NEUROSCIENCE QUARTERLY

SUMMER 2008

"I continue to believe that the insights and advances that will lead to new treatments for a myriad of human disorders will come in different ways: some from research targeted to solve a particular disease, and some via totally unexpected routes and serendipity."

– SfN President Eve Marder
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SOCIETY FOR NEUROSCIENCE

SfN Announces Election 2008 Results

The Society congratulates newly elected SfN officers and councilors. Chosen by members in good standing over the past month, the incoming officers and councilors will begin their terms at Neuroscience 2008 in Washington, DC. The membership elected Michael Goldberg, Columbia University, as the incoming president-elect; Marie-Francoise Chesselet, University of California, Los Angeles, as the incoming treasurer-elect; and Freda Miller, University of Toronto, as the secretary-elect. Roberta Diaz Brinton, University of Southern California; Howard Eichenbaum, Boston University; Frances Jensen, Childrens' Hospital; and Anthony Phillips, University of British Columbia were elected as councilors.

Officers

Michael Goldberg is the David Mahoney Professor of Brain and Behavior in the Departments of Neuroscience and Neurology at the Columbia University College of Physicians and Surgeons, and the Director of both the New York State Psychiatric Institute and the Mahoney Center for Brain and Behavior Research at Columbia University Medical Center. His involvement at the Society spans more than 20 years and includes serving as treasurer, chair of the Ad-hoc Committee on Electronic Initiatives and as a member of several SfN committees. His research primarily focuses on the psychophysics and physiology of cognitive processes in the monkey.

Marie-Francoise Chesselet is the Charles H. Markham Professor of Neurology and the Chair of the Department of Neurobiology at the David Geffen School of Medicine at the University of California, Los Angeles. She is currently serving as an SfN councilor

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Profiles in Advocacy: Members Make Their Voices Heard

Advocacy takes many shapes and forms. While SfN Government and Public Affairs staff regularly communicate the Society members' priorities to Congress, it is essential that neuroscientists themselves relay to their legislators the significance of their research and the importance of sustained federal funding.

The 2008 Capitol Hill Day, held April 22 in Washington, DC, provided an opportunity for members to meet in-person with federal lawmakers at a time when Congress was grappling with the annual federal budget, including funding for the National Institutes of Health (NIH) and National Science Foundation (NSF).

Twenty-four SfN members participated in the 2008 Capitol Hill Day. Attendees representing 13 states, the District of Columbia, Puerto Rico, and Mexico attended nearly 50 meetings with House and Senate offices to advocate for biomedical research. During the morning training session, participants heard from Rep. Brian Bilbray (R-CA); Shimere Williams, a professional staff member for the House Committee on Science and Technology; Ray Thorn, the health legislative assistant for Rep.

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Message from the President

Dancing Circuits — The 2008 Program

Eve Marder,
SfN President

At the age of seven, I was reading science books because I was reading my way through the small children's library in Ridgefield, New Jersey. At the same time I was taking classes from an ex-ballerina named Elsa who taught me to understand the importance of moving precisely in time and space. At eight, I saw the Nutcracker Ballet and I determined to be a dancer. Elsa arranged for me to take classes at the New York City Ballet's school in Manhattan. My first career defeat came when my mother was told that although I had the talent to be a dancer, my legs were too short, my torso too long, and I would never look like a ballerina, so there was no point in my continuing to train for the ballet.

So it is not an accident that I chose Mark Morris, dancer, choreographer, and conductor, to be the Dialogues between Neuroscience and Society lecturer at the 2008 Annual Meeting. When I first saw Morris's troupe in the early 1980s, I had already become a neuroscientist, I was working on circuits that generate rhythmic movements, and I was thinking about precise timing mechanisms and neuronal oscillators. As a young choreographer Morris disobeyed many of the conventions of the dance world: he mixed up gender roles, he used dancers who looked like people, not like ballerinas, and unlike most struggling modern dance companies, his troupe performed with live music. Morris is highly recognized as one of the premier choreographers of our time. And I recently learned that the Mark Morris Dance Group teaches dance classes to individuals with Parkinson's Disease and other movement disorders, something I find particularly telling, as it demonstrates the intertwined nature of creativity and social values that I believe we all wish to embody.

I have spent years watching dancers of all kinds, trying to understand (wearing the two hats of a dance fan and a neuroscientist) why and how the eye is drawn to one dancer in a group doing the "same" movements. And, when as a beginning assistant professor, I took African dance classes (drawn again by rhythms), I was distressed and fascinated by how much more difficult it was for me as an adult to learn dances—sequences of movements—than it had for me as a child. The neuroscientist in me of course thought about "critical periods" and "sensitive periods" for the skill of learning of arbitrary movement sequences. And what that meant about the expert nervous systems of professional dancers. How are their brain circuits altered by years of practice, not only of single dance movements, but by learning many new dances?

The Dialogues Lecture is only the beginning of the 2008 Annual Meeting. The scientific program spans studies from single molecules to complex human behavior. As always, there are studies of early development, aging, and disease. I chose the Presidential Lectures to highlight work on how circuits generate real behaviors. As someone who has spent her entire scientific career working on how circuits work, I celebrate the recent upswing in interest on circuits. This comes at a time in the history of our field when there are a host of new techniques that allow us, for the first time, to visualize, record, and manipulate neurons in functional circuits in animals hitherto difficult to study at the circuit level. This comes at a time when computational methods are providing new tools for analyzing complex data. This comes at a time when we understand that many of the diseases that plague humankind are a function of disordered circuit function, either because of genetic and developmental errors in circuit formation, failures in circuit homeostasis, or loss of circuit elements due to neurodegeneration, lesion, or stroke.

The last ten years saw extraordinary advances in our ability to analyze and assess the role of single molecules and genes in brain function, and the temptation to believe that answers to complex neurological and psychiatric disorders are just at our fingertips is very strong. However, realization that many diseases are truly circuit-level problems does not mean that they will be easy to solve. Indeed, those of us who have been working on circuit dynamics for many years know how nonlinear interactions among circuit elements can be quite difficult to understand. Thus, even with the new tools already developed and to be soon developed, we must remember that understanding how circuits in the brain work requires a good deal of fundamental and basic science, and a lot of hard work.

Much has been said about the detriment to industrial development done by the reliance on short-term profits. I believe that there are equal dangers to our science inherent in the push towards both "translational" and "transformational" research. Of course, every neuroscientist wishes that we will develop new treatments and cures for the major neurological and psychiatric disorders that cause so much pain to all of our families. Of course, I wish that cochlear implant technologies would have been in time to help my mother for the last 20 years of her life, when she suffered enormously from her deafness. Of course, I wish that there were better treatments for my aunt, now suffering from Alzheimer's disease.

Of course, I wish I didn't know so many young people dealing with depression or schizophrenia or learning disabilities.

At the same time, I continue to believe that the insights and advances that will lead to new treatments for a myriad of human disorders will come in different ways: some from research targeted to solve a particular disease, and some via totally unexpected routes and serendipity. I worry that if we fail to make the case to our neighbors and to Congress that some cures will come from circuitous paths with timelines of 20 or 30 years, then we fail ourselves as honest scientists. We know so much, and yet so little, about the robustness and frailty of the human brain, or for that matter about the fragility and resilience of life on this planet. Surely, we should be both ambitious and cautious as we set our goals. To the extent to which neurological or psychiatric disease is a consequence of disordered circuit formation and function, I hesitate to guess how quickly, or by what routes, we will move insights about circuits to therapy.

For me, 2008 is an extremely exciting time for our field (and for the Annual Meeting). I am so pleased to see that the kinds of circuit analyses thus far feasible only in small circuits, are becoming possible with larger ensembles of neurons, including those in higher vertebrates such as humans. Nonetheless "becoming possible" presages a long and bumpy ride as we neuroscientists attempt to combine all of the tools from genetic, molecular, imaging, electrophysiological, and behavioral measures to understand how the brain works. I imagine that the President of SfN in 2018 or 2028 may write eloquently about new advances in understanding brain circuits as I believe we are entering a golden era in our understanding of brain circuits in behavior and disease.

In the meanwhile, I hope all of you will celebrate dancing circuits, rhythms, and behavior (along with all other aspects of neuroscience) with us at the Annual Meeting, starting off with Mark Morris and continuing to the rich and varied program that follows. (See page 12 for details) ■

National Institutes of Health News

The Journal Helps Facilitate New NIH Public Access Policy

As a service to authors, *The Journal of Neuroscience* has started depositing final versions of manuscripts accepted for publication on or after April 7, 2008 in PubMed Central. Manuscripts describe work that was funded by the NIH, MHMI, and Wellcome Trust. Authors funded by these agencies should make sure to accurately describe the source of funding in the acknowledgments section of their manuscripts.

NIH, HHMI, and the Wellcome Trust require that a final, electronic version of manuscripts describing research they supported be submitted to the National Library of Medicine's PubMed Central site. Information about the NIH policy can be found at http://publicaccess.nih.gov.

Although the NIH policy calls for manuscripts in PubMed Central to be freely accessible after 12 months, *The Journal* will allow manuscripts to be publicly accessible through PubMed Central six months after publication, which is when all articles for *The Journal* become freely accessible.

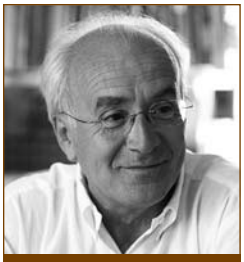
This service will be provided automatically, without a fee, and should fulfill the obligations that grantees of these agencies have to comply with the NIH Public Access Policy for articles published in *The Journal*.

NIH Releases Peer Review Revision Plan

On June 6, NIH Director Elias Zerhouni announced changes to the NIH peer review system. The changes reflect thousands of comments received from stakeholder communities since the examination was launched in June 2007. The special working group that facilitated the year-long study was tasked with ensuring that any changes bring significant value, outweigh costs, and maximize the freedom of scientists to explore, while upholding the peer review system's ongoing charge "to fund the best science, by the best scientists, with the least administrative burden."

A comprehensive implementation plan has been created and will be carried out over the next 18 months. To fulfill an important component of the plan, the agency will commit $1 billion over the next five years to "investigator-initiated high-risk, high-impact research to prevent a slow-down of transformative research, despite difficult budgetary times." Other implementation priorities include engaging the best reviewers, improving the quality and transparency of reviews, ensuring fair reviews across scientific fields and career stages, and developing a permanent process for continuous review of peer review. For more information, visit http://enhancing-peer-review.nih.gov. ■

IBRO President Carlos Belmonte Discusses the Global Neuroscience Community



Carlos Belmonte, IBRO President

Professor Carlos Belmonte, Director of the Instituto de Neurociencias de Alicante, Spain, served as Secretary-General of the International Brain Research Organization (IBRO) from 1998 to 2001 before becoming President in January 2008. Belmonte initiated many changes within IBRO during what was a critical period of development in the organization's framework and programs, designating six regions based on geographical, social, and economic criteria. Those regions are: Africa, Asia-Pacific, Central and Eastern Europe, Latin America, U.S./Canada, and Western Europe.

_NQ:_ What are your vision and goals for IBRO for the coming years? What do you hope to accomplish during your years as president of IBRO?

IBRO has evolved over the last decade to become the meeting point of neuroscientists from around the world. It is currently composed of 83 organizations from 59 countries, totaling over 56,000 members. As a result, almost all neuroscientists are members of IBRO, which is thus in an advantageous position to be able to help coordinate the efforts of its member organizations, and particularly the development of international programs directed at the promotion of neurosciences in less favored countries. Since its inception nearly 50 years ago, IBRO has developed a unique relationship with neuroscientists in such countries, where IBRO is perceived as the natural link with scientists working in high-income regions of the world. This places IBRO in a privileged position to direct resources dedicated to the promotion of neurosciences in less developed areas in an efficient and culturally friendly way. In my view, we should try to engage large and powerful member organizations, such as SfN or Federation of European Neuroscience Societies (FENS), to collaborate with IBRO in an ambitious joint effort to expand and improve in disadvantaged areas of the world its present programs for the training of young scientists, travel fellowships, and the organization of local and regional scientific meetings.

_NQ:_ IBRO is nearing completion of the first 10 years of the "New IBRO" mission outlined in 1998 and a new strategic plan is under development. What are the major thrusts or new directions of this plan?

IBRO's mission was reoriented in 1998 in order to offer greater participation in the decision-making related to programs and funding to those colleagues with direct, realistic insight into regional needs in neurosciences. We created the Regional Committees in the various regions of the world and provided them with funds to support their activities. In the case of high-income regions, funds are mainly focused on activities toward less favored countries. Emphasis was focused on the creation of Neuroscience Schools throughout the world and on developing collaboration with other organizations and institutions, including course member organizations, for the creation of new programs. Now that the Regional Committees of the different regions of the world are well established, IBRO will attempt to stimulate interregional cooperation in joint programs as a bottom-up approach toward the development of coordinated, global initiatives.

_NQ:_ What are the greatest challenges to supporting the development of neuroscience and neuroscientists in countries with less advanced scientific research infrastructure, and how should the neuroscience community address them?

It is difficult to carry out experimental neuroscience research in countries with limited academic and scientific infrastructures and virtually impossible in those areas of the world hard-pressed with more urgent needs. Nevertheless, there is an ever-growing demand for assistance in neuroscience from our colleagues working in disadvantaged countries. IBRO is committed to providing training opportunities for students and investigators from these areas to exploit talents and to guarantee their native countries a better future in science in the long-term. Furthermore, important health problems that affect less favored countries involve the nervous system and need to be tackled from the basic neuroscience, and not only the specific medical, standpoint. IBRO is committed to this task, paying particular attention to regional scientific development. In this perspective, partnerships with other organizations are being forged, including initiatives with the United Nations Educational, Scientific, and Cultural Organization International Basic Science Program. Moreover, to reduce the isolation of neuroscientists carrying out research in difficult conditions, initiatives can be directly and individually adopted by established scientists of high-income countries. Measures include collaborative work, joint research in problems associated with local conditions, offers of regular visits to high-tech laboratories to update the training of local scientists, etc.

***NQ:* How can organizations such as IBRO and SfN help to prevent "brain drain" of the best and brightest neuroscientists from these countries?**

Brain drain can only be effectively prevented by offering adequate research facilities and opening up work perspectives in native countries; this in turn requires general economic and social development. In addition, when a sufficient number of young neuroscientists from a given country are trained abroad, they should be encouraged and helped to return to their home country, and assisted in their endeavor to create and/or promote local science. Those remaining in a foreign country can also contribute to the development of local research groups and to the training of young compatriots from their native countries. Fear of 'brain drain' should never restrict training foreign students in high-income regions.

***NQ:* What can you tell us about IBRO's new Women in World Neuroscience initiative.**

Activities similar to this initiative have already been implemented by other IBRO member organizations, including SfN. In the case of IBRO, the main challenge is the need to reconcile the main objective of the program, i.e. to provide authentic equal opportunities to women in science, with the wide variety in culture and traditions around the world. For this reason, IBRO's new program has been placed in the hands of women scientists from very different world regions, with the aim of assisting specific needs and problems which women scientists of different cultures have to face when attempting to initiate scientific careers in their native countries.

***NQ:* SfN's recent membership survey showed that an increasing portion of our members are international and members want SfN to become more engaged on the international scene. How can SfN and IBRO best leverage each other's strengths to achieve common goals?**

It is fortunate that a growing sense of international responsibility is developing among neuroscientists. SfN is an IBRO member and, of course, an important one. IBRO is only too pleased to see an increase in SfN's international engagement. In my view it would be desirable for international initiatives adopted by SfN to be coordinated with IBRO, which can contribute with its long experience and close connections in less favored areas of the world. In this way best use could be made of the increasing financial and human resources that SfN is dedicating to international cooperation. Being a world federation of neuroscience organizations, IBRO's mission is to cooperate with its members. In this respect, IBRO is committed to a close and intense cooperation with the international initiatives adopted by SfN. ■

Neuroscience Blueprint offers New Online Resource for Neuroimaging Informatics

The NIH Blueprint for Neuroscience Research recently announced that a new interactive resource for finding, rating, and improving neuroimaging tools is now available through the Neuroimaging Informatics Tools and Resources Clearinghouse (NITRC) at http://www.nitrc.org/. Seventy seven tools are currently posted and the NIH expects the number to increase weekly.

NITRC aims to make it easier to find and compare neuroimaging resources for functional magnetic resonance imaging (fMRI) and related structural analyses and hopes the clearinghouse will play "an important role in accelerating the advancement of the analytic capabilities available to neuroscience researchers the world over."

Users can compare, select, and rate tools, and secure license information, tutorials, and documentation. Public forums allow user to discuss tools and resources. NITRC users also have a role in improving the tools: they can comment and review resources to guide development and enhance their use.

The NIH Blueprint for Neuroscience Research was established as a cooperative effort among the NIH Office of the Director and 15 NIH Institutes and Centers that support neuroscience research. When the Blueprint was launched, NIH Director Elias A. Zerhouni said its goal was "to provide scientists with new tools, resources, and training opportunities through collaborations and pooled resources," and noted that NITRC would "provide a coordinated, coherent resource for the neuroimaging research community."

A total of $2 million was awarded to 21 investigators as part of the NITRC supplemental initiative. Supplements are still being awarded for 2008. Program announcements supporting this funding can be found at the NITRC Web site and are in effect for a total of five years. ■

Advocacy in Action, continued from page 1

Chris Van Hollen (D-MD), whose district covers the National Institutes of Health; and Lyle Dennis, SfN's legislative advisor.

But the Capitol Hill Day participants' advocacy efforts did not end with the event. Equipped with messages and techniques to share with colleagues in their home institutions and chapters, four SfN members who participated in the 2008 Capitol Hill Day describe their experiences, why it is important that neuroscientists engage in advocacy, and how they plan to maintain relationships with their lawmakers and motivate their colleagues to get involved.

Revitalizing Chapter Activities

John Jellies, professor of biological sciences at Western Michigan University in Kalamazoo and president of the SfN Michigan chapter participated in his first-ever Capitol Hill Day. His goal in participating was to convey that science is done by people in service to their disciplines and the nation.

During his day on Capitol Hill, Jellies met with Rep. Fred Upton (R-MI), a member of the House Energy and Commerce Committee, which oversees most health-related bills in the House. Jellies was encouraged by Upton's supportive views on NIH funding and interest in basic science and the NSF's impact on the U.S. economy.

As a chapter leader, Jellies is taking what he learned during the Capitol Hill Day back to his colleagues by integrating advocacy into his chapter's priorities and highlighting its importance during the Michigan Chapter annual meeting. Jellies will be inviting his legislators to Western Michigan University to visit labs and meet faculty and students so they can see, first-hand, how the institution benefits the local area.

John Jellies, Western Michigan University, met with Representative Fred Upton (R-MI), a member of the House Energy and Commerce Committee, which oversees health-related bills in the House of Representatives.

"There will always be competing priorities," noted Jellies. "But to convince officials that federally funded science, both basic and applied, remains our best national hope for economic, social, and physical health, we need to adopt a personal connection to our elected representatives."

Student Voices Are Essential

Mark Chevillet, a PhD candidate at Georgetown University, knows that student researchers face a long road in securing grants to support their own labs and how essential federal funding is to getting a scientific research career off the ground. Chevillet visited the offices of legislators from his homestate of Washington and expressed the unique concerns of students and postdoctoral fellows. He emphasized that those considering an academic career will graduate into a job market that promises increasing competition for fewer positions due to diminished federal funding for biomedical research.

Chevillet encourages researchers at all stages of their careers to engage in advocacy because "even though funding health research seems like an obvious priority, our representatives constantly have a wealth of other interests competing for their attention. As members of the science community, we are the best qualified to remind them why they should not only support health research, but emphasize it as a top funding priority."

Seeking Support for the Pipeline

Alison Hall has a particular interest in bolstering the pipeline of young researchers as the Association of Neuroscience Departments and Programs representative on the SfN Government and Public Affairs Committee and director of graduate education at Case Western Reserve University School of Medicine in Cleveland, Ohio. She realizes that key to this effort is getting to Washington and communicating excitement about her neuroscience research progress and its therapeutic promise.

Hall came to the SfN Capitol Hill Day to get to know her representatives on a personal level. She believes that they are proud of the great work being done in Cleveland to address neurological diseases, like stroke and pain, and hopes "they might see the links between their support for research and meeting the health challenges in the community." She also notes, "I was particularly interested in sharing why our trainees are so valuable to this enterprise."

John Morrison, Chair of the SfN Government and Public Affairs Committee, welcomed attendees who gathered in the Cannon House Office Building.

Making Strong Connections

Ramesh Raghupathi, Associate Professor of Neurobiology and Anatomy at the Drexel University College of Medicine, took immediate action following his visits during the Capitol Hill Day. After making a personal connection with staff in Rep. Jim Gerlach's (R-PA) office, he invited the director of the district office in Exton, Pa. to visit his lab at Drexel. Less than a week later, he gave a tour to the staffer, showing him around the university's traumatic brain injury and spinal cord injury labs and introducing him to the department head. He plans to build upon this success by inviting more staff to visit and offering himself as an expert resource on neuroscience research.

Raghupathi recognizes that research funding should not be a partisan issue and he must engage representatives from both parties in Washington and Pennsylvania. In addition to making contact via phone and e-mail, face-to-face interactions are vital, as they are more likely to be remembered by members of Congress and staffers. This was a new lesson for Raghupathi. "I [like most of my colleagues across the country] tend to be holed up in my office writing papers and grants and have a very blasé view of the political process," noted Raghupathi. "I underestimated the strength of the 'lobbying' process. If done consistently and well, I think that researchers can make a difference in getting budgetary changes for research."

Advocacy — A Year-Round Effort

SfN members' experiences and stories are invaluable as the research community seeks to bolster federal funding, particularly in such an uncertain fiscal and political climate. The SfN Capitol Hill Day serves as a venue for members to participate in the legislative process first-hand. By participating, members develop relationships with congressional offices and are better able to stay engaged in legislative decisions that could impact them in positive or detrimental ways.

The highlighted activities can be replicated in every state and district, and SfN staff can help you with the organization and administration of your efforts. To keep abreast of neuroscience-related issues being considered by Congress, join the new SfN Advocacy Network (see below), make plans to participate in next year's Capitol Hill Day, or send letters to your legislators via the Legislative Action Center, www.sfn.org/legalert. ■

Speak Out on Neuroscience: Join the SfN Advocacy Network

The U.S. Congress confronts many issues that affect your research and the entire scientific community. To help you stay informed and take action, SfN is launching the **SfN Advocacy Network**.

As an SfN Advocacy Network member, you will receive special periodic updates on **issues important to neuroscience**. In turn, SfN will call upon you when ***your*** legislator's vote is crucial.

Reach out to Congress to promote science and research issues! **You have the power to impact science policy**. Submit any questions or comments to advocacy@sfn.org.

Join Today: www.sfn.org/advocacynetwork

The National Science Foundation — Building the Scientific Foundation

About one in six SfN members is a National Science Foundation (NSF) grantee, and support for the agency is crucial to the vitality of the neuroscience discipline. SfN leadership and staff are creating new ways to interact with the agency, while enabling policy-makers to become NSF champions. SfN President Eve Marder participated in an April meeting of the Biological Sciences Directorate (BIO) Advisory Committee and emphasized the need for the physical and life science communities to advocate together, rather than squaring the disciplines off in a funding competition. She also noted that the case for basic science simply has not been made as effectively as it has for translational research. SfN looks forward to continuing its involvement with this scientifically diverse group.

Where Discoveries Begin

NSF funds nearly one-quarter of university-based basic research in the United States. With robotics, quantum computing, and other nontraditional neuroscience fields expanding dramatically, the interdisciplinary scientific opportunities made available by NSF are tremendous. The agency also plays a significant role in science education supporting programs, funded through the Education and Human Resources Directorate.

Strengthening Basic Neuroscience

During the April BIO advisory committee meeting, James Collins, NSF Assistant Director for Biological Sciences, presented opportunities and challenges the directorate is facing, including "research at the intersection of the life and physical sciences." Neuroscience plays a critical role at this intersection, with the new Advanced Systems Technology (AST) program leading the way. AST combines animal, mathematical, physical, and computational models to answer questions in fields such as neuromechanical systems biology.

An Advocacy Success Story

SfN's advocacy efforts for NSF have been building over the past several years. The Society has been a member of the Coalition for National Science Funding (CNSF), an alliance of over 80 organizations dedicated to increasing the national investment in the NSF research and education programs, for nearly a decade. The many disciplines funded through NSF have committed through this coalition to advocate for the Foundation as a whole, rather than focusing efforts on specific directorates or programs.

Advocacy activities include letters to members of Congress, conversations with Congressional and executive branch staff, and other coalition-sponsored Capitol Hill activities. In 2007, Committee on Animals in Research member Randy Nelson participated in the third annual CNSF Congressional Visits Day, and SfN plans to be involved with this event in 2008 as well. SfN submitted written testimony to the Senate Appropriations Committee commenting on the proposed FY2009 NSF budget.

This outreach, coupled with the 2005 National Academies report, "Rising Above the Gathering Storm," and support from leaders including former House Speaker Newt Gingrich, raised the scientific competitiveness issue to the presidential level. The 2006 State of the Union address prominently featured competitiveness, and included President Bush calling basic research "critical." He then outlined a plan to double the research budgets of many science agencies, including NSF.

Since this address, the president's annual budget requests have included substantial increases for NSF. Legislation supporting the president's initiative was quick to follow, and was passed in fall 2007 as the America Creating Opportunities To Meaningfully Promote Excellence In Technology, Education, and Science (COMPETES) Act. NSF is authorized to receive $7.33 billion for FY2009 in the COMPETES bill, and nearly 150 members of Congress signed a letter earlier this year urging appropriators to provide this 20 percent increase.

Given the uncertain fiscal and political picture, this sizeable increase is unlikely to be signed into law, but there is burgeoning acknowledgement in Congress and the public that science is vital to American economic development.

Make the Potential a Reality

SfN staff will continue to provide opportunities to advocate for NSF. The 2008 CNSF Congressional Visits Day will be scheduled for a date to be announced in September, and SfN staff will engage members to participate. The scientific community can help establish the link between basic, applied, and clinical research in the minds of policy-makers, and lead them to a future where robust funding for both NIH and NSF is a reality. ■

Society Dues Changes Introduced for 2009

New lower-fee postdoctoral category launched, regular rates increase for first time in eight years

The first significant Society for Neuroscience dues changes in eight years will be implemented for the 2009 membership year. They include a new reduced-dues category for postdoctoral fellows, a $15 increase for regular members, and an increase of $5 for student members. Rates for scientists from the most resource-limited countries will not change.

With the increase, regular membership dues will be $160. Rates for regular members from Category II countries will increase from $73 to $80, and Category I regular members fees will remain unchanged at $20. For the new postdoctoral fellows category, regular dues will be $120; in category II countries, the amount will be $60, and in category I and Mexico, postdoctoral rates will be $15. Overall, the dues structure remains consistent with that of peer societies, although many others have more frequent increases.

Members in the new postdoctoral member reduced-dues category will maintain their status as regular members. The new category is available to those who have obtained their doctoral degree and are currently working in a postdoctoral trainee program. Members are eligible for the postdoctoral member category for a period of up to five years. They may request an extension beyond the five-year limit, but must provide documentation confirming eligibility to SfN's Membership & Chapters department.

Recognizing Funding Squeeze, Retaining Sound Fiscal Footing

These are the first dues changes since 2001. During a time of uncertainty at U.S. and international funding agencies, SfN Council noted the need to be mindful of the external funding pressures facing many neuroscientists, particularly younger ones, and of the continuing challenges for neuroscientists in resource-limited nations. Thus, the changes are more redistributive than additive; in fact, postdoctoral reductions will not be fully offset by increases in regular dues, and the changes are expected to result in a modest net loss in organizational revenue.

Council financial discussions seek to ensure a sound fiscal footing for the Society — one that strives to consider both potential program growth and revenue. The Society is balancing two key objectives: 1) to maintain the value of existing high quality, accessible scientific, professional development, and advocacy programs, and 2) to develop new initiatives that reflect the desires of a growing and changing membership. SfN's 2007 membership survey identified broad interest in expanded professional development and member engagement efforts, among other activities, which are currently being evaluated by SfN Council and committees (see *Neuroscience Quarterly* Winter 2008).

SfN's programmatic initiatives—educational outreach, professional development programs, and advocacy efforts—rely on support from revenue generating activities like the annual meeting and *The Journal of Neuroscience*, as well as development efforts and membership dues.

Membership Dues at a Glance

Level	2001-2008	2009
Regular	$145	$160
Regular, *Category II**	$73	$80
Regular, *Mexico & Category I Countries**	$20	$20
Postdoctoral Fellow †	n/a	$120
Postdoctoral, *Category II* †	n/a	$60
Postdoctoral, *Mexico & Category I* †	n/a	$15
Student	$45	$50
Student, *Category II*	$23	$25
Student, *Mexico & Category I*	$10	$10
Student Undergraduate	$25	$25
Student Undergraduate, *Mexico*	$10	$10

*see www.sfn.org/membership for definitions and countries, which are based on World Bank categories

†Note: Members in the Postdoctoral fellow category remain regular members and retain the full rights and responsibilities of regular members.

New Benefit of Early Membership Renewal: Annual Meeting Registration and Housing

Beginning with 2009 SfN dues, members who renew by Dec. 31, 2008 will have the opportunity to register and secure housing for Neuroscience 2009 in Chicago one day before registration and housing opens for all members. As a member benefit, registration and housing for members in good standing already opens one week prior to the time that nonmembers can access these services. That will continue to be the case. With the new policy, those who join or renew by the end of the year will receive an additional bonus day to register and secure rooms in nearby hotels. ■

SfN Takes Neuroscience Education to Teachers and Students

Public Education and Communication Committee Chair Nick Spitzer shares SfN's *Neuroscience Resources for the K-12 Classroom* CD-ROM with a teacher at SfN's exhibit booth during the NSTA annual conference.

Maintaining its commitment to public education, the Society participated in the National Science Teacher Association's (NSTA) 56th Annual National Conference on Science Education and the 2008 Science Olympiad National Tournament this spring.

Presence at NSTA Conference Forges Communication with Teachers

A team of neuroscientists, staff, and school teachers represented SfN at the NSTA Conference in Boston, Mass., March 27 – 30. The conference drew over 15,000 educators to the Boston Convention and Exhibition Center, and offered enriching workshops and lectures spanning the full spectrum of science disciplines. The annual event provides the Society with its largest venue to "bring neuroscientists to teachers" and demonstrate its commitment to K-12 educators, the cornerstone of SfN's public education strategy.

SfN's Public Education and Communication Committee (PECC) Chair Nick Spitzer, and PECC member Patricia Camp interacted with teachers at the SfN exhibit booth and distributed such SfN resources as *Brain Facts*, the new *Neuroscience Resources for the K-12 Classroom* CD-ROM, and information about the worldwide Brain Awareness Campaign.

"It was stimulating and invigorating to meet so many teachers so enthusiastic about bringing neuroscience to their students. The teachers were very grateful for the resources that SfN provides and I could visualize the next generation of young neuroscientists getting off to an early start," said Spitzer.

Four SfN-sponsored workshops were presented to conference attendees by sets of neuroscientists and teachers who work together in existing neuroscience education partnerships in their respective communities. Each workshop offered inventive hands-on activities, all with elements and concepts that could easily be translated and applied to a classroom setting. Content ranged from learning patterns within the brain, to recognizing the important differences between reflexes and responses, to the effects of spinal cord injury, to pharmacology and tracking drug use in the nervous system. SfN President Eve Marder participated in the event by visiting the exhibit booth and attending a workshop.

Former member of SfN's Committee on Neuroscience Literacy Kimberly Tanner, Assistant Professor of Biology at San Francisco State University, led one of four neuroscience workshops presented by SfN at the NSTA conference. Tanner's session on "Learning and the Brain" was attended by over 80 teachers.

For six years running, SfN has maintained a strong presence at the NSTA conference, and it plans to return to NSTA's 2009 annual conference in New Orleans with exciting new educational resources and a fresh slate of workshops. SfN members and chapters will be canvassed for workshop proposals, giving members the opportunity to present education activities at this national venue.

Ongoing Participation in National Science Olympiad Promotes Neuroscience Curriculum

SfN also continued its ongoing partnership with the Science Olympiad organization by sponsoring two main events at the 2008 Science Olympiad National Tournament, May 30 – 31. The tournament took place near SfN headquarters in Washington, DC at George Washington University. Approximately 5,000 people were in attendance as teams of middle and high school students competed in 46 different academic events, two of which included a neuroscience component that SfN helped to craft.

The highest scoring team from the SfN-sponsored high school event was presented with a trophy and special award to attend Neuroscience 2008. The team was from Troy, Calif.

The next national tournament will be held in May 2009 at Augusta State University in Georgia. SfN members are encouraged to get involved by helping their local teams prepare for the competition. For more information, please visit www.sfn.org/so.

Student competitors of the 2008 Science Olympiad National Tournament celebrate their victory at the awards ceremony.

Look for details about these and other public education initiatives in future Society publications, including www.sfn.org. ■

Exciting Scientific Program Awaits Neuroscience 2008 Attendees

Neuroscience 2008 in Washington, DC, November 15 – 19, 2008 promises to be a sampling of the vitality and dynamism of the field. Offering innovative topics and perspectives, the annual meeting scientific program is enriched by the impressive lineup of 10 Featured Lectures and 13 Special Lectures.

Featured Lectures

Among the Featured Lectures are the Presidential Special lecturers. This year's speakers are leading experts who are working to better understand the correlation between circuits and behavior. They are:

- Allison Doupe, University of California, San Francisco: Basal ganglia circuits involved in song learning in songbirds
- Leslie Griffith, Brandeis University: Circuits involved in sleep and sleep regulation
- Catherine Dulac, Harvard University: Genetics and circuits in olfactory development and behavior in mice
- Carol Barnes, University of Arizona: Circuits involved in learning behaviors in monkeys and rodents

Other Featured Lectures include the following:

- Fred Kavli Distinguished International Scientist, presented by Michael Bate of the University of Cambridge, focusing on the role of developmental genetics and the transition from growth and patterning to the onset function in a network and the emergence of behavior
- Peter and Patricia Gruber Lecture, presented by John O'Keefe of University College London, which will describe the experimental and theoretical bases behind hippocampal and entorhinal cellular activity triggered by beat-interference patterns between two theta-like oscillations of slightly different frequencies
- David Kopf Lecture on Neuroethics, presented by Patricia Churchland of the University of California, San Diego, will discuss a brain's ability to navigate social and moral worlds
- Albert and Ellen Grass Lecture, presented by Joshua R. Sanes of Harvard University, will highlight new methods for analyzing the formation of synapses and mapping the circuits they create
- History of Neuroscience Lecture, presented by Brenda A. Milner of McGill University, will compare methods used in the early 1950s to recent technological advances used to study brain behavior relationships in memory processes

Dialogues between Neuroscience and Society

A unique highlight of the Featured Lecture series will be the Dialogues between Neuroscience and Society on Saturday, November 15, noon. The Dialogues lecture, which features notable people from fields whose work relates to neuroscience, will focus on the relationship between internally and externally generated rhythms and movement in time and space. The lecture will be presented by American modern dancer, choreographer, and director Mark Morris.

In addition to the Dialogues lecture, Morris and David Leventhal of the Mark Morris Dance Group will hold a workshop prior to the lecture to describe the experience of teaching dance classes for individuals with Parkinson's disease and their caregivers. Registration for this workshop must be processed online at www.sfn.org/registration beginning August 1.

Neuroscience 2008 Presidential Special Lecturers
Top row, l. to r.: Allison Doupe, Leslie Griffith
Bottom row, l. to r.: Catherine Dulac, Carol Barnes

Special Lectures

In addition to the Featured Lectures, another noteworthy component of the annual meeting's scientific program is the Special Lectures series. Organized by theme, Special Lecture presenters share breakthrough findings from recent work.

Theme A: Development
Christine E. Holt of the University of Cambridge will

focus on an RNA-based mechanism of directional steering in *Xenopus* retinal axons. Stephen L. Zipursky of the University of California, Los Angeles/HHMI will focus on the molecular strategies underlying short-range interactions which have evolved to assemble neural circuits.

Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms
Daniel Johnston of the University of Texas at Austin will review findings on neuronal dendrites' role as active integrators of synaptic input. Julie A. Kauer of Brown University will focus on the identification of molecular mechanisms underlying synaptic plasticity of GABAergic synapses and at excitatory synapses impinging on GABAergic interneurons.

Theme C: Disorders of the Nervous System
Donna M. Ferriero of the University of California, San Francisco will discuss how injury in the CNS evolves in the immature brain and the effects of signaling and metabolic pathway maturation. David A. Prince of Stanford University Medical Center will review anatomical and electrophysiological data focused on epileptogenic mechanisms that follow cortical injury and describe promising experimental results to prevent post-traumatic epilepsy.

Theme D: Sensory and Motor Systems
Giacomo Rizzolatti of the University of Parma will discuss the mirror neuron system in monkeys and humans and the relation between mirror mechanisms and autism. Michael N. Shadlen of the University of Washington/HHMI will explore fundamental insights into the neural basis of reasoning and evaluate the advances in our understanding of how simple perceptual deliberation is implemented in the brain.

Theme E: Homeostatic and Neuroendocrine Systems
Gordon S. Mitchell of the University of Wisconsin will share insights that could revolutionize therapeutic strategies for diverse neurological disorders based on studies of cellular and synaptic mechanisms that underlie phrenic long-term facilitation. Amita Sehgal of the University of Pennsylvania Medical School/HHMI will share findings from an investigation, using the fruit fly as a model system, of the molecular basis of sleep/wake cycle influenced by both a circadian system and homeostatic regulation.

Theme F: Cognition and Behavior
Geoffrey Schoenbaum of the University of Maryland School of Medicine will present a new perspective on the role of orbitofrontal cortex in decision-making, judgment, and adaptive behavior. Jane R. Taylor of Yale University School of Medicine will review explore the neural mechanisms underlying the progression to compulsive drug use and review evidence linking drug-induced neuroadaptations in regions of the frontal cortex that coordinate limbic-striatal function.

Theme G: Novel Methods and Technology Developments
Nicholas D. Schiff of Weill Medical College of Cornell University will focus on mechanisms of recovery of consciousness after severe brain injury, including the results of a central thalamic brain stimulation study to improve chronically impaired consciousness in a single human subject. ■

Make Plans To Attend

Start planning your trip to Neuroscience 2008. Member registration opens Tuesday, July 15. To expedite the registration process and secure hotel accommodations, process your registration at www.sfn.org/registration before registration and housing opens to nonmembers on Tuesday, July 22.

Election 2008 Results, *continued from page 1*

and has previously been a chair and member of the Committee on Women in Neuroscience.

Freda Miller is a Professor of Physiology and Molecular Genetics at the University of Toronto, a Senior Scientist at the Hospital for Sick Children and the Canada Research Chair in Developmental Neurobiology. She is currently serving as a councilor at SfN.

Councilors

Roberta Diaz Brinton is a Professor of Pharmacology and Pharmaceutical Sciences and serves as the R. Pete Vanderveen Chair in Therapeutic Discovery and Development at the University of Southern California School of Pharmacy. She is also a Professor of Biomedical Engineering at USC's School of Engineering.

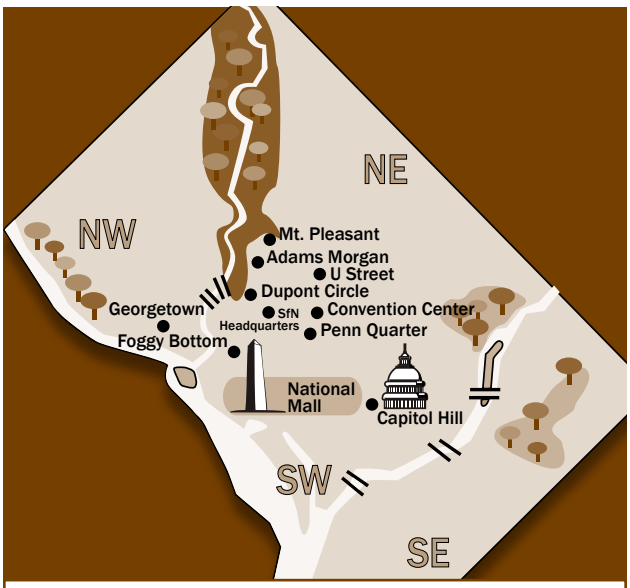
Howard Eichenbaum is a Professor in the Department of Psychology at Boston University where he also serves as the Director for both the Center for Memory and Brain and the Center for Neuroscience.

Frances Jensen is a Professor of Neurology at Harvard Medical School and Children's Hospital Boston. She also is the Director of Epilepsy Research at Children's Hospital.

Anthony Phillips is a co-Director of the University of British Columbia (UBC) Institute of Mental Health, Professor in the UBC Department of Psychiatry and a senior investigator with the UBC/Vancouver Coastal Health Brain Research Centre. ■

The Neighborhoods of Washington, DC

Washington, DC has over 120 named neighborhoods. During your stay, enjoy the historic buildings and homes, restaurants, and entertainment venues that can be found throughout the city. The Walter E. Washington Convention Center is located in the heart of the U.S. capital, conveniently serviced by the DC Circulator buses (www.dccirculator.com/) and the Metro (www.wmata.com).



The neighborhoods of Washington, DC offer a variety of recreation opportunities, including historical and educational attractions.

Penn Quarter

Located at 7th & H Streets NW, the Gallery Place-Chinatown Metro station is close to the Convention Center and boasts a new Gallery Place complex with business, shopping, dining, and a 14-screen stadium-style movie theater. You will also find the Newseum (www.newseum.org), Verizon Center, retail businesses, and Chinatown.

Capitol Hill

Tour historic landmarks, like the Supreme Court, U.S. Capitol building, and Library of Congress, or enjoy the shops and Beaux-Arts architecture of the restored Union Station Metro station, located on the East side of First Street, NW and north Massachusetts Avenue. Capitol Hill is also home to the Folger Shakespeare Library, where you will find the world's largest collection of Shakespeareana. The historic Eastern Market and Flea Market are open every Saturday and Sunday with arts, collectibles, crafts, produce, and imported goods for sale.

Dupont Circle

Dupont Circle is a cosmopolitan neighborhood with a variety of cuisines, bookstores, foreign embassies, renowned museums and institutions, national and local historic buildings, and private art galleries. The fountain in the circle, designed by Daniel Chester French and erected in 1921, is a memorial to the U.S. Navy.

The neighborhood, with a station by the same name, is serviced by Metro's red line. Entrances located on Connecticut Ave. & Q St. NW and Connecticut Ave. & 19th St. NW.

Mount Pleasant

Designated as a historic district in 1987, Mt. Pleasant is a culturally diverse neighborhood where you can go to find authentic Central American cuisine. It is located between 16th Street and Rock Creek Park, just north of lively Adams Morgan. You can visit the Latino Community Heritage Center, located in the Latin American Youth Center at 1419 Columbia Road, to learn the story of Latino immigrant experience through personal recollections and evocative images (www.layc-dc.org).

Adams Morgan

Located at the crossroads of 18th Street and Columbia Road, NW, Adams Morgan is a bustling neighborhood with colorful street murals and cuisines from around the world; including Ethiopia, Vietnam, Japan, Latin America, the Caribbean, and Europe. At night, it is one of the city's hotspots for music, dancing, and bars.

The area is a short walk from the Dupont Circle Metro, accessible by the red line.

U Street

U Street was a mecca for African Americans from the 1920s to the late '60s. It was Duke Ellington's neighborhood—his childhood home is a block from the U Street/Cardozo Metro stop (green and yellow line), located at the corner of 13th and U streets NW. You will find music venues and historic jazz clubs, including Bohemian Caverns (formerly Crystal Caverns and one of the venues that "The Duke" frequented). You can grab a bite at Ben's Chili Bowl, which has been a local institution since 1958 and claims to have served such legends as Nat King Cole, among many others.

Georgetown

Perhaps Washington's most famous neighborhood and known for its elegance, Georgetown is a hub for shopping, dining, and a lively night scene. You can enjoy historic house museums, gardens, and a beautiful variety of architectural styles, including Georgian mansions, Federal and

Classical Revival houses, and late Victorian Queen Anne and Richardsonian Romanesque rowhouses. The brick-lined streets, the C&O Canal with its mule-drawn barges, and the narrow alleys of Georgetown all set the scene for historic atmosphere and a special experience.

Although there isn't a Metro station in the area, frequent pick-ups by the Georgetown Metro Connection bus from Dupont Circle and Rosslyn Metro stations make getting to Georgetown quick and easy. Fare to ride is $1.50 and 35 cents with a metrorail transfer. Also, DC Circulator bus service is available between the Convention Center and Georgetown.

Top row, l. to r.: Chesapeake and Ohio Canal (C&O Canal) in Georgetown, Image courtesy of Kmf164, Wikipedia Commons; United States National Academy of Sciences building, Image courtesy of Túrelio., Wikipedia Commons
Bottom row, l. to r.: News Corporation News History Gallery at the Newseum; U.S. Capitol building

Foggy Bottom (George Washington University)

Located between Lafayette Square and Georgetown, and just south of Dupont Circle, Foggy Bottom is the home of many major institutions, including George Washington University and the National Academy of Sciences (at Constitution Avenue & 22nd Street). A number of international organizations also have their headquarters here, among them the World Bank and the Pan American Health Organization.

The most central Metro station is Foggy Bottom-GWU, located at the corner of 23rd & I Streets NW. The station is serviced by the blue and orange Metro lines. ■

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19	trees
3,574	gallons of water
940	pounds of solid waste
1,387	pounds of hazardous effluent

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