

# NEUROSCIENCE

WINTER 2007

Q U A R T E R L Y

*“Business leaders, politicians, and scientists need to unite on an agenda that’s important for national competitiveness, jobs, and the future health of all Americans.”*

– SfN President David Van Essen

## IN THIS ISSUE

Message from the President.....	1
Combating Animal Rights Activism.....	1
Call for Committee and Council Nominations.....	4
Post-Election Analysis.....	7
Neuroscience 2006 in Atlanta, GA.....	8
Changes in Scientific Publishing.....	11
Sights from Neuroscience 2006.....	12
Q&A: Marina Bentivoglio of IBRO.....	15
Golgi-Cajal Event.....	19
Brain Awareness Week.....	20
Brain Bee Champion Makes Discovery.....	21
SfN Wins USGBC Gold Certification.....	22
SfN Receives \$650,000 from Eli Lilly and Company for Award.....	21

## Message from the President

### Elections Create New Opportunities for Increased Biomedical Research Advocacy

The recent mid-term national election results reveal that the mood of voters points in the direction of change. Democrats regained control of the Senate by 51–49 and of the House by a margin of 233–202.

Our political leaders are now talking about coming together in a bipartisan fashion on issues of importance to all Americans. This provides the science community with an invaluable opportunity to strengthen support for biomedical research across party and factional lines. Research!America polls indicate that 6 in 10 Americans believe that increased funding for medical and health research is vital for the country’s future health and economic prosperity. Business leaders, politicians, and scientists need to unite on an agenda that’s important for national competitiveness, jobs, and the future health of all Americans.

Despite this genuine sense of opportunity, it will not be easy to get our leaders to focus on issues of biomedical research funding, given the many competing priorities for scarce federal funds; the war in Iraq, Gulf reconstruction, high energy prices, and rising interest rates. It is particularly important to educate the many new members of Congress about the value and promise of federal biomedical research.

*Continued on page 2 . . .*

### SfN Charts New Approaches to Combat Attacks by Animal Rights Activists

In 2006, six attacks on researchers were reported to SfN. This equaled the total number of cases reported within the 1999–2003 five-year period. Although not all attacks get reported to SfN, the number of attacks has risen sharply in recent years, thus raising concerns that researchers will abandon animal research or leave research altogether.

Whatever the cause behind the rise in attacks — possibly increased Internet access around the world — animal extremists can mobilize and engage in behaviors that

*Continued on page 5 . . .*



David Van Essen,  
SfN President

Given the urgency posed by recent NIH budgets that are flat or declining, the Society for Neuroscience has embarked on several important initiatives. These include (1) actively courting biomedical industry business leaders in our advocacy efforts on Capitol Hill and

with the Administration, (2) a new effort to educate key members of Congress in both parties whose vote could make a difference for federal support of biomedical research, (3) continuing efforts to visit elected officials on a regular basis, and (4) participating in Brain Awareness Week outreach (BAW) activities.

Several years ago, SfN joined three important groups: the Joint Steering Committee for Public Policy (JSC), chaired by former NIH Director Harold Varmus; the Campaign for Medical Research (CMR), one of the groups credited with helping to double the NIH budget between FY1998 and FY2003; and the American Brain Coalition (ABC), a group of patient advocacy groups and scientific societies with a broad legislative program. Despite the efforts of these groups and other supporters, NIH funding has remained flat since FY2003, frustration has grown, and there is a growing sense of concern about the future. It became clear to SfN's Council two years ago that this situation called for innovative additional efforts.

### MEETING WITH BUSINESS LEADERS

Last summer SfN joined the Center for Health Transformation (CHT), which was founded by former House Speaker Newt Gingrich as a way to attract leaders of the business community to support advocacy efforts on behalf of science and biomedical research.

Our first initiative with CHT was to convene a meeting on Oct. 16 at which Gingrich and leaders of the biotechnology, pharmaceutical, and scientific instrument industries discussed the funding crisis and what they can do about it. CMR chair G. Steven Burrill who heads the life sciences merchant bank Burrill & Co., which is focused on companies involved in bio-

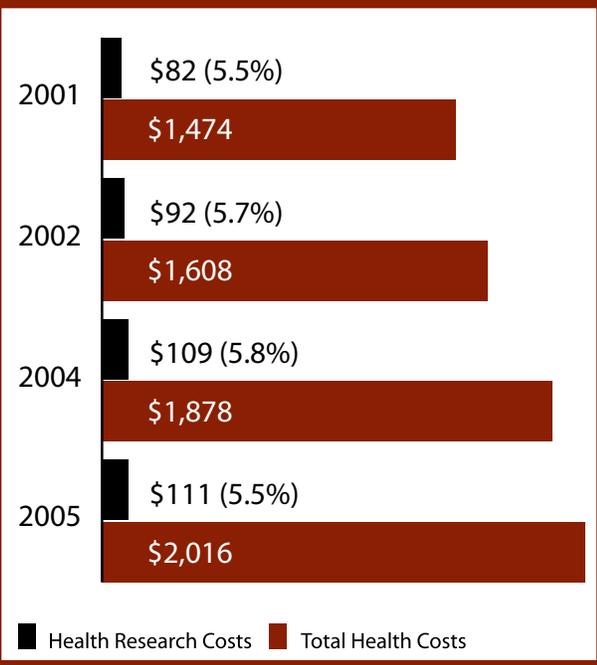
technology, pharmaceuticals, diagnostics, and devices helped lead the meeting, which discussed funding for NIH and the National Science Foundation, as well as the need for better mathematics and science education in the United States.

SfN Council members and the 18 corporate executives in attendance at the two-hour session were impressed with the quality of the discussion and were energized to explore new methods of advocacy that will make a real difference in the years ahead. The business leaders agreed on the need for more robust NIH budgets and were eager to explore new approaches to achieve this goal. These interested companies were invited to join CMR's Corporate Council Project — an opportunity for business leaders to advocate for federal biomedical research funding and thereby support the basic science advances critical for new drugs, diagnostics, and therapies of the future.

Attendees also agreed that the advocacy community needs to formulate fresh arguments, including ones based on the economic benefits derived from biomedical research. Gingrich made several observations that will help us in developing these arguments in support of NIH. First, he noted that the Baby Boomer generation needs a major effort to help mitigate the impact of Alzheimer's disease, schizophrenia, and many other devastating disorders. Second, science advocates need concrete action items conveyed with a sense of urgency. Third, greater emphasis should be placed on long-term investment in basic research. Fourth, the pharmaceutical industry would benefit by advancing an agenda that served a broad national goal. Gingrich also noted that during the time he was Speaker, Congress and the president doubled the NIH budget while working to balance the overall federal budget. So the task ahead is far from impossible.

It was clear to participants that even 5 percent annual increases for NIH may not be enough, given that the cost of biomedical research inflation exceeds 3.5 percent annually. CHT is preparing a white paper that will outline the economic benefits of research and provide data to back up some of the new arguments we will use during the next budget cycle for FY2008 which has already begun on Capitol Hill.

### Health Research Expenditures Compared with Health Costs (in billions of dollars)



Research!America's estimate shows the shrinking percentage of money spent on research compared with the cost of health care; between 2004 and 2005. The portion of the total health dollar allocated to research decreased from 5.8 cents in 2004 to 5.5 cents in 2005.

### WHAT SfN IS DOING

SfN will continue our stakeholder partnerships with JSC, CMR, and ABC. During the next budget cycle, we plan an aggressive new approach to conduct visits in conjunction with business leaders on Capitol Hill and within the Administration armed with new arguments and new allies in support of robust biomedical research budgets.

SfN will also embark on a two-year effort leading up to election year 2008 in which we hope to identify specific key players in both parties who may become more supportive of biomedical research. We plan to target 30–40 members of Congress in both parties, aiming to educate them about the importance of biomedical research and persuading a majority of them to vote consistently in support of NIH and related biomedical research issues. This will be a top priority of our advocacy efforts going forward.

### WHAT SfN MEMBERS CAN DO

You can make a major contribution to this initiative by helping put research issues in the center of the national debate. We must recognize the connection between worthy grant applications that go unfunded and the need to show up at a local candidates' forum or town hall meeting to ask candidates about their views on federal biomedical research funding. You should regularly visit your elected representatives in their home district office and invite them into your labs. Write letters to the editor and op-ed pieces in the local paper about the importance of funding for research. Mention again and again how taxpayer money is being well spent toward learning about the brain and nervous system and how this will result in advances that affect and help people across their district and neighborhood. Instead of just asking for money, explain how we as scientists can help them with looming problems such as Alzheimer's disease that threaten the Baby Boomer generation. Many new (and continuing) members of Congress still need to be educated about these issues.

The recent passage of the Animal Enterprise Terrorism Act shows how the science community can have a positive effect on legislation. Be sure to thank your Senators for their support on this issue, as the vote was unanimous. (In the House, the vote was by voice, not roll call, so members' positions were not recorded.)

To aid our members, SfN provides advocacy training for chapters conducted by our legislative advisers, Cavarocchi, Ruscio and Dennis Associates (CRD). We urge you to organize small groups of members to meet with elected officials, attend town hall meetings, speak to your local chamber of commerce, and write letters and op-ed pieces. Get engaged now during a time when we have a real chance of making a difference, especially in districts where representatives may be persuaded to support funding for research. (See SfN's *Guide to Public Advocacy* at [www.sfn.org/guide](http://www.sfn.org/guide).) For more information and tips on meeting with elected officials, or to schedule a training session with CRD, contact [advocacy@sfn.org](mailto:advocacy@sfn.org).

Hand-in-hand with meeting with elected officials is the need for greater public awareness of the benefits

and promise of federally funded biomedical research. We have a wonderful chance to do just that during Brain Awareness Week (BAW), which occurs this year from March 12 through 18. This is a great chance for you to help organize and speak at schools, assisted living facilities, and community centers and relate to the public the importance of your research and the responsible use of animals in this process. I have participated in St. Louis BAW activities at Washington University and plan to speak this year at an SfN-sponsored event in Washington, DC.

SfN's recently revised strategic plan ([www.sfn.org/strategicplan](http://www.sfn.org/strategicplan)) includes mandates in each of the areas outlined above. The plan's federal funding strategic issue states that SfN must "Build stronger relationships with a broader array of organizations and individuals that support biomedical research ... including reaching out to industry leaders who exert considerable influence in Washington, DC, based on a shared agenda in support of the economic importance of research in the US and global economy." Another is to "form strategic relationships with key political leaders who could and

will help advance the cause of biomedical research." A third is "to offer advocacy training at the local level, by traveling to specific chapters and teaching interested neuroscientists how to effectively educate the public and advocate to policy makers on behalf of neuroscience."

The plan's public education strategy notes that "At a time when neuroscience research is yielding dynamic achievements, the public has insufficient awareness of this information. The Society's efforts to translate and transmit information to educators and others will result in improved public understanding about health and basic scientific processes."

The strategic plan represents a framework endorsed by the Society's leadership to pursue these initiatives. But for them to succeed, individual neuroscientists must recognize the magnitude of what is at stake and join in this effort. The most recent election shows the power of the electorate when it aligns behind a key set of issues. This equally applies to citizen-scientists concerned about advocacy, education, and the future. ■

## Nominations for Officers and Committee Replacements — Soon to Be Accepted on SfN Web Site

The Committee on Committees reminds members to submit their nominations for President-Elect and Treasurer-Elect, as well as 2007 committee member and chair replacements. Only Regular and Emeritus members are eligible to submit nominations for President-Elect and Treasurer-Elect, and a membership ID number is required. All members may submit nominations for committees members and chairs.

To improve representation within SfN's leadership and governance bodies, please consider nominating from broader,

diverse sections of the SfN membership, including student members. You will find additional information about the SfN committees at [www.sfn.org/committees](http://www.sfn.org/committees).

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

If you have any questions about the nominations process, please contact Kate Hawker, Director of Operations & Governance, at [khawker@sfn.org](mailto:khawker@sfn.org).

are harmful to those conducting animal research more easily than ever, while remaining anonymous. E-mail campaigns and blogs are just two of the ways activists can encourage threatening behavior. Worse yet, targeting through the Internet can result in threats at a researcher's home or place of business.

## WHAT SfN CAN DO FOR YOU

SfN's Council, the Committee on Animals in Research (CAR), and SfN staff take this issue very seriously and are instituting new initiatives to protect animal research and our members. This includes the protocol that is followed from the time a request for help is submitted by a scientist to SfN, outreach to the leaders of research institutions and the National Institutes of Health (NIH), and physician education. The issue of animal rights extremism has received timely national attention this year with passage of the Animal Enterprise Terrorism Act (AETA) in both houses of Congress and signed by the President, which may act as a springboard to allow SfN's activities on behalf of humane animal research to be even more effective.

CAR and SfN have a process in place to support researchers who find themselves under attack. When an attack occurs, a scientist should contact Brad Keelor, SfN Government and Public Affairs Manager, at [bkeelor@sfn.org](mailto:bkeelor@sfn.org) or (202) 962-4000. The CAR chair will then be notified, and in turn he will contact the scientist to discuss the situation. If warranted, a CAR member can travel to the scientist's institution for further discussions and determine if and how SfN can be of assistance.

In addition, SfN members under attack are highly encouraged to contact the National Association for Biomedical Research (NABR), as crisis management is its core function. If the scientist is not undergoing an institutional investigation, SfN can issue a letter of support to the administration. Scientists should make every attempt to keep SfN staff involved as events proceed. SfN is committed to tracking all incidents and using past experiences to better support the research community.

## SfN INITIATIVES

### 1. Outreach

As part of a broad strategy to better educate those out-

side the neuroscience community on the issue of institutional preparedness in the face of attacks, SfN will initiate an effort to reach out to university leadership. SfN has had preliminary discussions with organizations whose members include university chancellors and presidents. SfN's goal is to heighten their awareness of threats posed by activists and provide tips on preparing for possible attacks. The first opportunity presented to act on this plan involved participation at a Continuing Legal Education (CLE) workshop held Nov. 16 by the National Association of College and University Attorneys (NACUA) in Washington, DC. SfN and the National Association for Biomedical Research (NABR) helped organize a discussion group titled "In Defense of Research: Animal Law and Your Institution." Randall Nelson, member of CAR and professor at the University of Tennessee Health Science Center, spoke from the perspective of the individual researcher, offering insight into ways that university attorneys can assist their researchers. Attendance at the discussion consisted of approximately 25 attorneys, who expressed interest in the issue.

### 2. Working within the Community

In early 2007, SfN President David Van Essen and CAR chair Jeffrey Kordower plan to meet with NIH officials to discuss new strategies to defend researchers. On their agenda will be a proposal calling for NIH to encourage research institutions to protect and preserve their grant funding by establishing a security and communications plan for their researchers. SfN sees this as a way to increase the effectiveness of federal research funds by ensuring that they are allocated toward research, instead of safety protocols necessitated by an attack.

Because the increased number of attacks has shown many US institutions to be unprepared for crisis situations and unable to provide the necessary support, SfN wants to work proactively with funding agencies to enact a security and communications plan. Although SfN has plans in place and can offer support, the Society's influence is not as broad-reaching as that of NIH. Therefore, the encouragement to establish a security and communications plan should come from the funding agency, which will complement SfN's efforts to encourage individual institutions to establish and enact plans for themselves.

CAR members believe that the establishment and enforcement of security and communications plans will benefit NIH by helping researchers continue their work unimpeded and allow grant-funded work to be completed on time, thereby saving valuable research dollars. The committee also believes that the implementation of institutions' plans will help reduce the number and severity of attacks on researchers. The less likely it is that chaos will follow an attack; the less likely the attack is to happen.

Please watch for updates on the meeting and the safeguards proposal.

### WHAT EVERY MEDICAL STUDENT SHOULD KNOW

A subcommittee of CAR, has begun planning to write and produce an 80-page handbook designed to educate medical students about the value of responsible animal research. After engaging in a variety of outreach activities in the biomedical research community, CAR saw a need to educate medical students about animal research. The handbook will allow physicians to be better equipped to educate patients about how animal research has led to improved treatments and diagnosis of diseases, especially ones from which their patients may be suffering.

CAR has been tasked with the development of a plan for this handbook from creation to dissemination. It is estimated that the guide will take approximately 18-24 months to complete and would include chapters on subjects such as polio, Parkinson's disease, and ethical issues surrounding animal research.

### AETA PASSES CONGRESS, SIGNED INTO LAW

The Animal Enterprise Terrorism Act (AETA) passed both houses of Congress and was signed into law by President Bush on Nov. 27. This important legislation allows federal authorities to help prevent, better investigate, and prosecute individuals who seek to halt biomedical research through acts of intimidation, harassment, and violence. The Senate passed its version of the AETA on Sept. 30, with the House of Representatives passing its on Nov. 13.

The AETA revises criminal code in cases of "damaging or interfering with the operations of an animal enterprise." It sets specific punishments for specific actions,

### IF YOU ARE UNDER ATTACK—

- Notify your institution's administration, public relations office, and attorney
- Contact Brad Keelor, SfN Government and Public Affairs Manager, at [bkeelor@sfn.org](mailto:bkeelor@sfn.org) or (202) 962-4000
- Contact the National Association for Biomedical Research (NABR) at (202) 857-0540 for crisis management help

such as causing economic damage between \$10,000 and \$100,000 to an animal enterprise resulting in a fine or up to five years imprisonment. However, the law later says it does not strive to "provide exclusive criminal penalties," meaning additional fines or imprisonment can be applied at the court's discretion.

The law also modifies the definition of "animal enterprise" to include "(1) an enterprise that uses or sells animals or animal products for profit for educational purposes; and (2) an animal shelter, pet store, breeder, or furrier." The new definition would, for the first time, include competitive animal events such as dog shows and rodeos. It also defines the terms "economic damage," "serious bodily injury," and "substantial bodily injury" as they pertain to acts of violence or terrorism.

A final key provision of the law is the language on what it refers to as "expressive conduct," which states that the language of the law does not infringe on demonstrators' First Amendment rights. For more information on this legislation, please visit [www.nabr.org](http://www.nabr.org).

The support of the AETA by the biomedical research community in the form of phone calls, e-mails, and letters to members of Congress was instrumental in its passage. Nearly 3,000 messages were sent by SfN members alone, and NABR reports that over 10,000 messages were sent to Congress during activity on the bills. Thank you for taking action to help pass this important legislation. ■

## NIH Reauthorization Passes; Congress Changes Leads

The 109th Congress approved on Dec. 9 the National Institutes of Health (NIH) Reform Act of 2006, which reauthorizes the agency. Changes in the final bill occurred, in part, through negotiations with many science and patient advocacy groups. SfN sent several letters to key lawmakers outlining our concerns, and issued legislative alerts urging members to contact their legislators on this issue. SfN President David Van Essen met with Sen. Edward Kennedy's (D-MA) committee staff shortly before the passage of the bill to express concerns about the House-passed legislation. Due to the last-minute efforts of Sen. Kennedy and other key supporters on the committee, the final bill no longer contains language that concerned SfN leadership.

The original bill, introduced by Rep. Joe Barton (R-TX), chair of the House Energy and Committee, limited NIH funding to an annual increase of 5 percent for fiscal years 2007 through 2009. The new bill, increases that cap to 6 percent in 2007, 8 percent in 2008, and eliminates the funding cap altogether in fiscal year 2009. The bill authorizes appropriators to spend that amount, if they wish and if it is available.

The original bill also created a "Common Fund" to launch trans-NIH initiatives. SfN supports this effort, but initially it was set up to be funded from half of the total annual increase that NIH would receive. SfN leaders worried that this could actually further erode NIH institutes and centers' spending power. The final bill removes this funding link.

On Dec. 11, Sen. Robert Byrd (D-WV) and Rep. David Obey (D-WI), the new Senate and House Appropriations Committee chairs, announced their intention to introduce and pass yet another continuing resolution (CR) when the Democrats take control of Congress in January. This legislation would be a yearlong CR, and at press time, it was unclear whether it would use the same language as in the two previous CRs, where funding levels are specified at the "lowest" of either the House or Senate-passed FY2007 levels, or the FY2006 appropriated level. Byrd and Obey have indicated that they may attempt to seek adjustments to spending levels passed in FY2006 by the House Appropriations Committee, in a few areas which could only slightly improve the bleak outlook for NIH funding in FY2007, given the CR.

### DEMOCRATS WIN CONGRESS

The Nov. 7 election results show the Democrats in control of the House of Representatives for the first time since 1994 by a margin of 233–202, as well as control of the Senate by a margin of 51–49.

Although the Democrats will hold a majority in each house, this does not guarantee passage of the items of concern to researchers. The Democrats and Republicans will each hold 49 seats in the Senate, with two Independents, Lieberman (CT) and Sanders (VT), caucusing with the Democrats. This leaves the Democrats well short of the 60 votes needed to overcome a filibuster in the Senate. Democrats picked up 30 seats in the House, and while this gives the Democrats a majority of 14 seats, many of those elected may be more conservative and not consistently support a biomedical research agenda.

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It appears that compromises will be required to get things done. House Speaker Nancy Pelosi (D-CA) will be faced with the challenge of balancing factions, including both the Blue Dog Democrats, a group of 44 moderate to conservative party members, as well as more progressive members. Although the challenges ahead are significant, being the majority party does come with the ability to call hearings, conduct investigations, and determine the legislative calendar.

The election results could mean that biomedical research issues will receive attention in the next Congress. Part of the already announced Democratic agenda will be the issue of affordable health care, which Democrats hope to accomplish by altering Medicare Part D via price negotiations with drug companies. Additionally, Speaker Pelosi indicated that the stem cell legislation will be on the House agenda. ■

## Scheduling Changes – A Big Improvement at Neuroscience 2006

Scientists from around the world converged on the Georgia World Congress Center in Atlanta for the Society's 36th annual meeting. Held Oct. 14–18, Neuroscience 2006 allowed 25,785 attendees to share ideas and debut cutting-edge research on the brain and nervous system. Scheduling adjustments ensured that the meeting's scientific content concluded by 6:15 pm each night, allowing attendees to attend evening social events.

"The adjusted schedule was adopted based on member feedback and by all indications succeeded in making it easier for attendees to network with colleagues," said Frances Jensen, 2007 chair of the Society's Program Committee. "Along with a typically outstanding scientific program, it helped make the meeting a great success."

Approximately 7,000 people attended the first lecture of Neuroscience 2006, "Dialogues between Neuroscience and Society," presented by world-renowned architect Frank Gehry. Gehry talked about his ideas and approach to architectural design. This lecture series is meant to foster an exchange between the public and the neuroscience community and debuted last year at Neuroscience 2005 with an address by the Dalai Lama of Tibet.

Four presidential special lectures highlighted how the study of human genetics informs basic neuroscience and tells us more about human disease. Huda Zoghbi of the Howard Hughes Medical Institute at Baylor College of Medicine spoke about genetic, biochemical, and neurophysiological studies that are providing insight into the importance for synaptic plasticity of the gene that encodes Methyl-CpG-binding protein 2. Sangram Sisodia of the University of Chicago discussed advances made through the study of the "Molecular Neurobiology of Alzheimer's Disease." Peter Carmeliet of the University of Leuven, Flanders Interuniversity Institute of Biotechnology, Belgium, talked about "The Emerging Importance of the Neuro-Vascular Link in Health and Disease." Finally, Harry Orr, a geneticist at the University of Minnesota, gave a lecture titled "Neurodegenerative Disorders: Linking Basic and Clinical Neurosciences."

The speakers illustrated how research is leading to therapies for devastating neurological disorders that currently have no treatment.

The importance of biomedical research was further underlined at an Oct. 16 meeting among biomedical business and association leaders, SfN Council members, and representatives of the Center for Health Transformation, including its founder, former House Speaker Newt Gingrich. SfN President David Van Essen discussed the current NIH funding crisis, and Gingrich noted that advocacy for research funding must be put into the context of a large national interest. Participants agreed to continue to work collaboratively to craft a focused and consistent argument to be delivered by business leaders and other advocates to Congress and the Administration. (See article on p. 14)

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– Frances Jensen

For the second year, the annual meeting featured the NeuroJobs Career Center. This year's career center offered more computer consoles and private meeting rooms than were available last year, thus making it easier for attendees and exhibitors to access job listings and schedule interviews with participating employers during the meeting. Also featured for the second year was the "Meet the Experts" series of workshops. (See article on p. 10)

The Neurobiology of Disease Workshop focused on motor neuron diseases (MNDs), a group of devastating paralytic disorders. Experts presented a comprehensive clinical review and evaluation of the mechanisms behind some of the most common MNDs. Patients with spinal muscular atrophy and amyotrophic lateral sclerosis joined

the speakers on stage to discuss the current understanding of the mechanisms of their diseases and to provide a powerful illustration of the diseases' effects. A reception at the end of the workshop gave speakers, attendees, and organizers the opportunity to converse and informally explore remaining questions.

The meeting featured a fascinating lineup of lectures. Judy Illes of Stanford University gave the David Kopf Memorial Lecture on Neuroethics. She explored the shift from top-down reactive ethics to contemporary, action-driven neuroethics guided by neuroscientists. Winfried Denk of the Max-Planck Institute for Medical Research presented the Fred Kavli Distinguished International Scientist Lecture. Denk discussed how modern optical technology allows neuroscientists to look deeper, see more clearly, and watch for longer in carrying out research on the cortex of living animals.

Albert Aguayo of McGill University gave the History of Neuroscience lecture on Santiago Ramón y Cajal's book *Degeneration and Regeneration of the Nervous System*. He talked about how this ground-breaking work continues to provide an accurate description of the neural reactions to injury and how Cajal's insights anticipate many of the current ideas in the field.

Roger Nicoll of the University of California, San Francisco, and Masao Ito of the RIKEN Brain Science Institute together gave the Peter Gruber Lecture about how the brain learns with molecules and circuitry. Nicoll focused on the cellular and molecular substrates for explicit learning and memory. Ito addressed long-term depression of excitatory synapses occurring in cerebellar Purkinje cells as a memory process.

SfN's Public Service Award was presented to the non-profit organization, Campaign for Medical Research (CMR) by President Stephen Heinemann. The award recognizes individuals and organizations who have proved themselves as loyal supporters of biomedical research and who have raised awareness of neuroscience issues. Past recipients have included Muhammad Ali and Michael J. Fox. CMR was recognized for its work to ensure that future medical research funding is not ignored

by Congress. Steven Burrill, chair of CMR and chief executive officer of Burrill & Co., accepted the award.

Colin Blakemore, last year's recipient of SfN's Science Educator Award and Chief Executive of Britain's Medical Research Council, moderated the Public Advocacy Forum. He was joined by Sharon Begley, a science columnist for *The Wall Street Journal*; Bruce McEwen of Rockefeller University; Lisa Newbern, chief of public affairs at Yerkes National Primate Center; and Sanjay Gupta, senior medical correspondent for Cable News Network. They discussed ways neuroscientists could better communicate with the media to advocate for the research enterprise.

The Animals in Research Panel provided neuroscientists with pointers for talking in public about animal research and its benefits. Speakers Judy Cameron, Donna Marie Artuso, Peter Santi, and Kenneth Catania talked about how to form partnerships with veterinarians, teachers, and clinicians to spread the message about how animal research is expected to be important for development of new clinical therapies (for humans and animals) in the near future.

Finally, Dan Geschwind moderated the Social Issues Roundtable, which focused on Autism Spectrum Disorders (ASD). Geschwind, Portia Iverson, Mark Romoser, Rober Schulz, and Lonnie Zwaigenbaum highlighted recent advances in autism research and discussed the impact of the disease on families and communities. Also known as Pervasive Developmental Disorders, ASD affects as many as one in 165 children and severely impairs social skills.

Workshops provided attendees with instruction in a range of professional skills necessary for a successful career. Sessions focused on finding and maintaining employment, grant writing, and other topics. A short course led by Teresa Nicolson addressed how and why zebrafish are used to study neuroscience. György Buzsáki organized a second short course about how the brain orchestrates perceptions, thoughts, and actions from the activity of its neurons. Short course topic suggestions should be sent to Claire MacDonald at [cmacdonald@sfn.org](mailto:cmacdonald@sfn.org). ■

## “Meet the Experts” Closes Gap between Experts, Audience

Neuroscience 2006 marked the second successful year of the Society’s “Meet the Experts” series of free workshops. Held on Saturday, Oct. 14, five concurrent sessions allowed experts to detail their techniques and accomplishments to student scientists and postdoctoral researchers.

This year’s lineup of experts and topics included Elissa Chesler on integrative bioinformatics for neurobehavioral genetics; Kristen Harris on serial section transmission electron microscopy; Martha Herbert on widespread changes in autism; John Morrison on the value of quantitative neuroanatomy; and William Yang on a BAC transgenic approach to study function and dysfunction of the mammalian brain. During each 90-minute workshop, experts and the audience engaged in an informal and informative dialogue over breakfast.

*“The positive feedback from last year illustrates how hungry people are for this kind of personal exchange.”*

– Daniel Geschwind

Developed by SfN’s Education Committee and now overseen by the Program Committee, “Meet the Experts” debuted at the Society’s 2005 annual meeting in Washington, DC, with sessions led by Kristen Harris, Kimberly McAllister, and Robert Williams. The lineup was expanded for 2006 due to the enthusiastic response of the series’ inaugural attendees. “The positive feedback from last year illustrates how hungry people are for this kind of personal exchange,” said Dan Geschwind of the Program Committee.

Such exchanges have already yielded pleasantly surprising results. Last year, a student attending Harris’ session asked a number of highly specific questions. After the meeting, he sent e-mails to Harris and eventually visited her lab. There, he developed techniques that he is using to finish his PhD.

After his session at this year’s series, Morrison said that he, too, would likely host at least one student in his lab. “Some of them are struggling with issues I’ve addressed in my own research,” said Morrison.

The secret to the series’ early success, said Geschwind, is the participation of experts who possess “the right mixture of personality and technique.” Morrison said he agreed to participate “because it sounded like a unique format” where he could interact with a small group of young investigators.

Harris has found that participating in “Meet the Experts” has forced her to think about her techniques. Having twice given her presentation, a version of it was published in the Nov. 22 issue of *The Journal of Neuroscience* as a “Toolbox” feature.

Feedback from participants in this year’s series has been overwhelmingly positive. Anonymous survey respondents praised the experts as open to questions, approachable, and friendly, and the atmosphere as casual and relaxed.

Morrison agreed that “it went very well,” and said that, in the future, he “wouldn’t change too much,” particularly the length of the sessions. The 90-minute window, he explained, allowed him to make his presentation interactive rather than didactic. Harris said she believes that, if anything, 90 minutes is somewhat short and that she would support increasing the duration of each session to two hours.

Geschwind said that the Society’s Program Committee is open to suggestions, not just relating to matters of logistics, but also to session topics. “If this series becomes really popular, one could see doing anywhere from five to ten sessions,” he added. ■

## (R)evolution in Scientific Publishing: How Will It Affect You?

As Web-based electronic databases and online journals make it easier to store, retrieve, and exchange scientific information, many researchers, librarians, and members of the public want more open and seamless access to this information.

The changing landscape of scientific publishing, open access, and coping with the flood of data, were discussed at a roundtable convened by SfN's Publishing Open Access Group (POAG), during Neuroscience 2006. POAG is an eight-member working group appointed by Council to examine these issues as they may affect the Society, *The Journal of Neuroscience*, and the world of science publishing in the next few years.

SfN President David Van Essen, who chaired the discussion, noted: "A key objective is to get input from Society members as the Society considers migrating from print to online publication of its journal."

### THE CHANGING LANDSCAPE

Mark Doyle, assistant director of journal information systems for the American Physical Society (APS), noted that his society publishes nine journals, with almost all articles available on [www.arXiv.com](http://www.arXiv.com), the major archive for physics papers reprints. Physicists access papers primarily through arXiv, but librarians are journal subscribers, he said. On the other hand, paid subscriptions to *Physical Reviews*, a combination package of all APS journal articles, continue to increase because physicists need peer-reviewed publications and librarians believe they must have top-tier journals.

Panelist Donald Kennedy, editor-in-chief of *Science* magazine, noted that the new publishing environment poses challenges. *Science* provides different print and online features, such as the news and perspectives sections, that bring added value to the research articles. "The question in the new environment is how to pay for this added value," said Kennedy. These features require writers and editors, whose work the journal pays for through proceeds from its subscriptions.

At the *Proceedings of the National Academy of Sciences* (PNAS), Executive Editor Diane Sullenberger said the journal operates under tight budgetary constraints and is supported almost entirely by author charges plus subscription revenue. Currently, 41 percent of PNAS institutional subscribers purchase only the printed copy of the journal. If PNAS stopped printing the journal, Sullenberger estimates that such a move would save 25 percent in printing costs but lose 28 percent in revenue.

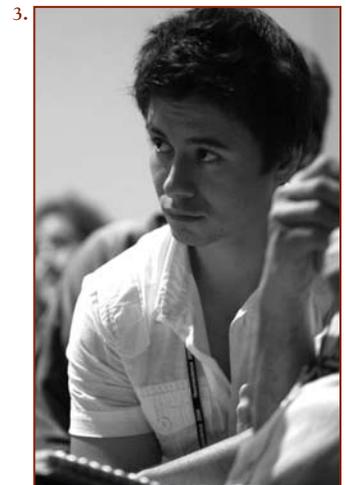
All articles published in PNAS are made freely available after six months — a model referred to as "delayed access" — meaning that currently 98 percent of PNAS content is free online. This policy is virtually identical to the access policy of *The Journal of Neuroscience*. In the year 2000, as an experiment, PNAS made articles freely available after two months of publication; but subscriptions to the journal decreased by 11 percent, and the experiment was terminated.

Although PNAS is not open access, authors can make their articles immediately open access by paying a surcharge of \$750 for publication if their institution has a site license. The surcharge is \$1,000 for authors from institutions without a site license. The open access option attracted 18 percent of authors in 2005 and drew 20 percent of authors in 2006. In neuroscience, the option attracted 25 percent, the largest of any field.

"Our journals span the life sciences, social sciences, and library sciences. How information is handled in different fields varies immensely," said Jasna Markovac, senior vice president and director of development at Elsevier, which publishes 1,800 journals.

Elsevier is currently polling and surveying its customers to assess their needs in different sectors. The publisher gives scientists the option to post their manuscript on their own Web site or on their institutional Web site. Elsevier also modifies copyright agreements to help authors comply with the requirements of funding bodies, such as the National Institutes of Health (NIH). In some journals, Elsevier offers sponsored publication

1. NIMH Director Thomas Insel and NINDS Director Story Landis give a special presentation about the current NIH funding situation.
2. Ray Dingledine of Emory University gives a lecture on understanding the evolution of abnormal network excitability using microarray analysis.
3. Neuroscience 2006 attendees take notes at the Social Issues Roundtable, "Autism Spectrum Disorders: Scientific Advances and Social Impact."
4. Michael Keller shares his view on the current challenges facing scientific publishing at a roundtable discussion, "(R)evolution in Scientific Publishing: How Will It Affect You?"
5. Steven Burrill accepts SfN's Public Service Award on behalf of the Campaign for Medical Research from President Stephen Heinemann.
6. Nancy Wexler, Nobel Laureate Eric Kandel and his wife Denise react positively to Huda Zoghbi's presidential lecture.
7. Former US House Speaker Newt Gingrich, founder of the Center for Health Transformation, talks about the importance of biomedical research with business and association leaders, including CMR's Steven Burrill (left).
8. NIDA Director Nora Volkov talks with an attendee at the Committee on Women in Neuroscience's guest speaker luncheon.
9. The bustling poster floor once again proves that the Society's annual meeting is the premier site for neuroscientists to exchange their latest findings.
10. Past President Fred Gage and renowned architect Frank Gehry discuss architecture and perception, the topic of Gehry's "Dialogues between Neuroscience and Society" lecture.
11. Neuroscience Scholars participants enhanced their career through the professional networking opportunities available through the program.



# 2 0 0 6 E V E N T S



## SfN Convenes Meeting of Business Leaders to Advocate for Increased Federal Support for Biomedical Research

On Oct. 16, SfN's leadership held its first meeting with a group of biomedical business leaders in an effort to devise new arguments and find business partners as stakeholders in advocacy efforts. This group is more apt to convince members of Congress and the Administration of the importance of increased budgets for biomedical research.

The meeting with former House Speaker Newt Gingrich, a proponent of research and founder of the Center for Health Transformation (CHT), grew out of concern with flatfunding for the National Institutes of Health (NIH) since FY2003. SfN joined CHT as a member in 2006.

SfN President David Van Essen noted that policy makers often fail to make the connection between NIH and National Science Foundation funding and the successful drug treatments, biotechnology breakthroughs, and improved instrumentation that biomedical companies produce. Emphasizing that connection is integral to convincing Congress that federal science funding should remain a top national priority, he said.

G. Steven Burrill, chair of the Campaign for Medical Research (CMR) and CEO of Burrill & Co., a life sciences merchant bank, said that the scientific and business communities can and should focus on the fact that investment in the NIH is not an expense, but rather an investment to address problems that will arise tomorrow. In his remarks, Burrill stated that all concerned parties need to clearly convey to policy makers that America must invest today in research, or pay a lot more in the future on disease treatment. He described CMR's Corporate Council Project, co-chaired by Burrill and Gregory Lucier, CEO of Invitrogen Corp., as an important vehicle to help organize the involvement of the business community in advocacy for research.

Among several points, Gingrich emphasized that advocacy for biomedical research funding must be put into the context of a large national interest. He suggested five key objectives that could help in this effort: (1) investment in math and science education, (2) improved systems of translating medical knowledge into practice, (3) an increase in the NSF funding that fosters greater interaction between the sciences, and (4) an increase in NIH funding; and (5) Food and Drug

Administration (FDA) reform. The advocacy community also needs urgent, concrete action items in order to convince elected officials to take some sort of action that can be measured.

Tony White, CEO of Applera Corp., commented on the success of the Human Genome Project and the fact that this one project alone is indicative of our ability to think in terms of "big science." However, he observed that the industry and the scientific communities could more effectively capitalize on this investment. "The sequencing of the human genome provides us with a tool box. We now need to invest in applying these tools to the discovery and development of new therapies and cures," he said. Without proper funding, the advances that could be made possible using the human genome data will be lost, White added.

Business leaders at the meeting expressed dismay that the five-year doubling of the NIH budget ended in FY2003 with the misconception among many policy makers that the agency had been financially "taken care of." In the past three years, NIH funding has been well below the rate of biomedical research inflation. In FY 2006, the agency faced its first budget reduction in more than three decades and only the third in its history.

During the past two years, it has become increasingly clear to SfN's leadership and to many in the biomedical research community that an innovative approach was needed for biomedical research advocacy. Because the NIH and NSF fund much of the basic research that pharmaceutical, biotechnology, and medical instrument companies rely on to develop new medicines and technologies, the funding crisis is urgent not only for researchers but for the entire biomedical research enterprise.

CMR's corporate council project will be one vehicle for future involvement, with coordinated Hill visits occurring during the next NIH budget cycle. The goal will be to craft a focused and consistent argument, delivered by business leaders and other advocates to Congress and the Administration. CHT will produce a white paper documenting the contributions to the US economy from the biomedical research enterprise and the potential future costs from treating diseases that threaten the American economy. ■

# IBRO's New Secretary-General Discusses Goals and Programs



Marina Bentivoglio,  
IBRO Secretary-General

*Marina Bentivoglio's three-year term as Secretary-General of the International Brain Research Organization (IBRO) began in Jan. 2007. She is a professor of histology in the faculty of medicine at the University of Verona, Italy, and president-elect of the Italian Society for Neuroscience.*

## **NQ: What do you see as IBRO's most significant accomplishments over the years?**

**Bentivoglio:** IBRO was founded in 1960 to promote neuroscience and encourage scientific communication among neuroscientists from all over the world. Neuroscience has exploded in the subsequent decades, with an enormous increase in the number of neuroscientists and a remarkable growth of large neuroscience societies, such as the Society for Neuroscience (SfN), the Federation of European Neuroscience Societies (FENS), and the Federation of Asian-Oceanian Neuroscience Societies. Since IBRO's creation, the social and economic situation in many countries has improved, but still a wide gap exists in standards of health, education, and research possibilities in the world. Given this situation, nearly 10 years ago IBRO decided to focus its programs on the promotion of neuroscience, international communication, and training. A greater emphasis was given to the education of students, the provision of assistance to young scientists, and to networking and building capacity, particularly "in regions with special needs."

Personally, I have been extremely attracted by this policy and the achievements are indeed remarkable:

- IBRO's worldwide program of neuroscience schools and courses has increased more than six-fold over the last five years.
- A large and interactive alumni program has been created; IBRO alumni now number more than 2,000.
- Funding has been established and expanded for travel and fellowships and for symposia and workshops.
- Working with its member societies and public education organizations, such as the European Dana Alliance for the Brain (EDAB) and the Dana Alliance for Brain Initiatives (DABI), IBRO now plays an increasing role in public education worldwide.

An impressive listing of these and many other activities sponsored by IBRO can be found on [www.ibro.org](http://www.ibro.org). Having participated in several IBRO initiatives on the African continent, I have witnessed the impact of these activities and know how much these and other IBRO programs are appreciated and needed.

## **NQ: What are your specific goals for IBRO? What do you hope to accomplish during your years as secretary-general from 2007 to 2010?**

**Bentivoglio:** With the help of the IBRO staff and the many colleagues committed to IBRO activities, I would like to ensure further expansion of the initiatives already established and emphasize the importance of —

- Helping promising trained young investigators from countries with limited resources to establish research facilities when they return home after training abroad; and
- Fostering the training of investigators for research on regional health problems, such as the 'neglected' diseases of the nervous system that afflict so many of the poor countries in Africa, Latin America, and Asia. This will entail increasing international exchange and collaboration between the basic and clinical neurosciences and raising awareness of health problems that affect millions of people around the world.

## **NQ: Do you see any obstacles or challenges to achieving IBRO's goals?**

**Bentivoglio:** We are all aware of the current international situation with its political and religious conflicts, economic imbalance, lack of infrastructure, problems in human mobility — not least, for example, the difficulties of obtaining a visa to enter certain countries, servicing equipment, or the impact of hyper-inflation on research budgets. Although many obvious obstacles exist, all who take part in IBRO initiatives make a considerable personal investment of time, energy, and perseverance to overcome such difficulties.

## **NQ: Do you foresee any changes or additions to IBRO's programs?**

**Bentivoglio:** We hope to build new partnerships with other scientific societies, clinically relevant organizations, and other stakeholders to increase the number

*Continued on page 16 . . .*

and impact of IBRO's programs. IBRO's regional and national basis and its historic link with UNESCO and the International Council of Scientific Unions (ICSU) puts us in a unique position to maximize the results of these efforts.

**NQ: What is IBRO doing to train and support young scientists around the globe and in developing nations, particularly those that are economically and politically unstable? Are there plans to increase these activities?**

**Bentivoglio:** IBRO has concentrated its efforts in the regions of the world that have both greater needs and also the potential to build neuroscience. This, as mentioned earlier, has sometimes entailed working in politically unstable situations. Fortunately, the desire of the regional and national neuroscience communities to participate in the work of IBRO has allowed these events to succeed. It is surprising to me to see how broad the community of investigators is who are eager to inspire, join, and implement IBRO's wide range of activities. We train young scientists through our educational programs, and we support them through our various other initiatives, funding schemes, and personal contacts. The IBRO alumni, made up of former participants in our schools and courses, know that we are eager to remain in touch with them on their return to their home countries and assist them during the difficult period of their establishment as independent investigators. We believe strongly that the key ingredients for capacity-building in the economically and politically less privileged regions of the world are to focus our efforts, maximize collaboration with local and regional organizations, and ensure that our commitments are consistent and persistent enough to bear fruit. The bottom-up planning and assessment process made possible by the current worldwide, regional, and national organization of IBRO provides a valuable way to ensure the success of these efforts.

**NQ: What broad goals do you have for this year's 7th IBRO World Congress in Melbourne?**

**Bentivoglio:** IBRO's World Congresses occur every four years and are organized and hosted by individual national neuroscience member societies. They are an effective way to create strong regional and worldwide interactions. The next World Congress in Melbourne in July 2007 will

provide an exciting opportunity for neuroscientists from the Asia-Pacific region to present their work to the rest of the world community. IBRO and several of its member organizations will be funding a number of travel fellowships for young students to attend the Congress and visit institutions in the host country. I hope that many of those who read this piece in *Neuroscience Quarterly* will join the rest of the IBRO community this year in Melbourne!

**NQ: How do public outreach and education, and advocacy efforts, fit into IBRO's programs? What challenges and opportunities do you see worldwide for public education and advocacy?**

**Bentivoglio:** IBRO strongly emphasizes public education in many of its activities and publications. Public education represents one of IBRO's significant accomplishments over the past few years. For example, the Brain Campaign program, a joint venture of IBRO, SfN, DABI, and EDAB, reaches the public in the broadest sense. The Brain Campaign funds hundreds of neuroscience events annually around the world in its bid to promote a public understanding of the brain.

**NQ: What are IBRO's most important programs for promoting neuroscience?**

**Bentivoglio:** Key programs include fellowships and travel grants, symposia and workshops, neuroscience schools, the Visiting Lecture Team Program, Return Home Program, Clinical/Basic Science Links Program, the International Scientific Advisory Board, the Neuroscience Network Program, alumni, etc. (For additional information please visit [www.ibro.info](http://www.ibro.info).)

The IBRO Neuroscience Schools are organized by IBRO's six regional committees: Africa, Asia Pacific, Central and Eastern Europe, Latin America, Western Europe, US/Canada. Recently, IBRO and FENS joined forces to sponsor and coordinate all neuroscience schools in Europe in one single pan-European training program called the Programme for European Neuroscience Schools (PENS).

IBRO helps organize schools originating from partnerships with national and international organizations. A North American example of this kind of collaboration is the school planned for Toronto in May 2007 for the

benefit of African and Latin American students. This initiative is jointly supported by SfN, the Canadian Association for Neuroscience; the National Academy of Sciences; and the Canadian Institute of Neuroscience, Mental Health, and Addiction, which are all members of IBRO's US/Canada Regional Committee.

The number of IBRO schools has soared since 1999, when they were held in Uruguay, Spain, and Mexico. In 2006, IBRO supported 19 neuroscience schools around the world. One of the significant results arising from the development of our schools is the rapid growth of IBRO alumni. The alumni have a dedicated Web site, facilitating communication between student to student and students and faculty worldwide. IBRO also offers guidance and mentorship on scientific issues and career selection.

**NQ: Would you please explain the libraries project?**

**Bentivoglio:** Many universities and scientific institutions in poorer countries — here again, I refer to my own experience on the African continent — would benefit from free or low-cost electronic journal subscriptions but often face enormous problems due to lack of infrastructure and resources. Our Neuroscience Libraries Program aims to identify such needs and provides access to scientific publications (e.g., via the IBRO-Elsevier partnership and also the World Health Organization's Health InterNetwork Access to Research Initiative at [www.who.int/hinari/en](http://www.who.int/hinari/en)). However, the computers and high-speed connections needed to access this valuable resource are not always available in many countries.

IBRO also has created the Book Fund Program, whereby neuroscience books and textbooks, obtained through purchases from special funds and through generous donations from members and publishers, are sent to libraries in need and distributed to students, whenever possible, via our neuroscience schools and courses. This is an important program. Access to the scientific literature is an essential prerequisite for education and the development of science.

**NQ: Because most of IBRO's budget comes from its publication revenues, how does this affect IBRO's perspective on "open access" journal publishing?**

IBRO's finances derive in part from the dues of the member organizations whose number has nearly doubled in

the last ten years. In addition, we have benefited from donations and partnerships. A substantial part of IBRO's income comes from royalties from *The Journal Neuroscience*, and changes in these revenues would certainly have an impact on IBRO's capacity to support programs that benefit the membership. However, our programs have thrived due to IBRO's ability to generate joint funding agreements with its affiliated organizations and outside partners. In fact, for every dollar that IBRO invests from its own funds, one or more dollars are generated through such collaborations. We therefore continue to see a promising future through the expansion of these arrangements and the strengthening of our fund-raising efforts via the 'Friends of IBRO, Inc.', a philanthropic organization chaired by former IBRO President Torsten Wiesel.

**NQ: You have previously mentioned the idea of engaging retired senior scientists in IBRO programs. How might this occur? In mentoring, committee involvement or some other capacity?**

**Bentivoglio:** IBRO's programs engage a vast community of young and active investigators who volunteer their time and efforts. They constitute, by far, the great majority of the IBRO workers who, together with only four salaried members of our staff, run the entire organization worldwide. However, senior scientists have a wealth of experience and insight to offer, and we should make every effort to use this valuable resource. In many countries, including Europe, scientists are obliged to retire at a relatively early age. Many retirees are willing to serve our discipline and colleagues worldwide and can take part in schools, public education, and advocacy activities to which their young peers cannot always give sufficient attention or time. Everyone can help!

**NQ: What is IBRO doing to evaluate the success and outcomes of its programs?**

**Bentivoglio:** Input from the Governing Council, IBRO's policymaking body made up of the leaders of more than 80 national neuroscience societies, constantly shapes our programs. In the last few years, a system of planning based on strategic objectives has been gradually established. A discussion is generated 'bottom-up' by the Regional and General Committees several months before the annual budget is proposed. This procedure allows for the new budget to be based also on the accomplishment

*Continued on page 18 . . .*

of objectives proposed previously. This implies that an evaluation is essential to the awarding of the funding requests. This annual process involves an assessment that is initially made by the Finance Committee, then by the Executive Committee and Governing Council. It is only then that the budget is allocated. Moreover, upon completion of the first 10 years of the 'New IBRO' mission outlined in 1998, we will embark on the formulation of a new strategic plan that hopefully will be finalized by the end of 2007. This open process of evaluation and planning will truly succeed if the membership is actively involved. I encourage your readers to help us with their comments and proposals.

**NQ: In your experience, what are the advantages of international collaborations among neuroscientists from different countries and regions?**

**Bentivoglio:** In my own experience as an Italian scientist, I know that I simply could not have organized a laboratory and carried on my research work without the stimuli and inspiration provided by international exchanges and collaborations.

By taking part in IBRO activities, for example in the schools in Africa — a diverse continent in terms of cultures, languages and resources — I have witnessed how fast and effectively students of different cultures can intermix, merge their experiences, develop solidarity and brotherhood, and establish plans for networking and collaboration. International collaborations are important for every scientist, but they are essential in less advantaged regions of the world.

**NQ: What are the greatest challenges worldwide facing neuroscientists interested in doing research in labs outside of their home countries? How can these challenges be met?**

**Bentivoglio:** IBRO believes that there is a great need for making readily available updated information on neuroscience training programs from the entire world. The Association of Neuroscience Departments and Programs (ANDP) in North America and the Network of European Neuroscience Schools (NENS) in Europe are valuable sources of information that help trainees choose where to go. Conscious of the importance of highlighting and informing on training opportunities worldwide,

IBRO has recently joined forces with ANDP and NENS and created the 'Neurosciences Programme Network' (see [www.ibro.info](http://www.ibro.info)), which focuses on training in Latin America, Africa, and Asia. This type of information is also made available by IBRO to the young people who participate in our schools and courses.

Furthermore, IBRO provides mentorship through its alumni program, as well as a good number of travel grants for young people to visit and work in laboratories within their own region and abroad.

Another key issue is to facilitate the establishment of the young trainees wanting to go back to their home countries, which is largely the responsibility of IBRO's Return Home Program.

Working with IBRO's president, Albert Aguayo, I intend to explore further the possibility of collaboration with member societies such as SfN and other interested organizations (e.g., ICSU and UNESCO) to maximize the impact of these programs and minimize the negative effects of the "brain drain" on world science.

**NQ: What challenges by animal rights groups are IBRO members and national neuroscience societies facing with respect to the conduct of responsible animal research? Does IBRO provide any resources for its members?**

**Bentivoglio:** The threat of animal-rights violent extremism reaches all corners of the world, including Latin America, Africa, Eastern Europe, and Asia. Through its Animals in Research Committee, IBRO provides support in terms of counseling, letters to relevant officials, and educational materials for the public. We are also actively involved in organizing workshops on the ethical use of animals for regions and institutes interested in becoming active in incorporating the principles of ethical animal use in their research program. In addition, our members participate in many of the IBRO schools to teach and discuss with students the ethical use of animals in research.

**NQ: How can IBRO and SfN work together to bring about more international collaboration among neuroscientists? Which areas do you think provide the greatest opportunities for IBRO and SfN to work together?**

**Bentivoglio:** SfN, through its International Affairs Committee; the National Academy of Sciences; the Canadian Society for Neuroscience; and the Canadian Institute of Neuroscience, Mental Health, and Addiction, together form the North American Regional Committee of IBRO. Endless opportunities exist for this committee to work with other IBRO Regional Committees in less advantaged regions of the world so that colleagues

there can profit from the North American expertise and resources. SfN is the largest of IBRO’s member organizations. Its current policy of openness toward the international community has helped strengthen its ties with IBRO and made possible a significant number of joint activities worldwide. I look forward to an ever greater growth of this collaboration during my three years as IBRO’s Secretary-General. ■

## Society for Neuroscience Marks 1906 Nobel Prize Awarded to Neuroscientists Golgi and Cajal at New Headquarters



Marina Bentivoglio and Javier DeFelipe spoke about Golgi and Cajal’s invaluable contributions to neuroscience.

The centennial of the 1906 Nobel Prize in Medicine or Physiology awarded to neuroscientists Camillo Golgi and Santiago Ramón y Cajal was celebrated on Dec. 7 at the Society for Neuroscience (SfN) headquarters building.

The program of the event, which was moderated by SfN President David Van Essen, included talks by world-renowned experts on the two scientists. Marina Bentivoglio of the University of Verona spoke on Golgi, who invented a revolutionary method of silver staining referred to as the “black reaction,” which uses a weak

solution of silver nitrate to create a dark deposit in the cell body, axon, and dendrites and provides clear pictures of individual nerve and cell structures. This method allowed Cajal to observe neurons and render them in drawings that provided the foundation for modern neuroanatomy. Cajal, using Golgi’s method, showed that the nervous system is composed of individual nerve cells rather than — as was widely believed at the time — a web of continuous elements. Cajal demonstrated that these neurons communicated with each other via contacts later called “synapses.”

Golgi’s discovery of the black reaction allowed researchers, for the first time, to view the complete structure of nerve cells in the brain. His later investigations contributed to the understanding of cell biology and malaria. He died in Pavia in 1926.

Javier DeFelipe of the Cajal Institute in Madrid spoke about Cajal, who was born in 1852 in Petilla de Aragón, a village in northeast Spain, and graduated from the medical school of Zaragoza in 1873 before being drafted as a Spanish army medical officer and sent to Cuba. In 1881, he became a professor in Valencia, and later in Barcelona and Madrid. He served as director of the Zaragoza Museum and the National Institute of Hygiene and founded the Laboratorio de Investigaciones Biológicas, which was later renamed the Cajal Institute.

Other invited discussants at the event were Edward Jones of the University of California at Davis; Albert Aguayo of McGill University in Montreal; and Federico Villagra of the University of Maryland at Baltimore. ■

## Brain Awareness Week Celebrated at Neuroscience 2006; PECC Discusses Strategies and Plans for 2007 Campaign

Neuroscience advocates and public educators gathered during the Society's annual meeting for the Brain Awareness Week (BAW) campaign event to discuss successes and strategies for tackling the challenges in the years ahead. The theme of the event was "Rewarding Neuroscience Public Education: Building the Culture."

"With this year's focus, we heard perspectives from the NIH, industry, and academia on how we can make the outreach we do — whether as part of BAW or throughout the year — an integral part of our scientific responsibilities and reward," said SfN Public Education and Communication Committee (PECC) member Andrea Baruchin.

BAW is a public outreach effort driven by the work of PECC and the Dana Alliance for Brain Initiatives (DABI). SfN and DABI are partners year-round to execute the BAW campaign and organize the annual campaign event at the Society's meeting.

The event's panel of speakers included National Institute of Mental Health Director Tom Insel; President and CEO of Atlanta-based AtheroGenics, Inc., Russell Medford; and Georgia State University Dean of College of Arts and Sciences Lauren Adamson. Each speaker provided a unique viewpoint about scientists' engagement in public outreach. "With each meeting we try to impress on the entire SfN membership the importance of public education and outreach and to expand the number of participants," Baruchin said.

Roberta Diaz Brinton, recipient of the 2006 Science Educator Award, was recognized during the event and spoke about her outreach efforts with inner-city high school students in Los Angeles. Also, International Brain Bee (IBB) organizer Norbert Myslinski introduced Jong Park, high school student and 2006 IBB champion, who described his experience competing in the IBB and showed his enthusiasm for a future in neuroscience. "The astonishing breadth of this field offered me a limitless potential to explore and develop my understanding about human thought, emotion,

and health," said Park in his remarks. "I experienced the world of neuroscience research first hand, which was both challenging and stimulating." Park's presence at the event served as a reminder of how public outreach efforts can ultimately provide inspiration for future neuroscientists. (See profile of 2005 International Brain Bee champion John Liu, page 21.)

After the panel discussion, the audience broke for a reception, which was paired with a poster session highlighting BAW activities from 2006. More than 24 posters were exhibited from around the world and included programs from SfN's Atlanta and Halifax chapters, the University of Washington, and University of Miami. Poster presentations provided a foundation for social and professional networking among attendees interested in one another's programs. During the reception, veterans of the BAW campaign volunteered as "BAW Mentors" and were sought out by newcomers interested in learning about ideas for starting new programs.

Measuring the impact of public outreach efforts, a topic which arose during the panel discussion, is being considered as the PECC explores themes for next year's BAW campaign event in San Diego.

SfN and DABI are now gearing up for BAW 2007, which will take place March 12–18. SfN will again organize several BAW activities, including an event in Washington, DC, at a local middle school with SfN President David Van Essen. The Society will also assist with two regional Brain Bees organized by DABI in New York and Washington, DC. SfN assists members and the public by offering on-line resources that serve as a clearinghouse for those seeking ideas for their own BAW activities. Visitors to the BAW Web site ([www.sfn.org/baw](http://www.sfn.org/baw)) will be able to browse through reports and photos of activities sponsored by other institutions from around the world. Reports provide detailed descriptions of activities, tips for promoting activities to the public, fund-raising methods, and other helpful information. Additionally, educational and promotional resources are available on the site. ■

## Brain Bee Champion Makes Discovery at Michigan Lab



John (Siyuan) Liu, 2005 International Brain Bee champion

John (Siyuan) Liu, 17, the champion of the 2005 International Brain Bee (IBB), recently completed a fellowship in the lab of Simon Evans at the Molecular and Behavioral Research Institute at the University of Michigan. While working at the lab for just two months, Liu uncovered an effect of stress on splice variant expression of two fibroblast growth factor receptors.

“This finding may have significant impact on our understanding of the basic neurobiology underlying stress disorders,” said Evans. “It also represents the first example of an environmental event modifying a receptor’s alternate splicing.”

“My experiences in Dr. Evans’ lab have been beyond rewarding,” said Liu. “I experienced the true life of the scientist, and it has changed the way I look at the world.”

The IBB, held at the University of Maryland every March during Brain Awareness Week, is sponsored by SfN and the Dana Alliance for Brain Initiatives. The live question-and-answer competition tests the neuroscience knowledge of high school students. Questions address topics such as intelligence, memory, emotions, sensations, movement, stress, aging, sleep, addiction, Alzheimer’s disease, and stroke. Participants are winners of local competitions held throughout North America and around the globe.

Liu advanced to the IBB by winning a regional competition in Berea, Ohio. Rebecca Johns, his biology teacher and head of the Biology Competitions Club at Troy High School in Michigan, helped him prepare. Johns is a past recipient of SfN’s Teacher Travel Award, which allowed her to attend Neuroscience 2004 in San Diego.

As the 2005 IBB champion, Liu received \$3,000 and a trophy from the IBB organizers. SfN provided an all-

expenses-paid trip for himself and Johns to Washington, DC, for Neuroscience 2005 and a summer fellowship to work in the lab of a neuroscientist.

At Neuroscience 2005, Liu met Huda Akil of the University of Michigan, a past president of SfN. She in turn put him in touch with Evans, a research professor at Michigan. Liu went to work in Evans’ lab during the summer of 2006.

“During our first meeting, I explained to John several projects that are ongoing in my laboratory,” said Evans. Liu chose to work with gene expression of fibroblast growth factor receptors in the frontal cortex. Evans’ lab had previously implicated the fibroblast growth factor system in major depressive disorder.

“John only required about two days of working directly with my technician to learn the molecular techniques he would apply before he was off and running on his own,” said Evans.

Liu’s work over the next two months led to his discovery. “Few young scientists, including graduate students and even some postdocs, achieve this much in a summer,” Akil said.

“Not only did John achieve his goal of learning some molecular techniques, but he was able to apply them to contribute to the growth factor and stress biology in a very short time,” said Evans. “Furthermore, he completed a mature draft of a manuscript describing his work before he left the lab.”

The IBB is meant to motivate students to learn about the brain, and inspire them to pursue careers in biomedical brain research. In Liu’s case, it did just that. “The IBB influenced my goals in life tremendously,” he said. And Liu isn’t the only one who found the IBB rewarding. Said Evans, “I’m not sure who benefited more from John’s experience in my lab — him or me.”

As of late 2006, Liu was finishing high school and applying to colleges, including Stanford, Harvard, and the University of Michigan. He plans to continue his education in the biological sciences, particularly biochemistry and neuroscience. ■

## Society for Neuroscience Wins Gold Certification Award From US Green Building Council for New Office Space



Carol Barnes, Sfn past president and real estate committee chair, showcases the Society's gold LEED award at the new headquarters building in Washington, DC.

The Society for Neuroscience (SfN) has received gold certification for the environmentally responsible design of its office space in its new headquarters building at 1121 14th Street, NW. This is the fourth such designation for a commercial interior in Washington, DC.

The certification for SfN's three floors was awarded by the US Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) green building rating system. "The Society for Neuroscience is an exemplary demonstration of the vast potential for improving occupant health, comfort, and productivity, as well as improving the bottom line that exists in tenant improvements and interior renovation projects," said S. Richard Fedrizzi, USGBC president in a letter to SfN.

LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. A point system determines rating levels of certified, silver, gold, and platinum.

"We are very pleased to have received this certification," said Carol Barnes, a past president of SfN who chaired the real estate committee. "One of our key concerns was to be sure to incorporate principles and materials that seek to provide an environmentally sensitive, healthy, and productive workplace."

"Achieving LEED gold certification shows a level of commitment to sustainability that goes well beyond common practices," said Ken Wilson of Envision Design, the Washington, DC, firm that designed the SfN office space.

With this award, SfN joins a community of businesses that are leading the transformation of the built environment. As of mid-November, 83 LEED commercial interior projects nationwide have been certified by the USGBC since the program began in March 2000. Of these, 22 have gold certification, and two have platinum. There are no platinum certifications in the Washington, DC, area. ■

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... (R)evolution in Scientific Publishing, continued from page 11

for open access, providing a link to the final paper. In addition, the company provides delayed free access to published papers. For example, all the articles published in *Cell* are freely available after 12 months of publication.

Panelist Michael Keller represented HighWire Press, a division of the Stanford University Libraries that hosts the online version of *The Journal of Neuroscience* and more than 1,000 other peer-reviewed journals. He recommended that *The Journal of Neuroscience* adopt a program that allows authors to pay a fee to make an

article open access upon publication. This model has been adopted by about 100 HighWire journals, with the option used by as many as 20 percent of authors, depending on the discipline.

The discussion at Neuroscience 2006 was one of several initiatives by POAG to raise awareness among and seek input from SfN members about the implications of open access and other publishing challenges. POAG eventually will make a recommendation to SfN's Council on a publishing model to adopt in the years ahead. ■

## SfN Receives \$650,000 from the Eli Lilly and Company Foundation for Award Honoring Julius Axelrod

The Society for Neuroscience has received \$650,000 from the Eli Lilly and Company Foundation to endow a prize in honor of Julius Axelrod, an American pharmacologist and neuroscientist. The funds will establish an annual \$25,000 Julius Axelrod Prize for distinguished achievements in neuropharmacology, or a related field, and exemplary efforts in mentoring young scientists. The first Axelrod Prize will be awarded in 2007.

“The prize is intended to recognize scientists who exemplify Julius Axelrod as a scientist and as a mentor,” said Steven Paul, Lilly’s executive vice president of science and technology.

“We are very grateful to Lilly for its generous gift which acknowledges excellence in pharmacology and in helping young scientists,” said SfN President David Van Essen. “This is the Society’s first award that will allow us to support an endowed prize in perpetuity.”

The Axelrod Prize will be formally presented each year by SfN’s president at the beginning of one of the featured lectures at the SfN annual meeting. The prize winner will be invited to give a lecture at an annual Axelrod Prize symposium jointly sponsored by three National Institutes of Health (NIH) institutes, the National Institute of Mental Health (NIMH), the National Institute on Drug Abuse, and the National Institute of Neurological Disorders and Stroke, on the Friday immediately preceding the SfN annual meeting. The first symposium will be held at Neuroscience 2007 in San Diego, CA.

Axelrod, a long-time SfN member, shared the 1970 Nobel Prize in Physiology or Medicine for his discovery of the actions of neurotransmitters in regulating the metabolism of the nervous system. In that year, Axelrod, along with Sir Bernard Katz of University College London and Ulf von Euler of the Karolinska Institute in Stockholm, won the Nobel Prize for “discoveries concerning the humoral transmitters in the nerve terminals and the mechanism for their storage, release, and inactivation.” Among the drug discoveries their work helped spur were drugs known as selective serotonin reuptake inhibitors such as Prozac.

Axelrod also played a key role in the discovery of the pain-relieving properties of acetaminophen, better known by its brand name, Tylenol. He is probably best known for his work on brain chemistry in the early 1960s that led to current treatments for depression and anxiety disorders. In 1984, at the age of 72, Axelrod formally retired from NIMH. In 1996, he was named Scientist Emeritus of the NIH. Throughout his career, he served as a mentor to dozens of talented young scientists, many of whom have gone on to distinguished careers in neuroscience and pharmacology. He died in 2004 at age 92. ■

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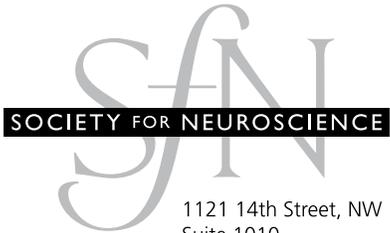
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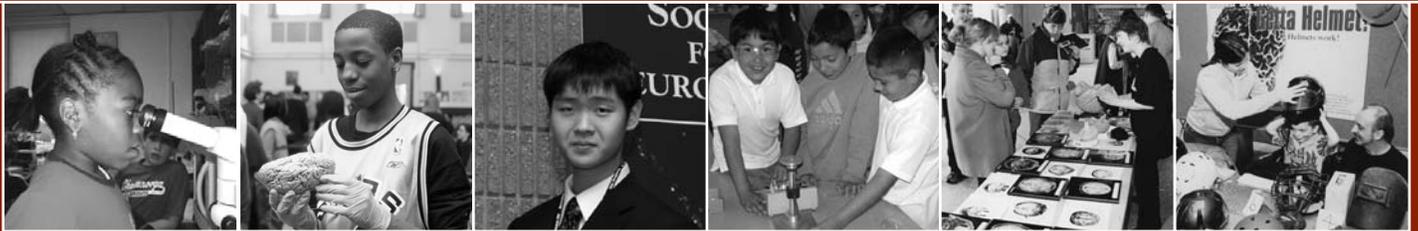
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