

NEUROSCIENCE

WINTER 2009

Q U A R T E R L Y

“The brain, the field that studies it, and the Society that supports it are successful for similar reasons: they learn and change, adapt and evolve.”

— Thomas J. Carew,
SfN President

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Message from the President

SfN at 40: Looking Back, Looking Forward

It is hard to believe that the Society for Neuroscience (SfN) is already 40 years old. Over the last four decades, the field of neuroscience and SfN have made tremendous strides in meeting the needs of our members each year, while continuously changing and evolving. Thus it is timely to reflect on some of the accomplishments we have made, while exploring steps that the Society will take this year and beyond to set the stage for the next 40 years.

SfN: ONE NEUROSCIENCE MILESTONE AMONG MANY

The field of neuroscience itself is of course much older than the Society, and SfN's founding is but one of many milestones in a rich history. In the middle of the 19th century, a young railroad worker named Phineas Gage suffered an unfortunate brain injury and subsequent dramatic changes in his personality offered some of the first evidence that the brain was the basis for behavior. At the turn of the 20th century, Golgi and Cajal were developing techniques that rendered a neuron and its intricate connections visible, while Sherrington was carrying out seminal experiments revealing that the brain choreographed the operations of an integrated nervous system. At about the same time Pavlov and Thorndike were elucidating features of classical conditioning and instrumental learning, respectively, and Ebbinghaus was engaged in pioneering research on human memory. In more recent history, several SfN founders themselves have become some of today's luminaries. All of us stand on the shoulders of these giants and countless others who shaped what the field is today.

When SfN was founded in 1969, neuroscience was barely an independent discipline. It has now expanded to include 300 research areas. Many younger members would not recognize the neuroscience presented at SfN's first annual meeting in 1971. Now-commonplace technologies like MRI and *in situ* hybridization were in their infancy, and it would be years before terms like *patch clamp*, *CREB*, and *PTSD* entered our collective vocabulary. Today, annual meetings feature rows of posters detailing neural network com-

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New Public Outreach Tools Launch in Time for Brain Awareness Week

Neuroscience 2008 marked the release of major new resources to help members participate in education activities in local communities, as well as convey essential principles of neuroscience to the public. Launched in advance of 2009 Brain Awareness Week March 16-22, *Neuroscience Core Concepts* and a new one-stop shop for neuroscience education tools called NERVE (short for Neuroscience Education Resources Virtual Encycloportal) both distill a wide range of material and facts into easier content to convey to the lay public. Led by SfN's Public Education and Communications Committee, the projects engaged hundreds of members and educators, ensuring they offer accurate and accessible content.

NEUROSCIENCE CORE CONCEPTS

After more than a year of input and evaluation, SfN launched a new and exciting resource offering “essential principles” that the public and teachers should know about the brain and nervous system: how your brain works and how it is formed; how it guides you through changes in life; and why it is important to increase understanding of the brain. Available online (www.sfn.org/coreconcepts) as well as in a brochure, the eight

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Thomas J. Carew,
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puter models, but networked personal computers controlled by keyboards (and a thing called a mouse) were first demonstrated in 1968, just prior to SfN's incorporation.

This year, SfN will continue to recognize important events that make up our past by making a range of materials honoring the History of Neuroscience available to members and

the public. This includes a 6-volume print autobiography series of the lives and discoveries of preeminent neuroscientists as well as new autobiography videos of leading neuroscientists. From these materials, available on SfN's Web site, users can learn about the history of the Society.

LOOKING FORWARD: 2009 AND BEYOND

At 40, the face of SfN has changed, and we are evolving to address new needs. A recent member survey has helped chronicle who we now are. Our membership is both younger — more than a third of our members are students or post-docs — and more international than ever.

As more than 36 percent of members reside outside the U.S., international members should have a stronger voice in SfN's future. Thus, SfN Council recently announced that it is expanding eligibility for our international members to serve as a Councilor (Council is the governing body of SfN). This position will now be open to all regular members, wherever in the world they live and work, encouraging more representative voices to guide strategic decisions and plans for the Society's future.

In addition, SfN has strengthened its partnerships with the Federation of European Neuroscience Societies (FENS — see interview, p. 10) and the International Brain Research Organization (IBRO, see *NQ* Summer 2008). SfN is also making the worldwide exchange of ideas a priority, offering reduced dues for scientists in developing countries and increasing the number of annual meeting travel awards we fund for young scientists from the around the world and travel awards to FENS and IBRO meetings.

To serve our younger members, SfN is expanding professional development. The Society recognizes and seeks to support the diverse career opportunities for today's neuroscientists — in academia, industry, law, publishing, and journalism, among others. SfN plans to continue the great work started by NeuroJobs, the Committees on Women in Neuroscience and Diversity in Neuroscience, and partners like the Faculty for Undergraduate Neuroscience and Association of Neuroscience Departments and Programs. Additionally, SfN recently created a new post-doc regular member dues category (see *NQ* summer 2008), being mindful of the external funding pressures and job-seeking chal-

lenges facing neuroscientists, particularly our younger colleagues. In the 2007 survey, members urged SfN to redouble its efforts to educate the public about neuroscience and I look forward to personally focusing on this effort during my presidency. This past year SfN launched the Neuroscience Education Resources Virtual Encycloportal (NERVE), which catalogs online resources for K-12 neuroscience education, and the *Neuroscience Core Concepts*, a guide to basic neuroscience principles correlated to U.S. National Science

... the field of neuroscience and the Society have evolved over the years in ways that mirror the plasticity of the brain itself, which we now know retains the capacity to grow and change over a lifetime.

Education standards. This coming year will bring expanded Brain Awareness Week efforts and a special initiative that SfN will be sponsoring during my presidential year: a Neuroscience Research in Education Summit. The summit will bring together leading educators and scientists next summer to ensure we are integrating neuroscience knowledge about how students learn into the ways K-12 teachers teach.

ANNUAL MEETING 2009: HONORING EVOLUTION — AND HARNESSING IT FOR THE FUTURE

In SfN's recent history, the Dialogues between Neuroscience and Society series has been a singular innovation of the annual meeting. From the Dalai Lama's 2005 lecture to the 2008 Mark Morris event (now available online at www.sfn.org/am2008_videos), the Dialogues presentation offers an opportunity to relate neuroscience and broader issues in society. Neuroscience 2009 will be in Chicago, which offers attendees both a great city and a spectacular convention center. This year's Dialogue will focus on the theme "Magic in the Brain." For this event we are excited to host two renowned magicians: The Amazing Randi (www.randi.org/site/index.php/about-james-randi.html) and Apollo Robbins (www.isteastuff.com). My thinking behind choosing this theme is that, for centuries, magicians have been practicing their craft based on the way we perceive and encode information about the world. Thus their tricks and illusions have a lot to teach neuroscientists about perception, awareness, and attention. And besides, magic is simply fun, no matter how you look at it.

As we celebrate our 40th anniversary this year, the annual meeting will also recognize several additional important anniversaries for neuroscientists. 2009 marks Darwin's 200th birthday, and the 150th anniversary of the publication of *On the Origin of Species*. We will fittingly have the opportunity to celebrate these events together with a visit to the Field Museum in Chicago, which houses some of the world's best biological and archeological exhibits and supports ongoing research in those fields and others. In addition, another anniversary occurs in 2009: the 60th anniversary of Hebb's landmark book *Organization of Behavior*. So this year promises to be quite eventful for our field.

Reflecting on Darwin's remarkable contributions for a moment, as we mark historic events in evolution in Chicago, it strikes me that the field of neuroscience and the Society have evolved over the years in ways that mirror the plasticity of the brain itself, which we now know retains the capacity to grow and change over a lifetime. That's why my presidential lecture theme will be "A Changing Brain in a Changing World." So the brain, the field that studies it, and the Society that supports it are successful for similar reasons: they learn and change, adapt and evolve.

SfN: CONTINUOUSLY STUDYING THE PRESENT TO SHAPE OUR FUTURE

At SfN's inception in 1969, its articles of incorporation were remarkably forward-looking. Despite the changing face of SfN, there has never been a need to change the SfN charter. SfN's founders envisioned the centrality of an all-encompassing annual meeting, intuited changes that were to come in our science, encouraged broad diffusion of neuroscience information, and stressed the importance of neuroscientists communicating with each other and the public.

As we look back from where we came, and then forward to where we are headed, it is great fun to try to imagine what the field will look like in 40 more years (or even 10 for that matter). While an intriguing exercise, the fact is that it is impossible to tell — neuroscience is simply moving too fast. Who knows what singular developments or discoveries might dramatically alter our field, both technically and conceptually? Who could have envisioned the impact of an experimental brain operation in 1953 when a 27-year-old man, Henry Molaison (known for the next 55 years as patient H.M.), had most of his medial temporal lobe surgically removed bilaterally to treat the devastating effects of epilepsy that he had endured since the age of nine. Last month, December 2008, marked the passing of H.M., a legend in the field of the neurobiology of learning and memory. The amnesia that H.M. exhibited after his surgery has been widely interpreted to mean there are at least two memory systems in the brain (one for declarative knowledge and another for implicit memory), and prompted a theoretical sea change in the field. Who knows where the next sea change will come from? Whatever its source, it will certainly be critically influenced by the ebb and flow of ideas fostered by SfN over the next 40 years. ■

Council Round Up: Fall 2008

At Neuroscience 2008, the SfN Council (the Society's governing body), reviewed recent achievements and discussed issues confronting the organization and the growing global neuroscience community. Achievements included new public education and advocacy resources and strategies developed and launched in 2008 (see page 1 for educational tools; summer 2008 NQ for advocacy efforts). Additionally, there was robust discussion and action on a broader set of issues:

SERVING SfN'S GROWING INTERNATIONAL MEMBERSHIP

The Council has undertaken a number of recent steps to improve representation for international members. This includes closer relationships with FENS and IBRO, as well as a recent decision to expand eligibility to serve as a Councilor. In a significant move, the Council voted unanimously last summer to extend eligibility to any regular member, regardless of the country where they live and work. Previously, only North American members could serve. Council also approved a formal collaboration with FENS: two joint task forces between the organizations were established—one on professional development and one on advocacy—and they will include chairs of SfN International Affairs and Government & Public Affairs committees. SfN Council also approved a project to co-sponsor a FENS training program in 2009. Council is also encouraging more chapters, including internationally and seven were approved, including two U.S. chapters, as well as in Otago, New Zealand; Buenos Aires, Argentina; Ile Ife, Nigeria; Hong Kong, China; and Singapore.

FOCUSING ON PROFESSIONAL DEVELOPMENT

Expansion of professional development (PD) activities is a major Council priority. Council approved a collaboration with the Association for Women in Science, which is pursuing a project on diversity in professional awards. It also received a report from the Membership and Chapters

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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 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



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

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.

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.

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**



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."

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.



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

FIRST SWARTZ PRIZE PRESENTED AT NEUROSCIENCE 2008



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

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 key-note address at the Dynamical Neuroscience satellite event.

Find a complete list of 2008 fellowships, travel awards, and scientific achievement award and prize recipients at www.sfn.org/am2008_awards.

... Neuroscience 2008, continued from page 5



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.

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 com-

mon 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



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.

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.

“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 at www.sfn.org/am2008_videos] 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 heighten 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 (www.sfn.org/bestpractices), 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. ■

... Neuroscience 2008, continued from page 6



(from left) Jean-Francois Gariepy, David Seminowicz, Emma Duerden, and Antenah Argaw, members of the SfN Montreal Chapter, are among the recipients of the Next Generation Award.

featured SfN Past President Huda Akil and honored women leaders in neuroscience. View video replay of the C-WIN reception remarks and other Neuroscience 2008 events at www.sfn.org/am2008_videos.

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 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.

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

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



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.



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.

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 (DABI), which founded BAW.

The event featured 30 posters and remarks by DABI 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 page 1 for details]. Learn more about getting involved in BAW 2009 at www.sfn.org/baw.



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 nonprofit 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. ■

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

Q&A with FENS President Helmut Kettenmann



Helmut Kettenmann,
FENS President

Helmut Kettenmann assumed the position of President of the Federation of European Neuroscience Societies (FENS) in July 2008. Kettenmann is a research group leader at the Max Delbrueck Center for Molecular Medicine and Professor for Cellular Neurobiology at the Humboldt University Berlin (Charité). His area of

research is the field of neuron-glia interaction.

NQ: As new president of FENS, what do you see as the greatest opportunities for the federation in the coming year?

Our general FENS meeting is a biannual event held in the even years. In the odd years, the national societies organize their local meetings. We recently started a new initiative called the FENS Featured Regional Meeting. If successful, FENS will promote one of the national European meetings or a regional meeting organized by more than one of the smaller European Societies to make it particularly attractive. The FENS Featured Regional Meeting program was announced early this year, and we have already noticed quite a strong competition among the societies.

The Polish Neuroscience Society, who presented a very strong application, will organize the first FENS Featured Regional Meeting in Warsaw in September 2009. FENS will provide 50 stipends for young non-Polish scientists to attend this meeting. Some national societies, such as the German and British, have announced that they will also contribute additional stipends. This will be a great chance to interact with Polish scientists who have offered to open the doors of their labs and provide an insight in the ongoing science of this country.

I encourage all PhD students and young post-docs to apply for a stipend. FENS will also provide funds for inviting international speakers and a number of other activities to make the first FENS Featured Regional Meeting a very special event. The meeting is open to everybody who would like to attend, and the Polish Neuroscience Society welcomes visitors from all other countries.

NQ: What strategic goals has the federation identified for the next several years?

The biannual FENS Forum has developed into a major event for European neuroscience. Besides its attractive scientific content, the FENS Forum is also held in very

attractive places, which give the meeting an additional flavor. Berlin, Brighton, Paris, Lisbon, Vienna, and Geneva were exciting meeting sites, both from a cultural and historical perspective. Future meetings will be in Amsterdam (2010) and Barcelona (2012). We expect that both sites will attract a large international audience.

So far, the organization of this meeting has relied on individual, highly committed amateurs, like myself when I helped organize the FENS Forum in Berlin. The goal for the future is to professionalize the organization. When I attended the Society for Neuroscience (SfN) meeting, it was evident that it was organized by professionals. We, in Europe, have to develop strategies to get to that level. Moreover, the SfN annual meeting is a significant source of income for the society. For FENS, having an additional source of income would be a stabilizing factor for the future for the organization. Currently, FENS relies almost entirely on the income from its scientific journal, *European Journal of Neuroscience* (EJN). On that note, we have two new editors-in-chief for EJN. It is an important strategic goal of FENS to increase the impact of this publication.

NQ: What are some of the biggest challenges confronting the European neuroscience research community?

Concerning funding, neuroscience research in Europe is supported on the national level but also on a continental level. The European Parliament decides on science funding topics, and we have to make it clear to the European community that basic and clinical neuroscience has a major impact on society. To achieve this goal, we are part of the European Brain Council, an organization which interacts with opinion makers and European representatives. The European Brain Council (www.europeanbraincouncil.org) has prepared a document, which emphasizes that health care costs for brain related diseases are a major economic factor amounting to € 386 billion in Europe.

FENS must also convince decision-makers that it is not enough to support research directly related to a given disease, but that major breakthrough often comes from projects which focus on basic mechanisms of brain function. We must, therefore, make sure that sufficient funds are provided for basic neuroscience research.

NQ: The European and U.S. scientific environments have similarities and differences. What are specific programs for young scientists in Europe?

The scientific research systems are quite different from one European country to another. Moving is much more

difficult than moving from one state to the next in the U.S. It simply starts with the language barrier one faces when teaching in a different European country. Nonetheless, in the last few years there has been a rapid establishment of Masters and PhD programs focusing on neuroscience. Many of these new programs are internationally oriented and taught in English. This development was promoted by the Bologna Declaration almost 10 years ago, when several European countries agreed on common standards in European university education.

FENS has taken a lead in promoting more interaction between neuroscience schools within Europe and we have created the Network of European Neuroscience Schools (NENS) as a platform for discussion and exchange. NENS organizes regular meetings for the directors of these school programs and provides stipends for exchange between the programs. Learn more at <http://fens.mdc-berlin.de/nens/map.php>.

Besides NENS, we have another important initiative to improve the education of junior neuroscientists. Together with IBRO, we have launched the Program of European Neuroscience Schools (PENS) training program. Here young people meet with some of the best scholars from Europe and other countries to discuss hot topics in neuroscience. In 2009 we will have eight schools, located throughout Austria, Croatia, France, Greece, Germany, and Italy. These schools attract regular and postdoctoral students from Europe and other countries, including the U.S. We are very much interested in this exchange and to this end have started discussions with SfN to promote transatlantic interactions.

In addition, we have an attractive job market for neuroscience in Europe. We have a Web site where we post job openings.

We invite anyone interested to take a look at the listings that are currently available at <http://fens.mdc-berlin.de/jobs>.

NQ: The European scientific community has confronted aggressive anti-animal research efforts for years, and the U.S. is certainly seeing a trend in this direction as well. What can the U.S. learn from the European experience and how do you think the global community should address this issue?

The problems here in Europe are not over. The most efficient way we have found is to reach out to the public and explain why we do such types of experimenting. Our best advocates are patients and their relatives who suffer from diseases of the brain. This public outreach has been done much more efficiently in the U.S. than in Europe. This may explain why we have had more confrontations in Europe. The funds from the European Dana Alliance for the Brain have been very helpful to launch activities for public outreach in Europe.

NQ: FENS and SfN have discussed new ways to further common goals, especially in the area of professional development. What directions do you think would be most fruitful, and what will be the biggest challenge?

It is evident that researchers in Europe, the U.S., and other parts of the world focus on the same problems. Thus, when we gather arguments to promote neuroscience research, there is no difference between the U.S. and Europe. We feel that it is very important to develop strategies for promoting research together, not independently, and I look forward to developing common strategies with SfN. ■

Coming Soon: Data System To Form Foundation for Expanding Member Service

Update your profile when prompted — you'll be entered to win a free meeting registration!

SfN will launch a new data management system in March that will form the foundation for future member service enhancements and more efficient information processing. What can you expect? Much of your interaction with SfN will not change. Initially, you will see only a new and improved online profile screen. You will also be asked to complete and update your profile to ensure data is accurate and SfN will be asking new demographic questions to help understand membership composition and trends over time. We've made it easy – and potentially rewarding! Members who update their profile by **April 5, 5 p.m. EDT** will be entered in a drawing to win a free registration for Neuroscience 2009.

When fully implemented, the new tool, called an association management system (AMS), will make it easier for members to renew and update their profiles, allow members to express interest in specific content areas and personalize communication preferences, eliminate the need to update profiles for multiple events (annual meeting registration, mailings, etc.), and more. Moreover, as the field evolves and grows, the AMS can aggregate gross data and explore emerging trends across the membership over time, informing future planning. As always, SfN approaches data with strict adherence to a strong privacy policy that ensures member data is confidential, secure, and prohibited from distribution upon request. ■

Nationwide ANDP Survey Defines Common Trends in Training Programs

SfN partners with many organizations working to serve the broader neuroscience community, and the Association of Neuroscience Departments and Programs is a leading partner educating neuroscience's next generation. In this NQ issue, ANDP shares key findings from a recent survey. The results may fuel discussion among members and we encourage readers to be in touch with ANDP with further queries or interest in getting involved. Contact Edward M. Stricker, University Professor of Neuroscience, University of Pittsburgh (edstrick@pitt.edu).

Neuroscience departments and programs are plentiful, diverse in organization and goals, and still evolving. The Association of Neuroscience Departments and Programs (ANDP) has attempted to monitor that evolution by identifying common trends, challenges, and opportunities among the diverse departments and programs. The findings offer insight and useful data to inform colleagues, deans, students, and federal agencies that support predoctoral and postdoctoral training programs.

SURVEY BACKGROUND

The first ANDP survey of such training was conducted in 1986, and in recent years they have been conducted biennially. The latest survey focused on academic year 2007-2008, and a report based on its results was posted on the ANDP Web site a few months ago (www.andp.org). Responses were obtained from 114 of the 158 graduate training programs that were members of the ANDP, almost all of which were located in the United States. A broad cross-section of programs was represented. That is, responses were obtained from older programs and relatively new programs, from programs with many students and programs with relatively few students, and from programs located in medical schools and programs located in colleges of arts and sciences (or both, or neither). As with the previous surveys, the value of these responses is in the relative numbers they provide especially in comparison to the results of earlier surveys.

KEY FINDINGS

- Graduate training programs in the neural sciences used to be located predominantly in schools of medicine or in schools of arts and sciences. However, in recent years these graduate programs have been evolving towards larger, university-wide programs that link neuroscientists in multiple schools on campus.
- Most graduate training is conducted in interdisciplinary programs rather than in departments offering degrees in

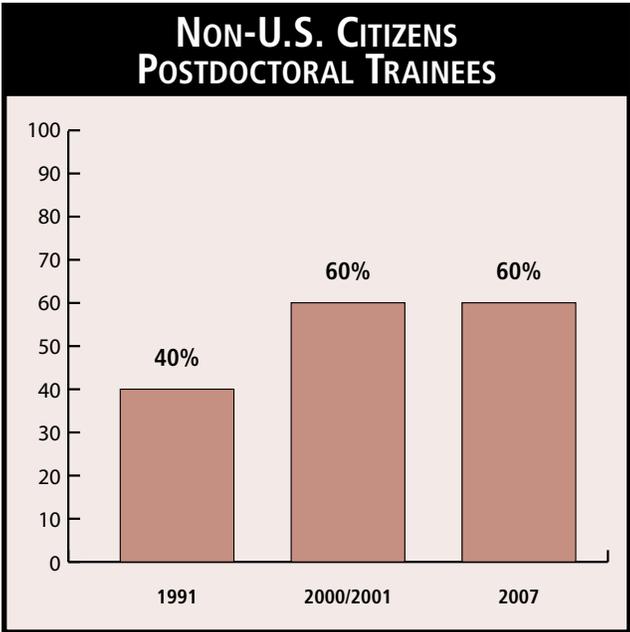
neuroscience. Graduate students trained in the neural sciences are much more likely to be awarded a PhD degree in neuroscience or neurobiology than in another discipline.

- There are 51 faculty members per program, on average, in the graduate programs surveyed. Forty-eight (94%) have tenure-stream positions. The annual turnover in these positions is small (2% leaving, 6% arriving). Approximately half of the tenure-stream faculty members are full professors while one-fourth each are assistant professors or associate professors.

WOMEN AND MINORITY REPRESENTATION IN NEUROSCIENCE GRADUATE TRAINING PROGRAMS		
	Women	U.S. Racial and Ethnic Minorities*
Predoctoral Trainees	52%	25%
Postdoctoral Trainees	44%	27%
Nontenure-stream faculty	44%	10%
Tenure-stream faculty	26%	11%

*Includes Asian-American trainees and faculty members

- The mean number of applications per program for graduate training in the neural sciences is 95 per year, while the number of new matriculants is nine students per program.
- The mean number of graduate students per program is 40. The mean number of PhD degrees in Neuroscience awarded annually per program was 5.5, while the mean time to degree was 5.7 years. Only four percent of predoctoral trainees (1.7 per program) leave the program annually without obtaining a PhD degree. Most new graduates pursue further research training in postdoctoral positions (69%) while many others go to medical school (15%).
- Only twenty percent of the incoming graduate students had an undergraduate major in neuroscience or behavioral neuroscience.
- Ninety percent of postdoctoral trainees in the neural sciences have a PhD degree. Postdoctoral trainees usually



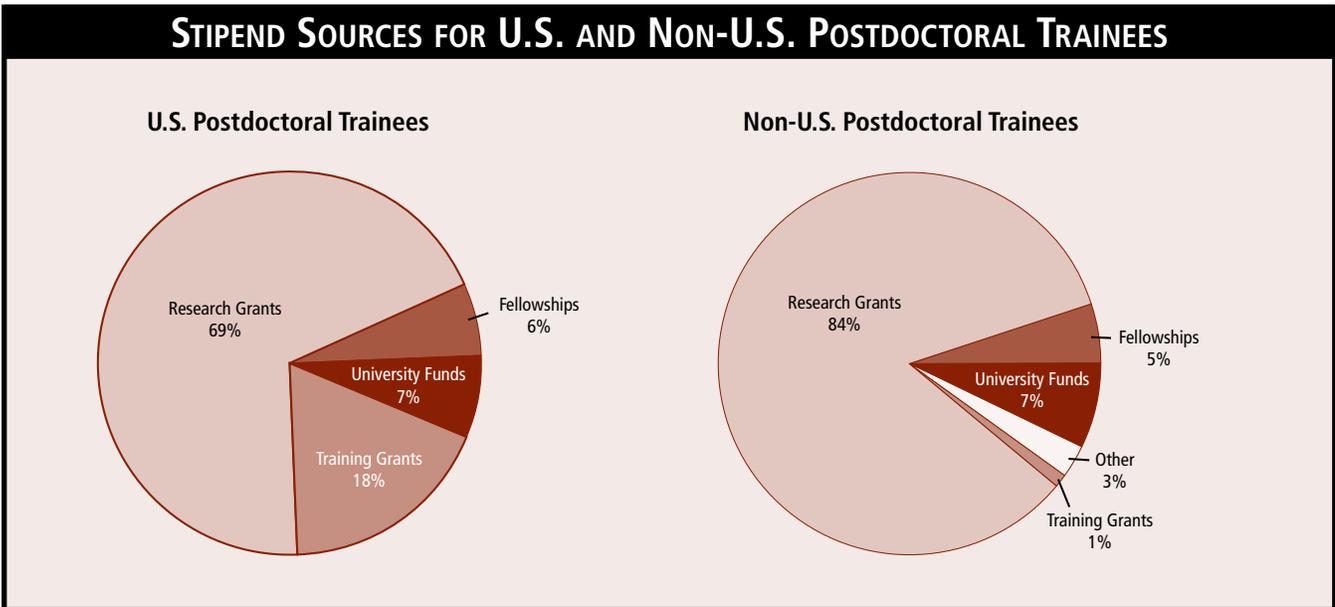
leave their position either to accept a faculty position or to pursue further training. Almost all graduates with a PhD degree in neuroscience are employed in scientific positions and very few are employed outside the field or are not employed at all.

- Predoctoral students who are women, U.S. racial and ethnic minorities, or non-U.S. citizens are equally likely to obtain their PhD degree, and in the same time frame, as one another and as the American Caucasian male majority.
- Women represent 50 percent of undergraduate neuroscience majors, 52 percent of predoctoral trainees,

44 percent of postdoctoral trainees, and 44 percent of nontenure-stream faculty members. In contrast, women represent only 26 percent of tenure-stream faculty members and 21 percent of full professors.

- Among U.S. citizens in U.S. institutions, members of U.S. racial and ethnic minorities represent 25 percent of predoctoral trainees and 27 percent of postdoctoral trainees but only 11 percent of tenure-stream faculty members and 10 percent of nontenure-stream faculty members. Most of these trainees and faculty members are Asian-American. When Asian-Americans are excluded and only under-represented U.S. racial and ethnic minorities are considered, the numbers shrink to 12, three, four, and six percent, respectively, of U.S. citizens.
- Predoctoral trainees who are not U.S. citizens represent 22 percent of predoctoral trainees, a number that has changed little during the past 16 years.
- The number of postdoctoral trainees who are not U.S. citizens increased progressively, from 40 percent in 1991 to 60 percent in the 2000/2001 survey, and it has remained at approximately that level subsequently. Nonetheless, they occupy less than 10 percent of all tenure-stream graduate faculty positions in the neural sciences at U.S. research universities.
- Almost all predoctoral students receive stipend support, primarily from university funds (first-year students) and from research grants (more advanced students). Research grants are the major source of support for postdoctoral trainees.

Learn more: www.andp.org ■



Core Concepts range from the molecular and cellular to the clinical, address genetic and environmental factors, identify key basic cognitive ideas, and explain how research — basic, translational, and clinical — advances science and improves health. The brochure format was designed to unfold as a colorful poster suitable for a classroom.

The brochure is targeted toward K-12 educators and has been “mapped” to correlate with U.S. teaching standards. However, it has many uses for community outreach and teaching at all levels, and the content will also form a foundation for organizing much of the Society’s public information and education content in the years to come. Also, it can be updated to reflect advances in the field.

“As a bench scientist working with teachers, I always heard teachers say their teaching is bound by a set curriculum or set of national standards,” said PECC member Patricia Camp, who helped lead development of *Core Concepts*.

WANT TO GET INVOLVED IN EDUCATION? OPPORTUNITIES AND RESOURCES

Brain Awareness Week — March 16 – 22, 2009

Getting involved is as easy as finding an existing Brain Awareness Week activity in your city or region, including those organized by SfN chapters. The campaign is worldwide and is now over a decade old. It has grown to represent small and large activities, as different as the people who volunteer to come together and create them. Start by viewing SfN’s site or the Dana Alliance for Brain Initiatives Web site and find a program near you. Reach out and get involved this year. Visit www.sfn.org/baw and www.brainweek.dana.org.

Science Olympiad

SfN is a sponsor and partner in this program encouraging students to excel in the sciences, and helps include neuroscience content in two of the 46 events that make up the competitive program. Schools throughout the U.S. participate; SfN members serve as coaches and content experts. Learn more at www.sfn.org/so.

New, Easier to Access Brain Facts

Save trees and time by downloading key topics for your education event from SfN’s new edition of *Brain Facts*. Fully updated by leaders in the field, it is now available in a downloadable format by section, reducing wait times for mailings and improving SfN’s environmental stewardship by reducing hard copy publication. Hard copies or a new CD version are still available to members and educators by visiting www.sfn.org/brain_facts.



SfN’s new education portal, NERVE, provides ready access to resources useful in teaching neuroscience to K-12 students.

“*Neuroscience Core Concepts* actually show teachers how they can teach basic science principles by using neuroscience content.”

To view and download, visit www.sfn.org/coreconcepts. The brochure is also available for use in education and outreach activities. Go to the Web site to request copies.

A ONE-STOP-SHOP FOR OUTREACH RESOURCES

The newly-launched NERVE Web site offers hundreds of education resources that can make a K-12 classroom visit or community presentation a success. NERVE will save you time, help locate resources appropriate for a specific grade level, and provide numerous tools for doing public education. Many members have already accessed from the over 300 available resources a variety of hands-on activities, movie clips or clever games to engage their audiences when speaking about their science.

Since the site launched this fall it has attracted visitors from around the globe. Of the visitors completing an online survey about the site, 76 percent report they are teachers, and 66 percent are Society members. The portal is dynamic and is supported by a team of educators and scientists on the lookout for the latest education resources about the brain, nervous system and related health issues. Many of the resources featured have been developed by SfN members. Contribute to the expansion of the site by suggesting new resources for potential inclusion (submissions are accepted by e-mail to nerve@sfn.org). And in the coming year, look for new functionalities that will be added to enhance usability of the site. ■

... Council Roundup, continued from page 3

Committee on potential ways to integrate new Web communications tools to improve PD programs. Use of technology was a consistent theme at the meeting and one Council and staff will continue to evaluate actively. Council discussed the successful expansion of the annual meeting program, in which Short Courses increased from two to three, noting it was well received. Council also encouraged PD staff to evaluate the potential of expanding Saturday morning Meet-the-Expert programming at Neuroscience and enhancing NeuroJobs.

ENHANCING THE ANNUAL MEETING PROGRAM

The Council reported that Neuroscience 2008 overall was very successful, noting areas for potential enhancement. They discussed the success of the "Q&A" section at the end of lectures, but noted the need to improve communication and timing to ensure speakers and questioners know what to expect. Program Committee also reported that they would develop a Council proposal to potentially invite graduate students to blog the meeting in their areas. The committee also discussed issues raised by continued meeting growth, and explored ways to adjust the format of slide sessions, maintaining their function but potentially changing their form and timing. The committee was encouraged to monitor other potential conflicts and report back with options.

THE JOURNAL OF NEUROSCIENCE AND RESPONSIBLE CONDUCT WORKING GROUP

The Council met with the editor in chief as well as the Publications Committee chair and reviewed a number of initiatives. It approved pricing plans for the next year, with minor modifications. It also approved an extension of the Neuroscience Peer Review Consortium, which operated on a one-year experiment throughout 2008; it will be extended for two more years with continuing evaluation. The Council also asked *The Journal* to explore ways to encourage authors to make available, on a voluntary basis, more multi-media content and possibly lay language summaries to facilitate media coverage.

Finally, the Council heard from the recently organized Responsible Conduct Working Group (RCWG). It was established at the Summer 2008 meeting and charged with updating the Society's guidelines on responsible conduct in scientific communications, which were last updated 10 years ago (the current version is available at www.sfn.org). Chaired by David Van Essen, SfN past president and past editor in chief of *The Journal*, the RCWG will ensure the guidelines reflect new technologies and publishing policies driven by them, as well as the increasing number of international submissions, ensuring uniform expectations of authors. The next RCWG meeting was scheduled for January 2009.

A STRONG FINANCIAL REPORT IN UNCERTAIN TIMES

Given troubling national and global economies, the Society, like other entities, has seen a considerable drop in its financial reserves. However, the Finance Committee reported that the organization remains fiscally stable due to careful planning and budgeting, prudent investment strategies, and the field's dynamism. More information on Society financials is available at www.sfn.org in the annual report. ■

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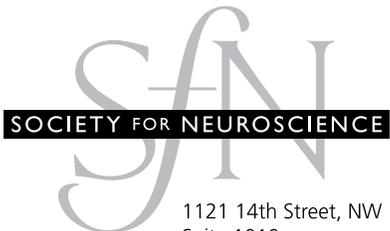
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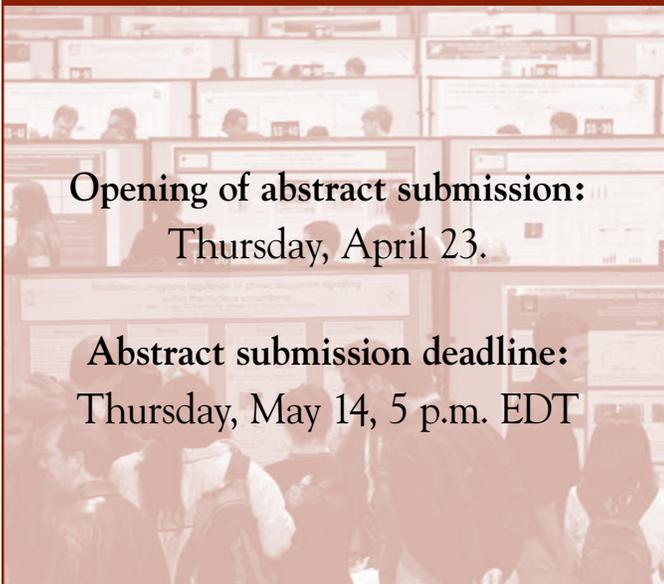
Neuroscience Quarterly is printed on New Leaf Reincarnation Matte made from 50% recycled fiber and 30% post-consumer waste, printed with soy inks, and processed chlorine free. By using this environmental paper, SfN saved the following resources:

35	trees
7,531	gallons of water
1,648	pounds of solid waste
2,784	pounds of hazardous effluent



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**NEUROSCIENCE 2009
ABSTRACT SUBMISSION
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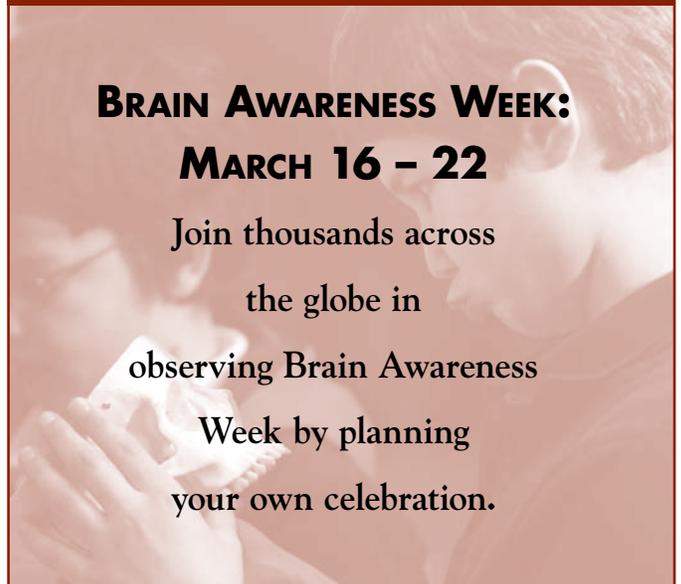


Opening of abstract submission:
Thursday, April 23.

Abstract submission deadline:
Thursday, May 14, 5 p.m. EDT

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**CELEBRATE NEUROSCIENCE,
WHEREVER YOU ARE**



**BRAIN AWARENESS WEEK:
MARCH 16 - 22**

Join thousands across
the globe in
observing Brain Awareness
Week by planning
your own celebration.

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