# FALL 2005 Q U A R T E R L Y

"SfN's Council began working on a new strategic plan early in 2005, seeking to create a "radar screen" of key issues to be watching, planning for, protecting against, or adapting to."

— Carol Barnes

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# Message from the President Society's New Strategic Plan to Focus on Coming Challenges

It has been three years since our first strategic plan was devised under the leadership of pastpresident Fred Gage. Since that time, new and existing issues have arisen and evolved that will require continuing attention from the Society's leadership. One example is the recent trend toward flat federal funding for biomedical research, which is an issue that will affect all of neuroscience. Another important challenge that has arisen is the issue of open access in scientific publishing, which could change the way in which the Society publishes *The Journal of Neuroscience*. Given these kinds of challenges in the current world of science, SfN's Council began working on a new strategic plan early in 2005, seeking to create a "radar screen" of key issues to be watching, planning for, protecting against, or adapting to.

As a working document, the overall framework of the new strategic plan will remain consistent with the four mission areas defined in our first plan: advancing the understanding of the brain and nervous system; providing professional development activities, information, and educational resources for neuroscientists; promoting public information and general education about neuroscience research; and informing legislators and other policymakers about the importance of neuroscience research. Also likely to remain is the original plan's scientific vision (www.sfn.org/strategicplan).

At its July meeting, Council considered 11 current "radar screen" issues, a subset of an initial list constructed at our Washington, DC, meeting in the spring. Currently, Council is working to formulate preliminary approaches to these issues with specific actions and is preparing to adopt a new strategic plan at Neuroscience 2005 in November. Outlined below is a preview of some of the key strategic issues and possible activities that are being discussed.

#### SCIENTIFIC EXCELLENCE

Advancing science will involve the continued improvement of our annual meeting and *The Journal of Neuroscience*. Our annual meeting continues to grow, and with this expansion, we have some concerns about whether attendees will continue to find it to be a rewarding experience. Some of the proposed actions would be to consider the future of the meeting and adaptations that may become necessary because of increased attendees and presentations. We also will explore revising the number or duration of the poster sessions to expand the capacity of the meeting. A working group will study these issues, keeping in mind that we want to accommodate growth and dynamism without losing the ability for attendees to navigate the meeting.

In the area of scientific publishing, new digital information and communication technologies may disrupt traditional publishing models. They also represent new opportunities. Open access will change the traditional revenue-generating model for publishers. Also, increasing numbers of submissions challenge our ability to peer review and publish quality articles. Council discussed the need to study as soon as possible the implications of open access and to ensure a process of consultation with SfN members. We need to develop a journal business model that pays for

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

#### Message from the President



Carol Barnes, SfN President

the venture and takes advantage of opportunities. The Society's Publishing Strategy Working Group is currently considering these issues and will report to Council in November.

#### PROFESSIONAL DEVELOPMENT AND DIVERSITY

Professional development has been recognized by the Society leadership as an area important to our members. They have asked that we expand SfN's role to include more instructional opportunities beyond the annual

meeting. A key element in this area will be to conduct a needs assessment by an outside consultant and to propose different professional development options for different segments of the membership. This is a growth area for the Society, a large opportunity to improve science and networking skills and to train neuroscientists about public education and science advocacy — all of which are central to SfN's mission.

"Council realizes that we do not know enough about the various segments of our membership. We need better data so that we can plan activities, provide appropriate member services, and support each segment properly."

#### — Carol Barnes

Greater diversity within the field of neuroscience and within SfN is seen as valuable by Council. It also recognizes that diversity is adversely affected by inadequate numbers of minorities entering the field and by career development outcomes that are not proportional to gender mix. Potential actions include charging a committee with proposing activities and programs to increase diversity and asking the Committee on Committees (CoC) to increase outreach efforts to, and recommendations for, segments of the membership that may be underrepresented in the Society's committee and leadership structures. In fact, we should be mindful of the need for greater diversity throughout the Society's programs and activities.

In addition, the growing international component of the SfN membership is increasing the opportunity and the urgency for us to develop a coherent approach to international initiatives, especially neuroscience training in the developing world. Potential proposals include continuing to offer courses in developing nations; pursuing partnerships to bring lab experience programs to students; and possibly seeking outside funding to bring top students from all nations to top-tier labs around the world. Membership growth itself is a very important issue. Our rapid growth — up by nearly 30 percent during the last four years — has changed the membership mix in quantifiable ways. It also has changed new member expectations, which will have implications for future membership services and programs. Council realizes that we do not know enough about the various segments of our membership. We need better data so that we can plan activities, provide appropriate member services, and support each segment properly. Most likely, a specialized contractor will be required to help gather and analyze the information. Council is interested in ensuring that we have a membership strategy that is responsive to needs in distinct demographic segments and that advances SfN's mission.

#### PUBLIC EDUCATION

With input from the Committee on Neuroscience Literacy, Council has agreed to focus on science teachers as the initial target audience for our public education activities. These teachers would be encouraged to use SfN-endorsed materials in their classrooms to convey neuroscience-related subjects as a part of their curriculum. An SfN education Web portal would have science teachers as its primary audience. Possible actions include using postdoctoral students to reach teachers, looking for partnerships in building the portal, and developing a train-the-teacher pilot program. Enhancing the capacity of scientists to engage in public outreach will be critical to this strategy.

#### SCIENCE POLICY

Science advocacy priorities include halting the erosion of research prerogatives due to restrictive laws and regulations and enlisting the help of medical professionals in making patients aware of the important role of animal research in the treatments they provide. Among possible actions are developing ideas for educational materials, looking for opportunities to collaborate with K-12 school educators, compiling a resource manual for use in medical education and information that every medical student should know about animal research, and strengthening alliances to provide a legal rebuttal and defense to stop the pursuit of "personhood" for animals.

Regarding federal biomedical research funding, Council is interested in finding new ways to work more effectively with advocates beyond the scientific community. This could involve enlisting the support of a broader array of scientific groups, strengthening SfN's relationships with patient advocacy groups, and pushing for an active alliance with the business community that supports and has an interest in scientific research.

This also will involve opportunities to advance appreciation for neuroscience and to enhance public understanding of the value of government support for research. One of the guiding principles in this area will be to ensure that SfN information integrates our advocacy message on support for research funding, stem cells, and the responsible use of animals in research into our public outreach and education strategies.

# Society Membership Reaches All-Time High

Society for Neuroscience membership reached an all-time high in October with over 37,000 members, surpassing last year's total of 36,183. The recent numbers continue SfN's unprecedented growth over the last four years, with membership up nearly 30 percent since 2001.

The strength of SfN is not only a product of ongoing efforts by the SfN Council, Society committees, and central office staff, but also a testament to the field of neuroscience's continued relevance to science and efforts to understand the brain and nervous system.

Several changes in Society membership policies contributed to these increases. Since December 2001, international regular membership has grown by 29 percent due to the early 2003 implementation of a bylaws change eliminating the disparity between North American and international regular members, the 2004 reduction in annual meeting fees for members, and the 2005 reduction in membership dues for members residing in developing countries.

With increased membership also came more active member participation in the affairs of the Society. Use of online voting and nominating tools has made it easier for members to vote in elections and referenda and make suggestions for committee member nominations.

"SfN members have many reasons to be proud of their organization as it continues to grow in size, relevance, and scientific dynamism," said Membership Committee Chair Kenneth Maynard. ■



#### World Class Pianist Leon Fleisher to Perform at Neuroscience 2005



Leon Fleisher

World renowned pianist and conductor Leon Fleisher will perform at Neuroscience 2005 following the Public Lecture on Saturday, November 12 at 8 p.m. in the Washington Convention Center Hall D. Prior to the lecture, SfN President Carol Barnes will present Fleisher with the SfN Advocacy Award for his work in raising public awareness about dystonia.

Called the "pianistic find of the

century" during his days with the New York Philharmonic in the 1950s, Fleisher was relegated to playing with only his left hand in 1965 when he mysteriously lost use of his right hand. Fleisher faced three decades of misdiagnoses and failed treatments before being properly diagnosed in 1991 with focal hand dystonia, a form of the disorder that strikes more than 10,000 musicians worldwide and that can strike anyone who uses his or her hands to perform repetitive tasks.

Yet, he never abandoned his talent and passion for music during the span of his career. Despite his physical

difficulties, Fleisher traveled the globe playing a left hand repertoire, teaching, and conducting some of the world's most celebrated symphonies. Among his many endeavors, he founded the Theatre Chamber Players at the Kennedy Center in 1967; conducted symphonies in New York, Chicago, San Francisco, and Montreal; and was nominated three times for a Grammy.

Fleisher has dedicated much of his career to raising awareness about dystonia, the third most common neurological movement disorder in America. He not only served as a spokesperson for Musicians with Dystonia, but also launched "Freedom to Play" in 2004, an initiative advocating for the proper diagnosis of dystonia.

It was a correct diagnosis in 1991 that turned the tide for Fleisher. He was referred to the National Institutes of Health and enrolled in a clinical trial led by NINDS researchers Mark Hallett, Barbara Karp, and Zoltan Mari. He found his relief in botulinum toxin, more commonly known as "botox," which relaxed the tension in his right hand. By 1995, Fleisher's dream of playing with both hands came true with a performance of the Mozart Concerto in A Major with the Cleveland Orchestra. He continues to perform and give hope to the thousands of musicians living with dystonia.

# Society Will Proceed with Dalai Lama Lecture at Neuroscience 2005 in Washington, DC



The Dalai Lama

In a final decision, the Society will move forward with the Dalai Lama's lecture at Neuroscience 2005 in Washington, DC, as planned. At its July meeting, the SfN Council expressed overwhelming support for proceeding with the Dalai Lama's talk on "The Neuroscience of Meditation." The lecture is the first in a series titled "Dialogues between Neuroscience and Society," with speakers chosen by the SfN president after consultation with the SfN

Council. The architect Frank Gehry is scheduled to give the 2006 "Dialogues" lecture.

SfN President Carol Barnes received a petition letter on August 15, 2005 requesting the cancellation of the Dalai Lama's lecture. It was signed by 568 persons, 544 in support of the petition, 23 against, and one who was neutral. The main points of the petition were that SfN was not an appropriate forum for the Dalai Lama to give a lecture, and it set a bad precedent that makes it difficult to refuse selecting other religious leaders.

More than 200 people signed a competing online petition in support of the Dalai Lama's lecture. In addition, the SfN office received more than 114 letters and e-mails in support of the lecture, as well as 8 against. Articles about the lecture controversy have appeared in *Nature*, in the *Guardian* newspapers in the UK, and in several online journals and magazines.

#### Letters to the Editor: Opposing Views on the Dalai Lama Lecture

To the Editor:

The Society of Neuroscience (SfN) has invited the Dalai Lama to give a featured lecture on the "Neuroscience of Meditation" at the 2005 annual meeting. In a two-day period, a petition letter against the lecture was signed by 544 people from 19 countries, with only 14 currently residing in China while 229 of the cosignatories are not of Chinese origin.

I am a neuroscientist who came to the U.S. from China twenty years ago. I am against any political dictatorship or suppression and am a member of Amnesty International. I also have coauthored a *Nature* supplement article critical of some Chinese policies in 2004 that is banned in China.

The responses of most of those who support the SfN lecture simplistically reduce the debates to issues of free speech, ignoring the fact that it is about an official academic society conferring apparent legitimacy to a wrong topic at a wrong time.

After analyzing publicly available materials, it is not difficult to predict that the major explicit messages of the Dalai Lama lecture will be that: 1) Tibetan Buddhist practices promote compassion, partly because of (or helped by) their long-time experience in meditation, and 2) Western science has provided a neurological proof that Tibetan Buddhist practices promote compassion.

The first message is similar to any selfrighteous statement that every religion makes about itself. The provision of a scientific forum by the SfN to the leader of one religion to proclaim self-righteousness is a favoritism that will not be granted to Muslims or Christians.

The second message is simply wrong. If one pays close attention to the scientific literature, one will find that there are no published scientific papers to substantiate the specific claim and that the research on Buddhist meditation is extremely limited: Rigorous research has not been published by any objective scientist without declared association with the Dalai Lama.

Many steps must occur before one can conclude that a behavior, such as meditation, can affect brain activity and that brain activity then, in turn, affects another behavior, such as compassion. Two correlations and two cause-effect relationships must be proven. To establish a correlation between meditation and a brain activity pattern, it is necessary to exclude other factors. Establishing correlation is not equal to knowing the causal effect of mediation on brain activity, even further removed from proving meditation (or other Buddhist practices) as the cause of compassion. Researchers are now at step zero in terms of establishing the scientific linkage between meditation (or other Buddhist practices) and compassion: there is only a claim of, but no paper on, a correlation for one part of the chain of links.

The news media and the public are not likely to read the scientific literature to realize the status of the field (if it can be called that) but may well misinterpret the SfN presentation of the Dalai Lama as the scientific endorsement of Buddhist practices.

If, 20 years from now, Buddhist meditation turns out to be proven of tremendous benefit, I will be happy to be laughed at. If the opposite happens, I will have a moment of amusement in my old age, looking back at this episode, when the objectivity and standards of some scientists have been compromised by political leanings.

Sincerely, Yi Rao Department of Neurology Northwestern University Feinberg School of Medicine In her response to the anti-Dalai Lama petition's organizers on August 19, 2005, Barnes noted that "the unanimous sense of the SfN Council . . . was to move forward with the lecture as planned, to continue to acknowledge that not all members will agree with that decision, and to keep the Society's response respectful of the right of all SfN members to express their opinions."

In keeping with this decision of the SfN Council, this issue of *Neuroscience Quarterly* is publishing "Letters to the Editor" from members who oppose and who support the lecture (see below).

Barnes also outlined the steps that SfN has taken to better explain the intentions behind the Dialogues series to the

SfN membership, including publishing an article in the summer issue of *Neuroscience Quarterly* about the lecture.

The article contained a clear statement saying that the Dalai Lama will not talk about politics or religion. The article quoted Barnes on behalf of SfN, saying, "As with all annual meeting speakers, the views of the Dalai Lama do not represent the views of the Society for Neuroscience, its officers, or councilors."

In addition, SfN has included a statement in the annual meeting *Program* materials stating, "All presentations at Neuroscience 2005 reflect the views of the individual speakers and do not represent those of the Society for Neuroscience or any of its sponsors."

#### To the Editor:

I am writing in unequivocal support of the Dalai Lama's speaking to the SfN members at the annual meeting this year. I am looking forward to it.

An effort by a petition to cancel the Dalai Lama's talk is ill-considered and politically motivated.

First of all, all objections based on so-called scientific reasons are moot because the Dalai Lama is participating in "Dialogues Between Neuroscience and Society." There is no scientific "litmus test" for such a talk. I fully support initiatives to promote interactions between the public and neuroscientists. I am quite pleased that the Society for Neuroscience has invited such a prominent and acclaimed world leader as the Dalai Lama to speak, and on any topic he sees fit.

The implication by the petitioners that there is no basis for the scientific study of meditation is simply preposterous. I am almost embarrassed to have to remind my colleagues that no matter how little agreement there might be on any particular research topic, every psychological state that human beings experience with the help of their brains, from hunger to joy, fear to euphoria, obsession to love — even dare we admit, religious ecstasy or love of God — is worthy of neuroscientific study.

An unbiased observer might reasonably conclude that this group's *a priori* exclusion of a "meditative state" from the auspices of "neuroscience" is motivated by something other than purely scientific concern. The opening statement of "Against Dalai Lama's Lecture at SfN 2005" focusing on the Dalai Lama's "controversial political agenda" tells the true reason for the petition.

I was astounded at the logic regarding what criteria ought to define a "legitimate" member of the public. The Dalai Lama is legitimate because he is a highly respected public figure on the international stage, a well-regarded leader in multiple spheres. His views on reincarnation per se have nothing to do with his "legitimacy" as an influential member of the public, the kind of person with whom the SfN must be engaged. To argue that the Dalai Lama's views on reincarnation are "against the very foundation of modern neuroscience" is simply not true and shows a profound lack of understanding of where and what those foundations are.

In summary, despite their denial, the key issue for the proponents of this campaign is all and only about the right of the Dalai Lama to speak, a right they would refuse because of political differences. The "scientific" objections are ironic when not overtly wrong and laughable when not merely sad.

Sincerely,

John H. Hannigan, PhD Professor of Obstetrics Professor of Psychology Professor of Cellular and Clinical Neurobiology Wayne State University

NQ welcomes reader responses to articles that appear in the newsletter. To provide a forum for comment, NQ has introduced a *Letters to the Editor* feature. If you would like to respond to an article or idea appearing in NQ, please send an e-mail to nqletters@sfn.org. The editors of NQ reserve the right to select letters for publication and may edit them for style, length, and content.

— The Editors

# New Features Enhance Neuroscience 2005

With Neuroscience 2005 quickly approaching, preparations for the biggest and most exciting meeting yet are well under way. Coinciding with the annual meeting's return to Washington, DC, come many new options and events for attendees to enhance their experience. Neuroscience 2005 will provide unlimited opportunities for learning, networking, and enrichment.

#### **NEUROJOBS**

With the recent launch of NeuroJobs, SfN's new online source for neuroscience jobs, Neuroscience 2005 will feature a convenient on-site job fair for neuroscientists and employers. Resume posting is available free to all SfN members. Attendees and exhibitors will have an opportunity to access job listings and schedule interviews with participating employers. Computer workstations will be set up in the convention center for job seekers to post resumes, view job listings, and schedule in-person interviews with potential employers during the annual meeting. The NeuroJobs Career Center at the annual meeting will be the perfect opportunity for neuroscientists and employers to meet up. With the top employers and the best neuroscientists all under the same roof, it couldn't be more convenient.

The online NeuroJobs site will give neuroscientists and employers a chance to connect 24 hours a day, seven days a week. Visit http:// neurojobs.sfn.org for more details.

#### NEUROBIOLOGY OF DISEASE WORKSHOP 25TH ANNIVERSARY

The Neurobiology of Disease Workshop will celebrate its 25th anniversary at Neuroscience 2005 with a program and celebration including past participants and faculty. Since five scientists brought the workshop idea to SfN in 1980 as a forum to educate young scientists about the diseases and disorders of the nervous system, the workshop has become the premier model for connecting clinician and non-clinician scientists and physicians working in disease-related areas of research. This year's Friday, November 11 workshop is titled "Developmental Neurobiology of Autism Spectrum Disorders: Clinical Phenotypes, Neurobiologic Abnormalities, and Animal Models."

"Twenty-five years ago, we set out to attract an audience of young scientists to study diseases — to experience a true teaching workshop on a national scale that would build a base of knowledge about where research is and might go in the future," says Ed Kravitz, PhD, member of the workshop organizing committee and one of the founders of the Society's Neurobiology of Disease Workshop. "Our hope has been to cultivate enthusiastic young investigators interested in effecting cures for these diseases."

The Monday, November 14 celebration will feature a program and reception at the Grand Hyatt Washington Hotel at 6:15 p.m., and all previous course directors and faculty are invited. All students who have ever participated in a Neurobiology of Disease Workshop are encouraged to attend and must RSVP by October 7 to neurobiology@sfn.org.

#### MEET THE EXPERTS SERIES

On Saturday morning, prior to the opening events at Neuroscience 2005, a pilot program titled "Meet the Experts" is being launched, aimed at young scientists who attend the Short Courses and Neurobiology of Disease Workshop on Friday. Three concurrent morning sessions offering a behind-the-scenes look at factors influencing top neuroscientists' cutting-edge work. These three experts will describe techniques they have developed and present their accomplishments over breakfast. The sessions promise to take participants beyond the research presented in journals and into a dialogue with today's leading scientists. Topics and speakers can be found at www.sfn. org/workshops, or for more information, contact Colleen McNerney at cmcnerney@sfn.org.

#### CD/ELECTRONIC PROGRAM OPTION

This year, the CD-ROM version of the *Abstract Viewer/Itinerary Planner* will not be packaged with the *Program* mailing. Participants are encouraged to use the online version of the *Abstract Viewer/ Itinerary Planner* containing the latest updated information. The online itinerary planner can be found at http://sfn.scholarone.com. If you would like to request a CD-ROM copy, visit www.sfn.org/ requests, and a copy will be mailed to you.

#### MESSAGE CENTER ENHANCEMENTS

The message center will open one week before the annual meeting this year to allow you even more ways to meet up with colleagues. Attendees will be able to access the message center through SfN's Web site beginning Friday, November 4.

Also, in response to attendee requests for extended message center hours, all three message center stations will remain open 24 hours a day during the annual meeting.

As a reminder, because there will be three message centers, each in a different location, please be sure to let colleagues know at which message center you will be located if you plan to use one of the message centers as a meeting point.

Although it is too late to take advantage of advance registration, onsite online registration, at a reduced fee, is available from October 5 through the annual meeting and is strongly recommended. Current paid SfN members receive an additional discount on registration fees. On-site registration is available starting Friday, November 11. For more details, please go to www.sfn.org/registration.

Sessions begin at 1 p.m. Saturday and conclude at 5 p.m. Wednesday. Morning scientific sessions run from 8 a.m. to noon, Sunday through Wednesday. Afternoon sessions begin at 1 p.m., Saturday through Wednesday. Slide sessions end at 4 p.m.; poster sessions continue until 5 p.m. Exhibits are open from 9:30 a.m. to 5 p.m., Sunday through Wednesday.

Please visit the annual meeting Web site at www.sfn.org/am2005 to see the wide array of lectures, symposia, workshops, socials, and more. See you in Washington, DC! ■



# FY 2005 ANNUAL PROGRESS REPORT



#### INTRODUCTION





#### **Dear SfN Members:**

During the past year, the Society for Neuroscience focused on fulfilling our mission of advancing the field of neuroscience, and I am pleased to report our progress and accomplishments in these endeavors.

Among the Society's most visible projects is the near completion of the SfN headquarters building in downtown Washington, DC, which symbolizes the emergence of the Society as a prominent and visible scientific organization, and will help us ensure our programs and financial security for years to come. Scheduled to open in 2006, the new building will provide the Society's staff with a pleasant, productive, and environmentally responsible place to work and our committees with accessible, well equipped meeting space.

Membership is at an all-time high for the Society, having grown by 30 percent during the past few years — a phenomenal rate that will be a challenge to sustain. Our membership is becoming more diverse as well, with new programs and initiatives aimed at women, minorities, students, postdocs, and international members providing additional opportunities for all neuroscience professionals to get involved. For example, the International Affairs Committee helped organize a course on epilepsy at Rhodes University in Grahamstown, South Africa. In April, I had the opportunity to address the seventh biannual conference of the Society of Neuroscientists of Africa in Cape Town, South Africa. This was a wonderful opportunity to support and validate neuroscience research conducted in developing countries, and to encourage international collaboration.

The successes outlined in this report are a direct result of SfN's renewed emphasis on our core mission areas of scientific excellence, professional development, science advocacy, and public education. I am encouraged by the continuing growth in membership because it indicates that the Society offers value to its members. I believe this trend will continue in the years ahead as we continue to focus on the advancement of our field in the crafting of our new strategic plan.

Priority items in SfN's next strategic plan are finding better ways to provide for students and young neuroscientists around the world, and finding new ways to advance public understanding of neuroscience in support of biomedical research funding. Other issues include membership growth, professional development, diversity, maintaining the vitality of the annual meeting, open access publishing, science policy issues, public education, and SfN committee restructuring.

While the four mainstays of our overall mission will remain, new and existing challenges will require new solutions. Council has already begun discussing these challenges and our goals as part of its regular review of the Society's future strategies. I am confident that continuing progress can be achieved under the leadership of President-Elect Stephen Heinemann and the SfN Council, and with your support.

As our new headquarters building stands as a work in progress, it is also emblematic of the Society's

#### INTRODUCTION





programs and research progress described throughout this report which are constantly being refreshed and improved. All of these activities are connected. And all of them, like all of science, are works in progress. The Society's programs play an enabling role in helping neuroscientists and the field to uncover the experimental pathways that will help us to understand the underlying mechanisms of how the brain and nervous system function, and help us to craft better treatments for disease. The more we are able to decipher these systems, the closer we are to lifting the burden of neurological and psychiatric illnesses. We must do all we can to speed this effort and to enlist the support of society as a whole to continue the extraordinary progress of neuroscience research. Along with my colleagues on the SfN Council, and the neuroscience leaders who chair our committees, I invite you to examine this record. I also encourage you to think about ways that you can participate in this important enterprise to ensure an extended and

healthy lifespan for people everywhere. It has been a privilege and a pleasure to serve as your President this year, and I look forward to seeing you at Neuroscience 2005 in Washington, DC this November.

Sincerely,

C.f. B->

Carol A. Barnes, President Society for Neuroscience





The Society for Neuroscience is committed to supporting and sustaining scientific excellence, thereby contributing to the rapid translation of research – to improve health and cure disease, and to enhance our basic understanding of how people learn, who human beings are, and why we behave as we do. Throughout the year, SfN consistently pursued this goal in sessions at its annual meeting, in publications such as *The Journal of Neuroscience*, and through partnerships with like-minded organizations.

#### **Neuroscience 2004**

The annual meeting in San Diego was SfN's largest ever. The meeting hall's theme-based layout and the *Abstract Viewer/Itinerary Planner* helped more than 31,500 attendees choose from among 16,054 abstracts to attend sessions focusing on the latest findings in neuroscience. The 106 original news stories and nearly 600 reprints generated by the meeting attest to the public and media interest in and the impact of these findings. The Society's Public Information Committee organized 16 press conferences to further spotlight some of the important work going on in the field. Topics included how parenthood permanently changes the brain, the biological basis of creativity, and research on monkeys that moved prosthetic devices using only electronic signals from their brains.

Highlights of the meeting were a presidential symposium on neurodegenerative diseases, three presidential special lectures, and a social issues roundtable on suicide and depression.

The presidential symposium featured Timothy Greenamyre of Emory University on Parkinson's disease; Don Cleveland of the University of California, San Diego, on the role of neuronal death in amyotrophic lateral sclerosis; and Elena Cattaneo of the University of Milan on Huntington's disease. Videos demonstrating the devastating impact of these neurological disorders on patients and families aired before each lecture. The patient videos are the first in a series issued by the Society that helps to convey the a human impact of diseases of the brain and emphasize the importance of neuroscience research.

The presidential special lectures drew good attendance. Brenda Bass of the University of Utah spoke on how RNA editing enzymes relate to behavior. Pasko Rakic of Yale University spoke on mechanisms of neuronal migration. Charles Wilson of the University of Texas, San Antonio, spoke about the connectivity of the basal ganglia and their role in procedural learning and movement.

The Social Issues Roundtable on "Suicide and Depression: Biological and Social Factors, Ethical and Policy Implications" featured speakers William Bunney of the University of California, Irvine; Victoria Arango of Columbia University; J. John Mann of Columbia University; and Kay Jamison of Johns Hopkins University. SfN Social Issues Committee Chair Stephanie Bird moderated the roundtable.

To promote the work of young investigators, the Society debuted what proved to be a popular minisymposium presentation format at Neuroscience 2004. Carefully reviewed and selected by the Program Committee from

#### ADVANCING SCIENTIFIC EXCELLENCE





among 168 submissions, each of the 27 minisymposia featured six speakers, giving new visibility to young scientists in diverse cutting-edge areas of research. Neuroscience 2004 also saw the first Peter Gruber Foundation Prize in Neuroscience awarded to Seymour Benzer of the California Institute of Technology. Noting that neuroscience has "the potential to dominate the century," the Peter Gruber Foundation established the \$200,000 unrestricted prize to "shine light on a field that has much to contribute."

#### The Impact of The Journal

Like the annual meeting, the *The Journal of Neuroscience* witnessed a significant increase in scientific content in 2004 and 2005. Under the leadership of Journal editor Gary Westbrook, submissions continued to increase, reflecting the continuing dynamism and growth of neuroscience and the importance of the Journal as a place to publish.

The scientific impact of papers published in *The Journal* is illustrated by its 2004 ISI impact factor of 7.91, 12th best out of 198 journals in the neurosciences category – a category in which *The Journal* continues to rank first in total citations. Online usage of *The Journal* continued to increase, with more than 4 million full-text downloads of articles in 2004 (1.8 million more than the previous year) and 2.7 million PDF downloads (an increase of 600,000).

To improve public access to scientific research, *The Journal* made its complete archives — up to issues published 12 months earlier — available to the public on January 1, 2005, allowing anyone to view articles. Previously, only SfN members and subscribers had access to the back issues.

To allow for greater comparisons between neuroscience topics presented at the annual meeting and those





covered in *The Journal*, the themes and topics for both now match. This information may help uncover publishing trends in areas of neuroscience research and identify emerging areas and underrepresented topics.

The Journal of Neuroscience also revised its copyright agreement to permit authors to comply with a new NIH policy for open access to research findings. The May 2, 2005 policy requests authors of papers funded in part or in whole by NIH to submit their research to the U.S. Government's PubMed Central database upon acceptance for publication.

#### SfN and NIH: Working Together

SfN has an active and productive relationship with the National Institutes of Health (NIH). Each spring, Council meets with the leadership of the NIH neuroscience institutes to discuss scientific trends, emerging issues, common interests, and areas of potential collaboration. At its annual meeting, SfN hosted the release of the NIH Neuroscience Blueprint. A model for collaboration in neuroscience research for the next decade, the Blueprint represents a planning effort by 14 NIH institutes that are concerned with neuroscience. Initiatives in 2005 include plans for expanded neuroscience training opportunities and a global inventory of neuroscience databases and resources to help better manage an ever increasing volume of scientific data.

NIH has also supported SfN's efforts to improve the searchability of the massive amounts of scientific data presented in online databases. With NIH funding, the Society initiated the Neuroscience Database Gateway (NDG) project, a searchable online database of neuroscience resources on the Internet that currently lists more than 100 neuroscience databases, software tools, and other scientific resources of interest to neuroscientists.

Under the stewardship of SfN's Neuroinformatics Committee, the NDG has expanded to include new neuroscience and bioinformatics resources. During the past year, the Committee began to develop neuroscience terminology lists to be used in the NDG. Plans for a pilot project to demonstrate the system's potential are underdevelopment.

In 2004, the Nobel Prize in Physiology or Medicine went to neuroscientists Linda Buck of the Howard Hughes Medical Institute and the Hutchinson Cancer Research Center in Seattle, and Richard Axel of Columbia University, for groundbreaking work on odorant receptors and the organization of the olfactory system.

This recognition is illustrative of the groundbreaking work being done by neuroscientists worldwide as they improve the prospects of people everywhere to live full and healthy lives. Through its programs, the Society will continue to support and sustain such important endeavors.



#### SCIENCE ADVOCACY



At a time when science programs received little or no increase in federal funding, the Society for Neuroscience continued it's strong advocatcy for biomedical research so that policymakers would begin to more clearly understand the importance of providing appropriate levels of support for research. The Society's efforts also emphasized the importance of continued responsible use of animal models for biomedical research, and advocacy training for scientists in our local chapters.

#### National Advocacy and Strong Alliances

SfN, on its own and with its partners, communicated the benefits and potential of neuroscience research to policymakers. In February 2005, SfN hosted a breakfast briefing titled "Building the Case for Mental Health Parity" for members and staff of the House Appropriations Subcommittee on Labor, Health and Human Services, Education and Related Agencies (LHHS), which funds NIH. The breakfast was co-sponsored by Rep. Patrick Kennedy (D-RI), 2002 recipient of the SfN Public Service Award and LHHS subcommittee member. Moderated by SfN President Carol Barnes, the speakers included past president Huda Akil on the biological and chemical basis for mood disorders; Mahlon DeLong, GPA chair, on the co-incidence of depression with other neurological disorders; and Guy McKhann on how depression can be fatal when it coexists with heart disease.

In the spring, Barnes submitted written testimony to the House LHHS subcommittee highlighting recent accomplishments in neuroscience achieved through federal science funding, including her own research on aging and the brain. Rep. Kennedy made moving remarks about the effect on families and society of teen suicide, emphasizing the importance of research and prevention.

As part of its broad advocacy effort, the Society distributed *Brain Research Success Stories* to every member of Congress, more than 400 patient advocacy groups, and leaders at other scientific societies. *Brain Research Success Stories* present the recent successes and future potential of neuroscience research into brain and nervous system disorders including bipolar disorder, insomnia, pain, phobia, alcoholism, epilepsy, hearing loss, memory impairment, spinal cord injury, and vision loss. They describe what good came from doubling the NIH budget and what good could come from continued adequate funding.

SfN's membership in the Joint Steering Committee for Public Policy (JSC) benefited members through the JSC's legislative alerts and updates, as well as a Capitol Hill Day program in which scientists from JSC member societies met with elected officials to discuss the value of biomedical research and the need for continued adequate funding. JSC hosted monthly science briefings for legislators featuring prominent scientists speaking on topics important to their constituents, including stem cells, depression, Parkinson's disease, and sign language in infants.

A coalition with the Campaign for Medical Research (CMR) also enhanced the Society's advocacy efforts

#### SCIENCE ADVOCACY



during fiscal year 2004. Together with the Federation of American Societies for Experimental Biology and other health groups, SfN worked with CMR to keep biomedical research funding on lawmakers' agendas.

Throughout the year, CMR held meetings with key funding committee leaders and appropriations committee staff. CMR also worked closely with Sen. Arlen Specter (R-PA) to prepare an amendment that would allow for increased funding for NIH by shifting funds into the government's overall health account. Sens. Specter and Tom Harkin (D-IA) introduced the amendment on March 16, 2005, providing an additional \$1.5 billion NIH increase, far more than the President's \$196 million increase.

The health community rallied to push for passage of the amendment, activating grassroots groups to make calls, send faxes, and meet with senators. SfN produced 1,878 faxes to senators through CapWiz, the Society's online legislative action center. The Senate approved the amendment by a vote of 63-37, sending a strong message about the importance of NIH funding. However, as the federal fiscal year comes to a close, due to the general slow progress in Congress of the appropriations process, funding levels for NIH for the next fiscal year remains uncertain.

With the American Academy of Neurology, the Society in 2004 launched the American Brain Coalition (ABC), an alliance of neurological and psychiatric organizations that represent patients, families, and professionals. ABC aims to collectively advocate for increased support of research that will lead to better treatment, services, and support for those with neurological and psychiatric diseases. The coalition's activities accelerated in 2005, with membership drives, designation of legislative priorities, and distribution of marketing materials.

#### Voicing the Benefits of Animal Research

Advocacy for responsible animal research required the Society's particular attention in 2004 and 2005, as the animal rights movement gained momentum. More than 35 law schools now offer classes in animal law, with some prominent legal scholars supporting the movement. The overarching argument being made is that animals are individuals who deserve legal rights. Animal rights groups claim, for example, that chimpanzees are at the same cognitive level as mentally handicapped children, but without the same legal protection. The groups are making increasing inroads at the level of county and state courts, where they can have a great impact on restricting the conduct of important scientific research.

SfN participated in a coalition organized by the National Association for Biomedical Research to consider ways to counter those who want to confer "personhood," or legal rights, upon animals used in research. Such efforts will supplement the advocacy of responsible animal research voiced through *Brain Research Success Stories*, the lay-language series *Brain Briefings*, and the grassroots efforts of individual scientists.

Committee on Animals in Research (CAR) and the Committee on Neuroscience Literacy (CNL) initiated dialogue with other biomedical research organizations and professional societies to craft a compelling, simple message about the benefits of animal research. To this end, meetings with the American Association for the Advancement of Science, States United for Biomedical Research, and American Veterinary Medical Association were held at the 2005 National Science Teachers Association convention in Dallas and in Washington, DC.

SfN's 2005 Animals in Research Panel was on the topic of translational research. CAR chair John Morrison moderated the panel, citing the history of information distributed by SfN about animals in research. Miguel Nicolelis, SfN member and professor of neurobiology at Duke University Medical Center, discussed his research in which chimpanzees use prosthetic devices to move a cursor on a computer screen for rewards – research that holds promise for those with major spinal cord injury.

#### SCIENCE ADVOCACY





At the panel, the Society distributed a wallet card listing translational neuroscience accomplishments to show the positive benefits of animal research. The wallet card, also contained in the 2004 fall *Neuroscience Quarterly*, was formulated by CAR for use in countering anti-animal research messages.

#### **Promoting Grassroots Efforts**

The Society is committed to providing members with tools for advocating on behalf of neuroscience. An initiative endorsed by the SfN Council and the Government and Public Affairs (GPA) Committee provides members with easy "how-to" tips for meeting with their elected officials.

SfN's Oregon chapter hosted a training session April 23–24, at which a representative from the Society's legislative advocacy firm, Caravocchi Ruscio Dennis, spoke to a group of 114 local chapter neuroscientists interested in learning how to better communicate

with legislators about important health issues. The training session was held in conjunction with the chapter's annual meeting at Oregon Health and Science University.

The Society's *Guide to Public Advocacy*, updated in 2005, is available online in downloadable PDF format. The *Guide* outlines the most effective methods for communicating with elected officials and for providing tools, information, and tips on how to be a strong public advocate for biomedical research funding and for the responsible use of animals in research.

SfN's commitment to advocating for biomedical research will help ensure sustained government funding and support for research, necessary building blocks for scientists to pursue intellectually compelling lines of inquiry and for applying acquired knowledge to improve individual and public health.





This year, the Society for Neuroscience coupled its ongoing programs with new initiatives to strengthen the foundation of its education and professional development pursuits. Such efforts help to ensure the continued progress of neuroscience, setting in place key building blocks for the future of the discipline.

#### **Education**

Informing educators and the public about neuroscience helps foster support for research and the funding it requires, and keeps the educational pipeline full of future practitioners. Among the SfN resources available to these audiences were the popular lay-language publications *Brain Facts, Brain Briefings,* and *Brain Research Success Stories.* The CD *Neuroscience Resources for the Classroom* combines all of these resources, plus additional neuroscience materials appropriate for every grade level. These resources were often distributed at SfN exhibits. For the second year, the Society exhibited at the annual meetings of the National Science Teachers Association (NSTA) and the National Association of Biology Teachers (NABT). Beginning in 2005, SfN's exhibit booth was located in a "research zone" alongside the booths of other scientific institutes and the NIH. This zone provided "one-stop shopping" for educators interested in exploring resources available from the scientific community.

The Society's annual meeting also offered a wealth of opportunities for fostering scientific excellence in schools. Hands-on neuroscience workshops exposed K-12 teachers to neuroscience activities that they could take back to their classrooms. A workshop to bring together K-12 teachers and neuroscientists partnered 30 teachers and neuroscientists at a daylong program in the laboratories of the Salk Institute in La Jolla, California.

Scientists from Kentucky to Turkey to Washington, DC, provided students, teachers, and neighbors a glimpse into the exciting world of neuroscience during the 10th annual Brain Awareness Week (BAW), March 14–20, 2005. Sponsored by SfN and the Dana Alliance for Brain Initiatives (DABI), thousands of organizations held BAW events around the world, hosting laboratory tours, classroom visits, exhibits, and public lectures. Public service announcements promoting BAW aired on radio stations in New York City; Washington, DC; Raleigh, North Carolina; and Tucson, Arizona.

In Washington, DC, Society leaders and SfN staff attended a BAW event at Francis Junior High School. SfN President Carol Barnes talked with students about how the brain learns and remembers. Students solved brain puzzles and tossed tennis ball "neurotransmitters" during a neuroscience relay game organized by postdoctoral fellows and graduate students from the NIH and Uniformed Services University of the Health Sciences.

During BAW, high school students from several countries competed in local "brain bees" to qualify for the 7th



annual International Brain Bee, organized by Norbert Myslinski of the University of Maryland at Baltimore. The winner, John Liu of Troy High School in Troy, Michigan, and mentor Rebecca Johns will be guests at Neuroscience 2005. Liu's win was no stroke of luck: AP biology teacher Johns was recognized last year by SfN for excellence in incorporating neuroscience concepts in the classroom. Johns and four others received SfN Teacher Travel Awards to attend Neuroscience 2004 in San Diego.

A new criterion for the 2005 Neuroscientist-Teacher Travel Awards will foster enhanced partnerships between neuroscientists and teachers. Awards will be given to teachers who have established effective relationships with SfN neuroscientists to help them teach neuroscience in the classroom. These neuroscientist-teacher pairs will be invited to participate in a workshop at Neuroscience 2005 that will culminate in plans for a summer institute bringing neuroscientists and teachers together to identify successful models for neuroscience education in grades kindergarten through 12.

The Science Educator Award recognizes outstanding efforts to bridge the gap between neuroscience and education. In 2004, it was awarded to Rochelle Schwartz-Bloom of Duke University. Her groundbreaking achievements have brought education resources about the brain and neurobiology of drug addiction to teachers, health practitioners, journalists, and state legislators. An invited article by Schwartz-Bloom on science education and outreach was featured in the June 15, 2005 issue of *The Journal of Neuroscience*.

To make neuroscience information more widely available, the Society – under the guidance of the Public Education Working Group – began development of a Neuroscience Education Portal. This Web-based navigational tool will provide easy access for educators to neuroscience topics and links to related scientific content. It will serve as SfN's gateway to neuroscience educational materials.

A first phase in the portal's development identified gaps in current Web site content and site navigation

challenges. The second phase, continuing through 2005, will culminate with the launch of a prototype that demonstrates the potential capabilities of a full-scale portal.

#### **Professional Development**

The Society has developed strategic initiatives for professional development in the belief that advancement of neuroscience is directly dependent upon the support of its practitioners. Many of these initiatives are now coming to fruition.

A "Meet-the-Expert" series, sponsored by the Society's Education Committee, will debut as part of Neuroscience 2005. Three sessions focusing on new techniques in neuroscience are designed to facilitate the interaction of graduate students and postdoctoral fellows with promising young investigators.

Inspired by the Professional Development Working Group, SfN launched NeuroJobs (http://neurojobs. sfn.org), a year-round online job bank that matches neuroscientists with employers and offers expanded professional development services. Neuroscience 2005 will host the first job fair in association with the year-round job bank. Both services provide a new opportunity to serve members with free access for job applicants supported by modest fees from employers.

The Mentor Program helps neuroscientists advance at all stages of their careers. In 2004, more than 400 individuals of all ages were matched with mentors, more than doubling the participation during the program's first two years. A highlight of the program, a meetand-greet reception with funding support from Aventis Pharmaceuticals, gave participants an opportunity to connect in person at Neuroscience 2004.

The Committee on the History of Neuroscience worked on Volume 5 of its popular *History of Neuroscience in Autobiography*, featuring 20 autobiographies. The committee is charged with the responsibility of increasing awareness of items deemed historically valuable and important to the Society for Neuroscience and its members. It continues to oversee initiatives relating



to the preservation and awareness of the history of neuroscience.

#### **Fostering Diversity**

As the neuroscience community expands, SfN is committed to providing professional development opportunities for scientists from all backgrounds, at all stages of their careers, both in the United Sates and around the world.

The newly expanded Committee on Women in Neuroscience (C-WIN) offered leadership training and professional development activities in 2004 and 2005. C-WIN also worked closely with the Minority Education, Training, and Professional Advancement Committee (METPAC) to ensure adequate representation of women and minorities for SfN awards given at the annual meeting. Officially established by SfN in early 2005, C-WIN joins SfN's former Committee on the Development of Women's Careers in Neuroscience with the independent organization Women in Neuroscience

METPAC oversees the Neuroscience Scholars Program. Funded through the National Institute of Neurological Disorders and Stroke (NINDS), this three-year fellowship program provides SfN membership benefits, mentoring, career enrichment, and networking opportunities for pre- and postdoctoral minority students in neuroscience. This year, 26 new scholars were selected for the program, bringing total enrollment to 42.

The Minority Neuroscience Fellowship Program, supported by a by a grant from the National Institute of Mental Health with additional support from NINDS, provided 11 predoctoral and six postdoctoral fellows with a monthly stipend, enrichment activities, travel to the SfN meeting, and mentoring in 2004. While this program is being phased out due to a reduction in NIH training funds, SfN will continue to seek new ways to promote diversity in neuroscience.

Expanding chapter representation is one signpost of global collaboration. Sixteen of the Society's 117 chapters, or 14 percent, are located outside the United States, among them chapters in Canada, Chile, Australia, Mexico, Turkey, and the United Kingdom. In 2005, SfN began offering reduced membership dues to neuroscientists in many developing countries.

The Society's International Affairs Committee (IAC) helped organize a course at Rhodes University in Grahamstown, South Africa, in conjunction with the U.S. National Academies and the American Epilepsy Society. Thirty-five practicing clinicians and scientific professionals from across sub-Saharan Africa took part in the workshop, titled "Neurobiology of Epilepsy." The IAC serves as the U.S./Canadian National Committee to the International Brain Research Organization (IBRO).

IAC also supports a Web site, www.iac-usnc.org, as part of its mission to disseminate knowledge and promote research and training for neuroscientists in underdeveloped countries. A portal for neuroscientists around the world, the site operates at low band-width to maximize access by users in resource-restricted areas.

IBRO and SfN also sponsored travel fellowships for 15 students from developing countries to travel to Neuroscience 2004, and for 15 North American students to present their work at the Federation of European Neuroscience Societies Forum in Lisbon, Portugal, in July 2004.

In its inaugural year, the Ricardo Miledi Program for Neuroscience Training offered a short course to 15 top neuroscience students from Mexico, South America and the Caribbean. The course on neurotransmission was held August 16 – September 10, 2004 at the Instituto de Neurobiologia , Juriquilla, Queretaro, Mexico. More than 40 students applied for the 15 slots in the 2004 program; and more than 90 students applied for the 15 slots in 2005. The program is funded under a three-year grant from The Grass Foundation.



#### YEAR IN REVIEW



During the 2004 fiscal year, the Society for Neuroscience took several important steps to ensure its continuing growth and financial stability, and build for the future. The purchase of a new headquarters building, planned for occupancy in early 2006, will give the Society an added revenue stream, provide financial security and protect its programs during a time of federal budget deficits and reduced funding for biomedical research.

In August 2004, SfN agreed to purchase, upon completion from DRI Partners, an 11-story, 84,000square-foot building in downtown Washington, DC, that will serve as the Society's new home, starting early in 2006. SfN will occupy three floors of the building and the remaining space will be rented to tenants to produce revenue.

The building will include lobby display space to showcase neuroscience achievements to the public and conference rooms to convene staff, Council, and SfN committee meetings, which will reduce ongoing expenses for hotel meeting space.

To design SfN's office space in the new building, the real estate committee chose Envision Design, a 20-person firm in Washington, DC, specializing in sustainable architecture, so-called "green" design, which incorporates principles and materials that seek to provide environmentally sensitive, healthy, and productive workplaces. The space was designed with an eye toward the design principles emerging from an evolving partnership between neuroscience and architecture.

Ownership of a building puts SfN in a better position to control the costs of membership, annual meeting fees, and *The Journal*. By having a revenue source that is independent of membership fees or annual meeting attendance, the Society can make its financial picture more predictable and stable, and devote more resources to its core activities and to new projects that members wish to initiate.

In 2004 the Society continued to gain members, with 5,442 new members joining for a total of 36,183, marking the third consecutive year that membership

#### YEAR IN REVIEW





has reached an all-time high. Membership growth was up 5.75 percent for 2004, and 2005 is trending toward an additional three (3) percent growth over 2004. Overall membership is up nearly 30 percent since 2001, after four years of being flat at about 28,000. This unprecedented growth – not experienced by many other professional societies in any field – is a reflection of the vitality and dynamism of the field of neuroscience, and the valued services and products the Society provides to its members.

With increased membership also came increased participation by members in the affairs of the Society. Use of online voting and nominating tools has made it easier for members to vote in elections and referenda, and suggest candidates for committee service. During the 2005 election, members voted for two new officers and the final results included 4,409 completed ballots from 26,795 eligible members – a participation rate of 16.5 percent.

#### **Neuroscience Around the Globe**

Since December 2001, international regular membership has grown substantially due to the early 2003 implementation of a bylaws change eliminating the disparity between North American and international regular members, the 2004 reduction in annual meeting fees for members, and the 2005 reduction in membership dues for members residing in developing countries.

The total number of international regular members outside of North America as of June 30, 2005 was 7,930 including 293 members living in developing countries. International student membership has increased by about 60 percent from 1,030 in December 2001 to 1,647 as of June 30, 2005.

SfN had a presence at the seventh biannual meeting of the Society of Neuroscientists of Africa (SONA) Conference and Regional Meeting of IBRO in Cape Town, South Africa in April 2005. Titled "Third International Conference on Metals and the Brain: From Neurochemistry to Neurodegeneration," the conference drew more than 500 attendees. SfN President Carol Barnes gave a plenary lecture on hippocampal contributions to age-related memory dysfunction. Symposia topics ranged from the neurobiology of addiction to clinical neuroscience in Africa.

The forethought and strategic planning of past Society leaders has enabled SfN to undertake many of the exciting initiatives described in this brief look at the 2005 fiscal year. With the continued guidance of Society Council, SfN is continuing to build for the future by focusing on key issues, opportunities, and challenges that the Society and the field will face in the coming years.

The next stage of this planning effort, in late 2005, will be to develop a set of strategies and action plans to take advantage of the opportunities and mitigate the risks ahead. This effort, as part of a philosophy that utilizes iterative and continuous planning by SfN's leaders, will help ensure that the benefits and potential of neuroscience research are realized for individuals and for society as a whole.



#### FY2005 REVENUE & EXPENSES

The Society for Neuroscience remains fiscally strong, with growth in its reserves and a surplus of revenues over expenditures in fiscal year 2005. About 45 percent of SfN's total revenue derives from the annual meeting registration fees, exhibitor fees, and other annual meeting revenues. Other major revenue sources include membership dues and journal revenues.

The Society has used surplus revenue from FY 2005 and prior fiscal years to build up its reserve fund. Investment reserves currently total \$26.2 million, providing the additional funds necessary to cover upfront costs required for the new building purchase. These increased reserves will also serve to protect SfN from the volatile economic climate currently facing the nonprofit community as a whole.

Over the last year SfN has continued its strong relationships with public, private and corporate entities. The National Institutes of Health has continued to be instrumental in supporting our diversity and education outreach programs through support of training, travel, and workshop activities available to our members. Other ongoing relationships have resulted in education grants to support presidential and special lectures, a number of awards, prizes, and receptions delivered at the annual meeting, and support for local and regional chapter activity, including travel support and other awards.



#### FY2005 Revenue by Focus area (\$21,252,468)

#### FY2005 Expenses by Focus area (\$17,494,462)



#### BALANCE SHEET & STATEMENT OF ACTIVITIES



#### Balance Sheet as of June 30, 2005

#### **ASSETS 2005**

Cash and cash equivalents	\$344,046
Accounts receivable, net of allowance	788,038
for doubtful accounts of \$55,000	
Prepaid expenses	969,446
Total current assets	2,101,530
Long term investments	26,206,139
Property, plant and equipment, net	337,895
Deposits	23,833
Other assets	685,410
Total non-current assets	27,253,277
Total assets	\$29,354,807

#### LIABILITIES AND NET ASSETS

Accounts payable and accrued expenses	\$1,915,147
Deferred revenue	5,029,056
Total current liabilities	6,944,203
Total liabilities	6,944,203
Total habilities	0121

#### **NET ASSETS**

Unrestricted	22,410,604
Total net assets	22,410,604
Total liabilities and net assets	\$29,354,807

Excerpt from the FY 2005 Independent Audit performed by PriceWaterhouseCoopers August 2005

#### .....

#### **Statement of Activities For the Year Ended June 30, 2005**

	UNRESTRICTED	RESTRICTED	TOTAL
Membership dues Journal of Neuroscience Annual meeting Grant revenue Bank interest income Net investment Gain Miscellaneous Net assets released from restriction	\$4,417,859 4,763,314 8,756,201 793,803 242,876 1,767,984 314,570 196,225	196,225	\$4,417,859 4,763,314 8,756,201 990,028 242,876 1,767,984 314,570
Total revenue and support	21,252,832		21,252,832
EXPENSES			
<b>Program expenses</b> Journal of Neuroscience Annual meeting Grants	4,467,084 6,750,460 1,111,140		4,467,084 6,750,460 1,111,140
Total program expenses	12,328,684		12,328,684
<b>Supporting Services</b> General and administrative Membership development	4,806,379 359,399		4,806,379 359,399
Total supporting services	5,165,778		5,165,778
Total expenses	17,494,462		17,494,462
Change in net assets	3,758,370		3,758,370
Net assets, beginning of year	18,652,234		18,652,234
Net assets, end of year	\$22,410,604	\$	\$22,410,604

For a complete audited financial statement, please refer to the SfN FY2005 Annual Report at www.sfn.org

# Navigating Neuroscience 2005 and Beyond Is Easy with a Little Planning Ahead by Attendees

Making your way around Neuroscience 2005's variety of programming choices will be quite simple with a little planning ahead. Many helpful sites will be in place at the Washington Convention Center to assist you as you navigate the meeting, including three full-service information booths.

The Washington Convention Center is a new, state-of-the-art facility that began holding events just two years ago. At approximately 2.3 million square feet, it is the largest building in Washington, DC, allowing for plenty of space for new programming and attendees to enjoy their time at the meeting.

When inside the convention center, be sure to pay attention to signs that will direct you quickly to your destinations. Each session room entrance will be clearly marked with a daily session sign. In addition to directional and session signage, there will be a sign at each entrance to the exhibit hall indicating which exhibit booths and posterboards are easily accessible from that entrance. At the Society for Neuroscience Booth, located in Hall B, Lower Level (Level L2) at Booth 1302, you'll be able to pick up a copy of the *Brain Awareness Week Report*, meet with editorial board members and staff of *The Journal of Neuroscience*, speak with a membership representative, or meet for a discussion with your new mentor or mentee.

Internet access will also be easier than ever at Neuroscience 2005. Free wireless Internet access will be available in the convention center lobbies, meeting rooms, and registration area, so that you can conveniently check your e-mail or use the Internet. Meeting attendees who wish to use this service should bring their own laptop computer or PDA with a built-in wireless card or external card that is 802.11b or 802.11g compatible. For further information, please visit www.sfn.org/wireless. With a little planning, navigating Washington, DC, will be easy. With some of the nation's most famous historical treasures around every corner, it's definitely worthwhile to head outside and do some exploring when sessions are over.

Washington's public transportation system is one of the cleanest and most user-friendly transit systems in the country. It will get you to all major destinations of interest. The Washington Metropolitan Area Transit Authority Web site, www.wmata.com, has a comprehensive collection of maps, fares, and schedules for you to browse through before you make the trip. Enter a "to" and "from" destination in the Metro Trip Planner and get a detailed description of what metro line or bus to take, trip length, and cost. The underground train system, called "the Metro" by locals, runs on five lines (red, orange, blue, green, yellow) that go throughout the city and into Virginia and Maryland. The convention center is located at the Mt. Vernon Square/7th Street-Convention Center stop on the Yellow and Green Lines. However, if you are using the Red Line, you may prefer to use the Gallery Place Chinatown stop and walk from there to the convention center, a short five-block walk north on 7th street.

We highly suggest that you take advantage of the Metro lines. As in the past, free shuttles will be running from SfN hotels to the convention center. Shuttles will be running every 10 to 20 minutes. Specific routes and schedules are listed in your final Program and on the SfN Web site at www.sfn.org/shuttle. Remember, traffic in Washington is often heavy. So it is generally a good idea to allow additional time when planning your commute.

We look forward to your participation in the 35th Annual Meeting.

#### SfN Reaches Out to Members Affected by Hurricanes

Many people across the Gulf States have been affected by the devastating impact of Hurricanes Katrina and Rita. Our thoughts are with members of the SfN family in Alabama, Louisiana, Mississippi, and Texas whose lives, families, and work have been disrupted by the storms. As part of our commitment to help our members, SfN is determined to provide immediate assistance and resources.

The Society has created an online forum to facilitate the exchange of information and requests for assistance between members in the affected gulf coast areas and the broader SfN community. It is accessible from the Society's homepage.

On September 20, upon the recommendation of the Chapters Committee, the SfN Executive Committee approved one-time travel awards of \$750 and \$1,000 — plus complimentary registration for the annual meeting — to graduate students and postdoctoral fellows, respectively, displaced by Katrina or Rita. Further details may be found on our Web site at www.sfn.org.

The Society believes that individual chapters may be in the best position to know and provide for the immediate and specific needs of the displaced neuroscientists that they are currently hosting. The Executive Committee approved a second proposal to allocate up to \$50,000 in \$5,000 grants to enable these chapters to offset the cost of providing for their guests' needs. Chapters can apply for a \$5,000 grant immediately by filling out a form available on the Web site. SfN will continue to actively search for opportunities to do our part in helping members successfully move forward.

To assist with the efforts in New Orleans, Council has voted to donote \$100,000 toward the reconstruction and repair of the city's educational institutes where the neuroscience community is based. ■

# NIAAA Director Discusses Research and the Future



Ting-Kai Li, MD

Ting-Kai Li, MD, is the director of the National Institute on Alcohol Abuse and Alcoholism (NIAAA).

# *NQ*: What are the overarching principles that guide research in the NIAAA?

Li: NIAAA's overall mission is to support and promote the best science on alcohol and health for the benefit of all. In this pursuit, we use multidisciplinary and transdisciplinary approaches to increase understand-

ing of normal and abnormal biology and behavior related to alcohol use, to improve diagnosis, prevention, and treatment, and to enhance quality health care. As NIAAA Director, my job is to ensure that we apply our best energies to this effort and painstaking objectivity in reporting our progress.

# *NQ*: In what areas do you believe the greatest progress has been made in research on alcohol abuse and alcoholism over the past decade?

Li: Alcoholism research has benefited from rapid progress in cellular and molecular research techniques, the integration of scientific disciplines in the study of addiction-related behavior, and the development of improved animal models. NIAAA's investment in genetic research has paid off in the identification of genes believed to affect risk for alcohol dependence, either through the production of proteins involved in neuronal signaling or by encoding enzymes that metabolize alcohol. Some genetic research is identifying potential targets for new medications; all are informative toward the development of targeted preventive interventions. We now have three approved medications for alcoholism treatment, disulfiram, naltrexone, and acamprosate, and several molecular targets and novel compounds in the pipeline. The decade also produced new insights into the mechanisms of alcohol's toxic effects in liver and fetal damage and initial work toward medications for each condition.

In behavioral studies, researchers demonstrated the effectiveness of several professionally delivered, manual-based treatments for alcohol dependence, and prevention researchers identified effective school-based, community, and policy interventions to reduce risk for alcohol use disorders and other drinking consequences. The rapid application of some proven interventions holds promise for the eventual "mainstreaming" of alcohol research knowledge.

### *NQ*: Which areas of research will have the greatest impact for the public?

Li: Epidemiologic research is fundamental to understanding the magnitude and types of alcohol use behavior, the rates of alcohol use disorders, and their co-morbid medical and psychiatric conditions. It also is the engine that drives public health policy. Results from the first wave of The National Epidemiological Survey on Alcohol and Related Conditions (NESARC) is providing the clearest picture to date of the magnitude of alcohol-related problems in the U.S. It is revealing the rates of alcohol use disorders in the U.S., the types of treatments people with alcohol

problems have sought, the various pathways to recovery, and the patterns and rates of co-morbid disorders. Data collection from the second wave of NESARC began in 2004, and results should emerge in the near future. This will provide critical information on the stability of alcohol use behavior, alcohol use disorders, outcomes of treatment, and recovery. Such knowledge may become the context for public discourse and the development of public health policies.

We anticipate that NIAAA's research on screening and brief interventions will also have significant public health impact. We are studying whether emergency rooms, family practice physicians, and other primary care doctors, prenatal clinics, and college health clinics can be useful venues to screen for alcohol problems and to conduct brief interventions and (if necessary) referrals to alcohol treatment providers. We also are investigating how clergy, social workers, nurses, and other health professionals can be used to identify individuals with alcohol problems and to motivate people to reduce problematic drinking behavior. Widespread implementation of screening and brief interventions in key locations has the potential to improve public health and reduce alcohol-related injuries and deaths.

The development of new medications to treat alcohol use disorders and their medical consequences is a priority at NIAAA. Pharmacogenetic research has the potential to identify the most promising medication for a given patient's genetic background, thereby minimizing side effects and enhancing the probability of therapeutic success. Although this effort is in its infancy, as we learn more about genomic control of the pharmacokinetics and pharmacodynamics of medications for alcohol use disorders, the public could ultimately derive substantial benefits from individualized treatment regimens.

### *NQ*: What will be the major challenges for research in alcohol abuse and alcoholism over the next decade?

Li: A major challenge will be the development of new *Diagnostic* and Statistical Manual of Mental Disorders V (DSM-V) diagnostic criteria that incorporate dimensional measures of key elements of alcohol use disorder syndromes, as well as categorical criteria. Previous versions of the DSM have successfully defined "caseness" on the basis of categorical criteria alone. Without indicators of quantity, frequency, and variability of alcohol consumption, such diagnoses limit clinical and research utility. In addition, I believe that the dimensional scaling of key diagnostic criteria for alcohol dependence would not only make such diagnoses more informative, but would also permit the differentiation of psychological components such as compulsive use, loss of control, salience, and narrowing of behavioral repertoire (which some refer to as "addiction") from the physiological and neuroadaptational responses attributable to chronic ethanol exposure. This fine level of symptom categorization could then be the basis for a more targeted approach to medications development, provide clinical endpoints for medication trials, and enhance the clinical decision-making process.

A validated dimensional scale for characterizing severity of illness would also be extremely useful. Regrettably, at the conceptual level there is currently little agreement as to what "severity" means. Some investigators view severity as the aggregate of psychosocial consequences experienced by the individual with an alcohol use disorder. Other investigators define severity solely in terms of the extent of alcohol exposure expressed as quantity and frequency of drinking and variability in the drinking pattern. Some view severity as the number and diversity of signs and symptoms experienced by an affected individual. Still others view this severity dimension as reflecting resistance to treatment interventions. Creating aggregate diagnostic entities for the alcohol use disorders that incorporate dimensional and categorical features and that are valid, reliable, and serviceable in both research and clinical settings will be an enormous challenge over the next decade.

Biomarkers are biological characteristics that can be objectively measured and evaluated as indicators of normal biological processes, pathogenic processes, or pharmacologic responses to a therapeutic intervention. They can be either "state" or "trait" phenomena. Over the next decade, the alcohol research field must develop better biomarkers of alcohol consumption, as well as highly specific biomarkers of injury to liver, pancreas, and brain, that are sensitive enough to detect and quantify a wide range of injury severity. Such biomarkers would have enormous clinical utility in identifying pathological changes associated with problematic drinking. They also would enhance the precision of therapeutic and environmental intervention research, outcomes for medication trials, epidemiologic, and genetic investigations.

As great as any of these research challenges is the challenge to advance research findings into clinical practice, prevention, and public discourse. NIAAA has experienced some success in incorporating screening and brief intervention into trauma and other primary care settings and, with our recent research-to-practice initiative, into alcoholism treatment programs. Likewise, our college and underage drinking initiatives have influenced how policymakers, educators, college administrators, clinicians, parents, and the media view college and underage drinking. Clinicians in the U.S. now have three medications approved for treatment of alcohol use disorders, yet few physicians are knowledgeable about them or prescribe them for their patients. Much work remains to be done on the translation of alcohol research knowledge into the applications where it will have maximal effect.

### *NQ*: What new technologies hold the most promise for research in alcohol abuse and alcoholism in the future?

Li: Alcohol perturbs cellular and organ functioning at multiple levels of biological organization, including gene expression, effects on second messenger systems, protein structure and functioning, and enzyme kinetics. Research is gradually revealing the mechanisms through which alcohol produces this diversity of effects. However, advances in informatics and computational biology will be critical to the integration and interpretation of future studies. With the increasing availability of gene expression assays and arrays and advances in understanding regulatory elements and gene networks, a host of new technologies will be necessary to integrate the abundant data generated by these experiments, model the complex interactions, and ultimately draw scientific inferences. Without informatics and the modeling capacity of computational biology, the researcher will be overwhelmed with data and be without the means to draw conclusions.

Technological advances in the relatively new field of metabolomics also promise to reveal critical underlying mechanisms of alcohol tissue injury. Chronic or excessive ingestion of alcohol often leads to medical disorders stemming from cell and tissue injury. However, it is not entirely clear whether the causative agent is alcohol, its metabolic products, a combination of the two, or adducts produced downstream in the ethanol metabolic pathway. Alcohol can directly affect membranes, nucleic acids, proteins, lipids, and other biological and biochemical entities. Alcohol metabolism and metabolic products can modulate gene expression at both RNA and protein levels and also can modify enzymes with the potential for physiologic consequences. Metabolic profiling data can be integrated with genomic and proteomics data to define complex systems-level responses to environmental perturbations. Metabolomic studies in alcohol research can extract latent biochemical information of diagnostic or prognostic value, reflecting actual biological events, and can serve as an advanced warning system to detect alcohol-related diseases.

"Even the best self-report measures of alcohol use behavior are inherently biased and frequently depend upon the imperfect nature of retrospective recall. The precision of many of our clinical and preclinical investigations could be enhanced greatly through the development of more objective measures of alcohol exposure, particularly across the time domain."

#### — Ting-Kai Li

Even the best self-report measures of alcohol use behavior are inherently biased and frequently depend upon the imperfect nature of retrospective recall. The precision of many of our clinical and preclinical investigations could be enhanced greatly through the development of more objective measures of alcohol exposure, particularly across the time domain. Accurate measurement of the time variation of alcohol content during and after drinking is a fundamentally important and extremely desirable component in a great variety of experimental and analytic studies of alcohol related phenomena, such as sensitization, acute tolerance, chronic tolerance, dependence, withdrawal, craving, and relapse. The new generation of alcohol biosensors currently under investigation takes advantage of leading-edge technologies such as near-infrared Raman spectroscopy and electrochemical sensors.

# *NQ*: Much of your research has been centered on the alcohol and aldehyde dehydrogenases. How does studying these enzymes translate into practical applications for understanding alcohol abuse and alcoholism?

Li: Alcohol dehydrogenase and aldehyde dehydrogenase are the enzymes that respectively catalyze the first and second steps in alcohol metabolism. These represent the major pathways for alcohol elimination. Characterizing the structure and function of their genetic variants and differences between individuals in the physiology of these enzymes has contributed to our understanding of the genetically mediated variability of human responses to alcohol. Furthermore, because acetaldehyde is aversive, genetic variations manifesting reduced activity of aldehyde dehydrogenase are now recognized as a protective mechanism for the development of alcohol use disorders among specific populations. Thus, the work has identified an important pharmacogenetic influence on a disease. The development of animal models with marked differences in their levels of voluntary alcohol consumption paralleled the variations seen in human behavior. Overall, these contributions helped to cement the once-radical notion that alcohol consumption behavior is genetically influenced.

#### ... NIAAA Director, continued from page 9

My more recent work in humans showed that different individuals and ethnic populations have different gene variants that yield a fourfold difference in metabolic and behavioral responses to standard drinks of alcohol. This information has proved important for stimulating research on patterns of variation in gene activity, protein activity, and metabolic activity with specific outcomes and for refining clinical and public health advice.

# *NQ*: If a gene(s) for alcohol sensitivity is found, might there one day be a medical treatment to counteract this sensitivity, thereby mitigating the influence of alcoholism in society today?

Li: Alcohol has multiple effects in any single individual, and individuals and groups vary considerably in their sensitivity to those effects. For example, we know from animal and human studies that adolescents have reduced sensitivity to alcohol-induced sedation, motor impairment, anxiolytic effects, hypothermia, analgesia, social inhibition, and withdrawal and increased sensitivity to certain cognitive outcomes and the facilitation of social behavior.

In fact, *insensitivity* to alcohol may be more important than *sensitivity* in predicting an adverse outcome. NIAAA-supported research has demonstrated that alcohol-naïve sons of alcoholics also are less sensitive to motor, endocrine, and subjective effects of alcohol. A 10-year follow-up study showed that low response to alcohol at age 20 powerfully predicted future dependence. Selective genotyping in some of these men showed a common functional polymorphism of the serotonin transporter promoter and a GABAA  $\alpha$ 6-amino acid substitution polymorphism Pro385Ser to be associated with alcohol sensitivity. Another study showed that college students with a particular variant of the serotonin transporter gene engaged more frequently in binge drinking than peers without the variant. Although some other studies have not showed these associations, both neurotransmitter sites are targets for further exploration and, preliminarily, for medications development.

# *NQ*: How might multidisciplinary collaboration among the sciences promote advances in research on alcohol abuse and alcoholism?

Li: Given the nature of alcoholism as a common, complex disease, alcohol's multiple effects on multiple organ systems, and the multifaceted societal outcomes of alcohol misuse, NIAAA has long engaged in multidisciplinary collaboration. Alcohol is an environmental substance that affects the brain, heart, liver, lung, pancreas, and immune system, produces developmental deficits, and is associated with psychiatric disorders. Given alcohol's impact from the cell to society, alcohol research is inherently multidisciplinary. Unique to this stage of alcohol research and the era of the NIH Roadmap are the scientific imperative and political will to markedly advance such collaborations. I believe that we have entered a new period of expanded multidisciplinary and transdisciplinary collaboration and are beginning to experience its rewards.

A clear example of ongoing multidisciplinary alcohol research is NIAAA's Integrative Neuroscience Initiative on Alcoholism (INIA), which extends beyond traditional models of collaboration to capture input from the many fields that contribute to alcohol research, including genetics, imaging, molecular biology, and behavior. At the scientific level, INIA has provided its investigators with standardized animal models and other tools that ensure that relevant findings from each field are placed in the context of alcohol research. INIA collaborations occur not only across fields of research, but also across universities and organizations, nationally and internationally. Its funding and operational structures enable NIAAA to pursue potentially productive research opportunities as they emerge, relatively unencumbered by inflexible funding mechanisms. Of course, we also continue to support individual investigator-originated projects.

"Results from the first wave of The National Epidemiological Survey on Alcohol and Related Conditions is providing the clearest picture to date of the magnitude of alcohol-

related problems in the U.S."

— Ting-Kai Li

# *NQ*: What new initiatives are planned for research on alcohol abuse and alcoholism funded by NIAAA?

Li: NIAAA has just completed its annual strategic planning process wherein our multidisciplinary scientific staff collaborate to identify research priorities and resource development areas for the Institute.

An important element of our Underage Drinking Initiative is the need for a better understanding of how alcohol affects the changes in neural plasticity associated with adolescent brain development. Alcohol is the drug of choice among adolescents, and binge drinking is the most common mode of consumption. However, it is unclear how sporadic high-dose alcohol exposure impacts myelination, synaptic "pruning," grey matter reductions, and other physiological processes underlying normal adolescent brain maturation. We must know more about the functional consequences of any such alterations. We must also investigate the timing and reversibility of any physiological or functional effects produced by alcohol.

NESARC has confirmed an association between early onset drinking and the risk for alcohol dependence in later life. If early alcohol use alters fundamental brain mechanisms that increase the later risk for an alcohol use disorder, we need to know how and why this occurs and whether there are molecular targets that might alter future susceptibility.

Another research priority is elucidating the complex genetic and environmental interactions that influence both the etiology of risk for alcohol use disorders and the tissue injury consequences of alcohol exposure. A particular challenge to this endeavor involves selecting and measuring the environments that are

#### ... Message from the President, continued from page 2

Overall, Council understands that it will take resources to make a significant impact in several of these areas that are so important to the future of the field. We also understand that there are constraints within which we must operate and that we have to prioritize carefully to ensure that money and programs fit together to address our constantly changing environment.

This combination is crucial. By focusing on our mission, we will attract more interested neuroscientists to join as members and attend the annual meeting. In turn, these factors drive revenues, which allow us to invest in programs that will help ensure the future strength of the Society. Our goal is to craft the best strategies that support and enhance doing the best neuroscience possible.

With the continuing extraordinary commitment of the voluntary leadership of this great Society and the help and support of our members and the wonderful Central Office staff, I am confident that SfN will have a very bright future.

#### ... NIAAA Director, continued from page 10

most likely to interact with an individual's genetic background to facilitate protection or harm. For example, there is emerging evidence that adverse and traumatic early life experiences can interact with genetic background to contribute to one's risk for problematic alcohol use. However, much less is known about those complex interactions of genetic and environment exposures that confer resilience. At the human genotypic level, we are very interested in further replication studies of the susceptibility genes uncovered by NIAAA's Collaborative Studies on Genetics of Alcoholism (COGA) project and their associations with neuropsychological, electrophysiological, and biochemical intermediate phenotypes. To facilitate the use of animal models that can efficiently address the complex questions that can't ethically be resolved through studies in humans, we also have an initiative to stimulate the development of preclinical models of established human intermediate phenotypes. Emerging from these initiatives is a new priority to enhance our understanding of alcohol's impact on the regulatory mechanisms of gene expression and to investigate any epigenetic consequences of alcohol exposure.

### *NQ*: What are the most promising avenues of research on alcohol abuse and alcoholism over the next several years?

Li: In the near term, I look forward to knowledge to be gleaned from the second wave of the NESARC, the first truly longitudinal national survey in alcohol research. Because NESARC surveyors will reinterview the same 43,093 persons who participated in 2001–2002 and because survey questions are tied closely to diagnostic criteria, we expect to derive the first-ever nationally representative data on the natural history of alcohol use disorders and recovery.

I also look forward to results from ongoing studies of the neurobiological mechanisms of adolescent alcohol abuse and our initiative to examine biological and environmental risk factors and test longitudinal community-based prevention programs in youth in rural and small urban areas. In addition, we eagerly anticipate information from the Combining Medications and Behavioral Interventions (COMBINE) ancillary study by investigators in NIAAA's Neurogenetics Laboratory of genetic factors in medication response in COMBINE patients.

From neuroscience, I look forward to better understanding of alcohol neuroadaptation and the myriad circuits and networks — especially stress and reward — that affect the process. In particular, we are eager to understand the development, degeneration and repair, and plasticity of the nervous system in underage drinking and alcohol's pharmacological effects in youth. We hope to exploit advances in neuroimaging technologies to achieve that goal.

#### NEUROSCIENCE Q U A R T E R L Y

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