NEUROSCIENCE QUARTERLY

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"Solving the big mysteries of the brain requires the effort of many, often working alone at night, all over the globe."

– SfN President Eve Marder

IN THIS ISSUE

SOCIETY FOR NEUROSCIENCE

Message from the President

Seeking Synergy Between Local and Global Scientific Cultures

I entered graduate school in 1969, the same year that the Society for Neuroscience was founded. As all of you are aware, this was a time of change. Those of us starting graduate school in the U.S. were facing universities and a country grappling with the political upheavals associated with the Vietnam War. Although the left-wing rhetoric of the time included statements about a global military-industrial complex, most of us didn't have the imagination to anticipate the extent of today's global economy or the extent to which we today do science in a global community, tied together by the Internet and the relative ease of international travel. Therefore it is hardly surprising that the face of the Society for Neuroscience is also significantly changed from what was anticipated at the Society's inception in 1969.

SfN was chartered as a North American non-profit society, to represent the neuroscientists in the United States, Canada, and Mexico. As we attempt to preserve and document some of the early history of the Society, it will be fascinating to ask our

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An Interview with Story C. Landis of the National Institute for Neurological Disorders and Stroke

Story C. Landis, Director of NINDS

As the Director of NINDS, Story C. Landis oversees a staff of more than 900 scientists, physician-scientists, and administrators. Through her research efforts, she has made fundamental contributions to the understanding of developmental interactions required for synapse formation, thus earning many honors and awards.

***NQ:* What is the biggest challenge to being a neuroscientist today?**

It is an extraordinary time in neuroscience. There are wonderful opportunities to ask and answer questions that certainly did not exist before — sequences and structures for ion channels, mice crafted to express, or not, specific genes containing fluorescent subsets of neurons, computational tools to decipher patterns of neuronal activity, and high field imaging for mouse and man — to name just a few. For students starting out, the biggest challenge may be deciding what questions to tackle, and for established investigators, the biggest challenge may be keeping track of the scientific advances, particularly if one wants to branch out into a new area or technology. I have heard several people say in a semi-serious fashion that no one reads original papers anymore, just the abstracts.

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. . . Message from the President, continued from page 1

Eve Marder,
SfN President

early leaders why they drew the initial boundaries of the Society the way they did. For many years, SfN had a membership category called "foreign associates" which permitted the submission of abstracts but did not allow full voting privileges in the Society's governance. Then in 2002, in recognition that neuroscience as a field was indeed international, and that many researchers from all over the world were publishing in *The Journal of Neuroscience* and attending the annual meeting, Council voted to eliminate the foreign membership category, and opened up full membership to scientists from around the world. Based on the 2007 membership data, 36 percent of SfN members now live and work outside of the United States.

The very large numbers of our members who work outside of the United States provide enormous opportunities and challenges as we face the future of neuroscience in our ever-shrinking world. In this guise I am reminded of a saying by Tip O'Neill, who hailed from Boston and served for many years as the Speaker of the House of Representatives of the U.S. Tip is said to have said repeatedly, "All politics is local." This sits in my brain as a cautionary reminder that our members, like his Massachusetts constituents, must constantly balance their daily realities with those of their participation in the global enterprise of doing exciting science.

Despite the fact that much of what we do as scientists transcends our native languages, where we were schooled and trained, and how we commute to work, much of the context in which we do science remains strongly and deeply influenced by where we live and work. Moreover, many of the complex issues that SfN faces present themselves differently across the globe. For example, militant animal rights activists have been historically more prevalent in Europe than in the U.S., and we in the U.S. look to our European colleagues for insight and guidance in how to protect the conduct of responsible research at all of our institutions.

In all countries, adequate funding for science is an issue, but each country around the world has evolved somewhat different mechanisms for science funding, much as plants and animals speciated in response to different ecological niches. Is there an appropriate role for SfN in arguing for increased funding for research outside of North America, or is this best left to our members in their own countries, or to the Federation of European Neuroscience Societies and the International Brain Research Organization? Many governmental funding agencies around the world are pushing their scientists to do more translational work, and scientists are being urged or required to do work that can aid in that country's economic competitiveness. Should SfN have a role in articulating the balance needed between basic science and more translational work? Does this balance need be determined by each country on the basis of local history and local industrial capability? How does this influence SfN's ability to provide career advice and mentoring to young scientists?

"The very large numbers of our members who work outside of the United States provide enormous opportunities and challenges as we face the future of neuroscience in our ever-shrinking world."

There are significant differences in University educational practices and policies across the world that influence the career paths of young scientists as they finish their PhDs. Our younger members everywhere are asking whether there is a place for them to continue to progress towards an independent faculty-level position. Many of our younger members ask for mentoring and career guidance (see this issue's article on the new membership survey), but we now face the problem of providing guidance for talented young scientists facing a myriad of different obstacles, some of them generic, and some of them country-specific. How do we serve all of our young scientists best given the diversity of their situations?

The use of the Impact Factor in funding, promotion, and career advancement is another issue that affects us all, but differently across the globe. I have learned from my international colleagues that there are many good local reasons why the Impact Factor has garnered so

much impact across the globe. Nonetheless, I hope that SfN can catalyze an international discussion of new ways to assess individuals and their research contributions that don't involve judging individuals on the basis of a flawed evaluation mechanism.

"We are committed to the principle that SfN should be useful to its members wherever they live and work."

Three years ago, Carol Barnes wrote in this column of the benefits she saw from the time she spent working in other countries. I resonated deeply with Carol's column, as I also spent my postdoctoral years abroad, in my case at the Ecole Normale Superieure in Paris. Those years shaped me as a scientist and as a person in ways that are hard to articulate. Like Carol, I feel that working for a while in a foreign country is an invaluable experience. It was true in the 1970s when she and I did it, and is true today. Paradoxically, it may be even more important today, as we tend to forget how different local scientific and university cultures may be because of the ease of electronic communication. Moreover, now that scientists all over the world universally communicate their science in English, this can tend to make our younger native English speakers forget that other young scientists may be working in institutions with different mores and cultures than theirs. (I remember all too often the lessons of "The Ugly American" and see the war in Iraq as a modern reminder of the damage done by cultural hubris.) Today it is crucial that Americans work and travel abroad to learn first-hand that other local environments may differ significantly from theirs.

SfN will do its utmost to ensure the free movement of scientists as well as science. We already have mechanisms in place to help foreign scientists with visas to attend the annual meeting, and are constantly looking for ways to promote international exchanges of people and ideas. Several years ago, the Committee on Committees started a concerted effort to increase the participation of international members on our standing committees. We strongly encourage all of you working outside of the U.S. to suggest names of appropriate people for our committees, so that we can best benefit from the diversity of knowledge and expertise in our global community. Going forward, strong committee input from our international members will become even more of a necessity, as science becomes more global, yet scientists work in local communities.

We are committed to the principle that SfN should be useful to its members wherever they live and work, but we remain mindful of Tip O'Neill's caution, and know that much must and should remain the purview of those working in their local communities. We ask all of our members, in the U.S. and abroad, to be actively engaged in educating their friends, families, and neighbors about the importance of education and the pursuit of both basic and applied science. Solving the big mysteries of the brain requires the effort of many, often working alone at night, all over the globe. Harnessing that knowledge for the betterment of health across the globe will require a level of international cooperation that far surpasses what we have today. ■

Become Involved in SfN!

The Committee on Committees invites members to submit their nominations for officers as well as committee member and chair replacements. Only regular and emeritus members are eligible to submit nominations for officers, but all members may submit nominations for committees.

To improve representation within SfN's leadership and governance bodies, please consider nominating from broader, diverse sections of the SfN membership, including younger scientists. You will find additional information about the SfN committees at www.sfn.org/committees.

You will be notified when the nomination forms are available in late January on the SfN Web site.

If you have any questions about the nominations process, please contact Beth Farrell, Planning & Governance Manager, at beth@sfn.org.

Society Explores Changing Membership

At a time of significant external pressure on the scientific community, SfN continues to grow: membership reached a record high of 38,677 in 2007. The steady growth demonstrates the vitality of neuroscience as a highly dynamic and promising research field and SfN's role as the field's largest professional association. But such growth also presents challenges from the changing Society composition in both quantifiable and non-quantifiable ways, and SfN is working hard to stay at the forefront of meeting member needs.

SfN membership fuels the work of the Society: The ability to facilitate and nourish a rich "marketplace of ideas" for emerging science at the annual meeting and beyond is supported by the research, engagement, and excitement of members. The ability to serve as a strong advocate for sound science funding and policy derives from strength in numbers and member activism. The capacity to provide professional development opportunities stems from the facilitation of connections between more junior members and seasoned neuroscientists.

Clearly, as membership changes, SfN can and must seek to reflect, and adapt services to meet new needs. As part of that effort, SfN is examining the changing expectations, affiliations, and demographics of our members. Recent results from a detailed member survey have been instrumental in capturing an accurate snapshot of the Society's changing membership, its priorities, and its preferences.

Plans Are Underway To Enhance the Member Experience

When SfN adopted a new strategic plan in 2006, among several goals identified was the need to enhance the member experience. Specifically, the desired outcome was the "creation of a five-year membership growth and member services plan responsive to member needs in distinct demographic segments." As a result, the Society initiated a series of actions, including:

- Releasing a comprehensive Request for Proposals in May 2006 for the development of a five-year membership enhancement plan (MEP).
- Selecting the consulting firm McKinley Marketing, Inc. to develop a strategy and plan for better meeting the needs of current and prospective SfN members.
- Creating a Membership Enhancement Plan Steering Committee (MEPSC), consisting of chairs from five SfN committees and two Councilors to provide guidance throughout the course of the project.
- Identifying target membership segments and collecting information via six focus group sessions.
- Gathering additional qualitative data, using an environmental scan to uncover growth trends within the field of neuroscience and relevant industry developments. The consulting firm also conducted interviews with three other professional associations for benchmarking purposes.

Overwhelming Response Rate Enhances Survey's Validity

As an important early step, SfN launched a comprehensive electronic survey in June 2007 to better measure and quantify member needs. The Society thanks its members for outstanding participation: A total of 9,290 members participated — an overall response rate of 27 percent. This impressive response — which the consultants reported was far higher than the typical 15 to 20 percent response rate for such surveys — is a testament to the interest and engagement of members, and their desire to ensure SfN continues to play a vital and effective role in enhancing the field.

Survey questions were based on data collected from focus groups, as well as feedback from Council, SfN staff, and the MEPSC. The survey had a margin of error of .87 percent at the 95 percent confidence level — the high response rate ensured that data was significant and representative of membership as a whole.

Survey Reflects Changing Membership Composition

Demographically, survey results reveal that the membership composition of SfN is changing. The Society is increasingly drawing younger and newer members: 45 percent of respondents are 35 years old or younger, and half have been SfN member respondents for less than six years. Gender composition appears to be shifting as well, with the percentage of female members climbing from 38 percent in 2002, when the last member survey was conducted, to 43 percent in 2007.

Confirming the survey data, SfN's international membership numbers have continued to climb between 2001 and 2007. Regular international membership grew by 39 percent and international student membership outside North America grew by a considerable 117 percent. Today, 29 percent of members live outside North America and 36 percent live outside of the Unites States.

Survey Highlights Overall Member Satisfaction and Engagement with SfN Programs

Information gathered through the survey provides a broad overview of SfN member satisfaction and composition. Overall, 93 percent of respondents expressed satisfaction

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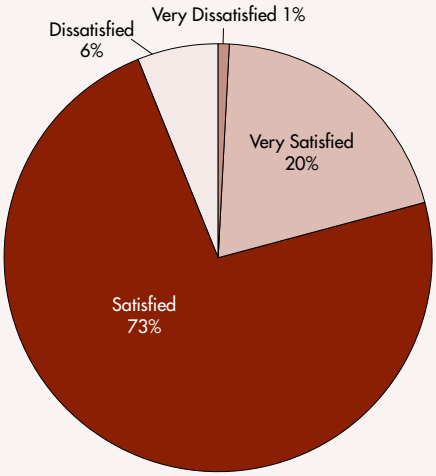
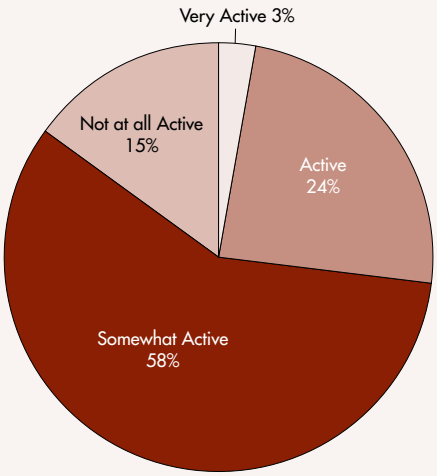
2007 Member Survey Highlights

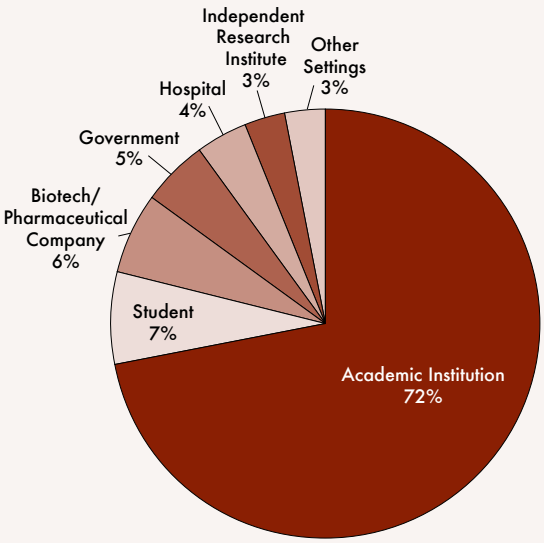
Overall Membership Satisfaction



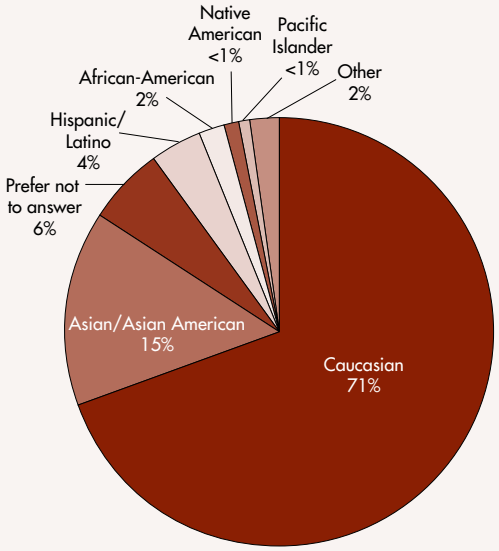
Member Activity Level



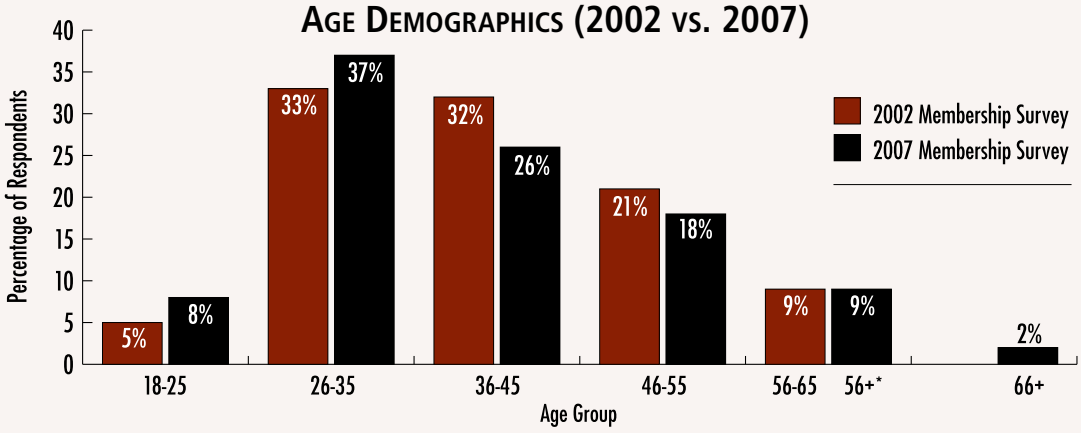
Work Environment



Ethnicity



Age Demographics (2002 vs. 2007)



*NOTE: In the 2002 survey, the 66 or older age category was not included. The 56+ category includes responses from members 56 years of age or older.

2008 Brings New Publishing Advances and Data Mining Efforts

The new year is ushering in significant developments in scientific publishing and data sharing that will benefit SfN members. This includes the launch of a new process for journal article peer review plus efforts to enhance access to online research data and scientific information.

Both initiatives were topics of discussion at a well-attended annual meeting roundtable, "New Directions in Data Mining: Synergistic Enhancements of Online Journals and Databases," which built on the PubMed Plus conference held in June 2007 in St. Louis. The summer meeting brought together 60 invited neuroscientists; informaticians; journal editors and publishers; and representatives of libraries, foundations, societies, and government institutes.

In San Diego, the roundtable was moderated by outgoing SfN President David Van Essen and co-organized by Robert Williams, chair of the SfN Neuroinformatics Committee. The main goals of the roundtable were to update the neuroscience community about the latest PubMed Plus recommendations and initiatives and to obtain feedback and suggestions.

Van Essen, who is also past editor-in-chief of *The Journal of Neuroscience*, said of the roundtable: "This was an excellent occasion for expanding awareness of important new developments. The fact that there was a full house for the data mining roundtable on the last day of the annual meeting was an important indication of the interest that has grown in the neuroscience community."

Cascading Review Starts January 2008

One major initiative discussed at the roundtable was the launching of a "cascading review" system, a process for expedited manuscript evaluation that can be initiated at the author's request. The effort begins this month and will include *The Journal of Neuroscience* plus nine other founding journals in the Neuroscience Peer Review Consortium (NPRC).

In the cascading review process, when a manuscript is rejected by one journal within the consortium, the authors will have the option (but NOT any obligation) to have the original reviews forwarded when they submit their revised manuscript to another journal within the consortium. If the reviews from the initial journal indicate that the manuscript was of high quality, but just not suitable for the journal's scientific focus, it will generally be to the advantage of the authors to have the original set of reviews forwarded to the second journal. No information will be exchanged between journals except at the request of the authors.

Clifford Saper provided insight about sharing and mining experimental data in a technology-driven era at the New Directions in Data Mining roundtable discussion.

NPRC is an alliance of neuroscience journals established during the follow-up to the PubMed Plus conference. Its goals are to support efficient and thorough peer review in neuroscience, speed the publication of research reports, and reduce the burden on peer reviewers. The cascading review was described by Van Essen as "an exciting venture in making the peer review process more efficient."

The consortium will operate on a trial basis from January 1 through December 31, 2008. If the effort achieves its goals, it may be extended indefinitely. To date, 10 journals have joined the consortium, including *The Journal of Neuroscience, Human Brain Mapping, The Journal of Comparative Neurology, Neuroinformatics, Neuropharmacology, Neuroscience*, and *The European Journal of Neuroscience*. Detailed information about the NPRC is located at http://nprc.incf.org, a site that is hosted by the International Neuroinformatics Coordinating Facility in Stockholm.

Emerging Strategies for Data Mining

The San Diego roundtable also focused on ways to help neuroscientists obtain more efficient access to the vast amounts of information available in online journal articles and in various neuroscience-related databases.

One set of recommendations involves improving the collection and organization of metadata — key words such as scientific terms or topics that describe study content – that would allow for more accurate online searches and data retrieval. Van Essen said that the goal is to have well-organized and consistent metadata that will help readers

find relevant articles and obtain information quickly. This could also greatly facilitate automated data mining.

The Neuroinformatics Committee, at the request of the SfN Council, has formed a task force on metadata and linkages that will explore these issues further in 2008. This group will continue to explore mechanisms for neuroscience journals to gather common types of metadata on experimental methods in ways that are not onerous to authors. The group will consider what types of core experimental metadata are most important to collect, such as species, gender, and experimental technology. As these recommendations come into sharper focus, *The Journal of Neuroscience* may become an important venue for implementing specific steps that will benefit authors and readers alike.

Other important issues discussed at the roundtable were improved links between databanks and journals, and improvements in the consistency, quality, and accessibility of online supplementary materials, which are quite variable across journals. The PubMed Plus report recommends that journals adopt common standards for peer-reviewed supplementary materials, including a new category called "related material" that includes non-peer reviewed materials.

Commenting on the overall impact for the field of neuroscience, Van Essen said, "The PubMed Plus conference is one of several initiatives promoted by SfN's Neuroinformatics Committee during the past year that are likely to have long-lasting beneficial impact for the neuroscience community by capitalizing on rapid advances in information technology."

"The next step," Van Essen continued, "is that a working group of Neuroinformatics Committee members plus other participants of the PubMed Plus conference, will aim to formulate concrete recommendations that can enhance data mining. We will concentrate on practical steps that are attainable over the next year or two." ■

Open Choice To Offer a Fee Option for Manuscript Authors

An expansion of open access takes effect in January 2008 for articles in *The Journal of Neuroscience*. It gives authors the option of paying an additional fee to make their published papers immediately available online.

This follows the Society's 2006 move to make *The Journal*'s online articles freely accessible after six months instead of 12 months.

The SfN Council approved the Open Choice option in November 2007 in response to the dramatic transformation that scientific publishing has been undergoing due to technological changes.

Under the new publishing plan, if authors want their research articles to be freely available online upon publication, they can pay, in addition to the usual publication charges, a fee of $2,500 for a regular article or $1,250 for a Brief Communication.

According to the January 9 editorial by John Maunsell, Editor-in-Chief of *The Journal of Neuroscience*, "These sums are the minimum required to cover the costs of reviewing, composing, and publishing articles."

Results from a June 2006 member survey played a role in the Society's decision to launch the Open Choice experiment. In the survey, half of the respondents said they would support SfN adopting an open access business model, but authors in the survey offered conflicting responses about how much they would be willing to pay.

"The response to Open Choice will give *The Journal* information about the extent to which authors and their funding agencies are willing to financially support an entirely open-access journal," added Maunsell.

The Society's move is similar to efforts by some other major scientific publishers. A few, such as PLOS and BioMed Central, require complete author-paid open access.

Demand for open access to scientific articles has come from patient advocacy groups, scientists, Congress, libraries, and certain funding agencies. Funding institutions, such as the Wellcome Trust and the Howard Hughes Medical Institute, have created a new policy of paying publishers to make articles publicly available six months after publication.

On a related topic, a provision in the federal fiscal year 2008 omnibus appropriations bill, which President Bush signed in late December (see article page 8), requires that all National Institutes of Health-funded investigators submit electronic copies of their peer-reviewed manuscripts to the National Library of Medicine's PubMed Central. Articles will be publicly available online no later than 12 months after publication in a journal. Before passage of this provision, submission of journal articles was voluntary. ■

Advocacy Update

Advocacy efforts continue to focus on funding for the National Institutes of Health (NIH) and the National Science Foundation (NSF), stem cell research, and animals in research. SfN members were essential to these efforts this year, sending nearly 20,000 messages to the U.S. Congress through the online legislative alert system, almost three times more than last year. Building on this momentum and membership survey results expressing a desire for advocacy opportunities, the Government and Public Affairs Committee and staff are developing new approaches to engage more members in grassroots advocacy. On a global level, SfN also continues its involvement with counterparts in Canada, Mexico, Europe, and around the world on various issues.

Appropriations

Final approval of federal research funding was slowed by Washington politics again this year. Congress was forced to combine the eleven unfinished appropriations bills into an omnibus bill, which was signed by the President on December 26. Although the funding increase for NIH in the appropriations bill passed by Congress in November was encouraging, it was vetoed by the President. In the end NIH received $28.942 billion, only a $133 million (0.46 percent) increase above last year's level.

The President followed through on this threat to veto any appropriations bills that exceeded his budget request by vetoing the FY2008 Labor, Health and Human Services and Education (Labor-HHS) appropriations bill. This bill was strongly supported by SfN and other scientific organizations as it included a 3.1 percent increase for NIH, close to the 3.7 percent needed for the agency to keep pace with biomedical inflation. Despite SfN members sending thousands of messages to their Representatives, the House narrowly failed to gather the two-thirds majority needed to override the veto. However, the number of votes cast in support of increased research funding is encouraging as research advocates such as SfN seek to increase Congressional support and identify new champions for biomedical and neuroscience research.

A key goal of the American Competitiveness Initiative – doubling the NSF budget over the next 10 years – suffered a significant setback in the final FY2008 appropriations bill. Despite proposed 10 percent increases in the original House and Senate appropriations bills, the omnibus provided just a 1.97 percent ($116.4 million) increase for NSF for a total of $6.03 billion in funding for FY2008. The Biological Sciences directorate, where most NSF neuroscience funding is located, will have its funding cut 2.9 percent to $591 million. SfN, as a member of the Coalition for NSF, continues its efforts in support of healthy increases for the agency.

SfN Partners on Survey of Congress and Candidates

As more SfN members engage in advocacy, it is important to know where lawmakers and candidates stand on crucial issues. Consequently, SfN is partnering with Research!America to get policymakers on the record about health care and research. The *Your Congress-Your Health* project asks U.S. members of Congress to explain where they stand on a range of health-related issues. Visit the Web site to see your Representatives' and Senators' responses at www.yourcongressyourhealth.org. *Your Candidates-Your Health* asks similar questions of the Presidential candidates, and their responses will be posted at www.yourcandidatesyourhealth.org. Research!America is a public education alliance dedicated to making research that improves health a higher national priority.

Stem Cells

Although a provision expanding stem cell research originally was included in the Senate version of the Labor-HHS appropriations bill, this item was dropped as part of an effort to convince the President to sign the bill into law. While a stand-alone stem cell bill was passed earlier in 2007, the President vetoed the measure and Congress has yet to schedule an override vote.

In the coming year, stem cell research will remain a hot topic both inside and outside Washington, particularly in light of the recent discoveries in which skin cells were turned into stem cells. Following the announcement of this breakthrough, stem cell opponents renewed their call to end embryonic stem cell research. However, Congress has several strong supporters of stem cell research, including Representatives Diana DeGette (D-CO) and Mike Castle (R-DE), who have stated their intent to continue to champion the issue and fight for scientific discovery free from onerous government restrictions.

Animals in Research

Protecting the responsible use of animals in research is an SfN priority and as such, the Society issued a statement condemning the October attack on SfN member and University of California at Los Angeles researcher Edythe London. As a response to the actions of animal rights extremists, London wrote a powerful November 1 op-ed in the *Los Angeles Times* titled "Why I Use Laboratory Animals." SfN's statement and London's op-ed are avail-

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SfN Chapters Show the Power of Community Outreach

Among SfN's current roster of 116 chapters (spread across seven countries, 44 states of the U.S., and Puerto Rico) are many that are actively engaged in contributing to the Society's mission and advancing the interests of neuroscience. As the Society works to support active chapters, revitalize dormant ones and establish new ones, examples of innovative activities such as those of the three chapters described below can serve to motivate and inform other chapters of the possible role they can play within their communities and beyond.

The work of three SfN chapters shows that advocacy and educational outreach — whether in Atlanta, the Pacific Northwest of the United States, or in Africa — can generate immediate benefits and lead to other activities, programs, and projects that further the field of neuroscience.

Their efforts are also in keeping with the SfN 2006 strategic plan that calls for a "shift in the professional culture of SfN members and chapters to more consistently include and embrace public communication, outreach, and education about neuroscience."

Atlanta Chapter Advocates for Neuroscience

The Atlanta chapter took the initiative to reach out in 2007 to its state and national representatives to discuss issues important to neuroscientists, such as funding for NIH and NSF, mental health parity, stem cell research, and science education.

A student and a post-doc in the Atlanta chapter contacted the governor's office about Brain Awareness Month. This led to representatives from the Atlanta chapter and the Center for Behavioral Neuroscience meeting with Governor Sonny Perdue. A major result was the gubernatorial proclamation of March as "Brain Awareness Month" in Georgia to honor the chapter's efforts to reach out to young people in the Atlanta metro area.

Atlanta chapter president Paul Katz has been arranging meetings with Congressional leaders to discuss with them the importance of research funding to their constituents. Katz and Anne Murphy, a past chapter president, received a positive response when they met on September 13 with Georgia Senator Johnny Isakson and a staff member at Isakson's Atlanta office. Katz said he was impressed with how open and engaged the senator was at the meeting and how supportive he was of SfN priorities.

Katz said that the meeting was "absolutely" worthwhile. During the session with the senator and his staff, Katz and Murphy familiarized them with SfN priorities and the research work that Katz and Murphy have been doing at Georgia State University. Additionally, the senator and his science advisor now recognize the Atlanta chapter as a valuable resource on neuroscience. Given the success of the meeting, the chapter intends to pursue other meetings with members of Congress.

(from left) Hirofumi Watari, Jonathan Ting, and Bryan White were among those honored with the first annual Next Generation Award for their educational outreach efforts in the establishment of the Neurobiology & Behavior Community Outreach organization in the Seattle area.

Outreach Organization Initiated by Neuroscience Graduate Students

Three graduate students in the University of Washington Graduate Program in Neurobiology and Behavior and members of the Pacific Cascade SfN chapter, Jonathan Ting, Bryan White, and Hirofumi Watari, established an educational outreach organization, Neurobiology & Behavior Community Outreach, and created a foundation for neuroscience community interaction within the Puget Sound area.

The outreach organization recruits volunteers among neuroscience graduate students, creates interactive exhibits for K-12 students, and oversees programs for the volunteers to share their enthusiasm for brain research with the community. Throughout the year, volunteers participate in classroom visits, local science fairs, discussion panels on research, and peer-mentoring programs.

In a letter nominating candidates for the Next Generation Award, Eric Chudler, representative of the Pacific Cascade chapter, praised the winners: "These three graduate students exemplify the spirit of the new SfN award with their creative ideas to promote neuroscience within the community and with their demonstrated leadership qualities. Their work establishing Neurobiology & Behavior Community Outreach has created the foundation for neurosci-

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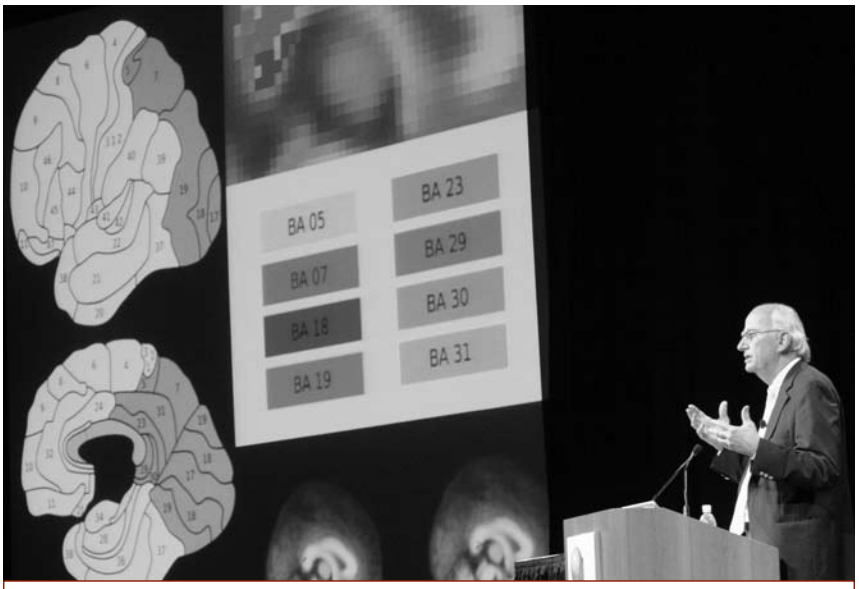
Neuroscience 2007 Becomes SfN's



In the History of Neuroscience Lecture, Michael Gazzaniga discussed the progress made to understand hemispheric function over the last 100 years, as well as the latest advances facilitated by modern brain imaging technology.

Neuroscience 2007, held November 3 – 7 in San Diego, offered an outstanding venue for the exchange of neuroscience ideas with a near-record number of participants, dynamic meetings and discussions, global networking opportunities, and prominence in news reports.

The city of San Diego welcomed back the leading neuroscience forum for the third time in six years. Neuroscience 2007 drew 32,186 attendees and was the second largest of the Society's annual meetings, next in size to the 2005 meeting in Washington.

Discussion, Presentations, and Lectures Spark Learning

Attendees were energized, and perhaps pleasantly fatigued, running a marathon of lectures, workshops, and other events from early morning to late at night. Thousands of participants viewed exhibits, mingled at different events, and gathered in large meeting halls, and the noise of many conversations buzzed as participants shared ideas and information. One of the most trafficked areas at the convention was the poster floor, presenting the latest neuroscience research findings. Approximately 16,328 abstracts were approved for the five-day conference. The meeting also included 11 featured lectures, 13 special lectures, 24 symposia, and 22 minisymposia.

Program Illustrates Influence of Technology

Several presentations at Neuroscience 2007 focused on information technology and informatics. In the opening lecture, Jeff Hawkins, developer of the PalmPilot and Treo SmartPhone, and founder of the Redwood Neuroscience Institute, discussed the way biologically inspired principles will influence digital computers in the future as part of the "Dialogues between Neuroscience and Society," a series of lectures fostering dialogue between the neuroscience community and the public. Past speakers have included the Dalai Lama and architect Frank Gehry.

Jeff Hawkins linked the future of neuroscience and technology in the "Dialogues between Neuroscience and Society" Lecture by discussing the way biologically-inspired principles will influence computer technology.

Hawkins, who has had a long fascination with neuroscience, believes that examining brain structure can potentially provide solutions to modern computing puzzles, specifically the basic problem of artificial intelligence and knowledge representation. He discussed efforts to develop data hierarchy systems based on maps of the macaque neocortex, research originally conducted by SfN Past President David Van Essen, among others. Hawkins and colleagues have developed a new computer platform implementing a hierarchical temporal memory system patterned after the human neocortex and have, for instance, experimented with "training" computers to recognize images assuming

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SfN Past President Solomon Snyder (left) presented the first annual Julius Axelrod Prize to Richard Huganir, one of two winners of the award. The Axelrod prize is one of several prominent awards that recognize and honor the contributions of neuroscientists and students around the world.

THREE AWARDS LAUNCHED AT NEUROSCIENCE 2007 RECOGNIZE MEMBER ACHIEVEMENTS AND CONTRIBUTIONS

The debut of three new awards was one of the highlights of Neuroscience 2007, spotlighting the achievements of neuroscientists and supporting their efforts.

- **Julius Axelrod Prize —** The award, supported by the Eli Lilly & Company Foundation, honors scientists with distinguished achievements in neuropharmacology or a related area and exemplary efforts in mentoring young scientists. For the inaugural year, the honorarium of $25,000 was split between two winners, Richard Huganir (Johns Hopkins University) and David Julius (University of California, San Francisco).

- **Research Awards for Innovation in Neuroscience (RAIN) —** The awards, supported by Astellas USA Foundation, recognize imaginative and innovative scientific research. Each of the three awards consists of $25,000 of unrestricted research funds for the recipient's institution. The winners for the inaugural year were Edward Boyden (Massachusetts Institute of Technology), Daniel Dombeck (Princeton University), and Nicholas Schiff (Cornell University).

- **Next Generation Awards —** Focusing on fostering outreach and volunteerism of all members, especially younger ones, this award recognizes junior faculty and trainees who donate their time and make outstanding contributions to outreach efforts, such as Brain Awareness Week. For the inaugural year, the predoctoral/postdoctoral team winners were Jonathan Ting, Bryan White, and Hirofumi Watari (all students at the University of Washington) from the Pacific Cascade Chapter. The junior faculty winner was Kyle Frantz (Georgia State University) from the Atlanta Area Neuroscience Chapter. Each awardee received complimentary SfN meeting registration and an honorarium of $300, and one awardee in each category received a travel stipend of $750. The chapters also received cash awards of $2,000 each to be used to continue the chapters' outreach efforts. (See page 9 for more information.)

For a press release highlighting the awards and prizes presented at Neuroscience 2007, visit www.sfn.org/newsreleases. ■

. . . Neuroscience 2007, continued from page 11

different spatial arrangements. Such innovation brings computers closer to processing problems previously believed impossible for machines to solve, and suggests that neuroscience research and understanding of how the brain works could drive future computing advances.

In addition, the application of technology within neuroscience was the focus of the "New Directions in Data Mining: Synergies between Databases and Online Journal Publications" roundtable, moderated by Van Essen. It presented the Society's initiatives and recommendations to improve electronic data mining and data sharing. The intention was to inform the neuroscience community and allow meeting participants to consider the next steps. (See page 16 for a separate story on the topic.)

Students and established neuroscientists discussed and shared research findings through scientific poster presentations.

The Presidential Special Lectures illustrated how leading neuroscientists conceptualize and make use of new technologies to advance the field. Karel Svoboda of Janelia Farm Research Center/HHMI presented highlights of imaging synapses in the last 10 years and discussed emerging advances. H. Sebastian Seung of MIT/HHMI discussed the impact of new methods for gathering data on the science of neural networks. Mark H. Ellisman of the University of California, San Diego School of Medicine, highlighted current accomplishments in human and model studies, illustrating what tomorrow's neuroscientists might expect from neuroinformatics. Heidi Johansen-Berg of the University of Oxford described new imaging techniques that can be used to estimate paths of connections in the brain.

Heidi Johansen-Berg spoke about new approaches to brain imaging as part of the Presidential Special Lecture series focusing on the integration of technology and neuroscience.

Research and Dialogue Attracts Press Coverage

Many of the topics presented at the conference drew the interest of the press, both U.S. based and international. Research on the teenage brain, a robot guided by a moth brain, and neural prosthetics were widely covered in the media. Other research topics that attracted press coverage included the roots of

Andy Grove, former CEO of Intel Corp., offered insight and prompted a lively exchange of ideas at the Public Advocacy Forum. He cited examples from the information technology industry to demonstrate the benefits of disease-specific research funding.

aggression, mirror neurons, and the role of neurogenesis in depression.

The media also focused considerable attention on Andy Grove, former CEO of Intel and *Time* magazine's Man of the Year. Grove, who has emerged as a powerful advocate for accelerating the pace of biomedical research, presented a lively and controversial discussion of new approaches for federal funding for neuroscience to a standing-room only crowd of more than 300 attendees at the Public Advocacy Forum. Grove cited examples from the information technology industry to demonstrate how federal funding for disease-specific research should be transformed to speed the discovery of treatments. Advocating that disease-specific research efforts should be massive in scale and highly integrated, similar to the systems engineering field, Grove suggested the creation of an "X01" grant class, whose mission would be determined by the director of NIH and would be allocated funding in the billions of dollars. While acknowledging that this is a high-risk, high-reward proposal, Grove noted that "Risk-taking is about turning knowledge into success, because knowledge is never sufficient to eliminate the need to stick your neck out. You need to hone the reward on risk." A series of panelists, Dennis Choi of Emory University, Jeffrey Kordower of Rush University, and Jeffrey Rothstein of Johns Hopkins University, challenged, probed, agreed with, or rebutted Grove's comments along with an interactive crowd that posed its questions.

Funding Challenges Require Consistent Advocacy Efforts

Spotlighting advocacy efforts in a period of great uncertainty about research funding was a heavily attended speech by Newt Gingrich, former Speaker of the U.S. House of Representatives and founder of the Center for Health Transformation, which is a collaboration of leaders from the

Fred Turek welcomed questions following his lecture on sleep loss and circadian clock dysfunction. After formal lectures and panel discussions, attendees enjoyed informal dialogue and networking opportunities with lecturers and presenters.

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. . . Neuroscience 2007, continued from page 13

private and public sector committed to creating a better health system.

Gingrich shared his ideas on the types of arguments that resonate with U.S. policymakers, while continuing to express his strong views in support of increased research funding. The former Speaker advocated a tripling of the National Science Foundation budget and steady funding growth for NIH to help achieve an "intelligent 21st century health system." During his 30-minute address to a crowd of more than 3,000, Gingrich asked the scientific community to spur the science education of young people by employing them in their labs and repeatedly emphasized the point that investment in biomedical research benefits the national economy by stimulating job creation and productivity. He reminded the audience that it is their responsibility to act as "citizen-scientists" and take the time to contact their elected officials. "If you work in a field of extraordinary importance to humanity, then you have a civic duty to educate your elected representatives," he said.

SfN Past President Huda Akil (center) received the Mika Salpeter Lifetime Achievement Award from C-WIN Co-Chairs Rita J. Balice-Gordon (left) and Judy Illes (right) at the C-WIN awards ceremony.

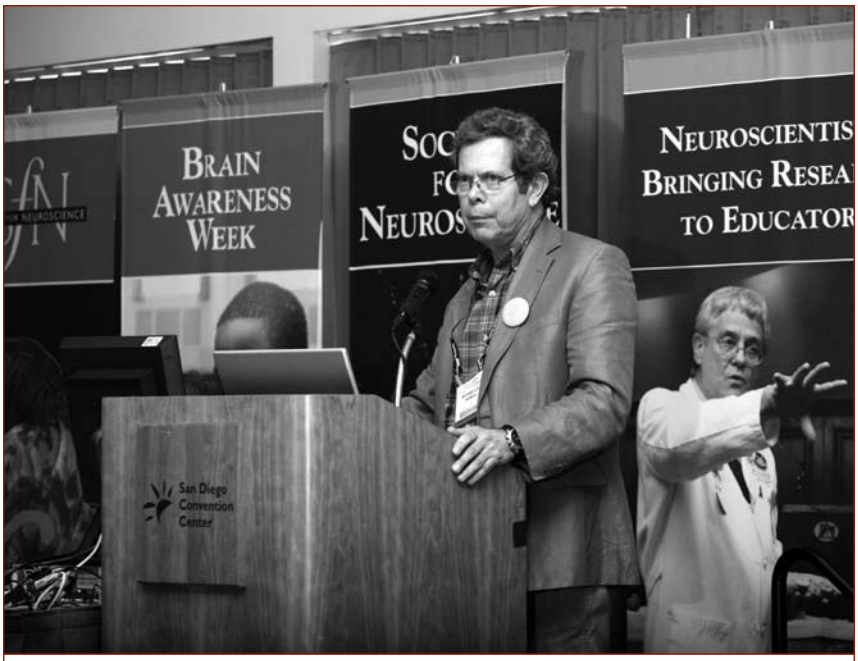
Professional Development Opportunities Abound at Neuroscience 2007

The conference offered attendees a wealth of opportunities for professional advancement and networking, including a "Meet-the-Expert" series in which attendees could get tips from research experts who described their techniques and accomplishments in an informal and intimate setting.

The two-day Professional Skills Workshop covered a wide range of topics, including career development, getting into graduate school, picking the right postdoctoral position, and grant writing. The Writing, Editing, and Publishing in Science interactive workshop reviewed what editors want and provided researchers with strategies for producing precise, clear, and reader-based texts.

Other workshops covered topics such as starting an SfN chapter; preparing a successful SfN symposium proposal; NIH and NSF funding for research training and career development; teaching neuroscience in innovative laboratories; NSF funding opportunities for research and education in neuroscience, and pursuing a variety of career paths in neuroscience at the workshop, "Careers for Neuroscience."

Neuroscience 2007's rich scientific program promoted a forum for education through workshops, courses, lectures, and symposia. The Neurobiology of Disease Workshop filled the room with approximately 250 attendees who heard from a range of experts on sleep and sleep disorders.



Richard Morris, president of the Federation of European Neuroscience Societies, was a featured speaker at the annual Brain Awareness Campaign event and spoke about the importance of international brain awareness efforts.

The day-long Neurobiology of Disease Workshop focused on sleep and sleep disorders and included patient demonstrations.

The SfN Short Courses gave attendees opportunities to improve their research skills. One course, organized by Jacqueline N. Crawley, provided strategies for phenotyping rodent behavior in several behavioral domains. A second short course, organized by Beverly L. Davidson, summarized the applications and limitations of inhibitory RNAs, a process which mediates gene silencing, in neuroscience.

As part of the meeting's professional development activities, the SfN Committee on Women in Neuroscience (C-WIN) hosted its second annual luncheon, featuring SfN President-Elect Eve Marder as the keynote speaker. Using a slide presentation, C-WIN continued the tradition started last year of honoring the work of women neuroscientists.

Onsite Career Center Caters to the Needs of Job Seekers

Job seekers received a helping hand at the meeting through the NeuroJobs Career Center, an outgrowth of the Society's online job bank. Computer terminals facilitated connections between participating employers eager to schedule on-site interviews with approximately 100 interviewees who participated in the program.

Opening Minds to Public Education

The Public Education and Communication Committee hosted the annual networking reception and poster session to celebrate the accomplishments of the Brain Awareness Campaign. The campaign which culminates each March, promotes a series of events around the world to raise awareness about neuroscience. During the campaign event, highlights of Brain Awareness Week 2007 were presented as well as recognition of young student award recipients associated with the International Brain Bee and National Science Olympiad. The program featured Richard Morris, president of the Federation of European Neuroscience Societies, who, at the University of Edinburgh, oversees the year-round efforts of the city's scientific community to promote neuroscience literacy, as well as Barbara Gill, executive director of the Dana Alliance for Brain Initiatives, and outgoing SfN President David Van Essen.

Exhibits Add to a Bustling Agenda

In addition to the numerous educational and networking opportunities, the annual meeting offered a bustling exhibit floor, a marketplace of products and cutting-edge technologies to aid neuroscientists in research. The number of exhibitors totaled 583, including 512 commercial companies, 51 nonprofit organizations, and 20 institutes. Among the wide variety of exhibitors were research publishers, lab equipment vendors, imaging equipment companies, and a range of NIH institutes.

Neuroscience 2007 will be remembered as an event that took the SfN annual meeting to new heights with its attendance and dynamic program. At the core of the conference was cutting-edge neuroscience research. Adding depth to the program were themes of advancing neuroscience in the digital age, expanding volunteerism, and increasing advocacy efforts. The success of this event is a foundation for future SfN annual meetings, including Neuroscience 2008, which will be held November 15 – 19 in Washington, DC. ■

. . . Society Explores Changing Membership, continued from page 4

with their membership in SfN, and nearly three-quarters consider the Society their primary professional organization. Beyond the annual meeting, when asked about satisfaction with SfN programs and services, on a seven-point scale (with seven representing "extremely satisfied"), publishing opportunities and science advocacy emerged with the highest mean scores of 5.3.

Survey results further reveal a membership base actively engaged in promoting the cause of neuroscience. Roughly 30 percent of respondents have participated in community or media outreach focused on neuroscience or related areas at the state or local community level within the past two years. Of these respondents, approximately 60 percent were involved in outreach activities for the general public, such as a lab open house or public lecture, and over half performed education outreach for K-12 students and teachers, including classroom presentations or speaking at teacher workshops. Within the segment reporting outreach efforts, 36 percent assisted with media outreach. Of the 18 percent reporting legislative or political advocacy related to neuroscience, 32 percent advocated directly with elected and appointed government officials, whereas the vast majority, 88 percent, sent correspondence to legislators.

Members Express Desire To Participate in More SfN-Driven Outreach Activities

While member participation is strong, nearly 60 percent of respondents expressed interest in becoming more involved with the Society. Half of these individuals said they would like to participate in public education and outreach activities focused on schools, 37 percent said they wanted to contribute to local advocacy efforts, and 26 percent said they would volunteer time in a mentorship program. In perhaps the most illustrative example of member desire for expanded participation, 41 percent of all respondents asked to receive additional information on SfN activities and opportunities, and entered e-mail addresses for follow-up.

The SfN Council, committees, and staff are listening to the message communicated in these figures and results. A key goal of the MEP involves ensuring that SfN members realize, appreciate, and take advantage of the full breadth of the Society's offerings. When asked to answer separate questions ranking value and satisfaction with various products and services, a sizable percentage of survey respondents could not respond due to lack of familiarity. Improving awareness of SfN's full slate of programs and services, beyond the key activities of the annual meeting and *The Journal of Neuroscience*, has taken on increased importance.

Changing Membership Seeks New Communication Tools

A critical finding from the 2007 research was that some members — particularly younger members — are motivated to become further engaged with SfN, but feel disconnected. SfN is currently analyzing member communication strategies to ensure adequate coverage of important initiatives and programs. Analysis areas include frequency, message, format, content, delivery method and timing. Exploring how effectively SfN uses communication technologies, such as e-mail and Web sites, is also important. Another significant, emerging area of communication is the potential for SfN to use technologies to enhance networking and information exchange among members: When questioned, 21 percent of respondents said they would participate in topic-specific electronic discussions, including listservs or threaded discussion boards, and online forums. Overall, based on the outcome of the study, communications will be reviewed and may be reconfigured to help increase member awareness of Society programs, services, and initiatives, as well as to better facilitate communication among members themselves.

SfN Chapters To Serve as an Important Outreach Arm at Local Levels

In response to membership desires for greater involvement and opportunities for stronger affiliation with SfN at the local level, the Society is exploring ways to increase the role of chapters. As one step in the process, SfN sponsored a workshop at the 2007 annual meeting in San Diego on invigorating and funding local SfN chapters. Organized and moderated by Timothy S. McClintock, chair of SfN's Membership & Chapters Committee, the workshop provided participants with information on forming new chapters, reviving dormant chapters, and successfully applying to SfN for funding through various chapter programs. Participants were able to ask questions and engage in small group discussions with experienced chapter leaders in addition to interacting with fellow chapter representatives to share successes and challenges faced by chapters. As a result of this meeting, several new chapters are in the works. The Society plans to host similar events in the future. (See page 9 for recent SfN chapter accomplishments.)

Meeting the Needs of International Membership

Reflecting the increasing international membership of SfN, one of the emerging themes in the survey was that the Society must work to better meet the needs of its growing international membership. SfN regards among its key partners many vital and engaged international neuroscience organizations, including the Federation of European

Neuroscience Societies and the International Brain Research Organization, among others.

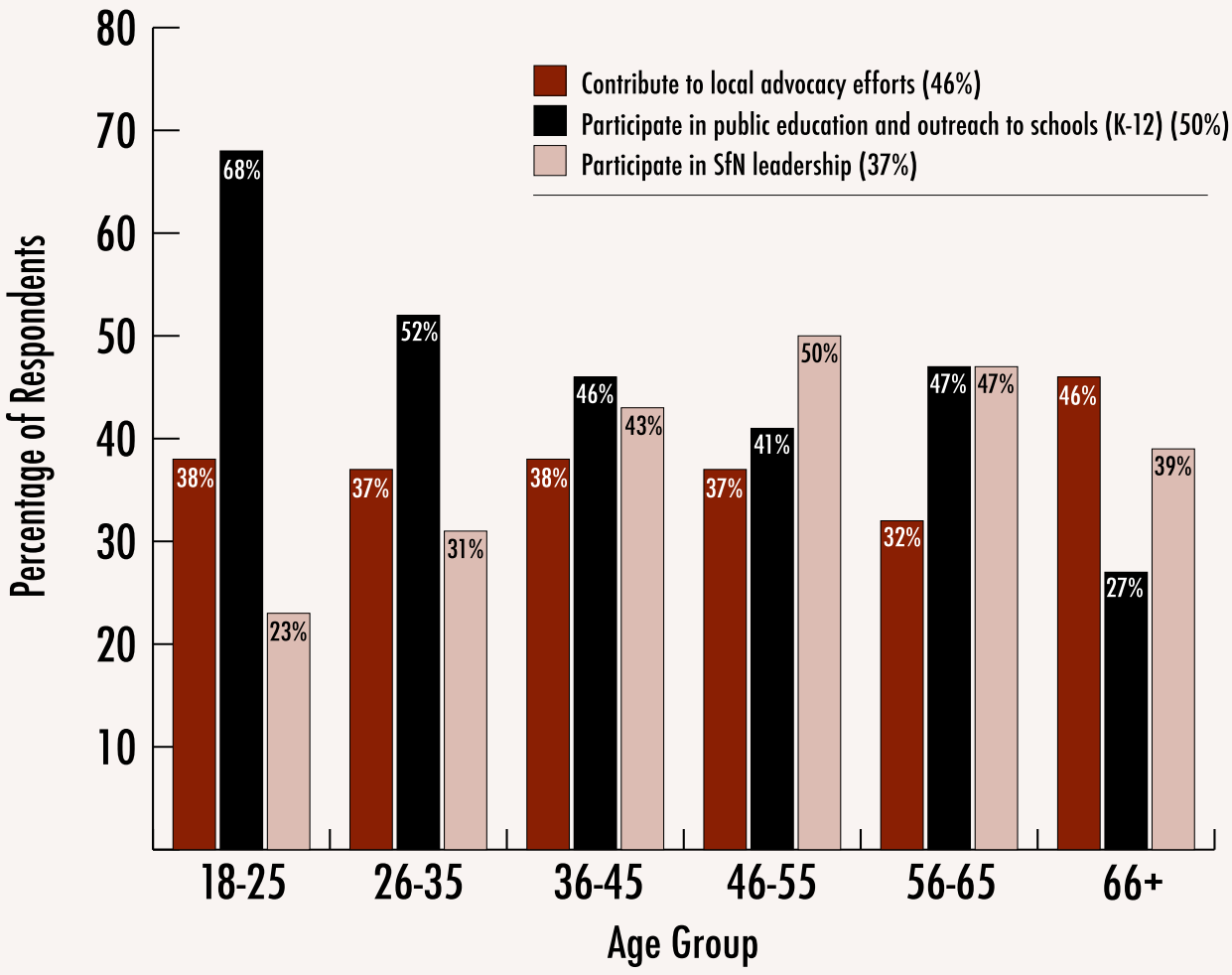
The desire for increased SfN international support is particularly relevant as 70 percent of non-U.S. surveyed members cited SfN as their primary membership organization, a statistic nearly identical to the portion (76 percent) of U.S. respondents to the same question. In open-ended responses, members encouraged SfN to collaborate with non-U.S.-based partner organizations to offer additional professional development opportunities and further collaborate on international advocacy efforts. SfN is currently exploring ways to expand the range of initiatives that could enhance SfN's international partnerships.

Working Toward Enhancing the Membership Experience

SfN continues to study these results in hopes of further understanding the changing face of membership and meeting member needs. In addition, a separate survey is currently underway for lapsed and non-members that will help identify additional unmet membership needs within the field of neuroscience. Over the coming months, SfN will work closely with Council and other leaders to develop concrete strategies for a robust membership enhancement plan that will be implemented in the months and years to come. SfN continues to seek innovative ways to address member concerns both in the short- and long-term, and values member participation in these efforts. ■

Members' Desire for Involvement

Question: In what ways would you be interested in getting involved in SfN?



. . .Q&A with Story Landis, continued from page 1

A second challenge is finding the funding to realize the scientific opportunities. Of course, my view may be colored by the fact that until late December, NIH didn't have a 2008 budget. To make experimental ends meet, investigators are cobbling together funding from NIH, private foundations, including disease groups, and private philanthropy. Recognizing that new investigators — investigators seeking their first competing renewal — and established investigators with modest grant support are most vulnerable, NIH has put programs in place to help. These include 1) the Pathway to Independence Award (K99/R00) that supports the last two years of postdoctoral training and provides three years of R01 level support when the recipient gets a tenure track or equivalent job; 2) a different payline for first time R01 applicants so that as many new investigators were funded in 2007 as the average of the previous five years, which meant that NINDS funded new investigators with scores up to the 25th percentile; and 3) $90 million in bridge awards for investigators who have only modest funding. Budget permitting, all three programs will remain in place in 2008.

A third challenge involves bringing discoveries from basic science to patient treatments. Successfully making the transition from animal models to humans is difficult, particularly when the animal models may not mirror the human condition adequately. We now have a growing number of agents that interact with pathways involved in disease and that show efficacy in animal models. How do we decide which of these should be taken to clinical trials, which can take 5-15 years to show an effect on patient outcome? Clearly we need to figure out better ways to track the effects of interventions (e.g., biomarkers) and to run clinical trials more efficiently.

NQ: How is the discussion about balancing basic and translational research unfolding within NIH?

At NINDS, we are balancing more than just basic and translational science since we also fund clinical research, including epidemiology, natural history studies, and clinical trials. Rather than set aside funds for the different classes of research, NINDS accepts investigator-initiated applications that propose research along the continuum from basic to clinical and small to large. Based on peer review and institute priorities, we select the best and/or most promising of these applications for funding. We have just started a planning effort that will assess what we are funding in the general areas of basic, translational, and clinical to determine whether we have the right balance, how our portfolio overlaps with that of other institutes like NIMH that fund basic neuroscience, and whether our translational and clinical trials programs are effective. In the course of the "review of peer review," a number of scientists also distinguished between research that was transformative, innovative, and/or an essential continuation. One could argue that progress also depends on a balance between these kinds of research. Innovation, exemplified in the Pioneer Awards, was identified as an important goal of the NIH Roadmap and more recently featured in the New Innovator Program for starting investigators. It is worth noting that one-third of the Pioneer Awards have gone to investigators working in the neurosciences — pretty impressive when you consider that only one-sixth of the NIH budget is neuroscience.

NQ: What new initiatives funded by NINDS are planned or underway for research on neurological disorders and stroke that will most affect neuroscientists?

During the doubling, the institute undertook a number of initiatives — supplements for equipment purchases, GENSAT, the microarray centers, a resource to generate monoclonal antibodies, a translational research program, and a genetics repository, among others. We are sorting through which were successful and should be continued.

For the past several years and until we have a better balance between applications and dollars to fund them, we have focused on new initiatives that are relatively inexpensive, but could have a significant impact. One is the EUREKA (Exceptional, Unconventional Research Enabling Knowledge Acceleration) award. This is an NIGMS program that NINDS, NIMH, and NIDA joined. The application is only eight pages and asks applicants to explain why what they are proposing is exceptional and unconventional. The neuroscience institutes received 150 applications, and if they are as interesting as we hope, we will ask for applications again next year. A second is the CAPTR (Collaborative Activities to Promote Translational Research) supplement program to enable investigators to initiate new collaborations.

Neuroscientists should also be taking advantage of roadmap initiatives. These include assay development and high throughput screening as part of the molecular libraries Roadmap project and a brand new epigenetics initiative. The membrane protein structure initiative has already yielded some very interesting advances, including the very recent publication of a structure for the β-adrenergic receptor.

***NQ:* Four years into your leadership at NINDS, what are the most significant advances you've seen in stroke and neurological disease research and treatment?**

One of the most exciting areas has been genetics. During the past five years, monogenic causes of a number of neurologic disorders have been discovered. For example, mutations in the LRRK2 gene lead to Parkinson's disease, mutations in the progranulin gene to fronto-temporal dementia, and mutations in ion channel genes to epilepsy. Though accounting for a subset of patients, these genetic discoveries provide new tools to elucidate the cell biology of the disease. In addition, they help frame strategies for therapeutics development. The identification of a disease gene can also be of immediate benefit to patients since it allows for the development of genetic testing which can shortcut the diagnostic odyssey. The results of whole genome wide association studies in multiple sclerosis have also provided a better understanding of risk factors and an explanation of some of the therapies currently being tested may be effective.

The ability to decode and/or manipulate brain activity is also yielding benefits for patients. The most striking example is deep brain stimulation (DBS) which can transform the quality of life for mid stage Parkinson's patients. DBS is also being investigated for other disorders including dystonia, depression and tremor. Sophisticated recording of cortical activity along with high resolution neuroimaging allows precise surgical resection of epileptic foci. Finally, recording and analysis of cortical activity is used to run computer interfaces and early phase neural prostheses for quadriplegic patients.

The translational "valley of death" still stands in the way of providing cures. Empowering the scientific enterprise to convert new knowledge into treatments is high priority for NINDS. We are beginning to see successes from our milestone-driven translational program as the first of these projects yields INDs and move to early phase clinical trials. In addition to investigator initiated projects, NINDS initiated its own translational effort, the SMA (spinal muscular atrophy) Project. We chose to run this experiment with SMA, a devastating motor neuron disease of children, because a particularly promising therapeutic path existed. Early in 2008, preclinical testing of several novel agents from the SMA Project will begin. ■

Aspiring Neuroscientists Compete for the Opportunity of a Lifetime

For months, high school students study the "ins and outs" of brain anatomy, function, research, and disorders to test their neuroscience knowledge at the International Brain Bee (IBB). Jong Park, 2006 IBB winner, and Melody Hu, 2007 IBB winner, attained the ultimate contest prize: an internship in the lab of a neuroscience researcher. While Hu won't participate in her fellowship until 2009, Park recently spent the summer working alongside neuroscience experts and participating in cutting-edge research.

Park completed his internship this past summer, studying in the lab of Sheena Josselyn in the Neurosciences and Mental Health department at the Hospital for Sick Children in Toronto. His contribution went beyond expectations.

"Jong's internship was a huge success this summer. He contributed not only 'more hands' to projects in the lab, but also much needed enthusiasm and youthful energy," said Josselyn. "I enjoyed my many meetings with him and being able to see the wonder of science through his eyes."

Park was placed in Josselyn's lab to explore his interest in research of the molecular mechanisms of learning, memory, and addiction, and more specifically the practices of research scientists in the field.

Jong Park, 2006 International Brain Bee champion, experienced hands-on cutting-edge neuroscience research during his internship in the lab of Sheena Josselyn.

"I was less focused on producing results for publication and more interested in how research gets done all the way from the ground up," Park noted. "My fellowship was only 7-8 weeks, so I decided to try and learn as much as I could about the big picture: the ideas, the methodologies, and the overall process of scientific research."

The IBB, held every year at the University of Maryland, Baltimore, takes place in March during Brain Awareness Week.

(from left) Norbert Myslinski, IBB founder/organizer; Melody Hu, 2007 IBB champion; Janet Dubinsky, 2007 IBB champion mentor; and Nicholas Spitzer, Public Education and Communication Committee chair. Hu will begin her internship in the summer of 2009.

A live question-and-answer competition is but one of several events in the competition that test the neuroscience knowledge of high school students. Topics include intelligence, memories, emotions, sensations, movement, stress, aging, sleep, addiction, Alzheimer's, and stroke, among others.

The contest prize includes $3,000, provided by Thadikonda Research Foundation, a trophy from the IBB organizers, an all-expense trip to the SfN annual meeting for the champion and his or her mentor, and an internship in the lab of a neuroscientist.

To begin his internship, Park performed common lab procedures, including basic scoring of mouse behavior, microscopy, and cell counting. "Jong quickly mastered all of these techniques and expressed an interest in working on a project more independently," Josselyn commented.

Park began work on a project that examined neuronal competition in memory formation. The objective of this project was to examine why only a portion of neurons are involved in a given memory, as shown in electrophysiological and cellular imaging studies, and why these neurons in particular are selected to participate in a given memory trace.

After infusing viral vectors in the amygdala of mice, he examined the effects on fear memory and the neurons involved in the memory trace. Through participation in this project, Park learned about viral vectors, mouse stereotaxic surgery, mouse behavior, and immunochemistry.

"I not only learned a plethora of cool techniques and protocols, but I also learned how to work accurately and efficiently, and I greatly developed my concentration and time management skills, which I found were truly invaluable in the lab," Park added.

Park was not the only one benefiting from his time in the lab. Observing his youthful enthusiasm for science, researchers recognized the importance of educating and connecting with the younger scientific community. "Having Jong in the lab has really reinforced in me the need for public outreach in neuroscience. In fact, I plan to visit his old high school and talk about my research," Josselyn said.

The IBB attempts to motivate youth to learn about the brain, capture their imagination, and inspire them to pursue careers in biomedical brain research.

"My fellowship really put the challenges, rewards, experiences, and the life of a research scientist into perspective," Park said. "I believe that neuroscience research is expanding our knowledge of health and disease, and pushing us toward cures. I think these precious objectives are worth pursuing, and my fellowship in a lab that is strongly contributing to this effort left me with a highly positive impression of both neuroscience and research."

Park is currently attending the University of Toronto where he is studying life sciences. He plans on entering a neuroscience specialist undergraduate degree program within the next year and then pursuing a graduate degree. Park currently volunteers in Josselyn's lab during school semesters and hopes to secure a position as a full-time research assistant next summer to continue involvement in the projects he began work on during his internship. ■

2008 FENS Forum Expected To Strengthen European Neuroscience Community

The city of Geneva will host the sixth Federation of European Neuroscience Societies (FENS) Forum. From July 12 to 16, scientists and students from around the globe will have the opportunity to present and discuss recent discoveries, and network with peers in the field. Held biannually, the FENS Forum is the largest neuroscience meeting in Europe.

Forum Promises Rich Scientific Program

FENS 2008 features 9 plenary lectures, 11 special lectures, and 11 special events. From more than 200 submissions, 56 symposia have been chosen by the FENS Program Committee to be presented at the Forum. According to Dr. Ronald Harris-Warrick, SfN representative on the FENS Program Committee and former member of SfN's Program Committee, the symposia cover a broad spectrum of neuroscience, the majority dealing with developmental neuroscience, synaptic mechanisms, and cognitive and behavioral neuroscience.

Technical workshops will open the Forum, and also feature topics applicable to many aspects of neuroscience. "These workshops focus on the nuts and bolts of new technology. They cover what new methods are available and how you can apply them to your scientific problems," Harris-Warrick noted.

Aside from the rich content of the scientific program, FENS has collaborated with the Swiss Society for Neuroscience to organize a social program that features the "FENS Jazz Nite," bringing the world famous Montreux Jazz Festival to Geneva. Attendees can experience the history and culture of this alpine city through excursions to medieval castles, local vineyards, and tours overlooking the Alps.

Students are encouraged to take advantage of special resources and opportunities organized to maximize their experience at the Forum. Every evening, students can relax lake-side and enjoy drinks and dinner with fellow students and young scientists. The "Jump-the-FENS" Web site has been created especially for students, supplying information about travel costs, accommodations, and happenings in the area.

SfN will sponsor a networking social on Tuesday, July 15 for all North American graduate students and postdocs attending the Forum.

SfN Student Travel Awards Available To Encourage FENS Participation

SfN offers special travel awards for American, Canadian, and Mexican graduate students to attend the FENS Forum. Fifteen travel awards at $1,500 each will be distributed to honor exceptional students nominated by his or her local SfN chapter. Students are evaluated on the scientific merit of the abstract submitted to the Forum, evidence of community outreach, and letters of recommendation from both the nominee's advisor and nominating committee of the local chapter. The FENS deadline for abstract submission is January 31. Travel award nominations are due February 15. More information on the SfN FENS Travel Award can be found at www.sfn.org/fenstravel. More information on the FENS Forum can be found at http://forum.fens.org/2008. ■

. . . Community Outreach, continued from page 9

entist-community interaction within the Puget Sound area that will last for years."

Ting, White, and Watari were among the recipients of the first annual Next Generation Awards, which focus on promoting outreach at the chapter level. (See page 11 for more information.)

Ting described his motivation for community involvement, saying, "We share our knowledge and experience through outreach because we are truly passionate about what we do."

Chapter Workshop in Zambia Launches Neuroscience Course

The Middle Tennessee chapter helped introduce a neuroscience course into the curriculum at the medical school in Lusaka, Zambia, where there had been no training and research programs for PhD or MD/PhD in neuroscience.

Setting up the course was one of the goals of a retreat and workshop held in Lusaka from June 13–15, 2007. Other goals were to provide neuroscience information on diseases disproportionately prevalent in countries with less developed resources and to establish reciprocal training and research activities. Funding for the activities was provided in part by an SfN chapter grant.

The retreat and workshop were hosted by the chapter and investigators of the University of Zambia School of Medicine and the Epilepsy Association of Zambia. The meeting, called "Infections and Brain Disease Burden," featured more than 20 scientific presentations on HIV/AIDS, dementia, cerebral malaria, epilepsy, and chronic depressive disorders. The approximately 70 participants included students, clinicians, health professionals, and researchers. After the meeting ended, an intensive 10-day neuroscience course took place for 69 fourth-year medical students at the University of Zambia.

Sanika Chirwa, president of the Middle Tennessee Chapter, and Susan De Riemer were among the course lecturers covering topics such as brain structures, neural signaling, sensory and motor systems, as well as complex brain functions, including language, sleep, and memory.

As a result of the overwhelmingly positive outcome, the neuroscience course will be incorporated into the 2008 curriculum at the University of Zambia School of Medicine. The chapter's activities also spurred new plans for biannual neuroscience meetings in Zambia and visiting instructors from the chapter and elsewhere will be invited to assist with teaching the new neuroscience course at the medical school. ■

Participants of the "Infections and Brain Disease Burden" workshop in Lusaka, Zambia, heard presentations on HIV/AIDS, dementia, cerebral malaria, etc. The workshop content is scheduled to be offered as part of the 2008 curriculum at the University of Zambia School of Medicine.

. . . Advocacy Update, continued from page 8

able at www.sfn.org/animals. In the coming year, the SfN Committee on Animals in Research will be working with universities to implement measures to protect researchers engaged in responsible research.

Additionally, attached to membership renewal notices enclosed in this newsletter is an updated wallet card of SfN's *Translational Neuroscience Accomplishments*, which provides examples of breakthroughs made possible by animal research. Keep this card handy for times when you need to explain the proven benefits of responsible animal research.

International Activities

Neuroscientists around the world are actively pursuing projects important to the promotion of science. The following are some of the highlights.

During its 50th anniversary meeting, the Mexican Society for Physiological Sciences hosted a symposium entitled "Science Advocacy and Education" that focused on the importance of participating in science advocacy in Mexico and the rest of the world. SfN Past President Steve Heinemann presented on update SfN's advocacy activities. Additionally, SfN is collaborating with its Mexican counterpart on the production of translated *Brain Research Success Stories*, including a set for the Spanish-speaking population in the U.S. and versions for use in Mexico.

The Canadian Association for Neuroscience (CAN), in collaboration with the Institute of Neurosciences, Mental Health, and Addiction, is planning the Second Annual Canadian Neuroscience Meeting for May 2008 in Montreal, following up on the resounding success of the inaugural meeting held in May 2007. Links to the CAN Web site and Canadian advocacy documents are available on the SfN International Advocacy page, www.sfn.org/gpa.

The Federation of European Neuroscience Societies (FENS) is closely monitoring a proposed resolution before the European Commission that would ban the use of primates in research. FENS intends to voice its opposition to the ban and SfN is prepared to add its voice as requested by our European colleagues. ■

Let SfN Know When Your Scientific Paper Is Accepted for Publication

The Society's Public Information Department regularly issues press releases to help increase the public's understanding of neuroscience. In addition to covering news appearing in *The Journal of Neuroscience*, press releases may also highlight newsworthy studies from other high-profile publications such as *Science*, *Nature*, *Cell*, *Nature Neuroscience*, *The Journal of Cognitive Science*, *The Proceedings of the National Academy of Sciences*, or *Neuron*.

If your work has been accepted for publication in non-SfN journals, please let us know as soon as possible after you receive notification. Please send a proof of your manuscript, the publication date, and contact information for a public information officer at your institution to publicinfo@sfn.org. To see recent press releases, visit www.sfn.org/newsreleases.

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Open Minds to the Wonders of Neuroscience

Celebrate Brain Awareness Week
March 10 – 16, 2008

Join the worldwide campaign to raise awareness about the achievements and promise of scientific brain research.

For information, ideas, and resources to help you plan your own event, ranging from classroom visits to a laboratory open house for your community, visit www.sfn.org/baw.

Get involved and inspire the next generation of scientists!

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