

# NEUROSCIENCE

FALL 2012

Q U A R T E R L Y

*"The responsibility for science communication extends to Society members... There is strength in numbers and a unified vision and voice."*

— Philip Rubin, Principal  
Assistant Director for Science,  
Executive Office of the President,  
The White House

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## Annual Meeting Preview: Maximize Your Time at Neuroscience 2012

SfN wants to be sure you are able to get the most out of your time at Neuroscience 2012. A variety of resources are available to ensure you'll find the right fit in New Orleans.



### NEUROSCIENCE 2012

Daily Books, as well as full-text abstracts, are available in downloadable PDF format. Daily Books and abstracts are also provided in e-reader format for Kindle and Nook. All of these options can be found on the *Program* page at [SfN.org/am2012](http://SfN.org/am2012).

### BROWSING THE NEUROSCIENCE 2012 PROGRAM

The annual meeting program is viewable in a variety of ways. The Neuroscience Meeting Planner (NMP) is the best online tool for attendees to navigate annual meeting sessions and events, search full abstracts, and build a personal meeting itinerary. The *Program's* general information and

*Continued on page 10...*

## Message from the President

### Unfolding Discoveries: What Is "Today's NGF?"



Moses Chao,  
SfN President

The oldest living Nobel laureate, Rita Levi-Montalcini, turned 103 this year. Her work in Italy and the United States in the 1940s and 50s with Stanley Cohen and Victor Hamburger explained how neurons are eliminated early in development from deprivation of trophic factors. It also led to the identification of nerve growth factors (NGF) more than 50 years ago.

The NGF story offers a great example of how seminal advances are often made, early discoveries diffuse across research, and discoveries translate into potential therapies, often in unexpected ways. The NGF story also highlights the role SfN plays in promoting opportunities for interdisciplinary scientific exchange. As the field prepares for Neuroscience 2012, it encourages me to think: how can individual scientists leverage the annual meeting to advance promising research areas that could be today's NGFs?

### NGF AND OTHER TROPIC FACTORS

Like many scientific achievements, the discovery and exploration of NGF and other trophic factors is a story written over decades, touching countless researchers worldwide.

*Continued on page 2...*

The interest in NGF was based on its unique ability to promote the survival of specific sets of embryonic peripheral neurons. It took nearly three additional decades to find other trophic factors, such as BDNF and GDNF, that work in the central nervous system. For example, the neurotrophin BDNF was identified in 1989 after a 10-year search by Yves-Alain Barde, a special lecturer at Neuroscience 2012. In the adult nervous system, BDNF has the ability to convert new experiences into stronger brain connections that mediate learning, memory, and nerve regeneration. In fact, we know the more active brain cells become, the more trophic molecules are produced. In addition, neurotrophins can regulate neurogenesis, axonal and dendritic growth and guidance, and synaptic structure and connections, as well as neurotransmitter release, LTP, and synaptic transmission.

My interest in this area was prompted by a search for the receptors for NGF. It required a number of years for me to identify and clone two different receptors, Trk and p75, for NGF family members. These two receptors provided an explanation of how trophic factors carry out signal transduction and communication between neurons, while also suggesting alternative ways of activating neurotrophin receptors through small molecules and other signaling systems. This raises the possibility of eliciting positive effects in the treatment of neurodegenerative diseases.

The field's commitment to promote discussion and debate also played a role. Initially, posters about neurotrophic factors were concentrated in Theme A (Development) at the annual meeting. Each poster session drew many of us together in mini-conferences to discuss the latest findings. Over time, as a reflection of new advances and potential applications in the field, neurotrophic factor posters have increased and spread to many additional themes, such as Neural Excitability, Sensory and Motor Systems, Cognition and Behavior, and Disorders of the Nervous System. Thus, each SfN meeting has been instrumental in promoting research directions that span areas not originally connected to the neurotrophin field. Moreover, it is important to note that the thousands of posters presented at the meeting frequently reflect unpublished material. SfN believes this open dialogue speeds scientific progress.

This cross-fertilization is driven by basic research findings. Each year, the SfN Program Committee evaluates symposium topics proposed by the field, selects strong topics that also have clear interdisciplinary potential, and sessions abstracts that foster dialogue. For instance, the inclusion of symposia topics dealing with cell death, the discovery of new trophic factors, and clinical applications has pushed the field forward. Key contributors to the neurotrophin area,

such as Mu-ming Poo, Mike Greenberg, Nancy Ip, and Eric Nestler, have been invited to speak as special lecturers at recent meetings. Fittingly, Rita Levi-Montalcini gave a major lecture at the 1981 annual meeting.

Finally, as the NGF field matured, SfN was fortunate to have a number of presidents, including Ira Black ('93), Carla Shatz ('95), Lorne Mendell ('98), and Rusty Gage ('02), whose work touched on different actions of trophic factors. As Society leaders, each has helped ensure that SfN continued to nurture new areas of discovery and new ideas.

## DISCOVERIES DRIVE THERAPIES — AND NEW QUESTIONS

Fifty years after the discovery of NGF, trophic factors have an impact beyond developing neurons. The result of this decades-long research effort is new insights that help address diseases and disorders. Neurotrophins influence many aspects of neuronal activity that result in the generation of new synaptic connections. It is not surprising they have been the subject of intense interest as a therapeutic approach for several neurodegenerative diseases, including Alzheimer's and Huntington's diseases, ALS, and psychiatric disorders such as depression and anxiety. However, clinical trials have been met with disappointing results, in part due to the difficulties of delivery and undesirable side effects. Neurotrophins are large sticky proteins that do not pass the blood-brain barrier. The problems managing the dose and application of these proteins have hindered the application of neurotrophic factors as therapeutic intervention for neurodegenerative diseases. However, I believe these obstacles can be overcome. For example, increased cognitive activity and exercise can lower the risk for hindering conditions by increasing trophic factors. A number of higher-order functions, such as the circuits involved in pain, anxiety and depression, obesity, and other maladaptive behaviors, can be modulated by changing the levels of trophic factors, a goal that is now feasible.

## IN NEW ORLEANS: FIND TODAY'S UNFOLDING STORIES

When you attend Neuroscience 2012 in a few weeks, what will you do to seek out and explore topics that could be today's NGFs? Dozens of promising research areas will draw crowds across themes on the poster floor and specialties in symposium rooms. This kind of cross-specialty exchange is at the core of the Society's mission. Curiosity-driven research has given rise to many insights into neurological and psychiatric disorders. The lessons learned since Rita Levi-Montalcini's groundbreaking research indicate that discovery-based research will build a solid base of knowledge to address the difficult clinical problems we face in neuroscience. ■

# Annual Meeting Survey Uncovers New Opportunities

As part of SfN’s commitment to serve the evolving needs of meeting attendees, the Annual Meeting Advisory Group, appointed by the SfN Council, initiated a survey of meeting attendees and members who have not attended in the past five years to identify opportunities to enhance the meeting experience. The survey results, compiled in June, will help maintain and enhance the meeting’s scientific dynamism and ensure successful implementation of new initiatives, particularly those involving new technologies.

The survey had a high response rate — 20.8 percent — from current members. Most of the respondents were current regular members and a quarter had attended the annual meeting once. Thirteen percent had attended the five most recent meetings. More than 90 percent of respondents were “satisfied” to “extremely satisfied” with how the meeting helped them stay current in their specific fields of research and in the field in general. Ninety-six percent of all past meeting respondents indicated that they attend poster sessions, while 46 percent said that acceptance of an abstract is the biggest influence for attendance. Throughout the survey, the Exhibit Hall received high ratings.

Many survey participants expressed interest in meeting enhancements already underway. Eighty-two percent of respondents said they would like to see on-site dynamic posters, a feature that will be demonstrated at Neuroscience 2012 as part of ongoing efforts to increase the vibrancy and effectiveness of the meeting’s scientific program. A dynamic poster is a multimedia presentation displayed on a flat screen with movies, animation, and digital images. The dynamic poster concept is designed to

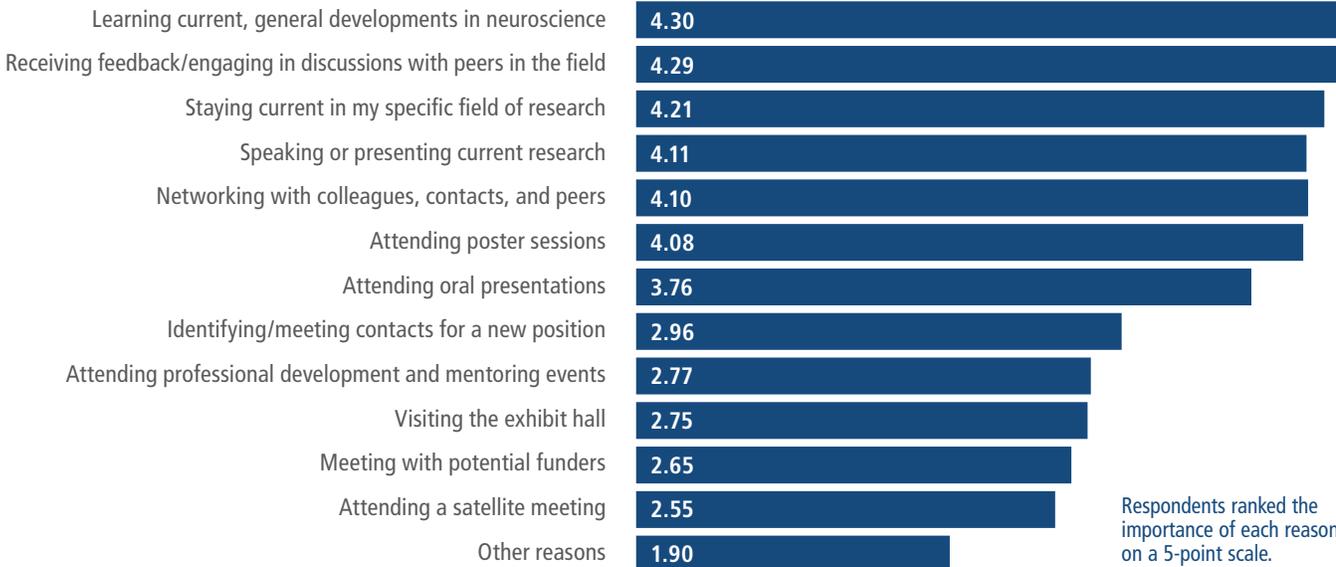
provide a different level of engagement with science. Volunteers from the eight themes will present a dynamic poster, with the intention of expanding the use of new technology and presentation modes on the poster floor in future years.

Seventy-five percent of survey respondents said they would like the meeting to provide more navigation tools. Neuroscience 2012 will be the inaugural year for the annual meeting mobile app, a resource that will help attendees navigate the meeting’s science, exhibitors, and events from their mobile devices. The mobile meeting app searches program presentations, creates itineraries, browses full-text abstracts offline, emails notes, searches exhibitors, and provides meeting maps. The Neuroscience 2012 mobile meeting app will be compatible with Apple’s iOS and Android operating platforms.

Though the survey confirmed that the annual meeting continues to align with attendee needs, areas for improvement emerged. For instance, based on the survey responses, the annual meeting could provide more opportunities for professional and grant networking. Attendees and non-attendees were also interested in a more defined, focused experience at the meeting for individuals within specific areas of research.

The Annual Meeting Advisory Group and the Program Committee will consider the full survey analysis as they plan for future annual meetings and consider how to enhance programming features. More information about the Society’s plans for the future can be found in the Council Round-Up article on page 8. ■

## Importance of Reasons for Attending the SfN Annual Meeting



Respondents ranked the importance of each reason on a 5-point scale.

## Exploring the White House Neuroscience Initiative



Philip Rubin  
Principal Assistant  
Director for Science,  
Executive Office  
of the President,  
The White House

*Philip Rubin is the principal assistant director for science in the White House Office of Science and Technology Policy (OSTP), where he is leading the White House Neuroscience Initiative. He is a senior advisor in the Directorate for Social, Behavioral, and Economic Sciences at NSF. He is on leave as CEO from Haskins Laboratories, where he continues to serve as a senior scientist.*

### **NQ: What are the goals of the neuroscience initiative at the White House Office of Science and Technology Policy and how do you hope to achieve them?**

The White House Neuroscience Initiative is a cross-agency effort coordinated by OSTP. The goal of this initiative is to discover significant, transformative opportunities across agencies and between the federal government and the private sector to advance the impact of federal investments in neuroscience to improve health, learning, and other outcomes of national importance. It asks, through coordinated action, where can the field of neuroscience move in the next one, three, five, or ten years? In what areas can shared data, tools, infrastructure, and knowledge spur advances, and how can progress in those areas be supported? The coordinating body of the initiative, the National Science and Technology Council (NSTC) Interagency Working Group on Neuroscience (IWGN), has been chartered. The IWGN will include members from across the federal government, including the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Justice, and Veterans Affairs, as well as the Central Intelligence Agency, Environmental Protection Agency, NSF, NASA, and Office of the Director of National Intelligence. The Office of Management and Budget, the Office of National Drug Control Policy, and OSTP will represent the Executive Office of the President.

The first meeting of the IWGN is scheduled for September 2012. The working group will identify key research areas where communication and collaboration across federal agencies can foster advances that address national needs. The group is expected to define, for some of these identified research areas, concrete actions the federal government can take to accelerate neuroscience research and development progress. The White House initiative will not instruct agencies on what activities should be undertaken and is not intended to provide centralized oversight. Rather, it will focus on advancing the basic

and transformative research needed to accelerate progress in promising areas of neuroscience, a field that ranges, as described in the titles of two National Academies publications, from “molecules to minds” and from “neurons to neighborhoods.” This is a considerable challenge that will require focus, cooperation, and hard work. A concrete step that could have a significant impact on the field with relatively modest input is support for the development of an open infrastructure for preserving and sharing neuroscience and related behavioral data, along with the development of sophisticated new tools for analysis, visualization, and modeling.

### **NQ: Some scientists would say that there is an increasing focus on translational science at a time when much more needs to be understood about the basic mechanisms of brain function. What is OSTP’s approach to balancing the need for basic and applied research?**

Neuroscience often addresses profound and difficult challenges: restoring sight to the blind, providing feeling and movement to those who are paralyzed or have lost limbs, confronting developmental disorders and the ravages of neurodegenerative disease and aging, and understanding how we come to perceive and move through a complex, constantly changing world. These are pressing challenges, but progress cannot be made without a strong foundation of basic research that engages multiple disciplines, including biology, behavioral and cognitive science, computer science, education, engineering, medicine, nanoscience, neurology, physics, and other areas. The approach of OSTP is to identify how science and technology can help accelerate progress in these areas, particularly through interagency and public-private partnerships and access to shared resources. This approach focuses on the underlying basic science, with an eye toward accelerating translation to the clinical arena and other applications. We also are exploring new and emerging technologies and the fundamental science that underlies them.

### **NQ: You’ve had extensive experience both in government and running a lab associated with an academic institution. How has your experience inside and outside of government informed your approach to OSTP’s efforts?**

I have had a very diverse career, both as a scientist and as an administrator. My research spans many disciplines, combining computational, engineering, linguistic, physiological, and psychological approaches to study embodied cognition, most particularly the biological bases of speech and language. The positions I have held are equally diverse. I have been a

researcher doing work funded mostly by NIH, a professor, a science administrator at NSF, CEO of a research institution, chair of a science museum, chair or member of various NSTC and National Research Council committees considering a wide variety of science and policy matters, and now the principal assistant director at OSTP. This diverse background provides me with a broad and practical perspective on the scientific, policy, political, and practical issues that — it turns out — are considered on a daily basis at OSTP. Further, I have personally confronted many of the difficulties that those in the research community are facing today, including the struggle for funding, regulatory considerations, the complexities of transdisciplinary science, and the importance of training and education. Having been on both the receiving and giving ends of federal funding agencies also gives me important experience with academic, institutional, and agency realities. All of this has increased my sensitivity to disciplinary needs and interdisciplinary opportunities that are essential for progress in neuroscience and related areas. That mix is turning out to be a great fit in OSTP, whose role, in large part, is to help coordinate the various missions of a wide range of departments and agencies that have similar goals but very different perspectives, administrative structures, and priorities. Particularly exciting for me has been participating in emerging scientific areas and confronting the challenges that this entails. My current position at OSTP, a White House office that has this wonderful capacity to convene diverse players for the common good, affords me unprecedented opportunities

to promote effective partnerships, not only among federal entities, but also among non-governmental institutions and professional associations that share a vision for a better and healthier world built on solid scientific research.

### **NQ: What role can scientific societies such as SfN play in helping OSTP coordinate neuroscience efforts across federal agencies?**

Scientific societies such as SfN can play a number of key roles in helping the neuroscience efforts of OSTP. We are very pleased that SfN has been providing us with an overview of the current state of thinking on key, tractable issues in the area of neuroscience. We thank the leadership and management of the society for their enthusiasm and hard work. I believe that one of the most important things that we can do as scientists is communicate with a minimum of jargon why our work is important and how it affects the lives of our citizens both now and in the future. SfN has been doing this very effectively for some time. However, the responsibility for science communication extends to Society members. Each of us, as scientists and as members of SfN, can assist by letting a variety of stakeholders know what we are doing and how it is important individually and collectively. This is particularly important at a local level. Another way SfN can help is by communicating, and possibly partnering with, other professional societies. There is strength in numbers and in a unified vision and voice. ■

## ***BrainFacts.org* Grows as a Public Information Resource**

Since its launch in May, *BrainFacts.org*, a public information initiative of The Kavli Foundation, the Gatsby Charitable Foundation, and SfN, has grown as a resource for neuroscientists looking to communicate with the public about the fundamentals of the brain and nervous system. The site contains a number of teaching resources to assist with public outreach and enhance sharing information about the brain geared toward the general public. For example, a neuroscientist looking to provide the public with information about addiction will find a vast array of materials on the site, including photos, diagrams, videos, blog posts, and case studies.

*BrainFacts.org* also has a strong social media presence on Facebook and Twitter. Messages include, “Imagine falling asleep at the dinner table. This happens to people with #narcolepsy, a chronic #sleep disorder,” which links to an article outlining what narcolepsy is, recent breakthroughs in the area, and ongoing studies, in addition to further reading on the topic and related articles. Twitter and Facebook are easy ways to get the public interested in the brain and learning more about the topic. Retweeting or reposting social media messages helps spread the word, prompting those interested to learn about the brain.

*Brain Facts* the book was updated in tandem with the *BrainFacts.org* launch and is available for download on the site. The book, paired with the website, is a resource for educators planning science lessons for the new school year. As non-English translations become available, *Brain Facts* functions as a standard for science education and Brain Bee competitions around the world. The French Société des Neurosciences is one national society translating *Brain Facts*, which will be available in French digitally through the Société des Neurosciences website early next year. Visit *BrainFacts.org/educators* for classroom ideas, to inquire about translating *Brain Facts*, and to learn about international Brain Bee competitions.

The *BrainFacts.org* community will continue to grow with the launch of blogs on the site in fall 2012. These blogs will enhance the site’s social media feeds by providing regular commentary on breaking news from neuroscientists at every career stage. There will be an additional forum for site visitors to interact with both the scientists behind *BrainFacts.org* as well as other members of the science-interested public. ■

# Risk and Uncertainty: The Science of Decision-Making

We're faced with thousands of choices every day, ranging from the simple decision about what to eat for lunch or wear to work to more complex decisions about investments and medical care. Some decisions require hours of thought and preparation and some are made without our awareness. But how does your brain process all the information needed for these choices? At a press conference at Neuroscience 2011 on risk and decision-making, Michael Platt, director of the Duke Institute for Brain Sciences and an expert in social cognition and decision-making, noted that this question has potential to not only help us understand the ways people make decisions, but also help people with problems such as obsessive compulsive disorder and addiction. At the panel, three scientists addressed several hypotheses about brain systems underlying these complex yet adaptable processes.

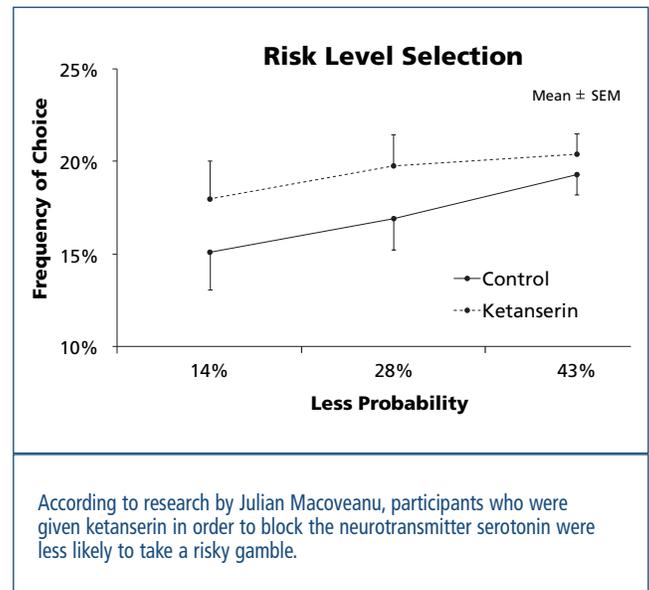
## GAMBLING WITH SEROTONIN

Julian Macoveanu and colleagues at the Danish Research Centre for Magnetic Resonance assessed the role the neurotransmitter serotonin has in making risky decisions. Serotonin has long been recognized as a key player in mood and stress. The study focused on serotonin's role in risk and reward-processing. Twenty healthy volunteers performed a gambling task while undergoing functional magnetic resonance imaging (fMRI). Participants had to choose between a low-payout option with six-to-one odds, and a high-payout choice with a one-in-seven chance of success.

Participants were asked to perform the same gambling task after receiving an injection of ketanserin, a drug that specifically blocks the 2A-type receptors for serotonin (5-HT2A). After receiving the drug, people were less likely to take a gambling risk. This change in behavior was also associated with activity changes in the prefrontal cortex, but only in the unexpected-loss condition when subjects chose to play it safe but lost anyway. The authors speculated that signaling through 5-HT2A receptors might soften the blow of the unfair loss. The findings may have implications for the treatment of mood disorders such as depression, which also feature disturbed serotonin signaling and changes in risk-taking behavior.

## EXPLOIT OR EXPLORE?

Robert Wilson of Princeton University presented work at Neuroscience 2011 investigating choices between a known option, such as a familiar standby item from a menu, or an



unknown alternative, such as a new daily special. Wilson described choosing the familiar option as the “exploit” condition, whereas the “explore” choice would favor the unknown.

Most studies investigating ambiguous decision-making give subjects only one chance to choose between two options. Wilson and his colleagues gave volunteers the choice between known and unknown options in an electronic slot machine game. When the researchers asked participants to choose only once, they overwhelmingly chose the known option. This confirmed the results of other studies and the conventional wisdom that people make safe choices, given such an option.

However, the results changed when participants knew they would have multiple opportunities to choose: they began to sample from the unknown choices in an “explore” mode, Wilson said. In this sampling condition, people increased their value-rating of unknown items by about 15 percent. Importantly, the findings suggest humans don't eschew ambiguity altogether, but rather adjust attitudes about the choices at hand according to the demands of the task. With more chances to choose, people's decision-making process appeared to shift from a calculated loss-reward system to become more random. Wilson plans to investigate the neural underpinnings of these distinct behavioral processes. He suspects that noradrenergic

*At the cognitive, chemical, and cellular levels, [decision-making] studies are yielding new information on a fundamental process that affects daily life.*

activity in the locus coeruleus — a tiny brainstem nucleus with wide projections — might contribute to more exploratory behavior.

### CONTEXTUAL CHOICES

Camillo Padoa-Schioppa of Washington University in St. Louis investigated the adaptability of neurons when making choices in very different contexts. All day, he said, we make decisions based on value judgments that we assign to various options. Choices might range in value from a dollar spent buying a yogurt, to hundreds of thousands of dollars spent house-shopping. To make the decision, the brain compares input from, in this case, “dollar neurons” and “yogurt neurons,” to determine if one should buy the yogurt. Padoa-Schioppa’s work demonstrates that the same neurons that contribute to inexpensive decisions contribute to expensive decisions. These decision-making neurons use “range adaptation” to adjust their response properties according to the circumstances, much the same way retinal neurons adapt to varying light levels.



Ann Graybiel delivered a Presidential Special Lecture at Neuroscience 2011 on flexible and inflexible activity in cortico-basal ganglia circuits involved in decision-making.

The researchers took recordings from the two key brain areas of monkey neurons: the orbitofrontal cortex, where lesions lead to impaired decision-making, and the anterior cingulate cortex, thought to participate in assigning value to choices. In both areas, they found neurons underwent range adaptation when monkeys faced choices.

Other presentations at Neuroscience 2011 illuminated complementary findings, including a Presidential Special Lecture from Ann Graybiel of the Massachusetts Institute of Technology providing evidence of flexible and inflexible activity in cortico-basal ganglia circuits involved in decision-making. Combined, this evidence provides an increasingly clear picture of the ways the brain chooses between options. At the cognitive, chemical, and cellular levels, these studies are yielding new information on a fundamental process that affects daily life. ■

**RENEW EARLY**  
 2013 Membership Renewals Open September 2012  
 Take Advantage of Member Benefits for Neuroscience 2013



**Bonus Day:** Members who renew by December 31 are eligible to register and secure housing for Neuroscience 2013 one full day before the opening of standard advance member registration.

Renew online at [SfN.org/membership](http://SfN.org/membership) or at Neuroscience 2012 in New Orleans.



# Council Round-Up: Summer 2012 Meeting

The SfN Council met August 8–9 in Seattle for its annual summer meeting. The high-level discussion focused on strategic opportunities with an emphasis on project prioritization across SfN's diverse activities.

## FINANCE UPDATE

Council reviewed the status of the Society's finances and investments. Through careful management, the finances for both the Society and the 1121 14th Street property remain strong in the face of continuing economic uncertainty. The Society is on track to meet the multi-year planning targets adopted in summer 2010. In order to continue providing many high-quality programs and services to support members and the field at large, the Society has engaged a consultant to help explore new funding streams from external sources. The consultant is guiding the building of a stronger individual giving and fundraising program that will include an annual fund and planned giving.

## SUPPORTING MEMBERS

Council discussed at length the state of scientific funding inside and outside the United States. In order to support members in the face of increasing funding pressures and constraint, Council voted to freeze membership dues in all categories at the current rates through calendar year 2013. Additionally, at the recommendation of the Scientific Publications and Finance committees, submission fees for *The Journal of Neuroscience* have been frozen at current rates and will not increase in 2013 or 2014.

## THE JOURNAL OF NEUROSCIENCE

After reviewing *The Journal's* submissions across publication sections, Council approved the Scientific Publication Committee's recommendation to split the behavioral, systems, and circuit section into two separate sections: behavioral topics and systems and circuit topics. While this will not affect the number or type of articles accepted into *The Journal*, it will provide greater topical balance. Council also voted to simplify the publication fee structure by eliminating separate color fees for essential color for nonmembers and folding them into flat publication rates.

## SfN.ORG AND MOBILE TECHNOLOGY UPDATE

Council reviewed the progress that has been made toward the rearchitecture and redesign of the SfN website. The new site

will serve members as a central hub for information about all of SfN's programs and information from across the field, in addition to leveraging emerging technology and launching new functions. The new site is expected to launch in the first quarter of 2013. Council also expressed enthusiasm for the continued work on implementing SfN's mobile strategy. This includes *The Journal's* newly launched mobile application for Apple's iOS, *JNeurosci*, available free through iTunes. Additionally, *The Journal's* site is now accessible on all mobile platforms. A mobile app for Neuroscience 2012 is planned, which will allow attendees to navigate the meeting's science, among other features. See page 10 for more information. Development continues on a mobile application for *NeurOnLine*, expected to launch later this year.

## STRATEGIC PRIORITIZATION

The annual meeting remains a linchpin of the Society's services to support the field, and Council seeks to ensure it continues to provide the highest possible value to attendees. A recent survey identified areas that may be expanded to enhance attendee experience (see page 3).

Council reviewed the breadth of SfN programs in several strategic focus areas to identify priority programs that meet evolving membership needs and enhance member value. In particular, Council supported the continued expansion of professional development programming, with a focus on online multimedia resources for neuroscientists at all career stages. New initiatives being considered include conducting research on various aspects of the neuroscience profession and training models/best practices, implementing a survey of trainees to better understand career paths, piloting global training on responsible conduct, and introducing new member engagement and recognition programs.

Public outreach via the Web and advocacy were also identified as key areas where SfN activities can continue to support the field at large. Possible initiatives include international collaboration on issues of animals in research, expansion of *BrainFacts.org* content, and conducting training programs on how to speak to the media. U.S. advocacy remained a high priority at this critical funding moment. Council discussed initiatives underway to inform members about the threat of sequestration cuts (see page 9) and urged SfN's continued emphasis on mobilizing members in addition to coalition action. ■

# Sequestration Threatens Science Funding

The Budget Control Act of 2011 calls for automatic, across-the-board cuts to be applied to a large portion of the federal budget on January 2, 2013, unless Congress reverses it. This is referred to as “sequestration.” To avoid sequestration, the federal deficit must be reduced by approximately \$110 billion in fiscal year 2013. Absent a deficit reduction agreement, cuts will happen automatically and indiscriminately.

By law, half of the sequestration cuts would be to defense and half to domestic programs. Discretionary programs, which include NIH and NSF, would undergo \$39 billion in cuts. The Congressional Budget Office estimates that the budget of most programs would be reduced by 7.8 percent per year. For NIH and NSF these cuts could result in as many as 25 percent fewer grants. NIH Director Francis Collins testified before the House of Representatives that sequestration would leave “no way to spare any field of medical research.” SfN member voices are critical to opposing potential, massive budget cuts for NIH and NSF (see sidebar for more information). Congress will not take up the matter until after the November elections, but education and action will be important all fall. ■

## HERE'S WHAT YOU CAN DO:

**Stay updated.** Check sequestration developments by joining the Advocacy Network at [SfN.org/advocacynetwork](http://SfN.org/advocacynetwork). Follow SfN on Twitter @SfNtweets. Join the Twitter conversation using the #NeuroAdvocate hashtag. Like SfN on Facebook ([facebook.com/societyforneuroscience](http://facebook.com/societyforneuroscience)) for advocacy news.

**Spread the word.** Despite the potentially devastating effects of these cuts, not everyone is aware they may happen. Share information with your Twitter followers and Facebook friends.

**Take action.** Visit the SfN booth at Neuroscience 2012 (#2231 in the Exhibit Hall), go to [SfN.org/advocacy](http://SfN.org/advocacy) to send a letter to your legislators speaking out against sequestration, or tweet your Congressional representatives about supporting biomedical research. Email [advocacy@sfn.org](mailto:advocacy@sfn.org) to learn how you can participate in a town hall or set up a meeting with your legislator to make your voice heard.



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## ANNUAL MEETING APP

Neuroscience 2012 will be the inaugural year for the annual meeting mobile app, a resource that will help attendees navigate the meeting's science, exhibitors, and events from their mobile devices. The mobile meeting app searches program presentations, creates itineraries, browses full-text abstracts offline, emails notes, searches exhibitors, and provides meeting maps. The mobile meeting app will be compatible with iPad, iPhone, and Android and will be available in late September. Check SfN.org for updated information.

## NEUROSCIENCE 2012 EXHIBIT HALL

The Exhibit Hall provides a chance to learn what's new in neuroscience products and services from more than 500 companies from around

the globe. See and touch the latest scientific products and talk to companies about their recent advances in neuroscience. You can compare product pricing and services and make informed purchasing decisions.

## NANOSYMPOSIA

The nanosymposium format is an innovative way for abstract submitters to present slide-based sessions. At the time of submission authors had the option to link presentations with their colleagues' to form their own session the way poster presenters do. A session consists of a group of 10 to 12 topically matched abstracts, with each abstract presented for 15 minutes (a 10-minute slide presentation and a 5-minute Q&A). Nanosymposia will be held throughout the meeting, starting at 8 a.m. and 1 p.m.

## DYNAMIC POSTERS

SfN is exploring a new presentation format called a dynamic poster: a computer-driven poster presentation displayed on an LCD screen that can incorporate interactive and multimedia content such as videos, animated graphics, and scrolling text. Nine volunteers will present dynamic posters at Neuroscience 2012, a different presentation during each half-day poster session. The dynamic poster demonstration can be found at Hall I, poster row JJ, near the SfN Booth. Read more about dynamic posters at SfN.org/am2012.

## CME CREDIT

Physician attendees can earn CME credits by attending lectures, symposia, and minisymposia at Neuroscience 2012. Learn more about CME at SfN.org/cme.

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**Neuroscience**



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Introduced in 2010, *ACS Chemical Neuroscience* recorded its first ever Impact Factor in 2011 of 3.676<sup>†</sup> ranking it #9 among all journals in Medicinal Chemistry. The journal publishes articles and reviews that showcase chemical, quantitative biological, biophysical and bioengineering approaches to the understanding of the nervous system and to the development of new treatments for neurological disorders.

<sup>†</sup>As reported in the 2011 Journal Citation Reports<sup>®</sup> by Thomson Reuters.

## Public Events

Public sessions at Neuroscience 2012 highlight the intersection of science and society. These sessions are free and open to the public. Registration is required, along with valid ID, and will be available outside the event rooms.

### Dialogues Between Neuroscience and Society — My Life as a Rolling Neurological Clinic

**Chuck Close**

Supported by: Elsevier

**October 13, 11 a.m.–1 p.m.**

Chuck Close's large-scale portraits of the human face have been shown at the Museum of Modern Art and in the Whitney Biennial. In 2000, he was awarded the highest artistic honor conferred by the United States: the National Medal of Arts. What many people do not know is that Close produced his iconic works of art while coping with serious impairments of his body and brain.

### Fred Kavli Public Symposium — The Societal Impact and Biology of the Overt and Hidden Dysfunctions Resulting From Traumatic Brain Injury

**Chair: V. Reggie Edgerton, PhD**

Supported by: The Kavli Foundation

**October 13, 1:30–4 p.m.**

Traumatic brain injury is becoming increasingly recognized as a severe problem. It affects both youth and professional athletes. Head injuries among war veterans are substantial, and there's a great need for effective strategies to maximize functional recovery. Further, the pathologies associated with brain injury share some of the same characteristics with those of the aging brain. Come find out how to be aware of and committed to addressing traumatic brain injury.

### Public Advocacy Forum — The Developing Brain: How Research and Advocacy Is Shaping Public Policy

**Organizer/Moderator:**

**Bruce S. McEwen, PhD**

**October 16, 3–5 p.m.**

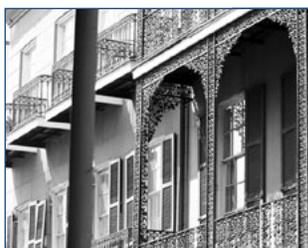
How can scientific research inform policies and advocacy strategies that address some of society's most pressing challenges? Brain development starts early in life and continues throughout the lifespan — laying the foundation for cognitive, social, and emotional well-being. Adverse early childhood experiences can lead to problems with major policy implications, including the human and financial toll of mental health problems; increased risk for cardiovascular disease, obesity, and diabetes; and other systemic and brain-related problems.

### The Changing Global Neuroscience Ecosystem: Why It Matters to Our Future

**Steven E. Hyman, MD**

**October 15, 1–2 p.m.**

Globally, at an accelerating pace, the world of neuroscience is undergoing change. Important forces include pressure from governments and foundations for translational emphases in academia; withdrawal from neuroscience research in industry; steady growth of large-scale, collaborative, interdisciplinary science; and calls for transformative "big data" approaches. What do these trends mean for neuroscience worldwide? ■



Neuroscience 2012 enables attendees to enjoy the charm of New Orleans alongside cutting-edge science.

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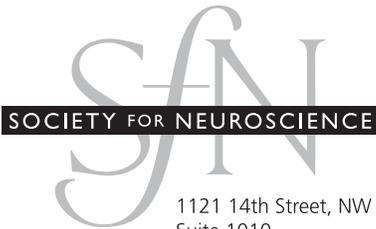
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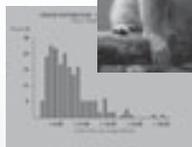
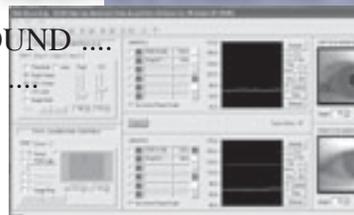
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