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Neuroscience 2008

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Neuroscience 2008

Neuroscience 2008, held November 15 – 19, brought more than 31,600 attendees to Washington, DC for five days of a rich and varied scientific program that included more than 16,000 abstracts and more than a dozen lectures by leading scientists, as well as a robust range of professional development, advocacy, and education outreach opportunities. Several major presentations highlighted work on how circuits generate behaviors. As always, the scientific program spanned studies from complex human behavior to single molecules.

LECTURES: SOCIAL IMPACTS, CIRCUITS & BEHAVIOR, AND MORE

In the opening lecture, Dialogues between Neuroscience and Society, the topic of dance and the interplay between art and science was discussed. Renowned modern dancer and choreographer Mark Morris offered his unique perspective on the relationship between body, mind, motion, and rhythm, and his views on proprioception and the precise timing of movement. [View the video.](#)



The Dialogues between Neuroscience and Society presentation featured modern dancer and choreographer Mark Morris. Watch the video at www.sfn.org/am08_videos.

A panel discussion with Morris, SfN President Eve Marder, and neuroscientist Bevil Conway stimulated discussion and questions from the audience, including "Do other animals dance, or is this a human phenomenon?" Morris and David Leventhal of the Mark Morris Dance Group also led a workshop, where they demonstrated how dance techniques can be used to help Parkinson's patients. The group has been teaching "Dance for PD" classes for six years at its location in Brooklyn, NY, in conjunction with the Brooklyn Parkinson Group, a chapter of the National Parkinson Foundation. The class highlighted the brain's control and understanding of movement and rhythm, as well as how observers experience and integrate the sensory and emotional impact of dance.



SfN President Eve Marder welcomed Brenda Milner, the History of Neuroscience lecturer. Milner traced recent technological advances in the study of memory processes back to 1950s research, including the post-operative amnesia work with "H.M."

The Presidential Special Lectures illustrated how leading neuroscientists are working to understand circuits and how they produce behavior. Their work maintains a connection to basic science while nurturing the translational and medical components of research. Allison Doupe discussed songbird behavior and basal ganglia circuits involved in song learning. Carol Barnes explored circuits involved in learning behaviors in monkeys and rodents, and how changes in plasticity mechanisms and network dynamics during aging impact episodic memory formation and contribute to cognitive deficits observed in older mammals. Leslie Griffith presented behavioral and molecular evidence that strategies used by the *Drosophila* brain to generate sleep mirror those of the human

brain. Catherine Dulac evaluated recent advances in our understanding of neural signals and circuitry important in sex-specific pheromone-evoked responses in the mouse.

Catherine Dulac discusses sex- and species-specific pheromone responses in the mouse.

Additional Featured Lectures included the Fred Kavli Distinguished International Scientist Lecture with Michael Bate; the Peter and Patricia Gruber Lecture with John O'Keefe; the David Kopf Lecture on Neuroethics with Patricia S. Churchland; the Albert and Ellen Grass Lecture with Joshua R. Sanes; and the History of Neuroscience Lecture with Brenda A. Milner. In addition, the annual meeting's scientific program featured the theme-specific Special Lectures. Of course, emerging areas of the field were highlighted through dozens of symposia and minisymposia, including the neurobiology of itch, drug addiction and functional neuroimaging evidence for a brain network underlying impaired insight, and sleep and neural plasticity.

PROFESSIONAL DEVELOPMENT ACTIVITIES FACILITATE CONNECTIONS

The meeting's professional development activities started out with huge successes on Friday, Nov. 14. More than 200 registered participants attended the day-long Neurobiology of Disease Workshop on traumatic brain injuries. Meanwhile, more than 250 registrants participated in each of the three Short Courses focused on research

skills. This was the first year that three Short Courses were offered, an increase from the usual two. Topics included an overview of optical control methods in neuroscience, a practical approach to methods of immunocytochemistry and non-radioactive in situ hybridization, and a survey of topics in the field of neuronal dynamics.

The Meet-the-Experts series buzzed with over 250 attendees, offering an informal and intimate setting for students and postdoctoral researchers to get tips from research experts. Six concurrent sessions allowed experts to detail techniques and accomplishments. Feedback from participants in this year's series has been overwhelmingly positive. The two-day Professional Skills Workshop covered topics including selecting careers, getting into graduate school, picking the right postdoctoral position, and grant writing. The Survival Skills and Ethics Program provided strategies for writing a strong proposal and avoiding common pitfalls. NIH and NSF program officers discussed specific funding opportunities and general tips for successful grant writing.

As the meeting continued, nearly 100 participants attended the "Global SfN Chapter Invigoration" workshop, featuring SfN chapter representatives who shared success stories and ideas regarding chapter activities for peers and prospective chapter leaders, including those from Germany, France, Thailand, Malaysia, Brazil, the United Kingdom, Greece, India, Nigeria, and Italy. A panel engaged the group on potential chapter activities and topics including science advocacy, education and Brain Awareness Week activities, international chapters and reinvigorating chapters. A Chapters Resource Kit, including information on how to apply for chapter funding and awards, is available online at www.sfn.org/chapters.

As part of the meeting's professional development activities, the SfN Committee on Women in Neuroscience (C-WIN) hosted its third annual luncheon. The luncheon featured SfN Past President Huda Akil and honored women leaders in neuroscience.

The NeuroJobs Career Center, an outgrowth of the Society's online job bank, facilitated connections between participating employers eager to schedule on-site interviews. Over 300 employers made reservations to participate in the program.

RESEARCH AND DIALOGUE ATTRACTS PRESS COVERAGE

As Washington is a hub of national and international news outlets, the meeting drew wide press interest and a significantly larger early round of coverage. Research on advances in prenatal and newborn care, new



Local embassies, including the embassy of Canada, hosted events. Anthony Phillips (left), SfN Councilor, and Michael Wilson, Ambassador of Canada to the United States.



Institute directors and program leaders from the National Institutes of Health discussed success stories and new directions in neuroscience research at a press event.



At the Chapters Workshop, Pat Trimmer, Public Education and Communication Committee member, introduced the Neuroscience Core Concepts, a new SfN initiative featuring essential principles about the brain and nervous system.



explanation for Alzheimer's disease, love and the brain, itch, and new treatments for brain injury were widely covered in the media. Other research topics that attracted press coverage included sleep and memory, stem cells, autism, and addiction. The media also focused attention on the Mark Morris lecture, with particular interest in the use of dance to help Parkinson's patients. Early stories emanating from the event included coverage in the New York Times, USA Today, National Public Radio, Associated Press, "The Today Show," Reuters, and more.



C-WIN luncheon attendees recognize Past-President Bernice Grafstein, the first female president of SfN, and funder of a new SfN award for outstanding accomplishments in mentoring.

PUBLIC EDUCATION: ADVANCING OUTREACH TO THE NEXT GENERATION

Nearly 300 participants attended "Brain Awareness: The Next Generation," the annual reception and poster session to celebrate Brain Awareness Campaign efforts and accomplishments in increasing the public's knowledge about "the universe between their ears." The campaign culminates each March with Brain Awareness Week (BAW) and promotes a series of events around the world to raise awareness about neuroscience. The BAW campaign is a partnership between the Society and the Dana Alliance for Brain Initiatives (DAI), which founded BAW.

The event featured 30 posters and remarks by DAI executive director Barbara Gill, Bryan D. White, a 2007 SfN Next Generation Award Recipient, and SfN President-Elect Tom Carew. Carew energized the crowd with a call-to-action to members to talk about the Brain Awareness Campaign and to forge more effective partnerships between researchers and K-12 teachers, students, and schools. He also highlighted that for the first time, SfN collected data about Brain Awareness participation from registrants of the meeting, where 54 percent of the over 31,000 attendees stated that they are, have been or want to be actively involved in public education activities. White spoke about the need for the neuroscience community to support and encourage outreach efforts by postdocs and others. The event also featured many of SfN's great new education resources [see [landing page](#) for details]. Learn more about getting

involved in [BAW 2009](#).



Neuroscience 2008 offered rich educational opportunities through three Short Courses, the "Meet-the-Expert" series, the Neurobiology of Disease Workshop, and many other well-attended events.



Talkad Sathyaprabha, member of the Bangalore Chapter, encouraged other international members to network, share information, and educate the public about neuroscience through their local chapter.

EXHIBITS SHOWCASE LEADING EDGE TECHNOLOGY AND TOOLS

The exhibit floor offered a marketplace for more than 500 exhibitors to showcase products and technologies to aid neuroscientists in research, including 484 commercial companies, 51 non-profit organizations, and 24 institutes. Offerings ranged from behavioral research equipment to imaging tools to research publishers, the National Science Foundation, and a National Institutes of Health (NIH) booth representing 21 NIH institutes.

FIRST SWARTZ PRIZE PRESENTED AT NEUROSCIENCE 2008

The debut of the Swartz Prize for Theoretical and Computational Neuroscience was one of the highlights of Neuroscience 2008. The award, supported by The Swartz Foundation, honors an individual whose activities have produced a significant contribution to theoretical models or computational methods in neuroscience. The prize included \$25,000 and the honor of delivering the keynote address at the Dynamical Neuroscience satellite event.

Find a complete list of [2008 fellowships, travel awards, and scientific achievement award and prize recipients](#).

Science, Society, and Advocacy at Neuroscience 2008

Amid a full schedule of scientific posters and lectures, attendees took time to participate in sessions focused on how neuroscience impacts society. This year, they heard about the impact of the elections on science policy, helped educate judges about neuroscience and its role in the courtroom, and sought new ways to support responsible animal research.



Wilfrid Rall received the Swartz Prize from SfN Past President David Van Essen.

THE ELECTIONS: AND THE WINNER IS...SCIENCE?

With just standing room to spare, the 2008 Public Advocacy Forum brought over 500 attendees to discuss the recent presidential and congressional elections and their potential impact on science funding and policy. [Watch the video](#) The panelists, moderated by Katrina Kelner, life sciences editor of Science magazine, touched on the "post election glow," which has since been tempered by the looming economic crisis. Speakers agreed that unprecedented challenges facing the Obama administration and Congress heightened the need for the science community to explain the benefits of a strong investment in science for the U.S. economy and the nation's health.

Harold Varmus, President of Memorial Sloan-Kettering Cancer Center and former NIH director, noted that the agency has lost 14 percent of its buying power in the last five years. He emphasized that "advocacy is elemental" to restoring the agency's funding.

Echoing this idea, Wendell Primus, senior policy advisor to Speaker of the House Nancy Pelosi (D-CA), noted that scientists "must make the argument that investing in science has a long-term payoff," as all priorities are being considered against a \$7-9 trillion deficit. In a preview to the 111th Congress, Primus maintained that Speaker Pelosi is an enthusiastic supporter of science but emphasized the need for advocates to ensure that science is a priority in the new session.

Former U.S. Representative John Porter (R-IL), chair of the Research!America Board of Directors, challenged SfN members to make a strong commitment to advocacy. He called on members to do more than just pay their dues: "Neuroscientists need to walk the halls of Congress and advocate for biomedical research funding." Scientists can engage their legislators by giving tours of their labs and serving as science advisors to show how scientific research can improve health and bolster the economy (information to help do this can be found at www.sfn.org/gpa).

ENGAGING INSTITUTIONS TO PROTECT RESEARCHERS AND RESEARCH

Given the growing threats and attacks against researchers engaged in responsible animal research, this year's Animals in Research Workshop focused on how institutions can improve protections as outlined in the [SfN Best Practices document](#), released in 2008. The panelists represented the institutional sectors that neuroscientists can engage to counteract increased anti-research extremism: leadership, security, media, and animal care.

Bruce Margon, Vice Chancellor for Research at University of California-Santa Cruz, noted the lessons he learned following the firebombing of a researcher's home at his institution, including the importance of collaborating with local law enforcement and the value of support from top leaders. He cautioned that this problem "may never go away," so university leaders and scientists must be vigilant. Similarly, Lt. Michael Newton of the University of Wisconsin Police Department stressed that institutions should not "stick their heads in the sand" if they are not current targets, as they may be caught unprepared in the future.

A specialist in communications related to animal research, Oregon Health and Science University Associate Director for Media Jim Newman demonstrated the importance of transparency and openness with the media to combat inaccurate claims made by the opposition. Jan Gnad, director of Georgetown University's animal care facility, noted the best defense to accusations of wrongdoing is a stellar animal care and use program.

JUDICIAL SEMINAR ON EMERGING ISSUES IN NEUROSCIENCE

As neuroscience's influence on the judicial system continues to expand, judges must determine how to consider neurological evidence in their courtrooms and should be armed with a sufficient background to make such decisions. Those attending the seminar, cosponsored by the American Association for the Advancement of Science, the Dana Foundation, the Federal Judicial Center, the National Center for State Courts, and SfN, heard from neuroscientists on the structure of the brain and its implications for witness testimony and criminal sentencing. Specific areas included the reliability of memory, the basics of drug addiction, the detection of deception, and the brain's role in violent behavior.

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For more information go to www.sfn.org/am2009.

NEUROSCIENCE 2008
WEB LINKS

Watch video replay of selected events
www.sfn.org/am2008_videos

Fellowships, travel awards, and scientific achievement awards and prizes
www.sfn.org/am2008_awards

View press releases from work presented at Neuroscience 2008
www.sfn.org/newsreleases