

GENERAL INFORMATION PROGRAM



1969–2019

OCTOBER 19–23



CHICAGO, ILLINOIS

Information at a Glance

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/AM2019

Neuroscience 2019 is in the North and South Buildings of McCormick Place.

IMPORTANT PHONE NUMBERS

Annual Meeting Headquarters Office

Logistics & Programming

McCormick Place: Hall A

Logistics: (312) 791-6800

Programming: (312) 791-6805

Donor and Volunteer Leadership Lounge

McCormick Place: Level 2.5 Lounge

Annual Meeting Information Booths

McCormick Place

Gate 3 Lobby

(312) 791-6813

Grand Concourse Lobby

(312) 791-6812

Press Office

McCormick Place: Room S501ABC

(312) 791-6820

Exhibit Management

McCormick Place: Hall A

(312) 791-6824

First Aid and Hospital Numbers

First Aid Station

McCormick Place: Level 2.5S

(312) 791-6060

Mercy Hospital

2525 S. Michigan Ave.

Chicago, IL 60616

(312) 567-2000

South Loop Immediate Care

1430 S. Michigan Ave.

Chicago, IL 60605

(312) 663-3522

KEY TO POSTER FLOOR BY THEMES

The poster floor is in Hall A. 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, Education, and Society

Note:

Theme J Posters will be on display in Hall A beginning at 1 p.m. on Saturday, Oct. 19, and will remain posted until 5 p.m., Sunday, Oct. 20. One-hour presentations will occur either Saturday afternoon or Sunday morning.

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). Additional local social services resources are listed in one convenient location at www.changingourcampus.org.

Any official report of a violation of the code of conduct should be brought to the designated Human Resources Officer in the SfN headquarters office in the convention center or sent via email to hrofficer@sfn.org. The HR officer will facilitate the completion of a report by a complainant.

For more information on SfN's policy, visit: www.sfn.org/codeofconduct.

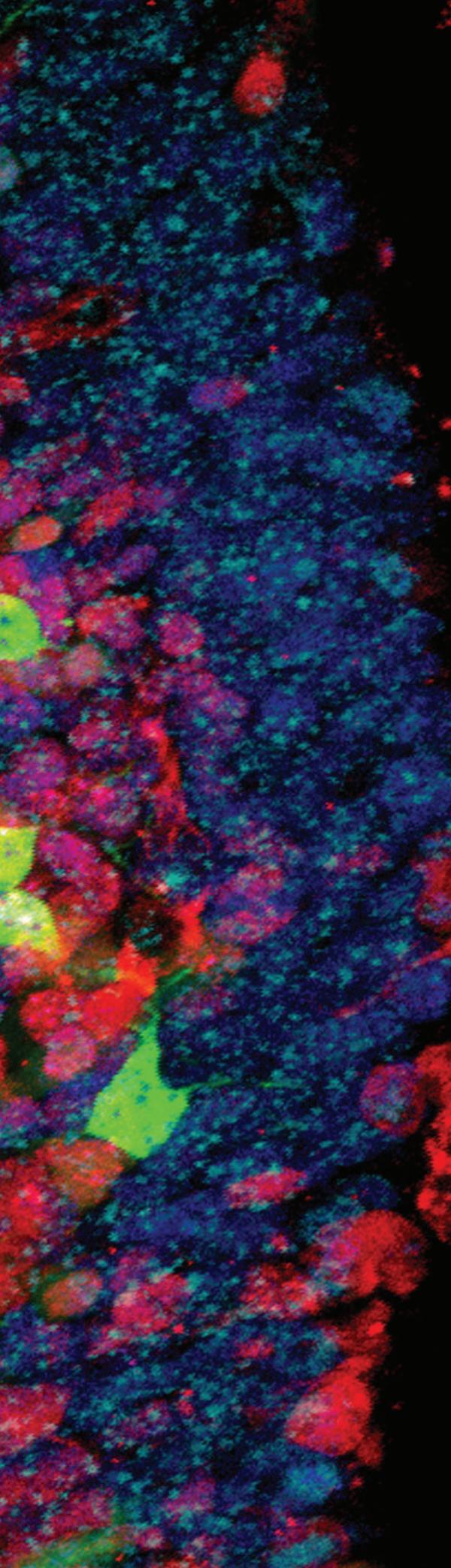


Table of Contents

Scientific Content

- 10** Program at a Glance
- 14** Featured Lectures
- 18** Special Lectures
- 22** Symposia and Minisymposia
- 30** Featured Panel Sessions

Sessions and Events

- 32** SfN Pre-Conference Sessions
- 36** Networking, Public Outreach, and Advocacy
- 38** Professional Development Workshops
- 41** SfN-Sponsored Socials
- 45** Satellite Events and Non-SfN Socials
- 49** List of Sessions by Theme and Day
- 72** Clinician-Scientist and Continuing Medical Education
- 73** Awards in Neuroscience

Registration, Hotel, and Travel

- 76** Registration
- 77** Navigating the Meeting
- 78** Hotel Map
- 79** Hotel List
- 82** Travel Information
- 83** Shuttle Service
- 84** Navigating Chicago

Resources

- 86** Attendee Resources
- 89** Exhibitor List
- 93** Hotel Floor Plans
- 98** Convention Center Floor Plans
- 105** Photo Credits
- 106** Council and Program Committee

President's Letter

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/AM2019

1969–2019



I am thrilled you have joined us for Neuroscience 2019. At this year's annual meeting, we commemorate the 50th year of the Society for Neuroscience (SfN), celebrating its critical role in supporting advances in scientific research and the members dedicated to furthering the field. The opportunity to look back to 1969, when SfN was established, brings into sharp focus the stunning progress made in neuroscience and all that the Society has done to help make that a reality. What will we know in 2069, and how will SfN support the next generation of members who will make those discoveries?

There is growing anticipation that neuroscience research will advance knowledge toward curing some of the most devastating diseases and disorders facing society — and there is no doubt that much progress will stem from research presented and collaborations formed right here in Chicago.

I know I have benefited scientifically and personally from the range of insight of an incredible group of scientists from around the world, many of whom I met at annual SfN meetings. The students and postdocs from my lab and I have received invaluable feedback at these forums, gathering new perspectives and ideas that have proved greatly beneficial to our research endeavors.

How can SfN support your work in advancing the field? I encourage you to explore this question while you are here amongst tens of thousands of your colleagues from around the world. At your fingertips is an unparalleled selection of scientific sessions, lectures, exhibits, and events, as well as countless opportunities for training, networking, collaboration, and professional development.

And these opportunities do not end with the meeting. Continue your participation with the Society year-round, taking advantage of its wealth of resources for enhancing your critical work and the future of this tremendous field. Join us as we enter the next 50 years of global scientific collaboration and discovery.

Regards,

Diane Lipscombe, PhD
President, Society for Neuroscience



Welcome to Neuroscience 2019

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/AM2019

3



**Science Knows
No Borders**

Plan Your Experience

Get the most out of your time at Neuroscience 2019 using these tools for navigating and customizing your experience:

- The Neuroscience Meeting Planner (NMP) allows you to search abstracts, download curated itineraries (see below), and create your personal schedule. Access the NMP at www.Sfn.org/NMP or visit the NMP Viewing Area in Hall A.
- The official Neuroscience 2019 mobile app puts the entire meeting at your fingertips. Browse through sessions, import your custom schedule from the NMP, view maps of the convention center, share contact information with other attendees, and more. Download it for free via the iOS™ and Google Play™ app stores, or use the interactive web version.
- Curated itineraries are a great way to build your meeting experience around a specific research area, with relevant sessions and events picked by SfN's Program Committee. These are available in both the NMP and mobile app.

New Photography Policy

See page 16 for details on SfN's new policy regarding photography and video at this year's meeting.

Science Knows No Borders

In keeping with the Society's commitment to facilitate global collaboration in science, SfN has established the Science Knows No Borders (SKNB) program. Through this program, scientists who have been denied a U.S. travel visa to attend Neuroscience 2019 can share their research and engage with colleagues through poster, nanosymposium, symposium, and minisymposium sessions.

Look for the SKNB icon in sessions; use the filter in the NMP or mobile app to locate participants in the program and visit their presentations. Post questions for SKNB participants about their presentations at Neuronline.Sfn.org.

Celebrate 50 years of SfN!

Join SfN in celebrating 50 years of the Society by visiting a special art installation by ARTECHOUSE and Refik Anadol. ARTECHOUSE is the first innovative art space dedicated to showcasing experiential- and technology-driven works by artists who are forerunners in the arts and technology. SfN and ARTECHOUSE will present a digital art exhibit in Neuroscience 2020 at ARTECHOUSE's Washington, DC location that will explore the life of a human neuron. This year in Chicago, SfN and ARTECHOUSE will present a preview of the 2020 exhibit with the work of award-winning, Los Angeles-based, Turkish-born artist Refik Anadol. Anadol uses artificial intelligence and machine learning to create digital art experiences that foreshadow the future and the possibilities of the intersection of neuroscience and art.

The exhibit is located in the Grand Concourse near Hall B and open daily from 9 a.m.–5:30 p.m.

**SEE YOU NEXT YEAR
AT NEUROSCIENCE 2020!**

**Mark your calendars for SfN's 50th Annual Meeting,
October 24–28, in Washington, DC**

Annual Meeting Contributors

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/AM2019

SfN gratefully recognizes the generous contributions from the following annual meeting program contributors:



Burroughs Wellcome Fund

- Trainee Professional Development Awards



Tianqiao & Chrissy Chen Institute

- Presidential Special Lecture



The Dana Foundation

- Leadership Development Program
- Science Educator Award



Elsevier

- Dialogues Between Neuroscience and Society Lecture



eNeuro

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

Bernice Grafstein, PhD

Bernice Grafstein, PhD

- Bernice Grafstein Award for Outstanding Accomplishments in Mentoring



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 Lecture
- Peter and Patricia Gruber International Research Award in Neuroscience



JNeurosci

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



David Kopf Instruments

- David Kopf Lecture on Neuroethics



Eli Lilly and Company Foundation

- Julius Axelrod Prize



National Institute of Neurological Disorders and Stroke

- National Institute of Neurological Disorders and Stroke
- Neuroscience Scholars Program
- Foundations of Rigorous Neuroscience Program



National Primate Research Centers

- Animals in Research Panel

The Nemko Family

The Nemko Family

- Nemko Prize in Cellular or Molecular Neuroscience



Novartis Institutes for BioMedical Research

- Trainee Professional Development Awards



Sanofi

- Trainee Professional Development Awards

John Simpson, PhD

John Simpson, PhD

- Latin America Training Program Challenge Grant



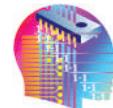
Society for Neuroscience

- Leadership Development Program
- Trainee Professional Development Awards



Sunovion

- Young Investigator Award



The Swartz Foundation

- Swartz Prize for Theoretical and Computational Neuroscience



Thorlabs, Inc.

- Meet-the-Expert Series

The Trubatch Family

The Trubatch Family

- Janett Rosenberg Trubatch Career Development Awards

The Waletzky Award Prize Fund and the Waletzky Family

The Waletzky Award Prize Fund and the Waletzky Family

- Jacob P. Waletzky Award

Nancy Rutledge Zahniser Fund

Nancy Rutledge Zahniser Fund

- Nancy Rutledge Zahniser Trainee Professional Development Awards

SfN gratefully recognizes the generous support of its Sustaining Associate Members.

To learn more about becoming a Sustaining Associate Member, email membership@sfn.org



Carl Zeiss Microscopy, LLC
• Platinum



The Lundbeck Foundation

The Lundbeck Foundation,
The Brain Prize
• Silver



Sutter Instrument Company
• Silver



The nonprofit plasmid repository

Addgene
• Nonprofit



Elsevier
• Gold



Nikon Instruments Inc.
• Silver



National Institute on Drug Abuse
• Nonprofit



Rainwater Charitable Foundation
• Nonprofit



Olympus
• Gold



Charles River
• Silver



BrightFocus Foundation
• Nonprofit



**Celebrating 50 years of advancing
global scientific exchange.
Be a part of our next 50.**

Join SfN to gain access to year-round benefits for neuroscientists at all career stages, including scientific trainings, professional development, publishing opportunities, and more.

www.sfn.org/join

**SOCIETY for
NEUROSCIENCE**



**CELEBRATING
50 YEARS
1969–2019**

NeuroJobs

SfN's ONLINE CAREER CENTER

Are you a job seeker or an employer?

During Neuroscience 2019, visit **Hall A** to apply for or post an open position and to schedule job interviews.

Saturday, October 19–Tuesday, October 22
8 a.m.–5 p.m.

Wednesday, October 23
8 a.m.–3 p.m.

www.neurojobs.sfn.org



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 www.sfn.org/Support-SfN to make your donation or contact development@sfn.org to learn more.

Memorial listing reflects contributions made between July 1, 2018 and June 30, 2019.

Ruben Adler	William Irwin	William T. Norton
Edson Albuquerque	Masao Ito	David Olton
Ben Barres	Robin Jacchus	Loren Parsons
Timothy Bartness	René Janssen	Robert W. Putnam
David Bashor	Thomas M. Jessell	S. K. Quadri
Odelie Huet Bello	Thanjavur Santhanakrishna	Richard Quarles
Eduardo Briese	Kanaka Kanaka	Patricia Goldman-Rakic
Larry Butt	James N. Kew	Wilfrid Rall
Bernard J. Carroll	Irving Kupfermann	Raniyah Ramadan
Diana Casper	Miyuki Kurabe	Donald Reis
Chi-Bin Chien	Hugh Laird II	Jeremy C. Rietschel
P. Michael Conn	J. David Leander	Oliver Sacks
Professor Candanat John Dominic	Rita Levi-Montalcini	Hiroshi Shimizu
Emanuel Donchin	John Lisman	Eric Shooter
Howard Eichenbaum	Carlos Barajas Lopez	Louis Sokoloff
Alfredo I. Feria-Velasco	R. Bruce Masterton	Wesley Thompson
Marie Filbin	Gary Matthews	James Unnerstall
Gabriel P. Frommer	Tom McDonald	Michael Walker
Kazuma Fujikake	Patricia Milner	Pastor Edwin Williams
James Fuller	Malcolm and Leonie Morrison	Nancy Rutledge Zahniser
Meneck Goldstein	Anusuyadevi Muthuswamy	Kieran Shafritz de Zoysa
Augusto Fernández Guardiola	Dogan Nadi	
Dennis Higgins	Tsutomu Nakada	

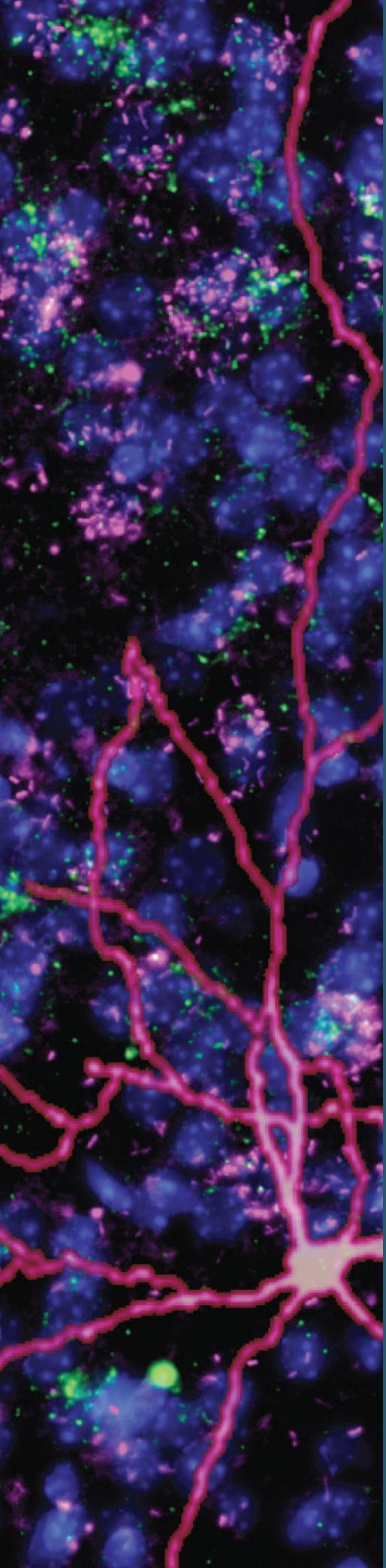


Table of Contents

Scientific Content

- 10** Program at a Glance
- 14** Featured Lectures
- 18** Special Lectures
- 22** Symposia and Minisymposia
- 30** Featured Panel Sessions

Program at a Glance

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/AM2019

Friday, Oct. 18

SHORT COURSE #2 (p.32)

8 a.m.–6 p.m. Quantifying Behavior as a Lens Into the Brain
Organizers: Robert S. Datta, MD, PhD; Mala Murthy, PhD

SHORT COURSE #1 (p.32)

8:30 a.m.–6 p.m. Neural Prosthetics and Brain Machine Interfaces
Organizers: Adrienne L. Fairhall, PhD; Charles Liu, MD, PhD

SHORT COURSE #3 (p.32)

1–5:30 p.m. Cultivating Professionalism and Excellence in the Research Landscape
Organizers: Carlos Aizenman, PhD; Janet Clark, PhD; Marguerite Matthews, PhD; Rosalind A. Segal, MD, PhD; and Keith Trujillo, PhD

Saturday, Oct. 19

MEET-THE-EXPERT SERIES (p.32)

8–9:15 a.m. Session 1

8 a.m.–5 p.m. NeuroJobs Career Center (p.36)

PROFESSIONAL DEVELOPMENT WORKSHOP (p.38)

9–11 a.m. Preparing for Your Career Away From the Bench:
Essential Skills for Navigating Your Career Transition
Organizer: Annette Gray, PhD

PROFESSIONAL DEVELOPMENT WORKSHOP (p.38)

9–11 a.m. Reproducibility for Everyone
Organizer: Aparna Shah, PhD

MEET-THE-EXPERT SERIES (p.33)

9:30–10:45 a.m. Session 2

DIALOGUES BETWEEN NEUROSCIENCE AND SOCIETY (p.14)

11 a.m.–1 p.m. Speaker: Fei-Fei Li, PhD

PROFESSIONAL DEVELOPMENT WORKSHOP (p.38)

Noon–2 p.m. Imposter Syndrome: Confronting the Career
Development Monster Hiding Under the Bed
Organizers: Ericka Boone, PhD; Marguerite Matthews, PhD; Sadie Paez, PhD

PROFESSIONAL DEVELOPMENT WORKSHOP (p.38)

Noon–2 p.m. Integrating Research and Teaching at
Primarily Undergraduate Institutions
Organizer: Joyce Fernandes, PhD

1–3 p.m. Graduate School Fair (p.36)

1–5 p.m. Posters/Nanosymposia

1:30–4 p.m. Symposia/Minisymposia CME (p.22)

SPECIAL LECTURE CME (p.18)

2–3:10 p.m. Neuronal Activity-Dependent Myelination:
A Mechanism for Learning and Repair?
Speaker: Ragnhildur T. Karadottir, PhD

BRAIN AWARENESS CAMPAIGN EVENT (p.36)

2:30–4 p.m. Illuminating the Path With Science Outreach
Organizer: Teodora Stoica

PROFESSIONAL DEVELOPMENT WORKSHOP (p.38)

3–5 p.m. Getting Creative with Course-Based Research Experiences
to Enhance Scholarship and Generate Publishable Data
Organizers: Lina Dahlberg, PhD; Jacqueline Rose, PhD

PROFESSIONAL DEVELOPMENT WORKSHOP (p.38)

3–5 p.m. How to Thrive as a Woman in Neuroscience
Organizer: Melissa Harrington, PhD

PRESIDENTIAL SPECIAL LECTURE CME (p.14)

5:15–6:30 p.m. From Base Pairs to Bedside: Antisense Modulators
of RNA Splicing to Treat Neurological Diseases
Speaker: Adrian R. Krainer, PhD

6:30–8:30 p.m. Diversity Poster Session (p.36)

6:30–8:30 p.m. International Fellows Poster Session (p.36)

6:30–8:30 p.m. Trainee Professional Development Awards Poster Session (p.36)

7:30–9:30 p.m. Career Development Topics: A Networking Event (p.36)

Sunday, Oct. 20

8 a.m.–noon Posters/Nanosymposia

8 a.m.–5 p.m.	NeuroJobs Career Center (p.36)	1–5 p.m.	Posters/Nanosymposia
8:30–11 a.m.	Symposia/Minisymposia CME (p.22)	1:30–2:40 p.m.	SPECIAL LECTURE CME (p.19) Comparative Neurobiology of Vocal Communication Speaker: Michael A. Long, PhD
9–10:10 a.m.	SPECIAL LECTURE CME (p.21) Theoretical Neuroscience: Decision Making and Its Discontents Speaker: Peter Dayan, PhD	1:30–4 p.m.	STORYTELLING SESSION (p.30) 50 The Storytelling Brain: How Neuroscience Stories Help Bridge the Gap Between Research and Society Chair: Susana Martinez-Conde, PhD
9–11 a.m.	PROFESSIONAL DEVELOPMENT WORKSHOP (p.38) Bringing Genetic Diversity to Neuroscientific Research Organizer: Elissa Chesler, PhD	1:30–4 p.m.	Symposia/Minisymposia CME (p.22)
9–11 a.m.	PROFESSIONAL DEVELOPMENT WORKSHOP (p.39) 50 Navigating Team Science Organizers: Lique Coolen, PhD; Chiara Manzini, PhD	2:30–5 p.m.	NEUROSCIENCE DEPARTMENT AND PROGRAMS WORKSHOP (p.39) 50 Hiring and Promoting Faculty in the Era of Team Science Organizer: Rosalind Segal, MD, PhD
9:30 a.m.–5 p.m.	Exhibits (p.90)	3–4:10 p.m.	PETER AND PATRICIA GRUBER LECTURE (p.14) Molecular Basis of the Circadian Clock in Mammals and Its Fundamental Role in Aging and Longevity Speaker: Joseph S. Takahashi, PhD
10:30–11:40 a.m.	SPECIAL LECTURE CLINICAL NEUROSCIENCE LECTURE CME (p.20) From Pecking Order to Ketamine: Neural Mechanisms of Social and Emotional Behaviors Speaker: Hailan Hu, PhD	3–5 p.m.	PROFESSIONAL DEVELOPMENT WORKSHOP (p.39) Building a Neuroscience Career at a Teaching Focused Institution Organizer: Melissa Harrington, PhD
Noon–1:10 p.m.	SPECIAL LECTURE CME (p.20) The Brain From Inside Out Speaker: Gyorgy Buzsaki, MD, PhD	5:15–6:30 p.m.	PRESIDENTIAL SPECIAL LECTURE CME (p.15) Understanding Cortical Development and Disease: From Embryos to Brain Organoids Speaker: Paola Arlotta, PhD
Noon–2 p.m.	PROFESSIONAL DEVELOPMENT WORKSHOP (p.39) Becoming a Resilient Scientist Organizer: Janet Clark, PhD	6:45–8:45 p.m.	SfN-Sponsored Socials (p.41)
Noon–2 p.m.	PROFESSIONAL DEVELOPMENT WORKSHOP (p.39) Science Management Organizer: Tanya Brown, PhD	Monday, Oct. 21	
Noon–2 p.m.	Graduate School Fair (p.36)	8 a.m.–noon	Posters/Nanosymposia
1–3 p.m.	SOCIAL ISSUES ROUNDTABLE (p.36) Human Fusions: Ethical and Social Issues Raised by Neural-Digital Interfaces Organizer: Dustin J. Tyler, PhD	8 a.m.–5 p.m.	NeuroJobs Career Center (p.36)
		8:30–11 a.m.	BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE CME (p.30) Mechanisms of Drug Addiction: A Translational Perspective Organizer: Trevor W. Robbins, PhD

Program at a Glance

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/AM2019

8:30–11 a.m.	Symposia/Minisymposia CME (p.22)	1–5 p.m.	Posters/Nanosymposia
9–10:10 a.m.	HISTORY OF NEUROSCIENCE LECTURE (p.15)  Exocytosis of Synaptic Vesicles: From Quantal Release to Molecular Machines Speaker: Reinhard Jahn, PhD	1:30–4 p.m.	Symposia/Minisymposia CME (p.22)
9–11 a.m.	PROFESSIONAL DEVELOPMENT WORKSHOP (p.39) Advancing Your Career Through Effective Science Writing for the Public and Creating Eye-Catching Research Statements Organizer: Eduardo Rosa-Molinar, PhD	3:15–4:25 p.m.	ALBERT AND ELLEN GRASS LECTURE CME (p.15) Neural Learning Rules in the Cerebellum Speaker: Jennifer L. Raymond, PhD
9–11 a.m.	PROFESSIONAL DEVELOPMENT WORKSHOP (p.40) The Art of Building a Career Organizer: Martha Davila-Garcia, PhD	5:15–6:30 p.m.	PRESIDENTIAL SPECIAL LECTURE CME (p.15) The Cell Biology of the Synapse and Behavior Speaker: Daniel A. Colón-Ramos, PhD
9:30 a.m.–5 p.m.	Exhibits (p.90)	6:45–8:45 p.m.	CHAPTERS WORKSHOP (p.37) Fostering Chapter Engagement Through Your Local Brain Bee Organizer: Jennifer R. Yates, PhD
10:30–11:40 a.m.	SPECIAL LECTURE CME (p.19) Neural Mechanisms of Short-Term Memory and Motor Planning Speaker: Karel Svoboda, PhD	6:45–8:45 p.m.	SfN-Sponsored Socials (p.41)
Noon–1:10 p.m.	SPECIAL LECTURE CME (p.19) Active Touch, Pain, and Anesthesia Speaker: Fan Wang, PhD	Tuesday, Oct. 22	
Noon–2 p.m.	Graduate School Fair (p.36)	8 a.m.–noon	Posters/Nanosymposia
Noon–2 p.m.	PROFESSIONAL DEVELOPMENT WORKSHOP (p.40) Optimize Your Grant Application: News You Can Use From the NIH Organizer: Bruce Reed, PhD	8 a.m.–5 p.m.	NeuroJobs Career Center (p.36)
Noon–2 p.m.	PROFESSIONAL DEVELOPMENT WORKSHOP (p.40) Teaching Computation in Neuroscience Organizers: William Grisham, PhD; Richard Olivo, PhD	8:30–11 a.m.	BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE CME (p.30) Exoskeletons and Robotics for Neurorehabilitation Organizer: Ann M. Spungen, EdD
1–2 p.m.	DUAL PERSPECTIVES (p.30)  Does Adult Neurogenesis Occur in the Human Brain?	8:30–11 a.m.	Symposia/Minisymposia CME (p.22)
1–3 p.m.	ANIMALS IN RESEARCH PANEL (p.37)  Treatments for Disorders of the Basal Ganglia and the Development of Deep Brain Stimulation: Translation of Non-Human Primate Research Into Clinical Therapeutics Organizer: Peter Strick, PhD	9–10:10 a.m.	SPECIAL LECTURE CME (p.19) Flies and Alcohol: An Interplay of Nature and Nurture Speaker: Ulrike Heberlein, PhD
		9:30 a.m.–5 p.m.	Exhibits (p.90)
		10:30–11:40 a.m.	SPECIAL LECTURE CME (p.18) Molecular Mechanisms Underlying Activity-Dependent Neural Circuit Development and Plasticity Speaker: Xiang Yu, PhD

Noon–1:10 p.m.	SPECIAL LECTURE CME (p.18) Leveraging Brain Rhythms as a Therapeutic Intervention for Neurodegenerative Diseases Speaker: Li-Huei Tsai, PhD	8:30–11 a.m.	Symposia/Minisymposia CME (p.22)
Noon–2 p.m.	A Celebration of Women in Neuroscience Luncheon (p.37) 50	8:30–11 a.m.	BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE CME (p.30) Gene Therapy in Neurological Diseases Organizer: Asa Abeliovich, MD, PhD
Noon–2 p.m.	Graduate School Fair (p.36)	9:30 a.m.–5 p.m.	Exhibits (p.90)
1–5 p.m.	Posters/Nanosymposia	10:30–11:40 a.m.	SPECIAL LECTURE CME (p.18) Aberrant Phase Separation in Neurodegenerative Disease Speaker: Anthony A. Hyman, PhD
1:30–2:40 p.m.	SPECIAL LECTURE CME (p.20) Evolution and Dissolution of Memories Over Time Speaker: Eleanor A. Maguire, PhD	Noon–1:10 p.m.	SPECIAL LECTURE CME (p.21) Extracting Function From Structure: Lessons From the Fly Connectome Speaker: Gerald M. Rubin, PhD
1:30–4 p.m.	Symposia/Minisymposia CME (p.22)	1–5 p.m.	Posters/Nanosymposia
2–3:30 p.m.	PUBLIC ADVOCACY FORUM (p.37) The Role of Pharmaceutical Partnerships When Advocating for Basic Research Organizer: Moses V. Chao, PhD	1:30–2:40 p.m.	SPECIAL LECTURE CME (p.21) Neural Codes for Natural Behaviors in Flying Bats Speaker: Nachum Ulanovsky, PhD
3–4:10 p.m.	DAVID KOPF LECTURE ON NEUROETHICS (p.16) The Neuroethics Frontier Speaker: Nita Farahany, JD, PhD	1:30–4 p.m.	Symposia/Minisymposia CME (p.22)
5:15–6:30 p.m.	PRESIDENTIAL SPECIAL LECTURE CME (p.16) Wavefront Engineering: Illuminating the Neural Landscape Valentina Emiliani, PhD	3–4:10 p.m.	SPECIAL LECTURE CME (p.20) The Neurobiology of Long-Term Memory: Key Molecules, Diverse Cell Types, Temporal Dynamics, and Critical Periods Speaker: Cristina M. Alberini, PhD
6:45–7:30 p.m.	SfN Members' Business Meeting (p.37)		
6:45–8:45 p.m.	SfN-Sponsored Socials (p.41)		
8:30–11:30 p.m.	Graduate Student Reception (p.37)		
Wednesday, Oct. 23			
8 a.m.–noon	Posters/Nanosymposia		
8 a.m.–3 p.m.	NeuroJobs Career Center (p.36)		

Featured Lectures

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/LECTURES



DIALOGUES BETWEEN NEUROSCIENCE AND SOCIETY

Support contributed by: Elsevier

Fei-Fei Li, PhD
Stanford Human-Centered AI Institute
Saturday, October 19, 11 a.m.–1 p.m.

Fei-Fei Li is a professor of computer science and co-director of the Stanford University Human-Centered AI Institute (HAI). A pioneering expert in AI, inventor of ImageNet, and thought leader, Dr. Li challenges us to be the stewards of technology to serve humanity at its broadest and most diverse extent. Dr. Li has also been recognized as a 2016 Global Thinker by Foreign Policy and formerly served as the vice president of AI and machine learning at Google Cloud. In this session, Dr. Li will discuss the transformative potential that AI and machine learning pose for society from her unique perspective as a scientist and an ethical leader who advocates for future technologies to incorporate an understanding of how to augment, not replace, elements of the human experience.



PRESIDENTIAL SPECIAL LECTURE

From Base Pairs to Bedside: Antisense Modulators of RNA Splicing to Treat Neurological Diseases **CME**

Adrian R. Krainer, PhD
Cold Spring Harbor Laboratory
Saturday, Oct. 19, 5:15–6:30 p.m.

Nusinersen, the first FDA-approved drug for spinal muscular atrophy (SMA), exemplifies a successful path from basic studies to an effective therapy. It is an antisense oligonucleotide (ASO) that modulates alternative splicing of SMN2, increasing functional SMN protein in motor neurons. After clinical trials in SMA infants and children, nusinersen was approved in 2016. This lecture will describe the development of this drug and its clinical impact. Using a similar approach, an ASO was developed to correct defective RNA splicing of IKBKAP, which causes familial dysautonomia.



PETER AND PATRICIA GRUBER LECTURE

Support contributed by: The Gruber Foundation

Molecular Basis of the Circadian Clock in Mammals and Its Fundamental Role in Aging and Longevity

Joseph S. Takahashi, PhD
University of Texas Southwestern Medical Center
Howard Hughes Medical Institute
Sunday, Oct. 20, 3–4:10 p.m.

The molecular basis of circadian clocks involves a 24-hour autoregulatory transcriptional network that is cell-autonomous and widely expressed. The suprachiasmatic nucleus acts as master pacemaker, but peripheral oscillators can respond to proximal signals. In addition to behavior and physiology, the clock gene network interacts directly with many other pathways in the cell. With respect to metabolism, the timing of nutrient consumption is critical, and restricting the timing of feeding has many health benefits that impact aging, health span, and longevity.



PRESIDENTIAL SPECIAL LECTURE

Support contributed by: Tianqiao and Chrissy Chen Institute

Understanding Cortical Development and Disease:
From Embryos to Brain Organoids **CME**

Paola Arlotta, PhD
Harvard University
Sunday, Oct. 20, 5:15–6:30 p.m.

Much remains unknown regarding the cellular and molecular mechanisms governing mammalian brain development. Focusing on the cerebral cortex, this lecture will present data on the mechanistic principles that control the developmental generation of cellular diversity *in vivo*, and consider to what extent processes of cortical development can be replicated outside the embryo, within brain organoids. This lecture will also discuss the challenges of modeling human corticogenesis in the dish, and the promise that brain organoids hold to investigate complex human neurodevelopmental disease.



HISTORY OF NEUROSCIENCE LECTURE

Exocytosis of Synaptic Vesicles: From Quantal Release to Molecular Machines **50**

Reinhard Jahn, PhD
Max Planck Institute for Biophysical Chemistry
Monday, Oct. 21, 9–10:10 a.m.

At chemical synapses, depolarization-induced calcium influx triggers neurotransmitter release, a key step in synaptic signaling. In the 1950s, Katz found that transmitter release is quantal, and synaptic vesicles were discovered. In the following decades, recycling routes for synaptic vesicle and for neurotransmitters were worked out, governing the steps in synaptic vesicle cycling becoming known. The history of the field will be briefly reviewed, focusing on exocytosis and membrane fusion.



ALBERT AND ELLEN GRASS LECTURE

Support contributed by: The Grass Foundation

Neural Learning Rules in the Cerebellum **CME**

Jennifer L. Raymond, PhD
Stanford University School of Medicine
Monday, Oct. 21, 3:15–4:25 p.m.

The cerebellum is known for its role in motor learning, and is increasingly implicated in cognitive functions such as navigation, reward prediction, emotion, and social behavior. Its simple, repeated circuit architecture facilitates study of the functional links between events occurring at the molecular, cellular, circuit and behavioral levels as the cerebellum computes. By leveraging this analytical advantage, recent work has yielded new insight in the principles governing how neural circuits tune their performance through experience.



PRESIDENTIAL SPECIAL LECTURE

The Cell Biology of the Synapse and Behavior **CME**

Daniel A. Colón-Ramos, PhD
Yale University School of Medicine
Monday, Oct. 21, 5:15–6:30 p.m.

When, where, and how synapses form underpin the architecture of the nervous system and behaviors. Synapses are both precisely assembled during development and flexible during learning and memory. How can synapses be both precise and malleable to facilitate both the assembly and function of the brain? This lecture will discuss new findings that link the fundamental cell biological properties of single synapses to how they underpin the emergent property of the nervous system: behavior.

Featured Lectures

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/LECTURES



DAVID KOPF LECTURE ON NEUROETHICS

Support contributed by: *David Kopf Instruments*

The Neuroethics Frontier

Nita Farahany, JD, PhD

Duke University

Tuesday, Oct. 22, 3–4:10 p.m.

How should we think about our emerging capabilities of accessing and altering human brains, particularly in light of advances in genome-editing technologies? This lecture will focus on the ethical, legal, and social issues arising from accessing and altering human brains. It will discuss consumer neuro-technologies, corporate interests in accessing and changing brains, and government attempts to do the same. It will also consider the current and future potential directions of these neuroethical issues, particularly in light of recent controversies about human genome-editing.



PRESIDENTIAL SPECIAL LECTURE

Wavefront Engineering: Illuminating the Neural

Landscape **CME**

Valentina Emiliani, PhD

Vision Institute (CNRS, INSERM, Sorbonne University)

Tuesday, Oct. 22, 5:15–6:30 p.m.

The revolution of optogenetics has opened perspectives in both fundamental and medical neuroscience unimaginable 10 years ago. Joint progress in the design of microbial opsins and in the shaping of wave fronts to precisely guide light through tissues is now bringing the field into a new phase that we can call circuit optogenetics, where neural circuits distributed across several brain areas can be optically interrogated and controlled with millisecond precision and single-cell resolution.

New SfN Photo & Recording Policy Gives Choice to Presenters and Exhibitors

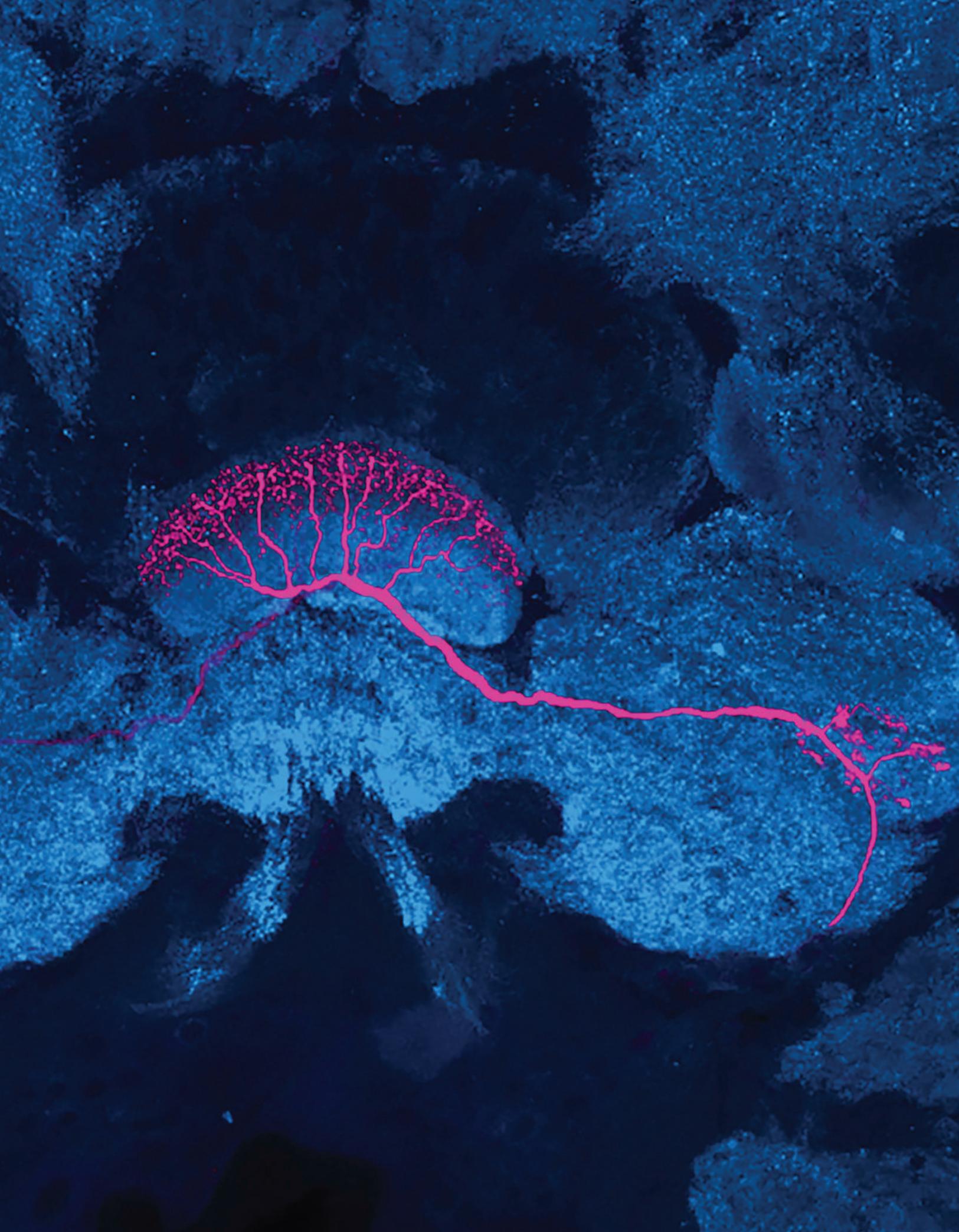
SfN is committed to the respectful sharing of scientific research and data at its meetings and events.

Under the new policy, presenters and exhibitors will be given the option to allow their materials to be photographed or recorded by Neuroscience 2019 attendees following a Creative Commons license.

A set of icons will be displayed to indicate the presenter's choice:



For more information and to review the Creative Commons license, visit www.sfn.org/photopolICY.



Special Lectures

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/LECTURES



THEME A: DEVELOPMENT

Molecular Mechanisms Underlying Activity-Dependent Neural Circuit Development and Plasticity **CME**

Xiang Yu, PhD
Institute of Neuroscience, Chinese Academy of Sciences
Tuesday, Oct. 22, 10:30–11:40 a.m.

The mammalian brain is highly plastic. Experience, both positive and negative, affects how neural circuits are wired, with long lasting effects on the well-being of the individual. This lecture will discuss the molecular mechanisms through which sensory experience and environmental factors affect neural circuit development and plasticity, focusing on plasticity mechanisms that may be unique to early development. The relevance of these mechanisms to developmental neurological disorders, especially autism spectrum disorders, will also be highlighted.



THEME B: NEURAL EXCITABILITY, SYNAPSES, AND GLIA

Neuronal Activity-Dependent Myelination:
A Mechanism for Learning and Repair? **CME**

Ragnhildur T. Karadottir, PhD
University of Cambridge
Saturday, Oct. 19, 2–3:10 p.m.

Myelin is essential for normal brain function, and alterations in myelin are increasingly implicated as a mechanism for learning. The importance of myelin is evident in diseases where damage to myelin leads to physical and cognitive disabilities. Uniquely within the central nervous system, myelin can regenerate; but this often fails, causing sustained clinical deficits. This lecture will cover the progress made in understanding myelination, with a focus on activity-dependent myelination, and explore how the underlying mechanisms of myelin plasticity may underpin myelin regeneration.



THEME C: NEURODEGENERATIVE DISORDERS AND INJURY

Leveraging Brain Rhythms as a Therapeutic Intervention for Neurodegenerative Diseases **CME**

Li-Huei Tsai, PhD
Massachusetts Institute of Technology
Tuesday, Oct. 22, Noon–1:10 p.m.

Gamma rhythms (30-80 Hz) are modulated during cognition, and impaired gamma rhythms have been associated with Alzheimer's disease (AD). But do they play a causal role? New evidence shows that non-invasive sensory stimulation of 40 Hz rhythm power and synchrony in AD mouse models reduces AD-like pathology and enhances cognitive function. Research is ongoing to understand the mechanisms underlying the beneficial effects of 40 Hz stimulation and to translate this intervention for human patients.



THEME C: NEURODEGENERATIVE DISORDERS AND INJURY

Aberrant Phase Separation in Neurodegenerative Disease **CME**

Anthony A. Hyman, PhD
Max Planck Institute of Cell Biology & Genetics
Wednesday, Oct. 23, 10:30–11:40 a.m.

Cells organize many of their biochemical reactions by formation and dissolution of non-membrane-bound compartments. Recent experiments show that a common mechanism for such biochemical organization is phase separation of unstructured proteins to form liquid-like compartments. These liquid-like compartments can be described by principles elucidated from condensed-matter physics and are therefore termed biomolecular condensates. This lecture will cover the relationship between the formation of liquid-like compartments, quality control mechanisms that preserve the liquid-like state, and the onset of aggregated-protein pathology that is commonly observed in neurodegenerative diseases.



THEME D: SENSORY SYSTEMS

Active Touch, Pain, and Anesthesia **CME**

Fan Wang, PhD

Duke University Medical Center

Monday, Oct. 21, Noon–1:10 p.m.

This lecture will discuss studies aimed at understanding the neural basis of somatosensory perception. Specifically, three areas of research will be presented including: peripheral and brainstem sensory and motor circuits underlying exploratory touch behaviors; neural circuits processing the sensory-discriminative and the affective aspects of orofacial pain; and neural circuits mediating the analgesic (pain-suppression) functions of general anesthesia, especially the identification of an anesthesia-activated circuit in the amygdala that potently suppresses pain.



THEME E: MOTOR SYSTEMS

Comparative Neurobiology of Vocal Communication **CME**

Michael A. Long, PhD

New York University School of Medicine

Sunday, Oct. 20, 1:30–2:40 p.m.

Vocal communication is central to our everyday lives, facilitating social exchange. Despite significant recent discoveries, the neural mechanisms underlying coordinated vocal exchanges remain poorly understood. This lecture will examine the brain processes involved in interactive vocal behaviors, focusing on forebrain circuitry in the songbird and the rodent, and will relate these to emerging human studies that employ a range of methods to manipulate and monitor cortical areas relevant for speech.



THEME E: MOTOR SYSTEMS

Neural Mechanisms of Short-Term Memory and Motor Planning **CME**

Karel Svoboda, PhD

Howard Hughes Medical Institute, Janelia Research Campus

Monday, Oct. 21, 10:30–11:40 a.m.

Motor planning plays key roles in motor control. Movements that are preceded by periods of motor planning are faster and more accurate than in the absence of planning. Motor planning is also a prospective form of short-term memory that links past events and future movements. During motor planning, neurons in the motor cortex show persistent activity related to specific movements, long before movement onset, in the absence of sensory input. This lecture will discuss how multi-regional neural circuits maintain this selective persistent activity and how this activity relates to behavior.



THEME F: INTEGRATIVE PHYSIOLOGY AND BEHAVIOR

Flies and Alcohol: An Interplay of Nature and Nurture **CME**

Ulrike Heberlein, PhD

Howard Hughes Medical Institute, Janelia Research Campus

Tuesday, Oct. 22, 9–10:10 a.m.

Alcoholism is a major problem in medicine and society, yet few effective therapies are available for its treatment. This lecture will discuss the development and use of the fruit fly *Drosophila melanogaster* as a model system to identify genes, molecular pathways, and neural circuits that mediate the highly conserved behavioral responses to alcohol.

Special Lectures

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/LECTURES



THEME G: MOTIVATION AND EMOTION

CLINICAL NEUROSCIENCE LECTURE

From Pecking Order to Ketamine: Neural Mechanisms of Social and Emotional Behaviors **CME**

Hailan Hu, PhD

Zhejiang University School of Medicine

Sunday, Oct. 20, 10:30–11:40 a.m.

Emotions and social interactions color our lives and shape our behaviors. Using animal models and engineered manipulations, Dr. Hu's lab aim to understand how social and emotional behaviors are encoded, focusing on the neural circuits underlying dominance hierarchy and depression. This lecture will highlight recent discoveries on the interplay between winning history and prefrontal circuit activities; the impact of social status loss on depression; and how ketamine tames depression by blocking bursts in the brain's anti-reward center, involving a surprising role of glia.



THEME G: MOTIVATION AND EMOTION

The Neurobiology of Long-Term Memory:

Key Molecules, Diverse Cell Types, Temporal Dynamics, and Critical Periods **CME**

Cristina M. Alberini, PhD

New York University

Wednesday, Oct. 23, 3–4:10 p.m.

Long-term memory formation and storage are complex and dynamic processes. What types of molecular and cellular mechanisms underlie this complexity? This lecture will describe key biological mechanisms regulated in response to learning, their expression in diverse cell types, their temporal dynamics, and their roles in long-term memory formation, storage, as well as changes induced by memory recall. It will also discuss how the biological mechanisms engaged in long-term memory formation and storage change over development.



THEME H: COGNITION

The Brain From Inside Out **CME**

Gyorgy Buzsaki, MD, PhD

New York University

Sunday, Oct. 20, Noon–1:10 p.m.

Is there a right way to study the brain? The current outside-in approach examines neural reactions to external stimuli. It has fueled a generation of extraordinary brain research but now it must confront its limits and hidden assumptions. The brain is a foretelling device that interacts with its environment through action and the examination of action's consequence. It is not an information-absorbing coding device but a venture-seeking explorer constantly controlling the body to test its hypotheses. Our brain does not process information: it creates it.



THEME H: COGNITION

Evolution and Dissolution of Memories Over Time **CME**

Eleanor A. Maguire, PhD

University College London

Tuesday, Oct. 22, 1:30–2:40 p.m.

Autobiographical memories are the ghosts of our past. Through them we visit places long departed, see faces once familiar, and hear voices now silent. These often decades-old personal experiences can be recalled on a whim or come unbidden into our everyday consciousness. This lecture will focus on examining not only how autobiographical memories evolve in the brain over time, but also how our understanding of this process has developed through the 50 years of the Society for Neuroscience.



THEME H: COGNITION

Neural Codes for Natural Behaviors in Flying Bats **CME**

Nachum Ulanovsky, PhD

Weizmann Institute of Science

Wednesday, Oct. 23, 1:30–2:40 p.m.

Natural Neuroscience aims to decipher the neural mechanisms of natural behaviors in freely-moving animals. This lecture will focus on studies of neural codes for space, time, and social behaviors in flying bats using wireless neurophysiology methods. It will highlight new neuronal representations discovered in animals navigating through complex, 3D, or large-scale environments, or engaged in social interactions. The lecture will posit that neuroscience experiments in bats, rodents, or humans should be conducted under evermore naturalistic settings.



THEME I: TECHNIQUES

Theoretical Neuroscience: Decision Making and Its Discontents **CME**

Peter Dayan, PhD

Max Planck Institute for Biological Cybernetics

Sunday, Oct. 20, 9–10:10 a.m.

Theoretical neuroscience comes in three intertwined strands: data analysis, which is of ever greater importance in the present age of burgeoning big neural data; mathematical neuroscience, offering quantitative accounts spanning levels of description; and computational neuroscience, predicated on the fact that brains solve complex information processing problems. This lecture will review elements of each of these, focusing on the ever richer understanding of normal and dysfunctional affectively-charged decision-making.



THEME I: TECHNIQUES

Extracting Function From Structure:

Lessons From the Fly Connectome **CME**

Gerald M. Rubin, PhD

Howard Hughes Medical Institute, Janelia Research Campus

Wednesday Oct. 23, Noon–1:10 p.m.

A connectome of the *Drosophila* central nervous system will soon be available, providing the first glimpse of synaptic-level connectivity of the brain of an animal with sophisticated behavior. The challenge now is to use this information—together with genetically targeted physiology and perturbation during behavior—to understand the neural basis of perception, sleep, associative learning, navigation, and more.



Symposia & Minisymposia

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/SYMPOSIA

THEME A — DEVELOPMENT

Minisymposium

New Insights in Understanding Fragile X Syndrome (FXS): Focus on Neural Development in Human Models and Non-Neuron Glial Cells **CME**

Chair: Yongjie Yang, PhD
Co-Chair: Gary J. Bassell, PhD
Saturday, Oct. 19, 1:30–4 p.m.
McCormick Place: S100BC

Recent development to establish stem cell or iPSC-derived human models of FXS has begun to provide new insight about the molecular and synaptic alterations in human neurons. This minisymposium will describe recent progress on utilizing human cell models to not only understand the roles of FMRP in human neuron development, but also test reactivation of the FMR1 gene as a potential therapeutic strategy. In addition, new knowledge about how non-neuronal glial cells are involved in the pathogenic process of FXS will be presented.

Minisymposium

Functional Maturation of Cerebello-Cerebral Interactions **CME**

Chair: Freek E. Hoebeek, PhD
Co-Chair: Roy V. Sillitoe, PhD
Sunday, Oct. 20, 8:30–11 a.m.
McCormick Place: S406A

The developmental processes that connect the cerebellum to the cerebrum constitute critical morphogenetic events that span embryogenesis through postnatal life. It is argued that disrupting these mechanisms results in neurodevelopmental disorders such as autism, movement diseases such as cerebral palsy, and language defects such as dyslexia. This minisymposium brings together recent experimental and clinical advances to better define the cerebellum's role in cerebral maturation.

Symposium

Circuit Variability and Plasticity in the Central Nervous System of *Drosophila* **CME**

Chair: Gaia Tavosanis, PhD
Co-Chair: Bassem A. Hassan, PhD
Monday, Oct. 21, 8:30–11 a.m.
McCormick Place: S100A

Which level of variability in the connections within a circuit can support behavioral variation among individuals or trigger the modified response of an animal that has learned a given task? Unprecedented views into neuronal morphology and circuit organization allow for asking such questions in flies with great precision. This symposium will explore how variability emerges during nervous system development and its behavioral correlates and discuss the signals that promote plasticity in the adult nervous system.

Symposium

From Single-Cell Profiling to Human Brain Organoids: Capturing Neural Development and Disease **CME**

Chair: Sergiu P. Pasca, MD
Co-Chair: Hongjun Song, PhD
Monday, Oct. 21, 1:30–4 p.m.
McCormick Place: S100A

A critical challenge in understanding human brain development and disease has been the lack of direct access to functioning human neural tissue for detailed molecular investigation. This symposium will introduce recent advances in generating stem cell-derived neurons and glial cells in preparations known as brain organoids and assembloids. Moreover, it will illustrate how single-cell genomic and transcriptomic methods as well as studies of RNA and DNA modifications are advancing our understanding of neural development and disease.

Minisymposium

Novel Mechanisms of Neuronal Alternative Splicing and Strategies to Correct Aberrant-Splicing **CME**

Chair: Eduardo J. Lopez Soto, PhD
Tuesday, Oct. 22, 8:30–11 a.m.
McCormick Place: S102

Dynamic changes in alternative splicing support virtually every neuronal process, ranging from development and plasticity to complex behaviors and cognition, and is implicated in disease pathology. This minisymposium will focus on novel cell-specific mechanisms that regulate alternative splicing in neurons and how these findings inform promising new therapies to correct and control splicing defects.

Minisymposium

Adult Hippocampal Neurogenesis in Humans and Rodents: New Evidence and New Perspectives **CME**

Chair: Juan Song, PhD
Co-Chair: Shaoyu Ge, PhD
Tuesday, Oct. 22, 1:30–4 p.m.
McCormick Place: S100BC

Adult neurogenesis in mammals including humans affords remarkable structural and functional plasticity and regenerative capacity to mature circuits. This minisymposium will cover the most recent topics in adult hippocampal neurogenesis, including new evidence for human adult hippocampal neurogenesis, visualization of neural stem cells in living mice, regulation of adult neurogenesis by niche cells and neural circuits, and adult neurogenesis in the contexts of behavior and diseases.

Minisymposium

Mechanisms of Basal Ganglia Maturation: Insights Into Health and Disease **CME**

Chair: Rui Peixoto, PhD
Co-Chair: Ori Lieberman
Wednesday, Oct. 23, 1:30–4 p.m.
McCormick Place: S100BC

The basal ganglia are critical for action selection and motivated behaviors, and growing evidence points to striatal

dysfunction in numerous neurodevelopmental disorders. This minisymposium will highlight recent advances in our understanding of the molecular and activity dependent mechanisms regulating the maturation of basal ganglia circuits, how these contribute to unique behaviors in adolescence, and how they might be implicated in the pathophysiology of human neurodevelopmental disorders.

THEME B — NEURAL EXCITABILITY, SYNAPSES, AND GLIA

Minisymposium

Novel Mechanistic Roles for Sodium Channels in Neurodevelopmental Disorders **CME**

Chair: Kevin J. Bender, PhD
Co-Chair: Ethan M. Goldberg, MD, PhD
Sunday, Oct. 20, 8:30–11 a.m.
McCormick Place: S105

Disease-related alterations in ion channel function, termed channelopathies, contribute to a range of neurodevelopmental disorders. This minisymposium will highlight advances in our understanding of how pathogenic variation in sodium channels contributes to a range of neurodevelopmental disorders, including new insight into well-established sodium channelopathies leading to epilepsy and new associations between sodium channels and other developmental disorders, including autism and schizophrenia.

Minisymposium

The Gut-Brain Axis in Health and Brain Disease **CME**

Chair: Arthur Liesz, MD
Co-Chair: Jane A. Foster, PhD
Sunday, Oct. 20, 1:30–4 p.m.
McCormick Place: S406A

The gut microbiome is a critical player in neurodevelopment and aging as well as in brain diseases including stroke, Alzheimer's disease, and Parkinson's disease. Intestinal bacteria act along the gut-brain axis in part by modifying the immune response. Bacteria also produce neuroactive mediators and can modulate neuronal function, plasticity and behavior. This minisymposium will highlight recent insights on the bi-directional

communication along the brain-gut-microbiome-immune axis.

Symposium

Dissecting Cerebellar Function: A Prototypical Circuit Critical for Motor Learning and Cognition **CME**

Chair: Michisuke Yuzaki, MD, PhD
Monday, Oct. 21, 8:30–11 a.m.
McCormick Place: S100BC

At the end of 2018, the world lost Masao Ito. Few have shaped our understanding of the cerebellum more — from the identification of inhibitory actions of Purkinje cells, to the postulate and discovery of synaptic long-term depression and a role beyond motor control. This tribute to his visionary work and how it continues to influence research around the world features state-of-the-art studies of cerebellar development, plasticity, and consequences for cognition and its disorders.

Minisymposium

The Synaptic Vesicle Cycle Revisited: New Insights Into the Modes and Mechanisms **CME**

Chair: Jennifer R. Morgan, PhD
Co-Chair: Shigeki Watanabe, PhD
Tuesday, Oct. 22, 1:30–4 p.m.
McCormick Place: S105

Neurotransmission relies critically upon the ability of nerve terminals to locally recycle synaptic vesicles with precise efficiency. Recently, the field has witnessed many exciting discoveries on synaptic vesicle recycling. Novel pathways have

been identified; multiple modes of vesicle exo-/endocytosis have been reported, distinguished by speed; and new points of molecular regulation are now known. This minisymposium will present these findings and discuss how they impact the classical view of the vesicle cycle.

Minisymposium

Pleiotropic Mitochondria: The Influence of Mitochondria on Neuronal Development and Disease **CME**

Chair: Julien Courchet, PhD
Co-Chair: Seok-Kyu Kwon, PhD
Wednesday, Oct. 23, 8:30–11 a.m.
McCormick Place: S102

Mitochondria are a central organelle in the regulation of neuronal metabolism and synaptic transmission. This minisymposium aims to present exciting novel developments regarding mitochondria biology and its role in neuronal development in a physiological and pathological context.

Minisymposium

Cell-Type Specificity, Strength, and Dynamics of Long-Range Synaptic Input **CME**

Chair: Gabe J. Murphy, PhD
Co-Chair: Leopoldo T. Petreanu, PhD
Wednesday, Oct. 23, 1:30–4 p.m.
McCormick Place: S406A

The specificity and functional properties of long-range synaptic input is less understood than that of local input. New optogenetic, viral tracing, and imaging techniques enable a deeper understanding of the interactions



Symposia & Minisymposia

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/MINISYMPPOSIA

between cell types in discrete brain areas. New data from these approaches indicate that the specificity of local and long-range input can be comparable and raise the possibility that long-range input specificity may play a larger role than previously appreciated.

THEME C — NEURODEGENERATIVE DISORDERS AND INJURY

Minisymposium

Myelin Degeneration and Remyelination in Health and Disease **CME**

Chair: Carlos E. Pedraza, PhD
Co-Chair: Tarek Samad, PhD
Sunday, Oct. 20, 8:30–11 a.m.
McCormick Place: S100A

Myelin speeds the transmission of the nerve impulse and insulates and protects the neuron. Defects in myelin formation and demyelination result in developmental disabilities and neurological deficits. A better understanding of myelin dynamics is the key to developing effective therapies for demyelinating diseases. Current studies on myelinating cell biology (specifically oligodendrocyte and Schwann cells) during development and pathology will provide the basis for innovative drug discovery.

Symposium

The Molecular and Spatial Complexity of Tau: What Forms and Loci to Target? **CME**

Chair: Dominic M. Walsh, PhD
Sunday, Oct. 20, 1:30–4 p.m.
McCormick Place: S100A

Aggregation of tau is a common feature of a range of neurodegenerative disorders referred to as tauopathies. However, the forms of tau which mediate toxicity remain ill-defined, making it difficult to design optimal anti-tau therapeutics. This symposium will address the molecular and structural heterogeneity of tau, the effects of tau on excitatory neurons, and factors which contribute to the specific spatiotemporal patterns of neurodegeneration which characterize particular tauopathies.

Minisymposium

Phenotype Suppression in Neurodegeneration **CME**

Chair: Kristi Wharton, PhD
Monday, Oct. 21, 8:30–11 a.m.
McCormick Place: S105

The underlying causes of neurodegeneration remain elusive in many diseases, including ALS and FTD. This minisymposium will focus on the hallmark phenotypes of these diseases and the molecular and cellular pathways that suppress them. Rather than uniting around a specific genetic mutation or model organism, this minisymposium will highlight models with clinically relevant symptoms that enable mechanistic studies based on genetic or pharmacological suppressors.

Minisymposium

Necroptosis and Other Non-Apoptotic Processes in Microglial Pathophysiology and Neurologic Diseases **CME**

Chair: Dimitry Ofengheim, PhD
Monday, Oct. 21, 1:30–4 p.m.
McCormick Place: S105

An emerging view is that inflammation and altered innate immunity drive the pathophysiology of neurodegenerative diseases. The identification of a RIPK1-mediated necroptotic pathway that sits at the intersection of cell death and inflammation presents a new opportunity to explore the role of inflammation in degenerative diseases. This minisymposium will explore the immune response in the context of cellular stress in neurodegenerative diseases.

Symposium

Comparing Dopamine Metabolism in Mouse and Human Neurons: Relevance for Parkinson's Disease **CME**

Chair: Dimitri Krainc, MD, PhD
Tuesday, Oct. 22, 1:30–4 p.m.
McCormick Place: S406A

Parkinson's disease involves the degeneration of dopaminergic neurons in the substantia nigra. However, unlike human patients, most Parkinson's disease mouse models do not exhibit dopaminergic degeneration,

suggesting fundamental species differences. This symposium will highlight recent work demonstrating that dopamine metabolism is differentially regulated across mouse and human midbrain neurons, contributing to differences in neuromelanin production and their susceptibility to degeneration.

Symposium

CNS Scarring, Inflammation, and Repair **CME**

Chair: Christian Goeritz, PhD
Co-Chair: Michael V. Sofroniew, MD, PhD
Wednesday, Oct. 23, 1:30–4 p.m.
McCormick Place: S100A

This symposium will focus on the cellular components mediating scarring and repair following lesions to the central nervous system (CNS). Recent advances in understanding the function of glial, stromal, and immune cell components emphasizing heterogeneity within individual cell populations regarding injury induced changes, axonal regeneration and functional recovery after CNS injury will be presented. Based on these advances, this symposium will discuss potential therapeutic repair strategies of the injured nervous system.

THEME D — SENSORY SYSTEMS

Minisymposium

Parabrachial Complex: A Hub for Pain and Aversion **CME**

Chair: Mary M. Heinricher, PhD
Sunday, Oct. 20, 8:30–11 a.m.
McCormick Place: S406B

The parabrachial nucleus complex (PBN) has long been recognized as a sensory relay for taste, nociception, and interoception, but how this information is integrated and used to inform different behavioral outputs is only now being elucidated. This minisymposium will provide a context for interrogation of PBN circuits involved in aversion and avoidance and consider how information is integrated within PBN and transmitted to distinct targets to signal alarm and engage appropriate behavioral responses.

Minisymposium

What Do Neurons Want? CME

Chair: Gabriel Kreiman, PhD
Co-Chair: Carlos R. Ponce, MD, PhD
Monday, Oct. 21, 1:30–4 p.m.
McCormick Place: S102

Sixty years after Hubel and Wiesel, there remain important questions about the shapes that visually responsive neurons learn to abstract from the natural world. Recent advances in computational neuroscience have paved the way to rethinking neural coding for visual shapes. This minisymposium will discuss recent findings and theories about neuronal representations in the visual cortex, as revealed through experiments, simulations and the novel use of machine learning tools including generative neural networks.

Minisymposium

Sensory Circuits for Vision and Smell: Integrating Molecular, Anatomical, and Functional Maps CME

Chair: Alexander Fleischmann, PhD
Co-Chair: Andreas T. Schaefer, PhD
Tuesday, Oct. 22, 8:30–11 a.m.
McCormick Place: S105

The past decade has witnessed major advances in the development of molecular, anatomical, and functional techniques for large scale brain mapping. However, integrating these complementary techniques has remained challenging. This minisymposium will demonstrate how novel approaches can be combined to bridge these gaps and systematically generate insight into the molecular and functional topology of sensory neural circuits.

Minisymposium

Expecting the Unexpected: Cortical Circuits for Novelty Detection CME

Chair: Jordan P. Hamm, PhD
Tuesday, Oct. 22, 1:30–4 p.m.
McCormick Place: S406B

Efficient sensory processing involves building predictions based on context and detecting when events betray these predictions. Recent findings indicate that whether a stimulus is

context-typical vs context-deviant/novel may be encoded by separate circuit mechanisms or even neural subpopulations (e.g. deviance detecting cells) distributed across sensory, associative, and prefrontal cortices. This minisymposium will highlight this discovery with converging results and insights from mice, ferrets, and humans.

Symposium

New Approaches to Vision Restoration CME

Chair: Joshua R. Sanes, PhD
Co-Chair: Paul A. Sieving, MD, PhD
Wednesday, Oct. 23, 8:30–11 a.m.
McCormick Place: S100A

A variety of translational strategies are being developed to restore vision to those who have blinding diseases. This symposium features premier investigators who will highlight four different approaches by discussing cutting-edge research in gene therapy, cell therapy, retinal prostheses, and optogenetic therapy. It will inform the community about the current state of the science using these approaches and highlight their potential to treat debilitating diseases of the visual system.

Minisymposium

Progress in Pain and Itch Research CME

Chair: Qin Liu, PhD
Co-Chair: Hongzhen Hu, MD, PhD
Wednesday, Oct. 23, 1:30–4 p.m.
McCormick Place: S102

Although acute pain and itch are two of the most fundamental protective somatosensory processes, chronic pathological pain and itch inflict significant clinical challenges and economic burdens. The coding and processing of pain and itch in the peripheral and central nervous systems are highly complicated processes. This minisymposium will highlight the recent research advances in the cross-system regulations of pain and itch, and maladaptive processes that lead to chronic pain and itch.

THEME E — MOTOR SYSTEMS

Minisymposium

Gain Control in the Sensorimotor System: From Neural Circuit Organization to Behavioral Function CME

Chair: Kazuhiko Seki, PhD
Co-Chair: Eiman Azim, PhD
Saturday, Oct. 19, 1:30–4 p.m.
McCormick Place: S406B

Coordinated movement depends on communication between neural circuits that produce motor output and those that report sensory consequences. Fundamental to this interaction are mechanisms for controlling the influence that feedback signals have on motor pathways — for example, reducing feedback gains when disruptive and increasing gains when advantageous. This minisymposium will discuss the organization and function of diverse forms of sensory gain control across species at multiple levels of the nervous system.

Minisymposium

The Neural Basis of Manual Dexterity CME

Chair: Sliman J. Bensmaia, PhD
Sunday, Oct. 20, 8:30–11 a.m.
McCormick Place: S102

Human hands are remarkably versatile and constitute the principal means by which we physically interact with the environment. This minisymposium will investigate the neural mechanisms that mediate manual dexterity by examining both motor control of the hands and the sensory input necessary for manual precision. Manual dexterity from evolutionary and comparative perspectives and recent efforts to confer anthropomorphic dexterity to brain-controlled bionic hands will also be considered.

Symposia & Minisymposia

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/SYMPPOSIA

Minisymposium

Beta Oscillations in Sensorimotor Function, Executive Action Control, and Working Memory CME

Chair: Robert Schmidt, PhD

Co-Chair: Adam R. Aron, PhD

Tuesday, Oct. 22, 8:30–11 a.m.

McCormick Place: S406A

Beta oscillations in cortical and basal ganglia networks remain mysterious, yet they are closely linked to network function and dysfunction. While beta is classically seen as representing an akinetic state, this minisymposium will highlight new insight into beta in the sensorimotor system and in cognitive control. Results across three species as well as from computational modelling, deep brain stimulation and electrophysiology that explain the mechanisms and function of beta and closed-loop methods in patients will be presented.

Minisymposium

Adaptive Control of Movements and Emotional States by the Cerebellum CME

Chair: Reza Shadmehr, PhD

Wednesday, Oct. 23, 1:30–4 p.m.

McCormick Place: S406B

An unexpected sensory event can be emotionally charged or neutral and can occur during movements or stillness. In every case, the cerebellum learns to eliminate the sensory prediction error. When this learning fails, results are motor as well as anxiety disorders. This minisymposium will present recent discoveries regarding the neural basis of this learning process, demonstrating the role of prediction errors in sculpting activity of Purkinje cells and leading to better control of brain structures outside of the cerebellum.

THEME F — INTEGRATIVE PHYSIOLOGY AND BEHAVIOR

Minisymposium

Sex Differences in Drug Craving and Addiction-Like Behaviors in Rodent Models CME

Chair: Mathieu E. Wimmer, PhD

Co-Chair: Jessica A. Loweth, PhD

Saturday, Oct. 19, 1:30–4 p.m.

McCormick Place: S102

Women tend to have greater vulnerability than men to developing symptoms that define Substance Use Disorder, including escalation of drug taking and withdrawal symptoms. Moreover, the limited treatment options for addiction are less effective in women compared to men. This minisymposium highlights recent advances in rodent models of addiction that dissect the molecular, hormonal, and neuronal circuits underlying sex differences in addiction-like behaviors and craving and relapse vulnerability.

Minisymposium

Insights Into Neural Coding and Behavior From Large-Scale Population Recordings Across Cortical Areas CME

Chair: Jerry L. Chen, PhD

Monday, Oct. 21, 8:30–11 a.m.

McCormick Place: S406B

Cognitive functions involve information processing within and across the neocortical areas. This minisymposium aims to unravel how local and global cortical dynamics contribute to sensory processing, attention, working memory, and decision making. Novel optical and electrophysiological methods for simultaneous recordings across multiple areas, their application across mammalian species, and computational approaches for analyzing large-scale population activity will be discussed.

Symposium

Cortical Disinhibitory Circuits: Cell Types, Connectivity, and Function CME

Chair: Chair: Lisa Topolnik, PhD

Co-Chair: Klas Kullander, PhD

Monday, Oct. 21, 1:30–4 p.m.

McCormick Place: S100BC

The concept of cortical disinhibition has recently arisen as an important mechanism for information flow during complex behavioral tasks. Identifying the neuron types involved in cortical disinhibition, their connectivity patterns, and their functional role is therefore critical to understanding the structure and function of disinhibitory circuits. This symposium brings together leading scientists from around the world to present the latest discoveries on the dynamic organization of cortical microcircuits with focus on disinhibition and its role in cognition and behavior.

Symposium

Neural Circuit and Plasticity Mechanisms of Cognitive Control of Feeding Behavior CME

Chair: Gorica D. Petrovich, PhD

Tuesday, Oct. 22, 1:30–4 p.m.

McCormick Place: S100A

Persistent food cravings drive overeating and binge-eating disorder. Palatable food cues stimulate excessive food seeking and consumption through cognitive and hedonic processes. This symposium will highlight new neural circuitry and plasticity mechanisms underlying cognitive control of feeding, including learning and memory processes that integrate sensory and reward components of food and related cues. Sex differences and translational implications of these findings will be also discussed.

Minisymposium

Redefining Neuromodulation of Behavior: Impact of a Modular Locus Coeruleus Architecture CME

Chair: Nelson K. B. Totah, PhD

Tuesday, Oct. 22, 1:30–4 p.m.

McCormick Place: S102

The locus coeruleus (LC) is a brainstem nucleus critical for survival (wakefulness, autonomic responses, and analgesia) as well as cognition. LC neurons project throughout the central nervous system and could transmit a homogenous noradrenergic signal that uniformly regulates these diverse functions. This minisymposium will present work reconceptualizing LC as a differentiated

system for targeted neuromodulation on the basis of developmental, molecular, anatomical, and neurophysiological diversity.

Minisymposium

Regulation and Dysregulation of Activity Homeostasis in Central Neural Circuits CME

Chair: Inna Slutsky, PhD
Co-Chair: Samuel Barnes, PhD
Wednesday, Oct. 23, 8:30–11 a.m.
McCormick Place: S406B

A fundamental challenge in the field of neuroscience is to understand how neurons and neural networks maintain stable firing rates in the face of continuous synaptic, metabolic and molecular turnover. This minisymposium will explore how neural homeostasis is implemented at different spatial scales and across diverse brain regions. Importantly, how current findings can be reconciled with other plasticity mechanisms and the disease implications of homeostasis failures will also be discussed.

THEME G — MOTIVATION AND EMOTION

Symposium

Epigenetic Mechanisms: Shared Pathology Across Brain Disorders CME

Chair: Eric J. Nestler, MD, PhD
Co-Chair: Zhen Yan, PhD
Saturday, Oct. 19, 1:30–4 p.m.
McCormick Place: S100A

The pathogenesis of many brain disorders converges on epigenetic changes, leading to lasting transcriptional dysregulation and synaptic dysfunction. This symposium will discuss recent findings on the key role of epigenetic mechanisms in stress-induced depression, autism-like social deficits, drug addiction, and age-related memory loss. It will also discuss the therapeutic potential of targeting epigenetic enzymes, such as chromatin remodelers and histone modifiers, for complex brain disorders.

Minisymposium

Cannabis and the Developing Brain: Insights Into Its Long-Lasting Effects CME

Chair: Yasmin Hurd, PhD
Co-Chair: Miriam Melis, PhD
Sunday, Oct. 20, 1:30–4 p.m.
McCormick Place: S100BC

Increasing evidence suggests that cannabis exposure during neurodevelopment (perinatal and adolescent stages) results in persistent alterations in brain circuits underlying neuropsychiatric disorders and leads to an increased risk for certain psychiatric conditions later in life. This minisymposium will explore gene x environment interactions that appear to play a significant role in such sensitivity and will provide translational insights about molecular, epigenetic, neurophysiological, and *in vivo* neuroimaging disturbances in the human brain and animal models.

Minisymposium

Ventral Tegmental Area (VTA) Cell

Heterogeneity in Health and Disease CME

Chair: Nicholas W. Gilpin, PhD
Co-Chair: Elyssa B. Margolis, PhD
Monday, Oct. 21, 8:30–11 a.m.
McCormick Place: S102

Historically, most research on the ventral tegmental area (VTA) has tested dopamine function as it relates to reward processing. Recent progress indicates 1) non-dopamine VTA neurons significantly impact behavior, 2) VTA inputs and outputs have multiple, sometimes opposing, behavioral effects, and 3) the VTA subserves various functions impacted by mental health disorders. This minisymposium will describe newly elucidated roles of specific VTA cell populations in addiction, reward, aversion, fear and sleep.

Symposium

The Paraventricular Thalamus (PVT): Salience and Timing Orchestrator for Learning and Deciding CME

Chair: Seema Bhatnagar, PhD
Co-Chair: Tallie Z. Baram, MD, PhD
Tuesday, Oct. 22, 8:30–11 a.m.
McCormick Place: S100BC

The goal of this symposium is to present novel perspectives on the established and emerging roles of the PVT in complex behaviors.

There has been an explosion of interest in the PVT due to its recently described roles in orchestrating decisions and behaviors involving emotional salience. Evidence suggests that the PVT shapes behaviors by integrating information about the memory and salience of negative and positive experiences, functions highly germane to addiction and psychopathology.

Minisymposium

Brain Circuits for the Selection and Scaling of Defensive Behavior CME

Chair: Stephen Maren, PhD
Wednesday, Oct. 23, 8:30–11 a.m.
McCormick Place: S105

Threatening stimuli evoke a range of behavioral responses that are selected and scaled according to the proximity of the danger. This minisymposium will examine the neural circuits that underlie defensive behaviors under threat. Sex, context, threat proximity, and safety signals regulating defensive responses in both rodents and humans will be considered.

THEME H — COGNITION

Minisymposium

Brain Mechanisms of Concept Learning CME

Chair: Dagmar Zeithamova, PhD
Co-Chair: Michael L. Mack, PhD
Saturday, Oct. 19, 1:30–4 p.m.
McCormick Place: S105

Concept learning, the ability to extract commonalities and highlight distinctions across related experiences to build organized knowledge, is uniquely supported by interacting neural systems related to memory, attention, and executive control. This minisymposium will highlight research that directly assesses the multiple neural mechanisms of concept learning with innovative approaches that bridge computational modeling and neural measures.

Symposia & Minisymposia

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/MINISYMPPOSIA

Symposium

Opening the Black Box of the Hippocampus: Visualizing Memories in Distinct Cell Types, Microcircuits, and Cellular Compartments **CME**

Chair: Mazen Kheirbek, PhD
Sunday, Oct. 20, 8:30–11 a.m.
McCormick Place: S100BC

The hippocampus is comprised of many cell types and circuits that differentially contribute to aspects of memory encoding. Recent technological advances have led to a reassessment of the hippocampus, its information processing capacity, and how it controls behavior. This symposium will describe how electrophysiology, imaging, and computational tools can be combined to decode the function of hippocampal cell types, microcircuits, and subcellular compartments in the control of behavior.

Minisymposium

Cognitive Cerebellum: Role in Motivation, Emotion, Executive, Social, and Sensory Processing **CME**

Chair: Iaroslav A. Savtchouk, PhD
Co-Chair: June Liu, MD, PhD
Sunday, Oct. 20, 1:30–4 p.m.
McCormick Place: S102

The cerebellum has been predominantly studied as a sensory-motor integrator, but anatomic studies reveal its extensive reciprocal connections with non-motor cortical regions. It is now increasingly implicated in higher-order cognition, such as complex planning as well as emotional, social, linguistic, and reward processing. This minisymposium will review how these recent advances in beyond-motor cerebellar research will reshape our view of brain function and dysfunction, including autism and cognitive affective syndrome.

Minisymposium

Awakening the Engram: The Etiological Role of Engram Cells for Memory Formation, Storage, and Retrieval in Health and Disease **CME**

Chair: Johannes Gräff, PhD
Co-Chair: Tomas J. Ryan, PhD
Monday, Oct. 21, 1:30–4 p.m.
McCormick Place: S406A

Converging evidence over the past several years suggests that memories are stored at least in part as specific populations of engram cells. In this symposium, leading experts in engram biology share their continuously refined insights on how engram cells contribute to information encoding and storage, across diverse brain regions and behavioral modalities. Particular emphasis is placed on their emerging translational value for memory dysfunctions in age and stress-related disorders.

Minisymposium

Naturalistic Paradigms in Awake Monkeys: Bridging fMRI and Extracellular Activities **CME**

Chair: Sze Chai C. Kwok, PhD
Co-Chair: Brian E. Russ, PhD
Tuesday, Oct. 22, 8:30–11 a.m.
McCormick Place: S406B

Naturalistic viewing paradigms have become increasingly popular, as they translate to the real world conditions that shaped brain evolution. Recent advances in non-human primate research allow for the monitoring of large numbers of neurons, and the collection of richer behavioral and neural data than ever before. This minisymposium will present evidence that naturalistic paradigms reveal neural specializations and interaction patterns in the brain that would be dormant otherwise.

Minisymposium

Grid-Like Hexadirectional Modulation of Neural Activity in Humans **CME**

Chair: Nanthia Suthana, PhD
Wednesday, Oct. 23, 8:30–11 a.m.
McCormick Place: S100BC

Neurons have been shown to increase in firing rate with a hexagonal grid pattern as an animal navigates an environment.

Recently, studies show that population signals of neural activity (i.e., LFP and fMRI) exhibit similar hexadirectional modulation in humans. These findings from human grid-like oscillatory and fMRI signals will be discussed as well as how they relate to each other and rodent studies. This minisymposium will also focus on how findings relate to spatial navigation and memory in humans.

THEME I — TECHNIQUES

Minisymposium

BRAIN Initiative: Cutting-Edge Tools and Resources for the Community **CME**

Chair: Walter J. Koroshetz, MD
Saturday, Oct. 19, 1:30–4 p.m.
McCormick Place: S406A

A core principle of the BRAIN Initiative is to develop and share novel technologies, tools, methods, and resources to advance understanding of healthy and disease brain states. This minisymposium features BRAIN-funded investigators who are driving forward toward this goal; it will inform and educate the community about opportunities and applications of their advances and encourage broader understanding of the methodological and technological advances developed as a part of the BRAIN Initiative.

Minisymposium

Optical Recording of Neural Transmission: From Tool Development to Applications **CME**

Chair: Haining Zhong, PhD
Co-Chair: Loren L. Looger, PhD
Sunday, Oct. 20, 1:30–4 p.m.
McCormick Place: S105

Imaging of genetically encoded calcium indicators have revolutionized systems neuroscience. However, crucial complementary information, such as when and where neurotransmission takes place, are required for revealing the full picture of brain function. This minisymposium aims to highlight the most recent development of the fluorescent indicators for imaging key neurotransmitters and their downstream events, and the exciting applications of these indicators for dissecting neuronal function.



Minisymposium

Artificial Intelligence and Neuroscience: From Neural Dynamics to Artificial Agents CME

Chair: Maneesha Sahani, PhD

Monday, Oct. 21, 8:30–11 a.m.

McCormick Place: S406A

Machine learning research is advancing at a fast pace, with substantial impacts on neuroscience. Data-analytic approaches have helped to uncover and characterize dynamical structure in neural population activity, while artificial networks have provided insights into representations and computations in the brain. This minisymposium will explore topics at the intersection of machine learning and neuroscience, demonstrating recent advances and how both fields can benefit from a close interaction.

Symposium

Brain Somatic Mosaicism: Implications for Development and Disorders CME

Chair: Flora M. Vaccarino, MD

Co-Chair: Alexander E. Urban, PhD

Tuesday, Oct. 22, 8:30–11 a.m.

McCormick Place: S100A

Cells of the human brain can contain differences in their individual genome sequences, manifesting as single-nucleotide variants (SNVs), mobile element insertions (MEIs), and large copy number variants (CNVs). This symposium will discuss the analysis of somatic mosaicism using advanced genome sequencing approaches, as well as how mosaic variants arise and spread across the brain and their frequencies, mechanisms, and relevance for development and disease.

Minisymposium

Timing is Everything: Temporally Irregular Stimulation Patterns for Brain Mapping and Clinical Therapeutics CME

Chair: Alik S. Widge, MD, PhD

Wednesday, Oct. 23, 8:30–11 a.m.

McCormick Place: S406A

Brain stimulation therapies have revolutionized movement disorder treatment, hold promise in mental disorders, and are

powerful tools for studying the brain. Clinical stimulation is delivered without consideration of how it interacts with ongoing brain activity. This minisymposium explores the growing evidence that when we stimulate is as important as where. New, precisely timed stimulation sequences, each of which has useful physiologic effects, will be described.

Minisymposium

Advanced Circuit and Cellular Imaging Methods in Non-Human Primates CME

Chair: Stephen L. Macknik, PhD

Wednesday, Oct. 23, 1:30–4 p.m.

McCormick Place: S105

Optogenetic and microscopic imaging techniques have proven successful in manipulating neuronal populations with high spatial and temporal fidelity in species ranging from insects to rodents. However, significant obstacles remain in their application to non-human primates (NHPs). Robust optogenetics-activated behavior and long-term monitoring of target neurons have been especially challenging in NHPs. This minisymposium will present recent advances that overcome many such obstacles.

Featured Panel Sessions

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/PANELS

STORYTELLING SESSION 50

The Storytelling Brain: How Neuroscience Stories Help Bridge the Gap Between Research and Society

Chair: Susana Martinez-Conde, PhD

Sunday, Oct. 20, 1:30–4 p.m.

McCormick Place: S406B

This storytelling session brings together neuroscientific discovery, science reporting, and personal storytelling in a synergistic and memorable way. Broad-appeal lectures will interweave with personal stories to showcase the effective ways in which neuroscience researchers and journalists can collaborate, how storytelling provides a common ground between science and art, and the power of narrative to hold captive our storytelling brains.

DUAL PERSPECTIVES 50

Does Adult Neurogenesis Occur in the Human Brain?

Monday, October 21, 1–2 p.m.

McCormick Place: Room S406B

Whether neurogenesis continues in the adult human brain has been contested for decades. Adult neurogenesis is a fascinating phenomenon involving the birth, migration and functional integration of a new neuron into established neural networks. This Dual Perspectives session will present recent evidence both supporting (Dr. Llorens-Martín) and questioning (Dr. Alvarez-Buylla) the presence of new neurons in the adult human hippocampus.



BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLES

Mechanisms of Drug Addiction:

A Translational Perspective CME

Organizer: Trevor W. Robbins, PhD

Monday, October 21, 8:30–11 a.m.

McCormick Place: Room N230B

This roundtable will focus on translatability of basic research in animals to human research in addiction in order not only to understand neurobehavioral mechanisms of addiction, but also to define new strategies for discovery of clinical treatments, especially regarding the current opioid crisis. Topics to be discussed include the neural systems underlying addiction, neuronal adaptations occurring within those systems, how different drugs of abuse produce addiction, and the role of aberrant learning and vulnerabilities in the drive to addiction.

Exoskeletons and Robotics for Neurorehabilitation CME

Organizer: Ann M. Spungen, EdD

Tuesday, October 22, 8:30–11 a.m.

McCormick Place: Room N230B

This session will include a state-of-the-art overview of the use of robotics and exoskeletons in populations with neurological impairments. Specific presentations will include upper body robotic interventions for functional and neurological gains, robotic interventions for children with neurological

impairments, and lower extremity exoskeletons for over ground ambulation. The lower extremity exoskeletal-assisted walking data will be presented from a randomized, controlled clinical trial.

Gene Therapy in Neurological Diseases CME

Organizer: Asa Abeliovich, MD, PhD

Wednesday, October 23, 8:30–11 a.m.

McCormick Place: Room N230B

Gene therapy has advanced rapidly in the past five years, with technological advances and encouraging early clinical studies. This roundtable will focus on the opportunities and challenges as the field progresses, with a focus on the development of disease-modifying therapies that address urgent unmet needs of patients with neurological disorders. Discussion topics will include: technologies that are driving the field, with a focus on AAV platforms; leveraging advances in neurogenetics to identify validated therapeutic targets and patient subpopulations; rare monogenic disorders and clinical therapeutic strategies; the pursuit of gene therapy approaches for genetically complex disorders; and CNS region- and cell-selective approaches.

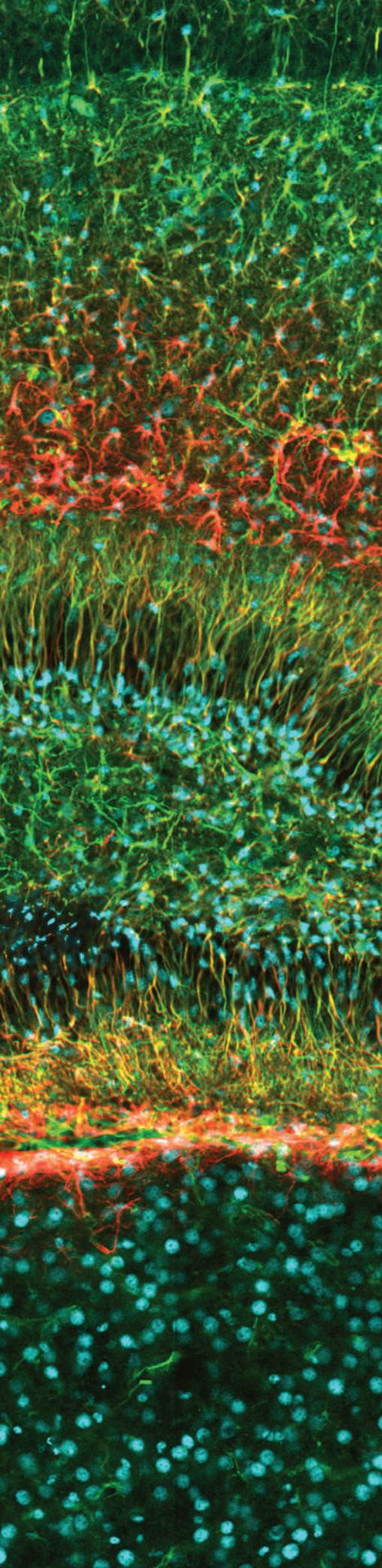


Table of Contents

Sessions and Events

- 32** SfN Pre-Conference Sessions
- 36** Networking, Public Outreach, and Advocacy
- 38** Professional Development Workshops
- 41** SfN-Sponsored Socials
- 45** Satellite Events and Non-SfN Socials
- 49** List of Sessions by Theme and Day
- 72** Clinician-Scientist and Continuing Medical Education
- 73** Awards in Neuroscience

SfN Pre-Conference Sessions

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/PRECONFERENCE

Icon Key:

- ☛ Preregistration Required
- 💲 Course Fee
- ▣ Professional Development
- ▢ Networking
- * Public Outreach

SfN Pre-Conference Session Fees

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

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	\$75
Student nonmember.....	\$115
Postdoctoral member	\$115
Postdoctoral nonmember	\$170
Faculty member	\$150
Faculty nonmember	\$225

FRIDAY, OCTOBER 19

Short Course 2

Quantifying Behavior as a Lens

Into the Brain ☛ \$▣

8 a.m.–6 p.m.

McCormick Place: S100BC

Organizers: Robert S. Datta, MD, PhD and Mala Murthy, PhD
Contact: training@sfn.org

This course will cover new methods for collecting behavioral data; characterizing behavioral dynamics, components and sequences; and connecting neural activity

with behavior across scales. The instructors have broad expertise in the development and application of these methods across a variety of model systems, and lectures and demos will focus both on technical details as well as conceptual issues. There will also be discussion of advances that are needed to resolve the neural mechanisms that give rise to the myriad ways in which animals interact with their environments.

Short Course 1

Neural Prosthetics and Brain Machine Interfaces ☛ \$▣

8:30 a.m.–6 p.m.

McCormick Place: S100A

Organizers: Adrienne Fairhall, PhD and Charles Liu, MD, PhD
Contact: training@sfn.org

Brain-machine interfaces (BCIs) are devices that make direct contact with neural systems, translate brain signals into external commands, provide input to replace or augment functionality, or alter activity to disrupt dysfunction or drive plasticity. These tools are both an opportunity to replace or restore function, and a tool to better understand neural circuits. This short course will review technologies and algorithms for BCIs and neural prosthetics and discuss the transition to market.

Short Course 3

Cultivating Professionalism and Excellence in the Research Landscape ☛ \$▣

1–5:30 p.m.

McCormick Place: S106

Organizers: Carlos Aizenman, PhD; Janet Clark, PhD; Marguerite Matthews, PhD; Rosalind A. Segal, MD, PhD; and Keith Trujillo, PhD
Contact: training@sfn.org

A significant part of achieving professional excellence and maintaining productive collaborative relationships is dependent on an institution's commitment to diversity, equity, and inclusion of all students, trainees, and faculty, especially those

from underrepresented groups. During this short course, attendees will explore how early career neuroscientists can navigate different aspects of the research landscape, including circumstances resulting from power dynamics, structural inequities, and different forms of bias.

SATURDAY, OCTOBER 19

Meet-the-Expert Series Session 1:

▣▢

8–9:15 a.m.

Marriott Marquis Chicago

Contact: profdev@sfn.org

Understanding Cortical Development and Disease: My Path to Discovery

Great Lakes G

Paola Arlotta, PhD

Theme A: Development

Dr. Arlotta started her career working on the basic mechanisms that build cell diversity in the mammalian cerebral cortex. Her work now also focuses on mimicking aspects of cortical development *in vitro* through the generation of human brain organoids, which are stem cell-derived, reductionist replicas of the human developing brain. Dr. Arlotta will discuss her own scientific journey and the challenges associated with working with stem cell-derived models of the human brain.

Clinical Trialists Path: Building Teams

Great Lakes A

Merit Cudkowicz, MD

Meet-the-Clinician-Expert

Theme C: Neurodegenerative Disorders and Injury

There is an unprecedented opportunity now to develop effective treatments for people with neurological disorders. How to develop a career as a clinical trialist and approaches to developing and testing therapeutics for CNS disorders will be discussed. Examples from trials in Amyotrophic lateral sclerosis (ALS) and other neurological disorders will be shared.

Functional Regeneration Beyond the Glial Scar

Great Lakes E

Jerry Silver, PhD

Theme C: Neurodegenerative

Disorders and Injury

Support contributed by: Thorlabs, Inc.

The goal of the Silver lab is to understand the basic biology that underlies regeneration failure in the adult spinal cord and then use this knowledge to develop strategies to overcome the lack of regeneration in order to promote functional repair. Dr. Silver will review more than 30 years of work that has focused on one of the most interesting families of inhibitory extracellular matrix molecules, the chondroitin sulfate proteoglycans, that are involved in creating such regenerative boundaries.

Circuit Dynamics: A Fly Perspective

Great Lakes F

Gaia Tavosanis, PhD

Theme D: Sensory Systems

Support contributed by: Thorlabs, Inc.

Neurons elaborate complex structures during development and those structures retain the capacity to undergo modifications that sustain adaptability in the adult animal's behavior. In this session, Dr. Tavosanis will examine the challenges of investigating the cell biological mechanisms of neuronal plasticity *in vivo* utilizing the model organism *Drosophila*. She will discuss her advances in revealing structural modifications in the adult fly brain and the career path that supported them.

I Can't Believe They Pay Me to Have Fun: The Privilege of Being a Scientist

Great Lakes C

Kamran Khodakkah, PhD

Theme E: Motor Systems

There is nothing more important than waking up every morning and smiling in anticipation of the coming day. The right career pick goes a long way in making that a reality. Being a neuroscientist is Dr. Khodakkah's dream job. His research aims to understand the underpinnings of cerebellar function and computation. He is interested in

delineating cerebellar contributions to motor and non-motor behaviors, with an eye on unraveling the fundamental underpinnings of brain disorders.

Translating Neuroscience: Obstacles and Opportunities

Great Lakes B

Kafui Dzirasa, MD, PhD

Theme G: Motivation and Emotion

Dr. Kafui Dzirasa investigates the network-level brain processes that signal emotions in health and disease. Dr. Dzirasa will describe his career path from an undergraduate chemical engineering student at the University of Maryland Baltimore County to a NIH-funded investigator at Duke University that contributed to framing BRAIN 2.0. This talk will also highlight the key patient encounters, scientific observations, and life experiences that shaped his scientific inquiry.

Twenty Years of Fear Research and Mentoring in Puerto Rico

Shedd Room

Gregory Quirk, PhD

Theme G: Motivation and Emotion

Support contributed by: Thorlabs, Inc.

Dr. Quirk's research focuses on the neural circuits of fear regulation. He recently shifted from Pavlovian fear conditioning to an active avoidance task that pits pursuit of food against pursuit of safety. The key to his success has been creating an optimal training environment by promoting communication skills, intellectual growth, and a sense of purpose. Simple mentoring techniques can help new PIs create successful laboratories in diverse settings.

Meet-the-Expert Series Session 2:



9:30–10:45 a.m.

Marriott Marquis Chicago

Contact: profdev@sfn.org

Understanding Molecules, Synapses, and Neural Plasticity: The Awesome Power of Genetics

Great Lakes F

Yishi Jin, PhD

Theme A: Development

Employing the powerful forward genetic analyses in *C. elegans*, Dr. Jin's lab has discovered key molecular pathways that instruct synapse formation, as well as the mechanisms regulating the critical period for connectivity switch in animal development and reactive neural plasticity under traumatic injury. This talk will discuss the logic and execution of curiosity-driven and the artful design of genetic analysis.

Myelin Plasticity: From Cognition to Cancer

Great Lakes E

Michelle Monje-Deisseroth, MD, PhD

Theme B: Neural Excitability, Synapses, and Glia

Activity-dependent plasticity of myelin is emerging as a recognized mechanism by which experience can modulate brain structure and function, with roles in motor and cognitive behavioral function. Dysregulation or dysfunction of myelin plasticity can contribute importantly to neurological disease. For example, dysfunction of adaptive myelination can cause impaired cognition following chemotherapy, while subversion of myelin plasticity mechanisms robustly promotes malignant glioma progression.

Seeing and Remembering What We've Seen

Great Lakes C

Nicole Rust, PhD

Theme D: Sensory Systems

Humans and other primates are extremely good at remembering images. Dr. Rust studies the neural mechanisms supporting this remarkable form of memory through investigations of human and animal visual

SfN Pre-Conference Sessions

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/PRECONFERENCE



memory behaviors, measurements and manipulations of neural activity, and computational modeling. In this talk, she will describe her lab's pursuit of the neural signal that drives the sense of remembering that an image has been seen before.

Disuse Drives Plasticity in Human Brain Networks

Great Lakes B

Nico Dosenbach, MD, PhD

Meet-the-Clinician-Expert

Theme E: Motor Systems

Dr. Dosenbach's research focuses on characterizing human functional network organization and how it changes with development, injury, and recovery, using functional MRI (fMRI). Recently, he has pushed fMRI and resting state functional connectivity (RSFC) MRI acquisition and analysis methodology to the level of individuals, including patients. His lab has developed experimental paradigms that obtain repeated multi-modal MRI scans on the same individuals, for individual-specific image analyses.

Lessons for Songbirds and Scientists: Learning to Communicate More Effectively by Listening to Others

Great Lakes A

Yoko Yazaki-Sugiyama, PhD

Theme H: Cognition

Both songbirds and scientists learn to communicate through social interaction during development. Yoko Yazaki-Sugiyama has been investigating cell, circuit and systems mechanisms of innate songbird learning from auditory experience, including how birds detect their own species song, learn intensively with vocal communication, and learn exclusively during developmental critical periods. She draws parallels to her communication skills learned by listening to others during her development as a scientist.

Machine-Learning Assisted Directed Evolution of Viral Vectors and Microbial Opsins for Minimally Invasive Neuroscience

Great Lakes G

Viviana Gradinaru, PhD

Theme I: Techniques

Dr. Gradinaru's lab recently developed capsids capable of crossing the blood-brain barrier, enabling noninvasive delivery

of sensors and actuators to the CNS in transgenic and non-transgenic animals. With synergistic developments in actuators, systemic adeno-associated viruses (AAVs) will allow researchers to modulate defined cell types and circuits across multiple deep-brain structures in a minimally invasive manner and test the behavioral effects of this modulation in animal models.

**The Society for Neuroscience (SfN) gratefully acknowledges the generous donations
to the Friends of SfN Fund from the following contributors in FY 2019 (July 1, 2018–June 30, 2019).**

Michael and Carol Ahlijian Charitable Fund, a Donor Advised Fund of The U.S. Charitable Gift Trust	Warren G. Darling	Tomas GM Hokfelt	David M. Lovinger	Miles Orchinik	Enrique Soto
Vijay Aggarwal	David L. Davies	Henry Holcomb	Zhongmin Lu	Jose Luis Ordóñez Librado	Robert L. Spencer
Albert John Allen	M. Frances Davies	Christine E. Holt	Felix Luna	Sandra Orozco-Suarez	Sabine Spijker
Fedaa Sadiq Almohammed	Martha Isabel Davila-Garcia	John D. Houle	Victor Luria	Harry T. Orr	Katinka Stecina
Keith Anderson – Matched by Regeneron Pharmaceuticals, Inc.	Cosimo Del Gratta	Kari R. Hoyt	Anna Lysakowski	Hitoshi Ozawa	Ryoji Suzuki
Alan Anticevic	Marshall Devor	Kun Hu	Peter R. MacLeish	Karen D. Parfitt	Thirukan R. Swaminathan
A. Vania V. Apkarian	Francis Tanam Djankpa	Odelie Huet	Arianna Maffei	Benjamin J. Patrick	Eva Szabo
Ricardo C. Araneda	Grace Dos Santos Feijó	Steven E. Hyman	Kathy R. Magnusson	Angelique C. Pault	Xun Tang
Demetrio Arcos	Romina Doubnina	Charles E. Inturrisi	Lavonna Mark	Katherine Lowe Perkins	Gregory W. Taylor
Jimena Arroyo Pérez	Ursula C. Drager	Makoto Ishikawa	Carol Mason	Mary A. Peterson	Jeremy Teissiere
Hibah O. Awwad	Jana Drgonova	Anusuya Devi Jayachandran	Toshiya Matsushima	Jeffrey C. Petruska	Edda Thiels
Jocelyne Bachevalier	Robert E. Druzinsky	S. Morgan Jeffries	Fumio Matsuzaki	Christopher J. Platt	Yang Tian
Glen B. Baker	Mengmeng Du	Frances Jensen	Helen S. Mayberg	Mark A. Prendergast	Henri Tidege
Isaac Bakst	Max Reinhard Duersteler	Ru-Rong Ji	Kenneth I. Maynard	Brendan Prendergast	Larry Tiffany
Gregory F. Ball	Lindsey Morgan Duke	The Joelson Foundation on behalf of Rosalind A. Segal and Michael Greenberg	Bruce S. McEwen	Anne L. Prieto	Leslie P. Tolbert
Li Bang	Aliceson Nicole Dusang	Elizabeth A. Jonas	Rick B. Meeker	Amy Pruszynski	Donna J. Toufexis
Julie M. Barkmeier-Kraemer	Benjamin A. Eaton	Byron C. Jones	Wilfredo Mellado	Raymund Y. K. Pun	Susan P. Travers
Alicia Catalina Barrientos	Yoshimichi Ejima	Alexandra L. Joyner	Francisco Mercado	Keith P. Purpura	Juan C. Troncoso
Julia Berzhanskaya	Cagla Eroglu	Isela Esther Juarez-Rojop Jr.	A. Joffre Mercier	Edward Quilty	Li-Huei Tsai
Supti Bhattacharyya	Daniel Feldman	Tomoyuki Kanamatsu	Athanasios Metaxas	Veronica Ramirez	Jeffery L. Twiss
Charles J. Billington	Willy Fernandes	Koichi Kaneko	Karina Kaisha Meyer Acosta	Khara M. Ramos	Monica E. Urena-Guerrero
Nancy M. Bonini	Thomas E. Finger	Sujatha Kannan	Matthew Miller	Peter R. Rapp	Mikhail Nikolaevich Ustinin
Abhishek Bose	Michael F. A. Finley	Yahya Karimipanah	Teresa A. Milner	Jamie L. Reed	Alejandro Valdés-Cruz
Riley Bove	Stuart J. Firestein	William Karnes	John G. Milton	Regeneron Pharmaceuticals, Inc. – Matching Gift	Marc Vander Ghinst
Elmor Brand-Schieber	Thomas B. Friedman	Nurgul Kaya	Yu Mimura	Theresa M. Vaughan	Theresa M. Vaughan
Paul C. Bridgman	Kazuma Fujikake	Sebnem Kesaf	Sheba M.J. Mohankumar	Socorro Retana Marquez	Viacheslav Viatchenko-Karpinski
Maria Elena Bringas	Jack L. Gallant	James J. Knierim	John H. Morrison	Cathrin Rieger	Michel H. Vignes
Olena Bukalo	Songyuan Geng	Michael Koban	Kristine M. Mosier	John M. Rinzel	Christiane W. Youfo
Ann M. Burgess	Stephen A. George	Yasuo Kubota	Janet Murbartian	Nancy T. Rodgers-Neame	Ju-Yu Wang
M. Catherine Bushnell	Bruno Giros	Kisou Kubota	Venkatesh N. Murthy	Francisco Estrada Rojo	Gang Wang
Maria Rocio Butron	David L. Glanzman	Arvind Kumar	Suzan Nadi	Stephen D. Roper	Di Wang
Christopher M. Butt	Oksana V. Globa	James E. Goldman	Ashwini Ganapati Naik	Shani E. Ross	G. Daniel Weese
Peter A. Calabresi	Stephen N. Gomperts	Ping-Chang Kuo	Hidemitsu Nakajima	Morgane Marguerite Roth	Aguan D. Wei
F. Hanna Campbell	Ma. Eva González-Trujano	Miyuki Kurabe	Elia-Brosla Narango-Rodriguez	Robert T. Rubin	Alexander Wickstrom
Alberto Cangiano	Miriam B. Goodman	Tetsuya Kushikata	Luz Navarro	Edwin Manning Rubin	Krystyna Wieczerczak
Liang Cao	Robert M. Gould	Ingrid L. Kwee	David L. Nelson	Pavel E. Rueda-Orozco	Clayton A. Wiley
Astrid E. Cardona	Marcia Graboweczyk	Audrey D. Lafrenaye	Network For Good	Yasuhiro Saito	Lauren L. Williamson
Héctor Carrera	Ann-Charlotte Granholm	Christopher Lawson	Robert A. Nichols	Michael I. Sandstrom	Iris Winkler
Richard B. Carter	Todd L. Green	Christiana Leonard	T. Richard Nichols	Carmen Sato-Bigbee	Benjamin L. Wolozin
Andrew Cawley-Bennett	Rebecca P. Haberman	Christopher S. Leonard	Karoly Nikolic	Iaroslav A. Savitchouk	Catherine S. Woolley
Matthew V. Chafee	David H. Hall	Josiah K. Leong	Rae Nishi	Andrew J. Saykin	Xiao Ming Xu
Nirupa Chaudhari	Elizabeth A. D. Hammock	Jenny Libien	Anthony M. Norcia	Jennifer L. Scribner	Kazuhiiko Yamaguchi
Jose I. Chavira	Riitta K. Hari	Diane Lipscombe	Felicia V. Nowak	Charles A. Scudder	Paul J. Yarowsky
Yung-Hsiao Chiang	Kagan Harris	Hanqing Liu	Duane Q. Nykamp	Fredrick J. Seil	Ning Yu
Hillel J. Chiel	Henry E. Heffner	Rita P. C. Liu	Michael D. Oberdorfer	Norma Serrano	Laszlo Zaborszky
Edgar E. Coons	Bradley Stavros Heit	Yong Liu	Byung-Mo Oh	Anshul Sharma	Ying Zhang
David P. Crockett	Talma Hendler	Yana Lokshina	Yukari Ohki	Asher R. Sheppard	Yiyao Zhang
Donna J. Cross	Takao K. Hensch	Louise D. Loopuijt	Hiroaki Ohkubo	John E. Simmons	Zhe Zhang
Estela Cuevas	Luis F. Hernandez	Noé López-Amador	Jun-Ichiro Oka	William F. Simonds	Yuelian Zhu
	Okihide Hikosaka	Gabriela Lopez-Armas	Katsuhiko Ono	Deanna S. Smith	Andrew W. Zimmerman
		Roland E. Lovaton	Takao Ono	Manoocher Soleimani	Mark J. Zoran
				Roger G. Sorensen	

Networking, Public Outreach, and Advocacy

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/NOA

Icon Key:

-  Preregistration Required
-  Course Fee
-  Professional Development
-  Networking
-  Public Outreach

SATURDAY, OCTOBER 19

NeuroJobs Career Center

Saturday, October 19–Tuesday, October 22, 8 a.m.–5 p.m.
Wednesday, October 23, 8 a.m.–3 p.m.
McCormick Place: Hall A
Contact: 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 private interview booths and computers for posting and applying for jobs. For prices and more information on how to set up a NeuroJobs account, visit www.SfN.org/neurojobs. On-site payment can be made by credit card only.

Graduate School Fair

Saturday, October 19, 1–3 p.m.
Sunday, October 20 – Tuesday, October 22, Noon–2 p.m.
McCormick Place: Hall A
Contact: training@sfn.org

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

Brain Awareness Campaign Event

Illuminating the Path With Science Outreach

 *
2:30–4 p.m.
McCormick Place: N226
Organizer: Teodora Stoica, MS
Contact: baw@sfn.org

Celebrate brain awareness and share your outreach achievements with Brain Awareness Week organizers from around the world. Recognize award winners from the Brain Awareness Video Contest, the Faculty for Undergraduate Neuroscience, and National Science Olympiad. Also hear from Teodora Stoica, founder of the Louisville and Kentucky Science Pathways Programs, summer internship programs that allow students from underprivileged neighborhoods to experience hands-on research in neuroscience labs.

Diversity Poster Session

6:30–8:30 p.m.
McCormick Place: Hall A
Contact: nsp@sfn.org

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

*Support contributed by:
eNeuro and JNeurosci*

International Fellows Poster Session

6:30–8:30 p.m.
McCormick Place: Hall A
Contact: globalaffairs@sfn.org

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), Japan Neuroscience Society (JNS), and the Federation of European Neuroscience Societies (FENS).

*Support contributed by:
eNeuro and JNeurosci*

Trainee Professional Development Awards

Poster Session

6:30–8:30 p.m.
McCormick Place: Hall A
Contact: tpda@sfn.org

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

*Support contributed by:
eNeuro and JNeurosci*

Career Development Topics:

A Networking Event

7:30–9:30 p.m.
McCormick Place: Hall A
Contact: profdev@sfn.org

Experienced neuroscientists will answer attendee questions on a wide range of topics at this informal, roundtable event. Topics include work-life balance, securing grants, setting up a lab, choosing a postdoctoral position, and careers outside of academia, among others. Nearly 30 tables will be offered at the event. During the event, attendees will have the opportunity to rotate among the tables that are of interest to them. Neuroscientists at all career stages are encouraged to attend.

SUNDAY, OCTOBER 20

Social Issues Roundtable

Human Fusions: Ethical and Social Issues

Raised by Neural-Digital Interfaces 
1–3 p.m.
McCormick Place: N230B
Organizer: Dustin J. Tyler, PhD
Contact: baw@sfn.org

Human-machine interfaces raise important ethical and social issues. Innovations promise to restore, alter, or enhance function in humans, but also may exacerbate existing social tensions around equality, identity, security, privacy, and access. This roundtable will address questions about the technology's impact on society and the conditions for its governance. In a world of rapidly expanding human-technology symbiotic unions, we explore how to keep humanity at the center.

MONDAY, OCTOBER 21**Animals In Research Panel** 50

Treatments for Disorders of the Basal Ganglia and the Development of Deep Brain Stimulation: Translation of Non-Human Primate Research Into Clinical Therapeutics *

1–3 p.m.

McCormick Place: N230B

Organizer: Peter Strick, PhD

Contact: advocacy@sfn.org

Celebrate basic research discoveries using nonhuman primates and how they transformed treatments for patients. Using the concrete example of fundamental discoveries from 1971, this panel will follow the arc from the start of a basic discovery through its translational findings, advances in clinical practice, and groundbreaking technological developments for patients today. At the panel, attendees will have a firsthand look at real patient outcomes from developments with deep brain stimulation for those with conditions such as Parkinson's disease and disorders of the basal ganglia.

Support contributed by:

The National Primate Research Centers

Chapters Workshop**Fostering Chapter Engagement Through****Your Local Brain Bee** □

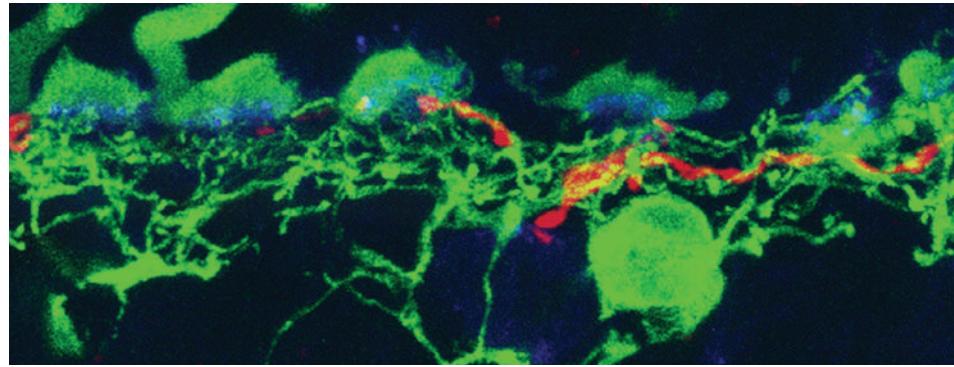
6:45–8:45 p.m.

Hyatt McCormick: Jackson Park

Organizer: Jennifer Yates, PhD

Contact: chapters@sfn.org

For more than 20 years, the International Brain Bee has ignited the interest in neuroscience of teen participants around the world. Many SfN chapters engage in this event by training students, hosting competitions, and sponsoring participants as an outreach effort. In this year's workshop, chapter leaders will discuss several aspects of a successful Brain Bee event: how to prepare for a Brain Bee event, creative Brain Bee activities, leadership structure and continuity, outreach strategies, and collaboration with industry and local partners. Attendees will enjoy an interactive and engaging evening focused on increasing interest and knowledge in neuroscience.

**TUESDAY, OCTOBER 22****Celebration of Women in****Neuroscience Luncheon** □ 50

Noon–2 p.m.

Marriott Marquis: Great Lakes AB

Contact: cwin@sfn.org

The annual Celebration of Women in Neuroscience Luncheon honors female leaders in neuroscience. During this year's luncheon, Kay Tye, PhD, will moderate a panel discussion focused on the advancements women have made in the field over the last 50 years and what still needs to be done to increase gender equality in honor of SfN's 50th anniversary. The panel will feature Huda Akil, PhD; Carol Mason, PhD; and Carla Shatz, PhD. For more information, visit www.SfN.org/cwinrsvp.

Public Advocacy Forum**The Role of Pharmaceutical Partnerships****When Advocating for Basic Research** *

2–3:30 p.m.

McCormick Place: N230B

Organizer: Moses V. Chao, PhD

Contact: advocacy@sfn.org

This panel will discuss why advocating for basic research is necessary from a variety of stakeholders, and the importance of the connection between basic and translational research. A panel of experts will share how basic research is used by pharmaceutical companies, why advocating for robust and sustained funding for research is an absolute necessity, and the importance of collaborative efforts to advance neuroscience understanding and to improve outcomes.

SfN Members' Business Meeting □

6:45–7:30 p.m.

McCormick Place: S501D

Contact: 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 network with your peers.

Graduate Student Reception □

8:30–11:30 p.m.

Hyatt McCormick: Regency Ballroom

Contact: meetings@sfn.org

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

Support contributed by:

eNeuro and JNeurosci

Professional Development Workshops

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/WORKSHOPS

Professional Development Workshop Tracks

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

- ▶ Career Paths
- ▶ Career Skills
- ▶ Responsible Conduct of Research
- ▶ Neuroscience Education

SATURDAY, OCTOBER 19

Preparing for Your Career Away From the Bench: Essential Skills for Navigating Your Career Transition ▶

9–11 a.m.

McCormick Place: N227

Organizer: Annette Gray, PhD

Contact: profdev@sfn.org

Breaking into a new career path is challenging, particularly for those looking to make a move away from the bench. This workshop will discuss important skills to help you learn how to find your career path, make the transition, and grow throughout your career. Through a panel discussion and smaller group interactions, participants will learn about skills such as gaining relevant experience, developing and communicating your own brand, and practicing the art of negotiation.

Reproducibility for Everyone ▶

9–11 a.m.

McCormick Place: N228

Organizer: Aparna Shah, PhD

Contact: profdev@sfn.org

Rigor and reproducibility are at the core of modern science and set apart scientific inquiry from pseudoscience. Many new tools have been created to address barriers to reproducibility, which can be hard to sift through. This workshop will introduce you to reproducible workflows and a range of tools along the themes of organization, documentation, analysis, and dissemination. It will consist of a 90-minute interactive session followed by a 30-minute Q&A session with the instructors.

Integrating Research and Teaching at Primarily Undergraduate Institutions ▶

Noon–2 p.m.

McCormick Place: N227

Organizer: Joyce Fernandes, PhD

Contact: profdev@sfn.org

This workshop is relevant for postdoctoral fellows and graduate students to discuss strategies for integrating research and teaching with an overall goal of developing a successful research program at a primarily undergraduate institution (PUI). The workshop will have two parts: (1) Short presentations from invited speakers followed by Q&A and (2) Breakout sessions for detailed discussions and formulation of personal strategies and milestones for careers at PUIs.

Imposter Syndrome: Confronting the Career Development Monster Hiding Under the Bed ▶

Noon–2 p.m.

McCormick Place: N228

Organizers: Ericka Boone, PhD;

Marguerite Matthews, PhD; Sadye Paez, PhD

Contact: profdev@sfn.org

Imposter syndrome, an internalized fear of being 'exposed as a fraud', impacts ~70 percent of the population, particularly women and underrepresented groups, and may slow or stall optimal career advancement. This workshop is about leaning into, getting at the roots of, and reframing this intellectual self-doubt to confront the 'impostor' within us. Participants will learn from other neuroscientists' experiences as well as develop and implement their own strategies for reducing imposter behaviors.

Getting Creative with Course-Based Research Experiences to Enhance Scholarship and Generate Publishable Data ▶

3–5 p.m.

McCormick Place: N227

Organizers: Lina Dahlberg, PhD;

Jacqueline K. Rose, PhD

Contact: profdev@sfn.org

This workshop will feature a panel discussion on the topic of Course-based Research Experiences (CRE) that aim to enhance scholarship and produce publishable work. The panelists will highlight examples of CRE

projects geared towards original research and data generation across a broad range of neuroscience areas. An example of a collaborative course model where cooperation across two CRE courses allows for multi-level analyses of a research question will be shared.

How to Thrive as a Woman in Neuroscience ▶

3–5 p.m.

McCormick Place: N228

Organizer: Melissa Harrington, PhD

Contact: profdev@sfn.org

This workshop will feature a panel of diverse women speakers from a variety of backgrounds and career stages, and will focus on how women can be successful in their neuroscience careers. The panelists will speak from experience about dealing with the major obstacles that undermine the success of women including: bias (both implicit and explicit), marginalization within organizations, imposter syndrome and discomfort with competitive environments, balancing work and family, and childcare.

SUNDAY, OCTOBER 20

Bringing Genetic Diversity to Neuroscientific Research ▶

9–11 a.m.

McCormick Place: N228

Organizer: Elissa Chesler, PhD

Contact: profdev@sfn.org

The vast majority of research in the neurosciences is performed in the very limited context of widely used strains of mouse, rat, *Drosophila*, and other organisms. Genetic variation in mouse, rat, *Drosophila*, and other species reveals biological mechanisms of neural and behavioral phenomena through population genetic and genomic analyses. In this workshop, panelists will discuss benefits and approaches for bringing genetic diversity into conventional neuroscientific research.

Navigating Team Science ▶ 50

9–11 a.m.

McCormick Place: N227

Organizers: Lique Coolen, PhD;

Chiara Manzini, PhD

Contact: profdev@sfn.org

As neuroscience becomes more interdisciplinary it requires expertise from multiple sub-fields, leading to collaborations within and outside of academia. This workshop will showcase different types of "team science" projects. Trainees and young investigators who are interested in team science are encouraged to attend to hear how the featured projects were conceived and managed and learn the pros and cons of working with scientists from different backgrounds towards a common goal.



Becoming a Resilient Scientist ▶

Noon–2 p.m.

McCormick Place: N227

Organizer: Janet A. Clark, PhD

Contact: profdev@sfn.org

Resilience is important in navigating your career in science. In this interactive workshop, we will discuss attitudes and behaviors that can get in our way and explore strategies for building resilience, dealing with self-doubt, and developing our confidence. The workshop will highlight the emotional intelligence competencies needed for success in research and healthcare careers and will provide insights into approaches for developing these competencies as part of your training experience.

Science Management ▶

Noon–2 p.m.

McCormick Place: N228

Organizer: Tanya Brown, PhD

Contact: profdev@sfn.org

The landscape of scientific research is changing. Today's researchers need to participate in large-scale collaborations, secure and oversee funding, share data, and publish and undertake Knowledge Translation (KT) activities in order to be successful. As per these increasing demands, Science Management (SM) is now a vital skill all researchers can benefit from adopting. The goal of this workshop is to motivate

participants to regard SM as an essential component of their workflow and obtain practical project management skills.

Neuroscience Departments and Programs Workshop ▶ 50

Hiring and Promoting Faculty in the Era of Team Science ▶

2:30–5 p.m.

McCormick Place: N227

Organizer: Rosalind Segal, MD, PhD

Contact: training@sfn.org

As research becomes more collaborative and global, team science is becoming the "new normal." Despite this, many institutions have not yet adapted their traditional academic recruitment and promotion processes to account for scientists whose research increasingly relies upon interdisciplinary teamwork and global collaboration. This workshop will explore how institutional leaders can recognize and evaluate team science when it comes to faculty hiring and advancement and adapt their hiring and tenure practices to reflect the growing team science approach to research.

Support contributed by:

The National Institute of Neurological Disorders and Stroke under SfN's "Foundations of Rigorous Neuroscience Research" grant

Building a Neuroscience Career at a Teaching Focused Institution ▶

3–5 p.m.

McCormick Place: N228

Organizer: Melissa Harrington, PhD

Contact: profdev@sfn.org

Doctoral universities with high to moderate research activity represent only seven percent of U.S. institutions of higher education, and educate less than a third of U.S. college students. Most U.S. faculty positions are not at research universities. This workshop will feature a panel of diverse speakers who are faculty at a variety of primarily undergraduate institutions (PUIs). The panelists will speak from experience about the preparation and paths that lead to career success and satisfaction at PUIs.

Professional Development Workshops

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/WORKSHOPS

MONDAY, OCTOBER 21

Advancing Your Career Through Effective Science Writing for the Public and Creating Eye-Catching Research Statements ▶

9–11 a.m.

McCormick Place: N227

Organizer: Eduardo Rosa-Molinar, PhD

Contact: profdev@sfn.org

This hands-on workshop focuses on overcoming the challenges of writing clear, effective research summaries. Presenters will demonstrate how to: communicate complex scientific topics for the public and scientists outside the field; articulate the importance of one's research; and place the work in the context of increasing scientific knowledge and improving public health. Participants will write research summary drafts and learn how to meet the challenge of translating science for various audiences.

The Art of Building a Career ▶

9–11 a.m.

McCormick Place: N228

Organizer: Martha Davila-Garcia, PhD

Contact: profdev@sfn.org

We all have the potential to build a productive scientific career. During this workshop, a panel of speakers from around the world will discuss the following five fundamental principles for building a successful career: (1) Be reflective about where you want to go; (2) Be proactive and prepared for what is coming; (3) Be ready to self-promote; (4) Be willing to adapt, change, and modify your goals based on challenges and opportunities; (5) Be collaborative, get a mentor, and build a network.

Optimize Your Grant Application: News You Can Use From the NIH ▶

Noon–2 p.m.

McCormick Place: N228

Organizer: Bruce Reed, PhD

Contact: profdev@sfn.org

The purpose of this workshop is to help new investigators improve their funding chances. Representatives of the NIH Center

for Scientific Review will discuss navigating review, what reviewers look for, and new things NIH is asking reviewers to focus on. Senior staff at NINDS, NIA, NIMH, and NIDA will discuss funding opportunities and priorities for their institutes and offer their perspectives on what contributes to early career success. People from all career stages are welcome, but the program is directed at early stage investigators.

Teaching Computation in Neuroscience ▶

Noon–2 p.m.

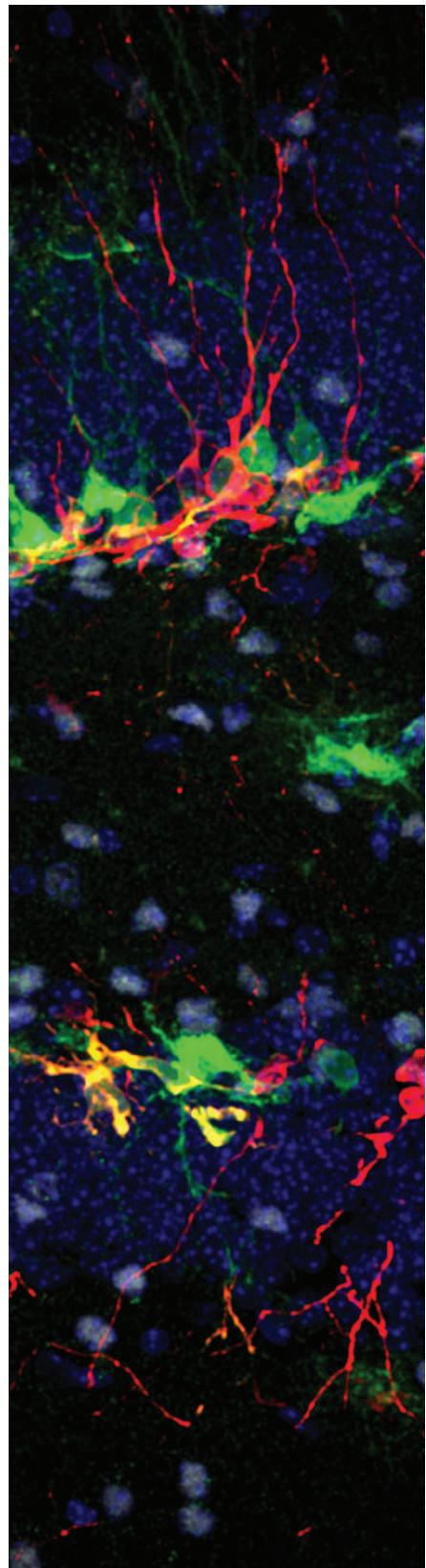
McCormick Place: N227

Organizers: William Grisham, PhD;

Richard Olivo, PhD

Contact: profdev@sfn.org

This workshop will review current examples of teaching computation for neuroscience. It will begin with the statistical foundations that students need and consider which programming languages are most useful. It will continue with computational methods for physiological data, practical aspects of teaching computational neuroscience, and end with an overview of resources for teaching and learning computational modeling in neuroscience.



SfN-Sponsored Socials

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/SOCIALS

39

SfN-Sponsored Socials are open to all registered annual meeting attendees.

SUNDAY, OCTOBER, 20

6:45-8:45 P.M.

Brain and Retina Organoids Social

Social w/ Brief Presentation

McCormick Place: N230B

Chair: Steven Becker

Co-Chair: Giorgia Quadrato

This social is intended to bring together a variety of researchers from different career stages who are working on brain and retina organoids. It is an opportunity for attendees to network and share experiences in this emerging area of study. There will be brief remarks from experts who will be asked to highlight some of the recent notable advances in this exciting field.

Breaking Barriers for Young Women in Science Social

Purely Social

McCormick Place: N231

Chair: Ghazaleh Sadri-Vakili

Co-Chair: Courtney A. Miller

This social will provide a forum for women scientists of all levels to interact with mentors on a one-on-one basis, providing the opportunity to ask questions in a relaxed but formatted environment that overcomes typical barriers to approaching and interacting with experienced colleagues. This will be a great opportunity to learn about academic and non-academic career paths available to neuroscientists, gain further insight into handling the challenges inherent to a career in STEM, and to grow your professional network.

Conversations on Cajal Social

Social w/ Brief Presentation

McCormick Place: N138

Chair: Carol Mason

Co-Chair: Oscar Marin

This social celebrates the namesake of this club, Santiago Ramon y Cajal. The social follows the 2018 exhibit of "The Beautiful Brain" in Minnesota, New York, and Boston, a collection of original drawings of Cajal. Three experts on Cajal's work and life will

bring novel information to the attendees on Cajal's work and life, and the impact it has had on neuroscience.

Faculty for Undergraduate Neuroscience (FUN) Poster Session and Social

Social w/ Brief Presentation

McCormick Place: N226

Chair: Hewlet G. McFarlane

Co-Chair: Ronald J. Bayline

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.

International Brain Bee Social

Social w/ Brief Presentation

McCormick Place: N230A

Chair: Astrid Eberhart

Co-Chair: Norbert R. Myslinski

A new social for all neuroscientists interested in the Brain Bee initiative (www.theBrainBee.org). Socialize and exchange ideas with fellow Brain Bee coordinators and past competitors. Newcomers will be able to find out how to get involved in this educational outreach program and get tips on how to run a local or national/regional Brain Bee competition.

Neural Oscillations Social

Purely Social

McCormick Place: N135

Chair: Molly Hearn

Co-Chair: Keith Doelling

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 w/ Brief Presentation

McCormick Place: N137

Chair: Winston Chiong

Co-Chair: Khara M. Ramos

Join fellow neuroscientists at this informal gathering to socialize, network, and exchange ideas about the ethical implications of neuroscience research and education.

A brief panel presentation will focus on how neuroethics can be integrated into neuroscience careers, featuring representatives from training programs and professional societies, and early career neuroscientists to discuss benefits as well as challenges in this integration.

Neuroethology/Invertebrate

Neurobiology Social

Purely Social

McCormick Place: N139

Chair: Wolfgang Stein

Co-Chair: Richard B. Dewell

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

Neuroscience and Architecture:

Measurement for Design Social

Social w/ Brief Presentation

McCormick Place: N133

Chair: Thomas D. Albright

Co-Chair: Frederick M. Marks

"We shape our buildings, and afterwards our buildings shape us." As Winston Churchill aptly noted, the built environment has a profound impact on human experience. In this social, there will be presentations from architects and neuroscientists working at the interface of the two fields. The social will focus on physiological and neurological measurements that can inform design and

SfN-Sponsored Socials

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/SOCIALS

assess how buildings affect the occupants, including populations with developmental and neurodegenerative diseases.

Open, FAIR, and Reproducible Neuroscience Social

Purely Social

McCormick Place: N136

Chair: Jean-Baptiste Poline

Co-Chair: Maryann E. Martone

This social will provide a forum for all neuroscientists interested in open, FAIR, and reproducible science to exchange ideas. Find new collaborators who have resources you need, recruit new users for your tools, or join up to solve standards and interoperability issues with other scientists and developers. Come and help to make neuroscience research more reproducible!

Spinal Cord Injury Social

Purely Social

McCormick Place: N140

Chair: Dana M. McTigue

This social is open to all trainees and faculty interested in spinal cord injury research or clinical care. Please come mingle with your fellow scientists and discuss current areas of research, ongoing clinical trials and ideas for future studies. We hope to see you there!

MONDAY, OCTOBER 21

6:45-8:45 P.M.

Behavioral Neuroendocrinology Social

Social w/ Brief Presentation

McCormick Place: N226

Chair: Barney A. Schlinger

Co-Chair: Brian C. Trainor

This longstanding and popular social brings together members of the Society for Neuroscience (S) with interest in the endocrine regulation of brain and behavior. Research in this area covers a broad range of topics including development, sex-differences, neural networks and systems, neuroplasticity, and clinical neuroscience. It attracts a diverse set of attendees including students at all levels, postdoctoral fellows, senior researchers, and clinicians. Not only is this an opportunity for this group to convene at the SfN meeting, but it is also the occasion to announce several awards in behavioral neuroendocrinology.

Cerebellum Social

Purely Social

McCormick Place: N231

Chair: Roy V. Sillitoe

Co-Chair: Alexandra L. Joyner

The Cerebellum Social is an informal gathering of all researchers and clinicians interested in the cerebellum. This social encourages interactions between students, postdocs, research staff and faculty. There are no formal presentations; collaborative discussions and networking opportunities make up the main agenda.

Chemical Senses Social

Purely Social

McCormick Place: N133

Chair: Alfredo Fontanini

Co-Chair: Leslie M. Kay

Anyone interested in the chemical senses (smell, taste, licking, sniffing, chemical signaling, trigeminal irritation or internal chemoreception) is invited to an evening of piquant conversations and tasteful socializing. Scientists working in humans and any animal model, and those at all stages of their career — trainees and mentors, students, postdocs and PIs — are welcome to discuss their scientific and professional interests. Join a purely social event to connect with friends, but more importantly make new ones.



Epilepsy Social

Social w/ Brief Presentation

McCormick Place: N138

Chair: Joaquin N. Lugo

Co-Chair: Christina Gross

Epilepsy research is challenging and highly diverse. With increasingly sophisticated techniques available, it is essential to collaborate to move the field forward. This social welcomes those with an interest in epilepsy to join us for an evening of social networking with leading experts and with representatives from the NIH, AES, and CURE. 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.

Ingestive Behavior Social

Purely Social

McCormick Place: N137

Chair: Ruth B. S. Harris

Co-Chair: Derek Daniels

After a stimulating day of SfN presentations, come and socialize with your colleagues and meet new people interested in the areas of neuroscience related to the control of eating and drinking. Whether you are an established investigator, a student, or a postdoc, if you are interested in the science of ingestive behavior and related areas of neuroscience, then you should join this social. Plan to attend, mix, mingle, and take the opportunity to establish new connections and collaborations while relaxing at the Ingestive Behavior Social.

Marmoset Social

Social w/ Brief Presentation

McCormick Place: N230A

Chair: Jude F. Mitchell

Co-Chair: Partha P. Mitra

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 will play "Marmoset Jeopardy," a game to survey recent research. Students will submit images of their data for panelists to identify and reveal the answers.

Later the floor will be open for questions to panelists and brief announcements, followed by time to socialize.

Music Social

Purely Social

McCormick Place: W190

Chair: Robert Riddle

Co-Chair: William J. Pearce

Your SfN colleagues have amazing musical talents. All are encouraged to participate and/or enjoy a great evening of music. This social encourages new performances and musical diversity. Members interested in participating should contact the chair by September 13th and provide info describing their musical selection(s), and accompaniment needs. The program will be determined shortly thereafter. Performances are typically 10 minutes and SfN will provide a variety of musical instruments.

Open-Source Technology Social

Purely Social

McCormick Place: N135

Chair: Jakob Voigts

Co-Chair: Denise J. Cai

Socialize and exchange ideas with researchers developing and using open-source tools for neuroscience research. Chat with the people behind the projects and learn about the wide variety of open-source tools that can help your experiments be more robust, reliable and creative. Join this social for an evening of fun, and you might even find a new collaborator for your open-source project!

Pain, Touch, and Itch Social

Purely Social

McCormick Place: N139

Chair: Cheryl L. Stucky

Co-Chair: Theodore J. Price

Gather with fellow "pain, touch, 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. This social event is a great opportunity to find

potential collaborators in an informal and relaxed atmosphere.

Psychopharmacology Social

Purely Social

McCormick Place: N140

Chair: Stan B. Floresco

Co-Chair: Jill A. McGaughy

Please join this social to 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, OCTOBER 22

6:45-8:45 P.M.

Alzheimer's Disease and Related Dementias Social

Purely Social

McCormick Place: N139

Chair: Jose F. Abisambra

Co-Chair: Laura J. Blair

Current and future Alzheimer's disease or related dementia researchers, join this social 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!

Computational Neuroscience Social

Purely Social

McCormick Place: N140

Chair: Kiah Hardcastle

Co-Chair: Jantine A. C. Broek

This social intends to bring together neuroscientists working on all aspects of computational neuroscience. It 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, such as summer schools and

SfN-Sponsored Socials

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/SOCIALS

graduate schools, that can further your computational knowledge.

Decision Neuroscience Social

Social w/ Brief Presentation

McCormick Place: N136

Chair: Paul W. Glimcher

Co-Chair: Michael N. Shadlen

Over the last decade decision neuroscience has grown to encompass almost 4 percent of the material presented at the annual meeting. This social will provide an opportunity for graduate students, postdocs and faculty to exchange ideas, build new collaborations or just socialize. Whether you study perceptual decision-making with the DDM or economic choice with a BDM, this is the place for you. This year's inaugural social will begin with brief remarks on the history of our subfield by leaders in our field.

Glia Social

Purely Social

McCormick Place: N137

Chair: Helmut O. Kettenmann

Co-Chair: Bruce R. Ransom

Over the last couple of years it has been recognized that glia play an important role for normal brain function and in any type of brain disease. This is a purely social opportunity to interact with current and future leaders in the field of neuron-glia interactions. Many prominent scientists have agreed to join the meeting and will foster interaction with students and young colleagues.

Global Neuroscience Social

Social w/ Brief Presentation

McCormick Place: N138

Chair: Megan R. Carey

Co-Chair: Haruhiko Bito

Different countries have different ways of presenting neuroscience. Experiencing neuroscience in foreign countries will give you a new perspective in your science career. This social will be focused on mixing neuroscientists from American, European, and Asian countries and encouraging them to acquire experience in new countries. Pls with

their labs in foreign counties will give short presentations to discuss their experiences. (<https://twitter.com/GlobalNeurosci1>).

Hippocampus Social

Purely Social

McCormick Place: N231

Chair: Steve Ramirez

Co-Chair: Sara N. Burke

The Hippocampus Social continues a decades-long tradition as a well-attended staple social at SfN. It gathers the large community of hippocampus scientists under one roof to get to know one another. It also provides important professional development opportunities for younger neuroscientists to casually interact with the field's luminaries. The purpose of the social is to continue to unify our hippocampus community and to build new bridges across all its members through an evening of dinner, games, and prizes.

Neuroendocrinology Social

Purely Social

McCormick Place: N226

Chair: Debra A. Bangasser

Co-Chair: Georgia E. Hodes

This year's social will feature the "Battle of the Sexes Quiz Show: The Rematch." Five years ago, a team of male neuroendocrinologists faced off with a team of female neuroendocrinologists to determine which gender knew more esoteric neuroendocrine trivia. The women were victorious. In this rematch, come and compare your knowledge with that of our expert contestants and see if the men will celebrate a comeback win or if the women will again take the prize.

Neuroscience and Writing Social

Purely Social

McCormick Place: N136

Chair: Isabel Low

Co-Chair: Megan A. Kirchgessner

Now more than ever it is essential that we as scientists communicate with each other and with the general public. NeuWrite and other writing groups have served the role

of connecting neuroscientists and writers, with the goal of communicating the scientific process to anyone, regardless of background or training. If you're passionate about communicating science, or if you'd like to learn about the intersection of neuroscience and writing, please join this social to network, mingle, and swap writing tips.

Platforms for Team Science and Data Sharing: Unlocking Data to Drive Innovation in Translational Research Social

Social w/ Brief Presentation

McCormick Place: N230A

Chair: Magali Haas

Co-Chair: Lee Lancashire

Leaders in computer science, neuroscience and neuroinformatics will informally debate the barriers and opportunities that exist for platforms that facilitate data sharing and analytics in brain research. A short video of BRAIN Commons, a new platform designed to fuel the use of big data in brain disease, will be shown. Discussion points will include the interoperability of existing data sharing platforms, the breadth of data currently available, the discoverability of existing data, and the incentives for researchers to share their data.

Synapses Social

Purely Social

McCormick Place: N135

Chair: C. Andrew Frank

Co-Chair: Clark A. Lindgren

Friends and colleagues who are interested in synapse development and function gather for a yearly and popular SfN social. Join us in an informal setting to grab some refreshments, chat about the latest results, and visit with friends. Everyone is welcome! Vertebrate, invertebrate, central, peripheral —colleagues who study almost any type of synapse will be well represented. What better place to form new connections or to strengthen existing ones than the Synapses Social? See you Tuesday evening.

Satellite Events & Non-SfN Socials

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/SATELLITES

43

Full descriptions and the latest details on these satellite events and socials not sponsored or organized by SfN are available online at www.SfN.org/satellites. These events are also available in the Neuroscience Meeting Planner (NMP), which is accessible at www.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
Wednesday, October 16				
52nd Annual Meeting of the International Society for Developmental Psychobiology (ISDP)	1–7:30 p.m.	besuther@fiu.edu	Swissôtel Chicago	2
American Society of Neurorehabilitation Annual Meeting	1–7 p.m.	info@asnr.com	DoubleTree by Hilton Hotel Chicago-Magnificent Mile	2
BrightFocus Alzheimer's Fast Track	7 a.m.–5 p.m.	ksummers@brightfocus.org	Oakbrook, IL	2
Thursday, October 17				
2019 International Neuroethics Society Annual Meeting	9 a.m.–4:30 p.m.	kgraham@neuroethicssociety.org	Radisson BLU Hotel, Pacific Ballroom 221 North Columbus Street, Chicago	2
2019 International Neuroethics Society Public Program	5–7 p.m.	kgraham@neuroethicssociety.org	Northwestern University McGaw Pavilion, 240 E. Huron, Chicago	2
2019 Marmoset Bioscience Symposium	7 a.m.–6 p.m.	marmohub@gmail.com	Greenhouse Loft, 2545 W. Diversey Ave. Chicago	3
2019 Molecular and Cellular Cognition Society Poster Session	6:30–9:30 p.m.	ted-abel@uiowa.edu	Simpson Querrey Biomedical Research Center at Northwestern University downtown campus	2
52nd Annual Meeting of the International Society for Developmental Psychobiology (ISDP)	7:30 a.m.–7:30 p.m.	besuther@fiu.edu	Swissôtel Chicago	2
American Society of Neurorehabilitation Annual Meeting	7 a.m.–8 p.m.	info@asnr.com	DoubleTree by Hilton Hotel Chicago-Magnificent Mile	2
Barrels XXXII	8:30 a.m.–10 p.m.	joshua.brumberg@qc.cuny.edu	Northwestern University School of Medicine, Chicago	3
BrightFocus Alzheimer's Fast Track	7 a.m.–5 p.m.	ksummers@brightfocus.org	Oakbrook, IL	2
Next Generation Computational Psychiatry	9 a.m.–5:30 p.m.	computationalpsychiatry.org	The Congress Plaza Hotel & Convention Center	2
J.B. Johnston Club for Evolutionary Neuroscience	8 a.m.–7:30 p.m.	bjclub1980@gmail.com	The University Center	3
Friday, October 18				
2019 International Neuroethics Society Annual Meeting	9 a.m.–7 p.m.	kgraham@neuroethicssociety.org	Radisson BLU Hotel, Pacific Ballroom 221 North Columbus Street, Chicago	2
2019 Molecular and Cellular Cognition Society Symposium	8 a.m.–5 p.m.	https://molcellcog.org/	McCormick Place: N228	2
52nd Annual Meeting of the International Society for Developmental Psychobiology (ISDP)	7:30 a.m.–6:30 p.m.	besuther@fiu.edu	Swissôtel Chicago	2
Advances in Motor Learning and Motor Control	12:30–7 p.m.	ala@colorado.edu	McCormick Place: S104	2

Satellite Events & Non-SfN Socials

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/SATELLITES

TITLE	TIME	MORE INFO	LOCATION/ROOM	KEY
American Society of Neurorehabilitation Annual Meeting	7 a.m.–7 p.m.	info@asnrr.com	DoubleTree by Hilton Hotel Chicago-Magnificent Mile	2
Annual NIDA-NIAAA Frontiers in Addiction Research Mini-Convention	8:30 a.m.–5:30 p.m.	rsorense@mail.nih.gov	Marriott Marquis: Great Lakes EF	2
APAN- Advances and Perspectives in Auditory Neuroscience	8 a.m.–5:30 p.m.	www.med.upenn.edu/apan	Wyndham Grand Chicago Riverfront	2
Barrels XXXII	8:30 a.m.–5 p.m.	joshua.brumberg@qc.cuny.edu	Northwestern University School of Medicine, Chicago	3
BrightFocus Alzheimer's Fast Track	7 a.m.–5 p.m.	ksummers@brightfocus.org	Oakbrook, IL	2
Fourth International Symposium on Sigma-2 Receptors	9 a.m.–3 p.m.	asherwood@cogrxi.com	Center For Translational Research and Education, Loyola Health Science Campus, Maywood, IL	2
Induction and Resolution of CNS Neuroinflammation and Neurotoxicity	8:45 a.m.–5:30 p.m.	harry@niehs.nih.gov	Loyola University Chicago, Water Tower Campus Regents Hall, E. Pearson St. Chicago	2
J.B. Johnston Club for Evolutionary Neuroscience	8 a.m.–9 p.m.	jbjclub1980@gmail.com	The University Center	3
Neuroscience of Movement Disorders	7 a.m.–5 p.m.	dstandaert@uab.edu	McCormick Place: N227	2
New Perspectives on Cerebellar Function: Implications for Mental Health	8:30 a.m.–5 p.m.	rossia@mail.nih.gov	Marriott Marquis: Great Lakes A	2
Next Generation Computational Psychiatry	9 a.m.–5:30 p.m.	computationalpsychiatry.org	The Congress Plaza Hotel & Convention Center	2
Orofacial Functions: From Neural Mechanisms to Rehabilitation	8:30 a.m.–5 p.m.	kazutaka@uchicago.edu	Shirley Ryan Abilitylab, 355 E. Erie St. Chicago	1
Sleep-Dependent Memory Consolidation: Bridging Replay and Reactivation	1–7 p.m.	eitan.schechtman@northwestern.edu	Northwestern Chicago Campus	2
Using NEURON to Model Cells and Networks	9 a.m.–5 p.m.	ted.carnevale@yale.edu	www.neuron.yale.edu/neuron/courses	2
Saturday, October 19				
Chinese Neuroscientists Social	6:30–9 p.m.	wu.longjun@mayo.edu	Marriott Marquis: Great Lakes F	2
Diving DEAP into Adolescent Brain and Cognitive Development (ABCD) Study Data	6:30–9:30 p.m.	sgrant@nida.nih.gov	Hyatt McCormick: Regency Ballroom C	2
Exploring Brain Cell Type Diversity with The Allen Brain Explorer and Allen Cell Types Database	8–10:30 a.m.	kaitlyn@alleninstitute.org	Hyatt McCormick: Grant Park AB	2
Exploring the Mouse Visual System: The Allen Brain Observatory	8–10:30 a.m.	kaitlyn@alleninstitute.org	Hyatt McCormick: Grant Park CD	2
Friends of Case Western Reserve University and Cleveland Clinic Social	6:30–8:30 p.m.	cmiller@hb.edu	Marriott Marquis: Great Lakes A	2
FTD Social	6:30–8:30 p.m.	dniehoff@theaftd.org	Marriott Marquis: Shedd AB	2
g.tec's Brain-Computer Interface (BCI) Workshop	6:30–10 p.m.	guger@gtec.at	McCormick Place: N230B	1
Light-Sheet Fluorescence Microscopy: A Key Tool for 3D Imaging of Neuronal Samples	6:30–10 p.m.	jessica.celentano@bruker.com	Marriott Marquis: Water Tower AB	1

Satellite Events & Non-SfN Socials

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/SATELLITES

45

TITLE	TIME	MORE INFO	LOCATION/ROOM	KEY
Machine Learning in Quantitative Stereology and Neurohistology	6:30–9 p.m.	daniel.peterson@rosalindfranklin.edu	McCormick Place: N227	1
NSG and HPAC — Large Scale Simulations and Data Processing	8:30–10:30 a.m.	majumdar@sdsc.edu	Micro Tek Training Room	2
The Need for Translational and Basic Research in Migraine	7:30–10 a.m.	alicia@migrainedisorders.com	McCormick Place: N230A	2
Sunday, October 20				
Arab Neuroscientists Social	6:30–8:30 p.m.	yasmine@arabneuroscientists.org	McCormick Place: S503A	2
ASPET Neuropharmacology Reception	6:30–8:30 p.m.	meetings@aspet.org	Marriott Marquis: Great Lakes A	2
Boston University Graduate Program for Neuroscience Social	7–10 p.m.	sgrasso@bu.edu	Marriott Marquis: Great Lakes E	2
Dutch Neuroscience Social 2019	7–10 p.m.	s.kushner@erasmusmc.nl	Marriott Marquis: Great Lakes F	2
Ernst Strüngmann Forum Social	6:30–9:30 p.m.	lupp@esforum.de	Marriott Marquis: Great Lakes G	2
Green and Open Neurosciences Symposium & Soiree	6:30–9:30 p.m.	alam@pcrm.org	Marriott Marquis: Shedd AB	2
Human Single Neuron Social	6:30–9 p.m.	florian.solzbacher@utah.edu	Hyatt McCormick: Regency Ballroom B	2
International Behavioral Neuroscience Society (IBNS) Social	6:30–8:30 p.m.	ibns@ibnsconnect.org	Marriott Marquis: Great Lakes B	2
NIH Funding and You: A Practical Guide for a Trainee to Survive and Thrive in Your Research Career	6:30–8:30 p.m.	jonesmiche@ninds.nih.gov	Hyatt McCormick: Regency Ballroom A	2
Spectrum Social Event	6:30–8 p.m.	claire@spectrumnews.org	Marriott Marquis: Water Tower A	2
Stanford Neurosciences Reception	6:30–8 p.m.	kdiamond@stanford.edu	Marriott Marquis: Great Lakes C	2
The Logothetis Lab Alumni, Colleagues and Friends Social	6:30–10 p.m.	georgios.keliris@uantwerpen.be	Marriott Marquis: Water Tower B	2
Tools & Tech: A BRAIN Initiative Alliance Social	6:30–8:30 p.m.	salbin@kavlifoundation.org	Hyatt McCormick: Regency Ballroom CD	2
University of Chicago Neuroscience 16th Annual Social	6:30–9 p.m.	erizzo@uchicago.edu	Chicago Athletic Association	2
University of Illinois at Urbana-Champaign — 2019 Neuroscience Program (NSP) Reception	6:30–8:30 p.m.	spregent@illinois.edu	Marriott Marquis: Marina City	2
Monday, October 21				
16th Annual Christopher Reeve "Hot Topics" in Stem Cell Biology	6:30–9:30 p.m.	towens@sbp.edu	McCormick Place: S100A	2
2019 Taiwan Night	6:30–9:30 p.m.	yishuiyan@ibms.sinica.edu.tw	see website listing	2
Association of Korean Neuroscientists: Annual Meeting and Social	6:30–9:30 p.m.	yoon-seong.kim@ucf.edu	see website listing	2
Cerebral Open Flow Microperfusion — A Novel Approach to <i>In Vivo</i> Fluid Sampling	6:30–8:30 p.m.	lelol@basinc.com	Marriott Marquis: Shedd AB	1

Satellite Events & Non-SfN Socials

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/SATELLITES

TITLE	TIME	MORE INFO	LOCATION/ROOM	KEY
Grass Foundation and Marine Biological Laboratory Co-Hosted Social	6:30–8 p.m.	execassis@grassfoundation.org	Marriott Marquis: Great Lakes G	2
Iranian Neuroscientists' Annual Social Event	8–10 p.m.	nazanin.mirzaei@cshs.org	Reza Restaurant 5255 N. Clark St. Chicago	1
NanoString Neuroinflammation and Neurodegeneration Social	6:30–10 p.m.	jkuhar@nanosting.com	The ROOF on the Wit	2
Neurorehabilitation Social	6:30–8:30 p.m.	kingla@ohsu.edu	Shirley Ryan Abilitylab, 355 E. Erie St. Chicago	2
Neuroscience, Religion & Cultural Authority	7–8:30 p.m.	cwmathes846@gmail.com	McCormick Place: S402	2
Parkinson's Disease Social	6:30–8 p.m.	jbeck@parkinson.org	Marriott Marquis: Great Lakes E	2
Preventing the Climate Catastrophe: What Can Neuroscientists Do?	6:30–8 p.m.	adamaron@ucsd.edu	Marriott Marquis: Great Lakes C	2
Simons Foundation Autism Research Initiative (SFARI) Social	6:30–8:30 p.m.	ljung@simonsfoundation.org	Marriott Marquis: Great Lakes F	2
Sleep and Circadian Biology DataBlitz	8–10 p.m.	laposky@nhlbi.nih.gov	Marriott Marquis: Great Lakes AB	2
The 9th Annual International Society for Serotonin Research Mixer	6:30–8 p.m.	berg@uthscsa.edu	Highline Bar and Lounge 169 W. Kinzie St.	2
Washington University in St. Louis Neuroscience Reception	6:30–9 p.m.	celia.mckee@wustl.edu	Reggies Chicago	2
Tuesday, October 22				
2019 Friends of Iowa Neuroscience	6:30–9:30 p.m.	meghan.lawler@uiowa.edu	Adler Planetarium	2
Introduction to the Brain Image Library	6:30–10 p.m.	ropelews@psc.edu	McCormick Place: S503B	2
The Science Bridge and Middle Eastern Neuroscientists Social	6:30–8 p.m.	nelly.alia-klein@mssm.edu	Marriott Marquis: Shedd AB	2
Understand Nature's Complexity with The UltraMicroscope II and The MACSima™ Imaging Platform	6:30–9 p.m.	BeateL@miltenyibiotec.de	McCormick Place: N230B	1
Wearable Sensing Solutions for Integrated Dry Electrode EEG/EXG, Motion Capture, and Eye Tracking	6:30–9 p.m.	sales@wearablesensing.com	Hyatt McCormick: Adler AB	1

List of Sessions by Theme and Day

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/AM2019

47

All posters will be presented in McCormick Place, Hall A. All lecture, symposium, minisymposium, and nanosymposium rooms are in McCormick Place. Note: Theme J Posters will be on display in Hall A beginning at 1 p.m. on Saturday, Oct. 19, and will remain posted until 5 p.m. on Sunday, Oct. 20. 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, Education and Society |

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
Featured Lectures						
001 Dialogues Between Neuroscience and Society	Lecture		Hall B	19 Sat	11 a.m.–1 p.m.	
009 Presidential Special Lecture- From Base Pairs to Bedside: Antisense Modulators of RNA Splicing to Treat Neurological Diseases	Lecture		Hall B	19 Sat	5:15–6:30 p.m.	1.25
183 Peter and Patricia Gruber Lecture- Molecular Basis of the Circadian Clock in Mammals and its Fundamental Role in Aging and Longevity	Lecture		Hall B	20 Sun	3–4:10 p.m.	
184 Presidential Special Lecture- Understanding Cortical Development and Disease: From Embryos to Brain Organoids	Lecture		Hall B	20 Sun	5:15–6:30 p.m.	1.25
263 History of Neuroscience Lecture- Exocytosis of Synaptic Vesicles: From Quantal Release to Molecular Machines	Lecture		Hall B	21 Mon	9–10:10 a.m.	
350 Albert and Ellen Grass Lecture- Neural Learning Rules in the Cerebellum	Lecture		Hall B	21 Mon	3:15–4:25 p.m.	1.25
351 Presidential Special Lecture- The Cell Biology of the Synapse and Behavior	Lecture		Hall B	21 Mon	5:15–6:30 p.m.	1.25
533 David Kopf Lecture On Neuroethics — The Neuroethics Frontier	Lecture		Hall B	22 Tue	3–4:10 p.m.	
534 Presidential Special Lecture- Wavefront Engineering: Illuminating the Neural Landscape	Lecture		Hall B	22 Tue	5:15–6:30 p.m.	1.25
Theme A – Development						
003 New Insights in Understanding Fragile X Syndrome (FXS): Focus on Neural Development in Human Models and Non-Neuron Glial Cells	Minisymposium		Room S100BC	19 Sat	1:30–4 p.m.	2.5
010 <i>In Vivo</i> Studies of Stem Cell Fate	Nanosymposium		Room S404	19 Sat	1–2:45 p.m.	
011 Effects of Parenting and Disease on Human and Non-Human Primate Brain Development	Nanosymposium		Room N427	19 Sat	1–4:15 p.m.	
028 Peripheral Nerve Regeneration	Poster	A1–A16	Hall A	19 Sat	1–5 p.m.	
029 Molecular Mechanisms of Axon and Dendrite Development	Poster	A17–A42	Hall A	19 Sat	1–5 p.m.	
030 Autism: Synaptic and Cellular Mechanisms I	Poster	A43–A69	Hall A	19 Sat	1–5 p.m.	
031 Adolescent Development: Mechanisms of Vulnerability	Poster	A70–A79	Hall A	19 Sat	1–5 p.m.	
095 Functional Maturation of Cerebello-Cerebral Interactions	Minisymposium		Room S406A	20 Sun	8:30–11 a.m.	2.5
102 Molecular Mechanisms of Adult Neurogenesis	Nanosymposium		Room S404	20 Sun	8–9:45 a.m.	
103 Behavioral Analysis of Developmental Disorders	Nanosymposium		Room S403	20 Sun	8–11 a.m.	
113 Postnatal Neurogenesis	Poster	A1–A27	Hall A	20 Sun	8 a.m.–noon	
114 Axon and Dendrite Development	Poster	A28–A38	Hall A	20 Sun	8 a.m.–noon	
115 Behavioral Study and Animal Models for Autism Spectrum Disorders	Poster	A39–A61	Hall A	20 Sun	8 a.m.–noon	
116 Autism: Synaptic and Cellular Mechanisms II	Poster	A62–A79	Hall A	20 Sun	8 a.m.–noon	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
117 Comparative Brain Anatomy	Poster	A80-B6	Hall A	20 Sun	8 a.m.–noon	
185 Molecular Mechanisms of Synaptogenesis and Connectivity	Nanosymposium		Room S405	20 Sun	1–2:45 p.m.	
186 Molecular Mechanisms of Synaptogenesis and Activity-Dependent Development	Nanosymposium		Room S401	20 Sun	1–2:45 p.m.	
187 Rett Syndrome: New Mechanisms and Potential Therapeutics	Nanosymposium		Room S403	20 Sun	1–2:45 p.m.	
196 Cell Lineage Analysis	Poster	A1-A21	Hall A	20 Sun	1–5 p.m.	
197 Developmental Mechanisms	Poster	A22-A38	Hall A	20 Sun	1–5 p.m.	
198 Synaptogenesis and Activity-Dependent Development II	Poster	A39-A64	Hall A	20 Sun	1–5 p.m.	
199 Genetic Models for Autism Spectrum Disorders	Poster	A65-B4	Hall A	20 Sun	1–5 p.m.	
256 Circuit Variability and Plasticity in the Central Nervous System of <i>Drosophila</i>	Symposium		Room S100A	21 Mon	8:30–11 a.m.	2.5
265 Cell Biological Mechanisms of Neural Development	Nanosymposium		Room S402	21 Mon	8–9:45 a.m.	
276 Nervous System Patterning and Transplantation	Poster	A1-A19	Hall A	21 Mon	8 a.m.–noon	
277 Postnatal Neurogenesis: Molecular Mechanisms	Poster	A20-A42	Hall A	21 Mon	8 a.m.–noon	
278 Pluripotent Stem Cells and Organoid Models of Degenerative Diseases	Poster	A43-A71	Hall A	21 Mon	8 a.m.–noon	
279 Molecular Mechanisms of Synaptogenesis and Activity-Dependent Development	Poster	A72-B1	Hall A	21 Mon	8 a.m.–noon	
280 Genetic and Environmental Factors for Autism Spectrum Disorders	Poster	B2-B24	Hall A	21 Mon	8 a.m.–noon	
344 From Single-Cell Profiling to Human Brain Organoids: Capturing Neural Development and Disease	Symposium		Room S100A	21 Mon	1:30–4 p.m.	2.5
349 Dual Perspectives Session: Does Adult Neurogenesis Occur in the Human Brain?	Dual Perspectives		Room S406B	21 Mon	1–2 p.m.	
352 Genetic Models for Autism Spectrum Disorders	Nanosymposium		Room S405	21 Mon	1–3:30 p.m.	
353 Evolution and Development of Brain and Spinal Cord	Nanosymposium		Room S104	21 Mon	1–2:45 p.m.	
363 Axon Regeneration	Poster	A1-A25	Hall A	21 Mon	1–5 p.m.	
364 Neuronal Morphogenesis	Poster	A26-A42	Hall A	21 Mon	1–5 p.m.	
365 Axon Growth and Guidance: Axonal Transport and Trafficking	Poster	A43-A57	Hall A	21 Mon	1–5 p.m.	
366 Genetic and Neural Mechanisms for Development Disorders	Poster	A58-A81	Hall A	21 Mon	1–5 p.m.	
367 Animal Models I	Poster	A82-B21	Hall A	21 Mon	1–5 p.m.	
437 Novel Mechanisms of Neuronal Alternative Splicing and Strategies to Correct Aberrant-Splicing	Minisymposium		Room S102	22 Tue	8:30–11 a.m.	2.5
442 Special Lecture- Molecular Mechanisms Underlying Activity-Dependent Neural Circuit Development and Plasticity	Lecture		Hall B	22 Tue	10:30–11:40 a.m.	1.25
444 Directing Pluripotent Stem Cell Differentiation	Nanosymposium		Room N427	22 Tue	8–9:45 a.m.	
457 Mechanisms of Cell Fate	Poster	A1-A23	Hall A	22 Tue	8 a.m.–noon	
458 Autism: Physiology, Systems, and Behavior	Poster	A24-A46	Hall A	22 Tue	8 a.m.–noon	
459 Neural Mechanisms for Developmental Disorders I	Poster	A47-A72	Hall A	22 Tue	8 a.m.–noon	
460 Development: Sensory and Limbic Systems	Poster	A73-B15	Hall A	22 Tue	8 a.m.–noon	
529 Adult Hippocampal Neurogenesis in Humans and Rodents: New Evidence and New Perspectives	Minisymposium		Room S100BC	22 Tue	1:30:00	2.5
535 Neurodevelopmental Disorders: New Molecular Mechanisms	Nanosymposium		Room N427	22 Tue	1–3:45 p.m.	
548 Molecular Mechanisms of Synaptogenesis and Circuit Refinement	Poster	A1-A20	Hall A	22 Tue	1–5 p.m.	
549 Neural Mechanisms for Developmental Disorders II	Poster	A21-A45	Hall A	22 Tue	1–5 p.m.	
550 Animal Models II	Poster	A46-A72	Hall A	22 Tue	1–5 p.m.	
551 Cellular and Molecular Mechanisms of Evolution and Development	Poster	A73-B2	Hall A	22 Tue	1–5 p.m.	
624 Gene Therapy in Neurological Diseases	Basic-Translational-Clinical Roundtables		Room N230B	23 Wed	8:30–11 a.m.	2.5

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
626 Neural Differentiation, Transplantation, and Regeneration	Nanosymposium		Room S505	23 Wed	8–10:30 a.m.	
627 Genetics and Neural Mechanisms of Developmental Disorders	Nanosymposium		Room N228	23 Wed	8–10:15 a.m.	
639 Neuronal Differentiation	Poster	A1–A29	Hall A	23 Wed	8 a.m.–noon	
640 Stem Cell Reprogramming and Screening <i>In Vitro</i>	Poster	A30–A42	Hall A	23 Wed	8 a.m.–noon	
641 Animal Models of Developmental Disorders	Poster	A43–A71	Hall A	23 Wed	8 a.m.–noon	
642 Autism: Neurons, Circuits, and Behavior	Poster	A72–B14	Hall A	23 Wed	8 a.m.–noon	
643 Sensorimotor Development and Disorders	Poster	B15–B24	Hall A	23 Wed	8 a.m.–noon	
711 Mechanisms of Basal Ganglia Maturation: Insights Into Health and Disease	Minisymposium		Room S100BC	23 Wed	1:30:00	2.5
717 Neurogenesis and Differentiation of CNS Neurons	Nanosymposium		Room N228	23 Wed	1–2:30 p.m.	
718 Autism: Molecular and Cellular Mechanisms	Nanosymposium		Room S106	23 Wed	1–3 p.m.	
729 Neuron-Glia Interactions	Poster	A1–A13	Hall A	23 Wed	1–5 p.m.	
730 Postnatal Neurogenesis: Environmental and Pharmacological Regulation	Poster	A14–A34	Hall A	23 Wed	1–5 p.m.	
731 Stem Cell Neural Differentiation	Poster	A35–A49	Hall A	23 Wed	1–5 p.m.	
732 Synaptogenesis and Activity-Dependent Development IV	Poster	A50–A64	Hall A	23 Wed	1–5 p.m.	
733 Rett Syndrome: Molecular and Cellular Mechanisms	Poster	A65–A79	Hall A	23 Wed	1–5 p.m.	
734 Neurodevelopmental Disorders: Molecular and Cellular Mechanisms	Poster	A80–B22	Hall A	23 Wed	1–5 p.m.	

Theme B – Neural Excitability/ Synapses/ and Glia

008 Special Lecture- Neuronal Activity-Dependent Myelination: A Mechanism for Learning and Repair?	Lecture		Hall B	19 Sat	2–3:10 p.m.	1.25
012 Neural Excitability: Regulating Synaptic Properties and Plasticity	Nanosymposium		Room N426	19 Sat	1–5 p.m.	
013 Microglial Control of Brain Development and Function	Nanosymposium		Room S106	19 Sat	1–3:15 p.m.	
032 Glutamate Transport and Signaling	Poster	A80–B13	Hall A	19 Sat	1–5 p.m.	
033 Opiates, Cytokines, and Other Neuropeptides	Poster	B14–B28	Hall A	19 Sat	1–5 p.m.	
034 Ionotropic Glutamate Receptors: Physiology	Poster	B29–B42	Hall A	19 Sat	1–5 p.m.	
035 Sodium Channels in Health and Disease	Poster	B43–B62	Hall A	19 Sat	1–5 p.m.	
036 Presynaptic Organization and Transmitter Release	Poster	B63–B73	Hall A	19 Sat	1–5 p.m.	
037 Synaptogenesis and Activity-Dependent Development I	Poster	B74–B87	Hall A	19 Sat	1–5 p.m.	
038 Short-Term Plasticity	Poster	B88–B99	Hall A	19 Sat	1–5 p.m.	
039 Structural Plasticity and Circuit Remodeling I	Poster	B100–C15	Hall A	19 Sat	1–5 p.m.	
040 Neuronal Firing Properties: Modulation, Development, and Pathologies I	Poster	C16–C35	Hall A	19 Sat	1–5 p.m.	
041 Animal Models of Epilepsy I	Poster	C36–C52	Hall A	19 Sat	1–5 p.m.	
096 Novel Mechanistic Roles for Sodium Channels in Neurodevelopmental Disorders	Minisymposium		Room S105	20 Sun	8:30–11 a.m.	2.5
104 Transmitter Co-Expression and Plasticity: From Health to Disease	Nanosymposium		Room S104	20 Sun	8–10:15 a.m.	
118 Ionotropic Glutamate Receptors: Pharmacology	Poster	B7–B24	Hall A	20 Sun	8 a.m.–noon	
119 Calcium Channels	Poster	B25–B49	Hall A	20 Sun	8 a.m.–noon	
120 Potassium Channels I	Poster	B50–B68	Hall A	20 Sun	8 a.m.–noon	
121 Neurotransmitter Release and Vesicle Recycling	Poster	B69–B98	Hall A	20 Sun	8 a.m.–noon	
122 Structural Plasticity and Circuit Remodeling II	Poster	B99–C19	Hall A	20 Sun	8 a.m.–noon	
123 Epilepsy: Human Studies	Poster	C20–C47	Hall A	20 Sun	8 a.m.–noon	
178 The Gut-Brain Axis in Health and Brain Disease	Minisymposium		Room S406A	20 Sun	1:30–4 p.m.	2.5
200 Small-Molecule Neurotransmitter Transport and Signaling	Poster	B5–B25	Hall A	20 Sun	1–5 p.m.	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
201 Nicotinic Acetylcholine Receptors: Physiology and Function	Poster	B26-B46	Hall A	20 Sun	1-5 p.m.	
202 Homeostatic Synaptic Plasticity	Poster	B47-B73	Hall A	20 Sun	1-5 p.m.	
203 Mechanisms Underlying Seizure Development and Epilepsy	Poster	B74-B92	Hall A	20 Sun	1-5 p.m.	
204 Astrocyte Biology: Cellular, Molecular, and Genetic Mechanisms	Poster	B93-C18	Hall A	20 Sun	1-5 p.m.	
205 Mechanisms of Bi-Directional Glia-Neuron Communication	Poster	C19-C47	Hall A	20 Sun	1-5 p.m.	
206 Molecular and Cellular Mechanisms of Demyelinating Disorders	Poster	C48-C69	Hall A	20 Sun	1-5 p.m.	
207 Demyelinating Disorders: Human and Animal Studies and Therapeutics	Poster	C70-C90	Hall A	20 Sun	1-5 p.m.	
257 Dissecting Cerebellar Function: A Prototypical Circuit Critical for Motor Learning and Cognition	Symposium	Room S100BC		21 Mon	8:30-11 a.m.	2.5
266 Astrocyte Networks Controlling Brain Function and Behavior	Nanosymposium	Room S103		21 Mon	8-10:15 a.m.	
281 Monoamine Transport and Signaling	Poster	B5-B43	Hall A	21 Mon	8 a.m.-noon	
282 Metabotropic Glutamate and GABAB Receptors	Poster	B44-B58	Hall A	21 Mon	8 a.m.-noon	
283 Potassium Channels II	Poster	B59-B72	Hall A	21 Mon	8 a.m.-noon	
284 Synaptic Transmission: Modulation and Mechanisms I	Poster	B73-B93	Hall A	21 Mon	8 a.m.-noon	
285 Long-Term Depression and Spike Timing-Dependent Plasticity	Poster	B94-C10	Hall A	21 Mon	8 a.m.-noon	
286 Synaptic Plasticity: Kinases and Intracellular Signaling	Poster	C11-C32	Hall A	21 Mon	8 a.m.-noon	
287 Synaptic Plasticity: Pre- and Postsynaptic Mechanisms	Poster	C33-C54	Hall A	21 Mon	8 a.m.-noon	
288 Human Functional Imaging	Poster	C55-C78	Hall A	21 Mon	8 a.m.-noon	
289 Networks and Connectivity	Poster	C79-C15	Hall A	21 Mon	8 a.m.-noon	
290 Epilepsy: Animal Models and Network Dynamics	Poster	D16-D35	Hall A	21 Mon	8 a.m.-noon	
368 Neurotransmitters: Transporters and Signaling Molecules	Poster	B22-B34	Hall A	21 Mon	1-5 p.m.	
369 Synaptogenesis and Activity-Dependent Development III	Poster	B35-B59	Hall A	21 Mon	1-5 p.m.	
370 Epilepsy: Genetic Mechanisms and Animal Models	Poster	B60-B75	Hall A	21 Mon	1-5 p.m.	
371 Antiepileptic Therapies	Poster	B76-B90	Hall A	21 Mon	1-5 p.m.	
372 Glia-Neuron Interactions in Diseased Brain	Poster	B91-C11	Hall A	21 Mon	1-5 p.m.	
373 Microglial Activation in Disease States	Poster	C12-C39	Hall A	21 Mon	1-5 p.m.	
445 Mechanisms of Epilepsy	Nanosymposium	Room S403		22 Tue	8-10 a.m.	
461 Amino Acid Transport and Signaling	Poster	B16-B37	Hall A	22 Tue	8 a.m.-noon	
462 Potassium Channels and Non-Selective Cation Channels	Poster	B38-B51	Hall A	22 Tue	8 a.m.-noon	
463 Synaptic Transmission: Modulation and Mechanisms II	Poster	B52-B64	Hall A	22 Tue	8 a.m.-noon	
464 Cellular Mechanisms of Oscillations	Poster	B65-B87	Hall A	22 Tue	8 a.m.-noon	
465 Cortical Oscillations I	Poster	B88-C13	Hall A	22 Tue	8 a.m.-noon	
466 Memory Systems	Poster	C14-C23	Hall A	22 Tue	8 a.m.-noon	
467 Epilepsy: Post-Seizure Mechanisms and Human Studies	Poster	C24-C42	Hall A	22 Tue	8 a.m.-noon	
468 Role of Astrocyte Dysfunction in Disease States	Poster	C43-C72	Hall A	22 Tue	8 a.m.-noon	
469 Microglial Functions in Brain Development and Homeostasis	Poster	C73-D1	Hall A	22 Tue	8 a.m.-noon	
530 The Synaptic Vesicle Cycle Revisited: New Insights Into the Modes and Mechanisms	Minisymposium	Room S105		22 Tue	1:30:00	2.5
536 Molecular and Genetic Mechanisms Underlying Glia-Neuron Interactions	Nanosymposium	Room S401		22 Tue	1-2:45 p.m.	
552 GABA and Glycine: Receptors, Inhibition, and Neuronal Excitability	Poster	B3-B22	Hall A	22 Tue	1-5 p.m.	
553 Synaptic Plasticity: Other Mechanisms	Poster	B23-B38	Hall A	22 Tue	1-5 p.m.	
554 Neuronal Firing Properties: Modulation, Development, and Pathologies II	Poster	B39-B56	Hall A	22 Tue	1-5 p.m.	
555 Animal Models of Epilepsy II	Poster	B57-B79	Hall A	22 Tue	1-5 p.m.	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
556 Central and Peripheral Myelinating Cells I	Poster	B80–B100	Hall A	22 Tue	1–5 p.m.	
557 Neuro-Oncology	Poster	B101–C27	Hall A	22 Tue	1–5 p.m.	
619 Pleiotropic Mitochondria: The Influence of Mitochondria on Neuronal Development and Disease	Minisymposium		Room S102	23 Wed	8:30–11 a.m.	2.5
628 Reactive Astrocytes: Molecular Mechanisms and Disease Models	Nanosymposium		Room S405	23 Wed	8–9:45 a.m.	
644 Nicotinic Acetylcholine Receptors: Structure and Regulation	Poster	B25–B41	Hall A	23 Wed	8 a.m.–noon	
645 GABA(A) and Glycine Receptor Pharmacology	Poster	B42–B60	Hall A	23 Wed	8 a.m.–noon	
646 Metabotropic Receptors for Other Transmitters and Peptides	Poster	B61–B90	Hall A	23 Wed	8 a.m.–noon	
647 Synaptic Transmission: Modulation and Mechanisms III	Poster	B91–C4	Hall A	23 Wed	8 a.m.–noon	
648 Transcription and Translation in Plasticity I	Poster	C5–C27	Hall A	23 Wed	8 a.m.–noon	
649 <i>In Vivo</i> Analyses of Epilepsy Models	Poster	C29–C54	Hall A	23 Wed	8 a.m.–noon	
712 Cell-Type Specificity, Strength, and Dynamics of Long-Range Synaptic Input	Minisymposium		Room S406A	23 Wed	1:30:00	2.5
719 Microglial Activation in Disease States	Nanosymposium		Room S405	23 Wed	1–2:45 p.m.	
735 Synaptic Transmission, Integration, and Signal Propagation	Poster	B23–B43	Hall A	23 Wed	1–5 p.m.	
736 Transcription and Translation in Plasticity II	Poster	B44–B58	Hall A	23 Wed	1–5 p.m.	
737 Dendritic Properties, Oscillations, and Plasticity	Poster	B59–B77	Hall A	23 Wed	1–5 p.m.	
738 Epilepsy, Ion Channels, and Mechanism of Action	Poster	B78–B88	Hall A	23 Wed	1–5 p.m.	
739 Epilepsy: Pharmacology	Poster	B89–C15	Hall A	23 Wed	1–5 p.m.	
740 Central and Peripheral Myelinating Cells II	Poster	C16–C63	Hall A	23 Wed	1–5 p.m.	
Theme C – Neurodegenerative Disorders and Injury						
014 Proteome Dysfunction in Aging, Neurodegenerative Disorders, and Alzheimer's Disease	Nanosymposium		Room S104	19 Sat	1–4 p.m.	
015 Neurodegeneration and Injury I	Nanosymposium		Room S401	19 Sat	1–3:45 p.m.	
016 Emerging Insights in Huntington's Disease Research: Pathological Mechanisms and Therapeutic Approaches	Nanosymposium		Room S405	19 Sat	1–2:45 p.m.	
042 Alzheimer's Disease and Other Dementias: Imaging Studies I	Poster	C53–C74	Hall A	19 Sat	1–5 p.m.	
043 Cellular Mechanisms of Parkinson's Disease I	Poster	C75–D3	Hall A	19 Sat	1–5 p.m.	
044 Cellular and Circuit Mechanisms in Tauopathies	Poster	D4–D24	Hall A	19 Sat	1–5 p.m.	
045 Mechanism Underlying Neurodegenerative Disease	Poster	D25–D41	Hall A	19 Sat	1–5 p.m.	
046 Cell Stress and Death Mechanisms	Poster	D42–E25	Hall A	19 Sat	1–5 p.m.	
047 Cellular Stress and Death Mechanisms	Poster	E26–F10	Hall A	19 Sat	1–5 p.m.	
048 Neurotoxicity, Inflammation, and Neuroprotection: Preclinical Studies I	Poster	F11–F26	Hall A	19 Sat	1–5 p.m.	
049 Ischemic Stroke I	Poster	F27–F46	Hall A	19 Sat	1–5 p.m.	
050 Brain Injury and Trauma I	Poster	G1–G30	Hall A	19 Sat	1–5 p.m.	
051 Axon Injury and Recovery	Poster	G31–H20	Hall A	19 Sat	1–5 p.m.	
097 Myelin Degeneration and Remyelination in Health and Disease	Minisymposium		Room S100A	20 Sun	8:30–11 a.m.	2.5
105 Brain Aging and Role of Systemic Factors	Nanosymposium		Room S405	20 Sun	8–11 a.m.	
106 Alzheimer's Disease: Neuroinflammation and Immune Actions	Nanosymposium		Room S103	20 Sun	8–11:15 a.m.	
107 Motor Neuron Disease Mechanisms	Nanosymposium		Room N426	20 Sun	8–10:45 a.m.	
124 Synaptic Dysfunction in Alzheimer's Disease: <i>In Vivo</i> Models I	Poster	C48–C66	Hall A	20 Sun	8 a.m.–noon	
125 Alzheimer's Disease and Other Dementias: Imaging Studies II	Poster	C67–C89	Hall A	20 Sun	8 a.m.–noon	
126 APP Metabolites in Alzheimer's Disease	Poster	C90–D17	Hall A	20 Sun	8 a.m.–noon	
127 Alzheimer's Disease: APP/Abeta Cellular and Animal Models	Poster	D18–E1	Hall A	20 Sun	8 a.m.–noon	
128 Neurodegenerative Disorders and Injury I	Poster	E2–E26	Hall A	20 Sun	8 a.m.–noon	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
129 Cellular Mechanisms of Parkinson's Disease II	Poster	E27-E38	Hall A	20 Sun	8 a.m.-noon	
130 Alpha-Synuclein: Mechanisms and Transmission	Poster	E39-F24	Hall A	20 Sun	8 a.m.-noon	
131 Parkinson's Disease Progression	Poster	F25-G7	Hall A	20 Sun	8 a.m.-noon	
132 Parkinson's Disease Therapeutic Strategies: Cellular and Animal Models	Poster	G8-G23	Hall A	20 Sun	8 a.m.-noon	
133 ALS and FTD Mechanisms	Poster	G24-H2	Hall A	20 Sun	8 a.m.-noon	
134 Neuroprotective Mechanisms: Preclinical Models	Poster	H3-H28	Hall A	20 Sun	8 a.m.-noon	
135 Stroke I	Poster	H29-I12	Hall A	20 Sun	8 a.m.-noon	
136 Spinal Cord Injury: Responses and Repair	Poster	I13-I32	Hall A	20 Sun	8 a.m.-noon	
177 The Molecular and Spatial Complexity of Tau: What Forms and Loci to Target?	Symposium		Room S100A	20 Sun	1:30-4 p.m.	2.5
188 Neuroinflammation: Mechanisms and Therapeutic Strategies	Nanosymposium		Room N427	20 Sun	1-3:45 p.m.	
189 Neurodegeneration and Injury II	Nanosymposium		Room S103	20 Sun	1-3:15 p.m.	
208 Brain Wellness and Aging: Pharmacological and Non-Pharmacological Interventions	Poster	C91-D13	Hall A	20 Sun	1-5 p.m.	
209 Brain Wellness and Aging: Systemic Factors and Brain Function	Poster	D14-D25	Hall A	20 Sun	1-5 p.m.	
210 Alzheimer's Disease: Genetics	Poster	D26-D35	Hall A	20 Sun	1-5 p.m.	
211 Tau: Preclinical and Clinical Pathology	Poster	D36-D46	Hall A	20 Sun	1-5 p.m.	
212 Alzheimer's Disease and Therapeutic Strategies I	Poster	E1-E27	Hall A	20 Sun	1-5 p.m.	
213 Parkinson's Disease: Molecular Mechanisms	Poster	E28-F4	Hall A	20 Sun	1-5 p.m.	
214 Ischemic Stroke II	Poster	F5-F18	Hall A	20 Sun	1-5 p.m.	
215 Stroke and Ischemia I	Poster	F19-G2	Hall A	20 Sun	1-5 p.m.	
216 Stroke and Ischemia II	Poster	G3-G29	Hall A	20 Sun	1-5 p.m.	
217 Spinal Cord Injury I	Poster	G30-H6	Hall A	20 Sun	1-5 p.m.	
258 Phenotype Suppression in Neurodegeneration	Minisymposium		Room S105	21 Mon	8:30-11 a.m.	2.5
267 Parkinson's Disease: From Preclinical to Human Studies	Nanosymposium		Room N426	21 Mon	8-10:30 a.m.	
291 Aging: Molecular Mechanisms I	Poster	D36-E10	Hall A	21 Mon	8 a.m.-noon	
292 Alzheimer's Disease: Omics Approaches	Poster	E11-E38	Hall A	21 Mon	8 a.m.-noon	
293 Synaptic Dysfunction in Alzheimer's Disease: <i>In Vivo</i> Models II	Poster	E39-F14	Hall A	21 Mon	8 a.m.-noon	
294 Molecular Underpinnings of LRRK2 Function and Dysfunction	Poster	F15-F26	Hall A	21 Mon	8 a.m.-noon	
295 Alpha-Synuclein Models and Mechanisms I	Poster	F27-F45	Hall A	21 Mon	8 a.m.-noon	
296 Mouse Models of Tauopathies	Poster	F46-G10	Hall A	21 Mon	8 a.m.-noon	
297 ALS and Motor Neuron Disease	Poster	G11-G33	Hall A	21 Mon	8 a.m.-noon	
298 Mechanisms of Neurotoxicity I	Poster	G34-H11	Hall A	21 Mon	8 a.m.-noon	
299 Alzheimer's Disease: Neurotoxicity, Inflammation, and Neuroprotection	Poster	H12-H41	Hall A	21 Mon	8 a.m.-noon	
300 Traumatic Brain Injury: Models, Mechanisms, and Recovery	Poster	H42-I24	Hall A	21 Mon	8 a.m.-noon	
301 Peripheral Nerve Injury	Poster	I25-I38	Hall A	21 Mon	8 a.m.-noon	
302 Neural Injury and Treatment	Poster	I39-J17	Hall A	21 Mon	8 a.m.-noon	
303 Spinal Cord Injury and Plasticity: Neurophysiology	Poster	J18-J31	Hall A	21 Mon	8 a.m.-noon	
346 Necroptosis and Other Non-Apoptotic Processes in Microglial Pathophysiology and Neurologic Diseases	Minisymposium		Room S105	21 Mon	1:30-4 p.m.	2.5
354 Amyloid-Beta: Novel Insights Into Function, Toxicity, and Animal Models	Nanosymposium		Room S103	21 Mon	1-4:30 p.m.	
355 Imaging and Treatment Studies of Essential Tremor and Dementia	Nanosymposium		Room S106	21 Mon	1-2:45 p.m.	
356 Mechanisms of Motor Neuron Disease	Nanosymposium		Room N426	21 Mon	1-3 p.m.	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
374 Aging: Molecular Mechanisms II	Poster	C40-C56	Hall A	21 Mon	1–5 p.m.	
375 Alzheimer's Disease: APOE and Associated Pathways	Poster	C57-C85	Hall A	21 Mon	1–5 p.m.	
376 Alzheimer's Disease and Therapeutic Strategies II	Poster	C86-D15	Hall A	21 Mon	1–5 p.m.	
377 Alzheimer's Disease and Other Dementias: Therapeutic Strategies I	Poster	D16-D32	Hall A	21 Mon	1–5 p.m.	
378 Neurodegenerative Disorders and Injury II	Poster	D33-D43	Hall A	21 Mon	1–5 p.m.	
379 Parkinson's Disease: Mitochondrial Mechanisms and Genetics	Poster	D44-E13	Hall A	21 Mon	1–5 p.m.	
380 Parkinson's Disease: Dopamine and Non-Dopamine Pathways	Poster	E14-E35	Hall A	21 Mon	1–5 p.m.	
381 Parkinson's Disease Oscillations	Poster	E36-F15	Hall A	21 Mon	1–5 p.m.	
382 Circuit Mechanisms of Motor Dysfunction in Parkinson's Disease	Poster	F16-F41	Hall A	21 Mon	1–5 p.m.	
383 Parkinson's Disease: Clinical Trials	Poster	F42-G15	Hall A	21 Mon	1–5 p.m.	
384 Parkinson's Disease Human Studies: Genetics and Diagnostics	Poster	G16-G31	Hall A	21 Mon	1–5 p.m.	
385 Movement Disorders: Clinical and Preclinical Studies	Poster	G32-H11	Hall A	21 Mon	1–5 p.m.	
386 Motor-Neuron Disease Mechanisms	Poster	H12-H33	Hall A	21 Mon	1–5 p.m.	
387 Mechanisms of Neurotoxicity II	Poster	H34-I16	Hall A	21 Mon	1–5 p.m.	
388 Neurodegeneration and Injury: Neuroinflammation	Poster	I17-I28	Hall A	21 Mon	1–5 p.m.	
389 Neurotoxicity, Inflammation, and Neuroprotection: Preclinical Studies II	Poster	I29-J4	Hall A	21 Mon	1–5 p.m.	
390 Ischemic Stroke III	Poster	J5-J17	Hall A	21 Mon	1–5 p.m.	
391 Stroke II	Poster	J17-J33	Hall A	21 Mon	1–5 p.m.	
392 Blast Injury, Traumatic Brain Injury, Stress, and PTSD	Poster	J34-K16	Hall A	21 Mon	1–5 p.m.	
393 Treatment and Therapeutic Interventions for Spinal Cord Injury	Poster	K17-L2	Hall A	21 Mon	1–5 p.m.	
441 Exoskeletons and Robotics for Neurorehabilitation	Basic-Translational-Clinical Roundtables		Room N230B	22 Tue	8:30–11 a.m.	2.5
443 Special Lecture- Leveraging Brain Rhythms as a Therapeutic Intervention for Neurodegenerative Diseases	Lecture		Hall B	22 Tue	Noon–1:10 p.m.	1.25
446 Tau Protein in Alzheimer's Disease and Other Dementia: Biochemistry and Cellular/Animal Models	Nanosymposium		Room S106	22 Tue	8–11:15 a.m.	
447 Alzheimer's Disease and Related Dementia: Therapeutic Strategies	Nanosymposium		Room S103	22 Tue	8–11:15 a.m.	
448 Stroke I	Nanosymposium		Room N228	22 Tue	8–11:30 a.m.	
449 Spinal Cord Injury: Models, Mechanisms, and Therapeutic Strategies	Nanosymposium		Room N227	22 Tue	8–10 a.m.	
470 Brain Wellness and Aging: Mechanisms and Biomarkers	Poster	D2-D17	Hall A	22 Tue	8 a.m.–noon	
471 Alzheimer's Disease: APP/Abeta Animal Models	Poster	D18-E1	Hall A	22 Tue	8 a.m.–noon	
472 Tau: Animal and Cellular Models I	Poster	E2-E19	Hall A	22 Tue	8 a.m.–noon	
473 Alzheimer's Disease and Other Dementias: Therapeutic Strategies II	Poster	E20-E34	Hall A	22 Tue	8 a.m.–noon	
474 Molecular Mechanisms of Huntington's Disease	Poster	E35-F13	Hall A	22 Tue	8 a.m.–noon	
475 Motor-Neuron Disease: Therapeutics	Poster	F14-F35	Hall A	22 Tue	8 a.m.–noon	
476 Neuroprotective Mechanisms	Poster	F36-G17	Hall A	22 Tue	8 a.m.–noon	
477 Neurotoxicity, Inflammation, and Neuroprotection: Microglia	Poster	G18-G39	Hall A	22 Tue	8 a.m.–noon	
478 Non-Pharmacological Approaches for Stroke Therapy and Recovery	Poster	G40-H18	Hall A	22 Tue	8 a.m.–noon	
479 Traumatic Brain Injury: Mechanisms, Biomarkers, and Recovery	Poster	H19-H45	Hall A	22 Tue	8 a.m.–noon	
480 Traumatic Brain Injury: Mechanisms and Therapeutic Strategies	Poster	H46-I18	Hall A	22 Tue	8 a.m.–noon	
481 Chronic Spinal Cord Injury	Poster	I19-I39	Hall A	22 Tue	8 a.m.–noon	
527 Comparing Dopamine Metabolism in Mouse and Human Neurons: Relevance for Parkinson's Disease	Symposium		Room S406A	22 Tue	1:30:00	2.5
537 Molecular Targets for Parkinson's Disease: Animal Models	Nanosymposium		Room S104	22 Tue	1–3:15 p.m.	
538 Animal Models of Neurodegenerative Disorders	Nanosymposium		Room N426	22 Tue	1–3:45 p.m.	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
539 Neurotoxicity, Inflammation, and Neuroprotection	Nanosymposium		Room S103	22 Tue	1–4 p.m.	
540 Stroke II	Nanosymposium		Room S505	22 Tue	1–3:30 p.m.	
541 Traumatic Brain Injury	Nanosymposium		Room S404	22 Tue	1–4:15 p.m.	
542 Therapeutic Interventions for Nervous System Injury	Nanosymposium		Room N228	22 Tue	1–3 p.m.	
558 Alzheimer's Disease: Neuroinflammation and Immune Actions	Poster	C28–C57	Hall A	22 Tue	1–5 p.m.	
559 Synaptic Dysfunction in Alzheimer's Disease: <i>In Vitro</i> Models	Poster	C58–C85	Hall A	22 Tue	1–5 p.m.	
560 Alzheimer's Disease: Amyloid-Beta Toxicity	Poster	C86–D11	Hall A	22 Tue	1–5 p.m.	
561 Neurotoxicity, Inflammation, and Neuroprotection: Advances in Nanomedicine	Poster	D12–D23	Hall A	22 Tue	1–5 p.m.	
562 Alzheimer's Disease: Tau Biochemistry and Physiology	Poster	D24–D35	Hall A	22 Tue	1–5 p.m.	
563 Alzheimer's Disease and Related Disorders: Preclinical Models	Poster	D36–E19	Hall A	22 Tue	1–5 p.m.	
564 Alzheimer's Disease and Other Dementias: Therapeutic Strategies III	Poster	E20–E34	Hall A	22 Tue	1–5 p.m.	
565 Animal Models of Huntington's Disease	Poster	E35–F8	Hall A	22 Tue	1–5 p.m.	
566 Neurodegeneration Mechanisms	Poster	F9–F29	Hall A	22 Tue	1–5 p.m.	
567 Neuroinflammation and Animal Models I	Poster	F30–G2	Hall A	22 Tue	1–5 p.m.	
568 Neuroinflammation and Animal Models II	Poster	G3–G19	Hall A	22 Tue	1–5 p.m.	
569 Ischemic Stroke IV	Poster	G20–G36	Hall A	22 Tue	1–5 p.m.	
570 Traumatic Brain Injury: Therapeutic Strategies	Poster	G37–H14	Hall A	22 Tue	1–5 p.m.	
571 Spinal Cord Injury II	Poster	H15–H29	Hall A	22 Tue	1–5 p.m.	
572 Neural Stimulation and Rehabilitation to Treat Spinal Cord Injury	Poster	H30–H46	Hall A	22 Tue	1–5 p.m.	
625 Special Lecture- Aberrant Phase Separation in Neurodegenerative Disease	Lecture		Hall B	23 Wed	10:30–11:40 a.m.	1.25
629 Parkinson's Disease: Cellular Mechanisms	Nanosymposium		Room N426	23 Wed	8–11:30 a.m.	
630 LRRK2 Function in Health and Disease	Nanosymposium		Room S401	23 Wed	8–9:45 a.m.	
631 Cellular Mechanisms of Tauopathies	Nanosymposium		Room S103	23 Wed	8–10:30 a.m.	
632 HIV-Associated Neurocognitive Disorders	Nanosymposium		Room S403	23 Wed	8–9:45 a.m.	
633 Spinal Cord Injury: Non-Pharmacological Therapeutic Strategies	Nanosymposium		Room N227	23 Wed	8–9:45 a.m.	
650 Tau: Animal and Cellular Models II	Poster	C55–C72	Hall A	23 Wed	8 a.m.–noon	
651 Alzheimer's Disease: Energy Homeostasis	Poster	C73–D4	Hall A	23 Wed	8 a.m.–noon	
652 Alzheimer's Disease Biomarkers	Poster	D5–D34	Hall A	23 Wed	8 a.m.–noon	
653 Genetic Models of Parkinson's Disease	Poster	D35–E12	Hall A	23 Wed	8 a.m.–noon	
654 Animal Models of Ataxia	Poster	E13–E40	Hall A	23 Wed	8 a.m.–noon	
655 Neurodegeneration and Neuromuscular Diseases	Poster	E41–F12	Hall A	23 Wed	8 a.m.–noon	
656 Neurotoxicity, Inflammation, and Neuroprotective Mechanisms: Preclinical	Poster	F13–F29	Hall A	23 Wed	8 a.m.–noon	
657 Stroke III	Poster	F30–G13	Hall A	23 Wed	8 a.m.–noon	
658 Traumatic Brain Injury: Biomarkers	Poster	G14–G33	Hall A	23 Wed	8 a.m.–noon	
659 Brain Injury and Trauma II	Poster	G34–H5	Hall A	23 Wed	8 a.m.–noon	
660 Spinal Cord Injury III	Poster	H6–H27	Hall A	23 Wed	8 a.m.–noon	
710 CNS Scarring, Inflammation, and Repair	Symposium		Room S100A	23 Wed	1:30:00	2.5
742 Alpha-Synuclein Models and Mechanisms II	Poster	C64–C80	Hall A	23 Wed	1–5 p.m.	
743 Parkinson's Disease: Therapeutics	Poster	C81–D13	Hall A	23 Wed	1–5 p.m.	
744 Neuroinflammation: HIV and Infections	Poster	D14–D43	Hall A	23 Wed	1–5 p.m.	
745 Brain Injury, Ischemia, and Epilepsy	Poster	D44–E27	Hall A	23 Wed	1–5 p.m.	
746 Brain Injury and Trauma III	Poster	E28–F8	Hall A	23 Wed	1–5 p.m.	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
747 Spinal Cord Injury and Repair	Poster	F9–F31	Hall A	23 Wed	1–5 p.m.	
Theme D – Sensory Systems						
017 Activity Correlations and Coding	Nanosymposium		Room S402	19 Sat	1–3 p.m.	
052 Somatosensation: Trigeminal Pain Circuits and Processing	Poster	H21–H34	Hall A	19 Sat	1–5 p.m.	
053 Somatosensation: Headache and Migraine	Poster	H35–I5	Hall A	19 Sat	1–5 p.m.	
054 Pain: Animal Models of Behavior	Poster	I6–I31	Hall A	19 Sat	1–5 p.m.	
055 Pain: Channels and Physiology Afferents to Spinal Cord	Poster	I32–J12	Hall A	19 Sat	1–5 p.m.	
056 Pain: Inflammatory Mechanisms	Poster	J13–J39	Hall A	19 Sat	1–5 p.m.	
057 Touch: Barrel Cortex Coding	Poster	J40–K17	Hall A	19 Sat	1–5 p.m.	
058 Chemosensory Processing I	Poster	K18–L7	Hall A	19 Sat	1–5 p.m.	
059 Temporal and Spectral Auditory Processing	Poster	L8–L32	Hall A	19 Sat	1–5 p.m.	
060 Auditory Processing: From Cochlea to Midbrain	Poster	L33–M1	Hall A	19 Sat	1–5 p.m.	
061 Decision Making I	Poster	M2–M19	Hall A	19 Sat	1–5 p.m.	
098 Parabrachial Complex: A Hub for Pain and Aversion	Minisymposium		Room S406B	20 Sun	8:30–11 a.m.	2.5
108 Dynamic Signal Integration Across Saccades	Nanosymposium		Room S505	20 Sun	8–9:45 a.m.	
137 Auditory Processing: Adaptation, Learning, and Memory	Poster	I33–J13	Hall A	20 Sun	8 a.m.–noon	
138 Human Auditory Processing I	Poster	J14–J30	Hall A	20 Sun	8 a.m.–noon	
139 Vestibular System and Balance	Poster	J31–K2	Hall A	20 Sun	8 a.m.–noon	
140 Vision: Subcortical Visual Pathways	Poster	K3–K24	Hall A	20 Sun	8 a.m.–noon	
141 Visual Cortex: Functional Architecture and Circuits I	Poster	K25–L5	Hall A	20 Sun	8 a.m.–noon	
142 Visual Processing Beyond V1	Poster	L6–L24	Hall A	20 Sun	8 a.m.–noon	
143 Spatial and Chromatic Vision	Poster	L25–L38	Hall A	20 Sun	8 a.m.–noon	
190 Pain and Itch Behavior, Circuitry, and Novel Techniques	Nanosymposium		Room S106	20 Sun	1–3:15 p.m.	
191 Neuronal Circuits Underlying Binocular Vision and Stereopsis	Nanosymposium		Room S505	20 Sun	1–3:15 p.m.	
218 Somatosensation: Ion Channels	Poster	H7–H33	Hall A	20 Sun	1–5 p.m.	
219 Somatosensation: Pain Mechanisms	Poster	H34–I16	Hall A	20 Sun	1–5 p.m.	
220 Preclinical and Clinical Studies in Peripheral Nerve Injury and Neuropathic Pain	Poster	I17–J2	Hall A	20 Sun	1–5 p.m.	
221 Touch: Thalamic-Cortical Processing	Poster	J3–J26	Hall A	20 Sun	1–5 p.m.	
222 Auditory Processing	Poster	J27–J46	Hall A	20 Sun	1–5 p.m.	
223 Auditory Processing: Perception, Cognition, and Action	Poster	K1–K22	Hall A	20 Sun	1–5 p.m.	
224 Human Auditory Processing II	Poster	K23–K38	Hall A	20 Sun	1–5 p.m.	
225 Mechanisms of Retinal Circuit Assembly and Function	Poster	K39–L27	Hall A	20 Sun	1–5 p.m.	
226 Eye Movements and Perception	Poster	L28–M10	Hall A	20 Sun	1–5 p.m.	
264 Special Lecture- Active Touch, Pain, and Anesthesia	Lecture		Hall B	21 Mon	Noon–1:10 p.m.	1.25
268 Organization and Function of Human Visual Cortex	Nanosymposium		Room N427	21 Mon	8–11:30 a.m.	
304 Peripheral Auditory System	Poster	J32–J46	Hall A	21 Mon	8 a.m.–noon	
305 Auditory Cortex: Temporal and Frequency Factors	Poster	K1–K24	Hall A	21 Mon	8 a.m.–noon	
306 Auditory Processing: From Midbrain to Cortex	Poster	K25–L3	Hall A	21 Mon	8 a.m.–noon	
307 Visual Cortex: Manipulating and Reading Neural Activity	Poster	L4–L22	Hall A	21 Mon	8 a.m.–noon	
308 Visual Cortex: Plasticity	Poster	L23–L35	Hall A	21 Mon	8 a.m.–noon	
309 Processing of Visual Motion	Poster	L36–M8	Hall A	21 Mon	8 a.m.–noon	
310 Sensorimotor Transformation: Behavior and Neuroprocessing	Poster	M9–M33	Hall A	21 Mon	8 a.m.–noon	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
347 What Do Neurons Want?	Minisymposium		Room S102	21 Mon	1:30–4 p.m.	2.5
357 Pain Imaging and Perception	Nanosymposium		Room S403	21 Mon	1–3 p.m.	
358 Tactile Coding in the Cortex	Nanosymposium		Room S401	21 Mon	1–3:45 p.m.	
394 Discovery and Treatment Studies in Auditory and Visual Preclinical Neuroscience	Poster	L3–L19	Hall A	21 Mon	1–5 p.m.	
395 Somatosensation: Spinal Circuits	Poster	L20–L39	Hall A	21 Mon	1–5 p.m.	
396 Somatosensation: Itch Mechanisms	Poster	L40–M9	Hall A	21 Mon	1–5 p.m.	
397 Pain: Thalamus, Cortex, and Amygdala Processing	Poster	M10–M233	Hall A	21 Mon	1–5 p.m.	
398 Central Nervous System Mechanisms in Pain	Poster	M34–N19	Hall A	21 Mon	1–5 p.m.	
399 Chemosensory Processing II	Poster	N20–	Hall A	21 Mon	1–5 p.m.	
400 Peripheral Vestibular System	Poster	O1–O12	Hall A	21 Mon	1–5 p.m.	
401 Auditory Processing: Vocalizations and Natural Sounds	Poster	O13–O33	Hall A	21 Mon	1–5 p.m.	
402 Cellular Mechanisms of Vestibular Control	Poster	O34–P4	Hall A	21 Mon	1–5 p.m.	
403 Visual Cortex: Circuits	Poster	P5–Q10	Hall A	21 Mon	1–5 p.m.	
438 Sensory Circuits for Vision and Smell: Integrating Molecular, Anatomical, and Functional Maps	Minisymposium		Room S105	22 Tue	8:30–11 a.m.	2.5
482 Somatosensation: Descending Modulation of Pain	Poster	I40–J21	Hall A	22 Tue	8 a.m.–noon	
483 Pain Models: Pharmacology	Poster	J22–K2	Hall A	22 Tue	8 a.m.–noon	
484 Somatosensation: Pain and Opioids	Poster	K3–K26	Hall A	22 Tue	8 a.m.–noon	
485 Touch: Transduction and Stimulus Encoding	Poster	K27–L8	Hall A	22 Tue	8 a.m.–noon	
486 Touch: Cortical Encoding and Plasticity	Poster	L9–L29	Hall A	22 Tue	8 a.m.–noon	
487 Scenes and Space	Poster	L30–L41	Hall A	22 Tue	8 a.m.–noon	
488 Representations of Objects	Poster	L42–M23	Hall A	22 Tue	8 a.m.–noon	
489 Faces and Bodies	Poster	M24–M41	Hall A	22 Tue	8 a.m.–noon	
490 Visual Learning, Memory, and Categorization	Poster	M42–N22	Hall A	22 Tue	8 a.m.–noon	
491 Sensorimotor Transformation: Reach and Grasp	Poster	N23–N45	Hall A	22 Tue	8 a.m.–noon	
531 Expecting the Unexpected: Cortical Circuits for Novelty Detection	Minisymposium		Room S406B	22 Tue	1:30:00	2.5
543 New Approaches for Pain Assessment and Treatment	Nanosymposium		Room S405	22 Tue	1–3 p.m.	
573 Taste: Sensing and Coding	Poster	I1–I11	Hall A	22 Tue	1–5 p.m.	
574 Auditory Processing: Neural Coding	Poster	I12–I41	Hall A	22 Tue	1–5 p.m.	
575 Cellular Mechanisms of Retinal Connectivity in Health and Disease	Poster	I42–J25	Hall A	22 Tue	1–5 p.m.	
576 Visual System: Response Modulation and Adaptation	Poster	J26–J45	Hall A	22 Tue	1–5 p.m.	
577 Visual Pathways: To and From the Cortex	Poster	J46–K17	Hall A	22 Tue	1–5 p.m.	
578 Multi-Sensory Integration	Poster	K18–L1	Hall A	22 Tue	1–5 p.m.	
618 New Approaches to Vision Restoration	Symposium		Room S100A	23 Wed	8:30–11 a.m.	2.5
634 Novel Insights Into Neuropathic Pain	Nanosymposium		Room S104	23 Wed	8–9:45 a.m.	
635 Mapping Chemosensory Representations	Nanosymposium		Room S106	23 Wed	8–11:30 a.m.	
661 Somatosensation: Non-Opioid Treatment of Pain	Poster	H28–I4	Hall A	23 Wed	8 a.m.–noon	
662 Touch: Neocortex Networks and Models	Poster	I5–I7	Hall A	23 Wed	8 a.m.–noon	
663 Chemosensory Processing III	Poster	I18–J1	Hall A	23 Wed	8 a.m.–noon	
664 Selective Attention	Poster	J2–J26	Hall A	23 Wed	8 a.m.–noon	
665 Cross-Modal Processing in Humans I	Poster	J27–J40	Hall A	23 Wed	8 a.m.–noon	
666 Cross-Modal Processing in Humans II	Poster	J41–K24	Hall A	23 Wed	8 a.m.–noon	
713 Progress in Pain and Itch Research	Minisymposium		Room S102	23 Wed	1:30:00	2.5

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
720 Mechanisms Controlling Retinal Synaptic Connectivity and Function	Nanosymposium		Room S402	23 Wed	1–2:45 p.m.	
721 Integration Across Sensory Modalities	Nanosymposium		Room S403	23 Wed	1–2:45 p.m.	
748 Somatosensation: Treatments for Persistent Pain	Poster	F32–G12	Hall A	23 Wed	1–5 p.m.	
749 Role of Inflammatory and Immune Responses in Chronic Pain	Poster	G13–G35	Hall A	23 Wed	1–5 p.m.	
750 Somatosensation: Pain, Imaging, and Perception	Poster	G36–H34	Hall A	23 Wed	1–5 p.m.	
752 Active Vision and Context Modulation	Poster	H35–I16	Hall A	23 Wed	1–5 p.m.	
753 Visual Cortex: Cell Types, Functional Organization, and Connectivity	Poster	I17–I31	Hall A	23 Wed	1–5 p.m.	
754 Visual Cortex: Functional Architecture and Circuits II	Poster	I32–J8	Hall A	23 Wed	1–5 p.m.	
755 Visual Systems: Functional Architecture and Circuits	Poster	J9–J31	Hall A	23 Wed	1–5 p.m.	
756 Decision Making III	Poster	J32–J44	Hall A	23 Wed	1–5 p.m.	
757 Decision Making IV	Poster	J45–K11	Hall A	23 Wed	1–5 p.m.	
Theme E – Motor Systems						
004 Gain Control in the Sensorimotor System: From Neural Circuit Organization to Behavioral Function	Minisymposium		Room S406B	19 Sat	1:30–4 p.m.	2.5
062 Eye Movements: Central Processing	Poster	M20–M41	Hall A	19 Sat	1–5 p.m.	
063 Cerebellum: Plasticity and Climbing Fibers	Poster	M42–N9	Hall A	19 Sat	1–5 p.m.	
064 Motor Systems: Fine Manual Control	Poster	N10–N33	Hall A	19 Sat	1–5 p.m.	
065 Neuronal Analysis of Respiratory Networks	Poster	N34–O4	Hall A	19 Sat	1–5 p.m.	
066 Motor Neuron I	Poster	O5–O26	Hall A	19 Sat	1–5 p.m.	
099 The Neural Basis of Manual Dexterity	Minisymposium		Room S102	20 Sun	8:30–11 a.m.	2.5
144 Eye Movements: Saccades in Nonhuman Primates	Poster	L39–M13	Hall A	20 Sun	8 a.m.–noon	
145 Basal Ganglia: Neuromodulation	Poster	M14–M32	Hall A	20 Sun	8 a.m.–noon	
146 Basal Ganglia: Behavioral Control	Poster	M33–N16	Hall A	20 Sun	8 a.m.–noon	
176 Special Lecture- Comparative Neurobiology of Vocal Communication	Lecture		Hall B	20 Sun	1:30–2:40 p.m.	1.25
227 Sensorimotor Coordination in Motor Control	Poster	M11–M37	Hall A	20 Sun	1–5 p.m.	
228 Motor Control in Primates and Humans	Poster	M38–N16	Hall A	20 Sun	1–5 p.m.	
229 Sensorimotor Learning I	Poster	N17–N45	Hall A	20 Sun	1–5 p.m.	
230 Cells, Circuits, and Motor Patterns	Poster	N46–O20	Hall A	20 Sun	1–5 p.m.	
231 Respiration: Modulation and Regulation	Poster	O21–P3	Hall A	20 Sun	1–5 p.m.	
255 Special Lecture- Neural Mechanisms of Short-Term Memory and Motor Planning	Lecture		Hall B	21 Mon	10:30–11:40 a.m.	1.25
311 Motor Control and Rehabilitation in Primates and Humans	Poster	M34–N17	Hall A	21 Mon	8 a.m.–noon	
312 Cortical Planning and Execution: Neurophysiology in Humans	Poster	N18–N46	Hall A	21 Mon	8 a.m.–noon	
313 Cortical Planning and Execution: Neurophysiology in Nonhuman Primates I	Poster	O1–O23	Hall A	21 Mon	8 a.m.–noon	
314 Motor Cortex and Motor Learning	Poster	O24–P7	Hall A	21 Mon	8 a.m.–noon	
315 Brain-Computer Interface: Intracranial	Poster	P8–P32	Hall A	21 Mon	8 a.m.–noon	
316 Posture and Gait I	Poster	P33–Q15	Hall A	21 Mon	8 a.m.–noon	
317 Afferent Control of Posture and Gait	Poster	Q16–R9	Hall A	21 Mon	8 a.m.–noon	
318 Neuromodulation of Motor Pattern Generation	Poster	R10–S9	Hall A	21 Mon	8 a.m.–noon	
405 Cerebellum: Cortex and Nuclei I	Poster	Q11–R13	Hall A	21 Mon	1–5 p.m.	
406 Brain-Computer Interface: Algorithms and Analyses	Poster	R14–S11	Hall A	21 Mon	1–5 p.m.	
407 Neuro-Muscle Interactions	Poster	S12–T14	Hall A	21 Mon	1–5 p.m.	
439 Beta Oscillations in Sensorimotor Function, Executive Action Control, and Working Memory	Minisymposium		Room S406A	22 Tue	8:30–11 a.m.	2.5

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
450 Cerebellum Circuits and Functions	Nanosymposium		Room N426	22 Tue	8–9:45 a.m.	
492 Human-Reaching Motor Learning	Poster	N46–O17	Hall A	22 Tue	8 a.m.–noon	
493 Motor Learning: Circuits	Poster	O18–O38	Hall A	22 Tue	8 a.m.–noon	
494 Cortical Planning and Execution: Neurophysiology in Rodents and Others I	Poster	O39–P14	Hall A	22 Tue	8 a.m.–noon	
495 Brain-Computer Interface: Neurophysiology, Function, and Learning	Poster	P15–P34	Hall A	22 Tue	8 a.m.–noon	
496 Motor Systems Analysis and Models	Poster	P35–Q3	Hall A	22 Tue	8 a.m.–noon	
497 Control of Spinal Locomotion Circuits	Poster	Q4–R3	Hall A	22 Tue	8 a.m.–noon	
544 Motor Control and Stroke Recovery	Nanosymposium		Room S403	22 Tue	1–4 p.m.	
579 Cerebellum: Cortex and Nuclei II	Poster	L2–L23	Hall A	22 Tue	1–5 p.m.	
580 Basal Ganglia: Pathophysiology	Poster	L24–M2	Hall A	22 Tue	1–5 p.m.	
581 Sensorimotor Transformation: Physiology and Pathophysiology	Poster	M3–M19	Hall A	22 Tue	1–5 p.m.	
582 Animal-Reaching Motor Learning	Poster	M20–M29	Hall A	22 Tue	1–5 p.m.	
583 Cortical Planning and Execution: Neurophysiology in Rodents and Others II	Poster	M30–N2	Hall A	22 Tue	1–5 p.m.	
584 Brain-Computer Interface: Rehabilitation	Poster	N3–N24	Hall A	22 Tue	1–5 p.m.	
585 Motor Neuron II	Poster	N25–O3	Hall A	22 Tue	1–5 p.m.	
667 Basal Ganglia: Cellular and Systems Physiology	Poster	K25–L14	Hall A	23 Wed	8 a.m.–noon	
668 Sensorimotor Learning II	Poster	L15–L41	Hall A	23 Wed	8 a.m.–noon	
669 Brain-Computer Interface: EMG	Poster	L42–M14	Hall A	23 Wed	8 a.m.–noon	
670 Sensorimotor Control, Movements, and Motor Cortex	Poster	M15–M40	Hall A	23 Wed	8 a.m.–noon	
671 Reflexes	Poster	M40–N9	Hall A	23 Wed	8 a.m.–noon	
714 Adaptive Control of Movements and Emotional States by the Cerebellum	Minisymposium		Room S406B	23 Wed	1:30:00	2.5
722 Cortical and Subcortical Planning and Execution	Nanosymposium		Room N227	23 Wed	1–3:45 p.m.	
758 Oral Motor Behavior and Speech	Poster	K12–K25	Hall A	23 Wed	1–5 p.m.	
759 Motor Impairment and Recovery	Poster	K26–L10	Hall A	23 Wed	1–5 p.m.	
760 Brain-Computer Interface: Extracranial	Poster	L11–L40	Hall A	23 Wed	1–5 p.m.	
761 Brain-Computer Interface: Stimulation for Sensation	Poster	L41–M9	Hall A	23 Wed	1–5 p.m.	
762 Posture and Gait II	Poster	M10–M32	Hall A	23 Wed	1–5 p.m.	
763 High-Level Control of Posture and Gait	Poster	M33–N16	Hall A	23 Wed	1–5 p.m.	
764 Impairments of Posture and Gait	Poster	N17–N45	Hall A	23 Wed	1–5 p.m.	
Theme F – Integrative Physiology and Behavior						
005 Sex Differences in Drug Craving and Addiction-Like Behaviors in Rodent Models	Minisymposium		Room S102	19 Sat	1:30–4 p.m.	2.5
067 Invertebrate Sensory-Motor Integration	Poster	O27–P5	Hall A	19 Sat	1–5 p.m.	
068 Vertebrate Sensory-Motor Integration	Poster	P6–P25	Hall A	19 Sat	1–5 p.m.	
069 Neural and Contextual Modulation of Affiliative Behavior	Poster	P26–Q13	Hall A	19 Sat	1–5 p.m.	
070 Stress and the Inflammatory/Immune Response	Poster	Q14–R10	Hall A	19 Sat	1–5 p.m.	
071 Autonomic Regulation: Gastrointestinal, Renal, Urinary, and Reproductive Regulation	Poster	R11–T2	Hall A	19 Sat	1–5 p.m.	
072 Autonomic Regulation: Thermoregulation, Inflammation, and Other Interactions	Poster	T3–T18	Hall A	19 Sat	1–5 p.m.	
073 Feeding and Food-Related Disorders	Poster	T19–U10	Hall A	19 Sat	1–5 p.m.	
147 Maternal and Adolescent Behavior and Physiology	Poster	N17–N46	Hall A	20 Sun	8 a.m.–noon	
148 Somatic Influences on the Brain and Vice Versa	Poster	O1–O16	Hall A	20 Sun	8 a.m.–noon	
149 Neuropeptide Regulation: Feeding and Metabolism	Poster	O17–O40	Hall A	20 Sun	8 a.m.–noon	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
192 Information Seeking From Flies to Human	Nanosymposium		Room N426	20 Sun	1–3:15 p.m.	
193 Functional Role of Sleep	Nanosymposium		Room S404	20 Sun	1–4:15 p.m.	
232 Vocalization and Social Behavior in Songbirds I	Poster	P4–P25	Hall A	20 Sun	1–5 p.m.	
233 Vocalization and Social Behavior in Songbirds II	Poster	P26–Q13	Hall A	20 Sun	1–5 p.m.	
259 Insights Into Neural Coding and Behavior From Large-Scale Population Recordings Across Cortical Areas	Minisymposium		Room S406B	21 Mon	8:30–11 a.m.	2.5
269 Neural Mechanisms for Controlling Continuous Action	Nanosymposium		Room S403	21 Mon	8–11:15 a.m.	
319 Stress-Modulated Pathways: Hypothalamus, Amygdala, and Bed Nucleus	Poster	S10–T19	Hall A	21 Mon	8 a.m.–noon	
320 CRF in Stress-Modulated Pathways: Hypothalamus, Amygdala, and Bed Nucleus	Poster	T20–U20	Hall A	21 Mon	8 a.m.–noon	
321 Stress-Modulated Pathways: Brainstem and Others	Poster	U21–	Hall A	21 Mon	8 a.m.–noon	
322 Stress, Cognition, and Behavior: Animal Studies	Poster	V1–V27	Hall A	21 Mon	8 a.m.–noon	
345 Cortical Disinhibitory Circuits: Cell Types, Connectivity, and Function	Symposium		Room S100BC	21 Mon	1:30–4 p.m.	2.5
408 Hormone Modulation of Behavior and Physiology I	Poster	T15–U14	Hall A	21 Mon	1–5 p.m.	
409 Early-Life Stress	Poster	U15–V3	Hall A	21 Mon	1–5 p.m.	
410 Circadian Aspects of Sleep and Gap Junctions	Poster	V4–V24	Hall A	21 Mon	1–5 p.m.	
434 Special Lecture- Flies and Alcohol: An Interplay of Nature and Nurture	Lecture		Hall B	22 Tue	9–10:10 a.m.	1.25
451 Stress and Trauma: Adaptive Mechanisms	Nanosymposium		Room S404	22 Tue	8–10 a.m.	
452 Homeostatic Circuits, Feeding, and Energy Balance	Nanosymposium		Room S505	22 Tue	8–9:45 a.m.	
498 Vocalization and Social Behavior in Non-Avian Species	Poster	R4–S2	Hall A	22 Tue	8 a.m.–noon	
499 Hormone Modulation of Behavior and Physiology II	Poster	S3–T14	Hall A	22 Tue	8 a.m.–noon	
500 Behavioral Responses to Stress	Poster	T15–U7	Hall A	22 Tue	8 a.m.–noon	
501 Functional Brain Imaging and Multimodal Imaging	Poster	U8–V21	Hall A	22 Tue	8 a.m.–noon	
503 Sleep Regulation	Poster	V22–V35	Hall A	22 Tue	8 a.m.–noon	
528 Neural Circuit and Plasticity Mechanisms of Cognitive Control of Feeding Behavior	Symposium		Room S100A	22 Tue	1:30:00	2.5
532 Redefining Neuromodulation of Behavior: Impact of a Modular Locus Coeruleus Architecture	Minisymposium		Room S102	22 Tue	1:30:00	2.5
586 Hormone Modulation of Behavior and Physiology III	Poster	O4–O33	Hall A	22 Tue	1–5 p.m.	
587 Stress and Adolescence	Poster	O34–P2	Hall A	22 Tue	1–5 p.m.	
588 Stress-Modulated Pathways	Poster	P3–P30	Hall A	22 Tue	1–5 p.m.	
589 Brain Blood Flow, Metabolism, and Homeostasis	Poster	P31–Q16	Hall A	22 Tue	1–5 p.m.	
590 Sleep Mechanisms	Poster	Q17–S6	Hall A	22 Tue	1–5 p.m.	
591 Food Intake and Energy Balance: Integration of Peripheral Signals	Poster	S7–T7	Hall A	22 Tue	1–5 p.m.	
620 Regulation and Dysregulation of Activity Homeostasis in Central Neural Circuits	Minisymposium		Room S406B	23 Wed	8:30–11 a.m.	2.5
636 Sex Differences in Response to Stress	Nanosymposium		Room N427	23 Wed	8–11:15 a.m.	
672 Neural and Contextual Modulation of Sexual Behavior	Poster	N10–N30	Hall A	23 Wed	8 a.m.–noon	
673 Hormone Modulation of Behavior and Physiology IV	Poster	N31–O11	Hall A	23 Wed	8 a.m.–noon	
674 Neuroinflammation: Pathophysiological Consequences	Poster	O12–O33	Hall A	23 Wed	8 a.m.–noon	
675 Neuroinflammation: Neurophysiological Responses	Poster	O34–P17	Hall A	23 Wed	8 a.m.–noon	
676 Neuroinflammation: Cognition and Behavioral Responses	Poster	P18–P41	Hall A	23 Wed	8 a.m.–noon	
677 Blood-Brain Barrier: Control and Mechanisms	Poster	P42–Q12	Hall A	23 Wed	8 a.m.–noon	
678 Sleep Mechanisms and Function	Poster	Q13–R20	Hall A	23 Wed	8 a.m.–noon	
679 Circadian Clocks	Poster	S1–S11	Hall A	23 Wed	8 a.m.–noon	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
680 Central Regulation of Thirst and Water Balance	Poster	S12-T5	Hall A	23 Wed	8 a.m.–noon	
681 Development: Diet and Metabolism	Poster	T6-U7	Hall A	23 Wed	8 a.m.–noon	
682 Food Reward	Poster	U8–U28	Hall A	23 Wed	8 a.m.–noon	
683 Central Pathways Controlling Food Intake and Energy Balance	Poster	U29–V12	Hall A	23 Wed	8 a.m.–noon	
765 Stress Response: Sex Differences	Poster	N46–O23	Hall A	23 Wed	1–5 p.m.	
766 Gulf War Illness: Pathological Causes and Consequences	Poster	O24–O43	Hall A	23 Wed	1–5 p.m.	
767 Cellular Response to Stress	Poster	O44–P18	Hall A	23 Wed	1–5 p.m.	
768 Preclinical and Human Studies in Neurovascular Coupling Mechanisms	Poster	P19–Q6	Hall A	23 Wed	1–5 p.m.	
769 Cardiovascular Regulation I	Poster	Q7–R8	Hall A	23 Wed	1–5 p.m.	
770 Cardiovascular Regulation II	Poster	R9–S5	Hall A	23 Wed	1–5 p.m.	
771 Biological Rhythms: Entrainment and Phase Shifts	Poster	S6–T7	Hall A	23 Wed	1–5 p.m.	
Theme G – Motivation and Emotion						
002 Epigenetic Mechanisms: Shared Pathology Across Brain Disorders	Symposium		Room S100A	19 Sat	1:30–4 p.m.	2.5
018 Neural Circuits, Memory, and Emotion	Nanosymposium		Room S403	19 Sat	1–4:30 p.m.	
074 Fear and Aversive Learning and Memory: Extinction	Poster	U11–U30	Hall A	19 Sat	1–5 p.m.	
075 Neural Mechanisms Underlying Motivated Behaviors and Addiction	Poster	U31–V9	Hall A	19 Sat	1–5 p.m.	
076 Stress and Mood Disorders: Animal Studies	Poster	V10–V32	Hall A	19 Sat	1–5 p.m.	
077 Cognitive Effects of Abused Substances	Poster	V33–V46	Hall A	19 Sat	1–5 p.m.	
078 Mechanisms Underlying Alcohol Consumption I	Poster	W1–W25	Hall A	19 Sat	1–5 p.m.	
079 Alcohol's Effects on the Brain	Poster	W26–W43	Hall A	19 Sat	1–5 p.m.	
080 Nicotine, Reward, and Dependence	Poster	W44–X18	Hall A	19 Sat	1–5 p.m.	
100 CLINICAL NEUROSCIENCE LECTURE- From Pecking Order to Ketamine: Neural Mechanisms of Social and Emotional Behaviors	Lecture		Hall B	20 Sun	10:30–11:40 a.m.	1.25
109 Neural and Molecular Mechanisms of Alcohol and Substance Use Disorders	Nanosymposium		Room S106	20 Sun	8–11:15 a.m.	
150 Appetitive and Incentive Learning and Memory I	Poster	O41–P19	Hall A	20 Sun	8 a.m.–noon	
151 Fear and Aversive Learning and Memory: Acquisition	Poster	P20–P37	Hall A	20 Sun	8 a.m.–noon	
152 Human Motivation and Emotion I	Poster	P38–R1	Hall A	20 Sun	8 a.m.–noon	
153 Human Motivation and Emotion II	Poster	R2–S1	Hall A	20 Sun	8 a.m.–noon	
154 Drugs of Abuse: Learning and Memory I	Poster	S2–T3	Hall A	20 Sun	8 a.m.–noon	
155 Mechanisms Underlying Alcohol Consumption II	Poster	T4–U1	Hall A	20 Sun	8 a.m.–noon	
156 Neural and Behavioral Mechanisms of Addiction: Amphetamine	Poster	U2–U26	Hall A	20 Sun	8 a.m.–noon	
157 Cocaine Relapse	Poster	U27–V5	Hall A	20 Sun	8 a.m.–noon	
179 Cannabis and the Developing Brain: Insights Into Its Long-Lasting Effects	Minisymposium		Room S100BC	20 Sun	1:30–4 p.m.	2.5
194 Cortical and Subcortical Mechanisms of Aversive Processing	Nanosymposium		Room S104	20 Sun	1–2:45 p.m.	
234 Reward, Value, and Decisions	Poster	Q14–S2	Hall A	20 Sun	1–5 p.m.	
235 Emotion: Positive and Negative Emotional States	Poster	S3–T9	Hall A	20 Sun	1–5 p.m.	
236 Depression: Pathology	Poster	T10–U2	Hall A	20 Sun	1–5 p.m.	
237 Genetic and Molecular Mechanisms Underlying Alcohol Dependence	Poster	U3–U25	Hall A	20 Sun	1–5 p.m.	
238 Addiction Treatment	Poster	U26–U40	Hall A	20 Sun	1–5 p.m.	
239 Neural Mechanisms of Addiction: Amphetamines	Poster	V1–V18	Hall A	20 Sun	1–5 p.m.	
240 Opioids: Mechanisms of Dependence	Poster	V19–W2	Hall A	20 Sun	1–5 p.m.	
260 Ventral Tegmental Area (VTA) Cell Heterogeneity in Health and Disease	Minisymposium		Room S102	21 Mon	8:30–11 a.m.	2.5

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
262 Mechanisms of Drug Addiction: A Translational Perspective	Basic-Translational-Clinical Roundtables		Room N230B	21 Mon	8:30 – 11 a.m.	2.5
270 Neural Mechanisms Underlying Depression and Anxiety	Nanosymposium		Room S505	21 Mon	8–11 a.m.	
323 Reward: Neuropharmacology	Poster	V28-W1	Hall A	21 Mon	8 a.m.–noon	
324 Subcortical Circuitry: Reward Seeking and Reinforcement	Poster	W2-W29	Hall A	21 Mon	8 a.m.–noon	
325 Neural Mechanisms of Social Communication and Motivated Behaviors	Poster	W30-X13	Hall A	21 Mon	8 a.m.–noon	
326 Emotion: Fear, Anxiety, and Pain I	Poster	X14-X39	Hall A	21 Mon	8 a.m.–noon	
327 Consequences of Alcohol and Drug Exposure During Development	Poster	X40-Y21	Hall A	21 Mon	8 a.m.–noon	
328 Cocaine Craving	Poster	Y22-Y42	Hall A	21 Mon	8 a.m.–noon	
329 Opioids, Dependence, Withdrawal, and Reward	Poster	Y43-Z28	Hall A	21 Mon	8 a.m.–noon	
359 Subcortical Circuitry in Reward, Motivation, and Aversion	Nanosymposium		Room S505	21 Mon	1–3:15 p.m.	
411 Fear and Aversive Learning and Memory: Circuits I	Poster	V25-V45	Hall A	21 Mon	1–5 p.m.	
412 Fear Conditioning, Extinction, and Aggression	Poster	V46-W10	Hall A	21 Mon	1–5 p.m.	
413 Depression in Patient Subpopulations	Poster	W11-W34	Hall A	21 Mon	1–5 p.m.	
414 Neural Circuits Underlying Alcohol Dependence	Poster	W35-X13	Hall A	21 Mon	1–5 p.m.	
415 Neural and Behavioral Mechanisms of Addiction: Cocaine	Poster	X14-X36	Hall A	21 Mon	1–5 p.m.	
416 Factors Influencing Cocaine Use	Poster	X37-Y1	Hall A	21 Mon	1–5 p.m.	
417 Opioids: Mechanisms Underlying Seeking Behavior	Poster	Y2-Y31	Hall A	21 Mon	1–5 p.m.	
435 The Paraventricular Thalamus (PVT): Salience and Timing Orchestrator for Learning and Deciding	Symposium		Room S100BC	22 Tue	8:30–11 a.m.	2.5
453 Effects of Cocaine Use	Nanosymposium		Room S401	22 Tue	8–11 a.m.	
504 Appetitive and Incentive Learning and Memory II	Poster	V36-W10	Hall A	22 Tue	8 a.m.–noon	
505 Fear and Aversive Learning and Memory: Circuits II	Poster	W11-W24	Hall A	22 Tue	8 a.m.–noon	
506 Mechanisms Underlying Decision-Making, Motivation, and Reinforcement	Poster	W25–239	Hall A	22 Tue	8 a.m.–noon	
507 Stress, Anxiety, and Aversion	Poster	W40-X14	Hall A	22 Tue	8 a.m.–noon	
508 Mood Disorders: Depression and Bipolar Disorders: Clinical Studies	Poster	X15-X35	Hall A	22 Tue	8 a.m.–noon	
509 Depression and Bipolar Disorders: Ketamine in Animal Studies	Poster	X36-Y9	Hall A	22 Tue	8 a.m.–noon	
510 Psychostimulant Actions on Neural Circuits	Poster	Y10-Y26	Hall A	22 Tue	8 a.m.–noon	
511 Drugs of Abuse: Learning and Memory II	Poster	Y27-Z2	Hall A	22 Tue	8 a.m.–noon	
592 Subcortical Circuitry Motivation, Compulsive Behavior, and Psychostimulants	Poster	T8-U5	Hall A	22 Tue	1–5 p.m.	
593 Emotion: Neurocircuitry	Poster	U6-U29	Hall A	22 Tue	1–5 p.m.	
594 Emotion: Fear, Anxiety, and Pain II	Poster	U30–V14	Hall A	22 Tue	1–5 p.m.	
595 Human Studies: Fear and Anxiety	Poster	V15-V33	Hall A	22 Tue	1–5 p.m.	
596 Stress and Anxiety	Poster	V34-W10	Hall A	22 Tue	1–5 p.m.	
597 Cocaine: Behavior, Circuits, and Mechanisms	Poster	W11-W30	Hall A	22 Tue	1–5 p.m.	
598 Neural Mechanisms Underlying Cocaine Use and Abuse	Poster	W31-X15	Hall A	22 Tue	1–5 p.m.	
621 Brain Circuits for the Selection and Scaling of Defensive Behavior	Minisymposium		Room S105	23 Wed	8:30–11 a.m.	2.5
684 Depression: Physiology, Pharmacology, and Treatment	Poster	V13-V35	Hall A	23 Wed	8 a.m.–noon	
685 Mechanisms Underlying Depression and Anxiety	Poster	V36-W11	Hall A	23 Wed	8 a.m.–noon	
686 Psychiatric Disorder: Rodent Models	Poster	W12-W26	Hall A	23 Wed	8 a.m.–noon	
687 Other Psychiatric Disorders	Poster	W27-W39	Hall A	23 Wed	8 a.m.–noon	
688 Mechanisms Underlying Reward Dependence	Poster	W40-X10	Hall A	23 Wed	8 a.m.–noon	
689 Neurobehavioral Effects of Cannabinoids	Poster	X11-X26	Hall A	23 Wed	8 a.m.–noon	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
716 Special Lecture- The Neurobiology of Long-Term Memory: Key Molecules, Diverse Cell Types, Temporal Dynamics, and Critical Periods	Lecture		Hall B	23 Wed	3–4:10 p.m.	1.25
772 Fear and Aversive Learning and Memory: Modulatory Factors	Poster	T8–U8	Hall A	23 Wed	1–5 p.m.	
773 Dopamine, Reward, and Reinforcement	Poster	U9–38	Hall A	23 Wed	1–5 p.m.	
774 Social Behavior: Systems and Circuits	Poster	U39–V14	Hall A	23 Wed	1–5 p.m.	
775 Mood Disorders: Circuits and Synapses	Poster	V15–V31	Hall A	23 Wed	1–5 p.m.	
776 Mood Disorders: Molecular Mechanisms and Approaches	Poster	V32–W9	Hall A	23 Wed	1–5 p.m.	
777 Mood Disorders: Depression and Bipolar Disorders: Animal Studies	Poster	W10–W38	Hall A	23 Wed	1–5 p.m.	
778 Depression and Bipolar Disorders: Treatment Strategies in Animal Studies	Poster	W39–X22	Hall A	23 Wed	1–5 p.m.	
779 Post-Traumatic Stress Disorder	Poster	X23–X43	Hall A	23 Wed	1–5 p.m.	
780 Post-Traumatic Stress Disorder: Preclinical Models	Poster	X44–U26	Hall A	23 Wed	1–5 p.m.	
781 Nicotine, Mechanisms of Dependence, and Reward	Poster	Y27–Y42	Hall A	23 Wed	1–5 p.m.	
Theme H – Cognition						
006 Brain Mechanisms of Concept Learning	Minisymposium		Room S105	19 Sat	1:30–4 p.m.	2.5
019 Social Cognition: Behavior and Neural Mechanisms I	Nanosymposium		Room S505	19 Sat	1–2:45 p.m.	
081 Network Activity	Poster	X19–X43	Hall A	19 Sat	1–5 p.m.	
082 Memory Consolidation and Reconsolidation: Neural Circuit Mechanisms	Poster	X44–Y13	Hall A	19 Sat	1–5 p.m.	
083 Cortical and Cortico-Hippocampal Circuits: Spatial Navigation I	Poster	Y14–Y24	Hall A	19 Sat	1–5 p.m.	
084 Hippocampal and Cortical Circuits: Memory, Head Direction, and Spatial Codes	Poster	Y25–Z1	Hall A	19 Sat	1–5 p.m.	
085 Learning, Habit, and Compulsion	Poster	Z2–Z20	Hall A	19 Sat	1–5 p.m.	
086 Hippocampus: Dentate Gyrus	Poster	Z21–Z38	Hall A	19 Sat	1–5 p.m.	
087 Schizophrenia: Animal Models and Genetic Studies	Poster	Z39–AA26	Hall A	19 Sat	1–5 p.m.	
094 Opening the Black Box of the Hippocampus: Visualizing Memories in Distinct Cell Types, Microcircuits, and Cellular Compartments	Symposium		Room S100BC	20 Sun	8:30–11 a.m.	2.5
101 Special Lecture- The Brain From Inside Out	Lecture		Hall B	20 Sun	Noon–1:10 p.m.	1.25
110 Representations of Value and Economic Choice Across Different Brain Regions	Nanosymposium		Room N427	20 Sun	8–9:45 a.m.	
111 Language: Physiology, Plasticity, and Cognition	Nanosymposium		Room S402	20 Sun	8–10:45 a.m.	
112 Modeling of Schizophrenia Relevant Risk Factors	Nanosymposium		Room S401	20 Sun	8–9:45 a.m.	
158 Hippocampal Function	Poster	V6–V15	Hall A	20 Sun	8 a.m.–noon	
159 Decision Making: Lateral Prefrontal Cortex	Poster	V16–V32	Hall A	20 Sun	8 a.m.–noon	
160 Memory Consolidation and Reconsolidation: Behavior	Poster	V33–W11	Hall A	20 Sun	8 a.m.–noon	
161 Hippocampus: Intrinsic Hippocampal Circuits	Poster	W12–W28	Hall A	20 Sun	8 a.m.–noon	
162 Hippocampal Dynamics in Learning and Memory	Poster	W29–X11	Hall A	20 Sun	8 a.m.–noon	
163 Learning and Memory: Physiology I	Poster	X12–X21	Hall A	20 Sun	8 a.m.–noon	
164 Cortical Hippocampal Circuits: Time and Memory	Poster	X22–X42	Hall A	20 Sun	8 a.m.–noon	
165 Cortical and Cortico-Hippocampal Circuits: Spatial Navigation II	Poster	X43–Y16	Hall A	20 Sun	8 a.m.–noon	
166 Human Perception and Imagery I	Poster	Y17–Y34	Hall A	20 Sun	8 a.m.–noon	
167 Human Long-Term Memory: Medial Temporal Lobe I	Poster	Y35–YZ12	Hall A	20 Sun	8 a.m.–noon	
168 Human Long-Term Memory: Encoding and Retrieval I	Poster	Z13–Z29	Hall A	20 Sun	8 a.m.–noon	
169 Human Long-Term Memory: Encoding and Retrieval II	Poster	Z30–AA8	Hall A	20 Sun	8 a.m.–noon	
170 Encoding and Retrieval in High-Level Content and Naturalistic Protocols	Poster	AA9–AA21	Hall A	20 Sun	8 a.m.–noon	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
171 Human Social Cognition: Behavior, Mechanisms, and Disorders I	Poster	AA22-AA43	Hall A	20 Sun	8 a.m.-noon	
180 Cognitive Cerebellum: Role in Motivation, Emotion, Executive, Social, and Sensory Processing	Minisymposium		Room S102	20 Sun	1:30-4 p.m.	2.5
195 Medial Temporal Lobe in Learning and Memory	Nanosymposium		Room S402	20 Sun	1-3:15 p.m.	
241 Decision Making: Rodent Medial Prefrontal Cortex	Poster	W3-W23	Hall A	20 Sun	1-5 p.m.	
242 Learning and Memory: Cortical-Hippocampal Interactions I	Poster	W24-X8	Hall A	20 Sun	1-5 p.m.	
243 Memory Engrams	Poster	X9-X29	Hall A	20 Sun	1-5 p.m.	
244 Hippocampus and Cognition	Poster	X30-X42	Hall A	20 Sun	1-5 p.m.	
245 Time Perception	Poster	X43-Y39	Hall A	20 Sun	1-5 p.m.	
247 Cognitive Aging Disorders in Humans	Poster	Y40-Z24	Hall A	20 Sun	1-5 p.m.	
248 Human: Timing and Temporal Processing	Poster	Z25-AA3	Hall A	20 Sun	1-5 p.m.	
249 Human Social Cognition: Behavior, Mechanisms, and Disorders II	Poster	AA4-AA25	Hall A	20 Sun	1-5 p.m.	
271 Learning and Memory: Genes and Signaling	Nanosymposium		Room S104	21 Mon	8-10:30 a.m.	
272 Basic, Theoretical, and Translational Research on Human Spatial Cognition	Nanosymposium		Room S405	21 Mon	8-11:30 a.m.	
273 Learning and Decision-Making	Nanosymposium		Room S106	21 Mon	8-10:30 a.m.	
274 Social Cognition: Behavior and Neural Mechanisms II	Nanosymposium		Room S401	21 Mon	8-10:30 a.m.	
330 New Methods for Studying Cognition	Poster	Z29-AA2	Hall A	21 Mon	8 a.m.-noon	
331 Attention	Poster	AA3-AA25	Hall A	21 Mon	8 a.m.-noon	
332 Decision Making: Medial Prefrontal Cortex	Poster	A26-AA39	Hall A	21 Mon	8 a.m.-noon	
333 Hippocampus: Spatial Maps, Reward, and Replay	Poster	AA40-BB10	Hall A	21 Mon	8 a.m.-noon	
334 Genetic and Molecular Mechanisms of Memory Formation	Poster	BB11-BB23	Hall A	21 Mon	8 a.m.-noon	
335 Learning and Memory: Cortical-Hippocampal Interactions II	Poster	BB24-BB53	Hall A	21 Mon	8 a.m.-noon	
336 Learning and Memory: Physiology II	Poster	BB54-BB67	Hall A	21 Mon	8 a.m.-noon	
337 Human Long-Term Memory: Medial Temporal Lobe II	Poster	BB68-CC2	Hall A	21 Mon	8 a.m.-noon	
338 Neural Correlates of Language Processing	Poster	CC3-CC29	Hall A	21 Mon	8 a.m.-noon	
339 Language Acquisition and Coding	Poster	CC30-CC57	Hall A	21 Mon	8 a.m.-noon	
348 Awakening the Engram: The Etiological Role of Engram Cells for Memory Formation, Storage, and Retrieval in Health and Disease	Minisymposium		Room S406A	21 Mon	1:30-4 p.m.	2.5
360 Learning and Memory: Cortical-Hippocampal Interactions	Nanosymposium		Room N427	21 Mon	1-2:45 p.m.	
361 Decision Making	Nanosymposium		Room S404	21 Mon	1-4:15 p.m.	
418 Attention and Neuromodulation	Poster	Y32-Z6	Hall A	21 Mon	1-5 p.m.	
419 Mechanisms Underlying Learning and Memory in Invertebrates	Poster	Z7-Z26	Hall A	21 Mon	1-5 p.m.	
420 Thalamic and Brainstem Circuits	Poster	Z27-Z37	Hall A	21 Mon	1-5 p.m.	
421 Human Learning: Feedback, Reinforcement, and Reward	Poster	Z38-AA22	Hall A	21 Mon	1-5 p.m.	
422 Human Long-Term Memory: Medial Temporal Lobe III	Poster	AA23-AA42	Hall A	21 Mon	1-5 p.m.	
423 Human Long-Term Memory: Modulation	Poster	AA43-BB27	Hall A	21 Mon	1-5 p.m.	
424 Cognition and Connectivity	Poster	BB28-BB57	Hall A	21 Mon	1-5 p.m.	
425 Development, Cognition, and Connectivity	Poster	BB58-BB85	Hall A	21 Mon	1-5 p.m.	
426 Subcortical-Cortical Interactions	Poster	CC1-CC10	Hall A	21 Mon	1-5 p.m.	
427 Personalized Brain Signatures	Poster	CC11-CC33	Hall A	21 Mon	1-5 p.m.	

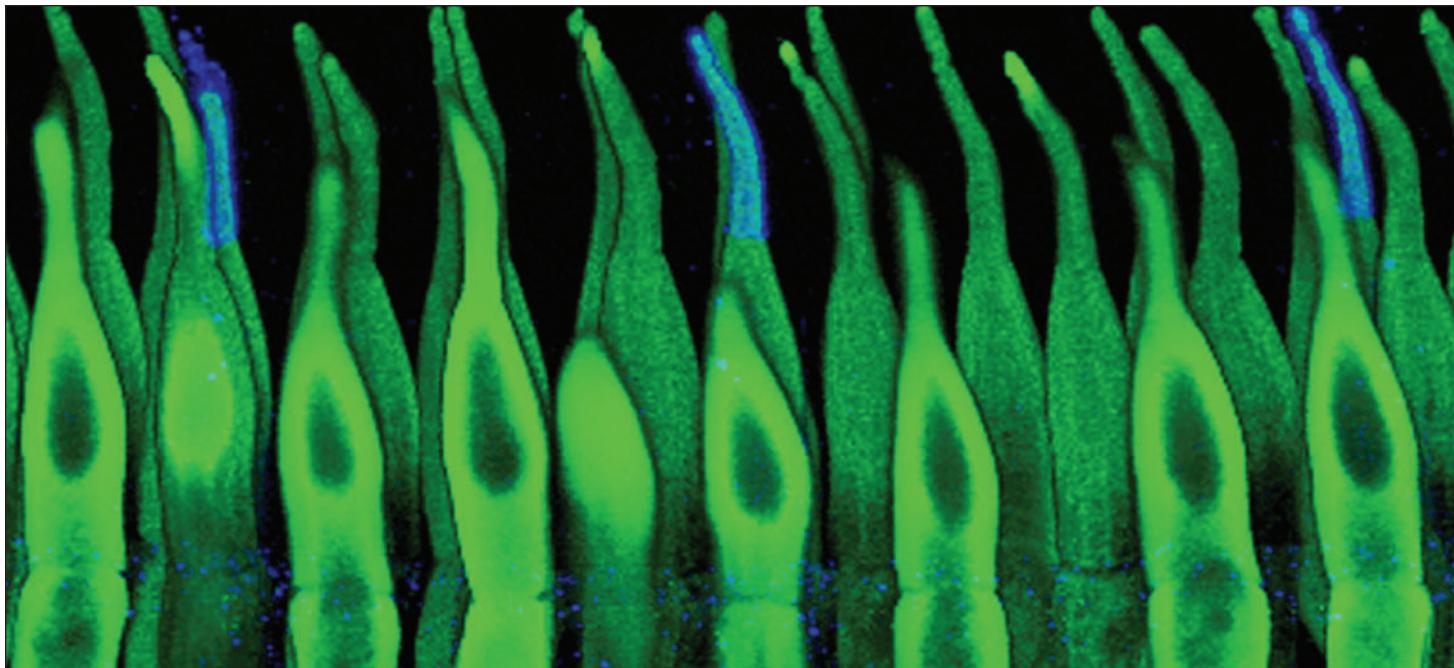
SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
428 Animal Models of Risk Factors for Schizophrenia	Poster	CC34–CC48	Hall A	21 Mon	1–5 p.m.	
440 Naturalistic Paradigms in Awake Monkeys: Bridging fMRI and Extra-Cellular Activities	Minisymposium		Room S406B	22 Tue	8:30–11 a.m.	2.5
454 Medial Temporal Lobe in Learning and Memory During Development	Nanosymposium		Room S405	22 Tue	8–10:15 a.m.	
455 Working Memory: Mechanisms I	Nanosymposium		Room S104	22 Tue	8–10:15 a.m.	
512 Economic Decision-Making	Poster	Z3–Z18	Hall A	22 Tue	8 a.m.–noon	
513 Mechanisms Underlying Memory Formation	Poster	Z19–Z38	Hall A	22 Tue	8 a.m.–noon	
514 Decision Making: Orbitofrontal Cortex	Poster	Z39–AA20	Hall A	22 Tue	8 a.m.–noon	
515 Working Memory: Prefrontal Cortex I	Poster	ZZ21–BB1	Hall A	22 Tue	8 a.m.–noon	
516 Human Perceptual and Spatial Learning	Poster	BB22–BB22	Hall A	22 Tue	8 a.m.–noon	
517 Human Working Memory: Mechanisms I	Poster	BB23–BB43	Hall A	22 Tue	8 a.m.–noon	
518 Human Decision-Making and Reasoning: Cognition and Computations I	Poster	BB44–BB67	Hall A	22 Tue	8 a.m.–noon	
519 Clinical and Biomarker Research in Schizophrenia	Poster	BB68–C2	Hall A	22 Tue	8 a.m.–noon	
526 Special Lecture- Evolution and Dissolution of Memories Over Time	Lecture		Hall B	22 Tue	1:30–2:40 p.m.	1.25
545 Molecular Mechanisms of Memory Formation and Reconsolidation	Nanosymposium		Room N227	22 Tue	1–2:45 p.m.	
546 Working Memory: Mechanisms II	Nanosymposium		Room S402	22 Tue	1–3:15 p.m.	
599 Decision Making and Action Selection	Poster	X16–X40	Hall A	22 Tue	1–5 p.m.	
600 Working Memory, Aging, and the Hippocampus	Poster	X41–Y18	Hall A	22 Tue	1–5 p.m.	
601 Neural Circuits for Learning and Memory	Poster	Y18–Z2	Hall A	22 Tue	1–5 p.m.	
602 Learning and Memory: Genes and Signaling	Poster	Z3–Z12	Hall A	22 Tue	1–5 p.m.	
603 Memory and Cognition	Poster	Z13–Z38	Hall A	22 Tue	1–5 p.m.	
604 Cortical and Cortico-Hippocampal Circuits: Spatial Navigation III	Poster	Z39–AA24	Hall A	22 Tue	1–5 p.m.	
605 Cortical Oscillations II	Poster	AA25–BB6	Hall A	22 Tue	1–5 p.m.	
606 Decisions: Action and Corticostriatal Circuits	Poster	BB7–BB31	Hall A	22 Tue	1–5 p.m.	
607 Human Long-Term Memory: Encoding and Retrieval III	Poster	BB32–BB51	Hall A	22 Tue	1–5 p.m.	
608 Human Decision-Making and Reasoning: Cognition and Computations II	Poster	BB52–BB73	Hall A	22 Tue	1–5 p.m.	
609 Decision Making II	Poster	BB74–CC2	Hall A	22 Tue	1–5 p.m.	
610 Schizophrenia Models and Drug Development	Poster	CC3–CC32	Hall A	22 Tue	1–5 p.m.	
622 Grid-Like Hexadirectional Modulation of Neural Activity in Humans	Minisymposium		Room S100BC	23 Wed	8:30–11 a.m.	2.5
637 The Use of Transcranial Magnetic Stimulation to Modulate Human Memory	Nanosymposium		Room S402	23 Wed	8–10 a.m.	
690 Working Memory: Prefrontal Cortex II	Poster	X27–X46	Hall A	23 Wed	8 a.m.–noon	
691 Memory Consolidation and Reconsolidation: Molecular Mechanisms	Poster	Y1–Y40	Hall A	23 Wed	8 a.m.–noon	
693 Learning and Memory: Aging	Poster	Y41–Z14	Hall A	23 Wed	8 a.m.–noon	
694 Cortical and Cortico-Hippocampal Circuits: Spatial Navigation IV	Poster	Z15–AA2	Hall A	23 Wed	8 a.m.–noon	
695 Human Perception and Imagery II	Poster	AA3–AA29	Hall A	23 Wed	8 a.m.–noon	
696 Human Motor and Sequence Learning I	Poster	AA29–BB2	Hall A	23 Wed	8 a.m.–noon	
697 Human Motor and Sequence Learning II	Poster	BB3–BB18	Hall A	23 Wed	8 a.m.–noon	
698 Human Long-Term Memory: Encoding and Retrieval IV	Poster	BB19–BB38	Hall A	23 Wed	8 a.m.–noon	
699 Attention and Cognition	Poster	BB39–BB68	Hall A	23 Wed	8 a.m.–noon	
700 Attention Networks	Poster	BB69–CC3	Hall A	23 Wed	8 a.m.–noon	

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
701 Language Disorders	Poster	CC4–CC16	Hall A	23 Wed	8 a.m.–noon	
709 Special Lecture- Neural Codes for Natural Behaviors in Flying Bats	Lecture		Hall B	23 Wed	1:30–2:40 p.m.	1.25
723 Neural and Molecular Mechanisms of Memory	Nanosymposium		Room S104	23 Wed	1–4:15 p.m.	
724 Human Executive Functioning	Nanosymposium		Room S401	23 Wed	1:00:00	
725 Human Imaging and Connectivity	Nanosymposium		Room N427	23 Wed	1–3:30 p.m.	
726 Personalized Brain Signatures	Nanosymposium		Room N426	23 Wed	1:00:00	
782 Learning and Memory	Poster	Y43–Z20	Hall A	23 Wed	1–5 p.m.	
783 Inhibitory Control	Poster	Z21–Z35	Hall A	23 Wed	1–5 p.m.	
784 Social Memory and Cognition I	Poster	Z36–AA12	Hall A	23 Wed	1–5 p.m.	
785 Social Memory and Cognition II	Poster	AA13–AA38	Hall A	23 Wed	1–5 p.m.	
786 Learning and Memory: Subcortical-Hippocampal Interactions	Poster	AA39–BB5	Hall A	23 Wed	1–5 p.m.	
787 Hippocampus, Engrams, and Memory	Poster	BB6–BB17	Hall A	23 Wed	1–5 p.m.	
788 Hippocampus: Learning	Poster	BB18–BB27	Hall A	23 Wed	1–5 p.m.	
789 Intrinsic Hippocampal Circuits: Spatial Navigation	Poster	BB28–BB52	Hall A	23 Wed	1–5 p.m.	
790 Human Perception and Imagery III	Poster	BB53–BB72	Hall A	23 Wed	1–5 p.m.	
791 Human Working Memory: Mechanisms II	Poster	BB73–CC7	Hall A	23 Wed	1–5 p.m.	
792 Cognitive Aging II	Poster	CC8–CC34	Hall A	23 Wed	1–5 p.m.	
793 Physiological and Cognitive Factors Associated With Healthy Aging	Poster	CC35–CC44	Hall A	23 Wed	1–5 p.m.	

Theme I – Techniques

007 BRAIN Initiative: Cutting-Edge Tools and Resources for the Community	Minisymposium		Room S406A	19 Sat	1:30–4 p.m.	2.5
020 High Density Neural Recordings	Nanosymposium		Room S103	19 Sat	1–3:30 p.m.	
088 Molecular and Biochemical Techniques	Poster	AA27–BB1	Hall A	19 Sat	1–5 p.m.	
089 Connectomics Analytics I	Poster	BB1–BB18	Hall A	19 Sat	1–5 p.m.	
090 Physiological Methods	Poster	BB19–BB38	Hall A	19 Sat	1–5 p.m.	
091 Techniques: Cellular Electrophysiology	Poster	BB39–BB51	Hall A	19 Sat	1–5 p.m.	
092 Connectomics Analytics II	Poster	BB52–BB81	Hall A	19 Sat	1–5 p.m.	
093 Special Lecture- Theoretical Neuroscience: Decision Making and Its Discontents	Lecture		Hall B	20 Sun	9–10:10 a.m.	1.25
172 Genetic and Genome Engineering Techniques	Poster	AA44–BB29	Hall A	20 Sun	8 a.m.–noon	
173 Anatomic Methods: Image Acquisition I	Poster	BB30–BB40	Hall A	20 Sun	8 a.m.–noon	
174 Anatomic Methods: Image Acquisition II	Poster	BB41–BB70	Hall A	20 Sun	8 a.m.–noon	
175 Drug Delivery	Poster	BB71–BB83	Hall A	20 Sun	8 a.m.–noon	
181 Optical Recording of Neural Transmission: From Tool Development to Applications	Minisymposium		Room S105	20 Sun	1:30–4 p.m.	2.5
250 Transcriptomic and Genomic Analyses	Poster	AA26–BB3	Hall A	20 Sun	1–5 p.m.	
251 Anatomic Methods: Circuit Tracing	Poster	BB4–BB30	Hall A	20 Sun	1–5 p.m.	
252 Connectomics Analytics III	Poster	BB31–BB58	Hall A	20 Sun	1–5 p.m.	
253 Optogenetics I	Poster	BB59–BB78	Hall A	20 Sun	1–5 p.m.	
254 Novel Approaches in Neuromodulation I	Poster	BB79–CC13	Hall A	20 Sun	1–5 p.m.	
261 Artificial Intelligence and Neuroscience: From Neural Dynamics to Artificial Agents	Minisymposium		Room S406A	21 Mon	8:30–11 a.m.	2.5

SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
275 Single-Cell Analysis of Cortical Cell Type Diversity	Nanosymposium		Room S404	21 Mon	8–10:15 a.m.	
340 Software Tools: Analysis I	Poster	CC58–CC78	Hall A	21 Mon	8 a.m.–noon	
341 Electrical Methods to Modulate Neural Activity I	Poster	DD1–DD28	Hall A	21 Mon	8 a.m.–noon	
342 Optogenetics II	Poster	DD29–DD50	Hall A	21 Mon	8 a.m.–noon	
362 Data Analysis: Neuronal Networks	Nanosymposium		Room S402	21 Mon	1–2:30 p.m.	
429 Anatomic Methods: Electron Microscopy	Poster	CC49–CC58	Hall A	21 Mon	1–5 p.m.	
430 Techniques: Microelectrodes I	Poster	CC59–DD5	Hall A	21 Mon	1–5 p.m.	
431 Computational Tools for Neuronal Mapping, Activity, and Networks	Poster	DD6–DD22	Hall A	21 Mon	1–5 p.m.	
432 Software Tools: Analysis II	Poster	DD23–DD45	Hall A	21 Mon	1–5 p.m.	
433 Novel Approaches in Neuromodulation II	Poster	DD46–DD64	Hall A	21 Mon	1–5 p.m.	
436 Brain Somatic Mosaicism: Implications for Development and Disorders	Symposium		Room S100A	22 Tue	8:30–11 a.m.	2.5
456 Human Brain Mapping and Imaging in Health and Diseases	Nanosymposium		Room S402	22 Tue	8–11:30 a.m.	
520 Molecular Structural Imaging	Poster	C3–CC23	Hall A	22 Tue	8 a.m.–noon	
521 Optic Probes	Poster	CC24–CC41	Hall A	22 Tue	8 a.m.–noon	
522 Techniques: Microelectrodes II	Poster	CC42–CC67	Hall A	22 Tue	8 a.m.–noon	
523 Network Theory and Modeling	Poster	CC68–DD16	Hall A	22 Tue	8 a.m.–noon	
524 Computational Tools for Brain and Behavioral Experiments	Poster	DD17–DD33	Hall A	22 Tue	8 a.m.–noon	
525 Software Tools: Imaging	Poster	DD34–DD63	Hall A	22 Tue	8 a.m.–noon	
547 New Technologies for Imaging Neuronal Structure and Activity	Nanosymposium		Room S106	22 Tue	1–4:15 p.m.	
611 Spatial Transcriptomics Techniques	Poster	CC33–CC46	Hall A	22 Tue	1–5 p.m.	
612 Optic Methods: Development and Applications	Poster	CC47–CC73	Hall A	22 Tue	1–5 p.m.	
613 Physiological Methods: Novel Assays	Poster	CC74–DD12	Hall A	22 Tue	1–5 p.m.	
614 Biomarker and Drug Discovery: Neurodegenerative Diseases	Poster	DD13–DD37	Hall A	22 Tue	1–5 p.m.	
615 Neuronal Models of Activity and Disease	Poster	DD38–DD59	Hall A	22 Tue	1–5 p.m.	
616 Network Modeling and Application	Poster	DD60–DD74	Hall A	22 Tue	1–5 p.m.	
623 Timing is Everything: Temporally Irregular Stimulation Patterns for Brain Mapping and Clinical Therapeutics	Minisymposium		Room S406A	23 Wed	8:30–11 a.m.	2.5
638 Genomic Engineering Using Enhancers or CRISPR	Nanosymposium		Room S404	23 Wed	8–10:30 a.m.	
702 Genomic and Proteomic Techniques	Poster	CC17–CC33	Hall A	23 Wed	8 a.m.–noon	
703 Optical Methods: Applications	Poster	CC34–CC60	Hall A	23 Wed	8 a.m.–noon	
704 Biomarker and Drug Discovery: Neuropsychiatric Diseases	Poster	CC61–	Hall A	23 Wed	8 a.m.–noon	
705 Virtual Brain Models	Poster	DD1–DD11	Hall A	23 Wed	8 a.m.–noon	
706 Analytical Computational Models	Poster	DD12–DD34	Hall A	23 Wed	8 a.m.–noon	



SESSION # / SESSION TITLE	SESSION TYPE	POSTER BOARD #	LOCATION	DATE	TIME	CME HOURS
707 Data Analysis: Neuronal Networks	Poster	DD35–DD58	Hall A	23 Wed	8 a.m.–noon	
708 Special Lecture- Extracting Function From Structure: Lessons from the Fly Connectome	Lecture		Hall B	23 Wed	Noon–1:10 p.m.	1.25
715 Advanced Circuit and Cellular Imaging Methods in Non-Human Primates	Minisymposium		Room S105	23 Wed	1:30:00	2.5
727 Advances in Brain Imaging	Nanosymposium		Room S404	23 Wed	1–3:15 p.m.	
728 Modeling Biological Neural Networks	Nanosymposium		Room S103	23 Wed	1–3:45 p.m.	
794 Novel Techniques of Biochemical Analysis	Poster	CC45–CC57	Hall A	23 Wed	1–5 p.m.	
795 Anatomic Methods: Sample Preparation and Novel Probes	Poster	CC58–DD4	Hall A	23 Wed	1–5 p.m.	
796 Techniques: Network Electrophysiology	Poster	DD4–DD28	Hall A	23 Wed	1–5 p.m.	
797 Electrical Methods to Modulate Neural Activity II	Poster	DD29–DD55	Hall A	23 Wed	1–5 p.m.	
Theme J – History, Education, and Society						
021 History of Neuroscience	Theme J Poster	CC14–CC33	Hall A	19 Sat	1–5 p.m.	
022 Exercises and Courses	Theme J Poster	CC34–CC56	Hall A	19 Sat	1–5 p.m.	
023 Outreach and Curricula	Theme J Poster	CC57–CC74	Hall A	20 Sun	8 a.m.–noon	
024 Teaching, Learning, and Assessments	Theme J Poster	CC75–DD17	Hall A	20 Sun	8 a.m.–noon	
025 Higher Education	Theme J Poster	DD18–DD32	Hall A	19 Sat	1–5 p.m.	
026 Outreach Activities	Theme J Poster	DD33–DD59	Hall A	20 Sun	8 a.m.–noon	
027 Neuroscience and Society: Ethical and Policy Issues	Theme J Poster	DD60–DD67	Hall A	19 Sat	1–5 p.m.	
182 The Storytelling Brain: How Neuroscience Stories Help Bridge the Gap Between Research and Society	Storytelling		Room S406B	20 Sun	1:30–4 p.m.	

SESSION # / SESSION TITLE	SESSION TYPE	LOCATION	DATE	TIME
SfN Pre-Conference Sessions				
SPC02 SHORT COURSE 2: Quantifying Behavior as a Lens Into the Brain	SfN Pre-Conference Session	Room S100BC	18 Fri	8 a.m.-6 p.m.
SPC03 SHORT COURSE 1: Neural Prosthetics and Brain Machine Interfaces	SfN Pre-Conference Session	Room S100A	18 Fri	8:30 a.m.-6 p.m.
SPC04 SHORT COURSE 3: Cultivating Professionalism and Excellence in the Research Landscape	SfN Pre-Conference Session	Room S106	18 Fri	1-5:30 p.m.
SPC05 Meet-the-Expert, Session 1: Paola Arlotta- Understanding Cortical Development and Disease: My Path to Discovery	SfN Pre-Conference Session	Marriott Marquis - Great Lakes G	19 Sat	8-9:15 a.m.
SPC06 Meet-the-Clinician-Expert, Session 1: Merit Cudkowicz- Clinical Trialists Path: Building Teams	SfN Pre-Conference Session	Marriott Marquis - Great Lakes A	19 Sat	8-9:15 a.m.
SPC07 Meet-the-Expert, Session 1: Jerry Silver- Functional Regeneration Beyond the Glial Scar	SfN Pre-Conference Session	Marriott Marquis - Great Lakes E	19 Sat	8-9:15 a.m.
SPC08 Meet-the-Expert, Session 1: Gaia Tavosanis- Circuit Dynamics: A Fly Perspective	SfN Pre-Conference Session	Marriott Marquis - Great Lakes F	19 Sat	8-9:15 a.m.
SPC09 Meet-the-Expert, Session 1: Kamran Khodakhah- I Can't Believe They Pay Me to Have Fun: The Privilege of Being a Scientist	SfN Pre-Conference Session	Marriott Marquis - Great Lakes C	19 Sat	8-9:15 a.m.
SPC10 Meet-the-Expert, Session 1: Kafui Dzirasa- Translating Neuroscience: Obstacles and Opportunities	SfN Pre-Conference Session	Marriott Marquis - Great Lakes B	19 Sat	8-9:15 a.m.
SPC11 Meet-the-Expert, Session 1: Gregory Quirk- Twenty Years of Fear Research and Mentoring in Puerto Rico	SfN Pre-Conference Session	Marriott Marquis - Shedd	19 Sat	8-9:15 a.m.
SPC12 Meet-the-Expert, Session 2: Yishi Jin- Understanding Molecules, Synapses, and Neural Plasticity: Awesome Power of Genetics	SfN Pre-Conference Session	Marriott Marquis - Great Lakes F	19 Sat	9:30-10:45 a.m.
SPC13 Meet-the-Expert, Session 2: Michelle Monje-Deisseroth- Myelin Plasticity: From Cognition to Cancer	SfN Pre-Conference Session	Marriott Marquis - Great Lakes E	19 Sat	9:30-10:45 a.m.
SPC14 Meet-the-Expert, Session 2: Nicole Rust- Seeing and Remembering What We've Seen	SfN Pre-Conference Session	Marriott Marquis - Great Lakes C	19 Sat	9:30-10:45 a.m.
SPC15 Meet-the-Clinician-Expert, Session 2: Nico Dosenbach- Disuse Drives Plasticity in Human Brain Networks	SfN Pre-Conference Session	Marriott Marquis - Great Lakes B	19 Sat	9:30-10:45 a.m.
SPC16 Meet-the-Expert, Session 2: Yoko Yazaki-Sugiyama- Lessons for Songbirds and Scientists: Learning to Communicate More Effectively by Listening to Others	SfN Pre-Conference Session	Marriott Marquis - Great Lakes A	19 Sat	9:30-10:45 a.m.
SPC17 Meet-the-Expert, Session 2: Viviana Gradinaru- Machine-Learning Assisted Directed Evolution of Viral Vectors and Microbial Opsins for Minimally Invasive Neuroscience	SfN Pre-Conference Session	Marriott Marquis - Great Lakes G	19 Sat	9:30-10:45 a.m.
Professional Development Workshops				
PDW01 Preparing for Your Career Away From the Bench: Essential Skills for Navigating Your Career Transition	Professional Development Workshop	Room N227	19 Sat	9-11 a.m.
PDW02 Reproducibility for Everyone	Professional Development Workshop	Room N228	19 Sat	9-11 a.m.
PDW03 Imposter Syndrome: Confronting the Career Development Monster Hiding Under the Bed	Professional Development Workshop	Room N228	19 Sat	Noon-2 p.m.
PDW04 Integrating Research and Teaching at Primarily Undergraduate Institutions	Professional Development Workshop	Room N227	19 Sat	Noon-2 p.m.
PDW05 Getting Creative with Course-Based Research Experiences to Enhance Scholarship and Generate Publishable Data	Professional Development Workshop	Room N227	19 Sat	3-5 p.m.
PDW06 How to Thrive as a Woman in Neuroscience	Professional Development Workshop	Room N228	19 Sat	3-5 p.m.
PDW07 Bringing Genetic Diversity to Neuroscientific Research	Professional Development Workshop	Room N228	20 Sun	9-11 a.m.
PDW08 Navigating Team Science	Professional Development Workshop	Room N227	20 Sun	9-11 a.m.
PDW09 Becoming a Resilient Scientist	Professional Development Workshop	Room N227	20 Sun	Noon-2 p.m.
PDW10 Science Management	Professional Development Workshop	Room N228	20 Sun	Noon-2 p.m.
PDW11 Neuroscience Departments and Programs Workshop - Hiring and Promoting Faculty in the Era of Team Science	Professional Development Workshop	Room N227	20 Sun	2:30-5 p.m.

SESSION # / SESSION TITLE	SESSION TYPE	LOCATION	DATE	TIME
PDW12 Building a Neuroscience Career at a Teaching Focused Institution	Professional Development Workshop	Room N228	20 Sun	3-5 p.m.
PDW13 Advancing Your Career Through Effective Science Writing for the Public and Creating Eye-Catching Research Statements	Professional Development Workshop	Room N227	21 Mon	9-11 a.m.
PDW14 The Art of Building a Career	Professional Development Workshop	Room N228	21 Mon	9-11 a.m.
PDW15 Optimize Your Grant Application: News You Can Use From the NIH	Professional Development Workshop	Room N228	21 Mon	Noon-2 p.m.
PDW16 Teaching Computation in Neuroscience	Professional Development Workshop	Room N227	21 Mon	Noon-2 p.m.
Networking, Public Advocacy, and Outreach				
NOA01 NeuroJobs Career Center	Networking, Public Advocacy, and Outreach	Hall A	19 Sat	8 a.m.-5 p.m.
NOA02 Graduate School Fair	Networking, Public Advocacy, and Outreach	Hall A	19 Sat	1-3 p.m.
NOA03 Brain Awareness Campaign Event- Illuminating the Path With Science Outreach	Networking, Public Advocacy, and Outreach	Room N226	19 Sat	2:30-4 p.m.
NOA04 Diversity Poster Session	Networking, Public Advocacy, and Outreach	Hall A	19 Sat	6:30-8:30 p.m.
NOA05 International Fellows Poster Session	Networking, Public Advocacy, and Outreach	Hall A	19 Sat	6:30-8:30 p.m.
NOA06 Trainee Professional Development Awards Poster Session	Networking, Public Advocacy, and Outreach	Hall A	19 Sat	6:30-8:30 p.m.
NOA07 Career Development Topics: A Networking Event	Networking, Public Advocacy, and Outreach	Hall A	19 Sat	7:30-9:30 p.m.
NOA08 NeuroJobs Career Center	Networking, Public Advocacy, and Outreach	Hall A	20 Sun	8 a.m.-5 p.m.
NOA09 Graduate School Fair	Networking, Public Advocacy, and Outreach	Hall A	20 Sun	Noon-2 p.m.
NOA10 Social Issues Roundtable- Human Fusions: Ethical and Social Issues Raised by Neural-Digital Interfaces	Networking, Public Advocacy, and Outreach	Room N230B	20 Sun	1-3 p.m.
NOA11 NeuroJobs Career Center	Networking, Public Advocacy, and Outreach	Hall A	21 Mon	8 a.m.-5 p.m.
NOA13 Graduate School Fair	Networking, Public Advocacy, and Outreach	Hall A	21 Mon	Noon-2 p.m.
NOA14 Animals in Research Panel- Treatments for Disorders of the Basal Ganglia and the Development of Deep Brain Stimulation: Translation of Non-Human Primate Research Into Clinical Therapeutics	Networking, Public Advocacy, and Outreach	Room N230B	21 Mon	1-3 p.m.
NOA15 Chapters Workshop- Fostering Chapter Engagement Through Your Local Brain Bee	Networking, Public Advocacy, and Outreach	Hyatt McCormick - Jackson Park	21 Mon	6:45-8:45 p.m.
NOA16 NeuroJobs Career Center	Networking, Public Advocacy, and Outreach	Hall A	22 Tue	8 a.m.-5 p.m.
NOA17 Celebration of Women in Neuroscience Luncheon	Networking, Public Advocacy, and Outreach	Marriott Marquis - Great Lakes AB	22 Tue	Noon-2 p.m.
NOA18 Graduate School Fair	Networking, Public Advocacy, and Outreach	Hall A	22 Tue	Noon-2 p.m.
NOA19 Public Advocacy Forum- The Role of Pharmaceutical Partnerships When Advocating for Basic Research	Networking, Public Advocacy, and Outreach	Room N230B	22 Tue	2-3:30 p.m.
NOA20 SfN Members' Business Meeting	Networking, Public Advocacy, and Outreach	Room S501D	22 Tue	6:45-7:30 p.m.
NOA21 Graduate Student Reception	Networking, Public Advocacy, and Outreach	Hyatt McCormick - Regency Ballroom	22 Tue	8:30-11:30 p.m.
NOA22 NeuroJobs Career Center	Networking, Public Advocacy, and Outreach	Hall A	23 Wed	8 a.m.-5 p.m.

Clinician Scientists & Continuing Medical Education

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/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 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™. 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™. 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™. 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™. 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™. 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™. 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™.

CME Registration

CME registration must be completed before or during the annual meeting. The on-site processing fee of \$140 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™ 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™ 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 www.sfn.org/CME for additional information.



Awards in Neuroscience

GENERAL INFORMATION PROGRAM | WWW.SfN.ORG/AM2019

71

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, October 21, at 5:15 p.m. in McCormick Place, Hall B.

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, October 22, at noon in the Marriott Marquis, Great Lakes AB.

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, October 21, at 6:45 p.m. in the Hyatt McCormick Place, Jackson Park.

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, October 21, at 3:15 p.m. in McCormick Place, Hall B.

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, October 19, at 5:15 p.m. in McCormick Place, Hall B.

Janett Rosenberg Trubatch Career Development Award

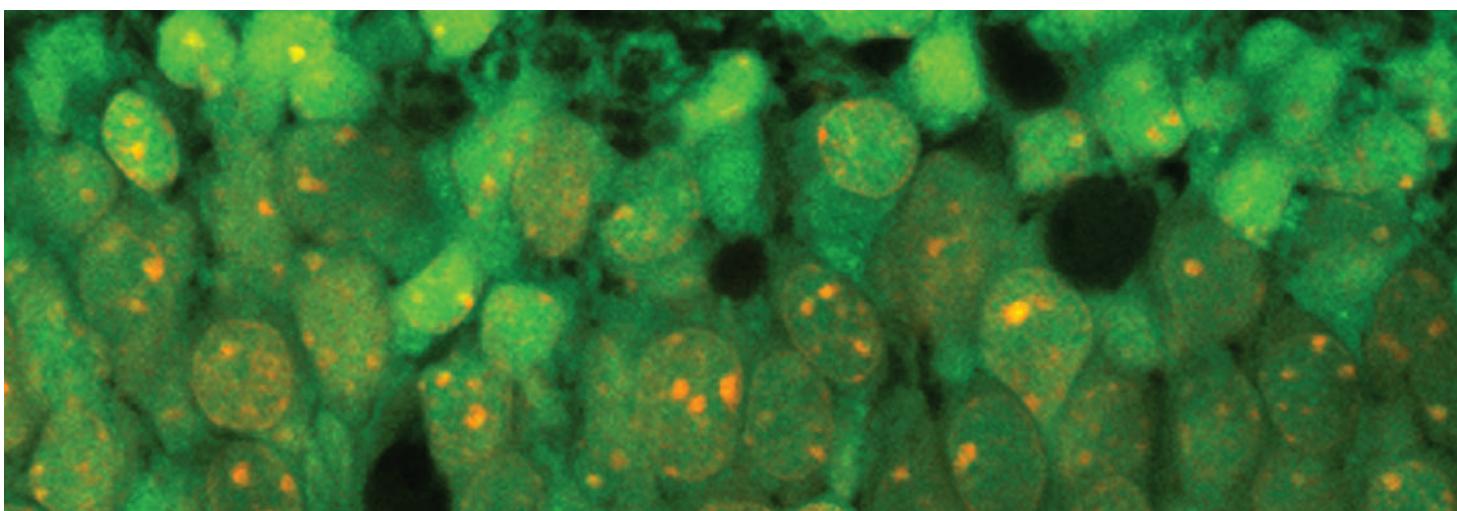
*Support contributed by:
The Trubatch Family*

The Janett Rosenberg Trubatch 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, October 22, at noon in the Marriott Marquis, Great Lakes AB.

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, October 19, at 5:15 p.m. in McCormick Place, Hall B.



Awards in Neuroscience

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/AM2019

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, October 21, at 5:15 p.m. in McCormick Place, Hall B and again recognized during the Celebration of Women in Neuroscience Luncheon Tuesday, October 22, at noon in the Marriott Marquis, Great Lakes AB.

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, October 21, at 3:15 p.m. in McCormick Place, Hall B.

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, October 22 at 5:15 p.m. in McCormick Place, Hall B.

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, October 20, at 3 p.m. in McCormick Place, Hall B.

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, October 20, at 5:15 p.m. in McCormick Place, Hall B.

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, October 22, at 5:15 p.m. in McCormick Place, Hall B.

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, October 19, at 5:15 p.m. in McCormick Place, Hall B.

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 10 years. The award will be presented prior to the Albert and Ellen Grass Lecture Monday, October 21, at 3:15 p.m. in McCormick Place, Hall B.

SfN Professional Development Awards

SfN/FENS Travel Awards

SfN and the Federation of European Neuroscience Societies (FENS) sponsor a travel award exchange program allowing recipients to attend their respective meetings bi-annually. In even years, SfN offers travel awards to the FENS Forum, while in odd years, FENS offers travel awards to the SfN annual meeting.

SfN/IBRO International Travel 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, 30 awardees from 11 countries will attend Neuroscience 2019.

SfN/JNS Travel Awards

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 Award

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 and network with senior scientists, and participate in learning opportunities at the annual meeting.

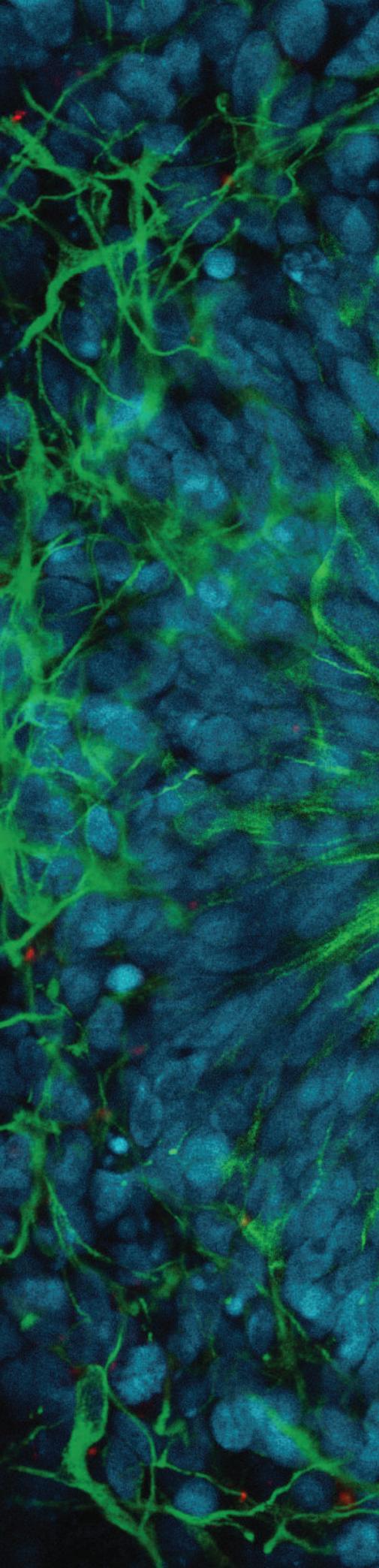


Table of Contents

Registration, Hotel and Travel

- 76** Registration
- 77** Navigating the Meeting
- 78** Hotel Map
- 79** Hotel List
- 82** Travel Information
- 83** Shuttle Service
- 84** Navigating Chicago

Registration

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG

Online Discount	Opens at midnight EDT on October 3 and continues through the annual meeting	
On-Site In Line	Opens at 7:30 a.m. CDT on October 19 and continues through the annual meeting	
Registration Category	Online Discount	On-Site In Line
Member	\$485	\$580
Member, Category II	\$205	\$245
Member, Category III	\$275	\$320
Postdoctoral Member	\$360	\$435
Postdoctoral Member, Category II	\$130	\$150
Postdoctoral Member, Category III	\$200	\$240
Student Member	\$240	\$290
Student Member, Category II	\$85	\$105
Student Member, Category III	\$135	\$165
Student Member, Undergraduate	\$120	\$145
Student Member, Undergraduate Category II	\$45	\$55
Student Member, Undergraduate Category III	\$70	\$85
Nonmember	\$870	\$1,045
Student Nonmember	\$435	\$520
Guest — Non-Scientific	\$70	\$80
CME Accreditation	\$120	\$140

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 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 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 Hall A of McCormick Place.

When to Register

Online Discount

From Thursday, 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

Attendees can also register on-site at McCormick Place Convention Center in Hall A. On-site, in line registration opens



October 19 at 7:30 a.m. CDT. If you prefer to register at an on-site counter, higher registration rates apply. On-site and online registration will be available for the duration of the meeting.

On-Site Registration Hours

Friday, Oct. 18*, 2–5 p.m. CDT

Saturday, Oct. 19–Wednesday, Oct. 23, 7:30 a.m.–5 p.m. CDT

*Express Badge Pick-Up stations available only. Full registration services will begin Saturday, Oct. 19, at 7:30 a.m. CDT.

Contact Information

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

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG

75



Navigating the Meeting

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

Curated Itineraries

These topical itineraries tailor the annual meeting to your area of interest. Download the itineraries using the annual meeting mobile app or the Neuroscience Meeting Planner (NMP). Visit the SfN.org website to view the full list of curated itineraries.

Trainee-Focused Curated Itineraries

Created by SfN's Trainee Advisory Committee, two additional curated itineraries 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/Postdoc

Neuroscience Meeting Planner

Use the NMP to browse full-text abstracts, explore sessions, create itineraries, see suggested presentations customized for you, and much more. Attendees can access the NMP at www.sfn.org/NMP or onsite in the Neuroscience Meeting Planner Viewing Area (McCormick Place, Hall A).

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. Create your virtual business card in the app. The app is available in the iOS™ and Google Play™ App Stores.

Sponsored by:



Precisionary Instruments
Mobile App

Printed Programs

All Neuroscience 2019 program information will be accessible free of charge via the Neuroscience 2019 mobile app, NMP, and annual meeting website.

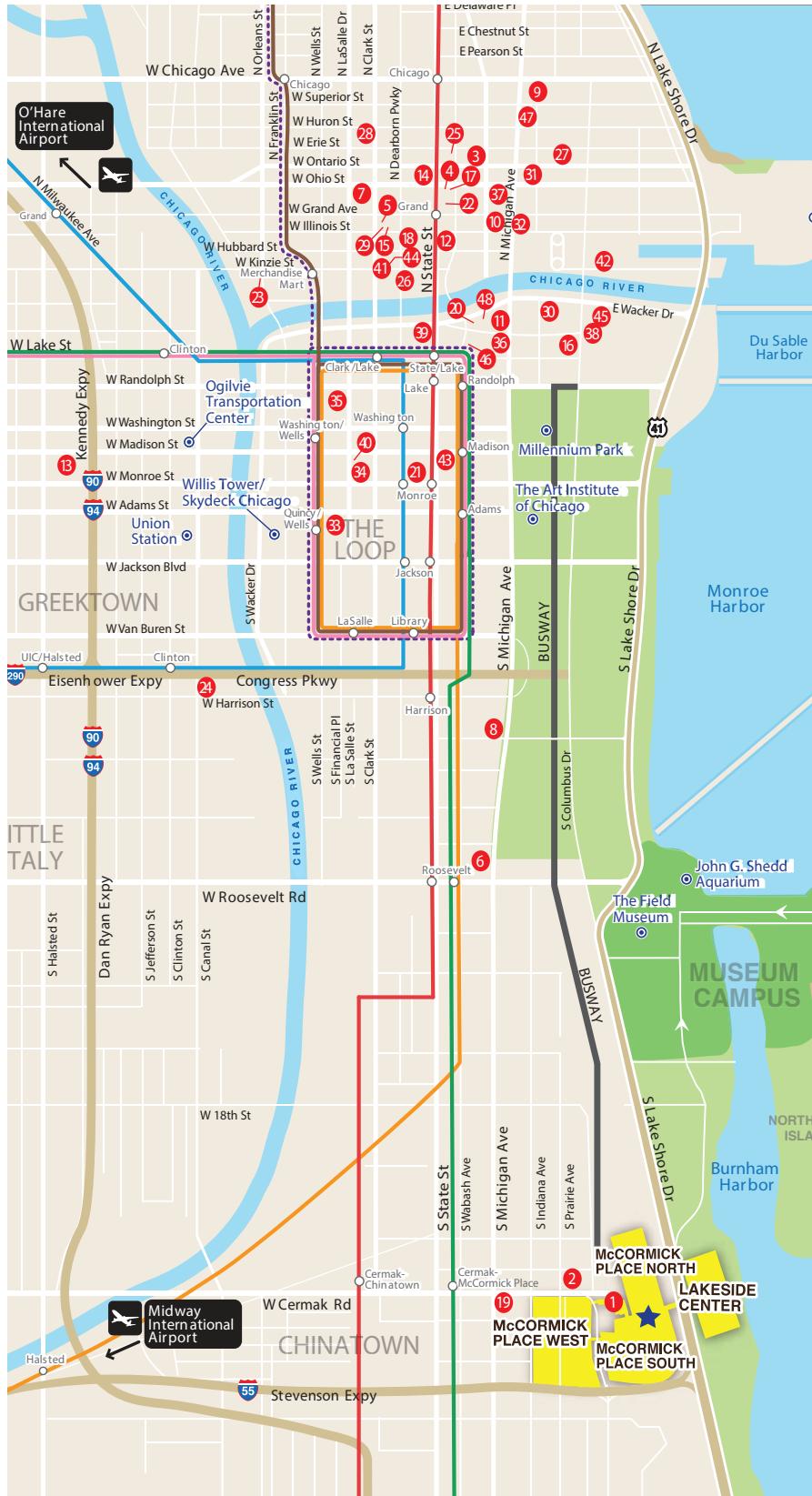
Fees for printed program books are as follows:

Printed Program Fees

- Full Program Set, Member\$45
- Full Program Set, Nonmember.....\$55

Hotel Map

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/HOTEL



The Society's housing company, Convention Management Resources, will be onsite to assist with any housing questions during the meeting. Representatives will be located in McCormick Place, Hall A, October 19–23 during the following hours:

DATE	TIMES
Friday, October 18*	2–5 p.m.
Saturday, October 19	7:30 a.m.–5 p.m.
Sunday, October 20	7:30 a.m.–5 p.m.
Monday, October 21	7:30 a.m.–5 p.m.
Tuesday, October 22	7:30 a.m.–5 p.m.
Wednesday, October 23	7:30 a.m.–3 p.m.

Onsite Phone: (312) 791-6815

*located on Level 2.5S on Friday only

Hotel List

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/HOTEL

77

The Hyatt Regency McCormick Place and Marriott Marquis Chicago are the official co-headquarter hotels.

#	HOTEL NAME / ADDRESS	SHUTTLE ROUTE	PICK UP POINT	TRANSPORTATION STOP/ LINE/DISTANCE
Co-Headquarters Hotels				
1	Hyatt Regency McCormick Place 2233 S. Martin Luther King Jr. Dr.	Walk	Walk to McCormick Place	Adjacent to McCormick Place
2	Marriott Marquis Chicago 2121 S. Prairie Ave.	Walk	Walk to McCormick Place	Adjacent to McCormick Place
Attendee Hotels				
3	AC Hotel Chicago Downtown 630 N. Rush St.	F-Pink	SW Corner Ohio & Rush Streets	CTA: State & Grand/Red/4 blocks
4	ACME Hotel Company 15 E. Ohio St.	F-Pink	Walk to Hilton Garden Inn — on Grand Avenue	CTA: State & Grand/Red/1 block
5	Aloft Chicago Downtown River North 515 N. Clark St.	E-Orange	Walk to Hampton Inn on Illinois Street	CTA: State & Grand/Red/2 blocks
6	Best Western Grant Park Hotel 1100 S. Michigan Ave.	A-Red	Curbside on 11th Street	CTA: Roosevelt/Red, Green, Orange/2 blocks Metra: Museum Campus/Electric/1 block
7	Best Western River North Hotel 125 W. Ohio St.	E-Orange	Walk to Hampton Inn on Illinois Street	CTA: State & Grand/Red/3 blocks
8	Blackstone, Autograph Collection 636 S. Michigan Ave.	A-Red	Curbside on Balbo Drive	CTA: Harrison/Red/4 blocks Metra: Van Buren/Electric/4 blocks
9	Cambria Chicago Magnificent Mile 166 E. Superior St.	G-Purple	Walk to Warwick Allerton on Huron Street	CTA: Chicago & State/Red/5 blocks
10	Chicago Marriott Downtown Magnificent Mile 540 N. Michigan Ave.	F-Pink	SW Corner Ohio & Rush Streets	CTA: State & Grand/Red/2 blocks Metra: Millennium Station/Electric/7 blocks
11	Comfort Suites Michigan Avenue — Loop 320 N. Michigan Ave.	H-Grey	Walk to Wyndham Grand on Wacker Drive	CTA: State & Lake/Orange & Green/5 blocks Metra: Millennium/Electric/6 blocks
12	Courtyard Chicago Downtown/River North 30 E. Hubbard St.	E-Orange	Walk to Hampton Inn on Illinois Street	CTA: State & Grand/Red/1 block Metra: Millennium/Electric/7 blocks
13	Crowne Plaza Chicago West Loop 25 S. Halsted St.	I-Light Blue	Curbside on Halsted Street	CTA: UIC-Halsted/Blue/5 blocks
14	Embassy Suites Chicago Downtown 600 N. State St.	F-Pink	SW Corner of Ohio & Rush Streets	CTA: State & Grand/Red/1 block
15	Fairfield Inn & Suites Chicago Downtown 60 W. Illinois St.	E-Orange	Walk to Hampton Inn on Illinois Street	CTA: State & Grand/Red/2 blocks

Hotel List

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/HOTEL

#	HOTEL NAME / ADDRESS	SHUTTLE ROUTE	PICK UP POINT	TRANSPORTATION STOP/ LINE/DISTANCE
16	Fairmont Chicago, Millennium Park 200 N. Columbus Dr.	C-Yellow	Curbside on Upper Columbus Drive	CTA: State & Lake/Orange & Green/4 blocks Metra: Millennium/Electric/3 blocks
17	Freehand Chicago 19 E. Ohio St.	F-Pink	Walk to Hilton Garden Inn – on Grand Avenue	CTA: State & Grand/Red/1 block
18	Hampton Inn & Suites Chicago Downtown 33 W. Illinois St.	E-Orange	Curbside on Illinois Street	CTA: State & Grand/Red/2 blocks
19	Hampton Inn Chicago McCormick Place 123 E. Cermak Rd.	Walk	Walk to McCormick Place	Adjacent to McCormick Place
20	Hampton Inn Chicago North Loop 68 E. Wacker Dr.	H-Grey	Walk to Wyndham Grand on Wacker Drive	CTA : State & Lake/Orange & Green/4 blocks Metra: Millennium/Electric/3 blocks
21	Hampton Inn Majestic Chicago Theatre District 22 W. Monroe St.	B-Blue	Walk to Silversmith on Wabash Avenue	CTA: Adams & Wabash/Orange & Green/2 blocks CTA: Monroe/Blue/1 block Metra: Millennium/Electric/5 blocks
22	Hilton Garden Inn Chicago Downtown/Magnificent Mile 10 E. Grand Ave.	F-Pink	Front Entrance on Grand Avenue	CTA: State & Grand/Red/1 block
23	Holiday Inn Chicago-Mart Plaza River North 350 W. Mart Center Dr.	E-Orange	Across the Street on Orleans	CTA: Merchandise Mart/Brown/1 block CTA: Clark & Lake/Green/4 blocks
24	Holiday Inn Hotel and Suites Chicago —Downtown 506 W. Harrison St.	I-Light Blue	Curbside on Canal Street	CTA: Clinton/Blue/1 block
25	Hotel Cass — A Holiday Inn Express at Magnificent Mile 640 N. Wabash Ave.	F-Pink	Walk to Hilton Garden Inn – on Grand Avenue	CTA: State & Grand/Red/4 blocks
26	Hotel Chicago Downtown, Autograph Collection 333 N. Dearborn St.	E-Orange	Curbside on State Street	CTA: State & Grand/Red/4 blocks CTA: State & Lake/Orange & Green/3 blocks Metra: Millennium/Electric/7 blocks
27	Hotel EMC2, Autograph Collection 228 E. Ontario St.	G-Purple	SE Corner on St. Clair & Erie Streets	CTA: State & Grand/Red/6 blocks
28	Hotel Felix Chicago 111 W. Huron St.	G-Purple	Across the Street on Huron Street	CTA: Chicago & State/Red/4 blocks
29	Hyatt Place Chicago/River North 66 W. Illinois St.	E-Orange	Walk to Hampton Inn on Illinois Street	CTA: State & Grand/Red/2 blocks
30	Hyatt Regency Chicago 151 E. Wacker Dr.	C-Yellow	Curbside on Wacker Drive	CTA: State & Lake/Orange & Green/5 blocks Metra - Millennium/Electric/4 blocks
31	Inn of Chicago Magnificent Mile 162 E. Ohio St.	G-Purple	SE Corner of St. Clair & Erie Streets	CTA: State & Grand/Red/5 blocks

Hotel List

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/HOTEL

79

#	HOTEL NAME / ADDRESS	SHUTTLE ROUTE	PICK UP POINT	TRANSPORTATION STOP/ LINE/DISTANCE
32	InterContinental Chicago Magnificent Mile 505 N. Michigan Ave.	D-Green	Upper Illinois Side Door	CTA: State & Grand/Red/2 blocks Metra: Millennium/Electric/7 blocks
33	JW Marriott Chicago 151 W. Adams St.	B-Blue	Walk to Residence Inn Curbside on LaSalle Street	CTA: Quincy/Brown and Orange/1 block CTA: Monroe/Blue/2 blocks
34	Kimpton Gray Hotel 122 W. Monroe St.	B-Blue	Walk to Residence Inn Curbside on LaSalle Street	CTA: Monroe/Blue/3 blocks
35	Kimpton Hotel Allegro 171 W. Randolph St.	B-Blue	Walk to Residence Inn Curbside on LaSalle Street	CTA: Clark & Lake/Green/2 blocks
36	Kimpton Hotel Monaco Chicago 225 N. Wabash Ave.	H-Grey	Walk to Wyndham Grand on Wacker Drive	CTA: State & Lake/Orange & Green/2 blocks Metra: Millennium/Electric/4 blocks
37	Omni Chicago Hotel 676 N. Michigan Ave.	G-Purple	Walk to Warwick Allerton on Huron Street	CTA: State & Chicago/Red/3 blocks
38	Radisson Blu Aqua Hotel Chicago 221 N. Columbus Dr.	C-Yellow	Walk to Fairmont on Upper Columbus Drive	CTA: State & Lake/Orange & Green/5 blocks Metra: Millennium/Electric/4 blocks
39	Renaissance Chicago Downtown Hotel 1 W. Wacker Dr.	H-Grey	Front Entrance on Wacker Drive	CTA: State & Lake/Orange & Green /1 block Metra: Millennium/Electric/5 blocks
40	Residence Inn Chicago Downtown/Loop 11 S. LaSalle St.	B-Blue	Curbside on LaSalle Street	CTA: Clark & Lake/Green/5 blocks
41	Residence Inn Chicago River North 410 N. Dearborn St.	E-Orange	Walk to Hotel Chicago on State Street	CTA: State & Grand/Red/4 blocks
42	Sheraton Grand Chicago 301 E. North Water St.	D-Green	Ballroom Entrance - Driveway	CTA: State & Grand/Red/6 blocks Metra: Millennium/Electric/6 blocks
43	Silversmith Hotel Chicago Downtown 10 S. Wabash Ave.	B-Blue	Curbside on Wabash Avenue	CTA: Washington & Wabash/Orange & Green/1 block Metra: Millennium/Electric/3 blocks
44	SpringHill Suites Chicago WDownTown/River North 410 N. Dearborn St.	E-Orange	Walk to Hotel Chicago on State Street	CTA: State & Grand/Red/4 blocks
45	Swissôtel Chicago 323 E. Wacker Dr.	C-Yellow	Walk to Hyatt Regency – Curbside on Wacker Drive	CTA: State & Lake/Orange & Green/5 blocks Metra: Millennium/Electric/4 blocks
46	Virgin Hotels Chicago 203 N. Wabash Ave.	H-Grey	Walk to Wyndham Grand on Wacker Drive	CTA: State & Lake/Orange & Green/1 block
47	Warwick Allerton — Chicago 701 N. Michigan Ave.	G-Purple	Curbside on Huron Street	CTA: Chicago & State/Red/5 blocks
48	Wyndham Grand Chicago Riverfront 71 E. Wacker Dr.	H-Grey	Front Entrance on Wacker Drive	CTA: State & Lake/Orange & Green/4 blocks Metra: Millennium/Electric/5 blocks

Travel Information

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG

Air Travel

Chicago is accessible by two major airports. Transportation options, approximate travel times, and approximate fares to and from the airports are listed below. Fares are subject to change.

Chicago O'Hare International Airport

Chicago O'Hare Airport is served by 43 commercial airlines and is located 17 miles from downtown Chicago and McCormick Place. Chicago O'Hare Airport is the best option for international travel.

Time/Distance: Approximate 40-minute drive (17 miles) to downtown Chicago and McCormick Place.

Taxis: Taxis are available at the lower levels (outside of baggage claim) at each terminal. Fares are based on traffic conditions, but an average fare is \$40–\$50.

Phone: (773) 686-2200

Midway International Airport

Midway Airport is served by 8 commercial airlines and is located 11 miles from downtown Chicago and McCormick Place. Midway Airport is the best option for domestic travel.

Time/Distance: Approximate 20-minute drive (11 miles) to downtown Chicago and McCormick Place.

Taxis: Taxis are available at the lower levels (outside of baggage claim) at each terminal. Fares are based on traffic conditions, but an average fare is \$28–\$30.

Phone: (773) 838-0600

Parking

Events held in the North and South Buildings designate Lot A as the primary parking location. Lot A is a six-level garage located on Martin Luther King Drive, adjacent to the West Building. Covered walkways from Lot A leading directly into McCormick Place and the Hyatt Regency McCormick Place Hotel provide added convenience. The parking rate is \$23 for up to 16 hours and \$36 from 16 to 24 hours. There are no in-and-out privileges. Overnight parking is available in Lot A only. Lost tickets will pay the \$36 (overnight) fee per day. Credit cards are accepted at the parking ticket kiosks.

Airport Shuttle

Go Airport Express offers daily, door-to-door service to and from Chicago O'Hare. Shuttles operate on a shared-ride-on-demand basis. Advance notice is strongly urged. For more information, call 1-800-284-3826 or visit www.airportexpress.com.



Shuttle Schedule

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/SHUTTLE

81

Shuttle Service

SfN provides complimentary shuttle services between McCormick Place and most of the official SfN meeting hotels, with the exception of hotels within walking distance to McCormick Place.

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 or concerns about shuttle routes and schedules while at the annual meeting, call the shuttle information desk at (312) 791-6817 or stop by the shuttle information desk located in McCormick Place, West Transportation Lobby.



DATE	TIMES	SERVICE
Friday, October 18	7 a.m.–7 p.m.	Roosevelt Station Only
Saturday, October 19	7 a.m.–4 p.m. 4 p.m.–10 p.m.	20-minute service 10-minute service
Sunday, October 20	7 a.m.–10:30 a.m. 10:30 a.m.–4 p.m. 4 p.m.–8 p.m. 8 p.m.–9:30 p.m.	10-minute service 20-minute service 10-minute service 20-minute service
Monday, October 21	7 a.m.–10:30 a.m. 10:30 a.m.–4 p.m. 4 p.m.–8 p.m. 8 p.m.–9:30 p.m.	10-minute service 20-minute service 10-minute service 20-minute service
Tuesday, October 22	7 a.m.–10:30 a.m. 10:30 a.m.–4 p.m. 4 p.m.–8 p.m. 8 p.m.–9:30 p.m.	10-minute service 20-minute service 10-minute service 20-minute service
Wednesday, October 23	7 a.m.–10:30 a.m. 10:30 a.m.–3:30 p.m. 3:30 p.m.–6 p.m.	10-minute service 20-minute service 10-minute service

Navigating Chicago

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG

Complimentary SfN Shuttle Service

With shuttle bus service operating every 10 minutes during peak time and 20 minutes during off-peak time, you can conveniently travel between your official SfN meeting hotel and the convention center. For Neuroscience 2019, SfN offers a fleet of shuttle buses dedicated to your travel. With the exception of hotels within walking distance of McCormick Place, shuttle service will be available to all SfN contracted hotels. In addition, because of Chicago's commitment to successful large meetings, shuttles operate on a dedicated travel-free "busway" from downtown to McCormick Place.

Public Transportation

Chicago offers two options for public transportation: Metra (the commuter train system) and CTA (the "L" light rail system). Metra, with stops within walking distance to many of the SfN-contracted hotel rooms, has a stop inside McCormick Place. SfN has contracted with Metra to provide additional train service for Neuroscience 2019. Free Metra passes will be available to all attendees. If you opt to take the L, also convenient to many Neuroscience 2019 hotels, the Cermak-McCormick Place station (Green line) is currently the closest CTA stop to McCormick Place. SfN will provide a complimentary shuttle service between the Roosevelt station (Red, Green, and Orange lines) and McCormick Place.

Taxis

With more than 6,500 vehicles, Chicago has the second largest taxi fleet in the country. Discounted shared rides are available between the convention center and downtown. In addition, a taxi dispatch center is located within McCormick Place to ensure cabs are readily available to meet demand.



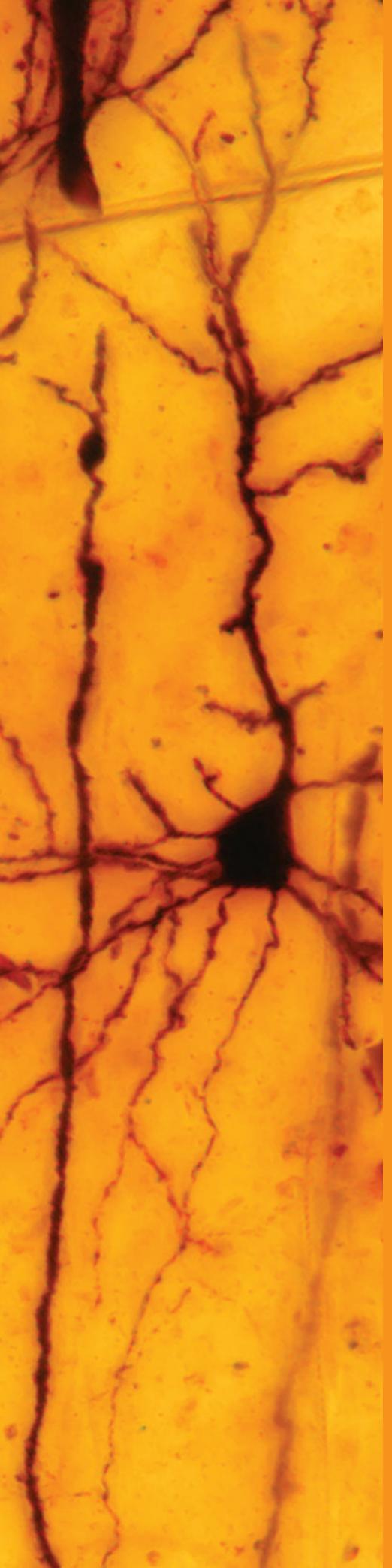


Table of Contents

Resources

- 86** Attendee Resources
- 90** Exhibitor List
- 94** Hotel Floor Plans
- 97** Convention Center Floor Plans
- 105** Photo Credits
- 106** Council and Program Committee

Attendee Resources

GENERAL INFORMATION PROGRAM | WWW.SfN.ORG/ATTENDEERESOURCES

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.

ADA/Special Accommodations

Real-Time Captioning Services and Special Needs Requests

Real-time captioning services will be provided for all lectures in Hall B. Dedicated seating areas near the screens will display the captioned text.

If you require American Sign Language services, contact meetings@sfn.org.

If you have a disability or special need that may affect your participation in the annual meeting, contact 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 Hall A.

Scooter and Wheelchair Rentals

For scooter and wheelchair rentals, contact the vendor below:

Scootaround Inc
(888) 441-7575
www.scootaround.com

Note: When calling, press option 1 to speak with a representative in the reservations department to place an order. There will be a limited supply of scooters available for rent on-site.

Location: South Building Lobby Level 1, near Gate 4, McCormick Place.

Annual Meeting Headquarters Office

Logistics and Programming
McCormick Place: Hall A

Hours: Friday, October 18
8 a.m.–5 p.m.
Saturday, October 19–
Wednesday, October 23
7 a.m.–6 p.m.

The Annual Meeting Headquarters Office addresses all questions concerning annual meeting logistics and programming for the 2019 and 2020 annual meetings.

ATM Machines

There are several ATMs located within McCormick Place. Cash machines are available in each building: South Level 2.5 in the Convenience Center; North Level 2, near McDonalds; West Level 1 near the Transportation Center and Lakeside Level 2, near the Arie Crown Theater box office. All cash machines accept American Express, Visa, MasterCard, Cirrus, and Plus.

Business Center

FedEx Office, a full-service company, is conveniently located on level 2.5 of the Grand Concourse in the South Building. FedEx Office offers copying, mailing, faxing, as well as other services. They also provide fast and efficient shipping and receiving services for attendees.

Certificate of Attendance

McCormick Place: West Transportation Lobby

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.

Chicago Resources and Attractions

For visitor's information, visit www.choosechicago.com/neuroscience2019.

Child Care

McCormick Place: S504ABC

On-site child care and youth programs are available for children ages six months to 12 years in room S504ABC of McCormick Place. 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 2019 web page: www.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

McCormick Place

Hours:

Level 1, Main Entrance

Friday, October 18

7:30 a.m.–7 p.m.

Saturday, October 19

7:30 a.m.–10 p.m.

Sunday, October 20–Tuesday, October 22

7:30 a.m.–7 p.m.

Wednesday, October 23

7:30 a.m.–6 p.m.

Room S101

Saturday, October 19–Tuesday, October 22

7:30 a.m.–7 p.m.

Wednesday, October 23

7:30 a.m.–6 p.m.

Limited space will be available for coat and luggage check on a first-come, first-served basis at the convention center. 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 email 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 or see page 72 for details.

Donor and Volunteer Leadership Lounge

McCormick Place: Level 2.5 Lounge

Hours: Saturday, October 19–
Wednesday, October 23
7:30 a.m.–5 p.m.

The Donor and Volunteer Leadership Lounge addresses matters for the donors, Council, committees, and past presidents.

Event Locations

Lectures, exhibits, scientific sessions, symposia, poster sessions, registration, and headquarters offices will be located in McCormick Place. SfN-sponsored socials will be held at McCormick Place. Satellite and ancillary events will be held at McCormick Place, the Marriott Marquis Chicago, the Hyatt Regency McCormick Place, and other Chicago facilities.

McCormick Place

2301 S. Martin Luther King Jr. Dr.
Chicago, IL 60616

Marriott Marquis Chicago

2121 S. Prairie Ave.
Chicago, IL 60616

Hyatt Regency McCormick Place

2233 S. Martin Luther King Jr. Dr.
Chicago, IL 60616

Exhibits

McCormick Place: Hall A

Hours: Sunday, October 20–
Wednesday, October 23
9:30 a.m.–5 p.m.

Exhibits provide attendees with 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 2019 website, www.sfn.org/exhibits. The hyperlinks will remain live through June 30, 2020.

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. Email 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 www.SfN.org/exhibits or contact exhibits@sfn.org.

First Aid Services

McCormick Place: Level 2.5S

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

Food Courts

McCormick Place: Hall A

Hours: Saturday, October 19
11 a.m.–2 p.m.
Sunday, October 20–
Wednesday, October 23
7:30 a.m.–3 p.m.

Important Phone Numbers

Headquarters Offices

HQ Office/Logistics
(312) 791-6800

HQ Office/Programming
(312) 791-6804

Press Office

(312) 791-6805

Exhibit Management

(312) 791-6824

First Aid and Hospital Numbers

First Aid Station

Level 2.5S
(312) 791-6060

Mercy Hospital

2525 S. Michigan Ave.
Chicago, IL 60616
(312) 567-2000

South Loop Immediate Care

1430 S. Michigan Ave.
Chicago, IL 60605
(312) 663-3522

Infant Care Facilities

McCormick Place: S504D

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.

McCormick Place also provides a Mamava Lactation Suite for nursing mothers located in the South Building Level 2.5 across from Starbucks. Nursing mothers can unlock the suite by downloading the free Mamava Mobile App, available in the iOS™ and Google Play™ Stores. The Suite is available complimentary to nursing mothers, on a first come, first serve basis.

Information Booths

Information booths, operated by members of SfN staff, are located in the following places in McCormick Place:

Gate 3 Lobby

Grand Concourse Lobby

Hours: Friday, October 18
2–6 p.m.
Saturday, October 19–Tuesday, October 22
7:30 a.m.–6 p.m.

Attendee Resources

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG/ATTENDEERESOURCES

Wednesday, October 23
7:30 a.m.–5 p.m.

Literature Displays

McCormick Place: Hall A

Keep your eyes open for important annual meeting event updates on display in the registration area of McCormick Place. Approval is required to place announcements on displays. Attendees can get approval before the meeting by contacting meetings@sfn.org, or on-site in the SfN Headquarters Office.

Lost and Found

McCormick Place: Hall A

Direct inquiries about lost items to the lost and found counter in the registration area of McCormick Place.

My Neuroscience Marketplace

Build your list of preferred exhibitors through My Neuroscience Marketplace at www.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

McCormick Place: Hall A

Hours: Saturday, October 19–
Tuesday, October 22
8 a.m.–5 p.m.
Wednesday, October 23
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 www.SfN.org/neurojobs.

On-site payment can be made by credit card only.

Neuroscience Meeting Planner

Viewing Area

McCormick Place: Hall A

Hours: Saturday, October 19–
Tuesday, October 22
7:30 a.m.–5 p.m.
Wednesday, October 23
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 2019. It can be accessed online at www.SfN.org/nmp or on-site in the NMP Viewing Area.

Photography and Recording Policy

SfN is committed to honoring the rights of copyright owners and to respectful sharing of scientific research and data. In response to a changing culture, SfN will now permit photography and recording during scientific meetings and events within the boundaries discussed in the policy. To view the full policy, visit www.SfN.org/photopolicy. In the absence of a visible icon, photography and recording of a presentation or exhibit booth is prohibited.

For more information on the new policy and the use of the icons, see page 16.

Poster Sessions

McCormick Place: Hall A

Hours: Saturday, October 19
1–5 p.m.
Sunday, October 20–Wednesday,
October 23
8 a.m.–Noon, 1–5 p.m.

Prayer Room

McCormick Place: N132

There will be a prayer room available for attendee use at Neuroscience 2019. The prayer room is unsupervised, and SfN is not responsible for the loss of any personal property left unattended in the room.

Press Offices

McCormick Place

Press Room: S501ABC
Press Conference Room: S501D
Press Interview Room: S502A
Hours: Saturday, October 19–
Wednesday, October 23
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

McCormick Place: Hall A

Hours:
Saturday, October 19–Sunday, October 22
7:30 a.m.–5 p.m.

The final *Program* will be available on-site at McCormick Place and online at www.sfn.org/am2019 as downloadable PDFs. Attendees can pick up a copy 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 *Program*, attendees must have purchased the books during registration or pay for the program books on-site.

Restaurant Reservations

McCormick Place: Level 2.5S

Hours: Saturday, October 19
Noon–6 p.m.
Sunday, October 20–Tuesday, October 22
10 a.m.–6 p.m.
Wednesday, October 23
10 a.m.–5 p.m.

Restaurant reservation services are available at McCormick Place.

SfN Booth

McCormick Place: Hall A, Booth #1005

As you experience Neuroscience 2019's Exhibit Hall, stop by the SfN Booth to learn about new member resources and services offered by your professional society.

Speaker Ready Room

McCormick Place: N229

Hours: Friday, October 18–Tuesday, October 22

7 a.m.–5 p.m.

Wednesday, October 23

7 a.m.–1:30 p.m.

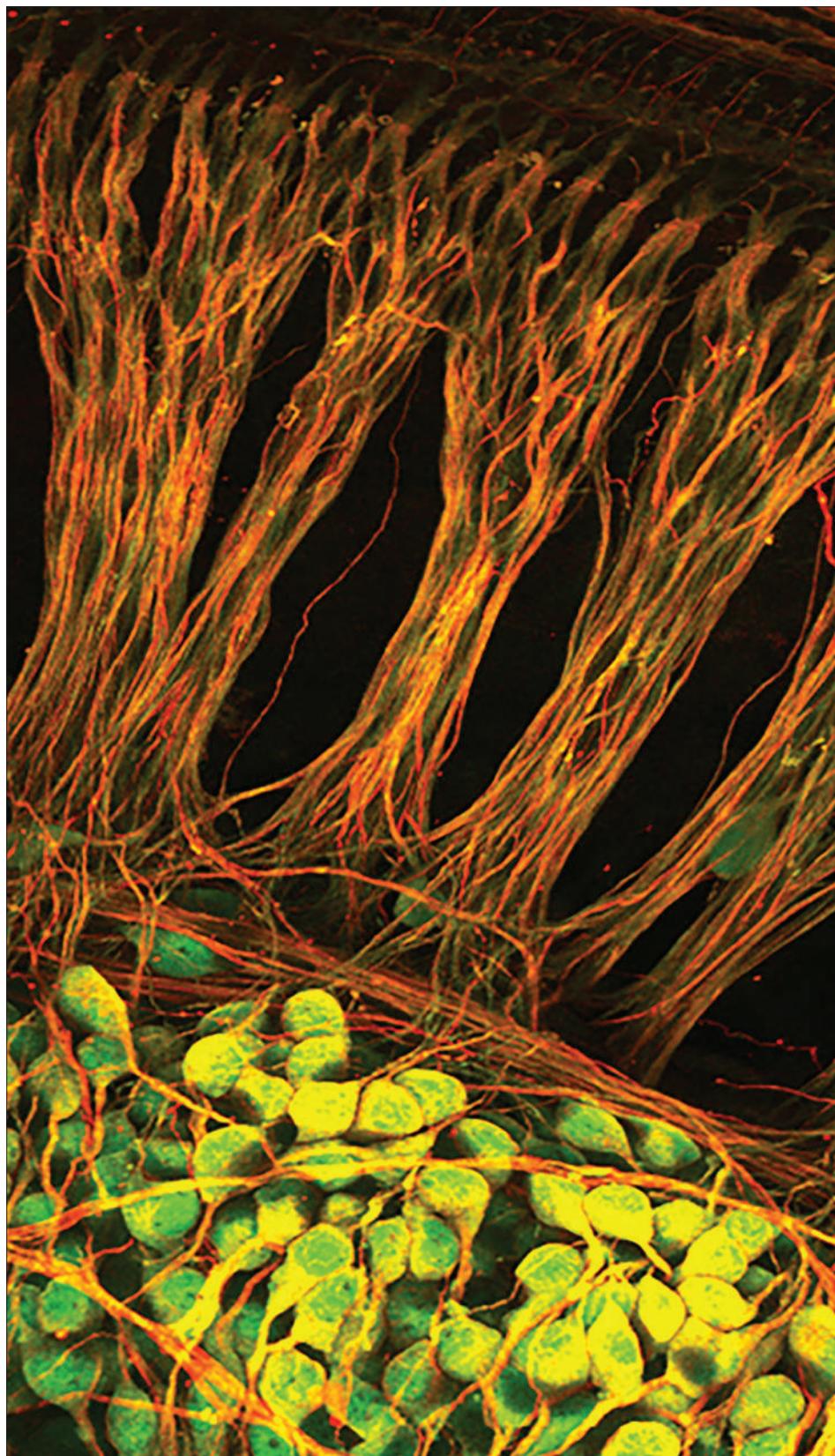
Presenters are urged to check their media at least 24 hours in advance of presentation in the Speaker Ready Room to confirm compatibility with the session room computers.

Transportation to and from McCormick Place/Hotels

For information on the complimentary SfN shuttle service and other travel resources, see pages 82–83.

Wireless Internet

As a service to annual meeting registrants, SfN provides free wireless Internet access in designated areas of McCormick Place during Neuroscience 2019. To take advantage of this free service, bring a laptop, smartphone, or other device with a built-in wireless network card or with an external wireless card that is 802.11b/g/a/n/ac 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 compatible. Wireless network users should reference the FAQs and disclaimers at www.sfn.org/wireless before accessing the network. SfN will provide support for wireless users at the Wireless Support booth in the Attendee Services area.



Exhibitor List

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG

As of: July 25, 2019

10x Genomics	708	Atlas Antibodies AB	254	BMG LABTECH	711, 1611
3Brain AG	1368	ATLAS Neuroengineering	1871	Boster Biological Technology	1805
3i - Intelligent Imaging Innovations.....	1807	Atuka Inc.	1945	Boston University Neurophotonics Center	2145
89 North	1455	AUM BioTech, LLC.....	508	Brain Products GmbH and Brain Vision LLC	543
A - M Systems, Inc.....	1617	Aurora Scientific Inc.	1667	BrainBits LLC.....	810
AAAS S&T Policy Fellowships	1715	AutoMate Scientific	1375	Brainbox Ltd.	146
Abcam	1372	Aves Labs.....	1643	BRAINS	2154
ABclonal Technology	1953	Aviva Systems Biology Corporation	419	Braintree Scientific, Inc.	707
Access Technologies.....	645	Axion BioSystems.....	324	BrainXell, Inc.	1417
ACS Publications	2018	Azure Biosystems Inc.	500	Bridge the Gap - SYNGAP Education and Research Foundation.....	2136
Active Motif.....	1838	Bachem Americas, Inc.	756	Bruker.....	1825
Addgene.....	2163	Backyard Brains.....	1963	BTX/Biochrom, Divisions of Harvard Bioscience, Inc.	828, 833, 842
ADIInstruments, Inc.....	1025	BASi.....	1154	Caliber Imaging & Diagnostics, Inc.	765
Advanced Targeting Systems, Inc.....	763	Basler AG	1615	Cambridge Electronic Design Ltd.	462
Agilent Technologies.....	755	Bentham Science Publishers Limited	136	Cambridge NeuroTech	1669
Aiforia	1711	Bertin Instruments	452	Cambridge University Press	108
Akoya Biosciences	248	BESA GmbH.....	549	Campden Instruments	729
ALA Scientific Instruments, Inc.	1564	Binaree, Inc.	1714	Canadian Association for Neuroscience	2057
Alembic Instruments Inc.....	1118	Bio - Serv	501	Canopy Biosciences	1857
Allen Institute for Brain Science	401	Bio Research Center Co., Ltd.	1506	Carbosynth LLC.....	566
Alpha MED Scientific Inc.....	662	Biocompare.....	1019	Carney Institute for Brain Science, Brown University	2129
Alpha Omega	1663	Biocytogen	1470	Cayman Chemical Company.....	1725
Alzheimer's Association	2014	BioLegend	654	CBR.....	2029
Amplitude	1929	Biomax Informatics	408	Cedarlane.....	425
Amuza Inc.....	1502	BIOPAC Systems, Inc.	673	Cell Biologics, Inc.	1507
Analytik Jena	1716	BioPro Scientific	1729	Cell Press	101
Andor, an oxford instruments company.....	1625	Bio-Rad Laboratories, Inc.	617	Cell Signaling Technology Inc.	600
Animal Care Systems, Inc.....	1855	Biorbyt Ltd.	705	Collectricon	374
Animal Identification and Marking Systems, Inc.....	643	BioRender	209	Changchun New Industries Optoelectronics Technology	1739
ANS Biotech.....	664	bioRxiv	2044	Charles River	1043
ANT Neuro	1743	Bioseb	1371	Chroma Technology Corp.	1455
Antec Scientific	1462	Biosensis Pty Ltd	162	Chromatrap.....	736
Antibodies Incorporated.....	1645	Bio-Signal Technologies, LLC	732	ChromoTek	809
APDM Wearable Technologies.....	428	BioSpherix Ltd.....	1851	Clever Sys. Inc.	1673
APE America	1751	Bioss Inc.	239	cloud-clone Corp.	305
Applied Biological Materials Inc.	504	Bio-Techne	1063	CMA Microdialysis, A division of Harvard Bioscience, Inc.	828, 833, 842
Applied StemCell	1752	BioTechniques	128	Coherent	1828
Arbor Assays.....	175	BioTek Instruments, Inc.	317	Cold Spring Harbor Laboratory Meetings & Courses	2042
arivis AG	1508	Biotium, Inc.	1471		
ASI/Applied Scientific Instrumentation Inc.	855	Bitbrain	649		
Association for Chemoreception Sciences	2035	Blackfynn	1768		
		Blackrock Microsystems	1767		
		Bliq Photonics	1913		

Columbia University Press	110
Columbus Instruments	942
Compumedics Neuroscan	728
Consilia Design & Analysis.....	1635
Consortium for Public Outreach on Animal Research	2034
CoolLED Ltd.....	1129
CorTec GmbH.....	1642
Coulbourn Instruments, A division of Harvard Bioscience, Inc.	828, 833, 842
CREmedical Corp.....	648
CrestOptics SpA	1651
Cytocybernetics	268
Cytoskeleton, Inc.....	1609
Data Sciences International (DSI)	828, 833, 842
Delsys Inc.....	1469
Diagenode	730
Diatome U.S.	533
Digitimer Ltd.	463
Donor Network West.....	2155
Doric Lenses Inc.	348
Drummond Scientific Company	1071
DRVISION Technologies	1814
DSM Pentapharm	142
DURECT Corporation.....	904
Dyets Inc.	1647
Easycap GmbH	745
Elabscience Biotechnology	1509
Electron Microscopy Sciences.....	535
ELGA LabWater	805
eLife	214
Elsevier	100, 101
emka TECHNOLOGIES Inc.	1634
EnCor Biotechnology Inc.	468
Enzo	1017
Epigentek Group Inc.	271
Eppendorf.....	1163
Evolocus LLC.....	1764
Excelitas Technologies	910
Expedeon.....	847
EyeTech Digital Systems	666
F1000	200
Faculty for Undergraduate Neuroscience	2015
FD NeuroTechnologies, Inc.	1170
Femtonics Ltd.	1655
Fenotech, Inc.	1731
FENS - Federation of European Neuroscience Societies.....	2027
FHC, Inc.	273
FiberTech Optica Inc.....	1931
Fine Science Tools	900
Frontiers in Neuroscience.....	137
FUJIFILM Cellular Dynamics	354
FUJIFILM Wako Chemicals USA Corp.....	357
Funakoshi Co., Ltd.....	369
Furuya Metal	1753
FUS Instruments.....	1834
g.tec neurotechnology USA, Inc.	657
GE Healthcare	1116
Gene Tools, LLC	1742
GeneCopoeia, Inc.....	638
GeneTex®, Inc.....	469
Genetic Engineering & Biotechnology News.....	806
GenScript USA Inc.	807
George Tiemann & Co.....	1316
Gold Bio	407
GraphPad Software, LLC.....	313
Grass Foundation.....	2062
Gray Matter Research.....	1956
Hacker Instruments & Industries Inc.	629
Hamamatsu Corporation.....	1317
Hamilton Company	1209
Harvard Apparatus, a division of Harvard Bioscience	828, 833, 842
Harvard University Press	111
Hawaiian Moon	852
HEKA, A division of Harvard Bioscience, Inc.	828, 833, 842
Hello Bio Ltd.	272
Hilltop Lab Animals, Inc.	1919
HiQScreen Sàrl.....	630
Hoefer, Inc., A division of Harvard Bioscience, Inc.	828, 833, 842
Human Brain Project.....	2125
IBRO	2033
Iconeus	413
Imaris, an Oxford Instruments Company.....	1625
imec	2128
inper	1972
Inscopix	507
Instech Laboratories, Inc.	742
Intan Technologies.....	342
International Behavioral Neuroscience Society (IBNS)	2068
International Brain Bee.....	2031
International Brain Laboratory.....	2151
International Drug Abuse Research Society (IDARS)	2114
International Neuroinformatics Coordinating Facility	2117
Intervivo Solutions Inc.	1808
Iowa Neuroscience Institute.....	2135
IPAN, University of Michigan.....	2066
iWorx Systems, Inc.	908
Jackson ImmunoResearch Laboratories, Inc.	1362
Jali Medical Inc.	1850
Japan Institute for the Control of Aging (JalCA)	372
JoVE	113
Karger Publishers	125
Karthala System	1727
KD Scientific	542
Kent Scientific Corporation	1732
KEYENCE Corporation	242
Kinarm.....	1873
Kinder Scientific Company	1747
Kopf Instruments.....	825
Korea Institute of Science and Technology	2146
LABCON	262
Lablup Inc.	1816
LabRoots, Inc.	946
Lafayette Instrument Company, Inc....	729
Laserglow Technologies.....	1636
LASOS Lasertechnik GmbH	427
Leica Microsystems.....	1033
LifeCanvas Technologies Inc.	609
LKT Laboratories, Inc.	457
Logos Biosystems, Inc.	1708
Lohmann Research Equipment.....	1367
Lonza	1117
LSBio	634
Ludl Electronic Products Ltd.	363

Exhibitor List

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG

As of: July 25, 2019

Luigs & Neumann.....	1750	National Neurotrauma Society	2142
Lumencor, Inc.	1415	National Primate Research Centers....	2036
Mad City Labs.....	1610	National Science Foundation.....	2071
Magstim, Inc.	753	Ncardia.....	1637
MagVenture, Inc.	138	NEALS Consortium.....	2126
Marine Biological Laboratory	2064	NeoBiosystems, Inc	1409
MathWorks	1639	Neuralynx, Inc.....	1563
Max Planck Florida Institute for Neuroscience	2054	Neuroscience Inc.	173
MaxWell Biosystems.....	1967	Neuro Central	328
MBF Bioscience	873	neuroConn - neuroCare Group GmbH	151
Meadowlark.....	1572	Neuroelectrics, S.L	143
MED Associates Inc.	700	Neurofit SAS	631
Media Cybernetics, Inc.	1818	NeuroLux, Inc.	750
Metris B.V.	554	NeuroNexus Technologies.....	343
Micropipes for Life Science	1568	NEUROPHET	150
Mightex	1755	Neurophotometrics.....	565
Miltényi Biotec GmbH.....	1309	Neuropixels.....	2037
MIT Press	115	NeuroScience Associates, Inc.	1263
Mitsar Co. Ltd.....	544	Neuroscience in France	2165
Mitutoyo America Corporation	531	Neuroscience in Germany.....	2063
MKS Instruments, Inc.	1652	Neuroscience Information Framework (NIF)	2124
Molecular Devices.....	1216	NEUROSERVICE	866
Moor Instruments, Inc.	1900	Neurostar.....	274
Mouse Brain Architecture	2153	Neurotar	443
MP Biomedicals, LLC	1934	New Scale Technologies	853
Multi Channel Systems (MCS), A division of Harvard Bioscience, Inc.	828, 833, 842	Nikon Instruments Inc.....	1201
Multidisciplinary Digital Publishing Institute (MDPI).....	405	NIRx Medical Technologies LLC	1213
Mutant Mouse Resource & Research Center	2045	NKT Photonics	409
My Green Lab	2131	Noldus Information Technology.....	663, 669
NAN Instruments.....	734	Norgen Biotek Corp.	1744
Nanion	514	npi electronic.....	1562
NanoTemper Technologies	712	OBELAB.....	1638
Narishige International USA, Inc.	1073	OHAUS Corporation	607
National ALS Biorepository	2025	Olympus America Inc.	814
National Center for Adaptive Neurotechnologies	2148	Omega Bio-tek.....	516
National Center of Neuromodulation for Rehabilitation at MUSC	2134	Omega Optical, Inc	218
National Disease Research Interchange	2028	Omicron-Laserage Laserprodukte GmbH.....	605
National Institutes of Health (NIH/NINDS).....	2001, 2004, 2011, 2111	Omnitech Electronics, Inc.	862
		Open Ephys x Miniscope	1766
		Opentrons.....	1917
		OptiTrack.....	528
		OriGene Technologies, Inc.	336
		OriginLab Corporation	738
		Oxford University Press	114
		Panlab, A division of Harvard Bioscience, Inc.	828, 833, 842
		Parkinson's Foundation	2157
		Partek Incorporated.....	811
		PCO-TECH Inc.	1308
		PCT	637
		PeproTech, Inc.	1124
		Perimed, Inc.	726
		PhenoSys	170
		Philips Neuro.....	1905
		PhosphoSolutions	574
		Physitemp Instruments, LLC.....	1763
		PI (Physik Instrumente) LP	404
		Piezocconcept.....	1405
		Piezosurgery Incorporated, a Mectron Company	1910
		Pinnacle Technology, Inc.	1463
		Plastics One Inc	410
		Plexon, Inc.	1255
		Polyplus transfection	1709
		Porsolt	1856
		Precisionary Instruments, Inc.	639
		Princeton University Press	112
		Prior Scientific.....	625
		Promega Corporation	352
		Pronexus Analytical AB	1466
		Proteintech Group, Inc.	1835
		PsychoGenics Inc.	1801
		Psychology Software Tools, Inc.....	562
		Public Library of Science (PLOS).....	124
		Purina TestDiet	743
		QPS Austria	1464
		Rapp OptoElectronic GmbH	1468
		RayBiotech, Inc.	1936
		ReadCube Papers	365
		Reality Device Research Division, ETRI.....	2053
		Rehabilitation Research Resource to Enhance Clinical Trials/ MR3 Network.....	2138
		REPROCELL	311
		Research Diets, Inc.	1055
		Rewire Neuroscience.....	429
		Ripple Neuro.....	1472, 1473
		Roboz Surgical Instrument Co., Inc....	1419

Rockefeller University Press	211
Rockland Immunochemicals, Inc.	804
Rocky Mountain Diagnostics	1555
Rogue Research, Inc.	152, 153
RPMC Lasers, Inc.	503
RWD Life Science.....	968
Sable Systems International, Inc.	1824
Sage Bionetworks	2052
San Diego Instruments, Inc.	1574
Sandvik Palm Coast.....	1511
Sarstedt, Inc.	524
Sartorius	1735
SB Drug Discovery	512
Science Careers.....	1717
Science/AAAS	1719
ScienCell Research Laboratories.....	1943
Scientifica	1355
SciMeasure	1553
SciMedia, Ltd.	557
SciPro.....	1369
Semrock, a business unit of IDEX Health & Science.....	225
Sensapex Inc.....	257
SEU-Allen Joint Center	2047
Shimadzu Scientific Instrument	1312
Shirley Ryan AbilityLab	2150
Signal Solutions, LLC	744
Signalway Antibody, LLC	249
Siskiyou Corporation	717
Society for Neuroscience (SfN)	1005
Somni Scientific	329
Sophion Bioscience A/S	1608
Soterix Medical	236
Spectra-Physics/ MKS Division.....	1652
SPIE.....	2143
SpikeGadgets.....	1970
Springer Nature.....	201
SR Research Ltd.	1500
SRC Biosciences.....	1217
SRI International	563
St. Jude Children's Research Hospital	2038
Stanford University: Wu Tsai Neuroscience Institute	2043
Starr Life Sciences Corp.....	715
STEMCELL Technologies Inc.	843
StemoniX.....	1219
Stoelting Company.....	569, 570
StressMarq Biosciences Inc.	1762
Sutter Instrument.....	1514, 1515
Suven Life Sciences	353
syGlass.....	449
SynapCell	1366
Synaptic Systems	417
Taylor & Francis	109
Technology Networks	1614
Tecniplast.....	849
Ted Pella, Inc.	950
Teledyne Lumenera	1053
Teledyne Photometrics.....	1401
The Brain Donor Project	2115
The Canadian Neurophotonics Platform	2147
The Chinese Institute for Brain Research, Beijing (CIBR).....	2055
The Jackson Laboratory.....	525
The Journal of Physiology	310
The Michael J. Fox Foundation for Parkinson's Research	2030
The MotionMonitor.....	1862
The Scientist	1407
The Virtual Brain	2116
Thermo Fisher Scientific.....	513
Thinker Tech Nanjing Bioscience Inc.	754
Thomas RECORDING GmbH.....	1363
Thorlabs.....	333
Tissue Gnostics USA	1505
TMC.....	1604
TMSi	163
Tobii Pro	768
Tokai Hit USA Inc.	1314
TOPTICA Photonics, Inc.	1411
Transnetyx, Inc.	1955
Transpharmation Ltd.	1810
Triangle BioSystems International (TBSI), A division of Harvard Bioscience, Inc.	828, 833, 842
TSE Systems	1153
Tucker - Davis Technologies	863
Tucson Photonics Co., Ltd.	1633
UGO Basile S.R.L.....	568
UID Identification Solutions.....	633
USA Scientific, Inc.	767
VA Office of Research and Development.....	2130
Vector Laboratories, Inc.	1051
VectorBuilder Inc.	1842
VetEquip, Inc.	264
Vidrio Technologies, LLC	1150
ViewPoint Life Sciences	1974
Vigene Biosciences.....	1746
Virotek	270
VPixx Technologies.....	224
Warner Instruments, A division of Harvard Bioscience, Inc.	828, 833, 842
Wearable Sensing.....	243
White Matter LLC	1671
Wiley	803
Wolters Kluwer	801
Woodway USA.....	1143
World Parkinson Coalition, Inc.	2144
World Precision Instruments	724, 1618
Worthington Biochemical Corporation	475
Wuhan OE-Bio Co., Ltd.	330
Zaber Technologies Inc.	601
Zantiks.....	370
ZEISS Microscopy	1601
ZMT Zurich MedTech AG	1937
Zymo Research Corp.	454

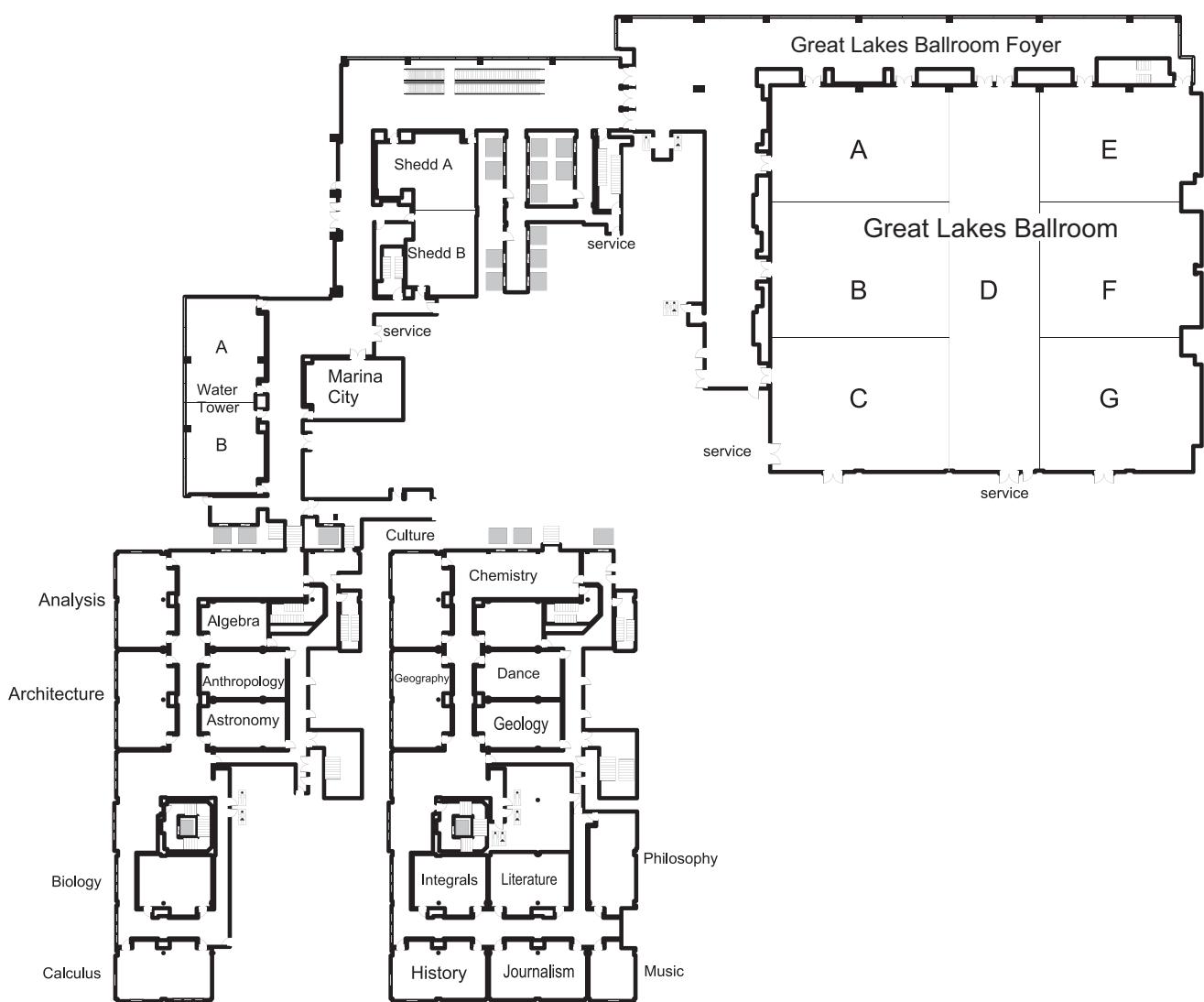
Hotel Floor Plans

MARRIOTT MARQUIS CHICAGO

2121 S. PRAIRIE AVENUE

CHICAGO, ILLINOIS 60616

LEVEL 2



Hotel Floor Plans

HYATT REGENCY McCORMICK PLACE

2233 SOUTH DR. MARTIN LUTHER KING JR. DRIVE
CHICAGO, ILLINOIS 60616

93

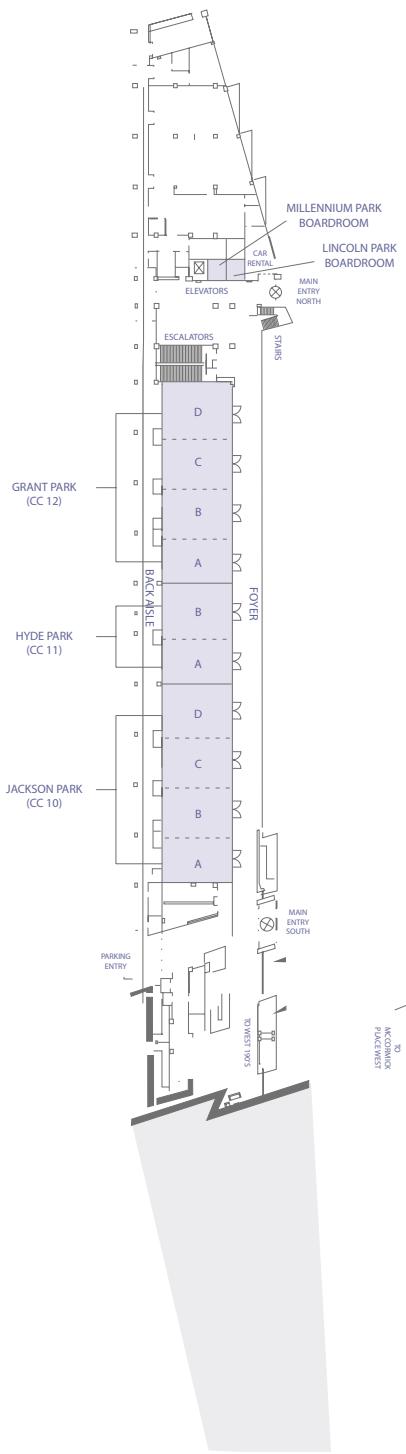


Hotel Floor Plans

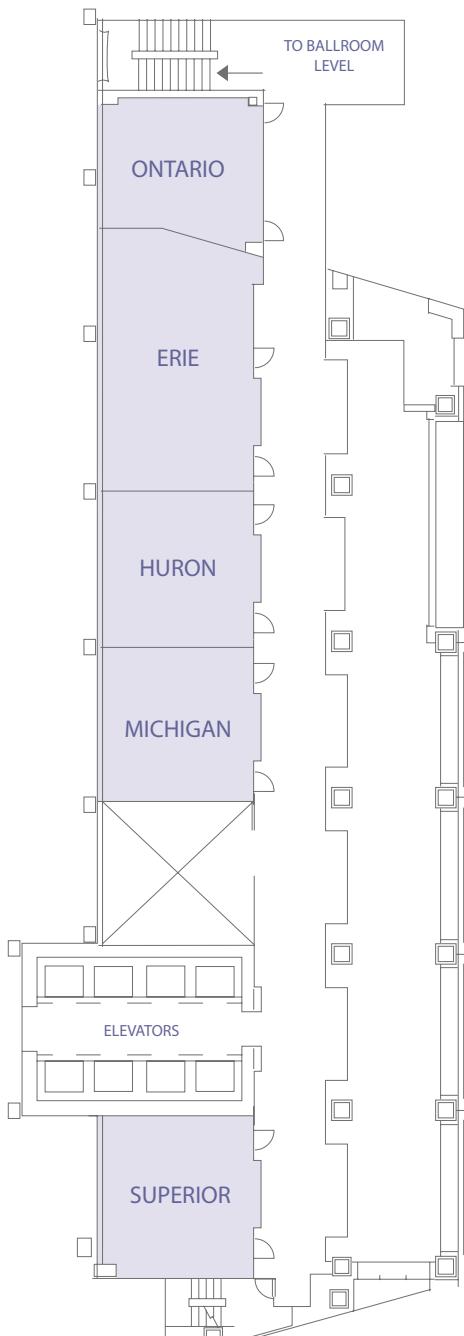
HYATT REGENCY McCORMICK PLACE

2233 SOUTH DR. MARTIN LUTHER KING JR. DRIVE
CHICAGO, ILLINOIS 60616

LEVEL 1



LEVEL 3



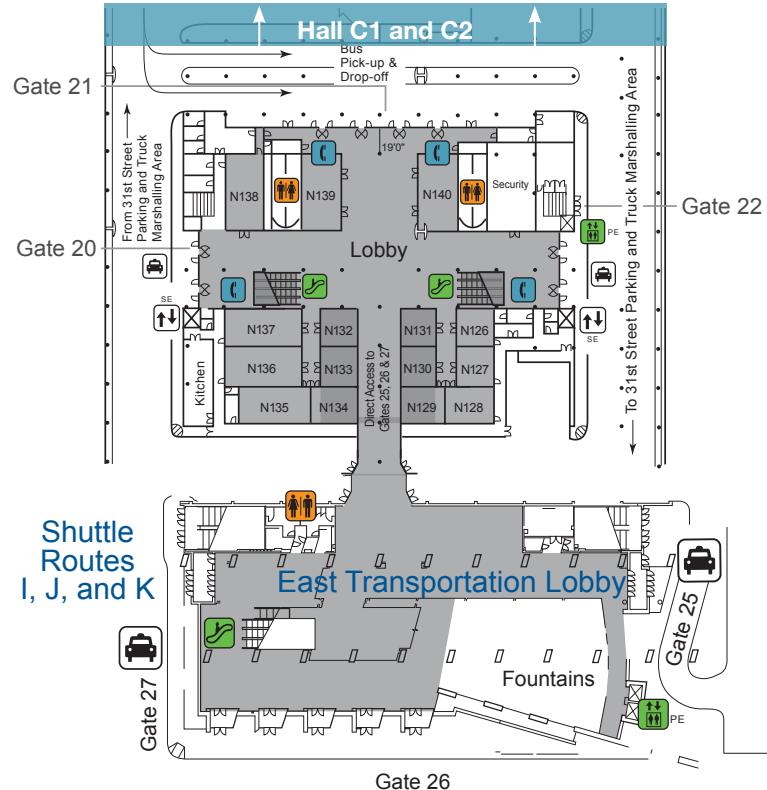
Convention Center Floor Plans

95

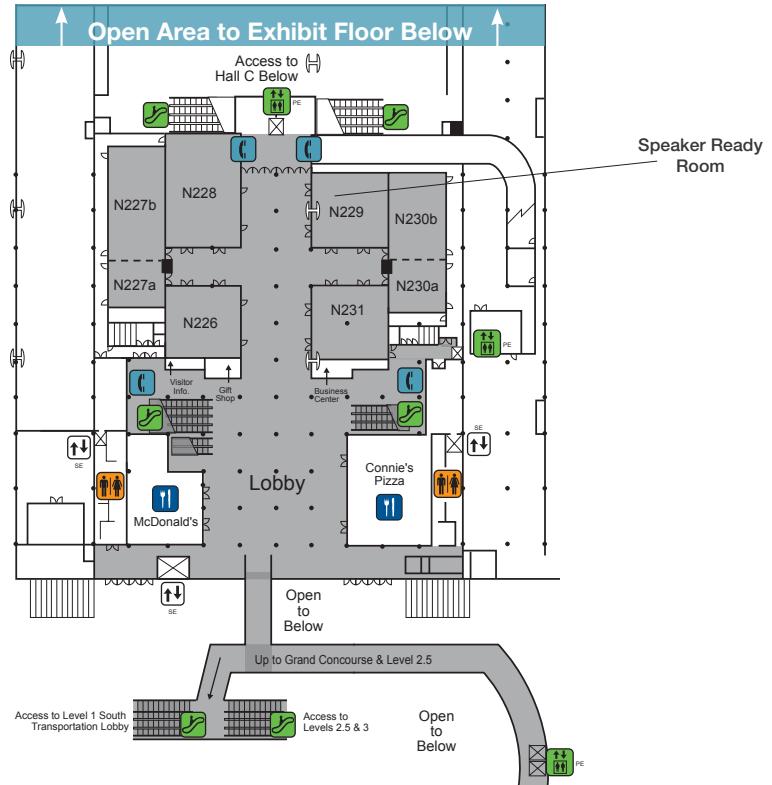
McCORMICK PLACE

2301 S. MARTIN LUTHER KING DRIVE
CHICAGO, ILLINOIS 60616

LEVEL 1 NORTH



LEVEL 2 NORTH



Convention Center Floor Plans

McCORMICK PLACE

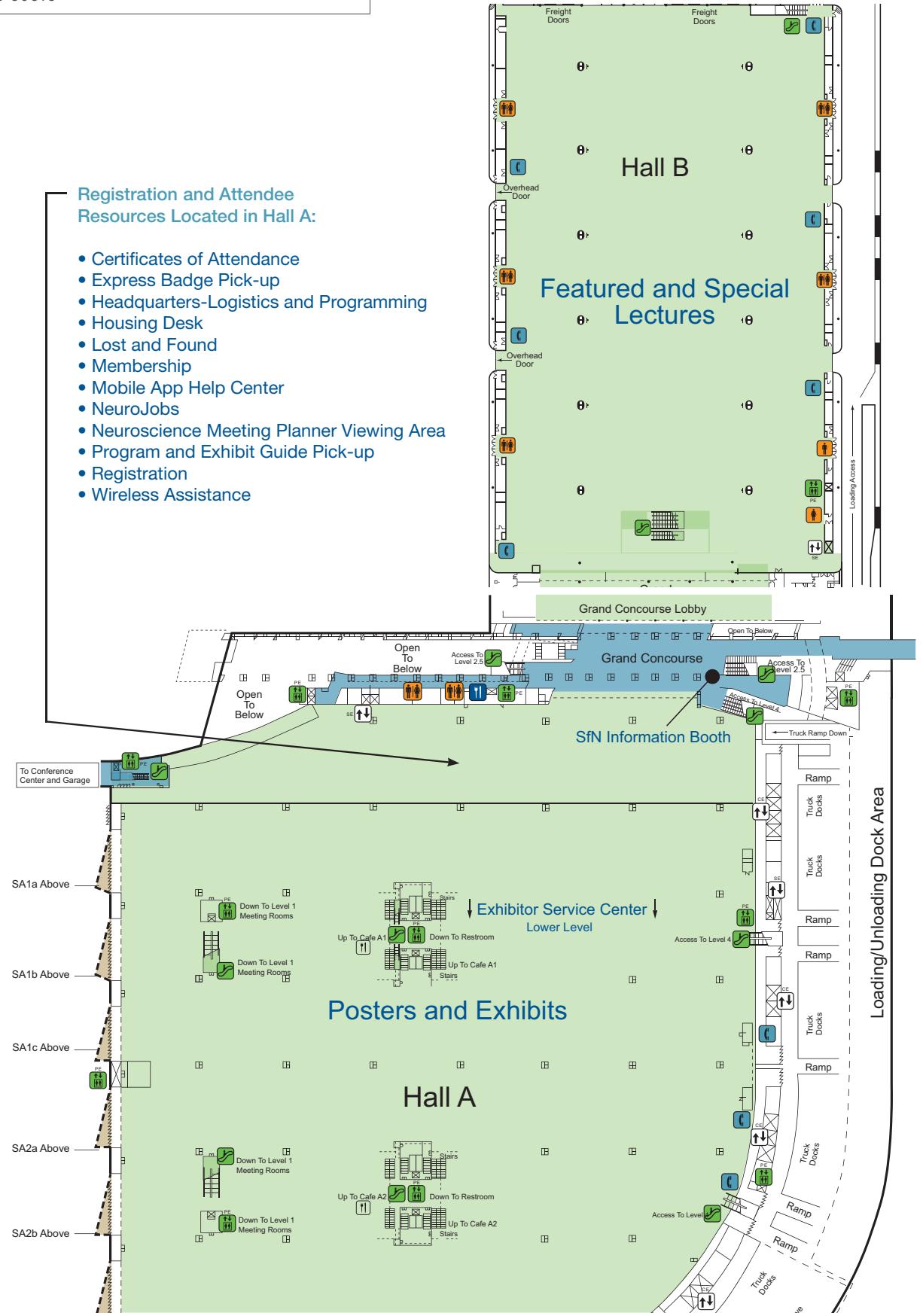
2301 S. MARTIN LUTHER KING DRIVE
CHICAGO, ILLINOIS 60616

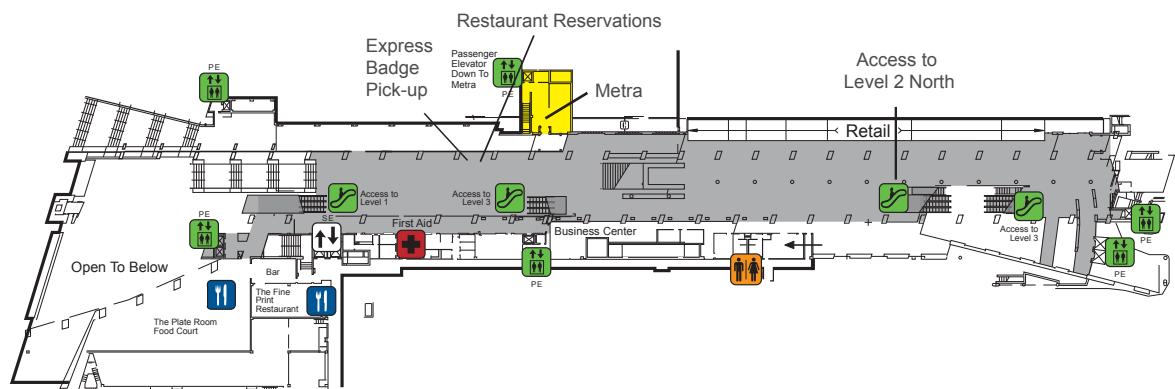
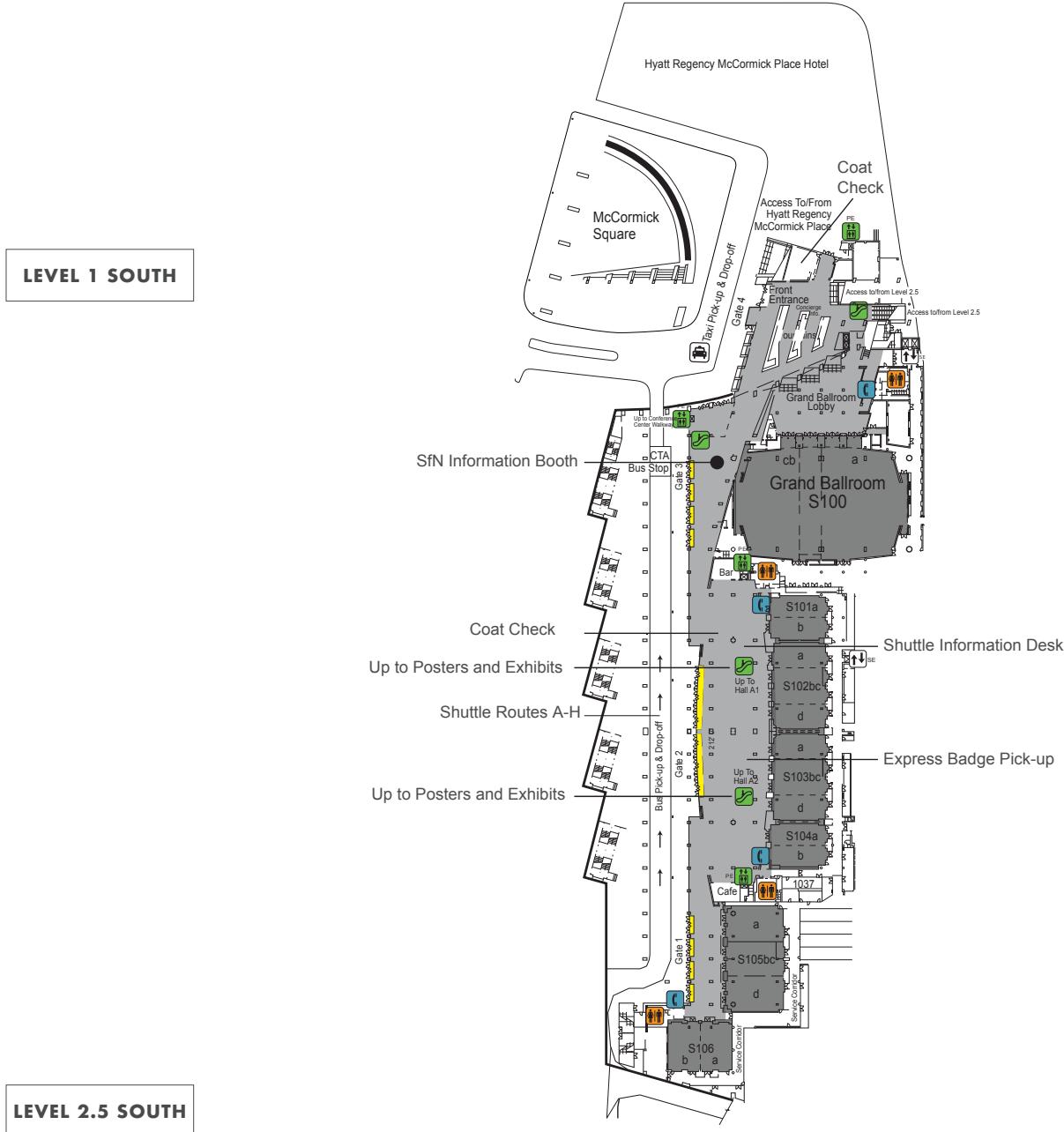
LEVEL 3 NORTH

Registration and Attendee Resources Located in Hall A:

- Certificates of Attendance
- Express Badge Pick-up
- Headquarters-Logistics and Programming
- Housing Desk
- Lost and Found
- Membership
- Mobile App Help Center
- NeuroJobs
- Neuroscience Meeting Planner Viewing Area
- Program and Exhibit Guide Pick-up
- Registration
- Wireless Assistance

LEVEL 3 SOUTH



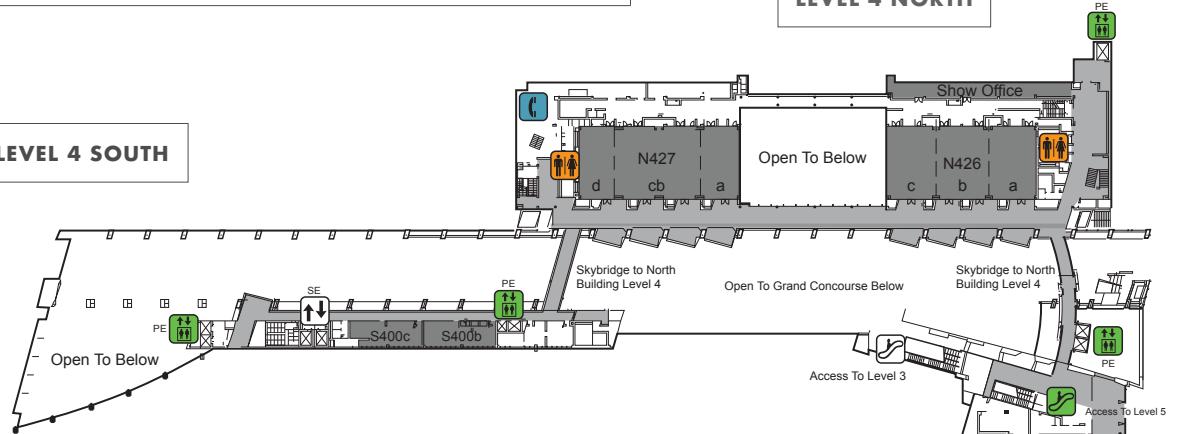


Convention Center Floor Plans

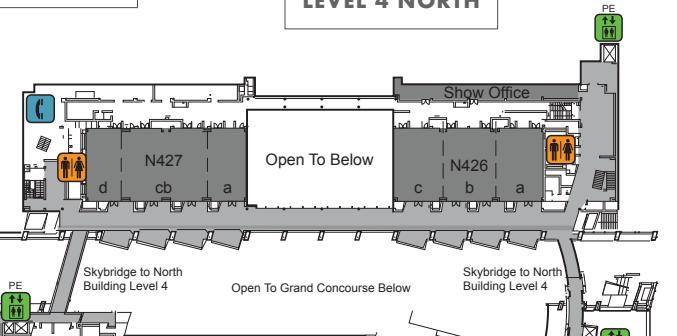
McCORMICK PLACE

2301 S. MARTIN LUTHER KING DRIVE
CHICAGO, ILLINOIS 60616

LEVEL 4 SOUTH



LEVEL 4 NORTH



LEVEL 5 SOUTH



This Elevator Also Serves
Meeting Rooms S100-S106
Via Passage Under Halls A1 & A2

Know Your Brain. Know Yourself.

Explore the Universe Between Your Ears

Neuroscience Core Concepts

www.brainfacts.org/Core-Concepts

#KnowYourBrain

BrainFacts.org

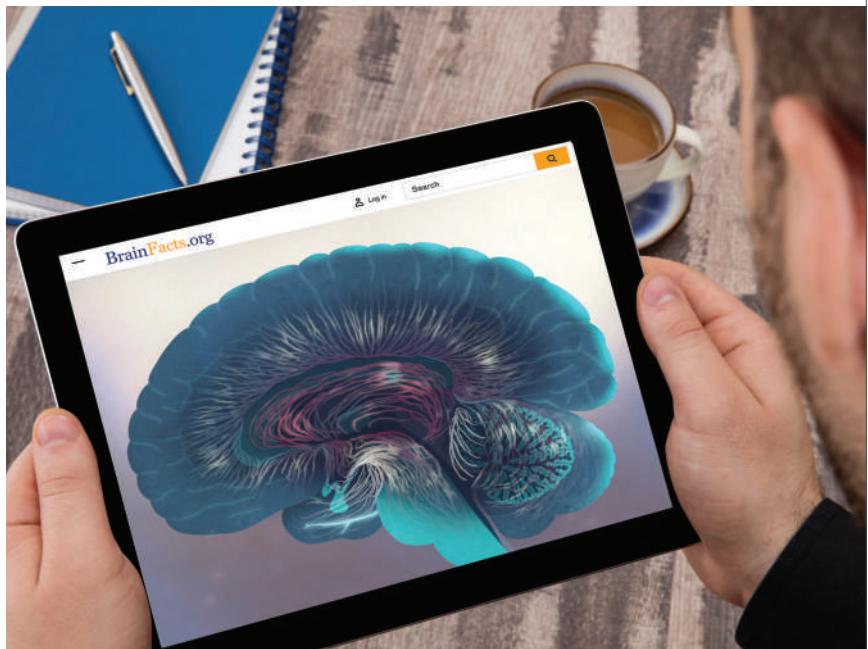
A PUBLIC INFORMATION INITIATIVE OF:



SOCIETY for
NEUROSCIENCE



CELEBRATING
50 YEARS
1969–2019



**Become a member.
Meet journal editors.
Get involved.**

Learn more about SfN's events,
programs, and resources at
Booth #1005, Exhibit Hall A.

SOCIETY for
NEUROSCIENCE



CELEBRATING
50 YEARS
1969–2019

Exhibits & Poster Sessions

McCORMICK PLACE. SOUTH BUILDING

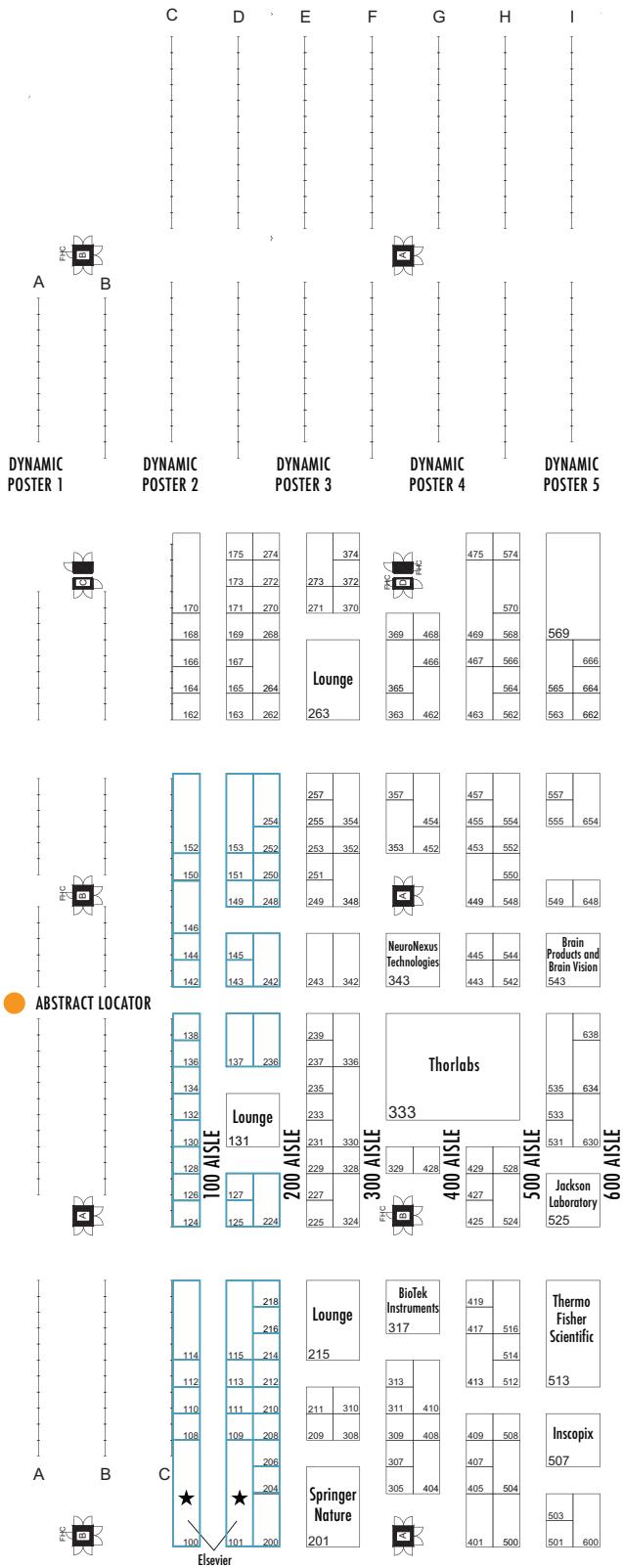
Meeting Dates: Oct. 19–23

Exhibit Dates: Oct. 20–23

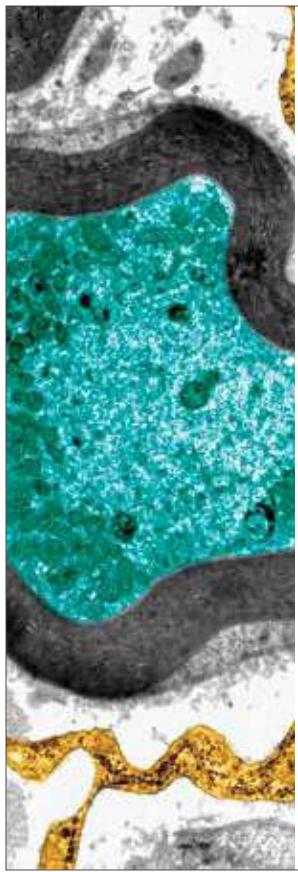
Note: Entrances will open at noon on Saturday and at 7 a.m. Sunday through Wednesday for poster presenter setup only. Poster sessions are open for all attendees at 1 p.m. on Saturday and 8 a.m. Sunday through Wednesday.

- Publisher's Row
- Nonprofit / Institutes
- SfN
- Exhibitor Service Center
- ★ Sustaining Associate Members
- Food Court
- Abstract Locator
- Column / Fire Hydrant (FHC)

ABSTRACT LOCATOR







**Expand your training.
Grow your career.**

Visit the newly redesigned www.neuronline.sfn.org.



NEURONLINE

Learning | Discussion | Neuroscience

Read. Submit. Publish.

JNeurosci
THE JOURNAL OF NEUROSCIENCE

eNeuro

**Committed to representing the breadth of
neuroscience with scientific excellence and rigor.**

www.JNeurosci.org | www.eNeuro.org

Photo Credits

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG

103

Note: The content of Society for Neuroscience (SfN) 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: © 2019 Society for Neuroscience

Cover: This image is an artistic rendering of mouse hippocampus, stained with antibodies against α -synuclein (yellow) and the sphingolipid glucosylceramide (blue). α -Synuclein interacts with select sphingolipids in the context of GBA-associated Parkinson's disease. Courtesy with permission: Yumiko V. Taguchi, Jun Liu, Jiapeng Ruan, Joshua Pacheco, Xiaokui Zhang, Justin Abbasi, Joan Keutzer, Pramod K. Mistry and Sreeganga S. Chandra. *Journal of Neuroscience* 4 October 2017, 37 (40) 9617-9631.

Page 3: This confocal image shows expression of the transcription factors NKX2.1 (blue) and ISL1 (red) in POMC (green) neurons of a developing mouse hypothalamus. NKX2.1 is required for initiation of POMC expression in these neurons. Courtesy with permission: Daniela P. Orquera, M. Belén Tavella, Flavio S.J. de Souza, Sofia Nasif, Malcolm J. Low and Marcelo Rubinstein. *Journal of Neuroscience* 22 May 2019, 39 (21) 4023-4035.

Page 4: Jaysi (Photographer). (2018, October 20). Chicago skyline aerial drone view from above stock photo [digital image]. Retrieved from: istockphoto.com/photo/chicago-skyline-aerial-drone-view-from-above-lake-michigan-and-city-of-chicago-gm1057157166-282121778.

Page 9: This image shows a parvalbumin-expressing interneuron overlaid on a 2-color fluorescent *in situ* hybridization image showing expression of NMDA receptor GluN2D in GAD-expressing GABAergic interneurons. Courtesy with permission: Elizabeth Hanson, Moritz Armbruster, Lauren A. Lau, Mary E. Sommer, Zin-Juan Klaft, Sharon A. Swanger, Stephen F. Traynelis, Stephen J. Moss, Farzad Noubary, Jayashree Chadchankar and Chris G. Dulla. *Journal of Neuroscience* 8 May 2019, 39 (19) 3611-3626.

Page 17: This image shows the arborizations of a TL2a tangential neuron in the lower division of the central body of the desert locust brain. These neurons are sensitive to the polarization angle of blue light as well as the direction of an unpolarized green light spot and use these properties to create an internal compass for navigation. Courtesy with permission: Uta Pegel, Keram Pfeiffer, Frederick Zittrell, Christine Scholtyssek and Uwe Homberg. *Journal of Neuroscience* 17 April 2019, 39 (16) 3070-3080.

Page 31: This confocal image shows neural stem cells in the dentate gyrus of a 7-day-old mouse. Neural stem cells migrate toward the hilus of the dentate gyrus and form a proliferative zone, called the subgranular zone, at the border between the hilus and the granule cell layer. While neural stem cells are migrating into the subgranular zone, they establish a radial process that extends across the granule cell layer, called the secondary radial scaffold (labeled with Nestin (green) and GFAP (red)). Neural stem cell nuclei are labeled with Sox2 (cyan). Courtesy with permission: Hirofumi Noguchi, Naoya Murao, Ayaka Kimura, Taito Matsuda, Masakazu Namihira and Kinichi Nakashima. *Journal of Neuroscience* 1 June 2016, 36 (22) 6050-6068.

Page 37: This image shows cone photoreceptors directly contacting microglia within the outer plexiform layer of the human retina. The tissue was immunolabeled with antibodies against calbindin (green) and peanut agglutinin (blue), and microglia were labeled with monocyte marker ionized calcium-binding adapter molecule 1 (red). Microglia, photoreceptor interaction plays an important role in postnatal photoreceptor maturation, with loss of fractalkine-Cx3cr1 signaling leading to an altered distribution of cilium proteins, failure of outer segment elongation, and cone photoreceptor loss. Courtesy with permission: Andrew I. Jobling, Michelle Waugh, Kirstan A. Vessey, Joanna A. Phipps, Lidia Trogrlic, Una Greferath, Samuel A. Mills, Zhi L. Tan, Michelle M. Ward and Erica L. Fletcher.. *Journal of Neuroscience* 16 May 2018, 38 (20) 4708-4723.

page 40: This image shows the mouse adult hippocampus with neurogenesis markers. EYFP (green) is expressed in radial glia-like neural stem cells and their progenies. Adult-born neurons and neural stem cells/neural progenitors are stained with Doublecortin (red) and Sox2 (white), respectively. DAPI labeling is blue. Courtesy with permission: H. Georg Kuhn, Tomohisa Toda and Fred H. Gage. *Journal of Neuroscience* 5 December 2018, 38 (49) 10401-10410.

Page 21, 23, 29, 30, 34, 39, 42, 76, 77, 83: 2019, © Society for Neuroscience. All rights reserved. Photos by Joe Shymanski.

page 73: Multiphoton image of a viable organotypic slice from an embryonic day 12 mouse neocortex. This slice was immersion stained in CellTracker Green to label the cell cytoplasm and Syto82 (Invitrogen) for nucleic acid staining. This is the onset of neocortical neurogenesis, and the first neurons in the preplate (top layer of cells) have migrated above the precursors in the ventricular zone (VZ). A VZ cell in metaphase is situated at the surface of the ventricle (bottom center). The slice was excited with a femtosecond multiphoton laser tuned to 800 nm, and the emission spectra were separated using FITC and RITC filters. Courtesy with permission: Jonathan S. Gal, Yury M. Morozov, Albert E. Ayoub, Mitali Chatterjee, Pasko Rakic and Tarik F. Haydar. *Journal of Neuroscience* 18 January 2006, 26 (3) 1045-1056.

page 75: This image shows a neural rosette derived from a pluripotent stem cell. Apical localization of N-cadherin (red) is seen, with beta III tubulin (green) showing both polarized rosette cells, and non-polarized neuronal cells outside of the rosette. Nuclei are visualized with DAPI (blue). Courtesy with permission: Liam G. Coulthard, Owen A. Hawksworth, Rui Li, Anushree Balachandran, John D. Lee, Farshid Sepehrband, Nyoman Kurniawan, Angela Jeanes, David G. Simmons, Ernst Wolvekang and Trent M. Woodruff. *Journal of Neuroscience* 31 May 2017, 37 (22) 5395-5407.

Page 82: dibrova (Photographer). (2018, April 7). Chicago sunset time stock photo [digital image]. Retrieved from: istockphoto.com/photo/chicago-sunset-time-gm941021400-257213226.

Page 84: VirtualVV (Photographer). (2015, August 14). Chicago CTA Train stock photo [digital image]. Retrieved from: istockphoto.com/photo/chicago-cta-train-gm531282753-55218132.

page 85: Layer III pyramidal cell of cerebral cortex of mouse from an original preparation of Santiago Ramón y Cajal impregnated with the Golgi method (P80001). Z-projection (32 sections; z-step, 2.072 μm). Objective, 20 \times ; numerical aperture, 0.75 ([Image]). Courtesy with permission: Pablo García-López, Virginia García-Marín and Miguel Freire. *Journal of Neuroscience* 1 November 2006, 26 (44) 11249-11252.

page 89: This image shows a region of spiral ganglion neuron cell bodies and peripheral processes from the cochlea of a P1 MaptEGFP (green) mouse. Neurons are also labeled with an antibody against neuron-specific beta tubulin III (red). Courtesy with permission: Hanna E. Sherrill, Philippe Jean, Elizabeth C. Driver, Tessa R. Sanders, Tracy S. Fitzgerald, Tobias Moser and Matthew W. Kelley. *Journal of Neuroscience* 1 November 2006, 39 (27) 5284-5298.

SfN Council & Program Committee

GENERAL INFORMATION PROGRAM | WWW.SFN.ORG

Officers

Diane Lipscombe
President

Barry J. Everitt
President-Elect

Richard L. Huganir
Past President

John H.R. Maunsell
Treasurer

Serena M. Dudek
Treasurer-Elect

Rita J. Balice-Gordon
Past Treasurer

Robert Desimone
Secretary

John Morrison
Secretary-Elect

Councilors

Amy J. Bastian

Magda Giordano

Julie A. Kauer

Gail Mandel

Kenneth I. Maynard

Lisa M. Monteggia

Julio J. Ramirez

Erin M. Schuman

Program Committee

Patricia H. Janak
Chair

Sheena A. Josselyn
Incoming Chair

Theme Chairs

Frank Bradke
Theme A

Yukiko Goda
Theme B

Aaron D. Gitler
Theme C

Gilad Barnea
Theme D

Tadashi Isa
Theme E

Susan J. Sara
Theme F

Daniela Schiller
Theme G

Rony Paz
Theme H

Hongkui Zeng
Theme I

Kang Shen
Theme J
Past Program Committee Chair

Members

Anissa Abi-Dargham

Shernaz X. Bamji

Caroline E. Bass

Haruhiko Bito

Ona Bloom

Matteo Carandini

Rui M. Costa

Xinzhong Dong

Cagla Eroglu

Damien A. Fair

Shelly B. Flagel

Winrich Freiwald

Li Gan

Aryn H. Gittis

Suzanne N. Haber

Anne C. Hart

Z. Josh Huang

Joshua P. Johansen

Alexandra L. Joyner

Paul S. Katz

Members

Karla R. Kaun

Takaki Komiyama

Ann C. McKee

Jose A. Moron-Concepcion

Martin Müller

Paul E. M. Phillips

Daniela Puzzo

Zilong Qiu

Lawrence P. Reagan

Mitchell F. Roitman

Subhojit Roy

Andrew B. Schwartz

Nirao M. Shah

Matthew L. Shapiro

Per Jesper Sjöström

Cheryl L. Stucky

Irene Tracey

Nicolas X. Tritsch

Anastasios Tzingounis

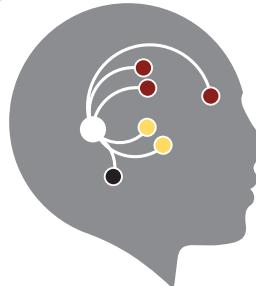
Yimin Zou

Present your science at SfN's 50th Annual Meeting

WASHINGTON, DC • OCTOBER 24–28

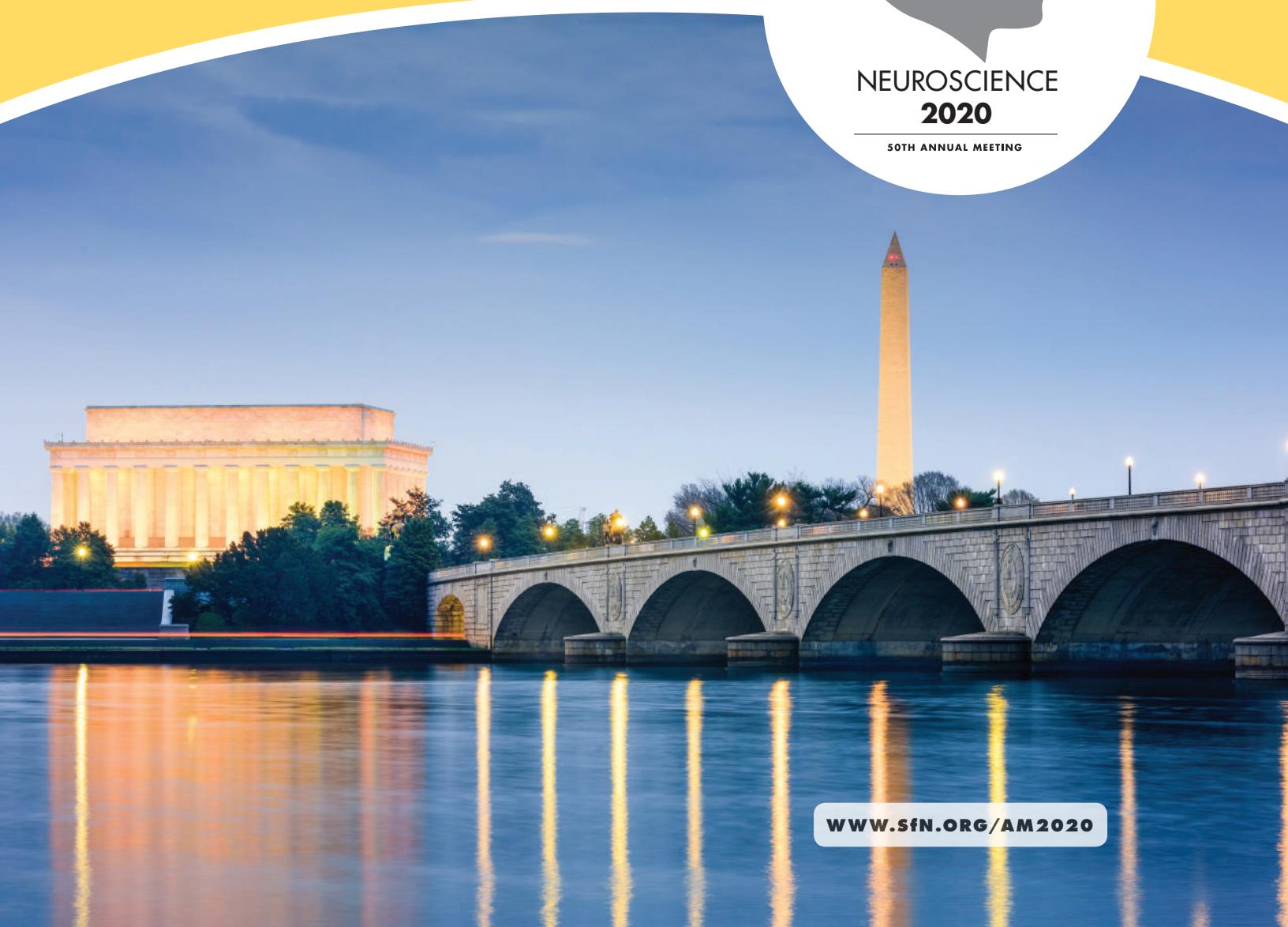
Proposal Deadlines

Symposia / Minisymposia: January 7
Abstracts: April 30

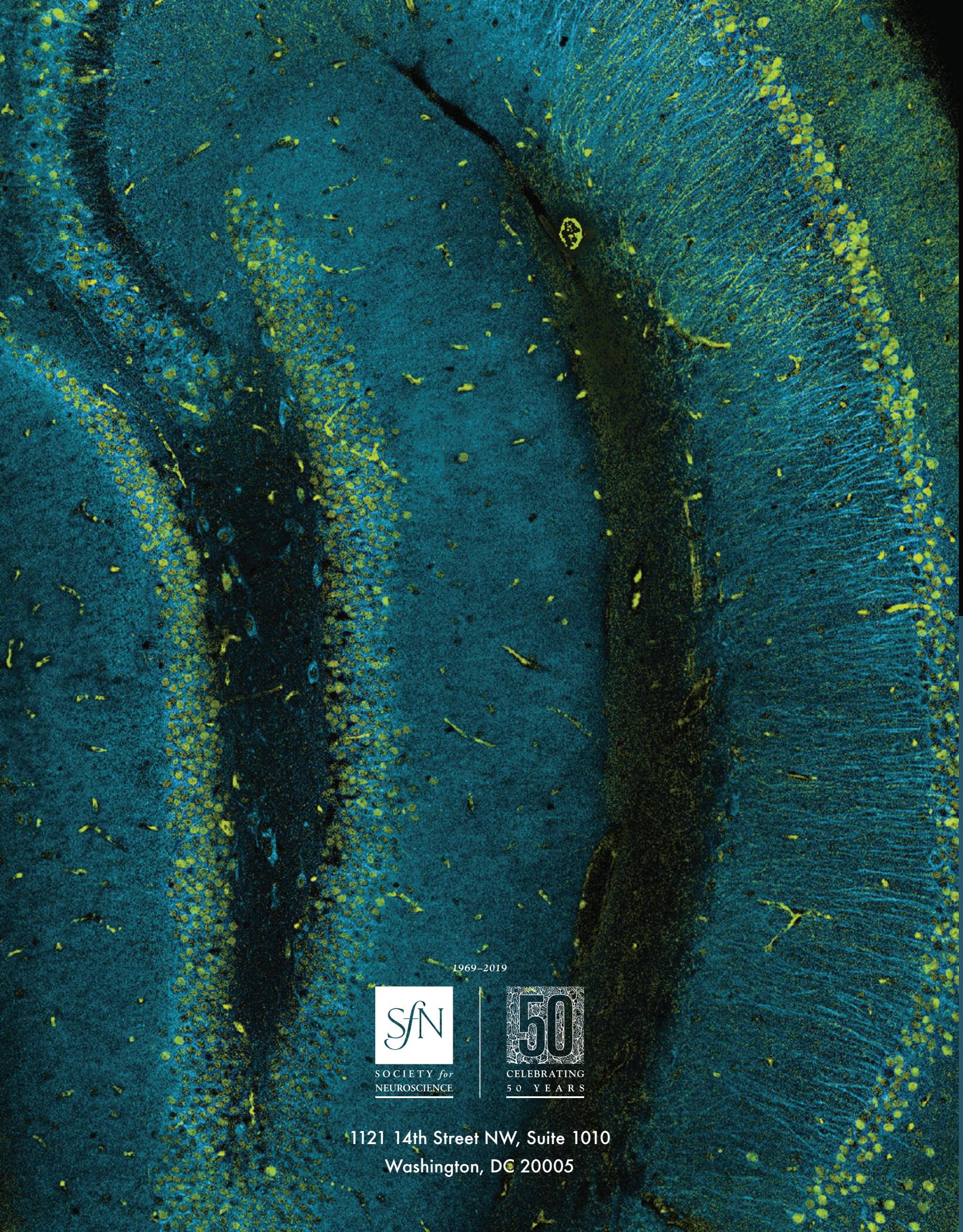


NEUROSCIENCE
2020

50TH ANNUAL MEETING



WWW.SFN.ORG/AM2020



1969–2019



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