in the healthy and diseased brain.



**HISTORY OF NEUROSCIENCE LECTURE**

**Deciphering Neural Circuits: From the Neuron Doctrine to the Connectome**

Marina Bentivoglio, MD / University of Verona / Tuesday, Nov. 6, 2:30–3:40 p.m.

Neurons need to communicate, and they do so in neural circuits on which brain function is built. Our evolving understanding of neuronal connectivity of unfathomable complexity is key to progress in neuroscience. The enunciation in 1891 of the Neuron Doctrine led to the explosion of neuroscience in the 20th century; since the beginning of the 21st century, connectomics has introduced novel concepts, igniting hopes to crack the code of the human brain. Traversing the itinerary of paradigm shifts in the understanding of neural circuits, this lecture will highlight current challenges and foci of research.



**PRESIDENTIAL SPECIAL LECTURE**

**From Salvia Divinorum to LSD: Toward a Molecular Understanding of Psychoactive Drug Actions CME**

Bryan L. Roth, MD, PhD / University of North Carolina at Chapel Hill / Tuesday, Nov. 6, 5:15–6:30 p.m.

How do psychoactive drugs as diverse as the potent hallucinogen LSD and the atypical antipsychotic drug clozapine exert their actions at the molecular level? This lecture will first show how research has illuminated the molecular targets responsible for the actions of psychoactive drugs. It will then illustrate how structural insight into psychoactive drug actions can be leveraged to create potentially safer and more effective medications for many neuropsychiatric disorders.

# Special Lectures

---

All lectures will take place in Ballroom 20 of the San Diego Convention Center. Overflow seating will be available in Hall A.



**THEME A: DEVELOPMENT**

**Genetic Specification of Neuronal Identity CME**

Oliver Hobert, PhD / Columbia University / Tuesday, Nov. 6, 1–2:10 p.m.

---

How is the enormous diversity of cell types in a nervous system genetically specified? The answer to this question lies in defining the gene regulatory mechanisms that control the expression of neuron type-specific gene batteries. In this lecture, studies on the genetic specification of many different neuronal cell types in the nematode *C. elegans* that have led to the discovery of some commonly used strategies, by which diverse neuronal identities are instructed, will be discussed.



**THEME B: NEURAL EXCITABILITY, SYNAPSES, AND GLIA**

**Neuronal Diversity Within the Ventral Tegmental Area and Co-Release of Neurotransmitters CME**

Marisela Morales, PhD / National Institute on Drug Abuse, NIH  
Tuesday, Nov. 6, 11:30 a.m.–12:40 p.m.

---

The release of several neurotransmitters from a single neuron has been recognized for decades. Emerging evidence has shown that the adult brain has subpopulations of neurons with the capability to accumulate vesicular glutamate and GABA for their synaptic release. This lecture will focus on the key findings and proposed molecular and cellular models for the co-release of glutamate and GABA and discuss its implications for human health.



**Biochemical Computation in Postsynaptic Compartments: Implications for Synaptic Plasticity, Learning, and Memory CME**

Ryohei Yasuda, PhD / Max Planck Florida Institute for Neuroscience  
Wednesday, Nov. 7, 8:30–9:40 a.m.

---

Dendritic spines are postsynaptic compartments that contain biochemical signaling cascades important for synaptic plasticity, learning, and memory. Signaling events in dendritic spines are mediated by molecular networks composed of hundreds of signaling proteins. This lecture will discuss how the spatiotemporal dynamics of these networks play roles in transforming rapid Ca<sup>2+</sup> pulses into long-lasting protein activity, which is coordinated throughout different subcellular compartments, necessary for the induction of synaptic plasticity.



**THEME C: NEURODEGENERATIVE DISORDERS AND INJURY**

**CLINICAL NEUROSCIENCE LECTURE: From Axon Regeneration to Functional Recovery After CNS Injury CME**

Zhigang He, PhD / Boston Children's Hospital / Sunday, Nov. 4, 1–2:10 p.m.

---

In the adult mammalian CNS, the inability of injured axons to regenerate contributes to unrecoverable functional deficits. This lecture will present recently uncovered cellular and molecular mechanisms regulating the processes of neuronal injury responses and axon regeneration. Further discussion will focus on the progress in developing effective strategies to promote axon regeneration and functional recovery in experimental injury models *in vivo*, such as spinal cord injuries and optic nerve crush.



### Understanding Regeneration of Complex Body Parts **CME**

Elly M. Tanaka, PhD / Research Institute of Molecular Pathology  
Tuesday, Nov. 6, 8:30–9:40 a.m.

Regeneration of the nervous system and complex body structures, while minimal in humans, is observed in many animals, including vertebrates. How does injury trigger replacement of the missing portion of an organ? Recent advances in imaging and gene editing technologies have allowed us to identify molecular programs that control regeneration and the cells that execute these programs. This lecture will describe how the time-, space- and tissue-dependent responses to organ injury choreograph a molecular program that induces the regeneration of missing body structures.



### Sensorimotor Circuits for Social Communication **CME**

Mala Murthy, PhD / Princeton University / Sunday, Nov. 4, 11:30 a.m.–12:40 p.m.

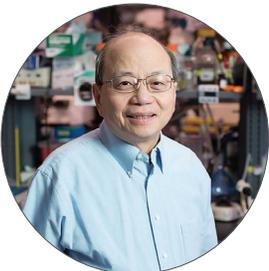
Social interactions require continually adjusting behavior in response to sensory feedback from a partner. This lecture will focus on the computations and neural mechanisms that underlie the processing of dynamic sensory information to flexibly guide social behaviors. In particular, this lecture will highlight recent discoveries using the acoustic communication system of *Drosophila* to characterize sensorimotor circuits for both song production and perception and will put these discoveries in the broader context of research on social communication across model systems.

#### THEME D: SENSORY SYSTEMS

### A Genetic Roadmap to Understanding Auditory Perception Mechanisms **CME**

Christine Petit, MD, PhD / Institut Pasteur, Collège de France / Wednesday, Nov. 7, 10–11:10 a.m.

The molecular mechanisms underlying auditory system development and function remained unknown until they were unlocked by genetic dissection. This lecture will show how the hundreds of causal genes for deafness have revealed the molecular basis of sound detection and processing in the cochlea. Recent results extend genetic dissection to the identity and functional connectivity of auditory cortex neuronal populations. How pleiotropic functions of deafness genes are likely to affect future treatments and shed light on the evolution of this sensory system will be discussed.



### Light Detection in the Eye: The Big Picture **CME**

King-Wai Yau, PhD / Johns Hopkins University School of Medicine  
Wednesday, Nov. 7, 1–2:10 p.m.

This lecture will discuss multiple photoreceptor cell-types existing in the eye. Retinal rods and cones serve predominantly image-forming vision, using a cGMP signaling cascade for phototransduction. A few percent of retinal ganglion cells express the pigment melanopsin and are bona fide photoreceptors. They serve mostly, but not exclusively, non-image-forming vision. They use a combination of cGMP signaling and phospholipase-C signaling for phototransduction, with some using both signaling pathways in the same cell. Still other ocular photoreceptor cells exist both inside and outside the retina.

All lectures will take place in Ballroom 20 of the San Diego Convention Center. Overflow seating will be available in Hall A.



**THEME E: MOTOR SYSTEMS**

**Bidirectional Interactions Between the Brain and Implantable Computers CME**

Eberhard E. Fetz, PhD / University of Washington / Sunday, Nov. 4, 8:30–9:40 a.m.

---

Closed-loop interactions between the brain and implantable computers open new opportunities for brain research and clinical applications. This lecture will review the use of bidirectional brain-computer interfaces to bridge lost physiological connections, strengthen synaptic connections via Hebbian plasticity, and reinforce neural activity with intracranial stimulation. Closed-loop activity-dependent stimulation has numerous applications, depending on the recorded signals, the computed transforms, and the stimulated targets.



**THEME F: INTEGRATIVE PHYSIOLOGY AND BEHAVIOR**

**The Genetics, Neurobiology, and Evolution of Natural Behavior CME**

Hopi E. Hoekstra, PhD / Harvard University, Howard Hughes Medical Institute / Tuesday, Nov. 6, 10–11:10 a.m.

---

New tools — from genomic analyses to automated behavioral assays — have enabled the discovery of specific genes that contribute to variation in behavior. This lecture will focus on the genetic and neurobiological mechanisms responsible for the evolution of natural behavior. It will highlight recent discoveries from diverse organisms that demonstrate how genetic changes, through neural circuits, give rise to variation in behavior, and how these findings in nonmodel species in turn shed light onto variation in human behavior.



**THEME G: MOTIVATION AND EMOTION**

**Reward Processing by the Dorsal Raphe CME**

Minmin Luo, PhD / National Institute of Biological Sciences, Beijing  
Wednesday, Nov. 7, 11:30 a.m.–12:40 p.m.

---

Rewards fundamentally influence animal survival and well-being. The dorsal raphe nucleus (DRN) in the midbrain is a major center for serotonin neurons. The questions of whether and how the DRN and the serotonin system process reward signals have remained controversial. This lecture will present recent evidence to argue that DRN serotonin neurons likely encode “beneficialness,” or how much potential benefit the current state might bring to an individual. This simple theory may explain the diverse roles of serotonin in modulating behaviors and intervening in psychiatric disorders.



**THEME H: COGNITION**

**Neural Dynamics of the Primate Attention Network CME**

Sabine Kastner, MD / Princeton University / Saturday, Nov. 3, 2–3:10 p.m.

---

The selection of information from cluttered sensory environments is one of the most fundamental cognitive operations performed by the primate brain. This process engages a large-scale network that consists of multiple nodes, distributed across cortical and subcortical regions. This lecture will focus on temporal dynamics within this network that shape both the sampling of and responses to our environment, with an emphasis on thalamo-cortical interactions. The lecture will also discuss the importance of comparative electrophysiology and neuroimaging in human and monkey brains.



**New Computational Perspectives on Serotonin Function CME**

Zachary F. Mainen, PhD / Champalimaud Institute, Portugal  
Monday, Nov. 5, 11:30 a.m.–12:40 p.m.

Serotonin is an important target of psychoactive drugs whose endogenous neuromodulatory functions remain enigmatic. Data indicate that serotonin neurons are activated by surprising events and that consequent serotonin release facilitates neural plasticity and biases decision-making. This lecture will discuss these data from a computational perspective in which serotonin is seen as reporting uncertainty in the brain's internal models of the world and helping to modify them accordingly.



**THEME I: TECHNIQUES**

**Neural Data Science: Accelerating the Experiment-Analysis-Theory Cycle in Large-Scale Neuroscience CME**

Liam Paninski, PhD / Columbia University / Sunday, Nov. 4, 10–11:10 a.m.

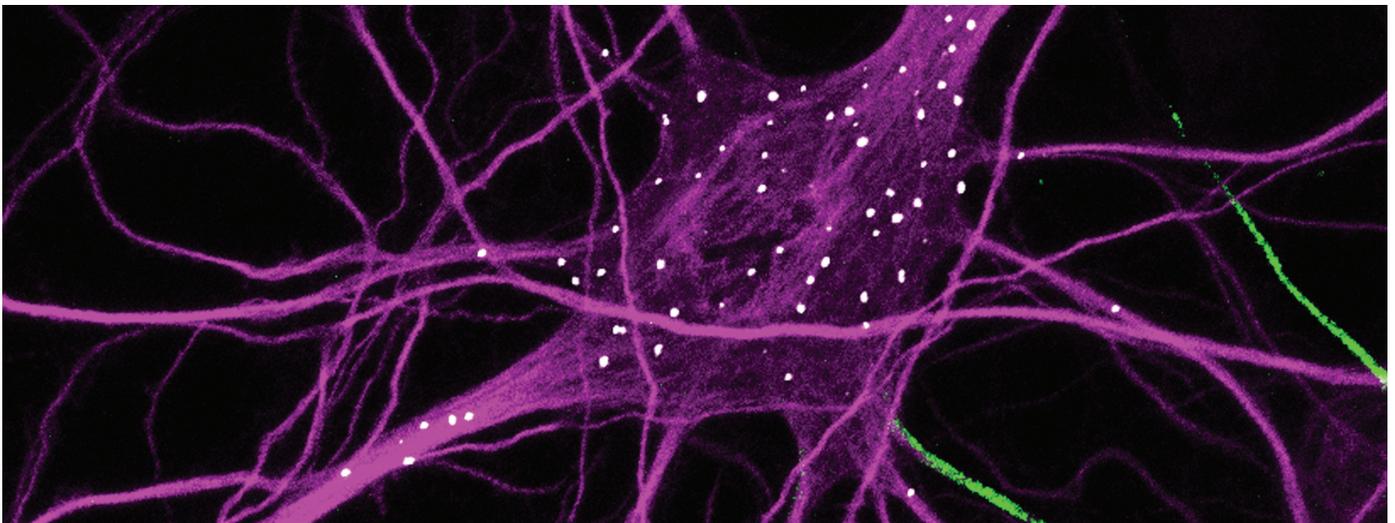
Modern multineuronal recordings produce single-cell-resolution data on a large scale. “Neural data science” aims to extract meaning from the resulting huge new streams of data. This lecture will review recent progress and current challenges in this rapidly growing field, where new methods for network analysis, dimensionality reduction, and optimal control — developed in lockstep with advances in experimental neurotechnology — promise breakthroughs in multiple fundamental neuroscience problems.



**Organelle Structure and Dynamics: What High-Resolution Imaging Is Uncovering CME**

Jennifer Lippincott-Schwartz, PhD / Janelia Research Campus / Monday, Nov. 5, 8:30–9:40 a.m.

Powerful new ways to image the internal structures and complex dynamics of cells are revolutionizing cell biology and biomedical research. This lecture will focus on how emerging imaging technologies are increasing spatiotemporal resolution dramatically, permitting simultaneous multispectral imaging of multiple cellular components. Using these tools, it is now possible to begin describing the interrelationships of different cellular organelles as they carry out critical functions.



# Symposia and Minisymposia

---

## THEME A: DEVELOPMENT

### **SYMPOSIUM: Neuronal Guidance in Health and Disease CME**

Chair: Alex L. Kolodkin, PhD  
Saturday, Nov. 3, 1:30–4 p.m.  
San Diego Convention Center: 6A

---

Investigation into phylogenetically conserved cellular and molecular mechanisms underlying neuronal guidance and connectivity has greatly advanced over the past three decades. This symposium will address the intersections among several of these advances and human neural development. Select evolutionarily conserved guidance cues, receptors, and cytosolic signaling cascades will be considered, along with how mutations that affect them may alter human neural development.

### **MINISYMPOSIUM: Molecular Mechanisms Underpinning Dopamine Neuron Development, Diversity, and Vulnerability CME**

Chair: Raj Awatramani, PhD  
Co-Chair: Sandra Blaess, PhD  
Sunday, Nov. 4, 8:30–11 a.m.  
San Diego Convention Center: 29D

---

This minisymposium will cover topics including embryonic fate specification events, migration, and axon guidance that ultimately result in a multifunctional, heterogeneous, midbrain dopaminergic system.



### **SYMPOSIUM: Extracellular Vesicles: Insights Into Cell-to-Cell Communication in the Nervous System CME**

Chair: Jason D. Shepherd, PhD  
Monday, Nov. 5, 1:30–4 p.m.  
San Diego Convention Center: 6A

---

Cells communicate and signal between each other in multiple ways. Emerging evidence suggests that extracellular vesicles (EVs) mediate intercellular signaling in the nervous system. Moreover, EVs have been implicated in the pathology of various neurodegenerative disorders, as several pathogenic proteins are released from cells associated with EVs. This symposium will highlight the biogenesis of EVs in neurons and the role EVs play in synaptic plasticity and neural circuit development.

### **SYMPOSIUM: RNA Control of Axonal Functions CME**

Chair: Jeffery L. Twiss, MD, PhD  
Co-Chair: Michael Fainzilber, PhD  
Tuesday, Nov. 6, 8:30–11 a.m.  
San Diego Convention Center: 6A

---

This symposium will highlight new insight on RNA control of axonal functions. Discoveries in different models and paradigms are coming together to provide a comprehensive view of how RNA localization and local translation regulate axon growth, maintenance, and regeneration. Intracellular trafficking, localized regulation, and axon-to-soma communication are key aspects of these mechanisms. The presentations will showcase diverse examples of how these fundamental mechanisms are implemented.

**MINISYMPOSIUM: Neural Proteomics in Synapse Development and Function CME**

Chair: Brock Grill, PhD  
 Co-Chair: Kirill A. Martemyanov, PhD  
 Wednesday, Nov. 7, 8:30–11 a.m.  
 San Diego Convention Center: 29D

.....

An explosion of proteomic approaches is increasingly playing a greater role in understanding synapse biology, via identification of novel protein interactions and signaling networks that regulate synapses. This minisymposium will explore synapse biology across model systems, with insight stemming from proteomics. Cutting-edge experimental strategies for quantitative profiling and interactome mapping reveal biology underlying synapse formation, function, and its role in physiology and disease.

**MINISYMPOSIUM: Sonic Hedgehog and Cell-Specific Programming: Circuits, Disease, and Repair CME**

Chair: Corey C. Harwell, PhD  
 Co-Chair: Rebecca Ihrie, PhD  
 Wednesday, Nov. 7, 1:30–4 p.m.  
 San Diego Convention Center: 28A

.....

An emerging body of research has uncovered diverse roles for Sonic Hedgehog signaling in a wide range of neurodevelopmental contexts affecting the function of brain circuits, including the production and maintenance of diverse cell types and the establishment of cell-specific wiring. This minisymposium will highlight recent developments describing the role of Sonic Hedgehog in conferring cell specific identity, circuit connectivity, and injury repair in the developing and mature nervous system.

**THEME B: NEURAL EXCITABILITY, SYNAPSES, AND GLIA**

**MINISYMPOSIUM: Advances in Enteric Neurobiology: The “Brain” in the Gut in Health and Disease CME**

Chair: Meenakshi Rao, MD, PhD  
 Co-Chair: Subhash Kulkarni, PhD  
 Sunday, Nov. 4, 8:30–11 a.m.  
 San Diego Convention Center: 28A

.....

The enteric nervous system (ENS) is a large, complex division of the peripheral nervous system that regulates many digestive, immune, hormonal, and metabolic functions. This minisymposium will highlight the latest advances in enteric neurobiology and focus on new model systems for investigating ENS development, mechanisms of adult neurogenesis, enteric glial biology, and the impact of aging on the ENS, as well as the dynamic interactions among microbiota, immune cells, neurons, and glia in the gut.

**MINISYMPOSIUM: Cell Adhesion Molecules at the Intersection of Cell Type Identity and Neural Circuit Connectivity CME**

Chair: Csaba Foldy, PhD  
 Co-Chair: Joris de Wit, PhD  
 Sunday, Nov. 4, 1:30–4 p.m.  
 San Diego Convention Center: 29D

.....

Cell adhesion molecules (CAMs) play critical roles in neural circuit assembly and are frequently associated with neurodevelopmental and psychiatric disorders. Because hundreds of CAMs exist in the brain, their functional analysis has been challenging. Single-cell RNAseq, gene isoform-specific, and synapse-specific analyses are breaking barriers. This minisymposium will present the most recent insight into the role of CAMs in defining cell type identity, circuit connectivity, and function.

**MINISYMPOSIUM: Neuromodulation of Brain States in Health and Disease: Bridging Experiments and Computational Models CME**

Chair: Srikanth Ramaswamy, PhD  
 Co-Chair: Antoine Adamantidis, PhD  
 Tuesday, Nov. 6, 8:30–11 a.m.  
 San Diego Convention Center: 28A

.....

Subcortical neuromodulatory systems dynamically reconfigure the activity of neural microcircuits and regulate shifts between brain states in health and disease. Despite their crucial role in physiology and pathology, the cellular and synaptic mechanisms by which neuromodulators control neural activity remain unclear. This minisymposium will highlight cutting-edge techniques developed in global brain initiatives for a quantitative assessment of neuromodulation in brain function and dysfunction.

**MINISYMPOSIUM: Molecular and Nano-Organization of Synapses CME**

Chair: Thomas Biederer, PhD  
 Tuesday, Nov. 6, 1:30–4 p.m.  
 San Diego Convention Center: 28A

.....

Recent progress has revealed that the nerve terminal, synaptic cleft, and postsynaptic site form a trans-cellular unit that is precisely aligned on a nanoscale to transmit information. This minisymposium will investigate the machinery of each compartment and how compartments are integrated by synaptic adhesion molecules and by glial- and neuron-secreted factors. Going beyond a static picture, the minisymposium will also address dynamic properties of synaptic compartments that contribute to remodeling.

**MINISYMPOSIUM: Multitransmitter Neurons: The Function and Regulation of Neurotransmitter Cotransmission CME**

Chair: Adam J. Granger, PhD  
Wednesday, Nov. 7, 1:30–4 p.m.  
San Diego Convention Center: 29D

Many neurons signal through multiple small-molecule neurotransmitters, adding an additional layer of complexity to our understanding of synaptic transmission. This minisymposium will discuss recent examples of multitransmitter neurons, emphasizing the physiological and behavioral function of cotransmission and how the neurotransmitter(s) a neuron releases may be regulated by development or activity.

**SYMPOSIUM: Unveiling the Extracellular Space of the Brain: From Super-Resolved Microstructure to *In Vivo* Function CME**

Chair: Valentin U. Nägerl, PhD  
Co-Chair: Sabina Hrabetova, MD, PhD  
Wednesday, Nov. 7, 1:30–4 p.m.  
San Diego Convention Center: 6A

The extracellular space (ECS) of the brain provides the physical stage and signaling platform where neuronal and glial players perform in concert. While the ECS takes up a fifth of brain volume, its topology is incredibly complex and miniaturized, defying traditional investigative approaches. This symposium will review our current knowledge of the ECS, evaluating recent methodological and conceptual progress that throws new light on this understudied yet critically important compartment of the brain.

**THEME C: NEURODEGENERATIVE DISORDERS AND INJURY**

**SYMPOSIUM: Repairing the Injured Nervous System: Inhibiting the Inhibitors CME**

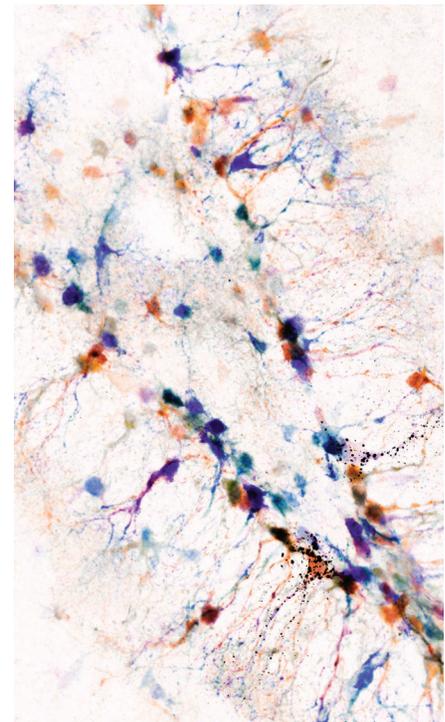
Chair: Elizabeth J. Bradbury, PhD  
Co-Chair: Catherina G. Becker, PhD  
Monday, Nov. 5, 8:30–11 a.m.  
San Diego Convention Center: 6A

This symposium will focus on inhibitory factors that prevent neuroplasticity and functional recovery after central nervous system injury. The panelists will present new advances in understanding how inhibitory molecules present in a tissue injury environment are a barrier to repair and may be therapeutically targeted. The symposium will cover bench-to-bedside approaches that span mammalian and nonmammalian systems, organic chemistry, gene therapy, and clinical trials, with a common goal of repairing the injured nervous system.

**SYMPOSIUM: Global Efforts to Build More Predictive Animal Models of Neurodegenerative Disease CME**

Chair: Bruce T. Lamb, PhD  
Co-Chair: Rudolph E. Tanzi, PhD  
Monday, Nov. 5, 1:30–4 p.m.  
San Diego Convention Center: 6B

Neurodegenerative diseases are an increasingly common form of disability and death. Despite intensive efforts, no effective therapeutic strategies have been developed, perhaps in part due to inadequate animal models. This symposium will highlight global initiatives to develop and characterize novel animal models of Alzheimer's disease using state-of-the-art technologies, including genome editing, that will be critical for building animal models more predictive for therapeutic efficacy.



**MINISYMPOSIUM: Mechanisms of Tau Oligomer-Induced Synaptic Impairment and Potential Treatment Strategies CME**

Chair: Ottavio Arancio, MD, PhD  
Co-Chair: Frank M. Longo, MD, PhD  
Tuesday, Nov. 6, 8:30–11 a.m.  
San Diego Convention Center: 6E

Soluble oligomeric forms of the Alzheimer's disease protein tau are gaining a lot of attention because they likely promote cell-to-cell propagation of pathology and are more toxic than large insoluble aggregates. This minisymposium will discuss evidence supporting a role for tau oligomers in disease initiation and progression and explore therapeutic strategies for inhibiting formation of tau oligomers and/or counteracting synaptic impairment and degeneration caused by tau oligomers.

**SYMPOSIUM: Organelle Dynamics and Proteostasis in Neuronal Homeostasis and Degeneration CME**

Chair: Xinnan Wang, PhD

Tuesday, Nov. 6, 1:30–4 p.m.

San Diego Convention Center: 6A

---

Neuronal organelles are highly dynamic, and their biogenesis is tightly regulated in the extended extremities of a neuron. How to maintain organelle homeostasis is a fundamental cellular concern and crucial to neuronal survival. Defects in organelle function have emerged as key contributors to several neurodegenerative disorders, including Alzheimer's and Parkinson's disease. This symposium will present cutting-edge research at the intersection of neuronal cell biology and neurodegeneration.

**MINISYMPOSIUM: The Endolysosomal System and Proteostasis: From Development to Degeneration CME**

Chair: Huaye Zhang, PhD

Co-Chair: Bettina R. Winckler, PhD

Wednesday, Nov. 7, 8:30–11 a.m.

San Diego Convention Center: 28A

---

Intracellular membrane trafficking represents a very unique challenge for neurons because of their highly elaborate cellular architecture. Genes regulating endocytosis and subsequent endosomal routing, in particular, are frequently linked to neurological diseases. This minisymposium will discuss novel insight into the mechanisms of endosomal trafficking in neurons, the effects on proteostasis, and the functional impact on neuronal development and degeneration.

**THEME D: SENSORY SYSTEMS**

**MINISYMPOSIUM: How to Get Out of Harm's Way: New Insight Across Multiple Species Into the Neural Mechanisms of Visually Guided Collision Avoidance CME**

Chair: Fabrizio Gabbiani, PhD

Co-Chair: Florian Engert, PhD

Saturday, Nov. 3, 1:30–4 p.m.

San Diego Convention Center: 6E

---

Visually guided collision avoidance is critical to survival for many animals. Recently, common neural rules governing such behaviors have unexpectedly been identified across a wide range of species, as different as fruit flies and mice. This minisymposium will summarize shared themes and species-specific advances in understanding the biophysics, neural circuitry, brain areas, and sensorimotor programs that implement collision avoidance behaviors across species from insects to primates.

**MINISYMPOSIUM: Algorithms for Olfactory Search Across Species CME**

Chair: Matt Smear, PhD

Co-Chair: Katherine Nagel, PhD

Monday, Nov. 5, 8:30–11 a.m.

San Diego Convention Center: 28A

---

Olfactory navigation provides a unique model for understanding how neural computations shape a behavior critical for survival. This minisymposium will present recent advances in the understanding of olfactory search in flies and rodents. While many cross-species commonalities have emerged, important questions about the neural circuits that implement search behavior remain. This minisymposium will take a multidisciplinary approach to provide an update on progress on these questions.

**MINISYMPOSIUM: Multidimensional Neuronal Cell Type Classification in the Cerebral Cortex CME**

Chair: Jochen F. Staiger, MD

Co-Chair: Staci A. Sorensen, PhD

Monday, Nov. 5, 1:30–4 p.m.

San Diego Convention Center: 29D

---

There is general agreement in the field that meaningful cell type classification requires multimodal descriptors. These descriptors come from data modalities including morphology, physiology, molecular biology, and connectivity and are ideally linked to a circuit function. This minisymposium will present six recent studies using different multimodal approaches, ranging from molecular to functional, to objectively and systematically describe neuronal cell types in the rodent and human neocortex.

**SYMPOSIUM: The Feeling Within: Molecules to Behavior Underlying Interoception CME**

Chair: Lisa Stowers, PhD

Co-Chair: Ardem Patapoutian, PhD

Tuesday, Nov. 6, 8:30–11 a.m.

San Diego Convention Center: 6B

---

How does the brain monitor and react to our constantly changing internal physiology? While there has been rapid progress in understanding exteroception, less is known about how organisms sense and process information from within, such as hunger, respiration, circulation, excretion, and gut-brain interactions. This symposium will take a multidisciplinary approach to describe recent advances in interoception, from defining the signals that monitor internal states to identifying critical neuronal circuits that drive behavior.

**MINISYMPOSIUM: Novel Molecular Targets for the Treatment of Pain CME**

Chair: John M. Streicher, PhD  
Co-Chair: Tally Largent-Milnes, PhD  
Wednesday, Nov. 7, 8:30–11 a.m.  
San Diego Convention Center: 6E

The opioid crisis and the side effects of opioid therapy have illustrated the great medical and scientific need for new pain therapies that do not have the drawbacks of opioids. Covering topics ranging from downstream molecular signaling effectors of opioid receptors to new receptor targets, this minisymposium will highlight recent advances in finding new molecular targets for the treatment of pain and explore how these targets can be manipulated to improve pain and/or opioid therapy.

**THEME E: MOTOR SYSTEMS**

**MINISYMPOSIUM: Latent Factors and Dynamics in Motor Cortex and Their Application to Brain-Machine Interfaces CME**

Chair: Chethan Pandarinath, PhD  
Saturday, Nov. 3, 1:30–4 p.m.  
San Diego Convention Center: 28A

Increasing evidence suggests that the activity of large populations of neurons in motor cortical areas exhibits low-dimensional structure that obeys dynamic rules. A better understanding of this structure and its dynamics is shedding new light on how motor cortex commands muscles and how different cortical areas interact. Further, these features have critical implications for designing robust, versatile brain-machine interfaces that restore function to people with paralysis.



**MINISYMPOSIUM: The Dynamic Interaction of Vision and Eye Movements CME**

Chair: J. Patrick Mayo, PhD  
Sunday, Nov. 4, 8:30–11 a.m.  
San Diego Convention Center: 6E

A resurgence in the study of eye movements and visual perception has been driven by new experimental approaches (data modeling, the use of clinical populations, and simultaneous recordings of neuronal populations) and comparisons between primate models of vision (humans, macaques, and marmosets). This minisymposium will use these innovations to reveal insight into the effects of exploratory (saccades) and tracking (smooth pursuit) eye movements on vision, cognition, and motor control.

**MINISYMPOSIUM: More Than Just a “Motor”: Recent Surprises From the Frontal Cortex CME**

Chair: Christian L. Ebbesen, PhD  
Sunday, Nov. 4, 1:30–4 p.m.  
San Diego Convention Center: 28A

Motor and premotor cortices are crucial for motor control. While classic primate

studies have emphasized a role for motor cortices in movement generation, recent rodent studies implicate motor cortical neurons in sensory integration, behavioral strategizing, working memory, and decision making — underrated higher-order functions of the motor cortex that deserve better attention and study. This minisymposium will review recent findings, which highlight that the motor cortex is much more than just a “motor.”

**SYMPOSIUM: Targeted Therapies for Parkinson’s Disease: From Genetics to the Clinic CME**

Chair: Lamya S. Shihabuddin, PhD  
Co-Chair: Patrik Brundin, MD, PhD  
Monday, Nov. 5, 8:30–11 a.m.  
San Diego Convention Center: 6B

The greatest unmet need in Parkinson’s disease (PD) is the development of treatments that slow the relentless progression of the neurodegenerative process. The discovery of genomic and biochemical biomarkers for PD is starting to revolutionize its diagnosis, prognosis, and treatment. This symposium will focus on therapeutic paradigms under active clinical

development and highlight a wide range of outstanding questions that need to be addressed to advance the field of disease modification in PD.

**MINISYMPOSIUM: Cortical Control of Locomotion and Posture CME**

Chair: Irina N. Beloozerova, PhD  
 Wednesday, Nov. 7, 8:30–11 a.m.  
 San Diego Convention Center: 31C

Understanding mechanisms of complex natural movements is the ultimate goal of motor systems neuroscience. This minisymposium will discuss recent advances in locomotion and posture research gained in the freely behaving cat. Focusing on parietal, pre-motor, and motor cortical mechanisms of full body movements, it will include a new analytical description of corticospinal processing that allows steering, and a description of powered limb prosthesis integrated with nerves and muscles.

**MINISYMPOSIUM: The Basal Ganglia: Beyond Action Selection CME**

Chair: Eric A. Yttri, PhD  
 Wednesday, Nov. 7, 1:30–4 p.m.  
 San Diego Convention Center: 6E

New approaches — both behavioral and physiological — have enabled a new depth of interrogation of the neural correlates of behavior. Perhaps nowhere has this process been more powerful than in the basal ganglia, where recent insight is shifting the operational paradigm of function from a binary gating of action to a nuanced shaping of behavior. This minisymposium will cover the implications of animal model work and connect findings with human studies of healthy and clinical subjects.

**THEME F: INTEGRATIVE PHYSIOLOGY AND BEHAVIOR**

**MINISYMPOSIUM: Neuronal Mechanisms for Prepulse Inhibition: Comparative Approaches From Sensory to Cognition CME**

Chair: Thomas Preuss, PhD  
 Co-Chair: Susanne Schmid, PhD  
 Saturday, Nov. 3, 1:30–4 p.m.  
 San Diego Convention Center: 6C

Prepulse inhibition (PPI) is a measure for sensorimotor gating that has been studied across species, and PPI deficits are found in several psychiatric and neurological disorders. This minisymposium will provide a rare comparative perspective on neural mechanisms underlying PPI. Covering work from invertebrates to humans using cutting-edge approaches, the minisymposium will emphasize how comparative studies have advanced our understanding of PPI mechanisms and regulatory pathways.

**SYMPOSIUM: Multiscale Computer Modeling of Neural Circuits in Health and Disease CME**

Chair: William W. Lytton, MD  
 Co-Chair: Christophe Bernard, PhD  
 Sunday, Nov. 4, 8:30–11 a.m.  
 San Diego Convention Center: 6A

Brain function depends on interactions across multiple temporal and spatial scales from molecules and synapses up to interconnected brain areas. Mechanistic multiscale modeling provides the means to organize and understand the cross-scale interactions to explain how brains and other neural systems work or fail. Computational modeling also allows us to bridge the gap between mechanism and phenomenology, from anatomy and dynamics to behavior and cognition.

**SYMPOSIUM: Blood-Brain Barrier in Health and Disease: Role in Neurodegeneration, CNS Autoimmunity, and Gene Transfer CME**

Chair: Berislav V. Zlokovic, MD, PhD  
 Sunday, Nov. 4, 1:30–4 p.m.  
 San Diego Convention Center: 6B

This symposium summarizes current advances on the role of the blood-brain barrier (BBB) in health and disease, including major human neurodegenerative disorders, such as Alzheimer’s disease, and neuroimmune disease. It highlights single-cell approaches to understanding the role of brain vasculature in health and CNS disorders; cellular and molecular mechanisms at the BBB causing neurodegeneration and CNS autoimmunity; and gene transfer across the BBB to treat neurodegenerative and CNS disorders.

**MINISYMPOSIUM: Defining Dysbiosis in Disorders of Movement and Motivation CME**

Chair: Christopher T. Fields  
 Co-Chair: Helen Vuong, PhD  
 Monday, Nov. 5, 8:30–11 a.m.  
 San Diego Convention Center: 6C

The gut microbiota can affect multiple aspects of brain function and behavior in health and disease. Interestingly, movement and motivation outputs driven by thalamo-cortico-basal ganglia circuits are modulated by changes in this gut-brain axis. In this minisymposium, speakers will discuss recent advances in understanding the effects of the gut microbiota on action selection, somatosensation, and motor behavior in health and disease models, including Parkinson’s, obesity, and opioid addiction.

**MINISYMPOSIUM: Sex Differences in Risk and Resilience: Stress Effects on the Neural Substrates of Emotion and Motivation CME**

Chair: Cara L. Wellman, PhD  
Monday, Nov. 5, 1:30–4 p.m.  
San Diego Convention Center: 6C

---

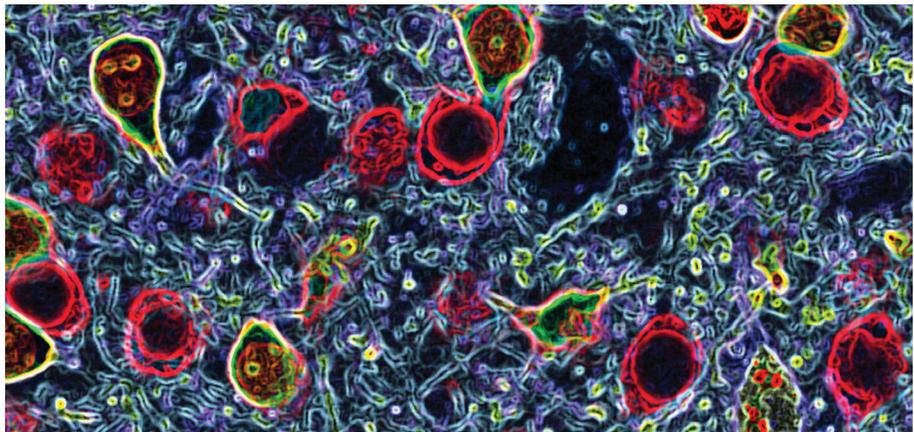
Corticolimbic dysfunction is a hallmark of stress-linked psychological disorders, risk for which differs markedly in men and women. Understanding how the effects of stress differ in males and females is critical for determining the etiologies of stress-linked disorders. This minisymposium will describe sex-specific effects of stress on neural structure and function of brain regions involved in emotion, motivation, and cognition, highlighting possible neural mechanisms underlying sex-biased disorders.

**MINISYMPOSIUM: Neuropeptide Signaling: From Physiology to Behavior CME**

Chair: Jennifer Garrison, PhD  
Tuesday, Nov. 6, 1:30–4 p.m.  
San Diego Convention Center: 6E

---

Neuropeptides comprise the largest and most diverse class of neuromodulators, and they mediate integral processes ranging from energy homeostasis to behavior. This minisymposium will highlight recent experimental and technical advances in understanding mechanisms by which neuropeptide signaling can influence physiology and behavior at both the cellular and circuit level in a range of organisms.



**SYMPOSIUM: Multiple Axes of Dopamine Systems for Behavioral Controls: From Fly Via Rodent to Monkey CME**

Chair: Mitsuko Watabe-Uchida, PhD  
Co-Chair: Okihide Hikosaka, MD, PhD  
Wednesday, Nov. 7, 8:30–11 a.m.  
San Diego Convention Center: 6A

---

Across the animal kingdom, dopamine plays a central role in regulating diverse flexible and habitual behaviors. This symposium brings together researchers using different models, from invertebrates to primates, to discuss how multiple dopamine systems work in concert to generate appropriate behavioral control. This comparative framework will highlight conserved and divergent organizational principles across dopamine systems and how they confer flexibility to neural circuits and behavior.

**SYMPOSIUM: The Emerging Role of the Amygdala in Modulating the Somatosensory and Emotional Components of Pain and Itch CME**

Chair: Benedict J. Kolber, PhD  
Wednesday, Nov. 7, 1:30–4 p.m.  
San Diego Convention Center: 6B

---

Pain involves a complex mix of sensory, cognitive, and emotional

processes. This symposium will address the emerging role of the amygdala in modulating all of these components in the mammalian limbic system. Speakers will provide important and novel mechanistic insight at the cellular, synaptic, and circuit levels achieved through cutting-edge microscopy, recording, and rodent behavioral techniques.

**THEME G: MOTIVATION AND EMOTION**  
**MINISYMPOSIUM: Neurocognitive Development of Motivated Behavior CME**

Chair: Catherine A. Hartley, PhD  
Co-Chair: Dylan G. Gee, PhD  
Saturday, Nov. 3, 1:30–4 p.m.  
San Diego Convention Center: 29D

---

Over the course of development, the neurocognitive processes that support the ability to anticipate and respond to rewards or threats in the environment change markedly. This minisymposium will bring together recent cross-species research characterizing the typical development of the neural circuits and cognitive processes involved in the control of threat- and reward-motivated behavior and the alteration of these trajectories by experiential factors such as early-life stress.

**MINISYMPOSIUM: Computational Affective Neuroscience: Algorithms for Survival CME**

Chair: Robb B. Rutledge, PhD  
 Co-Chair: Dominik R. Bach, MD, PhD  
 Sunday, Nov. 4, 8:30–11 a.m.  
 San Diego Convention Center: 6C

Emotions play a central role in adaptive behavior across the animal kingdom but are conceptualized in divergent and often imprecise ways. Researchers have recently adopted computational approaches to study a range of emotional phenomena from behavior to feelings, and to use computational models to interrogate the underlying neural circuits. This minisymposium will focus on how computational models can explain the role of emotions in adaptive behavior, both in humans and nonhuman animals.

**MINISYMPOSIUM: Insular Cortex Neurocircuits: Relationships Among Function, Connectivity, and Drug and Alcohol Abuse CME**

Chair: Brady K. Atwood, PhD  
 Monday, Nov. 5, 8:30–11 a.m.  
 San Diego Convention Center: 6E

The insular cortex plays a major role in processing the interoceptive effects of drugs of abuse, including alcohol. This minisymposium will highlight preclinical studies that dissect the local neurocircuitry of the insular cortex and its projections to specific brain regions in the context of alcohol, opioid, and psychostimulant abuse. Novel functional roles of these networks in drug-related behaviors and the impact of drugs of abuse on insular cortex-originating synapses will be discussed.

**MINISYMPOSIUM: Social Motivation Across the Lifespan CME**

Chair: Brian C. Trainor, PhD  
 Co-Chair: Alexa H. Veenema, PhD  
 Monday, Nov. 5, 1:30–4 p.m.  
 San Diego Convention Center: 6E

Social behavior and motivation have historically been considered different behavioral processes modulated by different neural circuits. Multiple lines of evidence, however, indicate significant overlap and communication among these circuits. This minisymposium will highlight recent discoveries in the neural mechanisms modulating normal and abnormal social behavior using a variety of genetic, cellular, neuroanatomical, electrophysiological, and pharmacological approaches.

**MINISYMPOSIUM: Sex Differences and Hormone Action in the Limbic System CME**

Chair: John Meitzen, PhD  
 Tuesday, Nov. 6, 1:30–4 p.m.  
 San Diego Convention Center: 29D

Limbic system function is critical for the control of emotion, motivation, and memory. Sex differences and hormone effects have been demonstrated in the limbic system, including in the nucleus accumbens, amygdala, and hippocampus. This minisymposium will highlight recent work on the electrophysiological and molecular mechanisms underlying these differences, how they interact with environmental stimuli such as stress, and their relevance to mental illness and other disorders.

**THEME H: COGNITION**

**SYMPOSIUM: Specific Basal Forebrain-Cortical Cholinergic Circuits Coordinate Cognitive Operations CME**

Chair: Laszlo Zaborszky, MD, PhD  
 Co-Chair: Gina R. Poe, PhD  
 Sunday, Nov. 4, 8:30–11 a.m.  
 San Diego Convention Center: 6B

The basal forebrain (BF) cholinergic projections, once viewed as a diffuse system, is emerging as highly specific in its connectivity based on molecular genetics as well as functional and quantitative anatomical studies. The BF can both rapidly and selectively modulate activity of specific circuits and coordinate ACh release in multiple areas related to particular aspects of cognitive processing. This symposium presents new approaches and findings from studies of the function and dysfunction of this system.

**MINISYMPOSIUM: High-Level Cognition in Low-Level Brain Regions CME**

Chair: Rosemary A. Cowell, PhD  
 Sunday, Nov. 4, 1:30–4 p.m.  
 San Diego Convention Center: 6C

Mounting evidence now contests the idea that high-level brain regions such as the medial temporal lobe engage only in high-level functions like declarative memory. This challenges the broader assumption that the brain comprises discrete anatomical units specialized for distinct cognitive functions. This minisymposium extends that challenge by asking the question: Can high-level cognitive functions such as recognition memory, recall, and spatial cognition be mediated by low-level cortical regions?

### **MINISYMPOSIUM: The Neurobiology of Forgetting CME**

Chair: Maria Wimber, PhD  
Co-Chair: Paul W. Frankland, PhD  
Tuesday, Nov. 6, 8:30–11 a.m.  
San Diego Convention Center: 6C

We automatically encode virtually all experiences, yet the vast majority of our experiences are not remembered later. This minisymposium will address the questions of how and why the brain forgets. It brings together researchers that study forgetting in flies, rodents, and humans. The minisymposium will focus on molecular-, cellular-, and systems-level mechanisms underlying forgetting and consider the active and adaptive roles that forgetting plays in keeping our memory system flexible.

### **SYMPOSIUM: Language Networks Derived From Direct Intracranial Recordings in Humans CME**

Chair: Nitin Tandon, MD  
Co-Chair: Stanislas Dehaene, PhD  
Tuesday, Nov. 6, 1:30–4 p.m.  
San Diego Convention Center: 6C

Intracranial recordings in humans provide data unsurpassed in spatiotemporal resolution that yield novel insight into the rapid computations that underlie language. This symposium details results from a broad array of questions asked and experimental paradigms used across five labs to probe language architecture — from reading and sentence comprehension to lexical retrieval and articulation processes. This new knowledge about language networks carries implications for learning and disease.

### **SYMPOSIUM: Mental Structures and Sequences: Evolutionary Solutions From Birds to Primates CME**

Chair: Christopher I. Petkov, PhD  
Co-Chair: Angela Friederici, PhD  
Wednesday, Nov. 7, 8:30–11 a.m.  
San Diego Convention Center: 6B

The human brain appears to be specialized for certain operations. To what extent aspects of our neurobiology can find realistic animal models constitutes a pressing issue for neuroscience. This is most salient in the domain of language, a uniquely human neurocognitive capacity. This symposium will review the revolution taking place in understanding the neurobiology of language as it includes how the brain creates mental structures and which aspects engage evolutionarily conserved or convergent neural mechanisms.

### **MINISYMPOSIUM: From Recent to Remote Memory and Back CME**

Chair: Yaniv Ziv, PhD  
Co-Chair: Inbal Goshen, PhD  
Wednesday, Nov. 7, 1:30–4 p.m.  
San Diego Convention Center: 6C

What makes some memories fade rapidly and others persist for a lifetime? Studies have indicated that recent and remote memories of a similar experience have different qualities and may be supported by different brain circuits. Integrating knowledge from ongoing work, this minisymposium brings together experts studying the topic at different levels of organization, measuring how networks, neurons, and spines change over time, and manipulating neurons and glia to test their involvement in long-term memory.

### **THEME I: TECHNIQUES**

### **MINISYMPOSIUM: New Observations in Neuroscience Using Superresolution Microscopy CME**

Chair: Michihiro Igarashi, MD, PhD  
Saturday, Nov. 3, 1:30–4 p.m.  
San Diego Convention Center: 6B

Superresolution microscopy (SM) techniques overcome optical limitations, and several new observations using SM have had revolutionary impact on neuroscience. Several types of SM have been developed (e.g., STED, SIM, PALM, STORM), each with special features. This minisymposium will discuss the new structural and functional information about specific important molecules in neuroscience obtained with SM.

### **SYMPOSIUM: Local Field Potentials and Deep Brain Stimulation CME**

Chair: Cameron C. McIntyre, PhD  
Sunday, Nov. 4, 1:30–4 p.m.  
San Diego Convention Center: 6A

This symposium will provide an integrated story of scientifically driven clinical translation in deep brain stimulation (DBS) using local field potentials (LFPs). The talks will span from the basic science and fundamentals of LFP signals, to techniques and strategies for performing the clinical research necessary to define the appropriate LFP biomarkers, to direct application of adaptive DBS algorithms in clinical practice.

**MINISYMPOSIUM: Exposing Neural Dynamics Using Real-Time Control: From Neurons to Human Behavior and Psychopathology CME**

Chair: Hanna Keren, PhD  
Co-Chair: Christoph Zrenner, MD  
Monday, Nov. 5, 8:30–11 a.m.  
San Diego Convention Center: 29D

---

The brain requires interaction with the environment to function. Current experimental and clinical paradigms, however, do not reflect this bidirectional coupling to a reactive environment. This minisymposium will present new experimental approaches to “close the loop” around neural systems, using a real-time system control approach. These methodological advancements will be addressed as they constitute a range of aspects, from computational modeling and engineering to clinical treatments.

**MINISYMPOSIUM: Innovative Approaches for Monitoring Neuromodulation With Light CME**

Chair: Yulong Li, PhD  
Co-Chair: Matthew R. Banghart, PhD  
Monday, Nov. 5, 1:30–4 p.m.  
San Diego Convention Center: 28A

---

Neuromodulators are essential signaling molecules that regulate many neural processes through their influence on brain circuits. Monitoring neuromodulator dynamics and untangling their underlying circuits is critical for understanding the function of the brain. This minisymposium will present state-of-the-art optical techniques that enable rapid, sensitive, cell-specific monitoring of important neuromodulators and cutting-edge tools for labeling neural circuits involved in neuromodulation.

**MINISYMPOSIUM: Whole-Brain Analysis of Cells and Circuits by Tissue Clearing and Light-Sheet Microscopy CME**

Chair: Hiroki R. Ueda, MD, PhD  
Co-Chair: Kwanghun Chung, PhD  
Tuesday, Nov. 6, 8:30–11 a.m.  
San Diego Convention Center: 29D

---

Recent advances in tissue clearing, biomolecular labeling, rapid imaging, and image informatics have allowed neuroscientists to observe the entire brain at a subcellular resolution. Whole brain clearing and imaging is particularly powerful for physiology and pathology of cellular components and their connections in the CNS. This minisymposium will discuss challenges and opportunities in whole-brain analysis of cells and circuits to elucidate brain functions by tissue clearing and light-sheet microscopy.

**SYMPOSIUM: The Dynamic Brain: Signatures of Fast Functional Reconfiguration, Their Interpretability, and Clinical Value CME**

Chair: Javier Gonzalez-Castillo, PhD  
Co-Chair: Peter Bandettini, PhD  
Tuesday, Nov. 6, 1:30–4 p.m.  
San Diego Convention Center: 6B

---

Communication across brain regions fluctuates tirelessly as we interact with our environment. Established patterns of functional connectivity (e.g., DMN) often disintegrate in the span of a few minutes, making the concept of networks elusive under such volatile conditions. This symposium will review how to best capture, model, and interpret dynamic patterns of functional connectivity in the human brain. It will then discuss in what ways aberrant dynamic connectivity underlies clinical conditions.

**MINISYMPOSIUM: Human Stem Cell Models to Validate Rare and Common Variants Contributing to Neurodevelopmental Disorders CME**

Chair: Kristen Brennand, PhD  
Wednesday, Nov. 7, 8:30–11 a.m.  
San Diego Convention Center: 6C

---

As genetic studies identify a growing list of variants underlying neuropsychiatric disease and addiction, unraveling how these risk factors interact within and between the diverse cell types of the brain becomes critical. This minisymposium will discuss recent molecular and phenotypic insight uncovered using hiPSC-derived neurons and glia, with a focus on integrating these findings with datasets generated from consortia-led genomic and post-mortem studies of large patient cohorts.

**THEME J: HISTORY AND EDUCATION**

**MINISYMPOSIUM: Telling Stories of Science**

Chair: Wendy A. Suzuki, PhD  
Sunday, Nov. 4, 1:30–4 p.m.  
San Diego Convention Center: 6E

---

Now more than ever, it is essential that scientists actively engage with the public. Through storytelling, or the use of a personal narrative, we can bring science to life and improve communication not only with the public but also within the community. In this minisymposium, presentations about the science of storytelling and why and how to tell stories, as well as three powerful personal stories, will demonstrate how storytelling can transform science communication and promote scientific progress.

# 2018 Basic-Translational-Clinical Roundtables

---

## New Programming for Neuroscience 2018

This session is intended to serve as a platform where annual meeting attendees can learn about the history as well as the various arguments, research, and viewpoints surrounding a particular hot topic.

### DUAL PERSPECTIVES: Gamma – Fumes or Fundamental

Organizer: Matthew L. Shapiro, PhD  
Monday, Nov. 5, 1–2 p.m.  
San Diego Convention Center:  
Room 10

Gamma ( $\gamma$ ) oscillations (~20–100 Hz) are associated with sensory processing, cognition, memory, and attention. There is general agreement that  $\gamma$  oscillations represent potentially useful markers of local circuit dynamics but major debate about whether the oscillations themselves contribute to brain function. Two researchers, Vikaas Sohal and Jess Cardin, will argue for different sides of this debate. Do oscillations enhance specific functions of cortical circuits, or do they mainly provide insight into ongoing synaptic interactions among cells?

### What We Know, What We Don't Know: How Can We Better Understand Alzheimer's Disease to Develop Effective Treatments? CME

Organizer: David M. Holtzman, MD  
Sunday, Nov. 4, 8:30–11 a.m.  
San Diego Convention Center: Room 10

Alzheimer's disease (AD) is the most common cause of dementia. Genetics, environment, and lifestyle likely contribute to the development of AD. Recent genetic data suggest a key role for glia in influencing AD. AD pathology can now be detected by assessing biomarkers in living people, and many promising treatments are in development. This session will review an update of the main molecules that play a role in AD and discuss the current understanding of AD, new diagnostic methods, and treatments.

### Molecular Therapies for Neurological Diseases CME

Organizer: Frank Bennett, PhD  
Monday, Nov. 5, 8:30–11 a.m.  
San Diego Convention Center: Room 10

This roundtable will highlight spinal muscular atrophy (SMA) as an example of the progress being made in translating knowledge of the molecular basis of a disease to therapies that transform how the disease is managed. Topics to be discussed include SMA background, antisense, gene therapy, and small molecule approaches to treat SMA. In addition, lessons learned from these development programs will be discussed, highlighting how they translate to other neurological diseases.

### Rapid Antidepressant Action: Synaptic Mechanisms and Clinical Aspects CME

Organizer: Ege T. Kavalali, PhD  
Monday, Nov. 5, 1:30–4 p.m.  
San Diego Convention Center:  
Room 30E

The discovery of rapidly acting antidepressant treatments has generated tremendous enthusiasm. Ketamine, a glutamate receptor antagonist, produces rapid and sustained antidepressant responses in patients. Deep brain stimulation has also shown promise for the treatment of depression. The mechanisms underlying rapid antidepressant responses provide novel perspectives into mood disorders and their treatment. This panel will discuss these novel treatments and the mechanisms underlying their action.

### Neuroprosthetic Devices: A Patient's Perspective on Brain Computer Interfaces CME

Organizer: Florian Solzbacher, PhD  
Tuesday, Nov. 6, 8:30–11 a.m.  
San Diego Convention Center: Room 10

Patients will talk about their physical limitations and why they participated in time-intensive research for scientific knowledge. They will cover the challenges, breakthroughs, and difficult decisions that come with wearing a neuroprosthetic device. They will also speak to the benefits, despite trial and error methodologies and invasive surgeries, of participating in brain-computer interface (BCI) research, how it has changed their lives, and where they believe researchers should push the future of BCI technologies.



# SfN Preconference Sessions

Preregistration Required Course Fee Professional Development Networking Public Outreach

## SfN Preconference Session Fees

SfN preconference sessions are sponsored by the Society and occur prior to the official start of the annual meeting. Paid registration is required for Short Courses and the Neurobiology of Disease Workshop. To attend, add the appropriate course to your annual meeting registration.

\*Registration is not required for the Meet-the-Expert Series.

### Short Courses 1 and 2

(Includes electronic course book and lunch)

Student member .....	\$150
Student nonmember .....	\$225
Postdoctoral member .....	\$225
Postdoctoral nonmember .....	\$340
Faculty member .....	\$295
Faculty nonmember .....	\$445

### Short Course 3

(Includes electronic course book)

Student member .....	\$100
Student nonmember .....	\$150
Postdoctoral member .....	\$150
Postdoctoral nonmember .....	\$225
Faculty member .....	\$200
Faculty nonmember .....	\$300

### Neurobiology of Disease Workshop

(Includes breakfast, lunch, and electronic course book)

Student attendee .....	\$85
Postdoctoral attendee .....	\$150
Faculty attendee .....	\$300

## FRIDAY, NOV. 2

### Neurobiology of Disease Workshop The Role of Innate Immunity in CNS Disorders Throughout the Lifespan

8 a.m.–5 p.m.

San Diego Convention Center: Room 6A

Organizers: Gwenn Garden, MD, PhD;

Stuart Lipton, MD, PhD;

and John Neumaier, MD, PhD

Contact: training@sfn.org

*Support contributed by: the National Center for Complementary and Integrative Health, NIH; the National Institute on Alcohol Abuse and Alcoholism, NIH; and The National Institute of Neurological Disorders and Stroke, NIH*

This course will address how neuroinflammation contributes to the pathophysiology of nervous system disorders. The workshop will begin with a patient presentation covering the topic of autoimmune encephalitis. The remainder of the lecture will include an introduction to the innate immune system followed by several examples of how immune dysregulation can lead to diverse clinical problems, including autism, psychiatric disorders, traumatic brain injury, pain, and neurodegenerative disorders. In the afternoon, small groups will discuss these concepts further and introduce research approaches using hiPSC-derived microglia.

### Short Course 1

#### Sex Differences in the Brain: Balancing Sex in Preclinical Research

8 a.m.–6 p.m.

San Diego Convention Center: Room 6B

Organizers: Jill Becker, PhD

and Jessica Tollkuhn, PhD

Contact: training@sfn.org

This course is designed to enable neuroscientists to incorporate both sexes into their preclinical research. Participants will become familiar with molecular, neural circuit, and behavioral differences between the sexes, with a focus on rodents. Leading experts will review fundamental concepts and the latest discoveries, including the developmental origins of sex differences; gonadal steroid hormones; stress and vulnerability; reward and affective behaviors; and adolescence and puberty. Experimental design considerations and statistical analyses will also be discussed.

### Short Course 2

#### Functional, Structural, and Molecular Imaging, and Big Data Analysis

8 a.m.–6 p.m.

San Diego Convention Center: Room 6C

Organizers: Ed Boyden, PhD, and

Kwanghun Chung, PhD

Contact: training@sfn.org

We are in an era of great innovation, with new molecular reporters, microscope architectures, and strategies for acquiring and analyzing large physiological and anatomical datasets. How can these technologies be deployed in the service of making the highest-impact discoveries in both basic and applied neuroscience? This short course will cover practical



considerations for how to best combine these cutting-edge tools, with the goal of enabling attendees to select the best technological path for confronting a given scientific question in the fundamental or translational realm.

**Short Course 3**  
**Recognizing and Addressing Power Dynamics in Academia** 📖 \$ 📖

1–5:30 p.m.  
 San Diego Convention Center: Room 11A  
 Organizers: Story Landis, PhD; Marguerite Matthews, PhD; Cheryl Sisk, PhD; Keith Trujillo, PhD; and Elisabeth Van Bockstaele, PhD  
 Contact: training@sfn.org  
*Support contributed by: The National Institute of Neurological Disorders and Stroke, NIH*

Understanding power dynamics and how they shape professional interactions is key for promoting healthy and productive learning spaces and workplaces as science becomes more global and collaborative. Through short lectures and case study discussions, attendees will explore the nature of power dynamics

and how intersectionality affects the way relative differences in power are experienced by different people. Attendees will also develop skills to manage power dynamics at work and in the classroom.

**SATURDAY, NOV. 3**  
**Meet-the-Expert Series Session 1:**

📖 🗨️  
 8–9:15 a.m.  
 Hilton Bayfront  
 Contact: profdev@sfn.org

**From Synapses to Behavior: Uncovering Fundamental Concepts Guiding the Development and Plasticity of Neural Circuits**  
 Room: Sapphire 410  
 Carlos Aizenman, PhD  
 Theme A: Development

A common thread in Dr. Aizenman’s work is to understand how multiple types of plasticity interact to allow the brain to change and develop while at the same time functioning robustly. Work in diverse model organisms allows us to better compare fundamental principles driving this process in the nervous system.

Here he will discuss current work on *Xenopus laevis* tadpoles and how this is an ideal preparation for building a holistic approach to study CNS development and plasticity. He will further discuss challenges of working in less popular model organisms and the impact on publishing and funding.

**Modeling Spinal Cord Development and Disease With Stem Cell-Derived Neurons**

Room: Sapphire Ballroom I  
 Hynek Wichterle, PhD  
 Theme A: Development  
*Support contributed by: MilliporeSigma*

Stem cell-derived motor neurons provide a unique opportunity to study molecular processes controlling specification of neuronal identity and to probe pathological processes leading to neurodegeneration in patients with amyotrophic lateral sclerosis. Dr. Wichterle will discuss findings that neuronal genes are controlled by distributed enhancers rather than super-enhancers. He will also outline novel approaches to modeling late-onset degenerative diseases in short-term neuronal cultures.

**My Personal Journey From Synapse to Circuit and Behavior**

Room: Sapphire 400  
 Camilla Bellone, PhD  
 Theme B: Neural Excitability, Synapses, and Glia

Why do we interact with others? When did we start to do so, and how did we go about it? Dr. Bellone started her career working on cellular mechanisms underlying the synaptic function of defined neuronal circuits during postnatal maturation. Research in her laboratory now focuses on the molecular determinants and

 Preregistration Required  Course Fee  Professional Development  Networking  Public Outreach

the circuits that control social behavior in physiological and pathological conditions. Dr. Bellone will discuss her career trajectory balancing her interests in synapses, circuits, and behaviors.

### Neurophysiology Guiding Recovery After CNS Injury

Room: Sapphire Ballroom M

Monica Perez, PhD

Theme E: Motor Systems

Dr. Perez's group focuses on understanding how the brain and spinal cord contribute to the control of movement in humans with and without spinal cord injury. Her laboratory investigates transmission in sensory and motor pathways during motor behaviors. A goal of her work is to use this neurophysiological information to develop rehabilitation procedures. In this session, she will discuss her translational science experiences that include building a research program from a basic mechanistic question to design approaches that aim to improve clinical rehabilitation.

### From Behavior to Mechanism: The Features and Flaws of Studying Innate and Social Behavior in the Mouse

Room: Sapphire Ballroom E

Lisa Stowers, PhD

Theme F: Integrative Physiology and Behavior

*Support contributed by: NeuroLux*

Innate behavior is advertised as easy to study, due to its robust performance across and within individuals, and relatively easy to decode, with the expectation that circuits are hardwired. In the mouse, however, no complete innate behavioral circuit has been defined, and mechanistic understanding of the neurons that drive behavior remains largely unknown. Here we will discuss why the promise of innate behavioral circuits has not met its potential, addressing the means and

metrics of analysis, assumptions of circuit coding, and interpreting effects of viral and optogenetic manipulations.

### High Channel Count Electrophysiology, Neuropixels, and Beyond: Where Can Technology Take Us?

Room: Sapphire Ballroom A

Timothy Harris, PhD

Theme I: Techniques

Dr. Harris initiated and led the development of Neuropixels, a low-cost, high channel count electrophysiology Si probe, the contribution of which is a long, dense array. The technology used for Neuropixels, in addition to alternative paths for high channel count recording sensors and the origin of limits for these devices, will be the focus of this lecture. The usefulness of higher channel count probes, higher density, the ability to cover more tissue, and combinations with light sources, electrical stimulation, and photometry also will be discussed.

### Meet-the-Clinician-Expert: How to Make Your Work/Life Relevant

Room: Sapphire Ballroom B

Y. Joyce Liao, MD, PhD

Theme J: History and Education

Dr. Liao is a physician-scientist and the director of Neuro-Ophthalmology at Stanford University. She will speak about how she uses her clinical practice as the inspiration for her human and animal research studies. Dr. Liao will also talk about the clinical learning opportunities that trainees at Stanford have that all trainees should have in order to obtain sufficient exposure to clinical neurology or ophthalmology to inform and help guide basic research. Finally, Dr. Liao will discuss how she built her family life at the same time as her academic career.

### Meet-the-Expert Series Session 2:

9:30–10:45 a.m.

Hilton Bayfront

Contact: profdev@sfn.org

### Understanding the Physiology of New and Old Neurons in the Dentate Gyrus

Room: Sapphire 400

Linda Overstreet-Wadiche, PhD

Theme B: Neural Excitability, Synapses, and Glia

*Support contributed by: MilliporeSigma*

New neurons are continuously generated throughout life in the dentate gyrus. Dr. Overstreet-Wadiche investigates how various cell types in the dentate gyrus, including newly generated neurons and GABAergic interneurons, contribute to the function of this unique brain region. She also uses it to study how neuronal connections are established and extinguished. In this session, Dr. Overstreet-Wadiche will discuss the choices that shaped the trajectory of her research program, how working with your spouse can work, and why training in synaptic and cellular electrophysiology is a great place to start a career in neuroscience.

### Molecular Mechanisms Governing the Blood Brain Barrier Function

Room: Sapphire Ballroom I

Chenghua Gu, PhD

Theme C: Neurodegenerative Disorders and Injury

*Support contributed by: MilliporeSigma*

The blood brain barrier is the gatekeeper of the CNS and a formidable barrier that prevents most drugs from passing from the bloodstream into the CNS. Dr. Gu's laboratory investigates the fundamental molecular and cellular mechanisms governing the formation and regulation of the blood brain barrier. She will discuss new tools and methods to study the blood brain barrier *in vivo*.

### **Start Making Sense: Neuronal and Molecular Mechanisms of Sensory Signaling**

Room: Sapphire Ballroom E  
Piali Sengupta, PhD  
Theme D: Sensory Systems

---

Nearly all environmental cues are filtered by an animal's sensory neurons. These neurons rely on sensory receptors and signaling pathways to detect and discriminate among complex environmental inputs. Dr. Sengupta is a sensory biologist who studies the molecular and neuronal basis of chemo- and thermosensation. She is particularly interested in understanding how context and experience modify sensory neuron properties. She will discuss her career as a sensory neuroscientist, her appreciation of exploratory research, and her positive experiences conducting collaborative work.

### **Meet-the-Clinician-Expert: A Circuit Model for Addiction: Construction and Translation**

Room: Sapphire 410  
Christian Lüscher, MD  
Theme G: Motivation and Emotion

---

Christian Lüscher is best known for his work on synaptic plasticity underlying the adaptive behavior in rodent models of drug addiction. The work is rooted in the fact that increases in mesolimbic dopamine levels constitute a defining commonality of addictive drugs. The Lüscher lab has systematically pursued the hypothesis that DA modulates glutamate and GABA transmission, which alter circuit function, eventually changing behavior. More recently this work has led to a novel addiction model based on optogenetic self-stimulation of VTA dopamine neurons. Lüscher will also discuss the translational implications, in particular his effort to design deep brain stimulation protocols to treat cocaine addiction.

### **Early Life Experience Shapes Brain Development: To Understand Primate Brains From Rodent Works**

Sapphire Ballroom B  
Tomomi Shimogori, PhD  
Theme G: Motivation and Emotion

---

The development of the brain in early postnatal life is extremely sensitive, complex, and crucial to proper function over the life of a person. Currently, most work is conducted in rodents, primarily because there is a large range of genetic tools that may be used to investigate it; however, the human brain is quite different to the mouse one. Tomomi Shimogori's laboratory has been tackling these differences through its work on rodents but is now developing a model in the common marmoset based around the creation of a gene atlas, which will help to fill the gap in knowledge between that of the rodent brain and that of the human brain.

### **Decision-Making in the Brain, the Lab, and Beyond**

Sapphire Ballroom A  
Anne Churchland, PhD  
Theme H: Cognition

---

Dr. Churchland studies the neural mechanisms for perceptual decision-making. Her lab examines behavior in humans and rodents and measures neural activity in rodents. Dr. Churchland is a founding member of the International Brain Laboratory, a group of 21 neuroscientists who aim to uncover neural computations for decision-making. Dr. Churchland prioritizes outreach and scientific communication and maintains a blog, which currently focuses on preprint reviews. She also founded [anneslist.net](http://anneslist.net), which highlights women in systems/computational neuroscience.

### **The Need for Speed: Development and Use of Genetically Encoded Voltage Indicators**

Sapphire Ballroom M  
Michael Lin, MD, PhD  
Theme I: Techniques

---

Transmembrane voltage measurements are of primary importance in understanding neuronal function. As a part of a growing community of researchers developing genetically encoded voltage indicators, Dr. Lin will provide a summary of the history and current status of these indicators. Dr. Lin will also discuss how his scientific interests ended up at the interface of chemistry and neuroscience, and the unique opportunities and challenges of being a tool developer in the biological sciences.

# Workshops, Meetings, and Events

Preregistration Required Course Fee Professional Development Networking Public Outreach

## SATURDAY, NOV. 3

### NeuroJobs Career Center

Saturday, Nov. 3–Tuesday, Nov. 6,  
8 a.m.–5 p.m.

Wednesday, Nov. 7, 8 a.m.–3 p.m.

San Diego Convention Center:  
Sails Pavilion

Contact: [neurojobs@sfn.org](mailto:neurojobs@sfn.org)

The on-site SfN NeuroJobs Career Center connects employers with a pool of well-qualified candidates seeking opportunities ranging from postdoctoral and faculty positions to neuroscience-related jobs in industry and other areas. Job seekers and employers can take advantage of interview booths and computers for posting jobs and scheduling interviews. For prices and more information on how to set up a NeuroJobs account, visit [SfN.org/neurojobs](http://SfN.org/neurojobs). On-site payment can be made by credit card only.

### • Building a Supportive Global Network

9–11 a.m.

San Diego Convention Center: Room 30E

Organizer: Emmeline Edwards, PhD

Contact: [profdev@sfn.org](mailto:profdev@sfn.org)

This workshop will provide a roadmap toward successful career paths and highlight the potential of developing strategic research and personal networks and capitalizing on culturally based support systems to overcome obstacles and challenges at various career transition points. Participants will interact with a panel comprising researchers currently at U.S. institutions but from foreign backgrounds as well as researchers at institutions outside of the U.S.

### • Improving Your Science: Better Inference, Reproducible Analyses, and the New Publication Landscape

9–11 a.m.

San Diego Convention Center: Room 31C

Organizer: Robert Calin-Jageman, PhD

Contact: [profdev@sfn.org](mailto:profdev@sfn.org)

This workshop will discuss rigor and reproducibility across the research lifecycle. For better inference, researchers can use an estimation approach (e.g., using effect sizes and confidence intervals) with or instead of p values. For better reproducibility, new tools are becoming available to help document and preserve the analysis workflow. Finally, the editors of *eNeuro* and *JNeurosci* will discuss how authors can best meet the challenges of rigor and reproducibility when reporting their work. After the meeting, get the materials here: <https://osf.io/5awp4/>.

### Meeting Mobile App Tutorial

10–11 a.m.

San Diego Convention Center: Room 11

Contact: [program@sfn.org](mailto:program@sfn.org)

To ensure that attendees are able to take advantage of the newest features of the meeting mobile app, a free user tutorial led by the app's developers will be held. This tutorial is open to all meeting attendees. The meeting mobile app is available in the Google Play™ App Store and on iTunes™.

### • Careers in Making Medicines: Translating Basic Research Into Therapeutics

Noon–2 p.m.

San Diego Convention Center: Room 31C

Organizer: Fiona Randall, PhD

Contact: [profdev@sfn.org](mailto:profdev@sfn.org)

Are you interested in a career in making medicines? This workshop will showcase how basic science and innovation translate into therapeutics and give an overview of career opportunities across academia as well as the biotech and pharma industries. The panel will showcase examples of how basic biology can be turned into a drug discovery program and lead to new medicines for patients. The panelists represent a broad array of career paths and will share their global experiences and provide a forum to discuss opportunities to make cross-industry transitions in your career.

### • How SfN Helped My Career: Expanding Your Neural Network at the Annual Meeting

Noon–2 p.m.

San Diego Convention Center: Room 30E

Organizer: Robert Burgess, PhD

Contact: [profdev@sfn.org](mailto:profdev@sfn.org)

SfN's annual meeting not only showcases the latest research but can also help you to build your career. In this interactive workshop, discover how panelists use the meeting to advance their research and their professional relationships, learn how to make the most of your meeting experience by taking advantage of the various networking opportunities available to you, and gain practical experience introducing yourself and your research.

### Professional Development Workshop Tracks

Professional Development Workshops are categorized by tracks to help attendees quickly identify the workshops that are of the greatest interest to them:

- Success in Academia
- Collaboration & Networking
- Career Paths
- Neuroscience Education



### Graduate School Fair ☑

Saturday, Nov. 3, 1–3 p.m.

Sunday, Nov. 4–Tuesday, Nov. 6,  
Noon–2 p.m.

San Diego Convention Center:  
Sails Pavilion

Contact: [training@sfn.org](mailto:training@sfn.org)

Prospective graduate students can meet face-to-face with student advisors, program faculty, and graduate school representatives from over 100 national and international institutions at the Graduate School Fair.

### BRAIN AWARENESS CAMPAIGN EVENT

#### Action and Potential in Outreach, Education, and Research ☑ ✳

2:30–4 p.m.

San Diego Convention Center: Room 16

Contact: [baw@sfn.org](mailto:baw@sfn.org)

Celebrate brain awareness by sharing your outreach achievements with Brain

Awareness Week organizers from around the world. Learn how award winners from the Brain Awareness Video Contest, the Faculty for Undergraduate Neuroscience, and the National Science Olympiad are raising brain awareness. Plus, hear from Bill Griesar and Jeff Leake, the founders of NW Noggin, a robust, creative, and largely volunteer-driven nonprofit organization that brings scientists, artists, and students of all ages together to share their expertise and excitement about neuroscience.

#### ●How to Thrive as a Woman in Neuroscience ☑

3–5 p.m.

San Diego Convention Center: Room 31C

Organizer: Melissa Harrington, PhD

Contact: [profdev@sfn.org](mailto:profdev@sfn.org)

This workshop features a panel of diverse female speakers from a variety of backgrounds, types of institutions, and career stages, and will focus on

how women can succeed in their neuroscience careers. The women will speak from personal experience about how to deal with major obstacles that undermine success, including lack of encouragement, stereotypes about what type of people do science, discomfort with competitive environments, marginalization within organizations, bias (both implicit and explicit), and childcare.

### Diversity Poster Session ☑ ☑

6:30–8:30 p.m.

San Diego Convention Center: Hall A

Contact: [nsp@sfn.org](mailto:nsp@sfn.org)

Support contributed by:

*eNeuro and JNeurosci*

Join a special poster session and networking event featuring participants of the Neuroscience Scholars Program, ENDURE, and other diversity fellowship programs.

Preregistration Required Course Fee Professional Development Networking Public Outreach

### International Fellows

#### Poster Session

6:30–8:30 p.m.

San Diego Convention Center: Hall A

Contact: [globalaffairs@sfn.org](mailto:globalaffairs@sfn.org)

Support contributed by:

*eNeuro and JNeuroSci*

Meet the next generation of leading young investigators from the Latin American Training Program (LATP) and award winners selected by the International Brain Research Organization (IBRO) and the Japan Neuroscience Society (JNS).

### Trainee Professional Development Awards Poster Session

6:30–8:30 p.m.

San Diego Convention Center: Hall A

Contact: [awards@sfn.org](mailto:awards@sfn.org)

Support contributed by:

*eNeuro and JNeuroSci*

This poster session and networking event will honor award-winning posters from undergraduate and graduate students and postdoctoral fellows.

### Career Development Topics:

#### A Networking Event

7:30–9:30 p.m.

San Diego Convention Center: Hall A

Contact: [profdev@sfn.org](mailto:profdev@sfn.org)

Experienced neuroscientists will offer advice on a wide range of topics in an informal, roundtable format. Topics include work-life balance, securing grants, career transitions, careers away from the bench, choosing graduate schools and postdoctoral fellow positions, and many others. Participants from diverse backgrounds, fields, and work sectors are encouraged to attend this special networking event.

## SUNDAY, NOV. 4

### •Bringing a Student-Run Outreach Program to Your Institution

9–11 a.m.

San Diego Convention Center: Room 11

Organizers: Alice Dallstream; Barbara Terzic

Contact: [profdev@sfn.org](mailto:profdev@sfn.org)

Graduate education can no longer rely on scientific training alone to produce successful PhDs. This workshop will teach faculty and students how to create student-run outreach organizations that engage local communities and teach professional skills, based on a model at the University of Pennsylvania ([upenn.glia.com](http://upenn.glia.com)). Faculty, students, and alumni will teach attendees how to create their own student-run outreach group through a panel and breakout sessions.

### •Face-to-Face Networking: Building and Maintaining Professional Relationships

9–11 a.m.

San Diego Convention Center: Room 30E

Organizer: Rae Nishi, PhD

Contact: [profdev@sfn.org](mailto:profdev@sfn.org)

The moderator will give a brief talk about face-to-face networking, after which panel members will introduce themselves and each answer a question from the moderator. The panel will subsequently accept questions from the audience. This will be a highly interactive session.

### •Fixing the Leaky Pipeline for Women in Science: Addressing Issues Facing New Moms

9–11 a.m.

San Diego Convention Center: Room 31C

Organizer: Jamie Krueger

Contact: [profdev@sfn.org](mailto:profdev@sfn.org)

This workshop addresses women in science who have chosen to begin their families and their careers in parallel. Graduate students, postdoctoral fellows, and early-career faculty will discuss their experiences as mothers in STEM. The panel will address potential challenges of juggling family and work at each academic career level. Participants will be encouraged to network with other parents in the field, share resources, and discuss solutions to challenges they may face as they progress in their academic careers.

### •Career Planning and Explorations for Biomedical PhD Scientists and Physician-Scientists (MD/PhD)

Noon–2 p.m.

San Diego Convention Center: Room 31C

Organizer: Nancy Schwartz, PhD

Contact: [profdev@sfn.org](mailto:profdev@sfn.org)

Participants in this session will be introduced to the wide range of careers in neuroscience open to graduates of PhD and MD/PhD programs. Exploration of options, key aspects in training that are required to be competitive in multiple careers, finding resources, and acquiring professional skills while in graduate school or as a postdoctoral fellow, as well as transitioning between jobs and careers in different sectors, will be emphasized. This workshop will be beneficial for early-career neuroscientists from all backgrounds.

**Professional Development Workshop Tracks**

Professional Development Workshops are categorized by tracks to help attendees quickly identify the workshops that are of the greatest interest to them:

- Success in Academia
- Collaboration & Networking
- Career Paths
- Neuroscience Education

● **Cultivating Leadership in Multidisciplinary Research: Bridging Gaps Across Campuses, Countries, and Continents** 📖

Noon–2 p.m.

San Diego Convention Center: Room 30E

Organizer: Sadye Paez, PhD

Contact: profdev@sfn.org

The current trend of collaborative research highlights the need for developing leadership in multidisciplinary settings and cultivating agility in working across disciplines. This workshop will highlight common problems that occur during large-scale collaboration and discuss how to effectively shift from a traditional hierarchical command-and-control model to a team-centric model that fosters a collective information-sharing culture. This shift promotes a landscape of accountability and performance across disciplines and drives engagement and goal alignment.

**SOCIAL ISSUES ROUNDTABLE**

**Solitary Confinement: Psychological and Neurobiological Insights Into Isolation**

1–3 p.m.

San Diego Convention Center: Room 10

Organizer: Michael J. Zigmond, PhD

Contact: baw@sfn.org

As social animals, our health depends on interactions with others, yet millions suffer from chronic isolation, of which solitary confinement is the extreme example. The number of people held in solitary confinement varies widely across the world but is nowhere greater than in the U.S., where some 80,000 spend days and even years experiencing absolutely no physical contact with others. We will discuss the implications of this lack of human interaction with

a neurobiologist, a psychologist, a physician, a lawyer, and an individual held in solitary confinement for 29 years.

**NEUROSCIENCE DEPARTMENTS AND PROGRAMS WORKSHOP**

● **Breaking Through: Pathways to Independence for Early Career Neuroscientists**

2:30–5 p.m.

San Diego Convention Center: Room 30E

Organizers: Rosalind Segal, MD, PhD;

Elisabeth J. Van Bockstaele, PhD

Contact: training@sfn.org

The National Academies report *The Next Generation of Biomedical and Behavioral Sciences Researchers: Breaking Through* outlines programs and policies that can reduce barriers to, and create more opportunities for, successful transitions to independent research careers. The NDP workshop will focus on aspects of the report that relate to key strategies for ensuring the successful launch and sustainment of careers in the biomedical sciences, with a particular focus on postdoctoral training programs in neuroscience.

● **How a Journal Handles Your Paper** 📖

3–5 p.m.

San Diego Convention Center: Room 31C

Organizer: J. Paul Bolam, PhD

Contact: profdev@sfn.org

The most important skill a scientist needs, after the skills needed to execute a study, is the ability to report his or her scientific endeavors in writing. The aim of this workshop, presented by the editors of four international neuroscience journals, is to inform on what happens to a paper once the “submit” button is pressed.

The presenters will discuss what editors consider when deciding whether to review a paper, what is expected from reviewers, the importance of contributing to the peer review process, and ethical and reproducibility issues surrounding publishing scientific papers.

**MONDAY, NOV. 5**

● **FAIR Neuroscience: Sharing and Collaborating for Reproducible Neuroscience** 📖

9–11 a.m.

San Diego Convention Center: Room 31C

Organizer: Linda Lanyon, PhD

Contact: profdev@sfn.org

Future neuroscience will need to be FAIR, open, and citeable. How do we get there, and are there already good ways to do FAIR science today? Speakers representing tool development initiatives, publishing, and data science will present solutions for sharing, publishing, and collaborating in neuroscience.

**NeuroJobs Career Center Workshop: Best Practices for Filling Your Open Position With the Perfect Candidate**

10–10:30 a.m.

San Diego Convention Center: Room 11

The SfN NeuroJobs Career Center is a powerful recruiting tool. During this workshop, a career center representative will provide a brief tutorial on the new and improved NeuroJobs Career Center platform and share tips and tricks you can use to write effective job postings and boost your candidate search. The workshop will conclude with an audience Q&A.

 Preregistration Required  Course Fee  Professional Development  Networking  Public Outreach

• **Teaching Neuroscience:  
Emotion and Learning** 

9–11 a.m.

San Diego Convention Center: Room 30E

Organizer: Richard Olivo, PhD

Contact: profdev@sfn.org

---

Although we often think of learning as a neutral cognitive process, emotion has strong effects on students' ability to learn and remember. This workshop will review some of the basic neuroscience that connects emotion and memory, examine the role of emotion in students' learning, discuss practical strategies for creating an emotionally productive classroom, and invite a clinician to speak about disabling anxiety that derails students' academic progress.



**ANIMALS IN RESEARCH PANEL**

**Gaining Public Support for  
Animal Research: A Proposal  
for Openness**

Noon–2 p.m.

San Diego Convention Center: Room 11

Organizer: Mar Sanchez, PhD

Contact: advocacy@sfn.org

*Support contributed by: The National  
Primate Research Centers*

---

A new wave of openness in communication with the public is emerging among animal researchers. Open communication has successfully garnered public support by improving public trust and perception of animal research. Through analyzing the resurgence of support related to transparency initiatives, this panel will teach effective ways for researchers to communicate with the public and generate a conversation around the strategies they can employ to foster public support in their local communities.

**SfN CHAPTERS WORKSHOP AND RECEPTION**

**Leveraging Communities and  
Resources to Increase Your  
Chapter's Impact and Reach**  

6:45–8:45 p.m.

Marriott Marquis: Ballroom A

Contact: chapters@sfn.org

---

SfN chapters are organizing innovative events each year to increase knowledge and awareness of the brain within their membership ranks and their local communities. Many of these activities are funded through SfN chapter grants. In this workshop, experienced chapter leaders will share best practices in an informal, roundtable format on topics such as how to run successful events, build local partnerships, and collaborate with other chapters. New chapter leaders or those considering starting a chapter are especially encouraged to attend this networking event.

**TUESDAY, NOV. 6**

**Celebration of Women in  
Neuroscience Luncheon**  

Noon–2 p.m.

Hilton Bayfront: Sapphire CD

Contact: cwins@sfn.org

---

The annual Celebration of Women in Neuroscience Luncheon honors female leaders in neuroscience. During this year's luncheon, Courtney Miller, PhD, will moderate a panel discussion on the topic of effective self-promotion during career transitions. The panel will feature Yasmin Hurd, PhD; Susan Magsamen, MAS; and Emilie Marcus, PhD. Space is limited and advance registration is required. For more information and to register, visit [SfN.org/cwinarsvp](http://SfN.org/cwinarsvp).

**PUBLIC ADVOCACY FORUM**

**Advocacy in Four Dimensions ✨**

2–3:30 p.m.

San Diego Convention Center: Room 10

Organizer: William J. Martin, PhD

Contact: [advocacy@sfn.org](mailto:advocacy@sfn.org)

It is vital to mobilize the next generation of scientists and provide them with a broad perspective of advocacy outlets. This panel will provide diverse advocacy perspectives, both inside and outside of the scientific community. Attendees will gain a better understanding of how advocacy occurs on different levels, across career stages, and within various industries and learn the tools necessary to become active, sustained advocates.

**SfN Members' Business Meeting ☐**

6:45–7:30 p.m.

San Diego Convention Center: Room 3

Contact: [info@sfn.org](mailto:info@sfn.org)

Join us at the Members' Business Meeting! Take advantage of this opportunity to share your thoughts and suggestions with the Society's leadership, learn more about SfN's latest accomplishments and how to get involved in SfN committees, and enjoy light refreshments while networking with your peers.

**Graduate Student Reception ☐**

8:30–11:30 p.m.

Hilton Bayfront: Sapphire CD

Contact: [meetings@sfn.org](mailto:meetings@sfn.org)

*Support contributed by:  
eNeuro and JNeurosci*

A reception will be held for graduate students and postdoctoral trainees. No invitation is required.



# SfN-Sponsored Socials

---

All SfN-Sponsored Socials will be held in the Marriott Marquis San Diego Marina. These events are open to all registered annual meeting attendees.

## **SUNDAY, NOVEMBER 4, 6:45–8:45 P.M.**

### **Autonomic and Respiratory Function Social**

#### **Purely Social**

Marriott Marquis: Grand Ballroom 10

Chair: Gary C. Sieck, PhD

Co-Chair: Christopher A. Del Negro, PhD

---

This social brings together established and early stage investigators and trainees, all of whom have an interest in research related to autonomic control or respiratory neurobiology. Senior scientists will facilitate discussions and networking, especially among trainees and early stage investigators.

### **Breaking Barriers for Young Women in Science Social**

#### **Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 8

Chair: Courtney A. Miller, PhD

Co-Chair: Ghazaleh Sadri-Vakili, PhD

---

This social is for the up-and-coming generation of female scientists. Attendees will have the opportunity to interact with mentors from a variety of fields and career stages on a one-on-one basis, to ask far-ranging questions in a relaxed environment that overcomes typical barriers younger scientists can feel in approaching senior scientists. Topics of discussion often include work/life balance, self-promotion, publishing, funding, gender disparity, and implicit bias. The “Social Special Guests” represent a few of the many mentors that will be there to chat and answer your questions.

### **Cajal Club Social**

#### **Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 3 and 4

Chair: Oscar Marin, PhD

Co-Chair: Arturo Alvarez-Buylla, PhD

---

The neocortex of different mammalian species varies widely in shape and size. In the past, progress on the organization and development of the neocortex has been largely based on cellular and molecular studies in rodents, but recent work has begun to illuminate the development of the human neocortex. What are the defining features of the human cortex? At this year’s Cajal Club Social, Debra Silver (Duke) and Nenad Sestan (Yale) will present their perspective and recent work on this theme. Annual awards (Krieg Cortical Kudos, John Wiley Palay Award, and Best Paper on Brain Structure and Function) will be presented.

### **Faculty for Undergraduate Neuroscience (FUN) Poster Session and Social**

#### **Social With Brief Presentation**

Marriott Marquis: Grand Ballrooms 5, 6, and 7

Chair: Leah A. Chase, PhD

Co-Chair: Hewlet G. McFarlane, PhD

---

Socialize and exchange ideas with those interested in undergraduate neuroscience research and education. Undergraduates will present their research; Faculty for Undergraduate Neuroscience (FUN) Student Travel Awards and Educator of the Year Awards will also be presented. See the FUN website ([www.funfaculty.org](http://www.funfaculty.org)) for travel

award information and to register to present a poster at the FUN Social.

### **Hearing and Balance Social**

#### **Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 2

Chair: Stephen V. David, PhD

Co-Chair: David Schneider, PhD

---

The Hearing and Balance Social has been a cherished tradition at SfN for more than 20 years. It serves primarily as a social/networking event, but will also typically include presentations on topics of broad interest to the warm and tightly knit auditory and vestibular (8th nerve) community. This year will feature a lighthearted debate with four panelists about the relative merits of studying audition at different levels, from the cochlea to the cortex.

### **Neural Oscillations Social**

#### **Purely Social**

Marriott Marquis: San Diego Grand Ballroom 12

Chair: Jonas Obleser, PhD

Co-Chair: Saskia Haegens, PhD

---

A social for all neuroscientists deeply in love with all aspects oscillatory about brain function. Neural oscillations have been ubiquitous at SfN for many years. However, more light-hearted, out-of-the-box exchange over what may or may not unite the diverse fields that study oscillatory changes in excitability, from membrane potentials to behavioral corollaries, has been missing. Join us in meeting, greeting, and quizzing random people who love neural phase just as much as you do.



**Neuroethics Social**

**Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 1

Chair: Elba Serrano, PhD

Co-Chair: Marcello Lenca, PhD

Join fellow neuroscientists at this informal gathering to socialize, network, and exchange ideas about the ethical implications of neuroscience research and education. A short panel discussion launches the evening by highlighting hot topics and ways to engage in the field of neuroethics. An icebreaker will promote networking among attendees during the informal portion of the social, intended to encourage development of new collaborations and increase participation by next generation researchers.

**Neuroethology/Invertebrate Neurobiology Social**

**Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 13

Chair: Wolfgang Stein, PhD

Co-Chair: Carola Staedele, PhD

Join us to celebrate neuroethology and the role the nervous system plays in producing behaviors. All members of the neuroscience community are

welcome, in particular those who work on the neural basis of behavior. If you are looking for an opportunity to discuss new and interesting concepts and/or are looking to meet old friends and make new ones, this social is for you. Postdocs and students are encouraged to drop in for socializing and networking.

**Spinal Cord Injury Social**

**Purely Social**

Marriott Marquis: Grand Ballroom 11

Chair: Dana McTigue, PhD

Co-Chair: Michele Basso, PhD

This social will provide an opportunity for researchers interested in spinal cord injury to meet, mingle, and network.

**MONDAY, NOVEMBER 5, 6:45–8:45 P.M**

**Behavioral Neuroendocrinology Social**

**Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 5

Chair: Rae Silver, PhD

Co-Chair: Colin Saldanha, PhD

This is a very successful social that brings together members of the Society for Neuroscience with a focus on the

neuroendocrine regulation of behavior. Research in this area covers a broad range of topics from development, neural networks, systems, and clinical neuroscience and attracts a diverse set of attendees including students and senior researchers. This is the only opportunity for this group to convene at the SfN meeting. It is also an occasion to announce several awards.

**Cerebellum Social**

**Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 9

Chair: Roy Sillitoe, PhD

Co-Chair: Alexandra Joyner, PhD

The Cerebellum Social will bring together researchers and clinicians from all areas of cerebellar neuroscience. The social will facilitate further collaborations between principal investigators and provide networking and career opportunities for students and postdoctoral fellows. The event will be predominantly a social gathering, and it will also provide opportunities to discuss future events such as SfN symposia and minisymposia.

**Down Syndrome: From Neurobiology to Treatment Social**

**Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 2

Chair: William Mobley, PhD

Co-Chair: Elizabeth Fisher, PhD

The Down syndrome research community is growing rapidly, especially among those whose focus is the neurobiology of this disorder. The social will facilitate discussion of exciting new insight into the genes and mechanisms responsible for changes in brain function. By bringing together established and young investigators, it will encourage networking and highlight recent findings from selected young investigators.

## Epilepsy Social

### Social With Brief Presentation

Marriott Marquis: Grand Ballroom 12 and 13

Chair: Amy Brewster, PhD

Co-Chair: Mark Beenhakker, PhD

---

Epilepsy research is interesting, challenging, and highly diverse. We welcome all those with an interest in epilepsy to join us for an evening of social networking with leading experts and with representatives from the National Institutes of Health, the American Epilepsy Society, and Citizens United for Research in Epilepsy. This is a great opportunity for all to engage in productive discussions, establish collaborations, or simply enjoy networking in a comfortable and fun social setting.

## The Hippocampus Social

### Purely Social

Marriott Marquis: Grand Ballroom 8

Chair: Michael Yassa, PhD

Co-Chair: Elizabeth Buffalo, PhD

---

The Hippocampus Social continues a decades-long tradition at the SfN annual meeting. It will gather the large community of hippocampus scientists under one roof to get to know one another. It will also provide important professional development opportunities for younger neuroscientists to casually interact with luminaries in the field.

## Ingestive Behavior Social

### Purely Social

Marriott Marquis: Grand Ballroom 1

Chair: Suzanne Appleyard, PhD

Co-Chair: Mitchell Roitman, PhD

---

After a day enjoying SfN's intellectual buffet, come socialize with your colleagues working in areas of neuroscience related to control of eating



and drinking! There will be colleagues ranging from established investigators to students and postdoctoral fellows studying ingestive behavior and related areas of neuroscience, in diverse animals, from invertebrates to rodents and humans. Plan to attend, whether for a few hours or a few minutes, to mix, mingle, enjoy a drink, and organize collaborations.

## The Marmoset Social

### Social With Brief Presentation

Marriott Marquis: San Diego Grand Ballroom 3 and 4

Chair: Alessandra Angelucci, MD, PhD

Co-Chair: Marcello Rosa, PhD

---

The rapid adoption of the marmoset as an animal model in neuroscience has created a high demand for venues to facilitate interaction, exchange practical information, and form new collaborations. In this event, a panel of investigators starting or considering a transition to marmoset research will ask questions to a panel of established marmoset researchers. This initial 30-minute discussion will be followed by time for the audience to ask questions to the panelists and for free social and scientific interaction.

## Migraine Social

### Social With Brief Presentation

Marriott Marquis: Grand Ballroom 6

Chair: Frederick Godley, MD

Co-Chair: Julie Kauer, PhD

---

There will be a special screening of *Out of My Head*, a 60-minute documentary that follows a young woman falling down the rabbit hole of migraine. Following the film, there will be a panel discussion that will include the award-winning film creator Jacki Ochs; Michael Oshinsky, PhD (NINDS); Christopher Moore, PhD; Frederick Godley, MD; Daniela Pietrobon, PhD; and Julie Kauer, PhD. We expect that the provocative film will raise many questions about this complex disease.

## Music Social

### Purely Social

Marriott Marquis: Bayside Pavilion

Chair: Emmeline Edwards, PhD

Co-Chair: William Pearce, PhD

---

Please join your SfN friends in a special evening of fun and music. This year's program will focus on new performances and musical diversity. Members wanting to perform should provide information describing their

musical selection(s), accompaniment needs, and performance history to Robert Riddle (riddler@nih.gov) by October 15. Links to web resources or files (Soundcloud, Youtube, MP3s, etc.) are encouraged but not required. Performances are approximately 10 minutes. Some instruments will be available on-site.

### **Psychopharmacology Social** **Purely Social**

Marriott Marquis: Grand Ballroom 10 and 11

Chair: Stan Floresco, PhD  
Co-Chair: Jared Young, PhD

.....  
Please join us as we socialize with people who know a thing or two about mind-altering substances. Your hosts will enjoy enabling SfN attendees to catch up with colleagues, meet others in the field, loosen up with a refreshing beverage after a hard day of science, and groove to a psychopharmacologically inspired playlist. Intermingling between more senior scientists and trainees is strongly encouraged, and all are welcome.

### **TUESDAY, NOVEMBER 6, 6:45–8:45 P.M.** **Alzheimer's and Related Dementias Social**

#### **Purely Social**

Marriott Marquis: Grand Ballroom 8  
Chair: Laura Blair, PhD  
Co-Chair: Joe Abisambra, PhD

.....  
Current and future Alzheimer's disease or related dementia researchers, please join us for an inclusive, purely social gathering that will bring together experts, early career investigators, postdocs, and students interested in Alzheimer's disease and related dementias research. Stop by and mingle. Reconnect with old friends and make new ones. All are welcome to join!



### **Art and Neuroscience Social** **Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 5  
Chair: Paula Croxson, PhD  
Co-Chair: Christian Lüscher, MD

.....  
This social will bring together SfN members who exercise their passion and creativity through art. As part of the social, we will host a Neuroscience Art Competition, and encourage attendees to submit their own artwork. It will feature a display of the submitted artwork, which will be judged by a panel of diverse neuroscience artists. There will be a brief ceremony for the winning pieces in each category. Afterwards, you are free to mingle and enjoy the art!

### **Computational Neuroscience Social**

#### **Purely Social**

Marriott Marquis: Grand Ballroom 12  
Chair: Alex Williams  
Co-Chair: Kiah Hardcastle

.....  
This social, intended to bring together neuroscientists working on all aspects of computational neuroscience, has grown immensely popular over the years. The social is an opportunity for attendees

to network with other computational neuroscientists and to exchange notes on the latest methods and studies. It's also a chance to learn about opportunities to further your computational knowledge, on topics such as summer schools and graduate programs.

### **Eye Movements Social** **Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 4  
Chair: Jeffrey Schall, PhD  
Co-Chair: Miriam Spering, PhD

.....  
This social will continue the long-running social for the community who investigates eye movements. This social will offer the opportunity for networking among senior and junior faculty, as well as trainees.

### **Global Neuroscience Social** **Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 13  
Chair: Noriko Osumi, PhD  
Co-Chair: Kei Igarashi, PhD

.....  
Different countries have different ways of conducting neuroscience research. Studying neuroscience in foreign countries will give you a new perspective

in your science career. This social will focus on allowing neuroscientists from American, European, and Asian countries to mingle and in this way acquire neuroscience experience in new countries. Several PIs with their own lab in foreign countries will give presentations in which they will discuss their experiences.

### **Mechanosensation Social**

#### **Purely Social**

Marriott Marquis: Grand Ballroom 3

Chair: Ellen A. Lumpkin, PhD

Co-Chair: Ardem Patapoutian, PhD

---

It's time for scientists interested in mechanosensory systems to get in touch! The social aims to bring together neurobiologists interested in somatosensation, interoception, and auditory/vestibular systems from invertebrate to mammalian systems. This social will be a relaxed forum to connect old friends and those new to the field. We hope to discuss recent progress in areas of the field ranging from molecules and cells to circuits. Postdocs and students are especially encouraged to attend.

### **Neuroendocrinology Social**

#### **Purely Social**

Marriott Marquis: Grand Ballroom 6

Chair: Jessica Santollo, PhD

Co-Chair: Deena Walker, PhD

---

Come and enjoy an evening of socializing and networking with your fellow neuroendocrinologists and be entertained with a modified version of The Newlywed Game, "Know Your Neuroendocrinologist." Trainees and mentors will display their knowledge of each other's careers, interests, and major discoveries in the field of neuroendocrinology. If that isn't exciting enough, this social is a great place to

minge with others in the field and is an excellent networking opportunity for trainees.

### **Neuroinformatics Social**

#### **Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 11

Chair: David Kennedy, PhD

Co-Chair: Jeffrey Grethe, MD, PhD

---

Come and exchange ideas with others interested in neuroscience data management at the Neuroinformatics Social! Find new collaborators who have datasets and resources you need, recruit new users for your tools, or join up to solve standards and interoperability issues with scientists and developers in electrophysiology, neuroimaging, brain mapping, and computational neuroscience. Don't miss this event where we'll discuss everything neuroinformagical!

### **Neuron-Glia Interactions Social**

#### **Social With Brief Presentation**

Marriott Marquis: Grand Ballroom 9

Chair: R. Douglas Fields, PhD

Co-Chair: Alfonso Araque, PhD

---

A purely social opportunity to interact with current and future leaders in the field of neuron-glia interactions. The evening will open with three-minute presentations by authorities speaking about their favorite model organism for glial research. The rest of the evening will be devoted to meeting and interacting informally with students, faculty, and colleagues. Helmut Kettenmann: Early historical models used in glial studies; Kelly Monk: Zebrafish; Mary Logan: *Drosophila*; Shai Shaham: *C. elegans*; Bruce Ransom.

### **Open-Source Technology Social**

#### **Purely Social**

Marriott Marquis: Grand Ballroom 10

Chair: Mark Laubach, PhD

Co-Chair: Alexxai Kravitz, PhD

---

Socialize and exchange ideas with researchers developing and using open-source tools for neuroscience research. Join us for an evening of fun, and you might even find a new collaborator for your open-source projects!

### **Pain and Itch Social**

#### **Purely Social**

Marriott Marquis: Grand Ballroom 1

and 2

Chair: Jennifer DeBerry, PhD

Co-Chair: Alfonso Romero-Sandoval,

MD, PhD

---

Gather with fellow "pain and itch" neuroscientists for an opportunity to unwind and exchange ideas with peers. Everyone is invited to this purely social gathering, where established leaders and early career investigators can reconnect with old friends and make new ones.

**JNeurosci**  
THE JOURNAL OF NEUROSCIENCE

JNeurosci.org

**eNeuro**

eNeuro.org

SfN's journals  
work together to  
publish research  
that promotes  
discovery,  
innovation,  
and rigor in  
neuroscience.

The Journal editors  
will be at the booth  
#2113, come stop by  
to learn more.



# Satellite Events and Non-SfN Socials

Full descriptions and the latest details on these satellite events and socials not sponsored or organized by SfN are available online at [SfN.org/satellites](http://SfN.org/satellites). These events are also available in the Neuroscience Meeting Planner (NMP), which is accessible at [SfN.org/nmp](http://SfN.org/nmp), and in the meeting mobile app, available for download on Apple and Android mobile devices.

SPONSOR KEY:	
Commercial	1
University / Non-Profit	2
Individual / Group	3

TITLE	TIME	MORE INFO	LOCATION	ROOM	KEY
<b>WEDNESDAY, OCTOBER 31</b>					
51st Annual Meeting International Society for Developmental Psychobiology (ISDP)	8 a.m.–8 p.m.	<a href="http://www.isdp.org">www.isdp.org</a>	Catamaran Resort Hotel		2
BrightFocus Alzheimer's Fast Track	7 a.m.–7 p.m.	<a href="mailto:ksummers@brightfocus.org">ksummers@brightfocus.org</a>	Catamaran Resort Hotel		2
<b>THURSDAY, NOVEMBER 1</b>					
5th RNA Metabolism in Neurological Disease Conference	9 a.m.–6 p.m.	<a href="mailto:karen@bluezulumarketing.co.uk">karen@bluezulumarketing.co.uk</a>	Paradise Point, San Diego		3
51st Annual Meeting International Society for Developmental Psychobiology (ISDP)	8 a.m.–5:30 p.m.	<a href="http://www.isdp.org">www.isdp.org</a>	Catamaran Resort Hotel		2
17th Annual Molecular and Cellular Cognition Society Reception/Poster Session	6:30–9:30 p.m.	<a href="mailto:ted-abel@uiowa.edu">ted-abel@uiowa.edu</a>	USS Midway Museum/Navy Pier	Hanger Bays 1 & 2	2
2018 International Neuroethics Society Annual Meeting	10 a.m.–6 p.m.	<a href="mailto:kgraham@neuroethicsociety.org">kgraham@neuroethicsociety.org</a>	Central Public Library	Shiley Suite, 330 Park Blvd.	2
2018 International Neuroethics Society Poster Session	5–7 p.m.	<a href="mailto:kgraham@neuroethicsociety.org">kgraham@neuroethicsociety.org</a>	Central Public Library	Shiley Suite, 330 Park Blvd.	2
American Society of Neurorehabilitation Annual Meeting	7 a.m.–7 p.m.	<a href="mailto:info@asnr.com">info@asnr.com</a>	Hilton San Diego Harborplace		2
Barrels XXXI	8 a.m.–8 p.m.	<a href="mailto:robert.sachdev@charite.de">robert.sachdev@charite.de</a>	University of California Riverside		2
BrightFocus Alzheimer's Fast Track	7 a.m.–7 p.m.	<a href="mailto:ksummers@brightfocus.org">ksummers@brightfocus.org</a>	Catamaran Resort Hotel		2
J.B. Johnston Club for Evolutionary Neuroscience	7 a.m.–7:30 p.m.	<a href="mailto:jbjclub1980@gmail.com">jbjclub1980@gmail.com</a>	Horton Grand Hotel		2
Motor Control, Neural Plasticity, & Brain-Computer Interfaces: A Symposium in Honor of Eberhard Fetz	9 a.m.–5 p.m.	<a href="mailto:perl@uw.edu">perl@uw.edu</a>	Omni Hotel		2
The IEEE Brain Initiative Workshop on Advanced NeuroTechnologies	1–7 p.m.	<a href="mailto:makay@uh.edu">makay@uh.edu</a>	Hilton Bayfront	Indigo 204	2
<b>FRIDAY, NOVEMBER 2</b>					
5th RNA Metabolism in Neurological Disease Conference	9 a.m.–6 p.m.	<a href="mailto:karen@bluezulumarketing.co.uk">karen@bluezulumarketing.co.uk</a>	Paradise Point, San Diego		2
51st Annual Meeting International Society for Developmental Psychobiology (ISDP)	8 a.m.–5 p.m.	<a href="http://www.isdp.org">www.isdp.org</a>	Catamaran Resort Hotel		2
51st International Society for Developmental Psychobiology (ISDP) Poster Session	5–7 p.m.	<a href="http://www.isdp.org">www.isdp.org</a>	Hilton Bayfront	Indigo 202	2
14th Intl. Workshop on Advances in Electrocorticography	8 a.m.–5 p.m.	<a href="mailto:schalk@wadsworth.org">schalk@wadsworth.org</a>	Grand Hyatt	Mission Beach A-C	2

TITLE	TIME	MORE INFO	LOCATION	ROOM	KEY
17th Annual Molecular and Cellular Cognition Society Symposium	9 a.m.–5 p.m.	ted-abel@uiowa.edu	San Diego Convention Center	31ABC	3
2018 International Neuroethics Society Annual Meeting	8 a.m.–7 p.m.	kgraham@neuroethicsociety.org	Central Public Library	Shiley Suite, 330 Park Blvd.	2
Advances in Motor Control and Motor Learning	1–7 p.m.	mas@seas.harvard.edu	San Diego Convention Center	32A	2
American Society of Neurorehabilitation Annual Meeting	7 a.m.–7 p.m.	info@asnr.com	Hilton San Diego Harborplace		2
Annual NIDA-NIAAA Frontiers in Addiction Research Mini-Convention	8:30 a.m.–5:30 p.m.	rsorensen@mail.nih.gov	San Diego Convention Center	7AB	2
APAN-Advances and Perspectives in Auditory Neuroscience	8 a.m.–6 p.m.	ycohen@pennteam.upenn.edu	Wyndham San Diego Bayside		1
Barrels XXXI	8 a.m.–5 p.m.	robert.sachdev@charite.de	University of California Riverside		2
Birdsong 8	8 a.m.–8 p.m.	tgentner@ucsd.edu	UC San Diego Campus, 9500 Gilman Dr. MC0436	Atkinson Hall, 5th Floor La Jolla CA	2
BrightFocus Alzheimer's Fast Track	7 a.m.–5 p.m.	ksummers@brightfocus.org	Catamaran Resort Hotel		2
J.B. Johnston Club for Evolutionary Neuroscience	7 a.m.–9 p.m.	jbjclub1980@gmail.com	Horton Grand Hotel		2
Neuroscience of Movement Disorders	7:30 a.m.–5:30 p.m.	tyacoubian@uabmc.edu	Hilton Bayfront	Sapphire Ballroom P	2
S4SN 2018 Annual Meeting	7 a.m.–8 p.m.	kbosch@taramillerevents.com	Hilton Bayfront	Sapphire Ballroom IJMN	2
Satellite Meeting of Comparative Cognition Society	8 a.m.–6 p.m.	olga.lazareva@drake.edu	Grand Hyatt	Promenade AB	2
Spinal Cord Plasticity in Motor Control	8:30 a.m.–6 p.m.	thompsai@musc.edu	Hilton Bayfront	Sapphire Ballroom CD	2
The IEEE Brain Initiative Workshop on Advanced NeuroTechnologies	9 a.m.–5 p.m.	makay@uh.edu	Hilton Bayfront	Indigo 204	2
Using NEURON to Model Cells and Networks	9 a.m.–5 p.m.	www.neuron.yale.edu/neuron/courses	neuron.yale.edu/neuron/courses		2
Vision/Action: A Symposium in Honor of Lance Optican	9 a.m.–6:30 p.m.	quaiac@nei.nih.gov	Marriott Marquis	Marina Ballroom G	2
<b>SATURDAY, NOVEMBER 3</b>					
Chinese Neuroscientists Social	6:30–10 p.m.	wu.longjun@mayo.edu	Grand Hyatt	Harbor Ballroom GHI	3
Exploring Mouse and Human Cortical Cells Using the Allen Cell Types Database	8–10:30 a.m.	Kaitlync@alleninstitute.org	Hilton Bayfront	Sapphire Ballroom C	2
Exploring the Allen Brain Observatory: An Open Database of Cortical Cell Physiology	8–10:30 a.m.	Kaitlync@alleninstitute.org	Hilton Bayfront	Sapphire Ballroom D	2
Friends of Case Western Reserve University and Cleveland Clinic Social	6:30–8:30 p.m.	cmiller@hb.edu	Grand Hyatt	Harbor Ballroom F	2
FTD Social	6:30–8:30 p.m.	dniehoff@theaftd.org	Grand Hyatt	Harbor Ballroom D	2
g.tec Brain Computer Interface Workshop	6:30–8:30 p.m.	guger@gtec.at	San Diego Convention Center	10	1
High Performance Computing (HPC) Resources for Parallel Simulation and Data Analysis: NSG and HPAC	9–10:30 a.m.	www.nsgportal.org/workshop.html	nsgportal.org/workshop.html		2

TITLE	TIME	MORE INFO	LOCATION	ROOM	KEY
Localization Microscopy in Neuroscience: Understanding Neuronal Structure to the Nano Level	6:30–10 p.m.	Jessica.celentano@bruker.com	Grand Hyatt	Harbor Ballroom ABC	1
Updates for Migraine Management	8:30–10 a.m.	plarson@rockpointe.com	Marriott Marquis	Marriott Grand Ballroom 1	3
<b>SUNDAY, NOVEMBER 4</b>					
Arab Neuroscientists Social	6:30–8:30 p.m.	www.arabneuroscientists.org	San Diego Convention Center	26B	3
ASPET's Neuropharmacology Division Social	6:30–8:30 p.m.	styliani-anna.tsirka@stonybrook.edu	House of Blues in San Diego		2
Boston University, Graduate Neuroscience Social	7–10 p.m.	sgrasso@bu.edu	Hilton Bayfront	Indigo 202AB	2
Celebrating the Life and Legacy of Ben Barres	7–9 p.m.	brad.zuchero@gmail.com	Marriott Marquis	Rancho Santa Fe 1-3	2
Dutch Nite 2018	7–10 p.m.	guus.smit@cncr.vu.nl	Grand Hyatt	Harbor Ballroom D	2
ENIGMA Addiction Working Group Meeting	6:30–8:30 p.m.	msmackey@uvm.edu	Hilton Bayfront	Aqua Salon EF	2
Ernst Strüngmann Forum Social	6:30–9:30 p.m.	lupp@esforum.de	Marriott Marquis	Torrey Pines	2
FENS-Kavli Scholar's Social Event	7:30–9:30 p.m.	hangyab@koki.hu	Grand Hyatt	Harbor Ballroom B	2
g.tec RecoveriX and MindBEAGLE Workshop	6:30–8:30 p.m.	guger@gtec.at	San Diego Convention Center	10	1
International Behavioral and Neuroscience Society (IBNS) Social	6:30–8:30 p.m.	ibns@ibnsconnect.org	Grand Hyatt	Harbor Ballroom A	2
Mayo Clinic Alumni Association Reception	6:30–8:30 p.m.	benedett.whitney@mayo.edu	Hilton Bayfront	Aqua Salon AB	2
MilliporeSigma Presents: 6th Annual Satellite Symposium on Neuroinflammation, Degeneration, and Disease	6:30–8:30 p.m.	brian.snead@emdmillipore.com	Grand Hyatt	Harbor Ballroom HI	3
Neuroimmunology Social	6:30–8:30 p.m.	sbilbo@mgh.harvard.edu	Grand Hyatt	Harbor Ballroom G	2
New Techniques in Electro-and Optophysiology	6:30–8:30 p.m.	margaret@alascience.com	San Diego Convention Center	4	1
Stanford Neurosciences Reception	6:30–8:30 p.m.	erniefok@stanford.edu	Hilton Bayfront	Aqua Salon C	2
Supercharge your Patch-Clamp Data Acquisition and Analysis with the NEW pCLAMP 11 Software	6:30–8:00 p.m.	jared.chapa@moldev.com	Grand Hyatt	Harbor Ballroom C	1
The University of Chicago Neuroscience Annual Social	6:30–8:30 p.m.	neurograd@uchicago.edu	Grand Hyatt	Harbor Ballroom E	2
<b>MONDAY, NOVEMBER 5</b>					
8th Annual Mixer of the International Society for Serotonin Research	6:30–8:30 p.m.	berg@uthscsa.edu	Strider's, 100 J Street		2
15th Annual Christopher Reeve "Hot Topics" in Stem Cell Biology	6:30–9:30 p.m.	towens@sbdpdiscovery.org	San Diego Convention Center	6A	2
4th Thomas RECORDING GmbH Multichannel Recording Workshop	6:30–8:30 p.m.	info@thomasrecording.com	Hilton Bayfront	Sapphire 410	1

GENERAL INFORMATION PROGRAM | Satellite Events and Non-SfN Socials

TITLE	TIME	MORE INFO	LOCATION	ROOM	KEY
2018 Taiwan Night	6:30–9 p.m.	yihungchen@mail.cmu.edu.tw	Hilton Bayfront	Sapphire Ballroom CDGH	2
Alzheimer's Association Reception	6:30–8:30 p.m.	Meredith.McNeil@alz.org	Hilton Bayfront	Indigo 202AB	3
Association of Korean Neuroscientists: Annual Meeting and Social	6:30–9:30 p.m.	leed1@ohio.edu	Horton Grand Hotel	311 Island Avenue, San Diego	2
Automated Preparation and Sorting of Viable Neurons from Adult Mouse Brain for Functional Assays	6:30 -8:30 p.m.	irinae@miltenyibiotec.com	Marriott Marquis	Torrey Pines	2
DFG Leibniz Lecture	6:30–7:30 p.m.	emily.formica@dfg.de	Hilton Bayfront	Sapphire Ballroom KL	2
FOXG1 Research: Achievements and Opportunities	6:30–9:30 p.m.	ebrimble@stanfordchildrens.org	Grand Hyatt	Promenade AB	2
Grass Foundation and Marine Biological Laboratory	6:30–8 p.m.	execassist@grassfoundation.org	Hilton Bayfront	Indigo Ballroom A	2
Neuro-Rehabilitation Social	6:30–8:30 p.m.	kingla@ohsu.edu	Social Tap	815 J St., San Diego	2
Neuroscience in Germany Social XXV	7:30–8:30 p.m.	emily.formica@dfg.de	Hilton Bayfront	Sapphire Ballroom OP	2
Novel Research Models and Their Utility in Studying Human Neurological Disease	6:30–9:30 p.m.	amy.cowan@horizondiscovery.com	Hilton Bayfront	Indigo Ballroom D	1
Parkinson's Disease Social	6:30–8:30 p.m.	bvernaleo@parkinson.org	Hilton Bayfront	Indigo 206	2
Simons Foundation Autism Research Initiative (SFARI) Social	6:30–8:30 p.m.	jspiro@simonsfoundation.org	Hilton Bayfront	204AB	2
Sleep and Bidirectional Changes in Synaptic Plasticity: The Untold Story	7–8 p.m.	marcos.frank@wsu.edu	Hilton Bayfront	Sapphire 411	2
Sleep and Circadian Biology DataBlitz	8-10 p.m.	laposkya@nhlbi.nih.gov	Hilton Bayfront	Sapphire Ballroom IJMN	2
Sleep Research Society Club Hypnos Membership Reception	6:30–8 p.m.	Coordinator@srsnet.org	Hilton Bayfront	Sapphire Ballroom EF	2
Synapse Social	6:30–8:30 p.m.	meriney@pitt.edu	Mc Fadden's Open Air Patio, 731 5th Avenue		2
Washington University in St. Louis Neuroscience Reception	6:30–9:30 p.m.	tamarama90@yahoo.com	Barleymash Bar, 600 5th Avenue, San Diego		2
Wearable Sensing's DRY EEG Technology	6:30–9:30 p.m.	walid@wearablesensing.com	Hilton Bayfront	Indigo Ballroom H	2
<b>TUESDAY, NOVEMBER 6</b>					
Friends of Iowa Neuroscience	6:30–9:30 p.m.	ted-abel@uiowa.edu	Skybox at Diamond View East V		2
The Science Bridge and Middle Eastern Neuroscientists Social	6:30–8:30 p.m.	nelly.alia-klein@mssm.edu	Marriott Marquis	Rancho Santa Fe 1 & 2	3

# List of Sessions by Theme and Day

All posters will be presented in the San Diego Convention Center, Halls B-H. All lecture, symposium, minisymposium, and nanosymposium rooms are located in the San Diego Convention Center.

Note: Theme J (History and Education) posters will be on display in Hall B beginning at 1 p.m. on Saturday, Nov. 3 and will remain posted until 5 p.m. on Sunday, Nov. 4. One-hour presentation times will occur either Saturday afternoon or Sunday morning.

## THEME DESCRIPTIONS

- |   |  |                                       |                         |
|---|--|---------------------------------------|-------------------------|
| A Development                             | C Neurodegenerative Disorders and Injury | E Motor Systems                       | H Cognition             |
| B Neural Excitability, Synapses, and Glia | D Sensory Systems                        | F Integrative Physiology and Behavior | I Techniques            |
|   |  | G Motivation and Emotion              | J History and Education |

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
<b>Featured Lectures</b>						
001	Dialogues Between Neuroscience and Society: Music and the Brain	Lecture	SDCC Ballroom 20	3 Sat	11 a.m.–1 p.m.	
009	Presidential Special Lecture: The dArc Matter of Synaptic Communication	Lecture	SDCC Ballroom 20	3 Sat	5:15–6:30 p.m.	1.25
182	Peter and Patricia Gruber Lecture: Decision, Reward, and the Basal Ganglia	Lecture	SDCC Ballroom 20	4 Sun	2:30–3:40 p.m.	
183	Presidential Special Lecture: Neurobiology of Social Behavior Circuits	Lecture	SDCC Ballroom 20	4 Sun	5:15–6:30 p.m.	1.25
264	David Kopf Lecture on Neuroethics: When Is an Adolescent an Adult?: Implications for Justice Policy	Lecture	SDCC Ballroom 20	5 Mon	10–11:10 a.m.	
351	Albert and Ellen Grass Lecture: Neural Sequences in Memory and Cognition	Lecture	SDCC Ballroom 20	5 Mon	3:15–4:25 p.m.	1.25
352	Presidential Special Lecture: From Nanoscale Dynamic Organization to Plasticity of Excitatory Synapses and Learning	Lecture	SDCC Ballroom 20	5 Mon	5:15–6:30 p.m.	1.25
535	History of Neuroscience Lecture: Deciphering Neural Circuits: From the Neuron Doctrine to the Connectome	Lecture	SDCC Ballroom 20	6 Tue	2:30–3:40 p.m.	
536	Presidential Special Lecture: From Salvia Divinorum to LSD: Toward a Molecular Understanding of Psychoactive Drug Actions	Lecture	SDCC Ballroom 20	6 Tue	5:15–6:30 p.m.	1.25
<b>Theme A: Development</b>						
002	Neuronal Guidance in Health and Disease	Symposium	SDCC 6A	3 Sat	1:30–4 p.m.	2.5
010	Brain Size, Structure, and Evolution	Nanosymposium	SDCC 33	3 Sat	1–2:45 p.m.	
029	Postnatal Neurogenesis: Temporal and Spatial Patterns	Poster	A1–A14	SDCC Halls B–H	3 Sat	1–5 p.m.
030	Environmental and Immunological Influences on Autism	Poster	A15–A30	SDCC Halls B–H	3 Sat	1–5 p.m.
031	Developmental Disorders: Animal Models of Neurodevelopmental Disease I	Poster	A31–B26	SDCC Halls B–H	3 Sat	1–5 p.m.
032	Developmental Disorders: Animal Models of Autism	Poster	B27–C23	SDCC Halls B–H	3 Sat	1–5 p.m.
033	Adolescent Development: Animal Models I	Poster	C24–D5	SDCC Halls B–H	3 Sat	1–5 p.m.
098	Molecular Mechanisms Underpinning Dopamine Neuron Development, Diversity, and Vulnerability	Minisymposium	SDCC 29D	4 Sun	8:30–11 a.m.	2.5
102	Axon and Dendrite Development: Axon Growth and Guidance: Adhesion, Cytoskeletal Dynamics, and Transport	Nanosymposium	SDCC 33	4 Sun	8–9:45 a.m.	
103	Animal Models of Neurodevelopmental Disease	Nanosymposium	SDCC 32	4 Sun	8–10:15 a.m.	
113	Nervous System Patterning and Developmental Cell Death	Poster	A1–A13	SDCC Halls B–H	4 Sun	8 a.m.–noon
114	Transplantation and Regeneration (PNS) and Neuroglial Interactions	Poster	A14–B5	SDCC Halls B–H	4 Sun	8 a.m.–noon
115	Transplantation and Regeneration in the CNS	Poster	B6–B27	SDCC Halls B–H	4 Sun	8 a.m.–noon

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
116 Axon and Dendrite Development: Axon Growth and Guidance: Adhesion and Cytoskeletal Dynamics	Poster	B28–C18	SDCC Halls B–H	4 Sun	8 a.m.–noon	
117 Axon and Dendrite Development: Dendritic Growth and Branching	Poster	C19–D5	SDCC Halls B–H	4 Sun	8 a.m.–noon	
118 Synaptogenesis and Activity-Dependent Development: Synapse Formation	Poster	D6–D25	SDCC Halls B–H	4 Sun	8 a.m.–noon	
119 Developmental Disorders: Autism: Genetic Models	Poster	D26–D46	SDCC Halls B–H	4 Sun	8 a.m.–noon	
120 Autism Mechanisms and Therapeutic Development	Poster	D47–E19	SDCC Halls B–H	4 Sun	8 a.m.–noon	
121 Autism Spectrum Disorders: Neural Correlates in Humans	Poster	E20–E48	SDCC Halls B–H	4 Sun	8 a.m.–noon	
184 Postnatal Neurogenesis: Molecular Mechanisms	Nanosymposium		SDCC 1	4 Sun	1–3:30 p.m.	
185 Neural Stem Cells: Reprogramming, Regeneration, and Transplantation	Nanosymposium		SDCC 2	4 Sun	1–3 p.m.	
195 Neural Cell Lineage Specification	Poster	A1–A30	SDCC Halls B–H	4 Sun	1–5 p.m.	
196 Stem Cells and Neural Differentiation	Poster	A31–B26	SDCC Halls B–H	4 Sun	1–5 p.m.	
197 Axon and Dendrite Development: Axon Growth and Guidance: Axonal Transport and Trafficking	Poster	B27–C8	SDCC Halls B–H	4 Sun	1–5 p.m.	
266 Autism: Structural and Functional Correlates in Children	Nanosymposium		SDCC 32	5 Mon	8–11:30 a.m.	
277 Neurogenesis and Gliogenesis: Neuronal Development I	Poster	A1–A29	SDCC Halls B–H	5 Mon	8 a.m.–noon	
278 Stem Cells and Disease Modeling I	Poster	A30–B14	SDCC Halls B–H	5 Mon	8 a.m.–noon	
279 Stem Cells and Reprogramming: Neural Stem Cells: <i>In Vitro</i> Studies	Poster	B15–C8	SDCC Halls B–H	5 Mon	8 a.m.–noon	
280 Synaptogenesis and Activity-Dependent Development: Synapse Maturation and Remodeling	Poster	C9–C30	SDCC Halls B–H	5 Mon	8 a.m.–noon	
281 Adolescent Development: Human Imaging	Poster	C31–D15	SDCC Halls B–H	5 Mon	8 a.m.–noon	
282 Comparative Anatomy and Brain Evolution	Poster	D16–D38	SDCC Halls B–H	5 Mon	8 a.m.–noon	
344 Extracellular Vesicles: Insights Into Cell-to-Cell Communication in the Nervous System	Symposium		SDCC 6A	5 Mon	1:30–4 p.m.	2.5
353 Current Perspectives on Neural Circuit Assembly and Reorganization	Nanosymposium		SDCC 24	5 Mon	1–2:45 p.m.	
365 Postnatal Neurogenesis: Environmental and Pharmacological Regulation	Poster	A1–A19	SDCC Halls B–H	5 Mon	1–5 p.m.	
366 Stem Cells and Disease Modeling II	Poster	A20–B11	SDCC Halls B–H	5 Mon	1–5 p.m.	
367 Axon Growth and Guidance	Poster	B12–B24	SDCC Halls B–H	5 Mon	1–5 p.m.	
368 Behavioral Analyses of Autism in Humans and Rodent Models	Poster	B25–C22	SDCC Halls B–H	5 Mon	1–5 p.m.	
369 Mechanisms of Developmental Disorders: Animal Models	Poster	C23–D5	SDCC Halls B–H	5 Mon	1–5 p.m.	
434 RNA Control of Axonal Functions	Symposium		SDCC 6A	6 Tue	8:30–11 a.m.	2.5
443 Stem Cells and Disease Modeling: Neuropsychiatric and Neurodegenerative Disease	Nanosymposium		SDCC 31C	6 Tue	8–11:30 a.m.	
455 Adult Neurogenesis: Molecular Mechanisms	Poster	A1–A17	SDCC Halls B–H	6 Tue	8 a.m.–noon	
456 Autism: Cellular Mechanisms	Poster	A18–A32	SDCC Halls B–H	6 Tue	8 a.m.–noon	
457 Developmental Disorders: Animal Models of Neurodevelopmental Disease II	Poster	A33–B20	SDCC Halls B–H	6 Tue	8 a.m.–noon	
458 Development of Motor, Sensory, and Limbic Systems: Motor Systems	Poster	B21–C4	SDCC Halls B–H	6 Tue	8 a.m.–noon	
528 Genetic Specification of Neuronal Identity	Lecture		SDCC Ballroom 20	6 Tue	1–2:10 p.m.	1.25
537 Autism: From Genetic Models to Insights	Nanosymposium		SDCC 4	6 Tue	1–2:45 p.m.	
550 Neurogenesis and Gliogenesis: Neuronal Development II	Poster	A1–A28	SDCC Halls B–H	6 Tue	1–5 p.m.	
551 Neurogenesis and Gliogenesis: Glial Development and Interaction With Neurons	Poster	A29–B9	SDCC Halls B–H	6 Tue	1–5 p.m.	
552 Stem Cells and Reprogramming: Neural Lineage Reprogramming	Poster	B10–B19	SDCC Halls B–H	6 Tue	1–5 p.m.	
553 Sensory Circuit Assembly and Reorganization	Poster	B20–B32	SDCC Halls B–H	6 Tue	1–5 p.m.	
554 Rett Syndrome	Poster	C1–C16	SDCC Halls B–H	6 Tue	1–5 p.m.	
555 Mechanisms of Developmental Disorders	Poster	C17–D8	SDCC Halls B–H	6 Tue	1–5 p.m.	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
620 Neural Proteomics in Synapse Development and Function	Minisymposium		SDCC 29D	7 Wed	8:30–11 a.m.	2.5
624 Stem Cells and Disease Modeling: Neurodevelopment	Nanosymposium		SDCC 30E	7 Wed	8–11:30 a.m.	
636 Neural Cell Proliferation	Poster	A1–A28	SDCC Halls B–H	7 Wed	8 a.m.–noon	
637 Neural Cell Migration and Lineage Specification	Poster	A29–B16	SDCC Halls B–H	7 Wed	8 a.m.–noon	
638 Transplantation and Regeneration	Poster	B17–B28	SDCC Halls B–H	7 Wed	8 a.m.–noon	
639 Genes and Molecules Implicated in Autism Spectrum Disorders	Poster	B29–C8	SDCC Halls B–H	7 Wed	8 a.m.–noon	
640 Down Syndrome	Poster	C9–C23	SDCC Halls B–H	7 Wed	8 a.m.–noon	
641 Developmental Disorders: Animal Models of Neurodevelopmental Disease III	Poster	C24–D4	SDCC Halls B–H	7 Wed	8 a.m.–noon	
642 Structural and Functional Development of Sensory Systems	Poster	D5–D34	SDCC Halls B–H	7 Wed	8 a.m.–noon	
643 Development of Motor, Sensory, and Limbic Systems: Limbic System	Poster	D35–D42	SDCC Halls B–H	7 Wed	8 a.m.–noon	
644 Adolescent Development: Animal Models II	Poster	D43–E12	SDCC Halls B–H	7 Wed	8 a.m.–noon	
645 Adolescent Development: Mechanisms of Vulnerability	Poster	E13–E26	SDCC Halls B–H	7 Wed	8 a.m.–noon	
709 Sonic Hedgehog and Cell-Specific Programming: Circuits, Disease, and Repair	Minisymposium		SDCC 28A	7 Wed	1:30–4 p.m.	2.5
724 Neural Circuit Development: Molecules and Mechanisms	Poster	A1–A19	SDCC Halls B–H	7 Wed	1–5 p.m.	
725 Fragile X Syndrome I	Poster	A20–A34	SDCC Halls B–H	7 Wed	1–5 p.m.	
726 Fragile X Syndrome II	Poster	B1–B19	SDCC Halls B–H	7 Wed	1–5 p.m.	
727 Angelman and Other Developmental Disorders	Poster	B20–C8	SDCC Halls B–H	7 Wed	1–5 p.m.	
728 ADHD, SLI, Dyslexia, and Other Disorders	Poster	C9–C32	SDCC Halls B–H	7 Wed	1–5 p.m.	
<b>Theme B: Neural Excitability, Synapses, and Glia</b>						
011 Network Interactions: Oscillations and Synchrony: EEG Studies	Nanosymposium		SDCC 24	3 Sat	1–4 p.m.	
012 Animal Models of Epilepsy	Nanosymposium		SDCC 1	3 Sat	1–2:45 p.m.	
034 Neurotrophins	Poster	D6–D15	SDCC Halls B–H	3 Sat	1–5 p.m.	
035 Sensory Transduction and Other Ion Channels	Poster	D16–D30	SDCC Halls B–H	3 Sat	1–5 p.m.	
036 Long-Term Depression (LTD)	Poster	D31–D41	SDCC Halls B–H	3 Sat	1–5 p.m.	
037 Synaptic Plasticity: Homeostatic Plasticity I	Poster	D42–E17	SDCC Halls B–H	3 Sat	1–5 p.m.	
038 Synaptic Plasticity: Homeostatic Plasticity II	Poster	E18–E37	SDCC Halls B–H	3 Sat	1–5 p.m.	
039 Epilepsy	Poster	E38–F11	SDCC Halls B–H	3 Sat	1–5 p.m.	
040 Epilepsy: Networks, Dynamics, and Computation	Poster	F12–G9	SDCC Halls B–H	3 Sat	1–5 p.m.	
041 Epilepsy: Seizure Mechanisms	Poster	G10–H15	SDCC Halls B–H	3 Sat	1–5 p.m.	
042 Astrocyte Biology	Poster	H16–J10	SDCC Halls B–H	3 Sat	1–5 p.m.	
043 Oligodendrocyte Development and Function	Poster	J11–K13	SDCC Halls B–H	3 Sat	1–5 p.m.	
097 Advances in Enteric Neurobiology: The "Brain" in the Gut in Health and Disease	Minisymposium		SDCC 28A	4 Sun	8:30–11 a.m.	2.5
122 Metabotropic Glutamate and GABA B Receptors	Poster	E49–F8	SDCC Halls B–H	4 Sun	8 a.m.–noon	
123 Sodium Channels	Poster	F9–G1	SDCC Halls B–H	4 Sun	8 a.m.–noon	
124 Control of Neuronal Firing in Development and Disease	Poster	G2–F8	SDCC Halls B–H	4 Sun	8 a.m.–noon	
125 Oscillations and Synchrony in the Human Brain	Poster	H1–I8	SDCC Halls B–H	4 Sun	8 a.m.–noon	
126 Biology of Microglia	Poster	I9–K6	SDCC Halls B–H	4 Sun	8 a.m.–noon	
127 Microglia in Disease	Poster	K7–L15	SDCC Halls B–H	4 Sun	8 a.m.–noon	
128 Neuro-Oncology	Poster	L16–N4	SDCC Halls B–H	4 Sun	8 a.m.–noon	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
181 Cell Adhesion Molecules at the Intersection of Cell Type Identity and Neural Circuit Connectivity	Minisymposium		SDCC 29D	4 Sun	1:30–4 p.m.	2.5
198 Glutamate Transport and Signaling	Poster	C9–C26	SDCC Halls B–H	4 Sun	1–5 p.m.	
199 Monoamines I	Poster	C27–D18	SDCC Halls B–H	4 Sun	1–5 p.m.	
200 GABA(A) Receptors	Poster	D19–D44	SDCC Halls B–H	4 Sun	1–5 p.m.	
201 Structural Plasticity I	Poster	D45–E20	SDCC Halls B–H	4 Sun	1–5 p.m.	
202 Structural Plasticity II	Poster	E21–E36	SDCC Halls B–H	4 Sun	1–5 p.m.	
203 Control of Neuronal Firing	Poster	E37–F9	SDCC Halls B–H	4 Sun	1–5 p.m.	
204 Myelin-Related Disorders	Poster	F10–G2	SDCC Halls B–H	4 Sun	1–5 p.m.	
283 Structure and Function of Nicotinic Acetylcholine Receptors	Poster	D39–E18	SDCC Halls B–H	5 Mon	8 a.m.–noon	
284 Synaptic Connectivity and Synaptic Properties	Poster	E19–E29	SDCC Halls B–H	5 Mon	8 a.m.–noon	
285 LTP: Pre- and Postsynaptic Mechanisms	Poster	E30–F4	SDCC Halls B–H	5 Mon	8 a.m.–noon	
286 Network Interactions and Synaptic Integration I	Poster	F5–F21	SDCC Halls B–H	5 Mon	8 a.m.–noon	
287 Synaptic Plasticity	Poster	F22–G12	SDCC Halls B–H	5 Mon	8 a.m.–noon	
288 Synaptic Protein Dynamics	Poster	H1–H16	SDCC Halls B–H	5 Mon	8 a.m.–noon	
289 Anticonvulsant and Antiepileptic Therapies	Poster	H17–J5	SDCC Halls B–H	5 Mon	8 a.m.–noon	
290 Epilepsy: Human Studies	Poster	J6–K12	SDCC Halls B–H	5 Mon	8 a.m.–noon	
350 Rapid Antidepressant Action: Synaptic Mechanisms and Clinical Aspects	Basic-Translational-Clinical Roundtables		SDCC 30E	5 Mon	1:30–4 p.m.	2.5
370 NMDA Receptors	Poster	D6–D28	SDCC Halls B–H	5 Mon	1–5 p.m.	
371 Non-NMDA Receptors	Poster	D29–D40	SDCC Halls B–H	5 Mon	1–5 p.m.	
372 Neurotransmitter Release: Vesicle Dynamics	Poster	D41–E9	SDCC Halls B–H	5 Mon	1–5 p.m.	
373 Epilepsy: Experimental Therapeutics	Poster	E10–E24	SDCC Halls B–H	5 Mon	1–5 p.m.	
374 LTP: Kinases and Intracellular Signaling	Poster	E25–E44	SDCC Halls B–H	5 Mon	1–5 p.m.	
375 Intrinsic Membrane Properties: Neural Oscillators and Dendritic Properties	Poster	E45–F15	SDCC Halls B–H	5 Mon	1–5 p.m.	
376 Glial Mechanisms in Neurological Disorders	Poster	F16–H5	SDCC Halls B–H	5 Mon	1–5 p.m.	
438 Neuromodulation of Brain States in Health and Disease: Bridging Experiments and Computational Models	Minisymposium		SDCC 28A	6 Tue	8:30–11 a.m.	2.5
442 Neuronal Diversity Within the Ventral Tegmental Area and Co-Release of Neurotransmitters	Lecture		SDCC Ballroom 20	6 Tue	11:30 a.m.–12:40 p.m.	1.25
444 LTP: Intracellular Signaling, Pre- and Postsynaptic Mechanisms	Nanosymposium		SDCC 25	6 Tue	8–10:15 a.m.	
445 Network Interactions, Oscillations, and Synchrony	Nanosymposium		SDCC 24	6 Tue	8–10:15 a.m.	
446 Seizure, Trauma, and Post-Traumatic Stress Disorder	Nanosymposium		SDCC 1	6 Tue	8–10:30 a.m.	
459 G-Protein Coupled Receptors	Poster	C5–C26	SDCC Halls B–H	6 Tue	8 a.m.–noon	
460 Epilepsy: Ion Channels	Poster	C27–C38	SDCC Halls B–H	6 Tue	8 a.m.–noon	
461 Calcium Channels	Poster	D1–D16	SDCC Halls B–H	6 Tue	8 a.m.–noon	
462 Postsynaptic Organization and Structure	Poster	D17–D42	SDCC Halls B–H	6 Tue	8 a.m.–noon	
463 Network Interactions and Synaptic Integration II	Poster	D43–E12	SDCC Halls B–H	6 Tue	8 a.m.–noon	
464 Short-Term Synaptic Plasticity	Poster	E13–E28	SDCC Halls B–H	6 Tue	8 a.m.–noon	
465 Transcription and Translation in Synaptic Plasticity	Poster	E29–F3	SDCC Halls B–H	6 Tue	8 a.m.–noon	
533 Molecular and Nano-Organization of Synapses	Minisymposium		SDCC 28A	6 Tue	1:30–4 p.m.	2.5

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
538 Neurotransmitter Release	Nanosymposium		SDCC 32	6 Tue	1–2:45 p.m.	
539 Postsynaptic Organization and Structure	Nanosymposium		SDCC 31C	6 Tue	1–4:15 p.m.	
556 Opiates, Cytokines, and Other Neuropeptides	Poster	D9–D29	SDCC Halls B–H	6 Tue	1–5 p.m.	
557 Glycine Receptors and Other Ligand Gated Ion Channels	Poster	D30–E1	SDCC Halls B–H	6 Tue	1–5 p.m.	
558 Potassium Channels	Poster	E2–E28	SDCC Halls B–H	6 Tue	1–5 p.m.	
559 Presynaptic Organization	Poster	E29–E48	SDCC Halls B–H	6 Tue	1–5 p.m.	
560 Mechanisms of Seizure Generation and Epilepsy	Poster	E49–G2	SDCC Halls B–H	6 Tue	1–5 p.m.	
561 Models of Developmental Epilepsies and Seizure Disorders	Poster	G3–I2	SDCC Halls B–H	6 Tue	1–5 p.m.	
614 Biochemical Computation in Postsynaptic Compartments: Implications for Synaptic Plasticity, Learning, and Memory	Lecture		SDCC Ballroom 20	7 Wed	8:30–9:40 a.m.	1.25
625 Epilepsy: Human Studies	Nanosymposium		SDCC 32	7 Wed	8–10:15	
646 Monoamines II	Poster	E27–E46	SDCC Halls B–H	7 Wed	8 a.m.–noon	
647 Synaptic Transmission: Modulation: ACh, Amino Acids, and GABA	Poster	E47–F24	SDCC Halls B–H	7 Wed	8 a.m.–noon	
648 Synaptic Transmission: Modulation: Mechanisms of Action	Poster	F25–H12	SDCC Halls B–H	7 Wed	8 a.m.–noon	
649 Glia in Energy Homeostasis and Disease	Poster	H13–I10	SDCC Halls B–H	7 Wed	8 a.m.–noon	
650 Glial Mechanisms in Neurodegenerative Diseases	Poster	I11–J7	SDCC Halls B–H	7 Wed	8 a.m.–noon	
651 Glial-Neuron Interactions	Poster	J8–K16	SDCC Halls B–H	7 Wed	8 a.m.–noon	
652 Glial Mechanisms: Glia-Neuron Interactions: CNS	Poster	K17–M10	SDCC Halls B–H	7 Wed	8 a.m.–noon	
653 Demyelinating Disorders: Molecular and Cellular Mechanisms: Therapeutics	Poster	M11–O5	SDCC Halls B–H	7 Wed	8 a.m.–noon	
705 Unveiling the Extracellular Space of the Brain: From Super-Resolved Microstructure to <i>In Vivo</i> Function	Symposium		SDCC 6A	7 Wed	1:30–4 p.m.	2.5
710 Multitransmitter Neurons: The Function and Regulation of Neurotransmitter Cotransmission	Minisymposium		SDCC 29D	7 Wed	1:30–4 p.m.	2.5
711 Astrocytes: Disease Mechanisms	Nanosymposium		SDCC 32	7 Wed	1–2:45 p.m.	
729 Calcium Channels: Regulation and Modulation	Poster	C33–D8	SDCC Halls B–H	7 Wed	1–5 p.m.	
730 HCN Channels	Poster	D9–D18	SDCC Halls B–H	7 Wed	1–5 p.m.	
731 Network Interactions: Signal Propagation	Poster	D19–D31	SDCC Halls B–H	7 Wed	1–5 p.m.	
732 Oscillations and Synchrony: Unit Studies	Poster	D32–D42	SDCC Halls B–H	7 Wed	1–5 p.m.	
733 Oscillations and Synchrony: LFP Studies I	Poster	D43–E8	SDCC Halls B–H	7 Wed	1–5 p.m.	
734 Oscillations and Synchrony: LFP Studies II	Poster	E9–E23	SDCC Halls B–H	7 Wed	1–5 p.m.	
735 Network Interactions	Poster	E24–E46	SDCC Halls B–H	7 Wed	1–5 p.m.	
<b>Theme C: Neurodegenerative Disorders and Injury</b>						
013 Alzheimer's Disease and Other Dementias: Genetic Analyses	Nanosymposium		SDCC 25	3 Sat	1–3:45 p.m.	
014 Parkinson's Disease: Diagnostics and Clinical Trials	Nanosymposium		SDCC 5	3 Sat	1–2:45 p.m.	
015 Neurotoxicity, Inflammation, and Neuroprotection: Advances in Nanomedicine	Nanosymposium		SDCC 2	3 Sat	1–4 p.m.	
044 Brain Wellness and Aging: Molecular Mechanisms	Poster	K14–M8	SDCC Halls B–H	3 Sat	1–5 p.m.	
045 Alzheimer's Disease and Other Dementias: Abeta Mechanisms of Toxicity I	Poster	M9–N10	SDCC Halls B–H	3 Sat	1–5 p.m.	
046 Alzheimer's Disease and Other Dementias: APP/Abeta: Animal and Cellular Models I	Poster	N11–P12	SDCC Halls B–H	3 Sat	1–5 p.m.	
047 Alzheimer's Disease and Other Dementias: Tau: Biochemistry and Physiology	Poster	P13–Q10	SDCC Halls B–H	3 Sat	1–5 p.m.	
048 Alzheimer's Disease and Other Dementias: Tau: Animal and Cellular Models	Poster	Q11–R16	SDCC Halls B–H	3 Sat	1–5 p.m.	
049 Alzheimer's Disease and Other Dementias: Therapeutic Strategies: Preclinical Animal Models I	Poster	R17–T2	SDCC Halls B–H	3 Sat	1–5 p.m.	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
050 Parkinson's Disease: Animal Models and Associated Behaviors	Poster	T3-U11	SDCC Halls B-H	3 Sat	1-5 p.m.	
051 Parkinson's Disease: Human Studies: Genetics and Diagnostic	Poster	U12-W8	SDCC Halls B-H	3 Sat	1-5 p.m.	
052 Neuromuscular Diseases: Motor Neuron Disease: <i>In vitro</i> Studies	Poster	W9-X12	SDCC Halls B-H	3 Sat	1-5 p.m.	
053 Neurotoxicity, Inflammation, and Neuroprotection: Preclinical Studies	Poster	X13-Z2	SDCC Halls B-H	3 Sat	1-5 p.m.	
054 Stroke, Damage, or Disease: Assessment and Treatment I	Poster	Z3-BB3	SDCC Halls B-H	3 Sat	1-5 p.m.	
055 Stroke Imaging and Diagnostic Studies: Vascular and Movement Emphasis During Recovery	Poster	BB4-CC12	SDCC Halls B-H	3 Sat	1-5 p.m.	
056 Brain Injury and Trauma: Cellular and Molecular Mechanisms I	Poster	CC13-EE3	SDCC Halls B-H	3 Sat	1-5 p.m.	
099 What We Know, What We Don't Know: How Can We Better Understand Alzheimer's Disease to Develop Effective Treatments?	Basic-Translational-Clinical Roundtables		SDCC 10	4 Sun	8:30-11 a.m.	2.5
104 Parkinson's Disease: Therapeutic Strategies: Preclinical Animal Models	Nanosymposium		SDCC 4	4 Sun	8-10 a.m.	
129 Brain Wellness and Aging: Metabolism, Oxidative Stress, and Cellular Mechanisms	Poster	N5-P6	SDCC Halls B-H	4 Sun	8 a.m.-noon	
130 Brain Wellness and Aging	Poster	P7-Q9	SDCC Halls B-H	4 Sun	8 a.m.-noon	
131 Alzheimer's Disease and Other Dementias: Abeta, Tau, and Neurodegeneration	Poster	Q10-R14	SDCC Halls B-H	4 Sun	8 a.m.-noon	
132 Alzheimer's Disease and Other Dementias: APP/Abeta: Animal and Cellular Models II	Poster	R14-S12	SDCC Halls B-H	4 Sun	8 a.m.-noon	
133 Alzheimer's Disease and Other Dementias: Therapeutic Strategies: Preclinical Cellular Models	Poster	S13-T9	SDCC Halls B-H	4 Sun	8 a.m.-noon	
134 Parkinson's Disease: Molecular and Cellular Mechanisms	Poster	T10-U3	SDCC Halls B-H	4 Sun	8 a.m.-noon	
135 Neurotoxicity, Inflammation, and Neuroprotection: Animal Models	Poster	U4-V3	SDCC Halls B-H	4 Sun	8 a.m.-noon	
136 Ischemia: Neuroprotection	Poster	V4-V14	SDCC Halls B-H	4 Sun	8 a.m.-noon	
137 Stroke, Damage, or Disease: Assessment and Treatment II	Poster	V15-W15	SDCC Halls B-H	4 Sun	8 a.m.-noon	
138 Spinal Cord Injury I	Poster	W16-Y1	SDCC Halls B-H	4 Sun	8 a.m.-noon	
175 Clinical Neuroscience Lecture: From Axon Regeneration to Functional Recovery After CNS Injury	Lecture		SDCC Ballroom 20	4 Sun	1-2:10 p.m.	1.25
186 Brain Wellness and Aging: Molecular Mechanisms	Nanosymposium		SDCC 30B	4 Sun	1-3:45 p.m.	
187 Alzheimer's Disease: Synapses, Mechanisms, and Models	Nanosymposium		SDCC 33	4 Sun	1-4 p.m.	
188 Alzheimer's Disease and Other Dementias: Tau and TDP-43 Proteinopathies	Nanosymposium		SDCC 5	4 Sun	1-3:15 p.m.	
189 Parkinson's Disease: LRRK2 Mechanisms, Targets, and Pathways	Nanosymposium		SDCC 25	4 Sun	1-2:30 p.m.	
190 Stroke Recovery: Non-Pharmacological Approaches and Novel Diagnostics	Nanosymposium		SDCC 32	4 Sun	1-3:15 p.m.	
205 Altered Energy Homeostasis in Alzheimer's Disease	Poster	G3-H13	SDCC Halls B-H	4 Sun	1-5 p.m.	
206 Alzheimer's Disease and Other Dementias: Frontotemporal Lobar Degeneration: Vascular Disease	Poster	H14-J8	SDCC Halls B-H	4 Sun	1-5 p.m.	
207 Parkinson's Disease: Cellular Mechanisms	Poster	J9-L1	SDCC Halls B-H	4 Sun	1-5 p.m.	
208 Therapeutic Developments in ALS	Poster	L2-M13	SDCC Halls B-H	4 Sun	1-5 p.m.	
209 Neurotoxicity, Inflammation, and Neuroprotection: Mechanisms of Neurodegeneration I	Poster	M14-O10	SDCC Halls B-H	4 Sun	1-5 p.m.	
210 Neurotoxicity, Inflammation, and Neuroprotective Mechanisms: Preclinical	Poster	O11-Q1	SDCC Halls B-H	4 Sun	1-5 p.m.	
211 Brain Injury and Trauma: Animal Models of Brain Injury	Poster	Q2-R17	SDCC Halls B-H	4 Sun	1-5 p.m.	
212 Brain Injury and Trauma: Human Studies	Poster	R18-S17	SDCC Halls B-H	4 Sun	1-5 p.m.	
213 Spinal Cord Injury and Plasticity: Cellular and Molecular Mechanisms I	Poster	S18-U10	SDCC Halls B-H	4 Sun	1-5 p.m.	
257 Repairing the Injured Nervous System: Inhibiting the Inhibitors	Symposium		SDCC 6A	5 Mon	8:30-11 a.m.	2.5
263 Molecular Therapies for Neurological Diseases	Basic-Translational-Clinical Roundtables		SDCC 10	5 Mon	8:30-11 a.m.	2.5

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
267 Alzheimer's Disease: Neuroinflammation and Immune Actions	Nanosymposium		SDCC 24	5 Mon	8–11 a.m.	
268 Alzheimer's Disease and Other Dementias: Therapeutic Strategies: Preclinical Animal Models	Nanosymposium		SDCC 33	5 Mon	8–11:30 a.m.	
269 Tauopathies, Tau-Dementias, and Prion Diseases: Cellular and Molecular Mechanisms	Nanosymposium		SDCC 1	5 Mon	8–11:15 a.m.	
291 Brain Wellness and Aging: Pharmacological and Non-Pharmacological Interventions	Poster	K13–M4	SDCC Halls B–H	5 Mon	8 a.m.–noon	
292 Parkinson's Disease: Preclinical Animal Studies: Cellular and Molecular I	Poster	M5–N12	SDCC Halls B–H	5 Mon	8 a.m.–noon	
293 Tauopathies and Synucleinopathies: Cellular and Molecular Mechanisms	Poster	O1–P3	SDCC Halls B–H	5 Mon	8 a.m.–noon	
294 Ischemia I	Poster	P4–R4	SDCC Halls B–H	5 Mon	8 a.m.–noon	
295 Brain Injury and Trauma: Animal Models of Brain Injury: Physiology and Behavior I	Poster	R5–S10	SDCC Halls B–H	5 Mon	8 a.m.–noon	
296 Spinal Cord Injury II	Poster	S11–U1	SDCC Halls B–H	5 Mon	8 a.m.–noon	
297 Spinal Cord Injury and Plasticity: Training, Rehabilitation, and Repair: Animal Models	Poster	U2–V15	SDCC Halls B–H	5 Mon	8 a.m.–noon	
298 Spinal Cord Injury and Plasticity: Neurophysiology I	Poster	V16–W13	SDCC Halls B–H	5 Mon	8 a.m.–noon	
345 Global Efforts to Build More Predictive Animal Models of Neurodegenerative Disease	Symposium		SDCC 6B	5 Mon	1:30–4 p.m.	2.5
354 Brain Wellness and Aging: Systemic Factors and Brain Function	Nanosymposium		SDCC 33	5 Mon	1–2:45 p.m.	
355 Motor Neuron and Other Neuromuscular Diseases: <i>In vitro</i> Studies	Nanosymposium		SDCC 30B	5 Mon	1–4 p.m.	
356 Spinal Cord Injury: Factors Influencing Recovery	Nanosymposium		SDCC 7	5 Mon	1–2:45 p.m.	
377 Parkinson's Disease: L-DOPA Induced Dyskinesia	Poster	H6–H15	SDCC Halls B–H	5 Mon	1–5 p.m.	
378 Dystonia, Tremor, and Other Movement Disorders	Poster	H16–J4	SDCC Halls B–H	5 Mon	1–5 p.m.	
379 ALS Mechanisms	Poster	J5–L2	SDCC Halls B–H	5 Mon	1–5 p.m.	
380 Neuromuscular Diseases: Other Neuromuscular Diseases	Poster	L3–L17	SDCC Halls B–H	5 Mon	1–5 p.m.	
381 Neurotoxicity, Inflammation, and Neuroprotection: Mechanisms of Neurodegeneration II	Poster	L18–N8	SDCC Halls B–H	5 Mon	1–5 p.m.	
382 Neurotoxicity, Neuroinflammation, HIV, and Infections I	Poster	N9–O11	SDCC Halls B–H	5 Mon	1–5 p.m.	
383 Ischemia II	Poster	O12–Q9	SDCC Halls B–H	5 Mon	1–5 p.m.	
384 Stroke Recovery: Pharmacological Approaches to Therapy	Poster	Q10–S7	SDCC Halls B–H	5 Mon	1–5 p.m.	
385 Stroke Rehabilitation Movement Manipulation, Diagnostics, and White Matter	Poster	S8–T3	SDCC Halls B–H	5 Mon	1–5 p.m.	
386 Spinal Cord Injury and Plasticity: Training, Rehabilitation, and Repair: Human	Poster	T4–T15	SDCC Halls B–H	5 Mon	1–5 p.m.	
387 Spinal Cord Injury and Plasticity: Neurophysiology II	Poster	T16–V2	SDCC Halls B–H	5 Mon	1–5 p.m.	
433 Understanding Regeneration of Complex Body Parts	Lecture		SDCC Ballroom 20	6 Tue	8:30–9:40 a.m.	1.25
437 Mechanisms of Tau Oligomer-Induced Synaptic Impairment and Potential Treatment Strategies	Minisymposium		SDCC 6E	6 Tue	8:30–11 a.m.	2.5
447 Parkinson's Disease: Alpha-Synuclein: Models and Mechanisms	Nanosymposium		SDCC 32	6 Tue	8–10 a.m.	
448 Neurotoxicity, Inflammation, and Neuroprotection: Cellular Stress and Death Mechanisms	Nanosymposium		SDCC 7	6 Tue	8–10:45 a.m.	
449 Neurotoxicity, Inflammation, and Neuroprotection: Mechanisms of Neurodegeneration	Nanosymposium		SDCC 30B	6 Tue	8–10 a.m.	
466 Alzheimer's Disease and Other Dementias: Genetic Analysis and Omics Approaches	Poster	F4–G7	SDCC Halls B–H	6 Tue	8 a.m.–noon	
467 Alzheimer's Disease and Other Dementias: Therapeutic Strategies: Preclinical Animal Models II	Poster	G8–16	SDCC Halls B–H	6 Tue	8 a.m.–noon	
468 Alzheimer's Disease and Other Dementias: Therapeutic Strategies: Preclinical Animal Models III	Poster	17–J13	SDCC Halls B–H	6 Tue	8 a.m.–noon	
469 Alzheimer's Disease and Other Dementias: Biomarkers	Poster	J14–L9	SDCC Halls B–H	6 Tue	8 a.m.–noon	
470 Parkinson's Disease: Therapeutic Strategies: Cellular Models	Poster	L10–M10	SDCC Halls B–H	6 Tue	8 a.m.–noon	
471 Ataxias	Poster	M11–O8	SDCC Halls B–H	6 Tue	8 a.m.–noon	
472 Studies of ALS in Animal Models	Poster	O9–Q7	SDCC Halls B–H	6 Tue	8 a.m.–noon	
473 Neurotoxicity, Inflammation, and Neuroprotection: Cellular Stress and Death Mechanisms I	Poster	Q8–S5	SDCC Halls B–H	6 Tue	8 a.m.–noon	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
474 Neurotoxicity, Inflammation, and Neuroprotection: Mechanisms of Neurotoxicity I	Poster	S6–T9	SDCC Halls B–H	6 Tue	8 a.m.–noon	
475 Ischemia III	Poster	T10–V8	SDCC Halls B–H	6 Tue	8 a.m.–noon	
476 Spinal Cord Injury and Plasticity: Cellular and Molecular Mechanisms II	Poster	V9–W15	SDCC Halls B–H	6 Tue	8 a.m.–noon	
477 Spinal Cord Injury III	Poster	W16–Y13	SDCC Halls B–H	6 Tue	8 a.m.–noon	
529 Organelle Dynamics and Proteostasis in Neuronal Homeostasis and Degeneration	Symposium		SDCC 6A	6 Tue	1:30–4 p.m.	2.5
540 Alzheimer's Disease and Other Dementias: ApoE and Associated Pathways	Nanosymposium		SDCC 24	6 Tue	1–2:30 p.m.	
541 Neurotoxicity, Neuroinflammation, and Neurodegeneration	Nanosymposium		SDCC 7	6 Tue	1–4:15 p.m.	
542 Transplantation and Regeneration: PNS	Nanosymposium		SDCC 25	6 Tue	1–2:45 p.m.	
562 Neurotoxicity, Inflammation, and Neuroprotection: Cellular Stress and Death Mechanisms II	Poster	I3–J9	SDCC Halls B–H	6 Tue	1–5 p.m.	
563 Ischemia IV	Poster	J10–L5	SDCC Halls B–H	6 Tue	1–5 p.m.	
564 Brain Injury and Trauma: Cellular and Molecular Mechanisms II	Poster	L6–M9	SDCC Halls B–H	6 Tue	1–5 p.m.	
565 Brain Injury and Trauma: Brain: Histology and Cellular Markers of Brain Injury	Poster	M10–N4	SDCC Halls B–H	6 Tue	1–5 p.m.	
566 Brain Injury and Trauma: Human Studies II	Poster	N5–P1	SDCC Halls B–H	6 Tue	1–5 p.m.	
567 Brain Injury and Trauma: Pre-Clinical Therapeutic Strategies	Poster	P2–Q10	SDCC Halls B–H	6 Tue	1–5 p.m.	
568 Spinal Cord Injury and Plasticity: Animal Models and Human Studies	Poster	Q11–S8	SDCC Halls B–H	6 Tue	1–5 p.m.	
569 Spinal Cord Injury IV	Poster	S9–T16	SDCC Halls B–H	6 Tue	1–5 p.m.	
619 The Endolysosomal System and Proteostasis: From Development to Degeneration	Minisymposium		SDCC 28A	7 Wed	8:30–11 a.m.	2.5
626 Alzheimer's Disease and Other Dementias: APP and Metabolites: Cleavage and Processing	Nanosymposium		SDCC 33	7 Wed	8–10:45 a.m.	
627 Alzheimer's Disease and Other Dementias: Abeta and Tau Mechanisms and Therapeutics	Nanosymposium		SDCC 7	7 Wed	8–10:45 a.m.	
628 Parkinson's Disease: Mechanisms and Genetics	Nanosymposium		SDCC 25	7 Wed	8–9:45 a.m.	
629 Neurotoxicity, Inflammation, and Neuroprotection: Neuroinflammation: Neurodegeneration	Nanosymposium		SDCC 24	7 Wed	8–10:45 a.m.	
654 Parkinson's Disease: Deep Brain Stimulation	Poster	O6–P3	SDCC Halls B–H	7 Wed	8 a.m.–noon	
655 Parkinson's Disease: LRRK2 Mechanisms, Targets, and Pathways	Poster	P4–R2	SDCC Halls B–H	7 Wed	8 a.m.–noon	
656 Parkinson's Disease: Therapeutic Strategies: Clinical Trials	Poster	R3–S3	SDCC Halls B–H	7 Wed	8 a.m.–noon	
657 Huntington's Disease: Molecular Mechanisms I	Poster	S4–T5	SDCC Halls B–H	7 Wed	8 a.m.–noon	
658 Neurotoxicity, Inflammation, and Neuroprotection: Neuroinflammation: Microglia	Poster	T6–U6	SDCC Halls B–H	7 Wed	8 a.m.–noon	
659 Neurotoxicity, Inflammation, and Neurodegeneration	Poster	U7–V15	SDCC Halls B–H	7 Wed	8 a.m.–noon	
660 Neurotoxicity, Inflammation, and Neuroprotection: Neuroinflammation: Animal Models	Poster	V16–W14	SDCC Halls B–H	7 Wed	8 a.m.–noon	
661 Neurotoxicity, Neuroinflammation, HIV, and Infections II	Poster	W15–Y1	SDCC Halls B–H	7 Wed	8 a.m.–noon	
662 Stroke Recovery: Non-Pharmacological Approaches to Therapy Cellular and Brain Stimulation	Poster	Y2–Y17	SDCC Halls B–H	7 Wed	8 a.m.–noon	
663 Brain Injury and Trauma: Animal Models of Brain Injury: Physiology and Behavior II	Poster	Y18–AA10	SDCC Halls B–H	7 Wed	8 a.m.–noon	
664 Brain Injury and Trauma: Human Studies I	Poster	AA11–CC3	SDCC Halls B–H	7 Wed	8 a.m.–noon	
665 Brain Injury and Trauma: Peripheral Nerve Trauma, Crush, and Toxic Injury	Poster	CC4–DD2	SDCC Halls B–H	7 Wed	8 a.m.–noon	
712 Imaging Studies and Biomarkers in Alzheimer's Disease	Nanosymposium		SDCC 31C	7 Wed	1–2:45 p.m.	
713 Alzheimer's Disease and Other Dementias: Abeta: Pathologic Mechanisms	Nanosymposium		SDCC 33	7 Wed	1–3:15 p.m.	
714 Alzheimer's Disease and Other Dementias: Tau: Experimental Models	Nanosymposium		SDCC 5	7 Wed	1–3 p.m.	
715 ALS Mechanisms	Nanosymposium		SDCC 7	7 Wed	1–3:45 p.m.	
716 Brain Injury: From Animal Models to Physiology, Behavior, and Treatments	Nanosymposium		SDCC 4	7 Wed	1–4 p.m.	
736 Alzheimer's Disease and Other Dementias: Neuroinflammation	Poster	E47–F25	SDCC Halls B–H	7 Wed	1–5 p.m.	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
737 Alzheimer's Disease and Other Dementias: Neuroinflammation and Immune Actions	Poster	F26–H17	SDCC Halls B–H	7 Wed	1–5 p.m.	
738 Mechanisms of Synaptic Dysfunction in Alzheimer's Disease	Poster	H18–J2	SDCC Halls B–H	7 Wed	1–5 p.m.	
739 Alzheimer's Disease and Other Dementias: Mechanisms of Synaptic Dysfunction in Alzheimer's Disease	Poster	J3–K15	SDCC Halls B–H	7 Wed	1–5 p.m.	
740 Alzheimer's Disease and Other Dementias: Mechanisms of Synaptic Dysfunction in Alzheimer's Disease	Poster	K16–L17	SDCC Halls B–H	7 Wed	1–5 p.m.	
741 Alzheimer's Disease and Other Dementias: Clinical and Pre-Clinical Imaging Studies in Alzheimer's Disease	Poster	L18–N6	SDCC Halls B–H	7 Wed	1–5 p.m.	
742 Alzheimer's Disease and Other Dementias: APP and Metabolites: Function and Processing	Poster	N7–O10	SDCC Halls B–H	7 Wed	1–5 p.m.	
743 Alzheimer's Disease and Other Dementias: Abeta Mechanisms of Toxicity II	Poster	O11–Q8	SDCC Halls B–H	7 Wed	1–5 p.m.	
744 Alzheimer's Disease and Other Dementias: APP/Abeta: Animal and Cellular Models III	Poster	Q9–R16	SDCC Halls B–H	7 Wed	1–5 p.m.	
745 Alzheimer's Disease and Other Dementias: Abeta as a Therapeutic Target	Poster	R17–S13	SDCC Halls B–H	7 Wed	1–5 p.m.	
746 Alzheimer's Disease and Other Dementias: ApoE and Associated Pathways	Poster	S14–T6	SDCC Halls B–H	7 Wed	1–5 p.m.	
747 Alzheimer's Disease and Other Dementias: Other Dementias	Poster	T7–U2	SDCC Halls B–H	7 Wed	1–5 p.m.	
748 Parkinson's Disease: Mitochondrial Mechanisms and Genetics	Poster	U3–V4	SDCC Halls B–H	7 Wed	1–5 p.m.	
749 Parkinson's Disease: Alpha-Synuclein: Models	Poster	V5–W14	SDCC Halls B–H	7 Wed	1–5 p.m.	
750 Parkinson's Disease: Alpha-Synuclein: Mechanisms and Transmission	Poster	W15–Y10	SDCC Halls B–H	7 Wed	1–5 p.m.	
751 Parkinson's Disease: Circuit Mechanisms	Poster	Y11–Z11	SDCC Halls B–H	7 Wed	1–5 p.m.	
752 Parkinson's Disease: Neuroprotection	Poster	Z12–AA10	SDCC Halls B–H	7 Wed	1–5 p.m.	
753 Parkinson's Disease: Neuroprotective Mechanisms	Poster	AA11–CC6	SDCC Halls B–H	7 Wed	1–5 p.m.	
754 Parkinson's Disease: Symptoms and Emerging Therapeutic Avenues	Poster	CC7–DD2	SDCC Halls B–H	7 Wed	1–5 p.m.	
755 Parkinson's Disease: Preclinical Animal Studies: Cellular and Molecular II	Poster	DD3–EE7	SDCC Halls B–H	7 Wed	1–5 p.m.	
756 Parkinson's Disease: Preclinical Animal Studies: Stimulation and Physiology	Poster	EE8–FF15	SDCC Halls B–H	7 Wed	1–5 p.m.	
757 Huntington's Disease: Molecular Mechanisms II	Poster	FF16–HH1	SDCC Halls B–H	7 Wed	1–5 p.m.	
758 Huntington's Disease: Animal Models and Clinical Trials	Poster	HH2–II13	SDCC Halls B–H	7 Wed	1–5 p.m.	
759 Gulf War Illness: Mechanisms, Causes, and Interventions	Poster	II14–KK12	SDCC Halls B–H	7 Wed	1–5 p.m.	
760 Neurotoxicity, Inflammation, and Neuroprotection: Mechanisms of Neurotoxicity II	Poster	LL1–MM9	SDCC Halls B–H	7 Wed	1–5 p.m.	
761 Neurotoxicity, Inflammation, and Neuroprotection: Neuroprotective Mechanisms: Preclinical	Poster	MM10–NN5	SDCC Halls B–H	7 Wed	1–5 p.m.	
762 Neurotoxicity, Inflammation, and Neuroprotection: Neuroinflammation: Beyond Microglia	Poster	NN6–PP10	SDCC Halls B–H	7 Wed	1–5 p.m.	
763 Brain Injury and Trauma: Brain: Pre-Clinical Therapeutic Strategies	Poster	PP11–PP21	SDCC Halls B–H	7 Wed	1–5 p.m.	
<b>Theme D: Sensory Systems</b>						
005 How to Get Out of Harm's Way: New Insight Across Multiple Species Into the Neural Mechanisms of Visually Guided Collision Avoidance	Minisymposium		SDCC 6E	3 Sat	1:30–4 p.m.	2.5
016 Somatosensation: Cortical Mechanisms	Nanosymposium		SDCC 23	3 Sat	1–2:45 p.m.	
017 Vision: Representation of Objects and Scenes	Nanosymposium		SDCC 32	3 Sat	1–2:45 p.m.	
057 Somatosensation: Trigeminal Processing	Poster	EE4–EE14	SDCC Halls B–H	3 Sat	1–5 p.m.	
058 Somatosensation: Pain: Headache and Migraine	Poster	FF1–FF12	SDCC Halls B–H	3 Sat	1–5 p.m.	
059 Subcortical Visual Pathways	Poster	FF13–HH6	SDCC Halls B–H	3 Sat	1–5 p.m.	
060 Visual Categorization and Learning	Poster	HH7–HH16	SDCC Halls B–H	3 Sat	1–5 p.m.	
061 Eye Movements and Perception	Poster	HH17–KK1	SDCC Halls B–H	3 Sat	1–5 p.m.	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
101 Sensorimotor Circuits for Social Communication	Lecture		SDCC Ballroom 20	4 Sun	11:30 a.m.–12:40 p.m.	1.25
105 Vision: Visual Cortex: Functional Architecture and Circuits	Nanosymposium		SDCC 23	4 Sun	8–10:30 a.m.	
106 Vision: Representation of Faces and Bodies	Nanosymposium		SDCC 24	4 Sun	8–10:45 a.m.	
139 Olfaction: Olfactory Sensory Neuron Development and Function	Poster	Y2–Y18	SDCC Halls B–H	4 Sun	8 a.m.–noon	
140 Auditory Processing: Vocalizations and Natural Sounds	Poster	Z1–AA3	SDCC Halls B–H	4 Sun	8 a.m.–noon	
141 Vision: Visual Cortex: Circuits and Populations	Poster	AA4–CC5	SDCC Halls B–H	4 Sun	8 a.m.–noon	
142 Vision: Visual System: Response Modulation and Adaptation	Poster	CC6–DD18	SDCC Halls B–H	4 Sun	8 a.m.–noon	
143 Striate Cortex: Plasticity	Poster	EE1–FF7	SDCC Halls B–H	4 Sun	8 a.m.–noon	
144 Visual Motion I	Poster	FF8–GG9	SDCC Halls B–H	4 Sun	8 a.m.–noon	
145 Vision: Spatial and Feature-Based Attention	Poster	GG10–II4	SDCC Halls B–H	4 Sun	8 a.m.–noon	
191 Auditory Processing: Adaptation, Learning, and Memory	Nanosymposium		SDCC 24	4 Sun	1–2:30 p.m.	
214 The Role of TRP Channels in Pain and Itch	Poster	U11–V15	SDCC Halls B–H	4 Sun	1–5 p.m.	
215 Pain: Thalamic and Cortical Processing	Poster	V16–W14	SDCC Halls B–H	4 Sun	1–5 p.m.	
216 Treatments for Persistent Pain	Poster	W15–Y10	SDCC Halls B–H	4 Sun	1–5 p.m.	
217 Olfaction: Second Order Regions: Olfactory Bulb and Antennal Lobe	Poster	Y11–Z18	SDCC Halls B–H	4 Sun	1–5 p.m.	
218 Taste	Poster	AA1–BB8	SDCC Halls B–H	4 Sun	1–5 p.m.	
219 Visual Cortex: Functional Architecture and Circuits I	Poster	BB9–DD13	SDCC Halls B–H	4 Sun	1–5 p.m.	
221 Vision: Representation of Objects and Scenes	Poster	DD14–FF8	SDCC Halls B–H	4 Sun	1–5 p.m.	
222 Visual Sensory-Motor Processing: Visually-Guided Reaching and Related Behaviors	Poster	FF9–GG9	SDCC Halls B–H	4 Sun	1–5 p.m.	
223 Multisensory Integration: Cross-Modal Processing: Spatial and Temporal Factors	Poster	GG10–HH12	SDCC Halls B–H	4 Sun	1–5 p.m.	
261 Algorithms for Olfactory Search Across Species	Minisymposium		SDCC 28A	5 Mon	8:30–11 a.m.	2.5
270 Vision and Eye Movements	Nanosymposium		SDCC 4	5 Mon	8–10:15 a.m.	
299 Nociceptors	Poster	W14–Y11	SDCC Halls B–H	5 Mon	8 a.m.–noon	
300 Pain Models: Behavior	Poster	Y12–Z14	SDCC Halls B–H	5 Mon	8 a.m.–noon	
301 Pain Models: Physiology	Poster	Z15–BB4	SDCC Halls B–H	5 Mon	8 a.m.–noon	
302 Inflammatory Pain	Poster	BB5–F26	SDCC Halls B–H	5 Mon	8 a.m.–noon	
303 Somatosensation: Central Mechanisms of Neuropathic Pain	Poster	DD1–EE2	SDCC Halls B–H	5 Mon	8 a.m.–noon	
304 Visceral and Musculoskeletal Pain	Poster	EE3–EE13	SDCC Halls B–H	5 Mon	8 a.m.–noon	
305 Olfaction: Information Processing in Higher Order Circuits	Poster	EE14–GG1	SDCC Halls B–H	5 Mon	8 a.m.–noon	
306 Visual Cortex: Circuits and Populations I	Poster	GG2–HH13	SDCC Halls B–H	5 Mon	8 a.m.–noon	
307 Vision: Representation of Faces and Bodies	Poster	HH14–JJ1	SDCC Halls B–H	5 Mon	8 a.m.–noon	
349 Multidimensional Neuronal Cell Type Classification in the Cerebral Cortex	Minisymposium		SDCC 29D	5 Mon	1:30–4 p.m.	2.5
388 Molecular and Cellular Mechanisms of Itch and Touch Sensation	Poster	V3–W3	SDCC Halls B–H	5 Mon	1–5 p.m.	
389 Central Mechanisms of Pain	Poster	W4–X6	SDCC Halls B–H	5 Mon	1–5 p.m.	
390 Pain: Descending Modulation	Poster	X7–Y10	SDCC Halls B–H	5 Mon	1–5 p.m.	
391 Pain Imaging and Perception	Poster	Y11–AA2	SDCC Halls B–H	5 Mon	1–5 p.m.	
392 Somatosensation: Thalamic and Cortical Processing	Poster	AA3–BB13	SDCC Halls B–H	5 Mon	1–5 p.m.	
393 Auditory Processing: Sound Localization and Binaural Interactions	Poster	BB14–CC8	SDCC Halls B–H	5 Mon	1–5 p.m.	
394 Auditory Processing: Temporal, Frequency, and Spectral Processing	Poster	CC9–EE4	SDCC Halls B–H	5 Mon	1–5 p.m.	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
395 Retinal Circuitry	Poster	EE5–GG1	SDCC Halls B–H	5 Mon	1–5 p.m.	
396 Visual Cortical Streams: Rodentia, Primate, and Carnivora	Poster	GG2–GG11	SDCC Halls B–H	5 Mon	1–5 p.m.	
397 Vision: Extrastriate Cortex	Poster	GG12–HH12	SDCC Halls B–H	5 Mon	1–5 p.m.	
435 The Feeling Within: Molecules to Behavior Underlying Interoception	Symposium		SDCC 6B	6 Tue	8:30–11 a.m.	2.5
450 Vision: Contrast, Form, and Color	Nanosymposium		SDCC 33	6 Tue	8–10:30 a.m.	
478 Pain: Opioid Receptor Pharmacology and Signaling Mechanisms	Poster	Y14–Z10	SDCC Halls B–H	6 Tue	8 a.m.–noon	
479 Pain: Non-Opioid Analgesics	Poster	Z11–AA6	SDCC Halls B–H	6 Tue	8 a.m.–noon	
480 Touch: Barrel Cortex I	Poster	AA7–BB10	SDCC Halls B–H	6 Tue	8 a.m.–noon	
481 Olfaction: Perception and Behavior	Poster	BB11–DD5	SDCC Halls B–H	6 Tue	8 a.m.–noon	
482 Auditory and Vestibular Systems: Hair Cells and the Periphery	Poster	DD6–EE7	SDCC Halls B–H	6 Tue	8 a.m.–noon	
483 Auditory Processing: Perception, Cognition, and Action	Poster	EE8–FF16	SDCC Halls B–H	6 Tue	8 a.m.–noon	
484 Visual Cortex: Circuits and Populations II	Poster	FF17–GG14	SDCC Halls B–H	6 Tue	8 a.m.–noon	
485 Visual Cortex: Circuits and Populations III	Poster	GG15–HH4	SDCC Halls B–H	6 Tue	8 a.m.–noon	
486 Visual Cognition: Decision Making I	Poster	HH5–HH17	SDCC Halls B–H	6 Tue	8 a.m.–noon	
487 Visual Sensory-Motor Processing I	Poster	II1–II12	SDCC Halls B–H	6 Tue	8 a.m.–noon	
488 Visual Sensory-Motor Processing II	Poster	II13–KK7	SDCC Halls B–H	6 Tue	8 a.m.–noon	
489 Multisensory Integration: Cross-Modal Processing in Humans I	Poster	KK8–LL8	SDCC Halls B–H	6 Tue	8 a.m.–noon	
543 Somatosensation: Peripheral Mechanisms and Spinal Circuits	Nanosymposium		SDCC 5	6 Tue	1–4 p.m.	
570 Sensory Disorders: Visual and Auditory	Poster	T17–U9	SDCC Halls B–H	6 Tue	1–5 p.m.	
571 Pain Models: Pharmacology	Poster	U10–W7	SDCC Halls B–H	6 Tue	1–5 p.m.	
572 Peripheral Mechanisms of Persistent Pain	Poster	W8–X6	SDCC Halls B–H	6 Tue	1–5 p.m.	
573 Auditory Processing: Circuits, Synapses, and Neurotransmitters	Poster	X7–Z4	SDCC Halls B–H	6 Tue	1–5 p.m.	
574 Auditory Processing: Adaptation, Learning, and Memory	Poster	Z5–BB4	SDCC Halls B–H	6 Tue	1–5 p.m.	
575 Auditory Processing: Perception, Cognition, and Action II	Poster	BB5–CC7	SDCC Halls B–H	6 Tue	1–5 p.m.	
576 Vestibular Physiology and Anatomy	Poster	CC8–DD15	SDCC Halls B–H	6 Tue	1–5 p.m.	
577 Vision: Retina: Photoreceptors	Poster	DD16–EE9	SDCC Halls B–H	6 Tue	1–5 p.m.	
578 Visual System: Responses During Behavior	Poster	EE10–GG1	SDCC Halls B–H	6 Tue	1–5 p.m.	
579 Visual Cortex: Functional Architecture and Circuits II	Poster	GG2–HH10	SDCC Halls B–H	6 Tue	1–5 p.m.	
580 Vision: Processing of Contrast, Form, and Color	Poster	HH11–II17	SDCC Halls B–H	6 Tue	1–5 p.m.	
581 Multisensory Integration and Cross-Modal Processing	Poster	II8–JJ5	SDCC Halls B–H	6 Tue	1–5 p.m.	
582 Multisensory Integration: Cross-Modal Processing in Humans II	Poster	JJ6–LL5	SDCC Halls B–H	6 Tue	1–5 p.m.	
618 Novel Molecular Targets for the Treatment of Pain	Minisymposium		SDCC 6E	7 Wed	8:30–11 a.m.	2.5
622 A Genetic Roadmap to Understanding Auditory Perception Mechanisms	Lecture		SDCC Ballroom 20	7 Wed	10–11:10 a.m.	1.25
630 The Chemical Senses : Dynamics and Plasticity of Olfactory and Gustatory Coding	Nanosymposium		SDCC 23	7 Wed	8–10:45 a.m.	
666 Peripheral Mechanisms of Neuropathic Pain	Poster	DD3–EE13	SDCC Halls B–H	7 Wed	8 a.m.–noon	
667 Touch: Barrel Cortex II	Poster	EE14–GG1	SDCC Halls B–H	7 Wed	8 a.m.–noon	
668 Touch and Proprioception	Poster	GG2–HH6	SDCC Halls B–H	7 Wed	8 a.m.–noon	
669 Visual Pathways: To and From the Cortex	Poster	HH7–II8	SDCC Halls B–H	7 Wed	8 a.m.–noon	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
704 Light Detection in the Eye: The Big Picture	Lecture		SDCC Ballroom 20	7 Wed	1–2:10 p.m.	1.25
717 Pain Imaging and Perception	Nanosymposium		SDCC 30E	7 Wed	1–3 p.m.	
718 Vestibular Systems: VOR, Locomotion, and Gaze	Nanosymposium		SDCC 2	7 Wed	1–2:45 p.m.	
719 Vision: Extrastriate Cortex	Nanosymposium		SDCC 23	7 Wed	1–3 p.m.	
764 Touch: Plasticity and Reorganization	Poster	PP22–QQ10	SDCC Halls B–H	7 Wed	1–5 p.m.	
765 Touch: Central Representation of Stimulus Features	Poster	QQ11–QQ24	SDCC Halls B–H	7 Wed	1–5 p.m.	
766 Auditory Processing: Neural Coding, Experiment, and Theory	Poster	QQ25–SS14	SDCC Halls B–H	7 Wed	1–5 p.m.	
767 Visual Cognition: Decision Making II	Poster	TT1–TT22	SDCC Halls B–H	7 Wed	1–5 p.m.	
<b>Theme E: Motor Systems</b>						
006 Latent Factors and Dynamics in Motor Cortex and Their Application to Brain-Machine Interfaces	Minisymposium		SDCC 28A	3 Sat	1:30–4 p.m.	2.5
062 Posture and Gait: Aging, Injury, and Disease I	Poster	KK2–KK12	SDCC Halls B–H	3 Sat	1–5 p.m.	
063 Posture and Gait: Aging, Injury, and Disease II	Poster	LL1–MM7	SDCC Halls B–H	3 Sat	1–5 p.m.	
064 CPG Modulation	Poster	MM8–NN3	SDCC Halls B–H	3 Sat	1–5 p.m.	
065 Rhythmic Motor Pattern Generation: Afferent and Descending Control	Poster	NN4–002	SDCC Halls B–H	3 Sat	1–5 p.m.	
092 Bidirectional Interactions Between the Brain and Implantable Computers	Lecture		SDCC Ballroom 20	4 Sun	8:30–9:40 a.m.	1.25
096 The Dynamic Interaction of Vision and Eye Movements	Minisymposium		SDCC 6E	4 Sun	8:30–11 a.m.	2.5
107 Voluntary Movements	Nanosymposium		SDCC 25	4 Sun	8–10:30 a.m.	
146 Cellular Physiology in the Basal Ganglia: Novel Cell Types and Mechanisms	Poster	II5–KK4	SDCC Halls B–H	4 Sun	8 a.m.–noon	
147 Basal Ganglia Systems in Motivated Behaviors	Poster	KK5–MM3	SDCC Halls B–H	4 Sun	8 a.m.–noon	
148 Brain-Machine Interface: Neurophysiology: Non-Invasive Techniques: Ultrasound and Other	Poster	MM4–NN3	SDCC Halls B–H	4 Sun	8 a.m.–noon	
149 Posture and Gait: Kinematics, Muscle Activity, Exercise and Fatigue, and Biomechanics I	Poster	NN3–0010	SDCC Halls B–H	4 Sun	8 a.m.–noon	
150 Posture and Gait: Afferent Control	Poster	0011–PP3	SDCC Halls B–H	4 Sun	8 a.m.–noon	
151 Rhythmic Motor Pattern Generation: Connectivity	Poster	PP4–PP20	SDCC Halls B–H	4 Sun	8 a.m.–noon	
180 More Than Just a "Motor": Recent Surprises From the Frontal Cortex	Minisymposium		SDCC 28A	4 Sun	1:30–4 p.m.	2.5
224 Voluntary Movements: Interlimb and Bimanual Control	Poster	HH13–II8	SDCC Halls B–H	4 Sun	1–5 p.m.	
225 Brain-Machine Interface: Neurophysiology and Methods Development	Poster	II9–KK12	SDCC Halls B–H	4 Sun	1–5 p.m.	
226 Brain-Machine Interface: Vision-Related	Poster	LL1–LL10	SDCC Halls B–H	4 Sun	1–5 p.m.	
258 Targeted Therapies for Parkinson's Disease: From Genetics to the Clinic	Symposium		SDCC 6B	5 Mon	8:30–11 a.m.	2.5
271 Brain-Machine Interface	Nanosymposium		SDCC 7	5 Mon	8–11:30 a.m.	
308 Voluntary Movements: Reaching Control: Motor Learning: Human I	Poster	JJ2–LL8	SDCC Halls B–H	5 Mon	8 a.m.–noon	
309 Voluntary Movements: Reaching Control: Motor Learning: Human II	Poster	LL9–NN5	SDCC Halls B–H	5 Mon	8 a.m.–noon	
310 Voluntary Movements: Cortical Planning and Execution: Neurophysiology: Animal I	Poster	NN6–003	SDCC Halls B–H	5 Mon	8 a.m.–noon	
311 Voluntary Movements: Cortical Planning and Execution: Neuroimaging	Poster	004–PP4	SDCC Halls B–H	5 Mon	8 a.m.–noon	
312 Brain-Machine Interface: Reaching Movements	Poster	PP5–QQ3	SDCC Halls B–H	5 Mon	8 a.m.–noon	
313 Rhythmic Motor Pattern Generation: Stability and Variability	Poster	QQ4–QQ16	SDCC Halls B–H	5 Mon	8 a.m.–noon	
357 Cerebellum: Local and Long-Range Functions	Nanosymposium		SDCC 4	5 Mon	1–3:45 p.m.	
398 Eye Movements: Central Mechanism in Animal Models	Poster	HH13–JJ3	SDCC Halls B–H	5 Mon	1–5 p.m.	
399 Eye Movements: Saccade Behavior and Psychophysics in Humans	Poster	JJ4–LL7	SDCC Halls B–H	5 Mon	1–5 p.m.	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
400 Voluntary Movements: Reaching Control: Action and Sensation	Poster	LL8–MM5	SDCC Halls B–H	5 Mon	1–5 p.m.	
401 Voluntary Movements: Reaching Control: Movement Selection and Strategy	Poster	MM6–NN14	SDCC Halls B–H	5 Mon	1–5 p.m.	
402 Voluntary Movements: Plasticity	Poster	NN15–PP8	SDCC Halls B–H	5 Mon	1–5 p.m.	
403 Brain-Machine Interface: Grasp	Poster	PP9–QQ1	SDCC Halls B–H	5 Mon	1–5 p.m.	
404 Brain-Machine Interface: Somatosensory	Poster	QQ2–QQ12	SDCC Halls B–H	5 Mon	1–5 p.m.	
405 Sensory Input to Respiratory Control	Poster	QQ13–QQ26	SDCC Halls B–H	5 Mon	1–5 p.m.	
440 Neuroprosthetic Devices: A Patient's Perspective on Brain Computer Interfaces	Basic-Translational-Clinical Roundtables		SDCC 10	6 Tue	8:30–11 a.m.	2.5
451 Respiration Control	Nanosymposium		SDCC 23	6 Tue	8–9:30 a.m.	
490 Cerebellum: Plasticity and Climbing Fibers	Poster	LL9–MM12	SDCC Halls B–H	6 Tue	8 a.m.–noon	
491 Basal Ganglia Systems in Acquired Behaviors	Poster	MM13–NN15	SDCC Halls B–H	6 Tue	8 a.m.–noon	
492 Voluntary Movements: Finger and Grasp Control: Age, Pathology, and Physiology	Poster	NN16–0012	SDCC Halls B–H	6 Tue	8 a.m.–noon	
493 Voluntary Movements: Reaching Control: Motor Learning: Animal	Poster	0013–PP13	SDCC Halls B–H	6 Tue	8 a.m.–noon	
494 Posture and Gait: Kinematics, Muscle Activity, Exercise and Fatigue, and Biomechanics II	Poster	PP14–QQ14	SDCC Halls B–H	6 Tue	8 a.m.–noon	
495 Posture and Gait: Higher Order Control, Multi-Task Integration, and Theory	Poster	QQ15–SS1	SDCC Halls B–H	6 Tue	8 a.m.–noon	
496 Rhythmic Motor Pattern Generation: Speed and Phasing	Poster	SS2–SS11	SDCC Halls B–H	6 Tue	8 a.m.–noon	
497 Motor Neurons and Muscle: Activity, Sensory, and Central Control: Exercise, Injury, and Disease I	Poster	SS12–TT17	SDCC Halls B–H	6 Tue	8 a.m.–noon	
498 Motor Neurons: Development and Disease	Poster	TT18–UU5	SDCC Halls B–H	6 Tue	8 a.m.–noon	
583 Cerebellum: Cortex and Nuclei I	Poster	LL6–NN1	SDCC Halls B–H	6 Tue	1–5 p.m.	
584 Cerebellum: Cortex and Nuclei II	Poster	NN2–007	SDCC Halls B–H	6 Tue	1–5 p.m.	
585 Voluntary Movements: Cortical Planning and Execution: Behavior	Poster	008–PP16	SDCC Halls B–H	6 Tue	1–5 p.m.	
586 Voluntary Movements: Cortical Planning and Execution: Neurophysiology: Human	Poster	PP17–QQ12	SDCC Halls B–H	6 Tue	1–5 p.m.	
587 Voluntary Movements: Cortical Planning and Execution: Neurophysiology: Animal II	Poster	QQ13–RR14	SDCC Halls B–H	6 Tue	1–5 p.m.	
588 Vocal and Oral Control Mechanisms From Song to Speech	Poster	SS1–TT10	SDCC Halls B–H	6 Tue	1–5 p.m.	
589 Novel Electrode Designs, CNS, and Periphery	Poster	TT11–UU7	SDCC Halls B–H	6 Tue	1–5 p.m.	
590 Brain-Machine: Speech and Other Motor Systems	Poster	UU8–VV3	SDCC Halls B–H	6 Tue	1–5 p.m.	
621 Cortical Control of Locomotion and Posture	Minisymposium		SDCC 31C	7 Wed	8:30–11 a.m.	2.5
670 Observing and Altering Basal Ganglia Activity From Mouse to Human	Poster	II9–KK5	SDCC Halls B–H	7 Wed	8 a.m.–noon	
671 Voluntary Movements: Finger and Grasp Control: Normal Human Behavior	Poster	KK6–LL14	SDCC Halls B–H	7 Wed	8 a.m.–noon	
672 Brain-Machine: Technical Development and Theory	Poster	MM1–NN9	SDCC Halls B–H	7 Wed	8 a.m.–noon	
673 Posture and Gait: Reflexes and Reflex Modulation	Poster	NN10–0011	SDCC Halls B–H	7 Wed	8 a.m.–noon	
674 Motor Control and Modulation of Respiration	Poster	0012–PP10	SDCC Halls B–H	7 Wed	8 a.m.–noon	
675 Motor Neurons and Muscle: Motoneuron-Muscle Interface and Muscle Physiology/Biochemistry	Poster	PP11–QQ9	SDCC Halls B–H	7 Wed	8 a.m.–noon	
708 The Basal Ganglia: Beyond Action Selection	Minisymposium		SDCC 6E	7 Wed	1:30–4 p.m.	2.5
720 Neural Activity Patterns for Speech and Sign Language in Disease and Health	Nanosymposium		SDCC 30B	7 Wed	1–3 p.m.	
768 Cerebellum: Human Studies	Poster	TT23–UU9	SDCC Halls B–H	7 Wed	1–5 p.m.	
769 Histologic Responses to Electrode Insertion	Poster	UU10–UU21	SDCC Halls B–H	7 Wed	1–5 p.m.	
770 Spinal Prosthetics and Stimulation	Poster	UU22–VV11	SDCC Halls B–H	7 Wed	1–5 p.m.	
771 Motor Neurons and Muscle: Activity, Sensory, and Central Control: Exercise, Injury, and Disease II	Poster	VV12–WW7	SDCC Halls B–H	7 Wed	1–5 p.m.	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
772 Motor Neurons and Muscle: Motor Unit Recordings, Kinematics, and EMG	Poster	WW8–XX8	SDCC Halls B–H	7 Wed	1–5 p.m.	
<b>Theme F: Integrative Physiology and Behavior</b>						
004 Neuronal Mechanisms for Prepulse Inhibition: Comparative Approaches From Sensory to Cognition	Minisymposium		SDCC 6C	3 Sat	1:30–4 p.m.	2.5
018 Timely Insights in Circadian Regulation	Nanosymposium		SDCC 4	3 Sat	1–3:45 p.m.	
066 Neuroendocrinology of Sexual Behavior	Poster	003–PP13	SDCC Halls B–H	3 Sat	1–5 p.m.	
067 Stress-Modulated Pathways, Neuromodulators, and Behavior	Poster	PP14–QQ10	SDCC Halls B–H	3 Sat	1–5 p.m.	
068 Brain Blood Flow, Metabolism, and Homeostasis: Energy Metabolism	Poster	QQ11–RR6	SDCC Halls B–H	3 Sat	1–5 p.m.	
069 Recent Advances in Cardiovascular Regulation	Poster	RR7–SS7	SDCC Halls B–H	3 Sat	1–5 p.m.	
070 Cardiovascular Regulation: New Insights	Poster	SS8–TT10	SDCC Halls B–H	3 Sat	1–5 p.m.	
071 Thermoregulation: Cool News and Hot Topics	Poster	TT11–TT18	SDCC Halls B–H	3 Sat	1–5 p.m.	
093 Multiscale Computer Modeling of Neural Circuits in Health and Disease	Symposium		SDCC 6A	4 Sun	8:30–11 a.m.	2.5
108 Behavioral Neuroendocrinology: Hormones and Cognition	Nanosymposium		SDCC 5	4 Sun	8–10 a.m.	
152 Neuroethology: Sensory and Motor Systems	Poster	PP21–QQ22	SDCC Halls B–H	4 Sun	8 a.m.–noon	
153 Neuroendocrinology of Social Behavior	Poster	QQ23–SS11	SDCC Halls B–H	4 Sun	8 a.m.–noon	
154 Neuroendocrine Processes: Sexual Differentiation	Poster	SS12–TT16	SDCC Halls B–H	4 Sun	8 a.m.–noon	
155 Stress and the Hypothalamus, Amygdala, and Bed Nucleus	Poster	TT17–UU13	SDCC Halls B–H	4 Sun	8 a.m.–noon	
156 Stress-Modulated Pathways: Hypothalamus, Amygdala, and Bed Nucleus	Poster	UU14–VV9	SDCC Halls B–H	4 Sun	8 a.m.–noon	
177 Blood-Brain Barrier in Health and Disease: Role in Neurodegeneration, CNS Autoimmunity, and Gene Transfer	Symposium		SDCC 6B	4 Sun	1:30–4 p.m.	2.5
192 Sleep: Hot Topics	Nanosymposium		SDCC 7	4 Sun	1–4 p.m.	
227 Stress and Cognition	Poster	LL11–NN13	SDCC Halls B–H	4 Sun	1–5 p.m.	
228 Autonomic Regulation: Gastrointestinal, Renal/Urinary, and Reproductive Regulation	Poster	NN14–PP5	SDCC Halls B–H	4 Sun	1–5 p.m.	
259 Defining Dysbiosis in Disorders of Movement and Motivation	Minisymposium		SDCC 6C	5 Mon	8:30–11 a.m.	2.5
314 Behavioral Neuroendocrinology: Hormones and Cognition I	Poster	QQ17–RR10	SDCC Halls B–H	5 Mon	8 a.m.–noon	
315 Stress and the Brain: Cellular Actions	Poster	RR11–SS12	SDCC Halls B–H	5 Mon	8 a.m.–noon	
316 Stress-Modulated Pathways: Cortex and Striatum	Poster	SS13–TT19	SDCC Halls B–H	5 Mon	8 a.m.–noon	
317 Stress-Modulated Pathways: Hippocampus	Poster	TT20–UU18	SDCC Halls B–H	5 Mon	8 a.m.–noon	
318 Brain Blood Flow	Poster	UU19–WW1	SDCC Halls B–H	5 Mon	8 a.m.–noon	
319 Food Intake and Energy Balance: Integration of Peripheral Signals	Poster	WW2–YY2	SDCC Halls B–H	5 Mon	8 a.m.–noon	
346 Sex Differences in Risk and Resilience: Stress Effects on the Neural Substrates of Emotion and Motivation	Minisymposium		SDCC 6C	5 Mon	1:30–4 p.m.	2.5
406 Advances in the Neural Basis of Birdsong	Poster	RR1–TT2	SDCC Halls B–H	5 Mon	1–5 p.m.	
407 Social Communication in Non-Avian Species	Poster	TT3–UU1	SDCC Halls B–H	5 Mon	1–5 p.m.	
408 Stress and the Brain: Neuroimmunology	Poster	UU2–VV4	SDCC Halls B–H	5 Mon	1–5 p.m.	
409 Biological Rhythms and Sleep: Entrainment and Phase Shifts	Poster	VV5–WW2	SDCC Halls B–H	5 Mon	1–5 p.m.	
410 Molecular Biology and Physiology of Clocks	Poster	WW3–XX9	SDCC Halls B–H	5 Mon	1–5 p.m.	
411 Sleep: Molecules Cells and Drugs	Poster	XX10–YY18	SDCC Halls B–H	5 Mon	1–5 p.m.	
441 The Genetics, Neurobiology, and Evolution of Natural Behavior	Lecture		SDCC Ballroom 20	6 Tue	10–11:10 a.m.	1.25
452 Brain Blood Flow and Blood Brain Barrier	Nanosymposium		SDCC 30E	6 Tue	8–10:30 a.m.	
499 Neurophysiologic Effects of Early-Life Stress	Poster	UU6–VV5	SDCC Halls B–H	6 Tue	8 a.m.–noon	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
500 Early-Life Stress: Molecular Mechanisms and Cellular Effects	Poster	VV6–WW2	SDCC Halls B–H	6 Tue	8 a.m.–noon	
501 Water and Salt Balance and Thirst	Poster	WW3–XX5	SDCC Halls B–H	6 Tue	8 a.m.–noon	
532 Neuropeptide Signaling: From Physiology to Behavior	Minisymposium		SDCC 6E	6 Tue	1:30–4 p.m.	2.5
544 Neuro-Oncology	Nanosymposium		SDCC 1	6 Tue	1–2:45 p.m.	
591 Behavioral Neuroendocrinology: Parental Behavior	Poster	VV4–VV18	SDCC Halls B–H	6 Tue	1–5 p.m.	
592 Behavioral Neuroendocrinology: Modulation of Defensive and Aggressive Behaviors	Poster	VV19–XX2	SDCC Halls B–H	6 Tue	1–5 p.m.	
593 Behavioral Neuroendocrinology: Hormones and Cognition II	Poster	XX3–YY15	SDCC Halls B–H	6 Tue	1–5 p.m.	
594 Neuroimmunology: Regulating Systems	Poster	YY16–ZZ20	SDCC Halls B–H	6 Tue	1–5 p.m.	
595 Neuroimmunology: Behavioral Effects	Poster	ZZ21–AAA15	SDCC Halls B–H	6 Tue	1–5 p.m.	
596 Biological Rhythms and Sleep: Regulators	Poster	AAA16–BBB8	SDCC Halls B–H	6 Tue	1–5 p.m.	
597 Biological Rhythms and Sleep: Systems	Poster	BBB9–DDD2	SDCC Halls B–H	6 Tue	1–5 p.m.	
598 Non-Peptide Regulation of Food Intake and Energy Balance	Poster	DDD3–DDD22	SDCC Halls B–H	6 Tue	1–5 p.m.	
615 Multiple Axes of Dopamine Systems for Behavioral Controls: From Fly Via Rodent to Monkey	Symposium		SDCC 6A	7 Wed	8:30–11 a.m.	2.5
676 Neuroethology: New Insights in Sensory and Motor Systems	Poster	QQ10–RR5	SDCC Halls B–H	7 Wed	8 a.m.–noon	
677 Brain Blood Flow, Metabolism, and Homeostasis: Blood Brain Barrier	Poster	RR6–TT2	SDCC Halls B–H	7 Wed	8 a.m.–noon	
678 Sleep Behavior	Poster	TT3–UU3	SDCC Halls B–H	7 Wed	8 a.m.–noon	
679 Biological Rhythms and Sleep: Behavior	Poster	UU4–VV7	SDCC Halls B–H	7 Wed	8 a.m.–noon	
680 Central Pathways Controlling Food Intake and Energy Balance	Poster	VV8–WW13	SDCC Halls B–H	7 Wed	8 a.m.–noon	
706 The Emerging Role of the Amygdala in Modulating the Somatosensory and Emotional Components of Pain and Itch	Symposium		SDCC 6B	7 Wed	1:30–4 p.m.	2.5
773 Neuroendocrine Processes: The HPG Axis	Poster	XX9–YY16	SDCC Halls B–H	7 Wed	1–5 p.m.	
774 Neuroendocrine Processes: Neuroendocrinology, Anatomy, and Physiology	Poster	YY17–ZZ19	SDCC Halls B–H	7 Wed	1–5 p.m.	
775 Early-Life Stress: Anxiety, Social Function, and Depression	Poster	ZZ20–AAA21	SDCC Halls B–H	7 Wed	1–5 p.m.	
776 Stress and the Brain: Adolescence	Poster	AAA22–BBB5	SDCC Halls B–H	7 Wed	1–5 p.m.	
777 Brain Blood Flow, Metabolism, and Homeostasis: Functional Imaging I	Poster	BBB6–CCC11	SDCC Halls B–H	7 Wed	1–5 p.m.	
778 Brain Blood Flow, Metabolism, and Homeostasis: Functional Imaging II	Poster	CCC12–DDD12	SDCC Halls B–H	7 Wed	1–5 p.m.	
779 Sleep Systems	Poster	DDD13–EEE9	SDCC Halls B–H	7 Wed	1–5 p.m.	
780 Recent Advances in Sleep Systems	Poster	EEE10–EEE22	SDCC Halls B–H	7 Wed	1–5 p.m.	
781 Neuropeptide Regulation of Food Intake and Energy Balance	Poster	EEE23–GGG1	SDCC Halls B–H	7 Wed	1–5 p.m.	
<b>Theme G: Motivation and Emotion</b>						
007 Neurocognitive Development of Motivated Behavior	Minisymposium		SDCC 29D	3 Sat	1:30–4 p.m.	2.5
072 Dopaminergic Reward Systems	Poster	TT19–VV2	SDCC Halls B–H	3 Sat	1–5 p.m.	
073 Motivation: Cortical Neurocircuitry	Poster	VV3–VV13	SDCC Halls B–H	3 Sat	1–5 p.m.	
074 Emotion: Human Emotion I	Poster	VV14–WW12	SDCC Halls B–H	3 Sat	1–5 p.m.	
075 Emotion: Neurocircuitry I	Poster	WW13–YY13	SDCC Halls B–H	3 Sat	1–5 p.m.	
076 Emotion: Neurocircuitry II	Poster	YY14–ZZ8	SDCC Halls B–H	3 Sat	1–5 p.m.	
077 Emotion: Fear, Anxiety, and Pain I	Poster	ZZ9–AAA12	SDCC Halls B–H	3 Sat	1–5 p.m.	
078 Emotion: Fear, Anxiety, and Pain II	Poster	AAA13–CCC12	SDCC Halls B–H	3 Sat	1–5 p.m.	
079 Behavioral Studies of Amphetamines	Poster	CCC3–DDD14	SDCC Halls B–H	3 Sat	1–5 p.m.	
080 Drugs of Abuse and Addiction: Cocaine Seeking and Reinstatement I	Poster	DDD15–EEE5	SDCC Halls B–H	3 Sat	1–5 p.m.	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
095 Computational Affective Neuroscience: Algorithms for Survival	Minisymposium		SDCC 6C	4 Sun	8:30–11 a.m.	2.5
109 Basal Ganglia Circuitry for Motivation and Reward	Nanosymposium		SDCC 2	4 Sun	8–11 a.m.	
110 Social Communication and Behavior	Nanosymposium		SDCC 1	4 Sun	8–10:45 a.m.	
157 Emotion: Human Emotion II	Poster	VV10–WW9	SDCC Halls B–H	4 Sun	8 a.m.–noon	
158 Emotion: Positive and Negative Emotional States	Poster	WW10–YY11	SDCC Halls B–H	4 Sun	8 a.m.–noon	
159 Drugs of Abuse and Addiction: Alcohol: Neural Mechanisms I	Poster	YY12–ZZ17	SDCC Halls B–H	4 Sun	8 a.m.–noon	
160 Neural Mechanisms of Amphetamine Addiction	Poster	ZZ18–AAA11	SDCC Halls B–H	4 Sun	8 a.m.–noon	
161 Molecular and Pharmacological Effects of Cocaine	Poster	AAA12–BBB7	SDCC Halls B–H	4 Sun	8 a.m.–noon	
229 Motivation: Social Communication and Behavior	Poster	PP6–QQ10	SDCC Halls B–H	4 Sun	1–5 p.m.	
230 Depression and Bipolar Disorders: Ketamine and Other Rapid Antidepressants I	Poster	QQ11–RR1	SDCC Halls B–H	4 Sun	1–5 p.m.	
231 Depression and Bipolar Disorders: Treatment and Drug Discovery	Poster	RR2–SS8	SDCC Halls B–H	4 Sun	1–5 p.m.	
232 Depression and Bipolar Disorders: Animal Models: Behavioral Mechanism I	Poster	SS9–TT15	SDCC Halls B–H	4 Sun	1–5 p.m.	
233 Depression and Bipolar Disorders: Animal Models: Neural Mechanisms	Poster	TT16–UU14	SDCC Halls B–H	4 Sun	1–5 p.m.	
234 Depression and Bipolar Disorders: Neural Mechanisms: Inflammation and Depression	Poster	UU15–VV6	SDCC Halls B–H	4 Sun	1–5 p.m.	
235 Drugs of Abuse and Addiction: Developmental Effects of Addictive Drugs	Poster	VV7–WW2	SDCC Halls B–H	4 Sun	1–5 p.m.	
236 Addictive Drugs: Reward Mechanisms, Tolerance, Dependence, and Toxicity	Poster	WW3–YY4	SDCC Halls B–H	4 Sun	1–5 p.m.	
237 Drugs of Abuse and Addiction: Learning and Circuitry	Poster	YY5–ZZ1	SDCC Halls B–H	4 Sun	1–5 p.m.	
260 Insular Cortex Neurocircuits: Relationships Among Function, Connectivity, and Drug and Alcohol Abuse	Minisymposium		SDCC 6E	5 Mon	8:30–11 a.m.	2.5
272 Cortical and Subcortical Mechanisms of Learning and Cognition	Nanosymposium		SDCC 2	5 Mon	8–11:30 a.m.	
320 Depression and Bipolar Disorders: Depression: Human Imaging and Behavioral Studies	Poster	YY3–ZZ3	SDCC Halls B–H	5 Mon	8 a.m.–noon	
321 Depression and Bipolar Disorders: Ketamine and Other Rapid Antidepressants II	Poster	ZZ4–ZZ20	SDCC Halls B–H	5 Mon	8 a.m.–noon	
322 Depression and Bipolar Disorders: Animal Models: Behavioral Mechanism II	Poster	ZZ21–AAA13	SDCC Halls B–H	5 Mon	8 a.m.–noon	
323 Depression and Bipolar Disorders: Animal Models of Therapeutics	Poster	AAA14–CCC3	SDCC Halls B–H	5 Mon	8 a.m.–noon	
347 Social Motivation Across the Lifespan	Minisymposium		SDCC 6E	5 Mon	1:30–4 p.m.	2.5
358 Emotion: Circuits and Mechanisms	Nanosymposium		SDCC 5	5 Mon	1–3 p.m.	
412 Appetitive and Incentive Learning and Memory I	Poster	YY19–ZZ10	SDCC Halls B–H	5 Mon	1–5 p.m.	
413 Fear and Aversive Learning and Memory: Acquisition	Poster	ZZ11–AAA3	SDCC Halls B–H	5 Mon	1–5 p.m.	
414 Fear and Aversive Learning and Memory: Modulation	Poster	AAA4–BBB5	SDCC Halls B–H	5 Mon	1–5 p.m.	
415 Fear and Aversive Learning and Memory: Extinction	Poster	BBB6–CCC9	SDCC Halls B–H	5 Mon	1–5 p.m.	
416 Reward Neurophysiology	Poster	CCC10–DDD24	SDCC Halls B–H	5 Mon	1–5 p.m.	
417 Drugs of Abuse and Addiction: Cocaine: Other Behavioral Studies	Poster	EEE1–FFF1	SDCC Halls B–H	5 Mon	1–5 p.m.	
418 Neural Mechanisms of Nicotine Addiction I	Poster	FFF2–FFF14	SDCC Halls B–H	5 Mon	1–5 p.m.	
419 Circuit and Molecular Mechanisms of Cocaine Action	Poster	FFF15–GGG16	SDCC Halls B–H	5 Mon	1–5 p.m.	
420 Drugs of Abuse and Addiction: Opioid Reinforcement, Seeking, and Reinstatement	Poster	GGG17–HHH11	SDCC Halls B–H	5 Mon	1–5 p.m.	
421 Neural Mechanisms of Nicotine Addiction II	Poster	HHH12–HHH36	SDCC Halls B–H	5 Mon	1–5 p.m.	
453 New Cortical and Subcortical Circuits for Food Reward	Nanosymposium		SDCC 2	6 Tue	8–10:15 a.m.	
502 Fear and Aversive Learning and Memory: Neural Circuitry I	Poster	XX5–YY6	SDCC Halls B–H	6 Tue	8 a.m.–noon	
503 Fear and Aversive Learning and Memory: Neural Circuitry II	Poster	YY7–ZZ5	SDCC Halls B–H	6 Tue	8 a.m.–noon	
504 Reward Neuropharmacology	Poster	ZZ6–ZZ17	SDCC Halls B–H	6 Tue	8 a.m.–noon	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
505 Post-Traumatic Stress Disorder: Human Studies	Poster	ZZ18-AAA3	SDCC Halls B-H	6 Tue	8 a.m.-noon	
506 Drugs of Abuse and Addiction: Memory and Relapse	Poster	AAA4-AAA25	SDCC Halls B-H	6 Tue	8 a.m.-noon	
534 Sex Differences and Hormone Action in the Limbic System	Minisymposium		SDCC 29D	6 Tue	1:30-4 p.m.	2.5
599 Appetitive and Incentive Learning and Memory II	Poster	DDD23-EEE16	SDCC Halls B-H	6 Tue	1-5 p.m.	
600 Subcortical Neurocircuitry in Motivated Behaviors	Poster	EEE17-FFF20	SDCC Halls B-H	6 Tue	1-5 p.m.	
601 Drugs of Abuse and Addiction: Alcohol: Neural Mechanisms II	Poster	FFF21-GGG21	SDCC Halls B-H	6 Tue	1-5 p.m.	
602 Cannabinoids: Neural Mechanisms	Poster	GGG22-HHH14	SDCC Halls B-H	6 Tue	1-5 p.m.	
603 Drugs of Abuse and Addiction: Cocaine Seeking and Reinstatement II	Poster	HHH15-HHH32	SDCC Halls B-H	6 Tue	1-5 p.m.	
623 Reward Processing by the Dorsal Raphe	Lecture		SDCC Ballroom 20	7 Wed	11:30 a.m.-12:40 p.m.	1.25
631 Depression and Bipolar Disorders: Neural Mechanisms	Nanosymposium		SDCC 5	7 Wed	8-10 a.m.	
632 Circuitry and Cell-Type Specific Neurophysiology of Addiction	Nanosymposium		SDCC 30B	7 Wed	8-11:15 a.m.	
681 Reward and Cell Signaling	Poster	WW14-XX12	SDCC Halls B-H	7 Wed	8 a.m.-noon	
682 Post-Traumatic Stress Disorder: Preclinical Models	Poster	XX13-ZZ4	SDCC Halls B-H	7 Wed	8 a.m.-noon	
683 Other Psychiatric Disorders	Poster	ZZ5-AAA5	SDCC Halls B-H	7 Wed	8 a.m.-noon	
684 Other Psychiatric Disorders II	Poster	AAA6-AAA20	SDCC Halls B-H	7 Wed	8 a.m.-noon	
685 Genetic Influences on Addiction	Poster	AAA21-BBB9	SDCC Halls B-H	7 Wed	8 a.m.-noon	
686 Drugs of Abuse and Addiction: Alcohol: Other Behavioral Effects	Poster	BBB10-CCC12	SDCC Halls B-H	7 Wed	8 a.m.-noon	
687 Drugs of Abuse and Addiction: Cocaine Reinforcement	Poster	CCC13-DDD13	SDCC Halls B-H	7 Wed	8 a.m.-noon	
721 Depression and Bipolar Disorders: Treatment and Drug Discovery	Nanosymposium		SDCC 24	7 Wed	1-3:15 p.m.	
722 Looking For Biological Interventions for Cocaine Use Disorder	Nanosymposium		SDCC 1	7 Wed	1-3:30 p.m.	
782 Subcortical Mechanisms in Motivated Behaviors and Physiological States	Poster	GGG1-GGG26	SDCC Halls B-H	7 Wed	1-5 p.m.	
783 Anxiety Disorders: Preclinical Models	Poster	GGG27-HHH29	SDCC Halls B-H	7 Wed	1-5 p.m.	
784 Drugs of Abuse and Addiction: Alcohol: Intake and Preference	Poster	HHH30-HHH58	SDCC Halls B-H	7 Wed	1-5 p.m.	
785 Opioids: Neural Mechanisms of Addiction	Poster	HHH59-III20	SDCC Halls B-H	7 Wed	1-5 p.m.	
<b>Theme H: Cognition</b>						
008 Neural Dynamics of the Primate Attention Network	Lecture		SDCC Ballroom 20	3 Sat	2-3:10 p.m.	1.25
019 Animal Cognition and Behavior: Learning and Memory: Neural Circuit Mechanisms	Nanosymposium		SDCC 30B	3 Sat	1-2:45 p.m.	
020 Human Cognition and Behavior: Timing and Temporal Processing	Nanosymposium		SDCC 7	3 Sat	1-3:30 p.m.	
081 Animal Cognition and Behavior: Executive Function: Network Activity	Poster	EEE6-EEE20	SDCC Halls B-H	3 Sat	1-5 p.m.	
082 Animal Cognition and Behavior: Learning and Memory: Hippocampal-Prefrontal Interactions	Poster	EEE21-FFF8	SDCC Halls B-H	3 Sat	1-5 p.m.	
083 Learning and Memory: Epigenetics	Poster	FFF9-GGG10	SDCC Halls B-H	3 Sat	1-5 p.m.	
084 Signal Pathways and Cognition	Poster	GGG11-GGG21	SDCC Halls B-H	3 Sat	1-5 p.m.	
085 Human Cognition and Behavior: Human Learning: Perceptual and Spatial Learning	Poster	GGG22-HHH23	SDCC Halls B-H	3 Sat	1-5 p.m.	
086 Human Cognition and Behavior: Human Long-Term Memory: Encoding, Retrieval, Reconsolidation	Poster	HHH24-HHH43	SDCC Halls B-H	3 Sat	1-5 p.m.	
087 Human Cognition and Behavior: Functional Mechanisms of Attention	Poster	HHH44-III12	SDCC Halls B-H	3 Sat	1-5 p.m.	
094 Specific Basal Forebrain-Cortical Cholinergic Circuits Coordinate Cognitive Operations	Symposium		SDCC 6B	4 Sun	8:30-11 a.m.	2.5
111 Decision Making: Circuits and Computations	Nanosymposium		SDCC 7	4 Sun	8-11 a.m.	
162 Animal Cognition and Behavior: Decision Making: Corticolimbic Circuits	Poster	BBB8-CCC13	SDCC Halls B-H	4 Sun	8 a.m.-noon	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
163 Animal Cognition and Behavior: Executive Function: Learning and Memory I	Poster	CCC14–EEE4	SDCC Halls B–H	4 Sun	8 a.m.–noon	
164 Animal Cognition and Behavior: Learning and Memory: Hippocampal Circuits I	Poster	EEE5–EEE22	SDCC Halls B–H	4 Sun	8 a.m.–noon	
165 Animal Cognition and Behavior: Learning and Memory: Hippocampal Circuits II	Poster	EEE23–FFF20	SDCC Halls B–H	4 Sun	8 a.m.–noon	
166 Animal Cognition and Behavior: Learning and Memory: Dentate Gyrus and Neurogenesis	Poster	FFF21–GGG12	SDCC Halls B–H	4 Sun	8 a.m.–noon	
167 Human Cognition and Behavior: Executive Function	Poster	GGG13–HHH3	SDCC Halls B–H	4 Sun	8 a.m.–noon	
168 Human Cognition and Behavior: Cognitive Development	Poster	HHH4–HHH24	SDCC Halls B–H	4 Sun	8 a.m.–noon	
169 Human Cognition and Behavior: Timing and Temporal Processing	Poster	HHH25–HHH54	SDCC Halls B–H	4 Sun	8 a.m.–noon	
178 High-Level Cognition in Low-Level Brain Regions	Minisymposium		SDCC 6C	4 Sun	1:30–4 p.m.	2.5
193 Human Cognition and Behavior: Decision Making and Cognitive Aging	Nanosymposium		SDCC 23	4 Sun	1–4:30 p.m.	
238 Mechanisms of Attention	Poster	ZZ2–AAA5	SDCC Halls B–H	4 Sun	1–5 p.m.	
239 Cortical and Hippocampal Circuits: Timing and Temporal Processing	Poster	AAA6–AAA21	SDCC Halls B–H	4 Sun	1–5 p.m.	
240 Animal Cognition and Behavior: Decision Making: Corticolimbic Circuits	Poster	AAA22–BBB12	SDCC Halls B–H	4 Sun	1–5 p.m.	
241 Animal Cognition and Behavior: Executive Function: Models of Disorders	Poster	BBB13–CCC9	SDCC Halls B–H	4 Sun	1–5 p.m.	
242 Animal Cognition and Behavior: Executive Function: Inhibitory Control	Poster	CCC10–DDD16	SDCC Halls B–H	4 Sun	1–5 p.m.	
243 Animal Cognition and Behavior: Working Memory	Poster	DDD17–EEE21	SDCC Halls B–H	4 Sun	1–5 p.m.	
244 Animal Cognition and Behavior: Learning and Memory: Physiology	Poster	EEE22–FFF14	SDCC Halls B–H	4 Sun	1–5 p.m.	
245 Aging: Anatomical, Physiological, and Cognitive Alterations	Poster	FFF15–GGG4	SDCC Halls B–H	4 Sun	1–5 p.m.	
246 Human Cognition and Behavior: Sensorimotor Processing	Poster	GGG5–GGG17	SDCC Halls B–H	4 Sun	1–5 p.m.	
247 Human Cognition and Behavior: Motor Learning and Memory	Poster	GGG18–HHH11	SDCC Halls B–H	4 Sun	1–5 p.m.	
248 Human Cognition and Behavior: Human Long-Term Memory: Retrieval I	Poster	HHH12–HHH35	SDCC Halls B–H	4 Sun	1–5 p.m.	
249 Human Cognition and Behavior: Human Long-Term Memory: Retrieval II	Poster	HHH36–HHH49	SDCC Halls B–H	4 Sun	1–5 p.m.	
250 Human Cognition and Behavior: Executive Function: Interference and Flexibility	Poster	HHH50–III3	SDCC Halls B–H	4 Sun	1–5 p.m.	
251 Human Cognition and Executive Function: Development	Poster	III4–III18	SDCC Halls B–H	4 Sun	1–5 p.m.	
252 Schizophrenia: Animal Models: Pharmacological	Poster	III19–III33	SDCC Halls B–H	4 Sun	1–5 p.m.	
265 New Computational Perspectives on Serotonin Function	Lecture		SDCC Ballroom 20	5 Mon	11:30 a.m.–12:40 p.m.	1.25
273 Animal Cognition and Behavior: Decision Making: Prefrontal Cortex I	Nanosymposium		SDCC 25	5 Mon	8–10:45 a.m.	
274 Human Cognition and Behavior: Spatial Learning and Navigation	Nanosymposium		SDCC 23	5 Mon	8–11:15 a.m.	
275 Human Cognition and Behavior: Working Memory I	Nanosymposium		SDCC 5	5 Mon	8–11:30 a.m.	
324 Mechanisms of Episodic and Episodic-Like Memory	Poster	CCC4–DDD13	SDCC Halls B–H	5 Mon	8 a.m.–noon	
325 Animal Cognition and Behavior: Decision Making: Orbitofrontal Cortex	Poster	DDD14–EEE2	SDCC Halls B–H	5 Mon	8 a.m.–noon	
326 Animal Cognition and Behavior: Executive Function: Learning and Memory II	Poster	EEE3–FFF3	SDCC Halls B–H	5 Mon	8 a.m.–noon	
327 Behavioral Aspects of Memory (Re)Consolidation	Poster	FFF4–FFF21	SDCC Halls B–H	5 Mon	8 a.m.–noon	
328 Molecular Mechanisms of Memory (Re)Consolidation	Poster	FFF22–GGG15	SDCC Halls B–H	5 Mon	8 a.m.–noon	
329 Animal Cognition and Behavior: Learning and Memory: Cortical-Hippocampal Interactions I	Poster	GGG16–HHH8	SDCC Halls B–H	5 Mon	8 a.m.–noon	
330 Animal Cognition and Behavior: Learning and Memory: Cortical-Hippocampal Interactions II	Poster	HHH9–HHH23	SDCC Halls B–H	5 Mon	8 a.m.–noon	
331 Animal Cognition and Behavior: Learning and Memory: Hippocampal Circuits III	Poster	HHH24–HHH52	SDCC Halls B–H	5 Mon	8 a.m.–noon	
332 Animal Cognition and Behavior: Learning and Memory: Gamma and Theta Rhythms	Poster	HHH53–III6	SDCC Halls B–H	5 Mon	8 a.m.–noon	
333 Decision Making I	Poster	III7–III36	SDCC Halls B–H	5 Mon	8 a.m.–noon	
334 Human Cognition and Behavior: Human Learning: Feedback, Reinforcement, and Reward	Poster	III37–III63	SDCC Halls B–H	5 Mon	8 a.m.–noon	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
335 Human Cognition and Behavior: Human Long-Term Memory: Encoding	Poster	III64–JJJ25	SDCC Halls B–H	5 Mon	8 a.m.–noon	
336 Schizophrenia: Behavior and Symptoms	Poster	JJJ26–JJJ35	SDCC Halls B–H	5 Mon	8 a.m.–noon	
337 Schizophrenia: Circuits and Systems	Poster	JJJ36–JJJ52	SDCC Halls B–H	5 Mon	8 a.m.–noon	
343 DUAL PERSPECTIVES: Gamma – Fumes or Fundamental	Dual Perspectives		SDCC 10	5 Mon	1–2 p.m.	
359 Animal Cognition and Behavior: Decision Making: Prefrontal Cortex II	Nanosymposium		SDCC 25	5 Mon	1–3:45 p.m.	
360 Animal Cognition and Behavior: Learning and Memory: Cortical-Hippocampal Interactions I	Nanosymposium		SDCC 31C	5 Mon	1–4 p.m.	
361 Human Cognition and Behavior: Human Long-Term Memory: Encoding and Retrieval	Nanosymposium		SDCC 32	5 Mon	1–4:15 p.m.	
362 Human Cognition and Behavior: Language and Communication	Nanosymposium		SDCC 23	5 Mon	1–4:30 p.m.	
363 Schizophrenia: Circuits and Systems	Nanosymposium		SDCC 2	5 Mon	1–3:45 p.m.	
422 Invertebrate Learning and Memory	Poster	HHH37–HHH58	SDCC Halls B–H	5 Mon	1–5 p.m.	
423 Hippocampal Circuits and Cognition	Poster	HHH59–III15	SDCC Halls B–H	5 Mon	1–5 p.m.	
424 Animal Cognition and Behavior: Learning and Memory: Hippocampal Circuits IV	Poster	III16–III42	SDCC Halls B–H	5 Mon	1–5 p.m.	
425 Learning and Memory: Molecular Mechanisms	Poster	III43–III67	SDCC Halls B–H	5 Mon	1–5 p.m.	
426 Human Cognition and Behavior: Working Memory	Poster	III68–JJJ23	SDCC Halls B–H	5 Mon	1–5 p.m.	
427 Decision Making II	Poster	JJJ24–JJJ53	SDCC Halls B–H	5 Mon	1–5 p.m.	
428 Human Cognition and Behavior: Decision Making and Reasoning: Value, Gains, and Loses	Poster	JJJ54–JJJ69	SDCC Halls B–H	5 Mon	1–5 p.m.	
429 Human Cognition and Behavior: Decision Making and Reasoning: Neural Mechanisms	Poster	JJJ70–LLL21	SDCC Halls B–H	5 Mon	1–5 p.m.	
436 The Neurobiology of Forgetting	Minisymposium		SDCC 6C	6 Tue	8:30–11 a.m.	2.5
454 Human Cognition and Behavior: Working Memory II	Nanosymposium		SDCC 5	6 Tue	8–10:45 a.m.	
507 Animal Cognition and Behavior: Decision Making: Prefrontal Cortex	Poster	AAA26–DDD1	SDCC Halls B–H	6 Tue	8 a.m.–noon	
508 Head Direction Cells and Spatial Navigation	Poster	DDD2–EEE7	SDCC Halls B–H	6 Tue	8 a.m.–noon	
509 Animal Cognition and Behavior: Learning and Memory: Neural Circuit Mechanisms I	Poster	EEE8–EEE26	SDCC Halls B–H	6 Tue	8 a.m.–noon	
510 Animal Cognition and Behavior: Learning and Memory: Neural Circuit Mechanisms II	Poster	FFF1–FFF14	SDCC Halls B–H	6 Tue	8 a.m.–noon	
511 Animal Cognition and Behavior: Learning and Memory: Neural Circuit Mechanisms III	Poster	FFF15–GGG3	SDCC Halls B–H	6 Tue	8 a.m.–noon	
512 Age-Related Cognitive Deficits and Treatments	Poster	GGG4–GGG22	SDCC Halls B–H	6 Tue	8 a.m.–noon	
513 Human Cognition and Behavior: Effects of Disorders and Addictive Drugs	Poster	GGG23–HHH25	SDCC Halls B–H	6 Tue	8 a.m.–noon	
514 Human Cognition and Behavior: Language Networks	Poster	HHH26–HHH55	SDCC Halls B–H	6 Tue	8 a.m.–noon	
515 Human Cognition and Behavior: Cognitive Aging I	Poster	HHH56–III15	SDCC Halls B–H	6 Tue	8 a.m.–noon	
516 Human Cognition and Behavior: Individual Differences	Poster	III16–III45	SDCC Halls B–H	6 Tue	8 a.m.–noon	
517 Schizophrenia: Animal Models: Developmental	Poster	III46–III64	SDCC Halls B–H	6 Tue	8 a.m.–noon	
531 Language Networks Derived From Direct Intracranial Recordings in Humans	Symposium		SDCC 6C	6 Tue	1:30–4 p.m.	2.5
545 Human Cognition and Behavior: Human Long-Term Memory Representations: Network and Circuit Mechanisms	Nanosymposium		SDCC 33	6 Tue	1–3:15 p.m.	
546 Human Cognition and Behavior: Working Memory III	Nanosymposium		SDCC 30B	6 Tue	1–3 p.m.	
547 Human Cognition and Behavior: Neurocognitive Development	Nanosymposium		SDCC 23	6 Tue	1–4:30 p.m.	
604 Place Cells	Poster	HHH33–III1	SDCC Halls B–H	6 Tue	1–5 p.m.	
605 Animal Cognition and Behavior: Associative, Nonassociative, and Skill Learning	Poster	III2–III25	SDCC Halls B–H	6 Tue	1–5 p.m.	
606 Human Cognition and Behavior: Working Memory II	Poster	III26–III51	SDCC Halls B–H	6 Tue	1–5 p.m.	
607 Human Cognition and Behavior: Cognitive Aging II	Poster	III52–JJJ13	SDCC Halls B–H	6 Tue	1–5 p.m.	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

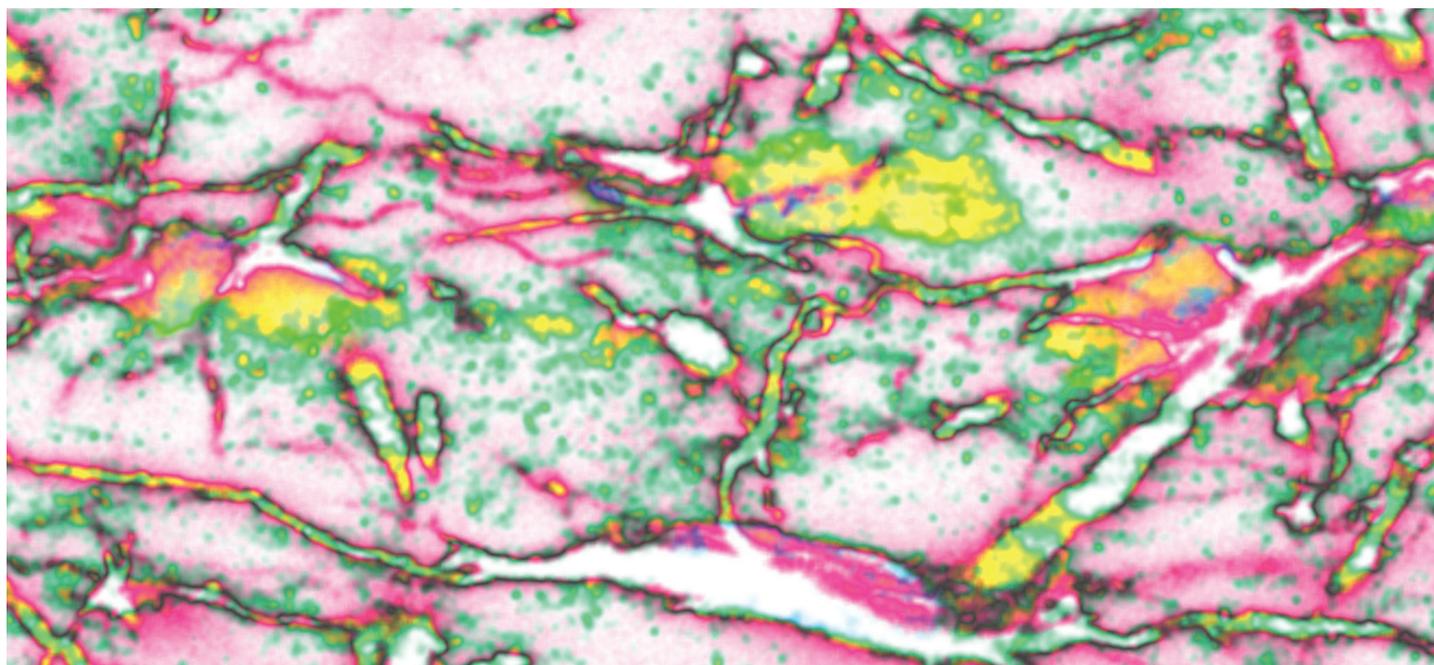
SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
608 Human Cognition and Behavior: Cognitive Aging III	Poster	JJJ14–JJJ38	SDCC Halls B–H	6 Tue	1–5 p.m.	
609 Schizophrenia: Genetic, Cellular, and Molecular Features	Poster	JJJ39–JJJ67	SDCC Halls B–H	6 Tue	1–5 p.m.	
616 Mental Structures and Sequences: Evolutionary Solutions From Birds to Primates	Symposium		SDCC 6B	7 Wed	8:30–11 a.m.	2.5
633 Animal Cognition and Behavior: Learning and Memory: Cortical-Hippocampal Interactions II	Nanosymposium		SDCC 1	7 Wed	8–11:30 a.m.	
634 Human Cognition and Behavior: Human Learning: Feedback, Reinforcement, and Reward	Nanosymposium		SDCC 4	7 Wed	8–11:15 a.m.	
688 Animal Cognition and Behavior: Decision Making: Prefrontal Cortex	Poster	DDD14–EEE17	SDCC Halls B–H	7 Wed	8 a.m.–noon	
689 Spatial Navigation: Entorhinal Cortex	Poster	EEE18–FFF15	SDCC Halls B–H	7 Wed	8 a.m.–noon	
690 Animal Cognition and Behavior: Social Memory and Cognition I	Poster	FFF16–GGG16	SDCC Halls B–H	7 Wed	8 a.m.–noon	
691 Animal Cognition and Behavior: Social Memory and Cognition II	Poster	GGG17–HHH5	SDCC Halls B–H	7 Wed	8 a.m.–noon	
692 Learning and Memory: Pharmacology	Poster	HHH6–HHH34	SDCC Halls B–H	7 Wed	8 a.m.–noon	
693 Human Cognition and Behavior: Human Long-Term Memory: Medial Temporal Lobe I	Poster	HHH35–III1	SDCC Halls B–H	7 Wed	8 a.m.–noon	
694 Human Cognition and Behavior: Human Long-Term Memory: Medial Temporal Lobe II	Poster	III2–III26	SDCC Halls B–H	7 Wed	8 a.m.–noon	
695 Human Cognition and Behavior: Language	Poster	III27–III55	SDCC Halls B–H	7 Wed	8 a.m.–noon	
696 Human Cognition and Behavior: Language Developmental Processes	Poster	III56–JJJ1	SDCC Halls B–H	7 Wed	8 a.m.–noon	
697 Human Cognition and Behavior: Decision Making and Reasoning: Physiology and Basic Mechanisms	Poster	JJJ2–JJJ31	SDCC Halls B–H	7 Wed	8 a.m.–noon	
707 From Recent to Remote Memory and Back	Minisymposium		SDCC 6C	7 Wed	1:30–4 p.m.	2.5
786 Cortical and Hippocampal Circuit Interactions	Poster	III21–III34	SDCC Halls B–H	7 Wed	1–5 p.m.	
787 Animal Cognition and Behavior: Cortical and Striatal Circuits	Poster	III35–III55	SDCC Halls B–H	7 Wed	1–5 p.m.	
788 Human Cognition and Behavior: Perception and Imagery I	Poster	III56–JJJ10	SDCC Halls B–H	7 Wed	1–5 p.m.	
789 Human Cognition and Behavior: Perception and Imagery II	Poster	JJJ11–JJJ31	SDCC Halls B–H	7 Wed	1–5 p.m.	
790 Human Cognition and Behavior: Perception and Imagery III	Poster	JJJ32–JJJ51	SDCC Halls B–H	7 Wed	1–5 p.m.	
791 Human Cognition and Behavior: Human Long-Term Memory: Medial Temporal Lobe III	Poster	JJJ52–JJJ66	SDCC Halls B–H	7 Wed	1–5 p.m.	
792 Human Cognition and Behavior: Attentional Networks I	Poster	JJJ67–LLL25	SDCC Halls B–H	7 Wed	1–5 p.m.	
793 Human Cognition and Behavior: Attentional Networks II	Poster	LLL26–LLL35	SDCC Halls B–H	7 Wed	1–5 p.m.	
794 Human Cognition and Behavior: Social Cognition: Neural Processes and Disorders I	Poster	LLL36–LLL58	SDCC Halls B–H	7 Wed	1–5 p.m.	
795 Human Cognition and Behavior: Social Cognition: Neural Processes and Disorders II	Poster	LLL59–MMM15	SDCC Halls B–H	7 Wed	1–5 p.m.	
<b>Theme I: Techniques</b>						
003 New Observations in Neuroscience Using Superresolution Microscopy	Minisymposium		SDCC 6B	3 Sat	1:30–4 p.m.	2.5
088 Molecular, Biochemical, and Genetic Techniques: Molecular Techniques I	Poster	III13–III28	SDCC Halls B–H	3 Sat	1–5 p.m.	
089 Computation, Modeling, and Simulation: Cellular Models	Poster	III29–III42	SDCC Halls B–H	3 Sat	1–5 p.m.	
090 Data Analysis and Statistics: Human Data: EEG, Electrophysiology, and DBS	Poster	III43–III67	SDCC Halls B–H	3 Sat	1–5 p.m.	
091 Data Analysis and Statistics: Human Data: Vision, Audition, Movement, and Posture	Poster	III68–JJJ59	SDCC Halls B–H	3 Sat	1–5 p.m.	
100 Neural Data Science: Accelerating the Experiment-Analysis-Theory Cycle in Large-Scale Neuroscience	Lecture		SDCC Ballroom 20	4 Sun	10–11:10 a.m.	1.25
112 Physiological Methods: Optical Methodology	Nanosymposium		SDCC 30B	4 Sun	8–11 a.m.	
170 Anatomical Methods: Staining, Tracing, and Imaging Techniques: Sample Preparation	Poster	HHH55–III14	SDCC Halls B–H	4 Sun	8 a.m.–noon	
171 Anatomical Methods: Staining, Tracing, and Imaging Techniques: Circuit Tracing	Poster	III15–III38	SDCC Halls B–H	4 Sun	8 a.m.–noon	
172 Physiological Methods: Optogenetics I	Poster	III39–III58	SDCC Halls B–H	4 Sun	8 a.m.–noon	
173 Physiological Methods: Electrophysiology: Neural Networks	Poster	III59–JJJ4	SDCC Halls B–H	4 Sun	8 a.m.–noon	

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
174 Physiological Methods: Electrophysiology: Stimulating Neurons	Poster	JJJ5–GGG19	SDCC Halls B–H	4 Sun	8 a.m.–noon	
176 Local Field Potentials and Deep Brain Stimulation	Symposium		SDCC 6A	4 Sun	1:30–4 p.m.	2.5
194 Biomarker and Drug Discovery: Drug Delivery and Assay Development	Nanosymposium		SDCC 4	4 Sun	1–3 p.m.	
253 Molecular, Biochemical, and Genetic Techniques: Biochemical Techniques	Poster	III34–III47	SDCC Halls B–H	4 Sun	1–5 p.m.	
254 Software Tools Connectivity Analysis Macro/Micro Structure	Poster	III48–III65	SDCC Halls B–H	4 Sun	1–5 p.m.	
255 Physiological Methods: Optogenetics II	Poster	III66–JJJ17	SDCC Halls B–H	4 Sun	1–5 p.m.	
256 Organelle Structure and Dynamics: What High-Resolution Imaging Is Uncovering	Lecture		SDCC Ballroom 20	5 Mon	8:30–9:40 a.m.	1.25
262 Exposing Neural Dynamics Using Real-Time Control: From Neurons to Human Behavior and Psychopathology	Minisymposium		SDCC 29D	5 Mon	8:30–11 a.m.	2.5
276 The Mouse Brain: Circuitry and Mapping in 3D	Nanosymposium		SDCC 30B	5 Mon	8–11:15 a.m.	
338 Physiological Methods: Optical Methodology: Development I	Poster	JJJ53–LLL10	SDCC Halls B–H	5 Mon	8 a.m.–noon	
339 Computation, Modeling, and Simulation: Network Models: Theory I	Poster	LLL11–LLL28	SDCC Halls B–H	5 Mon	8 a.m.–noon	
340 Computation, Modeling, and Simulation: Human Network Models	Poster	LLL29–LLL50	SDCC Halls B–H	5 Mon	8 a.m.–noon	
341 Data Analysis and Statistics: Human Data: Neuroimaging	Poster	LLL51–MMM48	SDCC Halls B–H	5 Mon	8 a.m.–noon	
348 Innovative Approaches for Monitoring Neuromodulation With Light	Minisymposium		SDCC 28A	5 Mon	1:30–4 p.m.	2.5
364 The Marmoset Brain: Brain Mapping and Circuit Tracing	Nanosymposium		SDCC 1	5 Mon	1–4:15 p.m.	
430 Anatomical Methods: Staining, Tracing, and Imaging Techniques: Electron Microscopy and Novel Probes	Poster	LLL22–LLL35	SDCC Halls B–H	5 Mon	1–5 p.m.	
431 Physiological Methods: Electrophysiology: Electrode Arrays I	Poster	LLL36–MMM3	SDCC Halls B–H	5 Mon	1–5 p.m.	
432 Biomarker and Drug Discovery: Drug Delivery and Neurodegenerative Diseases (AD, PD, MS, Stroke)	Poster	MMM4–MMM26	SDCC Halls B–H	5 Mon	1–5 p.m.	
439 Whole-Brain Analysis of Cells and Circuits by Tissue Clearing and Light-Sheet Microscopy	Minisymposium		SDCC 29D	6 Tue	8:30–11 a.m.	2.5
518 Tools and Techniques for Manipulation of Neurons and Circuits	Poster	III65–JJJ20	SDCC Halls B–H	6 Tue	8 a.m.–noon	
519 Systems Biology and Bioinformatics: Genomics, Proteomics, and Systems Biology	Poster	JJJ20–JJJ44	SDCC Halls B–H	6 Tue	8 a.m.–noon	
520 New Behavioral, <i>In vivo</i> , and <i>In vitro</i> Physiological Methods	Poster	JJJ45–JJJ66	SDCC Halls B–H	6 Tue	8 a.m.–noon	
521 Computation, Modeling, and Simulation: Network Models: Experimentation	Poster	JJJ67–LLL8	SDCC Halls B–H	6 Tue	8 a.m.–noon	
522 Computation, Modeling, and Simulation: Computational Tools: Neuroimaging	Poster	LLL9–LLL18	SDCC Halls B–H	6 Tue	8 a.m.–noon	
523 Computation, Modeling, and Simulation: EEG, Evoked Potential, and Electrophysiology	Poster	LLL19–LLL38	SDCC Halls B–H	6 Tue	8 a.m.–noon	
524 Computation, Modeling, and Simulation: Informatics and Database	Poster	LLL39–LLL51	SDCC Halls B–H	6 Tue	8 a.m.–noon	
525 Computation, Modeling, and Simulation: Neuron/Network Modeling	Poster	LLL52–MMM9	SDCC Halls B–H	6 Tue	8 a.m.–noon	
530 The Dynamic Brain: Signatures of Fast Functional Reconfiguration, Their Interpretability, and Clinical Value	Symposium		SDCC 6B	6 Tue	1:30–4 p.m.	2.5
548 Physiological Methods: Electrophysiology: Stimulating Neurons and Electrode Arrays	Nanosymposium		SDCC 30E	6 Tue	1–3:30 p.m.	
549 Computation, Modeling, and Simulation: Network Models: Theory and Experimentation	Nanosymposium		SDCC 2	6 Tue	1–3:15 p.m.	
610 Molecular, Biochemical, and Genetic Techniques: Molecular Techniques II	Poster	JJJ68–LLL27	SDCC Halls B–H	6 Tue	1–5 p.m.	
611 Anatomical Methods: Staining, Tracing, and Imaging Techniques	Poster	LLL28–LLL51	SDCC Halls B–H	6 Tue	1–5 p.m.	
612 Physiological Methods: Optical Methodology: Development II	Poster	LLL52–MMM16	SDCC Halls B–H	6 Tue	1–5 p.m.	
613 Neuronal Networks Widescale, Multimodal, and Electrophysiological	Poster	MMM17–MMM32	SDCC Halls B–H	6 Tue	1–5 p.m.	
617 Human Stem Cell Models to Validate Rare and Common Variants Contributing to Neurodevelopmental Disorders	Minisymposium		SDCC 6C	7 Wed	8:30–11 a.m.	2.5

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
635 Advances in Molecular, Genetic, and Imaging Techniques	Nanosymposium		SDCC 2	7 Wed	8–10 a.m.	
698 Systems Biology and Bioinformatics: Bioinformatics	Poster	JJJ32–JJJ47	SDCC Halls B–H	7 Wed	8 a.m.–noon	
699 Physiological Methods: Optical Methodology: Probes	Poster	JJJ48–LLL3	SDCC Halls B–H	7 Wed	8 a.m.–noon	
700 Physiological Methods: Electrophysiology: Electrode Arrays II	Poster	LLL4–LLL32	SDCC Halls B–H	7 Wed	8 a.m.–noon	
701 Biomarker and Drug Discovery: Affective Disorders and Schizophrenia	Poster	LLL33–LLL50	SDCC Halls B–H	7 Wed	8 a.m.–noon	
702 Computation, Modeling, and Simulation: Network Models: Theory II	Poster	LLL51–MMM4	SDCC Halls B–H	7 Wed	8 a.m.–noon	
703 Neuronal Network Models Applied to Neuroscience	Poster	MMM5–MMM29	SDCC Halls B–H	7 Wed	8 a.m.–noon	
723 Molecular, Biochemical, and Genetic Techniques: Molecular Techniques	Nanosymposium		SDCC 25	7 Wed	1–2:45 p.m.	
796 Physiological Methods: Optical Methodology: Application	Poster	MMM16–MMM39	SDCC Halls B–H	7 Wed	1–5 p.m.	
<b>Theme J: History and Education</b>						
021 History of Neuroscience	Theme J Poster	JJJ34–JJJ46	SDCC Halls B–H	3 Sat	1–5 p.m.	
022 Teaching of Neuroscience: K-12	Theme J Poster	JJJ47–JJJ60	SDCC Halls B–H	3 Sat	1–5 p.m.	
023 Teaching of Neuroscience: College I	Theme J Poster	JJJ61–LLL14	SDCC Halls B–H	3 Sat	1–5 p.m.	
024 Teaching of Neuroscience: College II	Theme J Poster	LLL15–LLL41	SDCC Halls B–H	4 Sun	8 a.m.–noon	
025 Teaching of Neuroscience: Graduate and Professional	Theme J Poster	LLL42–LLL53	SDCC Halls B–H	3 Sat	1–5 p.m.	
026 Public Awareness of Neuroscience: Outreach Activities I	Theme J Poster	LLL54–MMM13	SDCC Halls B–H	4 Sun	8 a.m.–noon	
027 Public Awareness of Neuroscience: Outreach Activities II	Theme J Poster	MMM14–MMM26	SDCC Halls B–H	4 Sun	8 a.m.–noon	
028 Ethical and Policy Issues in Neuroscience	Theme J Poster	MMM27–MMM39	SDCC Halls B–H	4 Sun	8 a.m.–noon	
179 Telling Stories of Science	Minisymposium		SDCC 6E	4 Sun	1:30–4 p.m.	



GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	LOCATION	DATE	TIME
<b>SfN Preconference Sessions</b>				
SPC01	NEUROBIOLOGY OF DISEASE WORKSHOP: The Role of Innate Immunity in CNS Disorders Throughout the Lifespan	SfN Preconference Session	SDCC 6A	2 Fri 8 a.m.–5 p.m.
SPC02	SHORT COURSE 1: Sex Differences in the Brain: Balancing Sex in Preclinical Research	SfN Preconference Session	SDCC 6B	2 Fri 8 a.m.–6 p.m.
SPC03	SHORT COURSE 2: Functional, Structural, and Molecular Imaging, and Big Data Analysis	SfN Preconference Session	SDCC 6C	2 Fri 8 a.m.–6 p.m.
SPC04	SHORT COURSE 3: Recognizing and Addressing Power Dynamics in Academia	SfN Preconference Session	SDCC 11	2 Fri 1–5:30 p.m.
SPC05	Meet-the-Expert, Session 1: Carlos Aizenman - From Synapses to Behavior: Uncovering Fundamental Concepts Guiding the Development and Plasticity of Neural Circuits	SfN Preconference Session	Hilton Bayfront: Sapphire 410	3 Sat 8–9:15 a.m.
SPC06	Meet-the-Expert, Session 1: Hynek Wichterle - Modeling Spinal Cord Development and Disease With Stem Cell-Derived Neurons	SfN Preconference Session	Hilton Bayfront: Sapphire Ballroom I	3 Sat 8–9:15 a.m.
SPC07	Meet-the-Expert, Session 1: Camilla Bellone - My Personal Journey From Synapse to Circuit and Behavior	SfN Preconference Session	Hilton Bayfront: Sapphire 400	3 Sat 8–9:15 a.m.
SPC08	Meet-the-Expert, Session 1: Monica Perez - Neurophysiology Guiding Recovery After CNS Injury	SfN Preconference Session	Hilton Bayfront: Sapphire Ballroom M	3 Sat 8–9:15 a.m.
SPC09	Meet-the-Expert, Session 1: Lisa Stowers - From Behavior to Mechanism: The Features and Flaws of Studying Innate and Social Behavior in the Mouse	SfN Preconference Session	Hilton Bayfront: Sapphire Ballroom E	3 Sat 8–9:15 a.m.
SPC10	Meet-the-Expert, Session 1: Timothy Harris - High Channel Count Electrophysiology, Neuropixels, and Beyond: Where Can Technology Take Us?	SfN Preconference Session	Hilton Bayfront: Sapphire Ballroom A	3 Sat 8–9:15 a.m.
SPC11	Meet-the-Clinician-Expert, Session 1: Y. Joyce Liao - How to Make Your Work/Life Relevant	SfN Preconference Session	Hilton Bayfront: Sapphire Ballroom B	3 Sat 8–9:15 a.m.
SPC12	Meet-the-Expert, Session 2: Linda Overstreet-Wadiche - Understanding the Physiology of New and Old Neurons in the Dentate Gyrus	SfN Preconference Session	Hilton Bayfront: Sapphire 400	3 Sat 9:30–10:45 a.m.
SPC13	Meet-the-Expert, Session 2: Chenghua Gu - Molecular Mechanisms Governing the Blood Brain Barrier Function	SfN Preconference Session	Hilton Bayfront: Sapphire Ballroom I	3 Sat 9:30–10:45 a.m.
SPC14	Meet-the-Expert, Session 2: Piali Sengupta - Start Making Sense: Neuronal and Molecular Mechanisms of Sensory Signaling	SfN Preconference Session	Hilton Bayfront: Sapphire Ballroom E	3 Sat 9:30–10:45 a.m.
SPC15	Meet-the-Clinician-Expert, Session 2: Christian Luscher - A Circuit Model for Addiction: Construction and Translation	SfN Preconference Session	Hilton Bayfront: Sapphire 410	3 Sat 9:30–10:45 a.m.
SPC16	Meet-the-Expert, Session 2: Tomomi Shimogori - Early Life Experience Shapes Brain Development: To Understand Primate Brains From Rodent Works	SfN Preconference Session	Hilton Bayfront: Sapphire Ballroom B	3 Sat 9:30–10:45 a.m.
SPC17	Meet-the-Expert, Session 2: Anne Churchland - Decision-Making in the Brain, the Lab, and Beyond	SfN Preconference Session	Hilton Bayfront: Sapphire Ballroom A	3 Sat 9:30–10:45 a.m.
SPC18	Meet-the-Expert, Session 2: Michael Lin - The Need for Speed: Development and Use of Genetically Encoded Voltage Indicators	SfN Preconference Session	Hilton Bayfront: Sapphire Ballroom M	3 Sat 9:30–10:45 a.m.
<b>Professional Development Workshops</b>				
PDW01	Building a Supportive Global Network	Professional Development Workshop	SDCC 30E	3 Sat 9–11 a.m.
PDW02	Improving Your Science: Better Inference, Reproducible Analyses, and the New Publication Landscape	Professional Development Workshop	SDCC 31C	3 Sat 9–11 a.m.
PDW03	Careers in Making Medicines: Translating Basic Research Into Therapeutics	Professional Development Workshop	SDCC 31C	3 Sat 12–2 p.m.
PDW04	How SfN Helped My Career: Expanding Your Neural Network at the Annual Meeting	Professional Development Workshop	SDCC 30E	3 Sat 12–2 p.m.
PDW05	How to Thrive as a Woman in Neuroscience	Professional Development Workshop	SDCC 31C	3 Sat 3–5 p.m.
PDW06	Bringing a Student-Run Outreach Program to Your Institution	Professional Development Workshop	SDCC 11	4 Sun 9–11 a.m.

GENERAL INFORMATION PROGRAM | List of Sessions by Theme and Day

SESSION # / SESSION TITLE	SESSION TYPE	LOCATION	DATE	TIME
PDW07	Face-to-Face Networking: Building and Maintaining Professional Relationships	Professional Development Workshop	SDCC 30E	4 Sun 9–11 a.m.
PDW08	Fixing the Leaky Pipeline for Women in Science: Addressing Issues Facing New Moms	Professional Development Workshop	SDCC 31C	4 Sun 9–11 a.m.
PDW09	Career Planning and Explorations for Biomedical PhD Scientists and Physician-Scientists (MD/PhD)	Professional Development Workshop	SDCC 31C	4 Sun 12–2 p.m.
PDW10	Cultivating Leadership in Multidisciplinary Research: Bridging Gaps Across Campuses, Countries, and Continents	Professional Development Workshop	SDCC 30E	4 Sun 12–2 p.m.
PDW11	Neuroscience Departments and Programs Workshop: Breaking Through: Pathways to Independence for Early Career Neuroscientists	Professional Development Workshop	SDCC 30E	4 Sun 2:30–5 p.m.
PDW12	How a Journal Handles Your Paper	Professional Development Workshop	SDCC 31C	4 Sun 3–5 p.m.
PDW13	FAIR Neuroscience: Sharing and Collaborating for Reproducible Neuroscience	Professional Development Workshop	SDCC 31C	5 Mon 9–11 a.m.
PDW14	Teaching Neuroscience: Emotion and Learning	Professional Development Workshop	SDCC 30E	5 Mon 9–11 a.m.
<b>Meetings and Events</b>				
ME01	NeuroJobs Career Center	Meetings and Events	SDCC Sails Pavilion	3 Sat 8 a.m.–5 p.m.
ME02	Meeting Mobile App Tutorial	Meetings and Events	SDCC 11	3 Sat 10–11 a.m.
ME03	Graduate School Fair	Meetings and Events	SDCC Sails Pavilion	3 Sat 1–3 p.m.
ME04	BRAIN AWARENESS CAMPAIGN EVENT: Action and Potential in Outreach, Education, and Research	Meetings and Events	SDCC 16	3 Sat 2:30–4 p.m.
ME05	Diversity Poster Session	Meetings and Events	SDCC Hall A	3 Sat 6:30–8:30 p.m.
ME06	International Fellows Poster Session	Meetings and Events	SDCC Hall A	3 Sat 6:30–8:30 p.m.
ME07	Trainee Professional Development Awards Poster Session	Meetings and Events	SDCC Hall A	3 Sat 6:30–8:30 p.m.
ME08	Career Development Topics: A Networking Event	Meetings and Events	SDCC Hall A	3 Sat 7:30–9:30 p.m.
ME09	NeuroJobs Career Center	Meetings and Events	SDCC Sails Pavilion	4 Sun 8 a.m.–5 p.m.
ME10	Graduate School Fair	Meetings and Events	SDCC Sails Pavilion	4 Sun 12–2 p.m.
ME11	SOCIAL ISSUES ROUNDTABLE: Solitary Confinement: Psychological and Neurobiological Insights Into Isolation	Meetings and Events	SDCC 10	4 Sun 1–3 p.m.
ME12	NeuroJobs Career Center	Meetings and Events	SDCC Sails Pavilion	5 Mon 8 a.m.–5 p.m.
ME13	NeuroJobs Career Center Workshop: Best Practices for Filling Your Open Position With the Perfect Candidate	Meetings and Events	SDCC 11	5 Mon 10–10:30 a.m.
ME14	ANIMALS IN RESEARCH PANEL: Gaining Public Support for Animal Research: A Proposal for Openness	Meetings and Events	SDCC 11	5 Mon 12–2 p.m.
ME15	Graduate School Fair	Meetings and Events	SDCC Sails Pavilion	5 Mon 12–2 p.m.
ME16	SfN CHAPTERS WORKSHOP AND RECEPTION	Meetings and Events	Marriott Marquis: San Diego Ballroom A	5 Mon 6:45–8:45 p.m.
ME17	NeuroJobs Career Center	Meetings and Events	SDCC Sails Pavilion	6 Tue 8 a.m.–5 p.m.
ME18	Celebration of Women in Neuroscience Luncheon	Meetings and Events	Hilton Bayfront: Sapphire Ballroom CD	6 Tue 12–2 p.m.
ME19	Graduate School Fair	Meetings and Events	SDCC Sails Pavilion	6 Tue 12–2 p.m.
ME20	PUBLIC ADVOCACY FORUM: Advocacy in Four Dimensions	Meetings and Events	SDCC 10	6 Tue 2–3:30 p.m.
ME21	SfN Members' Business Meeting	Meetings and Events	SDCC 3	6 Tue 6:45–7:30 p.m.
ME22	Graduate Student Reception	Meetings and Events	Hilton Bayfront: Sapphire Ballroom CD	6 Tue 8:30–11:30 p.m.
ME23	NeuroJobs Career Center	Meetings and Events	SDCC Sails Pavilion	7 Wed 8 a.m.–3 p.m.

# Clinician-Scientists and Continuing Medical Education (CME)

## Continuing Medical Education

The Society for Neuroscience (SfN) annual meeting is a forum for the education of physicians in the field of neuroscience.

By attending select lectures, symposia, minisymposia, and roundtables, physicians can receive both a broad overview of the field and detailed information about the most recent advances and research on the topic of the session. The abstract of each plenary session contains a brief description of the material to be presented. By attending these events, physicians can better understand the basic science that underlies clinical practice.

## Statement of Need

It is important that physicians comprehend the basic science that underlies clinical medicine. The SfN annual meeting is the premier venue for this educational opportunity. Physicians learn about the most up-to-date, cutting-edge discoveries regarding the brain and nervous system.

## Global Learning Objective

Physicians will integrate the most up-to-date information and research about the mechanism, treatment, and diagnosis of conditions related to neurological and psychiatric disorders into their diagnostic and therapeutic modalities of practices in order to determine the best course of action in treating the patient.

## Accreditation

SfN is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

## Credit Designation by Format Albert and Ellen Grass Lecture

SfN designates this live activity for a maximum of 1.25 *AMA PRA Category 1*

*Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## Basic-Translational-Clinical Roundtables

SfN designates this live activity for a maximum of 2.5 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## Minisymposia

SfN designates this live activity for a maximum of 2.5 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## Presidential Special Lectures

SfN designates this live activity for a maximum of 1.25 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## Special Lectures

SfN designates this live activity for a maximum of 1.25 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## Symposia

SfN designates this live activity for a maximum of 2.5 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

A meeting attendee seeking Continuing Medical Education (CME) credit may use a combination of the activities described above to claim a maximum of 35 *AMA PRA Category 1 Credits*<sup>™</sup>.

## CME Registration

CME registration must be completed before or during the annual meeting. An on-site processing fee of \$135 is charged in addition to the meeting registration fee. Purchase orders will not be accepted as payment. To register for CME, check the appropriate box on the annual meeting registration form and include the CME processing fee.

Those who do not register for CME before the conclusion of the meeting will not be able to request CME credits. CME registration cannot be completed after the annual meeting. Two weeks prior to the start of the meeting, CME registrants will receive the CME Supplemental Program, which contains important information regarding the CME program, including disclosure information and instructions for how to obtain the CME certificate.

## CME Credit for Exhibitors

Exhibitors with medical degrees can earn *AMA PRA Category 1 Credits*<sup>™</sup> by registering for the CME program and attending lectures, symposia, minisymposia, and clinical roundtable sessions. Call Convention Data Services at (888) 736-6690 or (508) 743-8563 to add CME to your exhibitor registration.

## Claiming Credits

Physicians who registered for CME will be invited to claim their *AMA PRA Category 1 Credits*<sup>™</sup> and print their CME certificates via the online Neuroscience Meeting Planner (NMP) following the conclusion of the educational activities. CME registration is required to be able to access the credit claiming site. Visit [sfn.org/cme](http://sfn.org/cme) for additional information.

## Awards in Neuroscience

---

### **Award for Education in Neuroscience**

The Award for Education in Neuroscience recognizes individuals who have made outstanding contributions to neuroscience education and training. The award will be presented prior to the Presidential Special Lecture Monday, November 5, at 5:15 p.m. in the San Diego Convention Center, Ballroom 20.

### **Bernice Grafstein Award for Outstanding Accomplishments in Mentoring**

*Support contributed by:*  
*Bernice Grafstein, PhD*

The Bernice Grafstein Award is given to an individual who has shown dedication and success in mentoring female neuroscientists and facilitating their entry or retention in the field. The award will be presented during the Celebration of Women in Neuroscience Luncheon Tuesday, November 6, at noon in the Hilton Bayfront Hotel, Sapphire CD.

### **Chapter of the Year Award**

The Chapter of the Year Award is given to an SfN chapter in recognition of its efforts to engage the local community in innovative activities that advance the mission of the Society for Neuroscience. Awardees are selected by the Global Membership Committee. The award will be presented at the Chapters Workshop and Reception Monday, November 5, at 6:45 p.m. in the Marriott Marquis, San Diego Ballroom A.

### **Donald B. Lindsley Prize in Behavioral Neuroscience**

*Support contributed by:*  
*The Grass Foundation*

The Donald B. Lindsley Prize recognizes a young neuroscientist for his or her outstanding PhD thesis in the general area

of behavioral neuroscience. The prize will be presented prior to the Albert and Ellen Grass Lecture Monday, November 5, at 3:15 p.m. in the San Diego Convention Center, Ballroom 20.

### **Jacob P. Waletzky Award**

*Support contributed by: The Waletzky Family*

The Jacob P. Waletzky Award is given to a young scientist (within 15 years of his/her receiving a PhD or MD degree) who has conducted or plans to conduct independent research leading to significant conceptual and/or empirical contributions to the understanding of drug addiction. The award will be presented prior to the Presidential Special Lecture Saturday, November 3, at 5:15 p.m. in the San Diego Convention Center, Ballroom 20.

### **Janett Rosenberg Trubatch Career Development Award**

*Support contributed by: The Trubatch Family*

The Janett Rosenberg Career Development Award recognizes two individuals who have demonstrated originality and creativity in research and is intended to promote success during academic transitions prior to tenure. The awards will be presented during the Celebration of Women in Neuroscience Luncheon Tuesday, November 6, at noon in the Hilton Bayfront Hotel, Sapphire CD.

### **Julius Axelrod Prize**

*Support contributed by: Eli Lilly and Company Foundation*

The Julius Axelrod Prize honors a scientist with distinguished achievements in neuropharmacology or a related area and exemplary efforts in mentoring young scientists. The award will be presented prior to the Presidential Special Lecture Saturday, November 3, at 5:15 p.m. in the San Diego Convention Center, Ballroom 20.



### **Louise Hanson Marshall Special Recognition Award**

The Louise Hanson Marshall Special Recognition Award honors an individual who has significantly promoted the professional development of women in neuroscience through teaching, organizational leadership, public advocacy, or other efforts not necessarily related to research. The award will be presented during the Celebration of Women in Neuroscience Luncheon Tuesday, November 6, at noon in the Hilton Bayfront Hotel, Sapphire CD.

### **Mika Salpeter Lifetime Achievement Award**

The Mika Salpeter Lifetime Achievement Award recognizes an individual with outstanding career achievements in neuroscience who also has significantly promoted the professional advancement of women in neuroscience. The award will be presented prior to the Presidential Special Lecture Monday, November 5, at 5:15 p.m. in the San Diego Convention Center, Ballroom 20 and again recognized during the Celebration of Women in Neuroscience Luncheon Tuesday, November 6, at noon in the Hilton Bayfront Hotel, Sapphire CD.

### **Nemko Prize in Cellular or Molecular Neuroscience**

*Support contributed by: The Nemko Family*

The Nemko Prize recognizes a young neuroscientist for his or her outstanding PhD thesis that advances the understanding of molecular, genetic, or cellular mechanisms underlying brain function, including higher function and cognition. The prize will be presented prior to the Albert and Ellen Grass Lecture Monday, November 5, at 3:15 p.m. in the San Diego Convention Center, Ballroom 20.

### **Next Generation Award**

The Next Generation Award recognizes SfN chapter members who have made outstanding contributions to public communication, outreach, and education about neuroscience. The award will be presented prior to the Presidential Special Lecture Tuesday, November 6, at 5:15 p.m. in the San Diego Convention Center, Ballroom 20.

### **Patricia Goldman-Rakic Hall of Honor**

The Patricia Goldman-Rakic Hall of Honor is a posthumous award for a neuroscientist who pursued career excellence and exhibited dedication to the advancement of women in neuroscience. The award will be presented during the Celebration of Women in Neuroscience Luncheon Tuesday, November 6, at noon in the Hilton Bayfront Hotel, Sapphire CD.

### **Peter and Patricia Gruber International Research Award in Neuroscience**

*Support contributed by:*

*The Gruber Foundation*

The Peter and Patricia Gruber International Research Award in Neuroscience recognizes two young neuroscientists for outstanding research and educational pursuit in an international setting. The awards will be presented prior to the Peter and Patricia Gruber Lecture Sunday,

November 4, at 2:30 p.m. in the San Diego Convention Center, Ballroom 20.

### **Ralph W. Gerard Prize in Neuroscience**

The Ralph W. Gerard Prize, the highest recognition conferred by the Society, honors an outstanding scientist who has made significant contributions to neuroscience throughout his or her career. This prize is named for Ralph W. Gerard, who was instrumental in founding SfN and served as honorary president from 1970 until his death in 1974. The prize will be presented prior to the Presidential Special Lecture Sunday, November 4, at 5:15 p.m. in the San Diego Convention Center, Ballroom 20.

### **Science Educator Award**

*Support contributed by:*

*The Dana Foundation*

The Science Educator Award honors up to two outstanding neuroscientists who have made significant contributions to educating the public about neuroscience: one who conducts education activities full time, and/or one who devotes his or her time primarily to research while conducting outreach, policy, and education activities. The award will be presented prior to the Presidential Special Lecture Tuesday, November 6, at 5:15 p.m. in the San Diego Convention Center, Ballroom 20.

### **Swartz Prize for Theoretical and Computational Neuroscience**

*Support contributed by:*

*The Swartz Foundation*

The Swartz Prize honors an individual whose activities have produced a significant cumulative contribution to theoretical models or computational methods in neuroscience or who has made a particularly noteworthy recent advance in theoretical or computational neuroscience. The prize will be presented prior to the Presidential Special Lecture Saturday, November 3, at 5:15 p.m. in the San Diego Convention Center, Ballroom 20.

### **Young Investigator Award**

*Support contributed by: Sunovion*

The Young Investigator Award recognizes the outstanding achievements and contributions of a young neuroscientist who has demonstrated scholarly independence and received his or her advanced professional degree in the past ten years. The award will be presented prior to the Albert and Ellen Grass Lecture Monday, November 5, at 3:15 p.m. in the San Diego Convention Center, Ballroom 20.

### **SfN Professional Development Awards**

#### **SfN/IBRO International Professional Development Awards**

SfN/IBRO International Travel Awards recognize young investigators from developing countries. The awards are sponsored by SfN, and recipients are selected by the International Brain Research Organization (IBRO). This year, 34 awardees from ten countries will attend Neuroscience 2018.

#### **SfN/JNS Professional Development Awards**

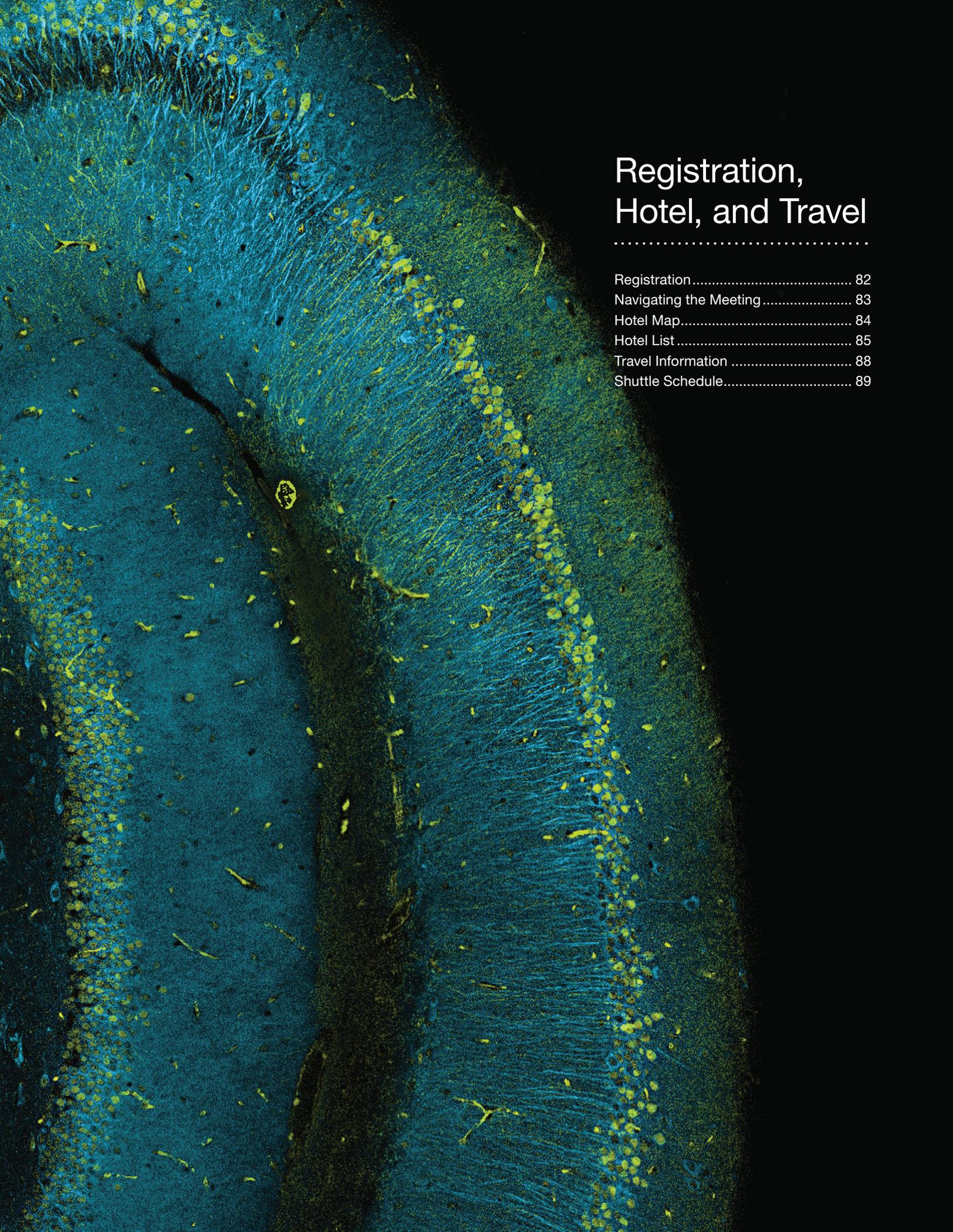
*Support contributed by: John Simpson*

SfN and the Japan Neuroscience Society (JNS) sponsor a travel award exchange program allowing five trainees from Japan to attend the SfN annual meeting and five North American trainees who are members of SfN to attend the JNS meeting in Japan.

#### **Trainee Professional Development Awards**

*Support contributed by: Amgen, Biogen, Burroughs Wellcome Fund, the Nancy Rutledge Zahniser Fund, Novartis Institutes for BioMedical Research, Sanofi, Friends of SfN Fund, and the Society for Neuroscience*

The Trainee Professional Development Award (TPDA) recognizes undergraduate and graduate students and postdoctoral fellows demonstrating scientific merit and excellence in research with the chance to present an abstract in a poster session, meet peers, network with senior scientists, and participate in learning opportunities at the annual meeting.



# Registration, Hotel, and Travel

.....

Registration.....	82
Navigating the Meeting.....	83
Hotel Map.....	84
Hotel List.....	85
Travel Information.....	88
Shuttle Schedule.....	89

# Registration

<b>ONLINE DISCOUNT</b>	<b>OPENS OCTOBER 3 AT MIDNIGHT EDT AND CONTINUES THROUGH THE ANNUAL MEETING</b>
<b>ON-SITE IN LINE</b>	<b>OPENS NOVEMBER 3 AT 7:30 A.M. PDT AND CONTINUES THROUGH THE ANNUAL MEETING</b>

REGISTRATION CATEGORY	ONLINE DISCOUNT	ON-SITE IN LINE DISCOUNT
Member	\$460	\$550
Member, Category II	\$195	\$235
Member, Category III	\$260	\$305
Postdoctoral Member	\$345	\$415
Postdoctoral Member, Category II	\$125	\$145
Postdoctoral Member, Category III	\$190	\$230
Student Member	\$230	\$275
Student Member, Category II	\$80	\$100
Student Member, Category III	\$130	\$155
Student Member, Undergraduate	\$115	\$140
Student Member, Undergraduate Category II	\$40	\$50
Student Member, Undergraduate Category III	\$65	\$80
Nonmember	\$830	\$995
Student Nonmember	\$415	\$495
Guest – Nonscientific	\$65	\$75
Continuing Medical Education CME	\$115	\$135

*Note: Single-day registration is not available.*

All members must be in good standing at the time of registering for the annual meeting in order to receive member rates. Membership status will be verified. Fees vary based on registration categories and options. Refunds will not be issued for incorrect registration categories. If you choose to register under another category before your membership status is verified, the difference will not be refunded to you. No exceptions. If you are uncertain about your membership status, contact [membership@sfn.org](mailto:membership@sfn.org) or call (202) 962-4911.

## Accepted Forms of Payment

MasterCard, Visa, American Express, Discover, checks or money orders in U.S. dollars drawn on a U.S. bank and made payable to the Society for Neuroscience, and cash (on-site only).

## Badge Reprint Fee

Attendees will incur a \$25 fee for badge reprints. If you require a badge reprint, visit the Attendee Resources counter in the Sails Pavilion of the San Diego Convention Center.

## When to Register

### Online Discount

From Wednesday, Oct. 3 through the duration of the annual meeting, discounted fees are available by using the online registration system. Avoid waiting in line and bring your confirmation number to any Express Badge Pick-Up location to claim your meeting materials.

### On-Site In Line Registration

Discounted registration fees are available through the online registration system. If you prefer to register at an on-site counter (located in the Sails Pavilion of the San Diego Convention Center), higher registration rates apply. On-site and online registration will be available for the duration of the meeting.

### On-Site Registration Hours

Friday, Nov. 2\*, 2-5 p.m. PDT  
 Saturday, Nov. 3, 7:30 a.m.–5 p.m. PDT  
 Sunday, Nov. 4–Wednesday, Nov. 7, 7:30 a.m.–5 p.m. PST

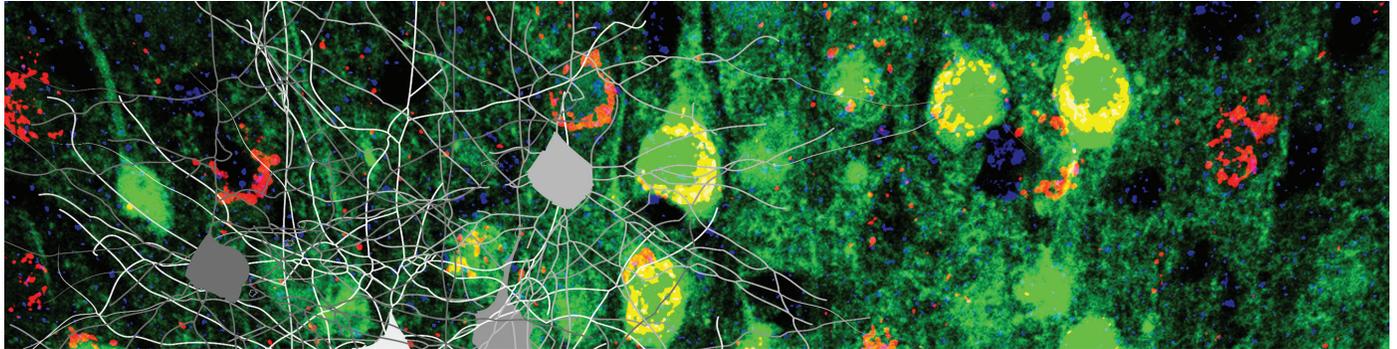
\*Express Badge Pick-Up stations available only. Full registration services will begin Saturday, Nov. 3, at 7:30 a.m. PDT.

### Contact Information

[sfnregistration@xpressreg.net](mailto:sfnregistration@xpressreg.net)  
 (888) 736-6690 (U.S. and Canada)  
 +1 (508) 743-8563 (International)  
 9 a.m.–5 p.m. EDT

# Navigating the Meeting

---



Explore all that the meeting has to offer with SfN's electronic meeting resources!

## Neuroscience Meeting Planner

Use the online Neuroscience Meeting Planner (NMP) to browse full-text abstracts, explore sessions, create itineraries, and much more. Attendees can access the NMP at [www.sfn.org/NMP](http://www.sfn.org/NMP) or onsite in the Neuroscience Meeting Planner Viewing Area (San Diego Convention Center, Sails Pavilion).

## Meeting Mobile App

Download the meeting mobile app to your Apple or Android devices and access annual meeting content on-the-go. With offline functionality, you can use the app to explore sessions and presentations and plan your time at the annual meeting without an internet connection. The app is available in iTunes™ and the Google Play™ App Store.

## Meeting Mobile App Tutorial Session

Saturday, November 3  
San Diego Convention Center: Room 11  
Time: 10–11 a.m.

To ensure that attendees are able to take full advantage of the annual meeting mobile app, a free user tutorial

led by the app's developers will be held during the meeting.

## Curated Itineraries

These topical itineraries created by the SfN Program Committee tailor the annual meeting to your area of interest. Download the itineraries using the annual meeting mobile app or the Neuroscience Meeting Planner.

## Trainee-focused Curated Itineraries

Continuing from last year, there are two additional curated itineraries, created by SfN's Trainee Advisory Committee, which are geared toward trainees and are intended to complement the scientific itineraries. Look for these itineraries in the annual meeting mobile app and the Neuroscience Meeting Planner.

- Undergraduate
- Graduate/Post Doc

## Printed Programs

As a part of its commitment to environmental stewardship and resource conservation, the Society has enhanced its digital offerings for accessing scientific program content in order to reduce the overall number of printed program books. All Neuroscience 2018 program information will be accessible free of charge in the meeting mobile app and the Neuroscience Meeting Planner. Attendees may also opt to download PDF versions of the printed books from [SfN.org](http://SfN.org).

Attendees will receive free printed copies of the general information book and the Exhibit Guide. The printed daily books and the author index will be available for a modest fee.

Fees are as follows:

## SfN Members

Full Program Set ..... \$40  
Individual Daily Books ..... \$17

## Nonmembers

Full Program Set ..... \$50  
Individual Daily Books ..... \$22

# Hotel Map

The Society's housing company, Convention Management Resources (CMR), will be on-site to assist with any housing questions during the meeting. Representatives will be located in the San Diego Convention Center, Sails Pavilion, Nov. 3-7 during the following hours:

Friday, Nov. 2 — 2-5 p.m. | Saturday, Nov. 3 — Tuesday, Nov. 6 — 7:30 a.m.-5 p.m. | Wednesday, Nov. 7 — 7:30 a.m.-3 p.m.  
On-site phone: (619) 525-6215



# Hotel List

The Hilton San Diego Bayfront, the Manchester Grand Hyatt San Diego, and the Marriott Marquis San Diego Marina are the official co-headquarter hotels.

#	HOTEL NAME / ADDRESS	SHUTTLE ROUTE	PICK UP POINT	LOCATION
<b>CO-HEADQUARTERS HOTELS</b>				
1	Hilton San Diego Bayfront One Park Boulevard	Walk	Walk to San Diego Convention Center	Downtown
2	Manchester Grand Hyatt San Diego One Market Place	Walk	Walk to San Diego Convention Center	Downtown
3	Marriott Marquis San Diego Marina 333 West Harbor Drive	Walk	Walk to San Diego Convention Center	Downtown
<b>ATTENDEE HOTELS</b>				
4	Andaz San Diego 600 F Street	6-Pink	Across Street on Sixth Avenue at F Street	Downtown
5	Bay Club Hotel and Marina 2131 Shelter Island Drive	1-Red	Walk to Humphreys Half Moon – Curbside in Front on Shelter Island Dr.	Shelter Island
6	Best Western Plus Bayside Inn 555 West Ash Street	7-Purple	On India Street at Ash Street	Downtown
7	Best Western Plus Island Palms Hotel & Marina 2051 Shelter Island Drive	1-Red	Curbside in Front	Shelter Island
8	Best Western Seven Seas 411 Hotel Circle South	3-Yellow	Walk to Days Inn – Curbside on Hotel Circle Drive	Mission Valley
9	Bristol Hotel 1055 First Avenue	5-Orange	Walk to Westin Gaslamp Quarter on First Avenue	Downtown
10	Courtyard San Diego Downtown 530 Broadway	6-Pink	Curbside on Sixth Avenue	Downtown
11	Courtyard San Diego Gaslamp/Convention Center 453 Sixth Avenue	Walk	Walk to San Diego Convention Center	Downtown
12	Days Inn San Diego Hotel Circle Near Seaworld 543 Hotel Circle South	3-Yellow	Curbside on Hotel Circle	Mission Valley
13	DoubleTree by Hilton Hotel San Diego Downtown 1646 Front Street	7-Purple	Curbside at Union Street Entrance	Downtown
14	Embassy Suites by Hilton San Diego Bay Downtown 601 Pacific Highway	4-Green	Curbside on Pacific Highway	Downtown

#	HOTEL NAME / ADDRESS	SHUTTLE ROUTE	PICK UP POINT	LOCATION
15	Four Points by Sheraton San Diego Downtown 1617 First Avenue	7-Purple	Walk to DoubleTree – Curbside at Union Street Entrance	Downtown
16	Hampton Inn San Diego - Downtown 1531 Pacific Highway	4-Green	Walk to the Residence Inn – Curbside on Pacific Highway	Downtown
17	Handlery Hotel and Resort San Diego 950 Hotel Circle North	3-Yellow	Curbside on Hotel Circle at Hotel Driveway	Mission Valley
18	Hard Rock Hotel San Diego 207 Fifth Avenue	Walk	Walk to San Diego Convention Center	Downtown
19	Hilton Garden Inn San Diego Downtown/Bayside 2137 Pacific Highway	4-Green	Walk to Residence Inn – Curbside on Pacific Highway	Downtown
20	Hilton San Diego Airport/Harbor Island 1960 Harbor Island Drive	2-Blue	Curbside Front Entrance	Harbor Island
21	Hilton San Diego Gaslamp Quarter 401 K Street	Walk	Walk to San Diego Convention Center	Downtown
22	Holiday Inn San Diego Bayside 4875 North Harbor Drive	1-Red	Curbside on Harbor Drive	Shelter Island
23	Homewood Suites by Hilton San Diego Downtown/Bayside 2137 Pacific Highway	4-Green	Walk to Residence Inn – Curbside on Pacific Highway	Downtown
24	Horton Grand Hotel 311 Island Avenue	Walk	Walk to San Diego Convention Center	Downtown
25	Hotel Indigo San Diego Gaslamp Quarter 509 Ninth Avenue	6-Pink	Front of Hotel on Ninth Avenue	Downtown
26	Hotel Republic San Diego, Autograph Collection 421 West B Street	5-Orange	Walk to Westin San Diego – Curbside on Broadway	Downtown
27	Hotel Z Gaslamp Quarter 521 Sixth Avenue	Walk	Walk to San Diego Convention Center	Downtown
28	Humphreys Half Moon Inn & Suites 2303 Shelter Island Drive	1-Red	Curbside in Front on Shelter Island Drive	Shelter Island
29	Kimpton Hotel Palomar San Diego 1047 Fifth Avenue	6-Pink	Walk to Courtyard Downtown – Curbside on Sixth Avenue	Downtown
30	Kimpton Solamar San Diego 435 Sixth Avenue	Walk	Walk to San Diego Convention Center	Downtown

#	HOTEL NAME / ADDRESS	SHUTTLE ROUTE	PICK UP POINT	LOCATION
31	King's Inn Hotel 1333 Hotel Circle South	3-Yellow	Curbside on Hotel Circle	Mission Valley
32	La Quinta Inn & Suites San Diego SeaWorld/Zoo Area 641 Camino Del Rio South	8-Grey	Curbside in Front	Mission Valley
33	Omni San Diego Hotel 675 L Street	Walk	Walk to San Diego Convention Center	Downtown
34	Pendry San Diego 550 J Street	Walk	Walk to San Diego Convention Center	Downtown
35	Porto Vista Hotel 1835 Columbia Street	7-Purple	Walk to DoubleTree – Curbside at Union Street Entrance	Downtown
36	Residence Inn by Marriott San Diego Downtown 1747 Pacific Highway	4-Green	Curbside on Pacific Highway	Downtown
37	Residence Inn San Diego Downtown Gaslamp 356 Sixth Avenue	Walk	Walk to San Diego Convention Center	Downtown
38	Residence Inn San Diego Downtown/Bayfront 900 Bayfront Court	4-Green	Walk to SpringHill Suites – Curbside on Pacific Highway	Downtown
39	San Diego Marriott Gaslamp Quarter 660 K Street	Walk	Walk to San Diego Convention Center	Downtown
40	Sheraton San Diego Hotel & Marina 1380 Harbor Island Drive	2-Blue	Curbside Marina Tower & Curbside Bay Tower Entrances	Harbor Island
41	SpringHill Suites San Diego Downtown/Bayfront 900 Bayfront Court	4-Green	Curbside on Pacific Highway	Downtown
42	US Grant Hotel 326 Broadway	5-Orange	Walk to Westin Gaslamp – Curbside on First Avenue	Downtown
43	Westgate Hotel 1055 Second Avenue	5-Orange	Walk to Westin Gaslamp – Curbside on First Avenue	Downtown
44	Westin San Diego 400 West Broadway	5-Orange	Curbside on Broadway	Downtown
45	Westin San Diego Gaslamp Quarter 910 Broadway Circle	5-Orange	Curbside on First Avenue	Downtown
46	Wyndham San Diego Bayside 1355 North Harbor Drive	4-Green	Curbside in Front	Downtown

Current sales and occupancy taxes are 12.8% per room, per night. Hotel tax is subject to change and does not include additional surcharges (up to \$0.80 per night) which may be applicable. Hotel rates include a nominal \$18 fee to help defray the high cost of the shuttle service, which will be provided to the San Diego Convention Center from most of the hotels throughout the day.

# Travel Information

---

## Airport

San Diego International Airport

[san.org](http://san.org)

Phone: (619) 400-2404

Located 3 miles (5 km) from downtown San Diego

## Public Transportation

### Metropolitan Transit System (MTS)

The Metropolitan Transit System (MTS), San Diego's commuter trolley and bus system, is available for transportation all over San Diego. There is a trolley station at the Convention Center and within a short walk from most major downtown hotels.

### Taxis

There are several companies that provide taxicab service in San Diego. Taxis are easily accessible at the convention center, major hotels, and other downtown locations and attractions.

### Parking

On-site private vehicle parking is available at the San Diego Convention Center's

1950-vehicle underground garage located below the building. Enter the parking garage on Harbor Drive between First and Fifth Avenues. The daily rate is \$15. Parking rates may range from \$15 to \$35 on days when there is special event activity at Petco Park or other downtown events. Payment is due upon entry and there are no in and out privileges.

Directly across the street from the Convention Center, on the corner of Harbor and Eighth Avenue, is a 2,000 space parking structure.

Off-site parking is available at numerous nearby parking lots and garages in Downtown San Diego, many are within walking distance of the convention center. Parking lots and garages are individually owned and operated, prices vary by location.

### Airport Shuttle Service

Production Transport provides express shuttle service to San Diego International

Airport from the San Diego Convention Center from 11 a.m. to 6 p.m. on Tuesday, November 6, and Wednesday, November 7. Tickets can be purchased for \$10 per person (cash or credit card) at the shuttle information desk in Lobby E from Monday, November 5, through Wednesday, November 7, during shuttle service hours.

To make your reservation early and secure your seat, email [mponce@prodtrans.com](mailto:mponce@prodtrans.com). Buses will depart every 30 minutes on the hour and the half hour. For questions regarding the shuttle services, contact [meetings@sfn.org](mailto:meetings@sfn.org).

Additionally, SuperShuttle offers transportation between the San Diego International Airport and downtown San Diego hotels. Fares will vary according to your final destination. When you arrive at the airport, claim your luggage and visit the SuperShuttle counter in the baggage claim area of your respective terminal. For more information, call (800) 258-3826, or visit [supershuttle.com](http://supershuttle.com).



# Shuttle Schedule

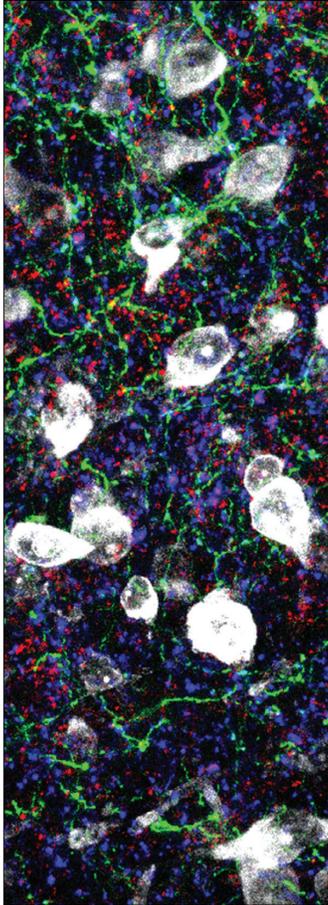
SfN provides complimentary shuttle services between the San Diego Convention Center and most of the official SfN meeting hotels, with the exception of hotels within walking distance of the convention center.

The shuttle schedule varies daily, with shuttles departing between the hotels and the convention center every 10 minutes during peak time or every 20 minutes during off-peak time. Each shuttle route is coded with a unique color and number.

For questions about shuttle routes and schedules while at the annual meeting, call the shuttle information desk at (619) 525-6245 or stop by the shuttle information desk located in the San Diego Convention Center, Lobby E.

DATE	TIMES	SERVICE
Saturday, Nov. 3	7 a.m.–4 p.m.	20-minute service
	4–10 p.m.	10-minute service
Sunday, Nov. 4	6:30 a.m.–10:30 a.m.	10-minute service
	10:30 a.m.–4 p.m.	20-minute service
	4–8 p.m.	10-minute service
Monday, Nov. 5	8–9:30 p.m.	20-minute service
	7–10:30 a.m.	10-minute service
	10:30 a.m.–4 p.m.	20-minute service
Tuesday, Nov. 6	4–8 p.m.	10-minute service
	8–9:30 p.m.	20-minute service
	7–10:30 a.m.	10-minute service
	10:30 a.m.–4 p.m.	20-minute service
Wednesday, Nov. 7	4–8 p.m.	10-minute service
	8–9:30 p.m.	20-minute service
	7–10:30 a.m.	10-minute service
Wednesday, Nov. 7	10:30 a.m.–3:30 p.m.	20-minute service
	3:30–6 p.m.	10-minute service
	7–10:30 a.m.	10-minute service



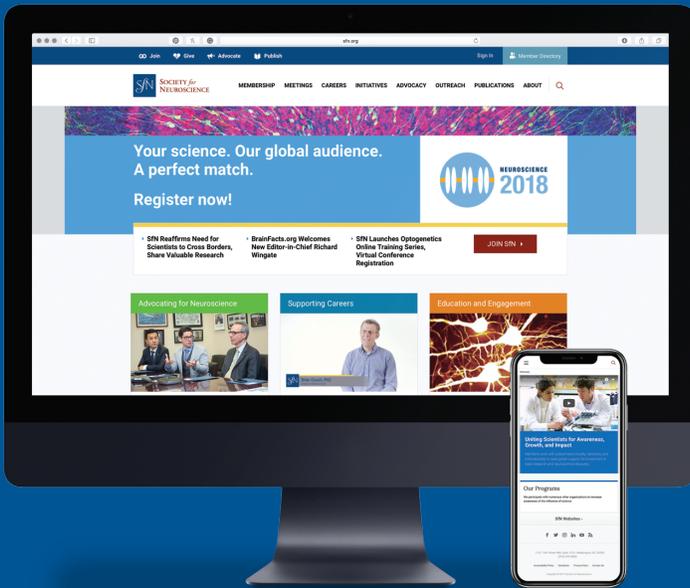


# Expand your training. Transform your career.

Visit [Neuroline.SfN.org](http://Neuroline.SfN.org)



**NEURONLINE**  
Learning | Discussion | Neuroscience



**SfN** SOCIETY for  
NEUROSCIENCE

## Discover the new SfN.org



Join



Give

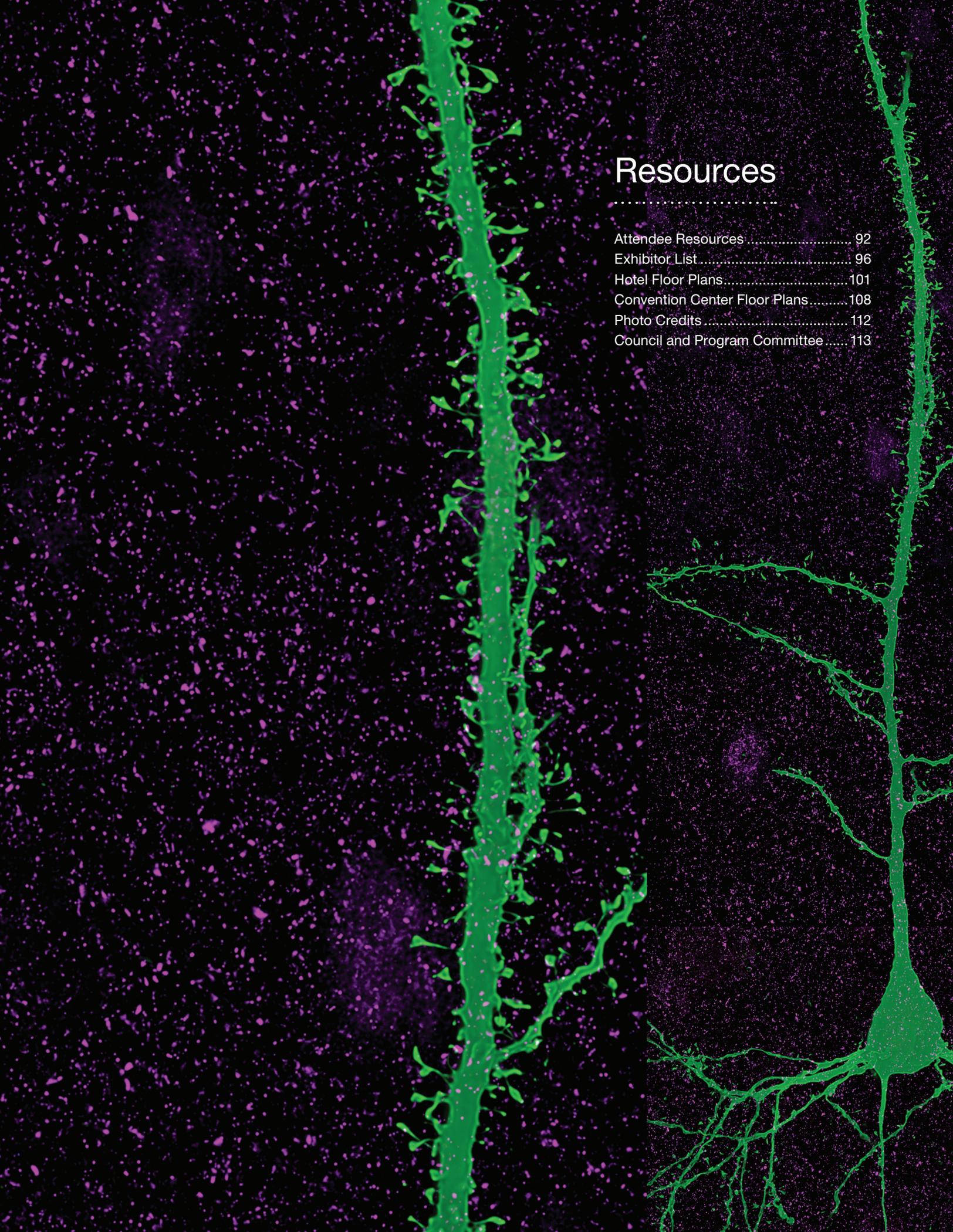


Advocate



Publish





# Resources

---

Attendee Resources .....	92
Exhibitor List .....	96
Hotel Floor Plans .....	101
Convention Center Floor Plans .....	108
Photo Credits .....	112
Council and Program Committee .....	113

## Attendee Resources

---

### ADA/Special Accommodations

The Society for Neuroscience (SfN) strives to make the on-site experience of the annual meeting accessible to all interested members of the neuroscience community.

### Real-Time Captioning Services and Special Needs Requests

Real-Time Captioning Services will be provided for all lectures in Ballroom 20. Dedicated seating areas near the screens will display the captioned text.

If you require American Sign Language or CART Transcription Services, please contact [meetings@sfn.org](mailto:meetings@sfn.org) in advance of the annual meeting to secure these services.

If you have a disability or special need that may affect your participation in the annual meeting, please contact [meetings@sfn.org](mailto:meetings@sfn.org). SfN cannot ensure the availability of appropriate accommodations without prior notification of need. For assistance with special needs or disabilities on-site, visit the SfN headquarters office in the Sails Pavilion.

### Scooter and Wheelchair Rentals

For scooter and wheelchair rentals, please contact either vendor below.

### Mobility Source:

If you order an electric scooter in advance of the annual meeting, the scooter will be delivered to the convention center prior to the start of Neuroscience 2018.

Note: There will be a limited supply of scooters available on-site for rent.

(619) 234-9505  
email: [info@mobility-source.com](mailto:info@mobility-source.com)  
[www.mobility-source.com](http://www.mobility-source.com)

### Scootaround Inc:

Reservations will be processed at <https://locations.scootaround.com/SocietyforNeuroscienceAnnualMeeting>

(888) 441-7575  
email: [info@scootaround.com](mailto:info@scootaround.com)  
fax: (204) 478-1172  
[www.scootaround.com](http://www.scootaround.com)

### Annual Meeting Headquarters Office

#### Logistics and Programming

#### San Diego Convention Center:

#### Sails Pavilion

Hours:

Friday, Nov. 2  
8 a.m.–5 p.m.  
Saturday, Nov. 3–Wednesday, Nov. 7  
7 a.m.–6 p.m.

The Annual Meeting Headquarters Office addresses all questions concerning annual meeting logistics and programming for the 2018 and 2019 annual meetings.

### ATM Machines

There are two automatic teller machines (ATMs) located in Halls B2 and E lobbies. The lobbies of the Marriott Marquis, Grand Hyatt, and the Hilton Bayfront Hotels have ATMs for your added convenience.

### Business Center

Shipping, mailing, faxing, photocopying and other important services are available at the San Diego Convention Center. FedEx Office is conveniently located in the Hall D lobby and

specializes in digital distribution and printing of conference materials. Depending on your needs, you will find a wide range of supplies and services. For your added convenience, the Marriott Marquis, Grand Hyatt and the Hilton Bayfront Hotels also operate full-service business centers.

### Certificate of Attendance

#### San Diego Convention Center: Sails Pavilion and Lobby A

Every attendee is advised to obtain a certificate, available at a designated booth in the registration area. Signed and sealed by SfN staff, certificates of attendance are proof to home institutions that attendees were present at the meeting. The document is often required for reimbursement of meeting expenses. Attendees must pick up the certificate in person at the meeting. There are no exceptions.

### Child Care

#### San Diego Convention Center: Room 17B

On-site child care and youth programs are available for children ages six months to 12 years. This service is provided through KiddieCorp, a national firm with more than 30 years of experience, including nine with SfN, in on-site conference child care.

Details, pricing, and reservation information are available on the KiddieCorp-Neuroscience 2018 web page at [SfN.org/attendeeresources](http://SfN.org/attendeeresources). All policies and fees are established by KiddieCorp, and all questions should be directed to them. Space is limited.

## Coat & Luggage Check

### San Diego Convention Center

#### Hours:

Lobby C

Friday, Nov. 2–Tuesday, Nov. 6

7:30 a.m.–7 p.m.

Wednesday, Nov. 7

7:30 a.m.–6 p.m.

Lobby D

Saturday, Nov. 3–Wednesday, Nov. 7

7:30 a.m.–6 p.m.

Limited space will be available for coat & luggage check on a first-come, first-served basis at the convention center. Please do not bring luggage into the meeting rooms.

## Continuing Medical Education (CME)

CME registration must be completed before or during the annual meeting.

Those who do not register at these times will not receive the necessary documentation should they request it after the meeting. CME registrants will receive, via e-mail two weeks before the meeting, the CME Supplemental Program, which contains important information regarding the CME Program, including disclosure information and instructions for obtaining CME credits. Visit [www.SfN.org/cme](http://www.SfN.org/cme) or see page 76 for details.

## Event Locations

Lectures, exhibits, scientific sessions, symposia, poster sessions, registration, and headquarters offices will be located in the San Diego Convention Center. SfN-sponsored socials will be held at the Marriott Marquis Hotel. Satellite and ancillary events will be held at the San Diego Convention Center, the Marriott Marquis, the Grand Hyatt, the Hilton Bayfront, and other San Diego facilities. Review the Neuroscience Meeting Planner at [SfN.org/NMP](http://SfN.org/NMP) for up-to-date locations.

## San Diego Convention Center

111 W. Harbor Drive

San Diego, CA 92101

## Hilton San Diego Bayfront

One Park Boulevard

San Diego, CA 92101

## Manchester Grand Hyatt San Diego

One Market Place

San Diego, CA 92101

## Marriott Marquis San Diego Marina

333 W. Harbor Drive

San Diego, CA 92101

## Exhibits

### San Diego Convention Center:

#### Halls B-H

#### Hours:

Sunday, Nov. 4–Wednesday, Nov. 7

9:30 a.m.–5 p.m.

Exhibits provide attendees an opportunity to learn about the latest products, publications, and services available. Pick up a copy of the Exhibit Guide at any program pick-up kiosk. The Exhibit Guide includes a listing of exhibiting companies and a cross-referenced listing of companies by type of product exhibited. Links to exhibiting company websites are available through the Neuroscience 2018 website, [sfn.org/exhibits](http://sfn.org/exhibits). The hyperlinks will remain live through June 30, 2019.

Inquiry cards: Your badge will serve a double purpose: (1) as a name badge and (2) an exhibit inquiry card. Your demographic information will be encoded onto the front of the badge. E-mail addresses will only be included if you selected the option box when registering. Council encourages all annual meeting attendees to present their badge at each exhibit booth they visit.

Exhibitors determine the success of their participation in the annual meeting by the number of leads they accumulate from attendees visiting their exhibit booths.

We appreciate your cooperation — a successful exhibit program helps defray the cost of running the annual meeting and keeps registration fees at a minimum.

For further information, visit [SfN.org/exhibits](http://SfN.org/exhibits) or contact [exhibits@sfn.org](mailto:exhibits@sfn.org).

## First Aid and Emergencies

### San Diego Convention Center: Lobby C

During session hours, the first aid room at the convention center will be open and staffed by certified medical providers.

## First Aid and Hospital Numbers

### First Aid Station: Lobby C

(619) 525-6211

## Scripps Mercy Hospital

4077 Fifth Avenue

San Diego, CA 92103

(619) 294-8111

## Sharp Rees-Stealy Downtown San Diego

Urgent Care

300 Fir Street

San Diego, CA 92101

(858) 499-2600

## Food Courts

### San Diego Convention Center:

#### Sails Pavilion

#### Hours:

Saturday, Nov. 3

11 a.m.–2 p.m.

Sunday, Nov. 4–Wednesday, Nov. 7

7:30 a.m.–3 p.m.

## Important Phone Numbers

### Headquarters Offices

HQ Office/Logistics  
(619) 525-6200

### HQ Office/Programming

(619) 525-6205

### Press Office

(619) 525-6230

### Exhibit Management

(619) 525-6240

## Infant Care Facilities

San Diego Convention Center:  
Room 17A

The infant care room, designated for the privacy of parents and guardians caring for infants, is equipped with chairs, tables, and electrical access in private areas for nursing or pumping. Additionally, the room has an open seating area, diaper changing tables, and a water cooler (room temperature). Parents and guardians are responsible for providing their own infant care supplies. The infant care room is unsupervised. SfN is not responsible for accidents or injuries that may occur in this room or any items left unattended.

The San Diego Convention Center also includes a nursing mother's lounge in the Women's Restroom outside of Hall E.

## Information Booths

Information booths, operated by members of SfN staff, are located in the following areas of the San Diego Convention Center:

Lobby A

Lobby D

Sails Pavilion

Hours:

Friday, Nov. 2

2–6 p.m.

Saturday, Nov. 3–Tuesday, Nov. 6

7:30 a.m.–6 p.m.

Wednesday, Nov. 7

7:30 a.m.–5 p.m.

## Literature Displays

San Diego Convention Center:  
Sails Pavilion

Keep your eyes open for important annual meeting event updates on display in the registration area of the San Diego Convention Center. Approval is required to place announcements on displays. Attendees can get approval before the meeting by contacting [meetings@sfn.org](mailto:meetings@sfn.org), or on-site in the Headquarters Office.

## Lost and Found

San Diego Convention Center:  
Sails Pavilion

Direct inquiries about lost items to the lost and found counter in the attendee services area of the San Diego Convention Center.

## My Neuroscience Marketplace

Build your list of preferred exhibitors through My Neuroscience Marketplace, [SfN.org/exhibits](http://SfN.org/exhibits), a virtual directory of vendors offering products and services to the neuroscience community. My Neuroscience Marketplace is searchable by exhibitor names, booth numbers, products, or keywords.

## NeuroJobs Career Center

San Diego Convention Center:  
Sails Pavilion

Hours:

Saturday, Nov. 3–Tuesday, Nov. 6

8 a.m.–5 p.m.

Wednesday, Nov. 7

8 a.m.–3 p.m.

The on-site SfN NeuroJobs Career Center connects employers with a pool of well-qualified candidates seeking opportunities ranging from postdoctoral and faculty

positions to neuroscience-related jobs in industry and other areas. Job seekers and employers can take advantage of interview booths and computers for posting jobs and scheduling interviews. For prices and more information on how to set up a NeuroJobs account, visit [SfN.org/neurojobs](http://SfN.org/neurojobs). On-site payment can be made by credit card only.

## Neuroscience Meeting Planner Viewing Area

San Diego Convention Center:  
Sails Pavilion

Hours:

Saturday, Nov. 3–Tuesday, Nov. 6

7:30 a.m.–5 p.m.

Wednesday, Nov. 7

7:30 a.m.–3 p.m.

The Neuroscience Meeting Planner (NMP) contains the full text of abstracts and allows attendees to plan an itinerary for Neuroscience 2018. It can be accessed online at [www.SfN.org/nmp](http://www.SfN.org/nmp) or on-site in the NMP Viewing Area. A help desk will also be available in the NMP viewing area for questions about the NMP or the meeting mobile app.

## Photography and Electronic Recording Restrictions/Cell Phones

Photography, video, filming, tape recording, and all other forms of recording are prohibited during the poster sessions, lectures, symposia, minisymposia, nanosymposia, courses, workshops, and on the exhibit floor. Such recording is only permitted during press conferences. Other arrangements must be made in advance in the Press Room. Cell phone use in sessions is prohibited. For arrangements to photograph the exhibit floor, email [exhibits@sfn.org](mailto:exhibits@sfn.org).

## Poster Sessions

San Diego Convention Center:  
Halls B-H

Hours:

Saturday, Nov. 3

1–5 p.m.  
 Sunday, Nov. 4–Wednesday, Nov. 7  
 8 a.m.–noon, 1–5 p.m.

### Prayer Room

San Diego Convention Center: Room 19

There will be a prayer room available for attendee use at Neuroscience 2018. The prayer room is unsupervised, and SfN is not responsible for the loss of any personal property left unattended in the room.

### Press Offices

San Diego Convention Center

Press Room: Room 15B

Press Conference Room: Room 15A

Press Interview Room: Room 14B

Hours:

Saturday, Nov. 3–Wednesday, Nov. 7  
 8 a.m.–5 p.m.

Members of the press must register and pick up their badges in the Press Room.

### Program and Exhibit Guide Pick-Up

San Diego Convention Center: Lobby A and Sails Pavilion

Hours:

Friday, Nov. 2 (Lobby A only)  
 2–5 p.m.

Saturday, Nov. 3–Tuesday, Nov. 6  
 7:30 a.m.–5 p.m.

The final *Program* will be available on-site at the San Diego Convention Center and online at [sfn.org/am2018](http://sfn.org/am2018) as downloadable PDFs. Attendees can pick up a copy of the General Information book of the final *Program* or *Exhibit Guide* at any *Program* and *Exhibit Guide* pick-up location in the convention center. To obtain printed versions of the daily books, attendees must have purchased the books during registration or pay for the program books on-site.

### Restaurant Reservations

San Diego Convention Center:  
 Lobby B and Lobby E

Restaurant reservation services are available at the San Diego Convention Center.

Hours:

Saturday, Nov. 3

Noon–6 p.m.

Sunday, Nov. 4–Tuesday, Nov. 6  
 10 a.m.–6 p.m.

Wednesday, Nov. 7

10 a.m.–5 p.m.

### San Diego Resources and Attractions

For visitor's information, visit [meetmeinsandiego.com/sfn2018](http://meetmeinsandiego.com/sfn2018)

### SfN Booth

San Diego Convention Center: Hall D, Booth #2113

As you experience Neuroscience 2018's Exhibit Hall, stop by the SfN Booth to learn about new member resources and services offered by your professional society.

### Speaker Ready Room

San Diego Convention Center: Room 9

Hours:

Friday, Nov. 2–Tuesday, Nov. 6  
 7 a.m.–5 p.m.

Wednesday, Nov. 7

7 a.m.–1:30 p.m.

Presenters are urged to check their media at least 24 hours in advance of presentation in the Speaker Ready Room to confirm compatibility with the session room computers.

### Transportation to and from San Diego Convention Center/Hotels

For information on the complimentary SfN shuttle service and other travel resources, see pages 86–87.

### Volunteer Leadership Lounge

San Diego Convention Center: Room 14A

Hours:

Saturday, Nov. 3–Wednesday, Nov. 7  
 7:30 a.m.–5 p.m.

The Volunteer Leadership Lounge is reserved for members of the SfN Council, committees, and past presidents.

### Wireless Internet

As a service to annual meeting registrants, SfN provides free wireless Internet access in designated areas of the San Diego Convention Center during Neuroscience 2018.

To take advantage of this free service, bring a laptop, smartphone, or tablet with a built-in wireless network card or with an external wireless card that is 802.11b/g/n compatible, and set your network card to use DHCP ("or Acquire address automatically"). The Exhibit Hall areas will provide wireless service only to wireless cards that are 802.11n/ac compatible. Wireless network users should reference the FAQs and disclaimers at [sfn.org/wireless](http://sfn.org/wireless) before accessing the network. SfN will provide support for wireless users at the Wireless Support booth in the Attendee Services area.

### Yoga and Meditation Instruction

Yoga Class: Flow and Meditate @ SfN

Marriott Marquis: Marriott Grand Ballroom Foyer

Hours:

Sunday, Nov. 4–Tuesday, Nov. 6  
 6:30–7:30 a.m.

Start your day with a free class fusing mindfulness meditation with a dynamic vinyasa yoga flow. With a focus on the breath-mind-body connection, this class led by RYT 200 Dr. Aleksandra Vicentric is designed to awaken the energy centers and enhance the sense of balance and inner peace. The class is accessible to all regardless of experience; just bring your water bottle, mat or towel, and sign up. For information, visit: [SfN.org/attendeeresources](http://SfN.org/attendeeresources).

# Exhibitor List

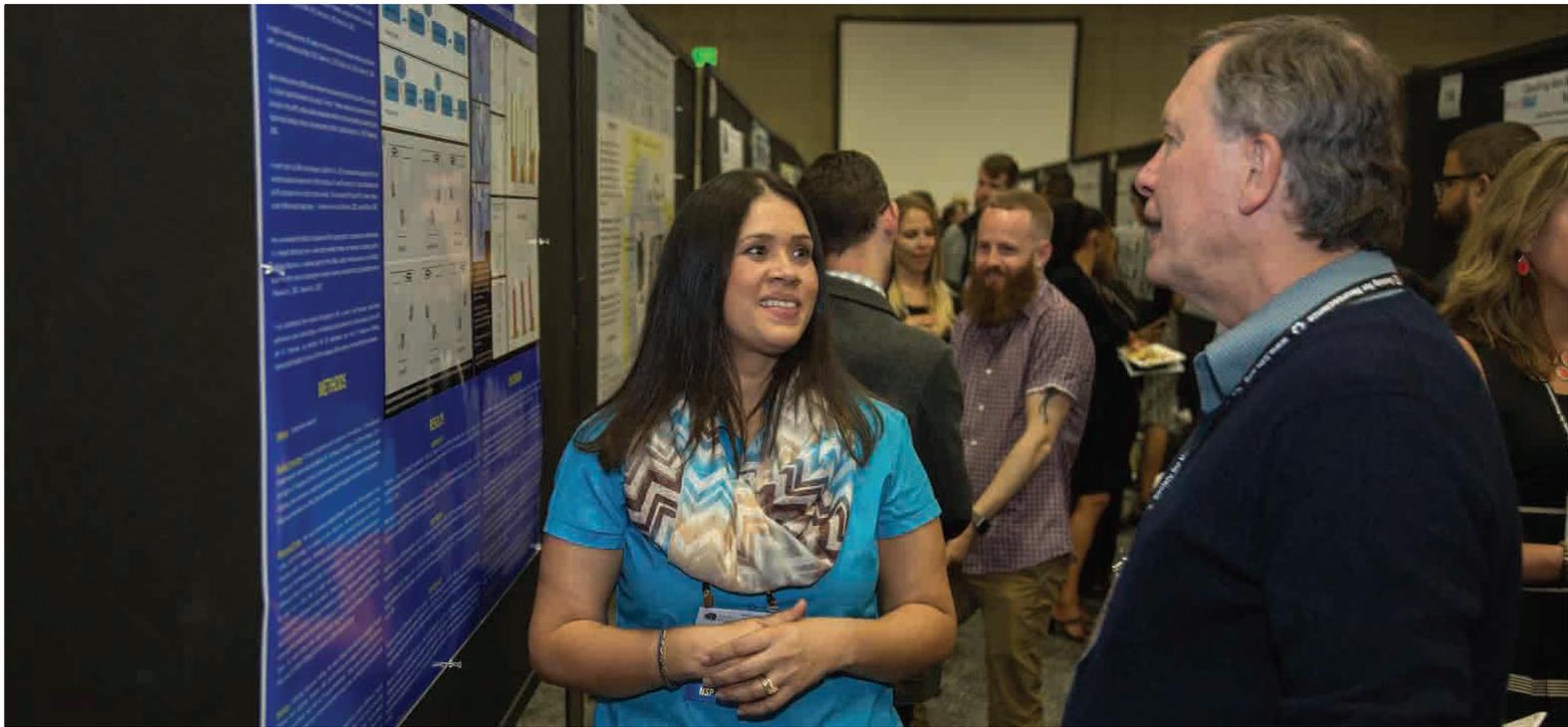
As of September 17, 2018

Company Name	Booth Number		
10x Genomics.....	418	Antibodies Incorporated .....	3329
3Brain AG.....	3631	APDM Wearable Technologies .....	136
3i - Intelligent Imaging Innovations.....	2628	Applied Physics & Electronics, Inc. ....	3215
89 North, Inc. ....	821	Applied StemCell Inc.....	3528
A - M Systems, Inc. ....	1921	Arbor Assays .....	3533
A.M.P.I.....	2118	arivis AG.....	3114
AAAS Science & Technology Policy Fellowships.....	2132	Arrington Research, Inc. ....	1814
AAT Bioquest, Inc.....	4024	ASI/Applied Scientific Instrumentation .....	1729
Abbkine Scientific Co., Ltd. ....	3510	Association of Migraine Disorders .....	4224
Abcam.....	734	ATCC .....	3326
ACS Publications.....	4301	Atlas Antibodies AB.....	605
Active Motif.....	234	ATLAS Neuroengineering.....	622
Addgene.....	4412	Atuka Inc. ....	3626
ADInstruments, Inc.....	2018	Aurora Scientific Inc. ....	3530
Adipogen Life Sciences, Inc. ....	637	AutoMate Scientific, Inc. ....	1634
Advanced Brain Monitoring .....	228	Aves Labs .....	3327
Advanced Targeting Systems, Inc.....	3225	Aviva Systems Biology Corporation .....	3532
Agarose Bead Technologies .....	416	Axiom Optics .....	603
Agency for Toxic Substances and Disease Registry - National ALS Biorepository .....	4117	Axion Biosystems.....	618
Agilent Technologies .....	713	Azure Biosystems.....	1815
ALA Scientific Instruments, Inc. ....	2232	Bachem Americas, Inc. ....	1122
Alembic Instruments Inc. ....	721	Backyard Brains .....	3330
Allen Institute for Brain Science.....	500	BASi .....	1821
Alpha MED Scientific Inc.....	929	Bentham Science Publishers, Ltd. ....	120
Alpha Omega.....	1104	Bertin Instruments.....	2017
ALZET® Osmotic Pumps/ Durect Corporation .....	2120	BESA GmbH .....	723
Alzheimer's Association .....	4225	Bio - Rad Laboratories.....	1221
Alzheimer's Drug Discovery Foundation.....	4232	Bio - Serv .....	2912
American Physiological Society, The .....	4100	Bio Research Center., Co. Ltd. ....	3428
American Society for Pharmacology & Experimental Therapeutics.....	4101	Biocompare .....	3824
Amplitude.....	435	Biocytogen, LLC.....	3229
Amuza Inc. ....	3127	BioLegend .....	3116
AnaBios.....	433	BIOPAC Systems, Inc.....	2721
Analytik Jena .....	1829	Biorbyt Ltd. ....	3627
AnaSpec, EGT Group.....	3113	bioRxiv .....	4318
Andor Technology .....	1229	Bioseb .....	3932, 3933
Animal Identification & Marking Systems, Inc. ....	3125	biosensis Pty Ltd.....	536
ANS Biotech SA.....	3430	Bio-Signal Technologies, LLC .....	3730
ANT Neuro .....	323	Bioss Inc. ....	528
Antec Scientific.....	1936	Bio-Techne.....	501
		BioTechniques .....	1032
		BioTek Instruments, Inc.....	513
		Biotium, Inc.....	717
		Biotrial.....	236
		BioVision, Inc. ....	233
		Bitplane, Inc. - (IMARIS) .....	1229
		Bittium.....	3426
		BKIN Technologies Ltd. ....	1935
		Blackfynn, Inc.....	3826
		Blackrock Microsystems.....	829
		Bliq Photonics.....	3106
		BlueCloud by HealthCarePoint.....	3902
		BMG LABTECH, Inc. ....	3324
		Boster Biological Technology .....	3611
		Boston University Neurophotonics Center ..	4527
		Brain Architecture Project.....	4531
		Brain Products.....	621
		BrainBits LLC.....	923
		BRAINS.....	4533
		BrainXell, Inc. ....	2531
		Bridge the Gap - SYNGAP Education and Research Foundation.....	4226
		BrightFocus Foundation.....	4319
		Bruker Corporation.....	1101
		BTX / Biochrom, A division of Harvard Bioscience, Inc. ....	2813, 2829
		Caliber Imaging & Diagnostics, Inc. ....	3226
		Cambridge Electronic Design Ltd. ....	1928
		Cambridge NeuroTech .....	1531
		Cambridge University Press .....	117
		Canadian Association for Neuroscience.....	4333
		Canadian Neurophotonics Platform, The.....	4525
		Canopy Biosciences .....	3733
		Carbosynth LLC.....	429
		Carl Zeiss Microscopy, LLC.....	2313
		Cayman Chemical Company .....	3028
		Cedarlane .....	3219
		Cedars-Sinai.....	4308
		Cell Applications, Inc. ....	4019
		Cell Signaling Technology, Inc.....	2013, 3104
		Cellectricon.....	1331
		Center for the Neurobiology of Learning and Memory.....	4312
		Centre for Brain Research, Indian Institute of Science.....	4203
		Certerra Inc.....	3616
		Changchun New Industries Optoelectronics Technology Co. Ltd.....	1833
		Charles River .....	2519

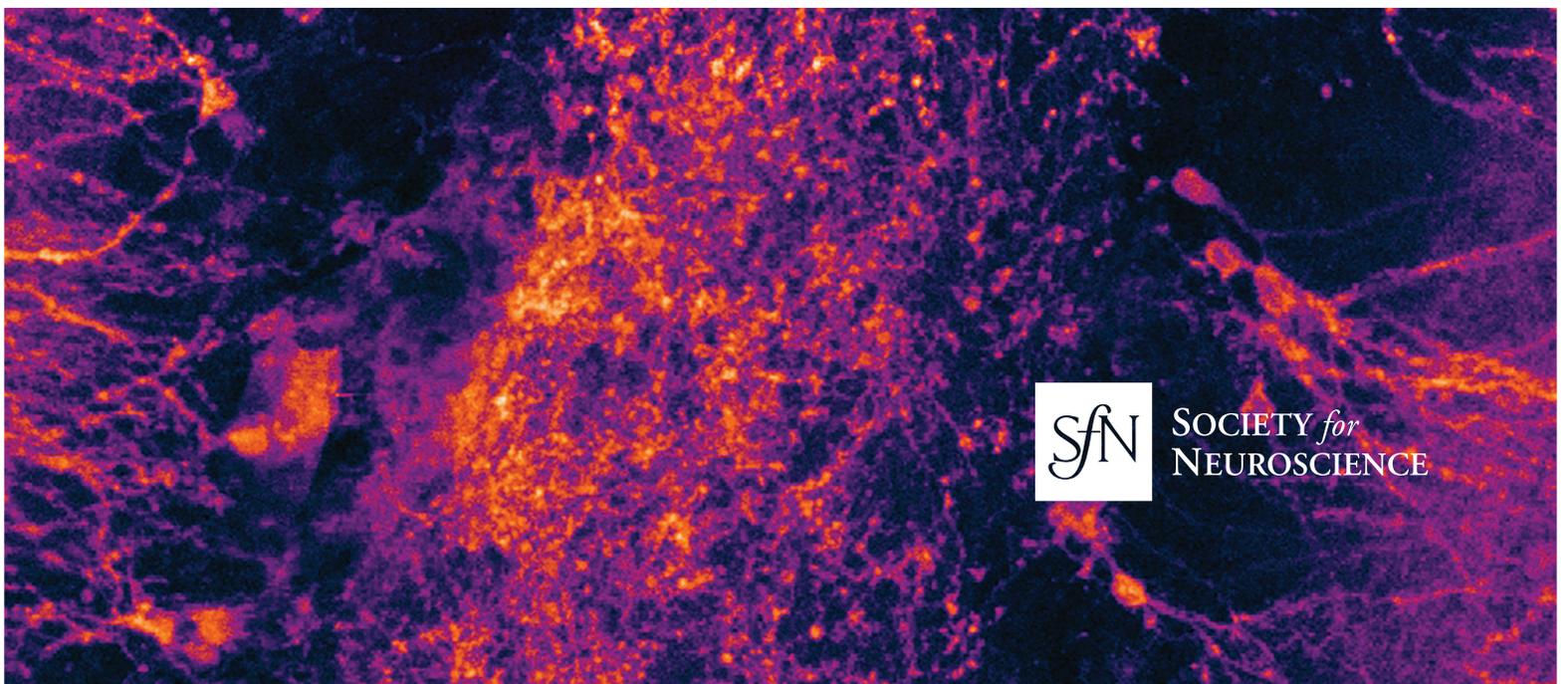
Chroma Technology .....	821	EnCor Biotechnology Inc. ....	437	HEKA, A division of Harvard	
ChromoTek GmbH.....	3009	Enzo .....	901	Bioscience, Inc. ....	2813, 2829
Clever Sys. Inc.....	1834, 1835	Epigentek Group Inc. ....	3433	Hello Bio Ltd. ....	436
cloud-clone Corp. ....	1819	Eppendorf.....	1201	Hilltop Lab Animals, Inc. ....	3500
CMA Microdialysis, A division of		Etaluma Inc.....	3800	HiQScreen Sàrl.....	2019
Harvard Bioscience, Inc.....	2813, 2829	Evolocus LLC.....	534	Hitachi High Technologies America, Inc. ....	3203
Cocaine BioBank.....	4130	Excelitas Technologies.....	2529	Hoefler, Inc., A division of Harvard	
Cognionics, Inc. ....	523	Expedeon.....	3030	Bioscience, Inc. ....	2813, 2829
Coherent .....	1100	EyeTech Digital Systems .....	3508	Hopstem Biotechnology .....	3302
Cold Spring Harbor Laboratory Meetings		F1000 Ltd. ....	201	Horizon Discovery .....	3416
& Courses Program.....	4524	Faculty for Undergraduate		Huron Digital Pathology .....	3102
Columbia University Press.....	222	Neuroscience / FUN.....	4300	IBL-America.....	3603
Columbus Instruments.....	3117	FASEB .....	4126	IBRO / International Brain	
Compumedics Neuroscan .....	401	FD NeuroTechnologies, Inc.....	2134	Research Organization.....	4305
Consortium for Public Outreach on		Federation of European		Iconeus .....	230
Animal Research .....	4200	Neuroscience Societies (FENS).....	4313	Il-VI .....	3402
CoolLED Ltd. ....	1023	Femtonics Ltd.....	535	Illumina.....	3105
CorTec GmbH.....	3816	FHC, Inc. ....	735	ImmunoChemistry Technologies LLC .....	519
Coulbourn Instruments, A division of		Fimmic .....	3900	INCF .....	4417
Harvard Bioscience, Inc.....	2813, 2829	Fine Science Tools .....	2112	Inscopix, Inc. ....	729
CREmedical Corp.....	529	Fitzgerald Industries International .....	1719	Instech Laboratories, Inc. ....	1529
CrestOptics.....	914	Fluicell AB.....	403	Institute for Basic Science .....	4129
Crist Instrument Company, Inc.....	1431	Flywheel.....	3110	Intan Technologies, LLC .....	3717
Cusabio LLC .....	2031	Frontiers.....	121	International Behavioral	
Cyagen Biosciences Inc. ....	2133	FUJIFILM Cellular Dynamics.....	2935	Neuroscience Society (IBNS) .....	4133
Cytocybernetics .....	818	FUJIFILM VisualSonics .....	1235	International Drug Abuse	
CytoLogistics, LLC.....	3227	FUJIFILM Wako Chemicals USA Corp.....	3625	Research Society .....	4201
Cytoskeleton Inc.....	1912	Funakoshi Co., Ltd. ....	3202	International Mouse Phenotyping	
Dainippon Seiki Co., Ltd. ....	3614	FUS Instruments Inc.....	331	Consortium.....	4132
Data Sciences International (DSI).....	1920	g.tec neurotechnology USA, Inc.....	2534	International Society For Autism Research	
Datwyler Pharma Packaging USA - Medical		Gene Tools, LLC .....	3124	(INSAR) .....	4328
Solutions Division.....	113	GeneCopoeia, Inc. ....	912	Intervivo Solutions Inc.....	3319
DDNews .....	3516	GeneTex®, Inc. ....	235	Invicro .....	3624
Deuteron Technologies .....	3929	Genetic Engineering		Iowa Neuroscience Institute .....	4515
Diagenode .....	903	& Biotechnology News.....	3003	IPAN, University of Michigan .....	4331
Diatome U.S.....	1816	GenScript USA Inc. ....	3802	iPRECIO   Infusion Pumps by	
Digital Proteomics .....	504	George Tiemann & Company .....	1915	Primetech Corporation.....	2922
Digitimer Ltd. ....	1929	Gibson Institute of Cognitive Research.....	4217	Isto Visio, LLC .....	3726
Donor Network West.....	4430	Glut1 Deficiency Foundation .....	4512	iWorx Systems, Inc.....	2035
Doric Lenses Inc.....	3101	Go!Foton.....	3209	iXCells Biotechnologies USA, Inc.....	3801
Drummond Scientific Company .....	2337	GraphPad Software, Inc.....	1528	Jackson ImmunoResearch	
DRVision Technologies LLC.....	4025	Grass Foundation.....	4518	Laboratories, Inc. ....	1737
Dyets, Inc. ....	719	Gray Matter Research.....	3918	Jackson Laboratory, The .....	801
EasyCap GmbH.....	430	Hacker Instruments & Industries, Inc. ....	1030	Jali Medical Inc.....	3424
ECHO .....	3501	Hamamatsu Corporation .....	2513	JEOL USA, Inc. ....	3001
Edmund Optics   America .....	3100	Hamilton Company.....	2012	Journal of Physiology, The.....	400
Elabscience Biotechnology .....	3212	Hans Rudolph, Inc.....	3700	JoVE.....	118
Electron Microscopy Sciences.....	1818	Harvard Apparatus, A division of		Kaoskey Pty Ltd. ....	3727
eLife Sciences Publications, Ltd. ....	112	Harvard Bioscience, Inc.....	2813, 2829	Karger Publishers.....	122
Elsevier.....	101, 200	Harvard University Press .....	218	KD Scientific .....	2029
emka TECHNOLOGIES Inc.....	2131	Hawaiian Moon.....	531	Kent Scientific Corporation.....	3314
				KEYENCE Corporation .....	3109

<b>Company Name</b>	<b>Booth Number</b>		
Kinder Scientific Company, LLC.....	3517	MIT Press, The.....	212
KMLabs.....	4001	Mitutoyo America Corporation .....	905
Kopf Instruments .....	2229	MODEL-AD .....	4228
La Jolla Alcohol Research, Inc. ....	3732	Molecular Devices, LLC .....	3716
Labcon .....	3033	Moor Instruments, Inc. ....	601
LabRoots, Inc. ....	629	MotionMonitor, The .....	3531
Lafayette Instrument Company, Inc. ....	1612	Mouse Specifics, Inc.....	3529
Laserglow Technologies .....	3007	MP Biomedicals .....	3205
LASOS Lasertechnik GmbH .....	1007	Multi Channel Systems (MCS), A division of Harvard Bioscience, Inc.....	2813, 2829
LaVision BioTec GmbH.....	813	Mutant Mouse Resource & Research Centers (MMRRC).....	4128
Leica Microsystems .....	2613	My Green Lab .....	4315
LifeCanvas Technologies Inc. ....	415	Naason Science Inc. ....	4016
Live Cell Instrument.....	3401	Nacalai USA, Inc. ....	3300
LKT Laboratories, Inc.....	2836	NAN Instruments Ltd.....	3916
Logos Biosystems, Inc.....	712	Nanon Technologies Inc.....	3724
Lohmann Research Equipment .....	1530	NanoEnTek, Inc.....	414
Lonza .....	3628	NanoSurface Biomedical, Inc.....	3403
Loxid Labs .....	3701	NanoTemper Technologies .....	4000
Ludl Electronic Products Ltd. ....	1813	Narishige International USA, Inc.....	2535
Luigs & Neumann Feinmechanik + Elektrotechnik GmbH.....	407	National Center for Adaptive Neurotechnologies .....	4310
Lumencor, Inc.....	1519	National Center of Neuromodulation for Rehabilitation at MUSC.....	4514
Lumenera Corporation.....	3619	National Death Index.....	4307
Mad City Labs, Inc. ....	3200	National Institutes of Health.....	4400, 4401, 4411
MagVenture, Inc.....	422	National Neurotrauma Society .....	4219
Marine Biological Laboratory (MBL).....	4516	National Primate Research Centers .....	4202
MathWorks.....	4032	National Science Foundation (NSF) .....	4429
Max Planck Florida Institute for Neuroscience.....	4425	NDRI.....	4218
Max Planck School of Cognition .....	4309	NeoBiosystems, Inc. ....	3728
MaxWell Biosystems .....	2933	Neta Scientific Incorporated .....	431
MBF Bioscience .....	2235	NeuCyte.....	3629
MCI Neuroscience.....	3613	Neuralynx, Inc.....	1129
Meadowlark .....	807	Neurescence Inc. ....	701
MED Associates, Inc. ....	2913	Neuro Central .....	3526
MedChemExpress LLC.....	3214	Neurobehavioral Systems, Inc.....	617
Media Cybernetics, Inc. ....	1828	neuroConn - neuroCare Group GmbH.....	129
Mediso USA, LLC.....	3524	NeuroData.....	4231
Metris B.V.....	3020	Neuroelectrics, S.L .....	413
Mettler Toledo Rainin .....	1812	Neurofit SAS .....	3431
Michael J. Fox Foundation for Parkinson's Research, The .....	4216	NeuroImaging Tools & Resources Collaboratory-NITRC .....	4414
Michelson Prize & Grants.....	4119	NeuroInDx, Inc.....	434
Microprobes for Life Science, Inc.....	1535	Neurolabware .....	521
Mightex Systems .....	3130	NeuroLux, Inc. ....	215
MilliporeSigma.....	2329		
Miltenyi Biotec .....	1428	NeuroNexus Technologies.....	1113
		Neurophotometrics .....	128
		NeuroProof GmbH.....	3108
		NeuroScience Associates.....	1029, 1034
		Neuroscience in France .....	4125
		Neuroscience in Germany .....	4325
		Neuroscience Information Framework (NIF).....	4413
		Neuroscience News and Research From Technology Networks' .....	2918
		Neuroservice .....	1733
		Neurostar .....	2436, 2437
		Neurotar Ltd.....	2736
		Newport Corporation .....	2828
		NIH Brain and Tissue Repository-California.....	4013
		Nikon Instruments Inc. ....	1313
		NIRx Medical Technologies LLC .....	1932
		NKT Photonics.....	3600
		Noldus Information Technology.....	2429, 2435
		Norgen Biotek Corp. ....	516
		npi electronic .....	2236
		OBELAB.....	3518
		Ohaus Corporation.....	205
		Olympus.....	2629
		Omicron-Laserage Laserprodukte GmbH....	3115
		Omnetics Connector Corporation .....	2033
		Omnitech Electronics, Inc.....	1628
		Ontario Brain Institute .....	4306
		OptiTrack .....	3525
		OriGene Technologies, Inc.....	512
		OriginLab Corporation .....	1914
		ORISE.....	4011
		Oxford University Press .....	313
		OZ Biosciences .....	3331
		Panlab, A division of Harvard Bioscience, Inc. ....	2813, 2829
		Parkinson's Foundation .....	4432
		Partek Incorporated .....	321
		Patterson Scientific .....	3400
		PCO-TECH Inc.....	1305
		Penn Vector Core .....	4229
		PeproTech, Inc.....	1513
		Perimed, Inc.....	3819
		PerkinElmer.....	3514
		PhenoSys.....	3231
		Philips Neuro .....	530

PhosphoSolutions .....	937	Science Advisory Board, The .....	232	TMC.....	2621
Photometrics .....	1521	Science Careers .....	2130	TMS International .....	329
Physitemp Instruments .....	2637	Science/AAAS.....	2128	Tobii Pro.....	3415
PI (Physik Instrumente) .....	3216	ScienCell Research Laboratories .....	700	Tokai Hit Co., Ltd. ....	3925
PicoQuant Photonics North America, Inc. ....	703	Scientifica LTD.....	1213	TOPTICA Photonics, Inc. ....	3201
Piezoconcept.....	3924	Scientist, The.....	2919	Translational Neuroscience Core .....	4017
Piezosurgery Incorporated .....	319	SciMeasure Analytical Systems, Inc. ....	432	Transnetyx, Inc. ....	3617
Pinnacle Technology, Inc. ....	2032	SciMedia .....	1237	Transpharmation Ltd. ....	3317
Plastics One Inc. ....	1916	SciPro Inc.....	1132	Triangle Biosystems International (TBSI), A division of Harvard Bioscience, Inc.....	2813, 2829
Plexense, Inc. ....	3817	Semrock, a business unit of IDEX Health & Science .....	2834	TSE Systems, Inc. ....	1119
Plexon, Inc. ....	1433	Sensapex Oy .....	1301	Tucker - Davis Technologies.....	1321
Polyplus transfection.....	2016	SEU-Allen Joint Center .....	4005	Tucsen Photonics Co., Ltd.....	817
Porsolt.....	3224	Shimadzu Scientific Instrument.....	705	UGO Basile S.R.L.....	1336
Precisionary Instruments, Inc. ....	2737	Simi US Motion Inc.....	3725	University of Maryland Brain and Tissue Bank .....	4303
Princeton University Press.....	220	Sino Biological Inc.....	702	University of Texas System, The.....	4311
Prior Scientific .....	820	Siskiyou Corporation.....	2720	VA, Office of Research and Development....	4324
Prizmatix Ltd. ....	3333	Society for Neuroscience (SfN) .....	2113	Vala Sciences Inc. ....	3803
Pronexus Analytical AB.....	3012	Somni Scientific.....	3618	Vathes .....	3930
Proteintech Group, Inc. ....	3425	Sophion Bioscience A/S.....	1933	Vector Laboratories, Inc.....	3019
ProtoKinetics Gait Analysis Walkways.....	1715	Soterix Medical Inc.....	520	VetEquip, Inc.....	933
PsychoGenics Inc.....	800	Spatial Transcriptomics AB.....	518	Vicon .....	3919
Psychology Software Tools, Inc. ....	428	Spectra-Physics/A brands of MKS Instruments.....	2828	Vidrio Technologies, LLC .....	906
PsychoPy .....	4131	SPIE - The International Society for Optics and Photonics.....	4529	ViewPoint Life Sciences.....	2037
Public Library of Science (PLOS) .....	2116	SpikeGadgets .....	4033	Vigene Biosciences, Inc.....	3601
Purina TestDiet .....	1429	Springer Nature .....	300, 301	Virtual Brain, The .....	4416
QPS Austria .....	3014	SR Research Ltd. ....	1913	Visitron Systems GmbH.....	1717
Rapp OptoElectronic GmbH.....	816	SR Biosciences Stereology Resource Center .....	3303	VistaLab Technologies, Inc.....	3301
RayBiotech, Inc. ....	1134	SRI International .....	1028	VPixx Technologies Inc.....	628
ReadCube Papers .....	3901	St. Jude Children's Research Hospital.....	4118	Vulintus, Inc. ....	2533
Renovo Neural, Inc. ....	3217	Stanford Behavioral and Functional Neuroscience Laboratory .....	4116	Warner Instruments, A division of Harvard Bioscience, Inc. ....	2813, 2829
Research Diets, Inc. ....	1721	STARR Life Sciences.....	3204	Wearable Sensing .....	421
Resonance Technology, Inc.....	412	STEMCELL Technologies Inc. ....	1329	White Matter LLC.....	1533
Rewire Neuroscience .....	3917	StemoniX .....	506	Wiley.....	1919
Ripple.....	3830, 3831	Stoelting Company.....	1333, 1334	Wolters Kluwer .....	1713
Roboz Surgical Instrument Co., Inc.....	2129	StressMarq Biosciences Inc.....	3325	Woodway USA.....	3034
Rockefeller University Press, The.....	402	Sutter Instrument.....	1000, 1001	Woojung BIO.....	134
Rockland Immunochemicals, Inc. ....	613	Suven Discovery.....	1022, 3232	World Parkinson Coalition Inc. ....	4316
Rocky Mountain Diagnostics, Inc.....	2929	Synapcell SAS .....	1832	World Precision Instruments.....	2023, 2923
Rogue Research, Inc.....	332, 333	Taconic Biosciences .....	2228	Worthington Biochemical Corporation.....	2136
Rogue Resolutions .....	635	Taylor & Francis .....	119	Wuhan OE-Bio Co., Ltd.....	3011
RPMC Lasers, Inc. ....	137	TCI America .....	3208	Wyss Center for Bio and Neuroengineering.....	4124
RWD Life Science.....	3126	Ted Pella, Inc. ....	3025	Xona Microfluidics LLC .....	404
Sable Systems International, Inc. ....	804	Thermo Fisher Scientific .....	1400	Zaber Technologies Inc.....	2914
Saccade Analytics.....	405	Thomas RECORDING GmbH .....	2028	Zantiks .....	3432
Sage Bionetworks .....	4230	Thorlabs Inc.....	913	ZMT Zurich MedTech AG.....	3825
SAGE Publishing .....	107	TissueGnostics USA .....	3032	Zymo Research Corp.....	229
San Diego Instruments, Inc. ....	2135				
Sarstedt, Inc. ....	1128				
Sartorius .....	312				
SB Drug Discovery .....	3731				



**Get Involved.**  
**Become a member of SfN!**  
[SfN.org/NS18join](https://www.sfn.org/NS18join)



**SfN** SOCIETY *for*  
NEUROSCIENCE



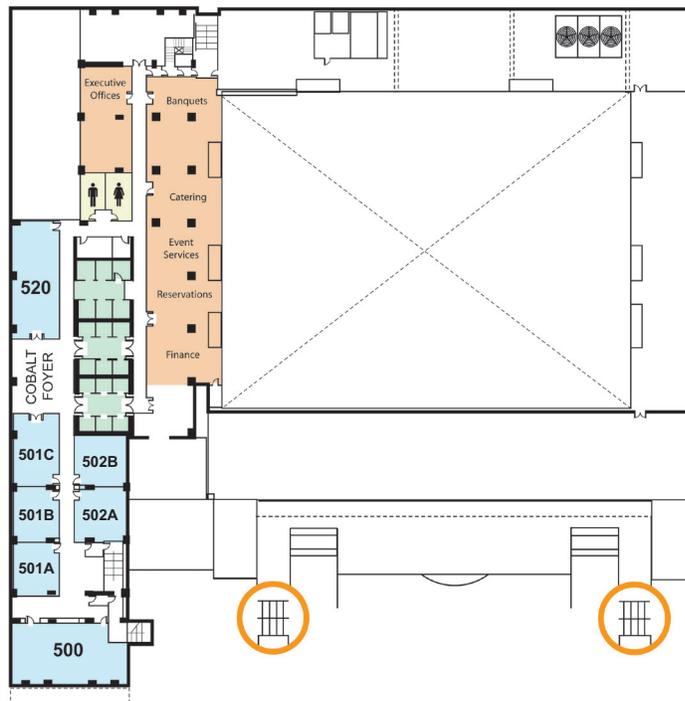
## HILTON SAN DIEGO BAYFRONT

1 Park Blvd

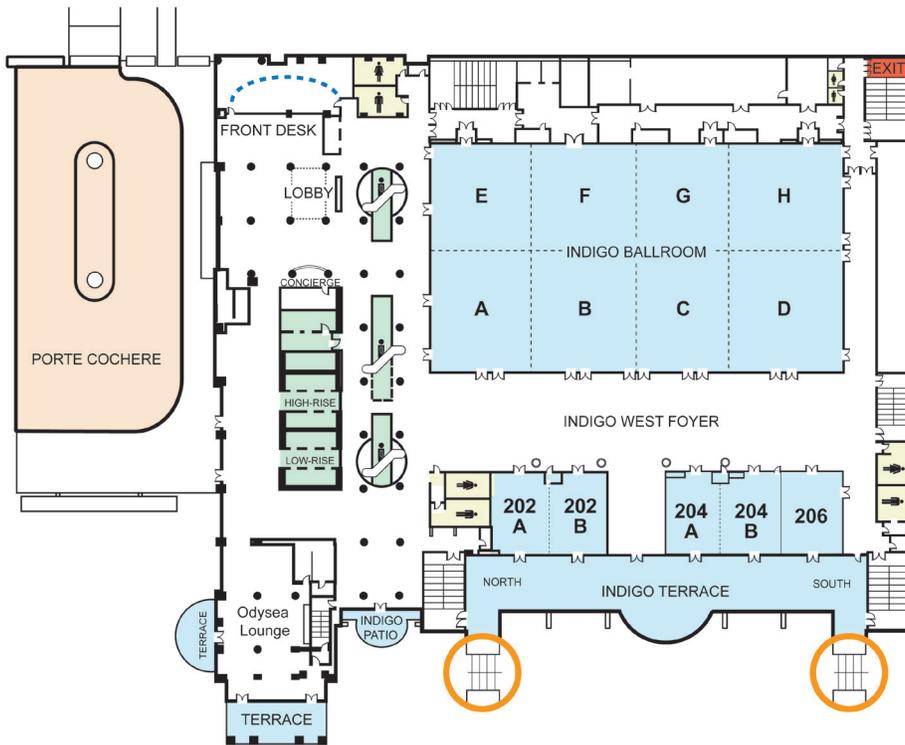
San Diego, CA 92101



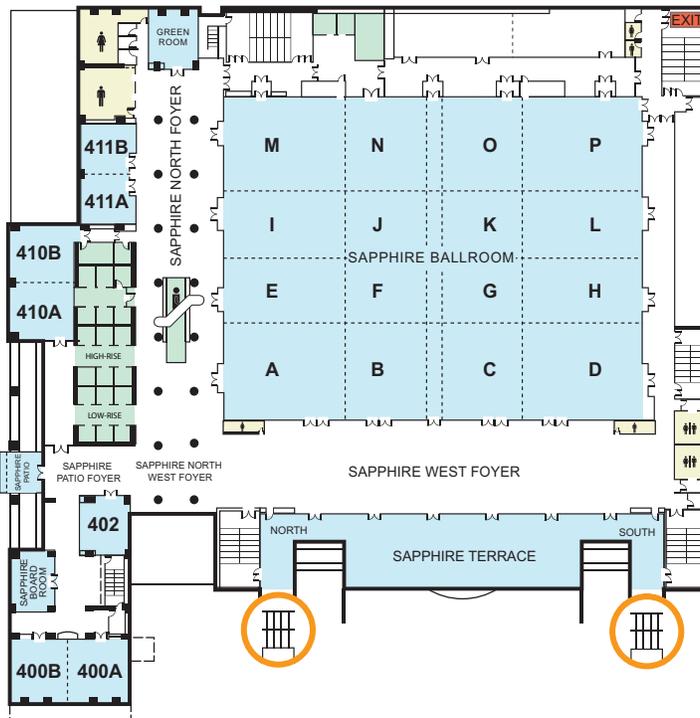
AQUA LEVEL



COBALT LEVEL



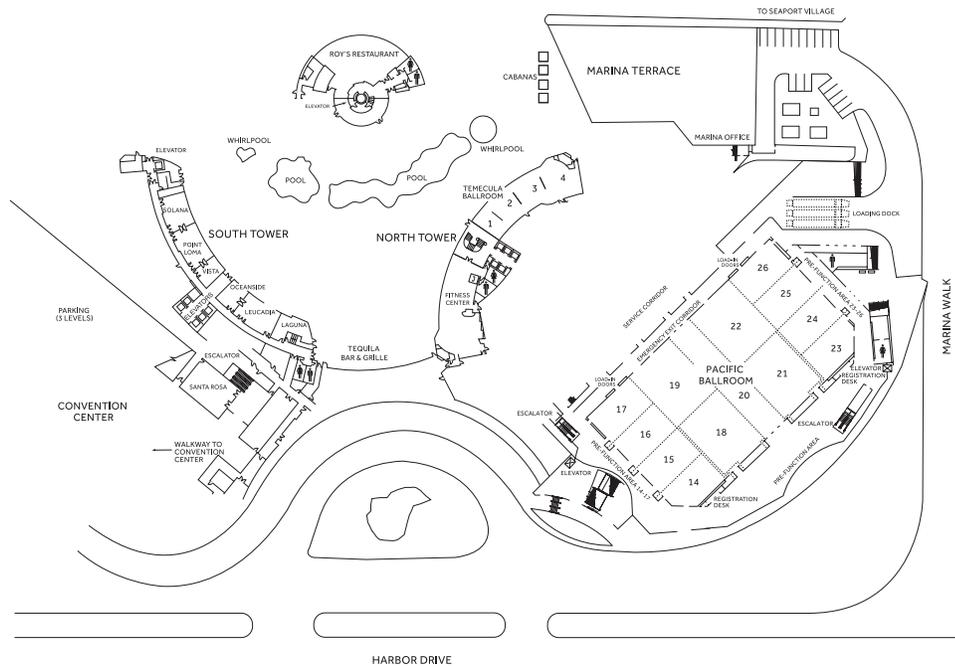
INDIGO LEVEL



SAPPHIRE LEVEL

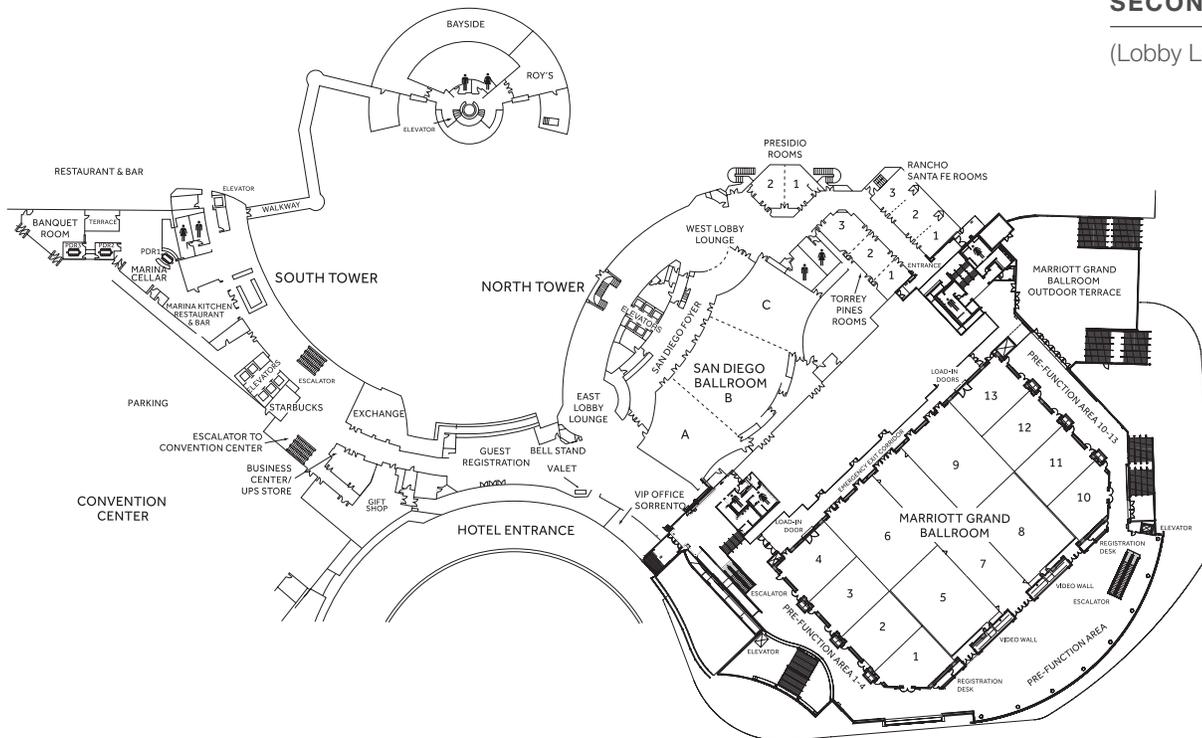
## MARRIOTT MARQUIS SAN DIEGO MARINA

333 W Harbor Dr  
San Diego, CA 92101



### FIRST FLOOR

(Ground Level)



### SECOND FLOOR

(Lobby Level)

## SOUTH TOWER

### Second Floor

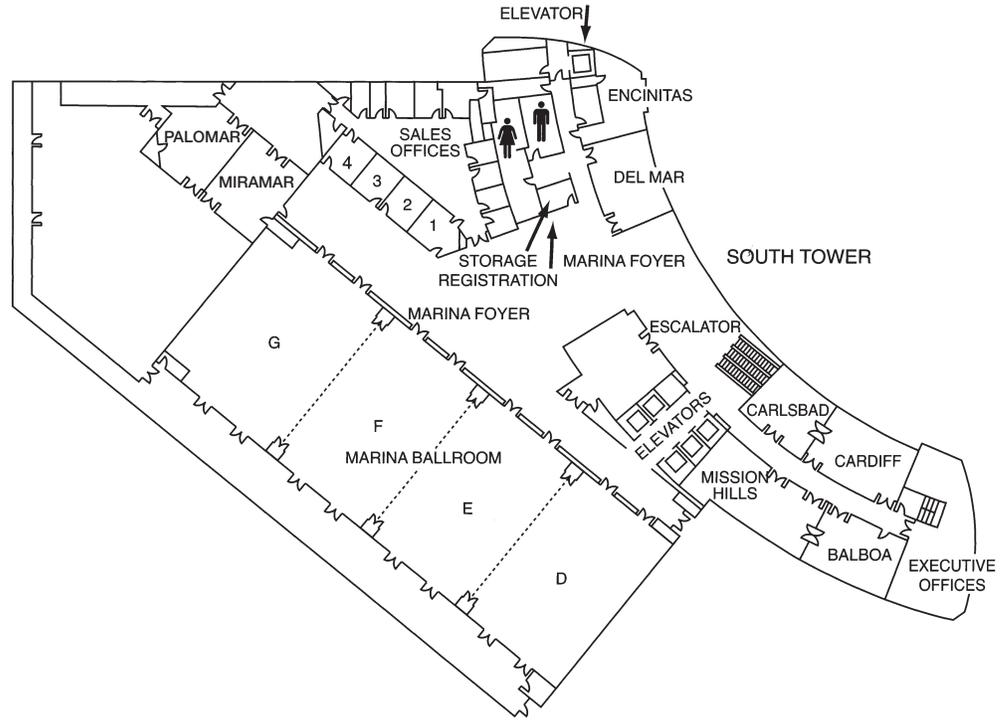
Bayside

### 1st Floor

Laguna  
Leucadia  
Oceanside  
Point Loma  
Santa Rosa  
Solana  
Vista

### 3rd Floor

Balboa  
Cardiff  
Carlsbad  
Del Mar  
Encinitas  
Marina Ballroom D-G  
Miramar  
Mission Hills  
Palomar



### 4th Floor

Catalina  
Coronado  
Dana Point  
La Costa  
La Jolla  
La Mesa  
Malibu  
Newport Beach

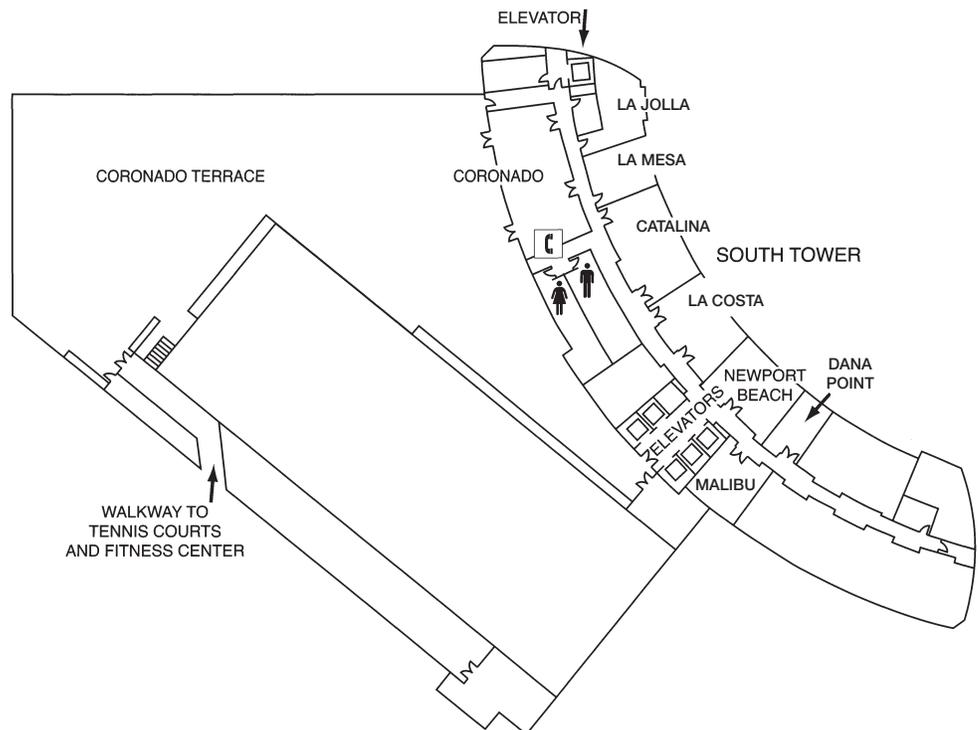
## NORTH TOWER

### Lobby Level

Marriott Grand Ballroom 1-13  
Presidio 1-2  
Rancho Santa Fe 1-3  
San Diego Ballrooms A-C  
Torrey Pines 1-3

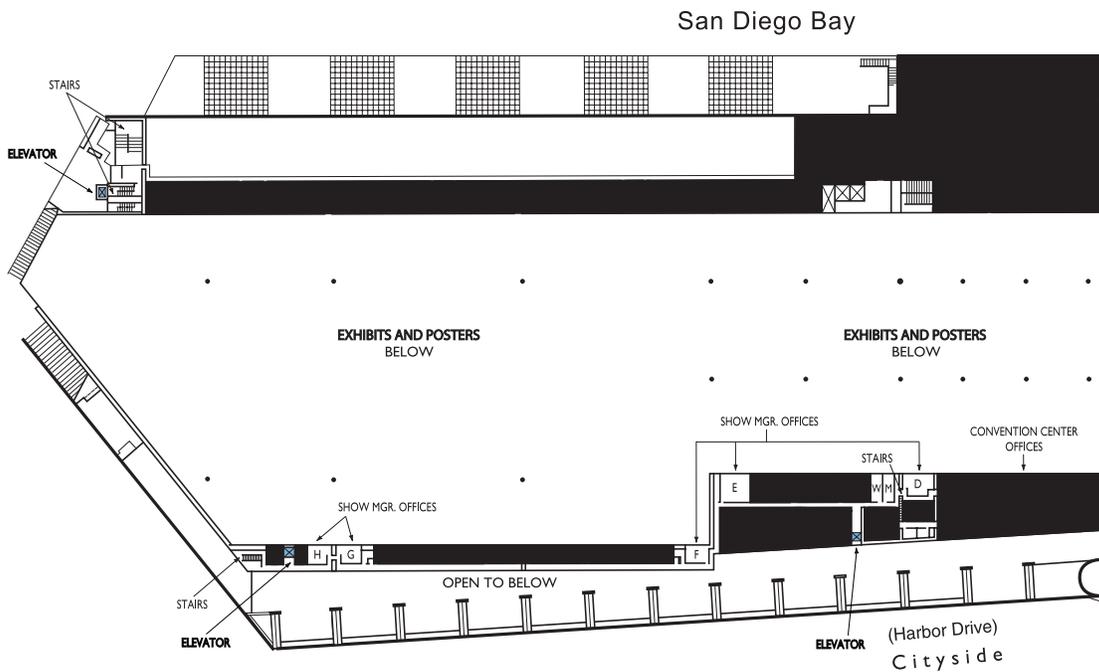
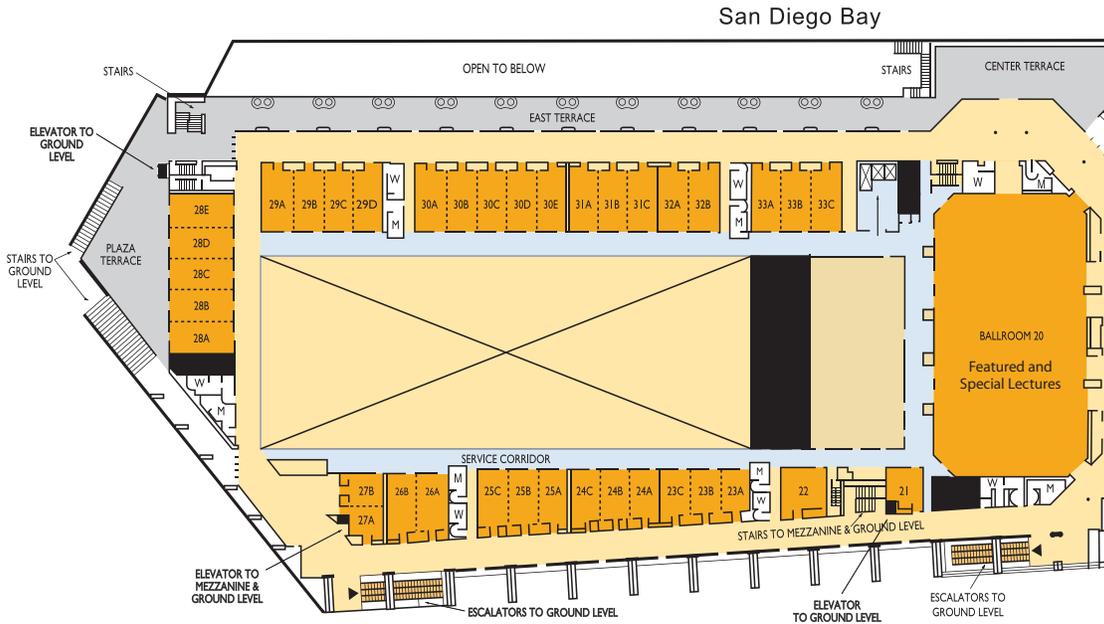
### 1st Floor

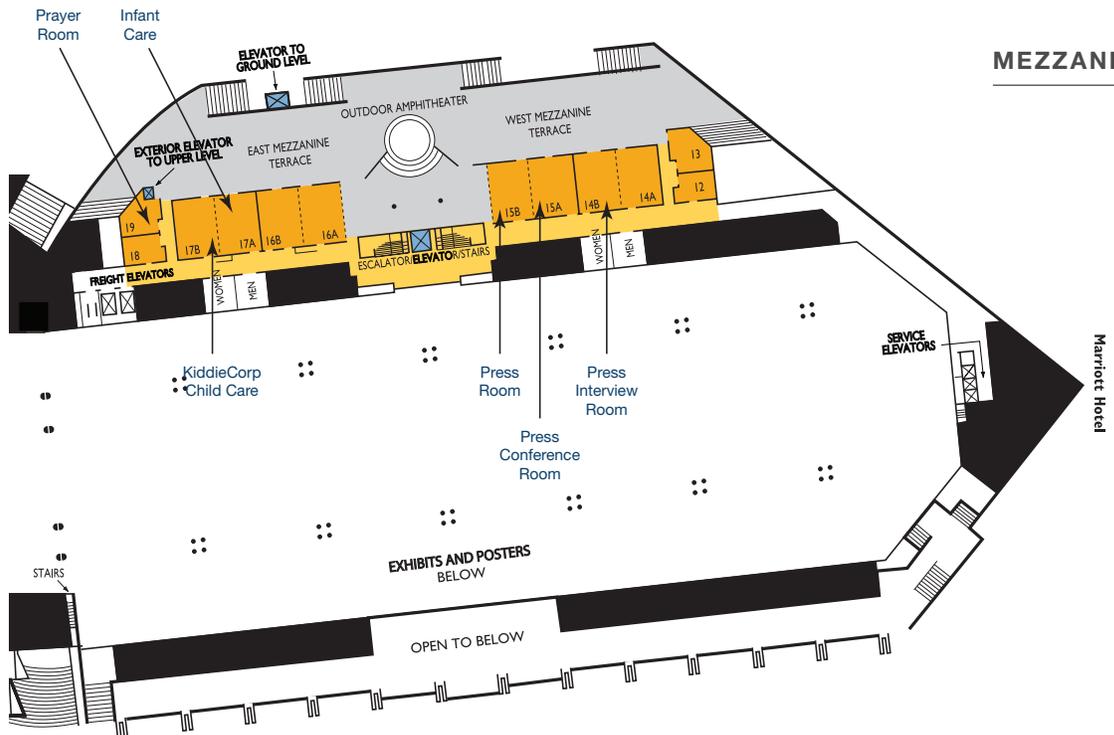
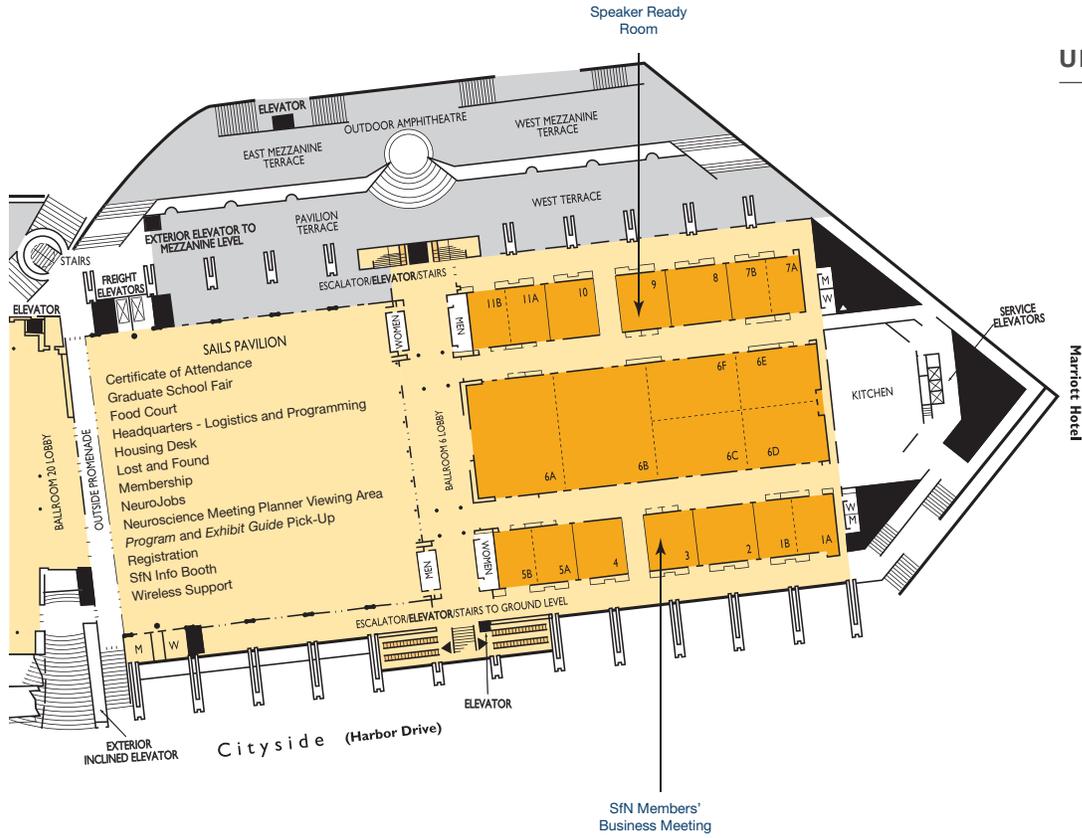
Pacific Ballroom 17-26  
Temecula



## SAN DIEGO CONVENTION CENTER

111 W Harbor Dr  
San Diego, CA 92101





# Exhibits and Poster Sessions

**Meeting Dates: November 3–7 | Exhibit Dates: November 4–7**

Note: Entrances will open at noon on Saturday and at 7 a.m. Sunday through Wednesday for poster presenter setup only. Poster sessions are open for all attendees at 1 p.m. on Saturday and 8 a.m. Sunday through Wednesday.

Floor plans subject to change. For current floor plan, visit [SfN.org/exhibits](http://SfN.org/exhibits).



Publishers Row
  SfN Booth
  Nonprofits/ U.S. Government Agencies
  Abstract Locator
 ★ Sustaining Associate Members

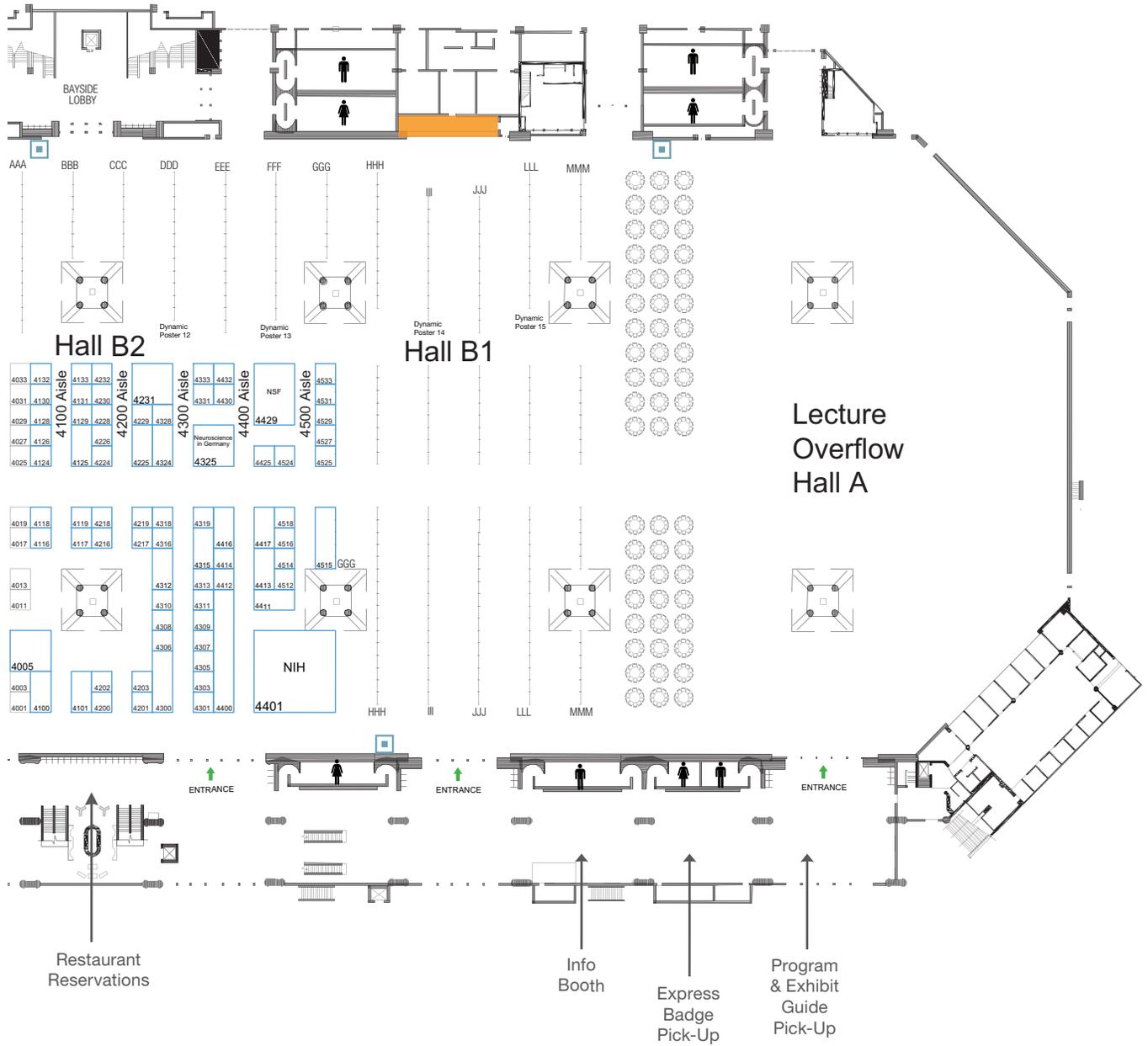
Concession Area
 ↑ Entrance
 ♀ Women's Restroom
 ♂ Men's Restroom
 + First Aid





Publishers Row
  SfN Booth
  Nonprofits/ U.S. Government Agencies
  Abstract Locator
 ★ Sustaining Associate Members

Concession Area
 ↑ Entrance
  Women's Restroom
  Men's Restroom
 + First Aid



**Marriott Marquis  
San Diego Marina**



# Photo Credits

Note: The content of Society for Neuroscience scientific programs, events, and services is developed by scientists, either individually or in their capacity as members of SfN committees or other governing bodies. Content is not developed in consultation with commercial advertisers or supporters. Supporters have no influence over the selection of topics or speakers. Where applicable, disclosure of grant or commercial support received by official speakers at SfN-sponsored events will be indicated within event information.

The commercial support of courses or workshops does not constitute a guarantee or endorsement of quality or value of the supporting entity's product or claims. Private support contributes significantly to SfN's mission, and the Society thanks contributors for their support. All presentations reflect the views of individual speakers and do not necessarily represent those of the Society for Neuroscience or any of its supporters.

Design: © 2018 Society for Neuroscience

**Cover:** This image shows the dendritic trees of two Purkinje cells from wild-type (left, orange) and mutant mice lacking the alpha- and gamma-Protocadherin gene clusters (*Pcdhs*) (right, blue). Purkinje cells were labelled with fluorophores, and shown as confocal projections with surface rendering and color to illustrate depth. *Pcdhs* promote dendrite self-avoidance to ensure that Purkinje dendrites are evenly arranged across the arbor, with minimal overlaps between branches. **Courtesy with permission:** Samantha Ing-Esteves, Dimitar Kostadinov, Julie Marocha, Anson D. Sing, Kezia S. Joseph, Mallory A. Laboulaye, Joshua R. Sanes and Julie L. Lefebvre. *Journal of Neuroscience* 14 March 2018, 38 (11) 2713-2729.

**Page 2:** This image shows mature cochlear heminodes beneath hair cells and nodes of Ranvier within osseous spiral lamina in adult mouse auditory nerve. The nodes and their flanking paranodes were immunolabeled for neuronal cell adhesion molecule (NrcAM, green) and contactin 1 (*Cntn1*, red), respectively. Myelin of the auditory nerve (following the heminodes) was detected by immunolabeling for myelin basic protein (MBP, blue; nuclei were counterstained with DAPI also in blue). The integrity of myelin and nodal structures in the cochlea is needed for fast transfer of sound information from the hair cells to the brain. **Courtesy with permission:** Clarisse H. Panganiban, Jeremy L. Barth, Lama Darbelli, Yazhi Xing, Jianning Zhang, Hui Li, Kenyaria V. Noble, Ting Liu, LaShardai N. Brown, Bradley A. Schulte, Stéphane Richard and Hainan Lang. *Journal of Neuroscience* 7 March 2018, 38 (10) 2551-2568.

**Page 4 & 5:** Copyright 2013; San Diego Tourism Authority. All rights reserved. Photographer unknown.

**Page 9:** This image shows a male brain of *Drosophila subobscura* doubly stained by the Venus marker knocked into the fruitless locus (green) and the antibody against *Fruitless* (purple), a neural masculinizer protein. Optogenetic activation of this *fruitless*-labeled circuitry induces a series of species-specific courtship behavior, including actions for nuptial gift transfer. This study opens up an avenue for genetic studies on the neural basis of diversified behavior in non-model organisms. **Courtesy with permission:** Ryoya Tanaka, Tomohiro Higuchi, Soh Kohatsu, Kosei Sato and Daisuke Yamamoto. *Journal of Neuroscience* 29 November 2017, 37 (48) 11662-11674.

**Page 13:** Corpus callosum axons in coronal brain slices labeled with antibodies against neurofilaments (magenta) and glial nuclei (yellow) labeled with Sytox. Note the dimly fluorescent cell bodies with clear cytoplasm containing three to five nuclear inclusions (dark yellow) characteristic of uninjured glial nuclei.

**Courtesy with permission:** Selva Baltan, Sean P. Murphy, Camelia A. Danilov, Amelia Bachleda and Richard S. Morrison. *Journal of Neuroscience* 16 March 2011, 31 (11) 3990-3999.

**Page 21:** Unprocessed pro-Neuregulin 1 (type I) accumulates as discrete puncta on the soma and proximal dendrites of cultured hippocampal neurons at contact sites, known as subsurface cisterns, between the somatic plasma membrane and the ER (white). Note that Neuregulin puncta are absent from axons (initial segments labeled with Ankyrin G, green) and more distal dendrites (labeled with MAP2, magenta). In response to NMDAR activity pro-NRG1 is processed and released. **Courtesy with permission:** Detlef Vullhorst, Tanveer Ahmad, Irina Karavanova, Carolyn Keating and Andres Buonanno. *Journal of Neuroscience* 24 May 2017, 37 (21) 5232-5249.

**Page 24:** This image shows Nestin-GFP-expressing cells in the dentate gyrus of the adult mouse hippocampus, rendered using a depth-coding palette. A small proportion of Nestin-GFP-expressing cells coexpress the epithelial growth factor receptor (cells with black puncta). These cells are predominantly neurosphere-forming precursor cells. The adult hippocampus contains two phenotypically similar populations of quiescent neural precursors that are activated by different stimuli. **Courtesy with permission:** Dhanisha Jhaveri and Luke Hammond. *Journal of Neuroscience* 27 May 2015, 35 (21) 8132-8144.

**Page 28:** This artistic rendering shows papaverine-induced ribosomal S6 phosphorylation in striatonigral and striatopallidal medium-sized spiny neurons. The original image showed triple-labeled nNOS-positive interneurons and phospho-rpS6 in *Drd2*-EGFP mice.

**Courtesy with permission:** Emma Puighermanal, Anne Biever, and Emmanuel Valjent. *Journal of Neuroscience* 11 March 2015, 35 (10) 4113-4130.

**Page 80:** This image is an artistic rendering of mouse hippocampus, stained with antibodies against  $\alpha$ -synuclein (yellow) and the sphingolipid glucosylceramide (blue).  $\alpha$ -Synuclein interacts with select sphingolipids in the context of GBA-associated Parkinson's disease. **Courtesy with permission:** *Journal of Neuroscience* 4 October 2017, 37 (40) 9617-9631.

**Page 83:** Intratelencephalic projection neurons (IT-PNs, red retrograde label) in mouse motor cortex express different proteins implicated in molecular control of neuron phenotype. The transcription factor *Fezf2* (green transgenic GFP label) is expressed specifically by IT-PNs in layer 5A (red + green = yellow neurons), whereas, *Cux1* protein (blue immunostain) is specific to layer 2/3 IT-PNs (red + blue). The dendritic reconstructions of *Fezf2*-positive IT-PNs are superimposed in gray to illustrate their unique morphology. **Courtesy with permission:** *Journal of Neuroscience* 19 March 2014, 34 (12) 4303-4308.

**Page 88 & 89:** Copyright 2013; San Diego Tourism Authority. All rights reserved. Photographer unknown.

**Page 91:** This image shows a layer 3 pyramidal neuron and surrounding inhibitory axon terminals in the monkey anterior cingulate cortex. Pyramidal neurons (green) were labeled using whole-cell patchclamp and intracellular filling techniques, and immunohistochemical staining of vesicular GABAergic transporter positive (VGAT+) was used to visualize axon terminals (magenta). **Courtesy with permission:** *Journal of Neuroscience* 3 May 2018, 37 (18) 4717-4734.

Page 14, page 16, page 22, page 26, page 33, page 35, page 39, page 42, page 43, page 45, page 46, page 47 : 2018, © Society for Neuroscience. All rights reserved. Photos by Joe Shymanski.

# SfN Council and Program Committee

---

## Officers

Richard L. Haganir, PhD  
President

Diane Lipscombe, PhD  
President-Elect

Eric J. Nestler, MD, PhD  
Past President

Rita J. Balice-Gordon, PhD  
Treasurer

John H.R. Maunsell, PhD  
Treasurer-Elect

Freda D. Miller, PhD  
Past Treasurer

Robert Desimone, PhD  
Secretary

## Councilors

Amy J. Bastian, PhD  
Barry J. Everitt, PhD, FRS, FMedSci  
Magda Giordano, PhD  
Gail Mandel, PhD  
Kenneth I. Maynard, PhD  
Lisa M. Monteggia, PhD  
Julio J. Ramirez, PhD  
Catherine S. Woolley, PhD

## Program Committee

Kang Shen, PhD  
Chair

Patricia H. Janak, PhD  
Incoming Chair

## Theme Chairs

Janice R. Naegele, PhD  
Theme A

Katherine W. Roche, PhD  
Theme B

Eugenia Trushina, PhD  
Theme C

Ellen A. Lumpkin, PhD  
Theme D

Lawrence H. Snyder, MD, PhD  
Theme E

Stephanie A. White, PhD  
Theme F

Nirao M. Shah, MBBS, PhD  
Theme G

Rony Paz, PhD  
Theme H

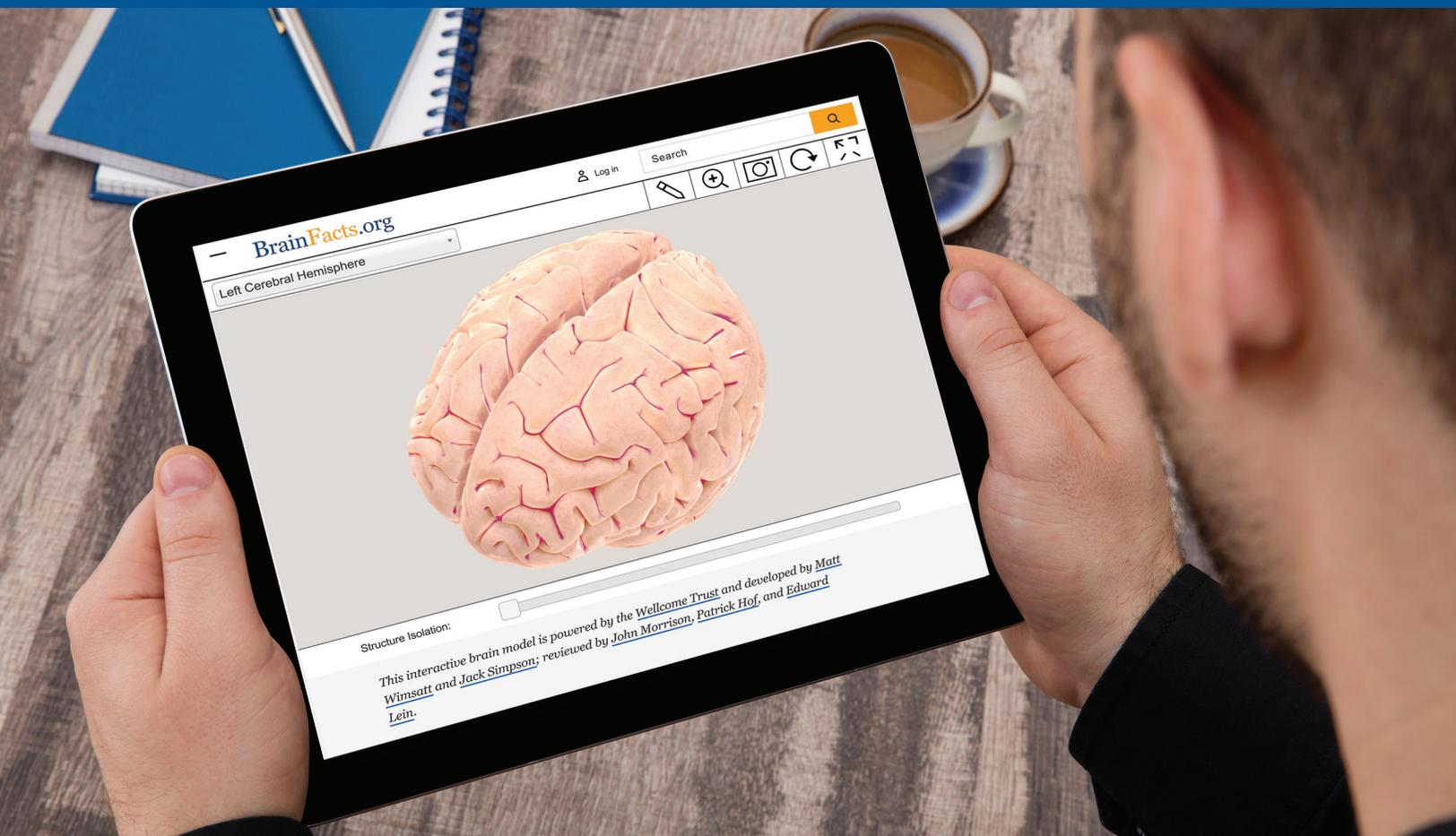
Tim H. Murphy, PhD  
Theme I

Diana Bautista, PhD  
Theme J, Past Program Committee Chair

## Members

Paola Arlotta, PhD  
Shernaz X. Bamji, PhD  
Gilad Barnea, PhD  
Ona Bloom, PhD  
Azad Bonni, MD, PhD  
Frank Bradke, PhD  
Matteo Carandini, PhD  
Christopher S. Colwell, PhD  
Rui M. Costa, DVM, PhD  
Xinzhong Dong, PhD  
Winrich Freiwald, PhD  
Robert C. Froemke, PhD  
Aaron D. Gitler, PhD  
Yukiko Goda, PhD  
Suzanne N. Haber, PhD  
Hailan Hu, PhD  
Tadashi Isa, MD, PhD  
Alexandra L. Joyner, PhD  
Patrick O. Kanold, PhD  
Paul S. Katz, PhD  
Takaki Komiyama, PhD  
Margaret S. Livingstone, PhD  
Ann C. McKee, MD  
Martin Müller, PhD  
Roger A. Nicoll, MD  
Paul E. M. Phillips, PhD  
Lawrence P. Reagan, PhD  
Subhojit Roy, MD, PhD  
Susan J. Sara, PhD  
Daniela Schiller, PhD  
Andrew B. Schwartz, PhD  
Piali Sengupta, PhD  
Matthew L. Shapiro, PhD  
Irene Tracey, PhD  
Nicolas X. Tritsch, PhD  
Anastasios Tzingounis, PhD  
Naoshige Uchida, PhD  
Susan M. Voglmaier, MD, PhD  
Marius Wernig, MD  
Anne E. West, MD, PhD  
Hongkui Zeng, PhD  
Yimin Zou, PhD

# Know Your Brain. Know Yourself.



Check Out Our Interactive Brain Model

[www.BrainFacts.org/3DBrain](http://www.BrainFacts.org/3DBrain)

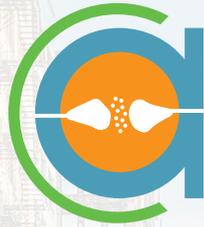
*Powered by the Wellcome Trust*

#KnowYourBrain

## BrainFacts.org

A PUBLIC INFORMATION INITIATIVE OF:





NEUROSCIENCE  
2019

# SEE YOU IN CHICAGO

OCTOBER 19–23

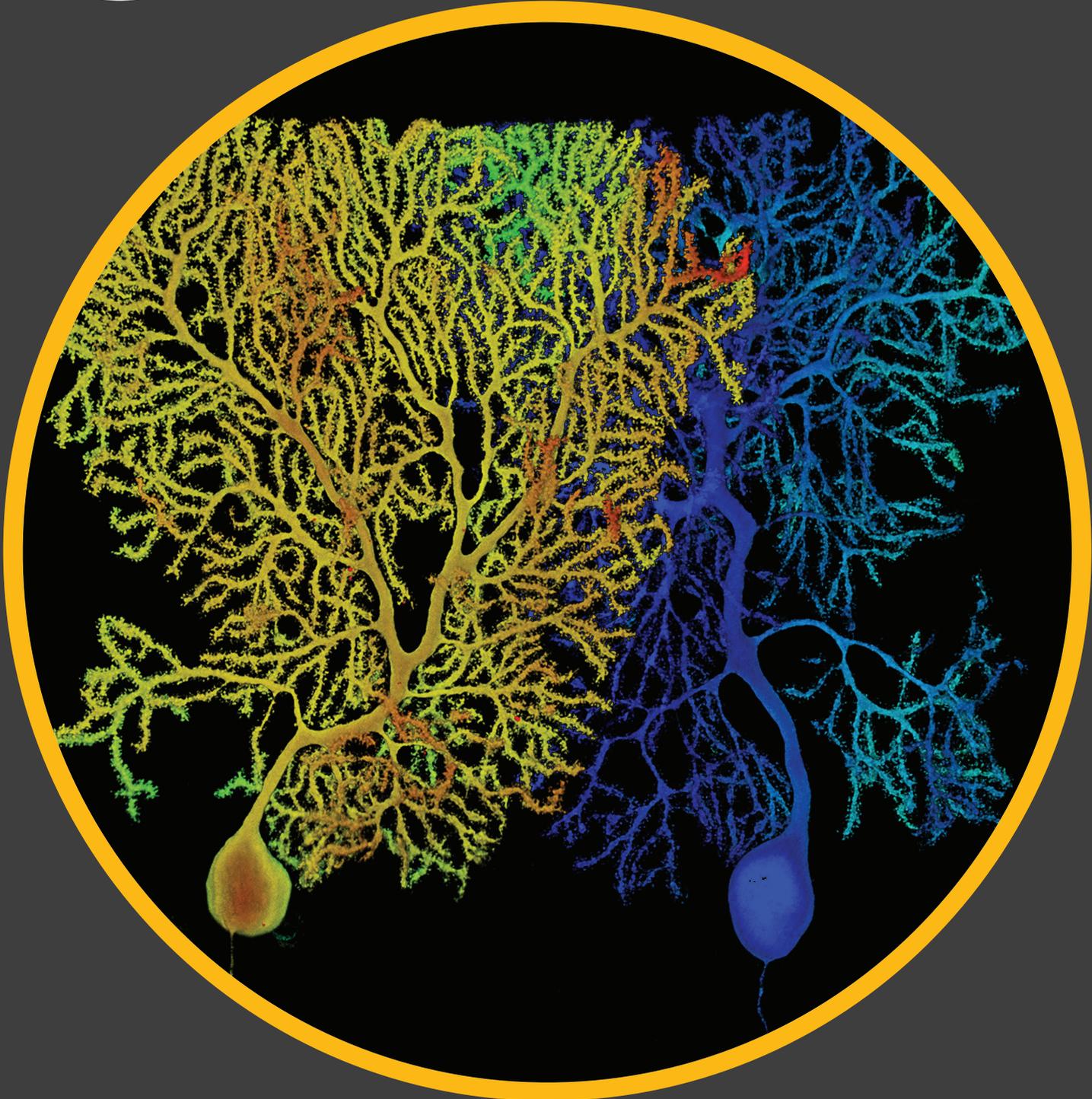
1969–2019



SOCIETY for  
NEUROSCIENCE



CELEBRATING  
50 YEARS



SOCIETY *for*  
NEUROSCIENCE

1121 14th Street NW, Suite 1010  
Washington, DC 20005