NEUROSCIENCE QUARTERLY

SUMMER 2004

"Clearly, the fundamental importance of basic science research in producing clinical results must be at the top of SfN's message to educate funding committees on Capitol Hill, the public, and students."

—SfN President Anne Young

IN THIS ISSUE

American Brain Coalition Launches in San Francisco

The Society for Neuroscience (SfN) recently joined the American Academy of Neurology (AAN) and other professional societies, patient advocacy groups, and foundations to establish the American Brain Coalition (ABC). This initiative evolved from the One Voice Neurological Coalition, originally started in March 2000 by AAN and numerous professional and patient organizations.

Renamed the American Brain Coalition, representatives of AAN, SfN, and other organizations formulated a new mission and vision statement, as well as a business plan for the revamped coalition.

ABC's mission is to reduce the burden of brain disorders to individuals, families, and society. The vision for ABC is to develop a strong and powerful voice for people with disorders of the nervous system by bringing together organizations that represent concerned and interested patients, families, and professionals to advocate for increased support of biomedical research.

Among ABC's goals are: 1) to advocate for research funding and progress toward effective therapies and cures for brain disorders; 2) to help build a health-care system more responsive

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Message from the President

Basic Research, Bedside Links Key to Neuroscience Enterprise

The explosion of new findings in basic neuroscience research in recent years has driven the development of better treatments for some of the most prevalent neurological and psychiatric disorders that affect the population. We all know that there is much more to be done to alleviate the suffering of millions of people who have devastating brain disorders.

Discussing clinical advances that come from basic research is important to convince political leaders and the public about the value of neuroscience research to ensure continued adequate funding. At the same time, we must keep our sights on the intrinsic connection between basic and clinical research that results in better treatments.

During my congressional testimony in March, I outlined several translational neuroscience advances which were fully dependent on basic research. In the field of schizophrenia, new drugs have been developed that clear minds, improve lives, and save millions of dollars. In stroke, research has led to new treatments, better prevention, and improved rehabilitation. In depression, scientists are now discovering potentially powerful strategies for entirely new classes of antidepressants. In multiple sclerosis, scientists are homing in on the complex interaction between genes and the environment, diagnosing earlier, and treating it more effectively.

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SOCIETY FOR NEUROSCIENCE

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Message from the President

Anne Young,
SfN President

And in my own area of neurodegenerative diseases, we now know much more about the proteins and chemicals that exacerbate and lead to Parkinson's disease (PD). We also have developed more effective treatments, such as deep brain stimulation, drugs with fewer side effects, and pallidotomy, which is a surgical procedure. Finally, we are improving diagnosis with chemical tests for biological markers that indicate Parkinson's, and for finding and perhaps eventually treating the gene mutations that make individuals more susceptible to environmental factors that contribute to the disease.

One of the great success stories of the five-year concentrated research funding effort that doubled the National Institutes of Health budget has been the way in which basic science research has now identified some of the key pathways that need to be pursued. As a result of discoveries flowing from the doubling of the NIH budget and the mapping of the human genome, we now have better ideas about how to get from "here to there."

This is the stuff of translational neuroscience research—using what one learns from basic science research into fundamental mechanisms and processes to explore and identify improved treatments for neurological and psychiatric disorders.

Developing and enhancing the linkages between the laboratory and the bedside is an essential part of the neuroscience enterprise. And with such powerful stories to tell, all of us—basic scientists, translational researchers, and clinicians alike—must become advocates for the field by talking about basic science's relationship to better treatments in discussions with politicians, policymakers, teachers and students, and in the media and other public forums.

The promise and progress of neuroscience research is being noted in the halls of Congress. This past April, Senate Minority Leader Tom Daschle (D-South Dakota) suggested a goal that could occupy the best efforts of scientists from every discipline for a generation to come. "Now that we have surveyed the map of human life," he told a forum convened by the American Association for the Advancement of Science, "let us turn our attention to that which makes human life unique: the mind.

"What challenge would be beyond our reach if we truly understood how we learn, remember, think, and communicate? What could we accomplish if our education policy was bolstered with a new understanding of how children learn? How much safer could our neighborhoods be, if neurophysiology solves the puzzle of addiction? What industry would not be strengthened by a more complete picture of the workings of the mind? There is perhaps no field in which major advances would have more profound effects for human progress and health than that of neuroscience.

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—Sen. Tom Daschle (D-S.D.)

I feel confident that SfN members would wholeheartedly endorse Sen. Daschle's suggestion. In fact, the scientific vision laid out in SfN's strategic plan echoes this ambitious goal. It states: "Guided by its mission and its values, SfN's vision is that the next ten years should be a decade of breakthrough discovery in neuroscience and breakthrough translation of scientific advances to improve the health of people everywhere. The Society for Neuroscience (SfN) represents the entire range of scientific research endeavors aimed at understanding the nervous system and translating this knowledge to the treatment and prevention of nervous disorders.

"It fosters the broad interdisciplinarity of the field, which uses multiple perspectives (e.g., genetic, molecular, cellular, anatomical, neurophysiological, system, comparative, evolutionary, computational, and behavioral) to study the nervous system of organisms ranging from invertebrates to humans across various stages of development, maturation, and aging. SfN facilitates the translation of this fundamental knowledge into strategies for the treatment of nervous system disorders, such as neurological, neurosensory, neurodevelopmental, psychiatric, addictive, and other related illnesses."

The National Institutes of Health (NIH) also embraces this vision. In testimony this year addressing science management issues before the House Subcommittee on Labor-HHS-Education Appropriations, Story Landis, director of the National Institute of Neurological Disorders and Stroke,

noted that "the directors of the NIH neuroscience institutes will develop a 'blueprint for the brain' to direct our common efforts, so that we can accelerate progress against brain disorders, and enhance our understanding of how brain and behavior are interrelated."

This year's SfN annual meeting in San Diego provides the richest opportunity to showcase good examples of translational neuroscience research, a few of which I will touch on here. For example, during the presidential symposium on neurodegenerative diseases, speakers will focus on Parkinson's disease (PD), Huntington's disease (HD), and motor disorders.

Timothy Greenamyre of Emory University will discuss the disease mechanisms in PD and how they represent new approaches for therapies. It appears that a few convergent pathogenic mechanisms operate in the genetic and sporadic forms of PD, including mitochondrial impairment, oxidative stress, protein misfolding and aggregation, ubiquitin-proteasome system dysfunction, and inflammation. Greenamyre will show how targeting these mechanisms individually, or in combination, for drug or gene therapy may slow or halt the progression of PD.

Elena Cattaneo of the University of Milan will discuss her basic work investigating the genes involved in HD. She and others have found that wild-type huntingtin gene is neuroprotective in brain cells. Normal, but not mutant, huntingtin also acts to stimulate the production of brain-derived neurotrophic factor (BDNF), a survival factor for the striatal neurons that die in the disease. She will talk about the known physiological activities of huntingtin and that understanding the function of this disease gene may help reveal the dysfunctions that occur in HD. This work will increase our understanding of neuronal functions and may open to strategies aimed at restoring normal huntingtin activity in HD.

Finally, Don Cleveland of the University of California at San Diego will discuss the mechanism of death of motor neurons in amyotrophic lateral sclerosis. An inherited form is caused by mutation in superoxide dismutase (SOD1). As is true for many of the genes whose mutation causes the major neurodegenerative diseases, SOD1 is ubiquitously expressed, despite selective killing of motor neurons. Genetic methods in mice have revealed that neuronal death requires mutant SOD1 action within neighboring non-neuronal cells, raising the possibility of a therapy through stem cell replacement of non-neuronal cells.

This year's Public Lecture will be given by Rudolph Tanzi of Massachusetts General Hospital and and Harvard Medical School. Tanzi will discuss Alzheimer's disease and the role of genetics in early prediction and intervention for patients at risk for Alzheimer's disease.

In addition, three presidential lectures will focus on important basic areas important in neuroscience. Charles Wilson of the University of Texas at San Antonio will talk about the physiological properties of the basal ganglia and their implications for learning and memory.

Pasko Rakic of Yale will discuss the molecular and cellular mechanisms of neuronal migration, providing insight into normal development and the pathogenesis of the highest brain functions. Brenda Bass of the University of Utah will talk about how RNA editing enzymes affect behavior.

Also at this year's meeting, our press conferences will highlight both basic and clinical advances in the understanding and treatment of brain disorders. We are working to identify a good example of an advance that will have implications for therapeutic approaches to disease. During the press conference, in addition to featuring the author of the new clinical report, we plan to feature speakers whose basic science research helped us to arrive at this clinically important moment. This will enable science writers and the public to better understand and appreciate how the scientific process works.

Other good examples of translational research highlighted elsewhere by the Society include the list of translational neuroscience accomplishments posted on the SfN Web site (www.sfn.org/transneuro) that describe 12 advances made possible through the responsible use of animals. The list, which includes disorders ranging from polio and stroke to depression and drug addiction, has been condensed. It appears in this issue of the newsletter (page 9) as a wallet card for use by neuroscientists in discussing the benefits of neuroscience research.

Brain Research Success Stories is another new Society publication series that discusses the contributions of basic science that have improved treatments for brain disorders (www.sfn.org/brss).

A new section of *The Journal of Neuroscience* called "Neurobiology of Disease" was added earlier this year to accommodate the increasing number of accepted papers that relate to neurological diseases. In addition to *The Journal's* traditional emphasis on basic neuroscience research, this new section reinforces the essential link between basic neuroscience research and advances in the understanding and treatment of diseases.

Clearly, the fundamental importance of basic science research in producing clinical results must be at the top of SfN's message to educate funding committees on Capitol Hill, the public and students through Brain Awareness Week activities, and our overall effort to improve science literacy. This is all the more reason to invite these groups into your laboratories to show exactly why basic science research is so important to understanding and improving treatments for some of the most devastating disorders that affect so many worldwide.

Making this case to the public and policymakers and doing so in a compelling way is essential if we are going to move beyond the current reluctance in Washington to increase funding for biomedical research. Sen. Daschle eloquently outlined the possibilities. The NIH, SfN, and the community of neuroscientists share his vision. The coming years provide an opportunity for working together to translate that shared, grand vision into concrete initiatives that advance our understanding of that which makes us unique. ■

Neuroscience 2004 Features Improvements for Attendees, Impressive Slate of Scientific Sessions

Neuroscience 2004 will feature several enhancements—from improved registration and hotel reservation options to extended message center hours—that will help attendees make their arrangements for the annual meeting. The meeting will take place in San Diego from Saturday, October 23, to Wednesday, October 27. Sessions will begin at 1 p.m. on Saturday and conclude at 5 p.m. on Wednesday. Exhibits will be open from Sunday to Wednesday, 9:30 a.m. to 5 p.m.

Member registration and hotel reservations will open at noon on Tuesday, July 13. Members will once again have the opportunity to register and make their hotel reservations one week earlier than nonmembers. Travel Planners has been selected by the Society to provide hotel reservation services for the meeting.

After proving very popular at last year's meeting, more self-registration terminals will be available for on-site registrants.

The Program will once again consist of a general book and five daily books. Attendees may choose to either have their Program mailed to them, or to pick up the books at the convention center during the meeting. To pick up the Program on-site, attendees must select this option on the registration form; otherwise all materials will be mailed.

Also returning this year will be enhanced shuttle service, allowing attendees to travel quickly between Society-selected hotels and the San Diego Convention Center. Shuttles will run at 10-minute intervals during peak morning and evening hours.

MESSAGE CENTER HOURS EXTENDED

The message center and the directory of registrants will be combined and accessible from the same computer terminals this year, making it easier to leave messages for your colleagues and to pick up your own messages. The message center terminals will be in three locations: one main area in the convention center lobby and two smaller satellite areas, one at each end of the convention center lobby, allowing attendees to check and send messages and look up registrants throughout the large convention center.

As requested by many members, the combined message center and directory of registrants will be open two hours later this year. Hours will be from 2 to 7 p.m., Friday, October 22; from 8 a.m. to 7 p.m., Saturday, October 23, through Tuesday, October 26; and from 8 a.m. to 5 p.m., Wednesday, October 27. Attendees once again will be able to access, send, and receive messages remotely 24 hours a day.

EXCITING LECTURES

Interesting and cutting-edge lectures and symposia are planned for Neuroscience 2004. Rudolph Tanzi, PhD, of Harvard Medical School, will deliver this year's public lecture on Alzheimer's disease. For the inaugural Peter Gruber Lecture, Seymour Benzer, PhD, of the California Institute of Technology, will speak on "Adventures in Neurogenetics."

The presidential symposium will focus on neurodegenerative diseases. Titled "Falling into Place: The New Era of Neurodegeneration," the symposium will feature Elena Cattaneo of the University of Milan, who will speak on Huntington's disease; Don Cleveland of the University of California, San Diego, lecturing on amyotrophic lateral sclerosis; and Timothy Greenamyre of Emory University, discussing Parkinson's disease.

Presidential Special Lectures will be given by Brenda Bass of the University of Utah, on RNA editing and interference; Pasko Rakic of Yale University School of Medicine, on molecular and cellular mechanisms of neuronal migration; and Charles Wilson of the University of Texas, San Antonio, on intrinsic dynamics of neurons and basal ganglia.

The Pfizer lecture, on neurons' responses to rewards, predictions, and uncertainty, will be given by Wolfram Schultz of the University of Cambridge. Roger Tsien of the Howard Hughes Medical Institute, University of California, San Diego, will give the Albert and Ellen Grass Lecture on "Building and Breeding Molecules to Spy on Cells and Networks." Peter Marler will present the History of Neuroscience Lecture on "Ethology, Birdsong, and the Innateness Controversy."

Stephan Chorover of the Massachusetts Institute of Technology will give the SfN Lecture on Neuroethics, addressing whether applied neuroscience is enhancing the quality of human life or promoting sociotechnical dehumanization.

To register and find out more about the meeting, please visit www.sfn.org/am2004. ■

Dates and Deadlines

Advance Registration and Housing Opens for Members .....Tuesday, July 13

Registration and Housing Opens for Nonmembers.....Tuesday, July 20

Registration Fees

	Advance Registration	On-Site Online Registration	On-Site Registration
Member	$205	$240	$250
Student Member	$65	$75	$80
Nonmember	$365	$400	$410
Student Nonmember	$80	$90	$100
Guest	$20	$25	$30
CME Accreditation	$40	$50	$50

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to people with both acute and chronic brain disorders; and 3) to advance the public understanding of the causes, impact, and consequences of neurologic and psychiatric illnesses in our society through advocacy to public officials.

ABC's business plan outlines the finances, legal structure, categories of membership, dues structure, board representation, leadership, governance, elections, staffing, and interim plans of the coalition. Staffing of ABC will be housed at AAN and SfN, with the executive director of ABC at AAN headquarters in Minneapolis. The government affairs function will be hosted by SfN in Washington, DC.

The interim chair of ABC, Francis Kittredge, Jr., MD, was the driving force behind the creation of One Voice during his presidency of AAN. His vision and commitment led to the eventual collaboration with SfN and the successful launch of ABC.

Kittredge emphasizes that ABC is "about the patients," and sees the participation of mental health groups as integral to the success of the coalition. "Public advocacy efforts will benefit all members of the coalition," said Kittredge, "which is why the legislative agenda should be cross-cutting, so that the tide will raise all boats." *(please see Q & A with Kittredge, right.)*

ABC RELEASES BUSINESS PLAN AND MISSION STATEMENT

The ABC mission statement and business plan were presented and formally adopted at the April 26 meeting of One Voice members, during AAN's annual meeting in San Francisco.

About 20 patient advocacy groups attended the meeting or participated via teleconference, including the National Parkinson's Foundation, the National Alliance for the Mentally Ill, the National Organization of Rare Disorders, and the Dystonia Foundation. Government agencies such as the National Institute of Neurological Disorders and Stroke and the Veterans Administration were also present at the meeting as observers.

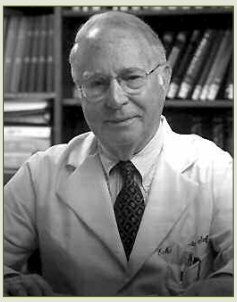
The draft mission statement and business plan were discussed and adopted with minor changes. Bylaws were also adopted at the meeting. A number of the groups present said their organizations would join and support an effort such as ABC.

"We are supporting ABC because we believe it will enhance the visibility of rare disorders in neurology and psychiatry," said Cynthia Joyce, executive director of the Spinal Muscular Atrophy Foundation.

A subgroup of volunteers will now formulate a tentative legislative agenda that will be approved and adopted at ABC's next meeting, which will take place at SfN's annual meeting in San Diego on Saturday, October 23, 2004.

Government and Public Affairs Committee Chair Mahlon DeLong attended the San Francisco meeting on behalf of SfN. ■

Q & A WITH FRANCIS KITTREDGE, JR., ABC INTERIM PRESIDENT



Francis Kittredge, Jr., ABC Interim President

NQ: How will the American Brain Coalition (ABC) benefit the many basic research, clinical, and patient organizations that would join?

Kittredge: ABC should be the vehicle to bring together more than 50 million Americans affected by neurological and psychiatric diseases. Each of the communities who would be a part of ABC can influence biomedical research funding by advocating for their individual "piece of the pie." ABC brings every one of these groups together, where we can have greater influence on public policy through our large numbers and broad legislative agenda.

NQ: Where do mental health groups fit into ABC?

Kittredge: I believe that mental health groups are integral to the success of ABC. Other coalitions may not be as comprehensive as ABC because we understand that brain disorders include psychological and psychiatric disorders. Patients with mental illness deserve representation as well, and ABC will provide such advocacy.

NQ: What is the purpose of giving ABC the ability to conduct lobbying efforts?

Kittredge: While all nonprofit organizations that have a 501(c)3 standing are able to conduct lobbying activities, it is on a limited basis. A nonprofit organization that has a 501(c)4 standing can contribute the vast majority of its efforts toward lobbying. Because advocacy and lobbying are the main focus of ABC's mission and vision, we wanted to establish an organization that could influence legislation affecting the patient, research, and clinical communities, but that would follow government rules for lobbying expenditures. In order to best represent these communities and influence legislation on their behalf, ABC needs to be a 501(c)4 organization.

NQ: Why is now the right time for ABC's launching?

Kittredge: It is timely for a variety of reasons. First, the challenges and the opportunities facing biomedical research are unparalleled. In this post budget-doubling era for the National Institutes of Health (NIH), much of Congress is not convinced that strong funding is still needed. Yet the recent explosion of new knowledge holds great promise for treatment of brain diseases and justifies additional funding support to achieve these goals. Second, many of these diseases affect the aging population, which will double by 2030. Without effective preventive strategies and therapies, these

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SfN Needs Member Feedback on Database Project

A pilot project for coordinating neuroscience databases, the Neuroscience Database Gateway (NDG), rolled out in May and is now available through the Society's Web site. Please respond to an online survey after trying out NDG (www.sfn.org/ndg) and reading the white paper on the project. Feedback from members is key to the project's success (www.sfn.org/ndgfeedback).

In April, the Society was awarded the first of two contracts from the National Institutes of Health (NIH) to support the NDG project. The $148,500 for the two awards funded the launching of NDG and will also support an assessment phase. The National Institute of Mental Health, the National Institute of Neurological Disorders and Stroke, and the National Institute on Drug Abuse all contributed to the awards.

At a meeting with the SfN Council in May, the NIH directors agreed that NDG fits well with the efforts of their institutes and especially with the "Blueprint for the Brain," which the neuroscience-related institute directors are currently writing as a follow-up to the NIH Roadmap for Medical Research (see article, page 7).

The white paper that accompanies NDG was written by the Brain Information Group (BIG), chaired by Floyd Bloom. It describes the genesis and scope of the project and outlines possible future steps for NDG.

Neuroscientists must manage ever increasing collections of data and research findings in their daily work. The goal of NDG is to provide one portal allowing access to databases containing a wide variety of experimental data, knowledge bases, and software tools of importance to neuroscientists.

The NDG currently includes 76 databases containing experimental data, software, and other research tools relating to neuroscience. The hope is that more databases will be added and that scientists will contribute their data to these databases as NDG expands.

"We hope that scientists will continue to share their databases and tools with the community," said Huda Akil, SfN past president and member of BIG.

EVOLUTION OF NDG

The idea for NDG evolved out of a meeting between the SfN leadership and the directors of the neuroscience-related NIH institutes. The groups met to examine areas in which they could work together most effectively to benefit the neuroscience community. The groups quickly realized the need for coordination of neuroscience-related databases and identified three areas to be explored: assessing the breadth and depth of neuroscience databases already available, investigating opportunities for integrating existing and future databases, and identifying gaps in coverage.

The SfN Council then created BIG and charged it with examining the way information technology was being used in neuroscience and with identifying methods by which SfN could help scientists maximize the benefits of databases. Floyd Bloom agreed to serve as chair of BIG for the three meetings held between July and November 2003. Funding for this phase was provided by the Wadsworth Foundation.

The BIG came to the realization that surprisingly many neuroscience databases exist, offering large amounts of data, knowledge, and tools of value to neuroscientists. However, awareness of these databases in the general neuroscience community is limited. Making information available from a centralized gateway and providing user-friendly search capabilities will enhance awareness and facilitate use of these databases for a wide range of purposes.

"The primary objective of the NDG is to promote access to many types of data that cannot be included in conventional scientific publications," said David Van Essen, SfN secretary and Council liaison to the BIG. "We envision that the number of neuroscience-related databases will grow rapidly, as will the amount of valuable data that they contain, and that utilization of these databases will be an increasingly important component of how neuroscientists carry out research and education in the future."

To create the gateway, the BIG database subcommittee created a uniform template, which was sent to more than 75 neuroscience database organizers. Database organizers were asked to create a file describing the metadata, including defined access protocols. The defined access protocols will help facilitate interoperability among databases. The metadata description file is accessible at the Web site for each individual database, allowing site visitors access to some of the data. Database owners determine the degree of accessibility to their databases.

At the Society's 2003 annual meeting, then-President Huda Akil announced that Council had agreed to create a Committee on Neuroinformatics, which would continue the work of BIG. This new committee will be charged with evaluating member feedback to NDG and investigating and resolving some of the challenges in establishing a single gateway to neuroscience databases.

CHALLENGES

In order for the Gateway to be successful, data must be searchable and have a consistent nomenclature. According to the BIG white paper, the National Library of Medicine's Unified Medical Language System may be adaptable for this purpose, especially when combined with an expanded key word system including those used for abstracts presented at the Society's annual meeting and for articles published in *The Journal of Neuroscience*.

Another challenge is to encourage users to submit their data and tools to appropriate databases. Members of BIG are aware that some scientists may have concerns about making their data and tools widely available.

The committee hopes to be instrumental in developing guidelines for users that define the limits or processes for how contributed

data may be used. The BIG white paper suggests some examples of rules that could be implemented, such as a set of data download rules that carries an explicit terms-of-use agreement by the user or the requirement that first publication of a new finding that derives from data accessed through a database include the data producers as co-authors.

"As a committee, we were well aware that the proprietors of databases may have valid concerns about allowing access to their collected—but as yet unpublished—intellectual property, and I am certain the new Committee on Neuroinformatics will continue working to address those concerns," said Bloom. "After all, the principle here is to make this a win-win situation for data producers and data users."

In addition, guidelines are currently being developed by the Human Brain Project to protect intellectual property while still facilitating data sharing. Once these guidelines have been issued, they may be suitable for adapting to NDG.

Information in clinical databases may pose another challenge for data sharing because of patient privacy issues. The development of guidelines for this type of data may require working with clinical neuroscience organizations, according to the white paper.

SEARCH NOW

NDG is online at www.sfn.org/ndg and ready for use by Society members. Users can search based on type of database (software tools, experimental data, or knowledge bases), database fields (including species, clinical conditions, supporting agencies, and categories), or conduct a more advanced search using a variety of topics and keywords. The NDG Web site had received 27,000 hits as of late May.

Because NDG is a pilot project, it is important to know whether there is interest among SfN members in maintaining and expanding it over the long term. Supporting the information infrastructure involved in this type of database gateway and coordinating with outside databases will require ongoing maintenance to keep data current, make changes, and add new databases. It will also require educating potential users and contributors about the features and benefits of using NDG.

Members are encouraged to try out NDG, read the white paper, and respond to the online survey at www.sfn.org/ndgsurvey. The survey asks about the functionality of NDG, how often users currently use databases, and what other databases might be included in NDG. Members may also comment on the white paper, at www.sfn.org/ndgwhitepaper. ■

Your Feedback is Essential!

SfN wants to know how members currently use neuroscience databases and whether the NDG pilot project helps make these databases more accessible. This is your chance to help guide the Society's efforts to improve the collection and dissemination of knowledge to the neuroscience community. Explore the Neuroscience Database Gateway at www.sfn.org/ndg and submit your online survey today!

NIH Institutes Prepare "Blueprint for the Brain"

At a meeting in May, SfN Council members discussed the forthcoming "blueprint for the brain" with National Institutes of Health (NIH) institute directors who fund a considerable amount of neuroscience research.

The blueprint, requested by NIH Director Elias Zerhouni, will be organized around common research themes and what all the institutes can invest in as research goes forward, said Story Landis, director of the National Institute of Neurological Disorders and Stroke. "It will concentrate on tools, techniques, and informatics, and it will attempt to avoid duplication of effort across institutes," Landis said.

The blueprint will be developed during the summer and presented to Zerhouni in September. While no new funding is anticipated for this initiative, the pooling of resources for common goals could result in cost savings due to better collaboration.

Many institutes share the common goals of understanding how the brain develops, how it functions normally, how function is perturbed in disease, and how dysfunction and damage can be repaired. Each institute also has a distinct mission to prevent, treat, or repair different types or aspects of brain disorders. As many as 14 NIH institutes are likely to participate in the development of the blueprint.

"While each institute within the NIH has its own focus—in our case this includes Alzheimer's disease and more general age-related neurologic changes—we can all benefit by increased collaboration to study common underlying mechanisms, to better use and share resources, and to better identify new research tools that can be used across institutes," said Richard Hodes, director of the National Institute on Aging.

One example is a pilot project for coordinating neuroscience databases, the Neuroscience Database Gateway (NDG), which rolled out in May and is now available through the Society's Web site (www.sfn.org/ndg). The goal of NDG is to provide one portal allowing access to databases containing a wide variety of research findings and data of importance to neuroscientists. (See article, page 6.)

In the past, institutes have cooperated to achieve common goals. An example is the new Porter Neuroscience Research Center on the NIH Bethesda campus. Scientific directors from seven intramural programs worked together to select cross-cutting neuroscience research themes with potential relevance to many disorders.

In the extramural programs, the neuroscience institutes took a major step forward in coordinating efforts with the development of a combined neuroscience training program for graduate students. This program has catalyzed the creation of interdepartmental neuroscience graduate programs in many universities that will bring together diverse lines of research that bear on specific neurological disorders such as Parkinson's disease, Alzheimer's disease, and schizophrenia. ■

Neuroscience Scholars Program Accepting Applications

The Society for Neuroscience is currently accepting applications for its Neuroscience Scholars Program (NSP). The goal of the program is to increase the diversity of individuals pursuing careers in neuroscience research and teaching by providing travel assistance to pre- and postdoctoral students.

The three-year program, made possible through a grant from the National Institute of Neurological Disorders and Stroke, provides fellows with travel assistance to participate in SfN annual meetings, complimentary SfN membership with a subscription to *The Journal of Neuroscience* online, mentoring, supplemental funds to participate in enrichment activities outside the fellow's home institution, and the chance to meet with one or more senior neuroscientists of the fellow's choice during the annual meeting.

To be eligible for the NSP, applicants must be American citizens or have permanent residency in the United States. Predoctoral fellows must be enrolled in a full-time doctoral program at the time the fellowship is awarded and must not have spent more than five years total on a federal predoctoral training award. Postdoctoral fellows must have a PhD or MD. Currently, 27 fellows are enrolled in the NSP. This year, 23 travel awards will be granted. Fellows will be recognized at a mentor-fellow breakfast during Neuroscience 2004.

The deadline for submitting applications for the program was June 25, 2004, but applications will be considered for up to two weeks after that date. Please visit www.sfn.org/nsp for an application and mail it to the Society for Neuroscience Neuroscience Scholars Program, attention Tricia Reedy, 11 Dupont Circle N.W., Suite 500, Washington, DC 20036.

The Society is also currently seeking members who are interested in being mentors for fellows in the NSP. Mentors will meet with their assigned fellows during the annual meeting and will provide them guidance throughout the year. Mentors are recognized at the annual meeting during the mentor-fellow breakfast. For more information, please e-mail Tricia Reedy at treedy@sfn.org.

Educational Outreach Initiative

The SfN Committee on Animals in Research (CAR) and the Committee on Neuroscience Literacy (CNL) have made significant advances in their educational outreach initiative over the past few months. The initiative's purpose is to formulate educational resource materials for middle school teachers and students to use in learning about the benefits of animal research. In formulating their initiative, CAR and CNL recognized that animal rights groups distribute a great deal of propaganda condemning dissection, promoting vegetarianism, and opposing the use of animal models in biomedical research. This propaganda floods the schools and few countermeasures were being taken by the neuroscience community.

The two committees decided that the first phase of the initiative should be devoted to information gathering. The goal was to find out about materials currently available to counter animal rights activists as well as to identify opportunities for SfN to develop its own unique set of materials.

CAR and CNL issued a request for proposals for the information-gathering phase. After careful review of candidates, the committees selected R. Norman Wilkinson to lead the effort. Wilkinson has more than 10 years of experience developing, implementing, and managing the scientific educational outreach and member support programs for two state biomedical research organizations. He served as the principal spokesperson for these organizations on animal use issues.

From early November 2003 until mid-March 2004, Wilkinson surveyed and reported on the current pro- and anti-animal research materials, opportunities for the development of SfN's own teacher resources, and potential funding collaborators for the initiative. He also produced reports on results from two regional science teacher focus groups conducted in February and April 2004.

In the reports submitted to CAR and CNL in April, Wilkinson noted that many materials exist in both the pro- and anti-animal research camps, giving SfN an opportunity to build upon or join with groups that already produce strong pro-animal research materials. Many of these groups also have solid methods for the distribution of the materials. For example, the National Association for Biomedical Research and States United for Biomedical Research both have a respected, well established presence at meetings of science and biology teachers and have successfully distributed their own materials related to general biomedical research.

Another opportunity for SfN would be to create its own materials, giving special attention to their format and distribution. Wilkinson recommended that SfN's materials include a variety of formats, such as CDs, Web portals, and posters.

In science teacher focus groups, Wilkinson found that state teaching standards and the No Child Left Behind law can create barriers to creating new curricula that include neuroscience. However, teachers were excited about including neuroscience materials in their teaching, because students are very interested in brain function, especially the effects of drugs and alcohol, trauma, environmental factors, aging, attention deficit disorder, and other special needs problems. Teachers said any teaching materials SfN might provide should be inexpensive and practical. They should include "ready to use" labs and lessons that are easy to teach and should be inquiry-based with hands-on problem-solving exercises.

Wilkinson presented his final findings to CAR and a representative from CNL at the CAR meeting on June 30, 2004. CAR will now determine what recommendations it will make to the CNL/CAR Subcommittee for development of the next planning stages. These next stages will identify options for materials development as well as plans for marketing and dissemination.

This goal of CAR and CNL is to produce scientifically based materials emphasizing the importance of the humane use of animals in biomedical research in a format that can be easily incorporated into science teachers' curricula. The society will report on future developments as the project continues. ■

SfN Releases *Translational Neuroscience Accomplishments* in Wallet Card Form

The Society for Neuroscience now provides a tool for members to use in discussing neuroscience research with policymakers, members of the press, and others. The *Translational Neuroscience Accomplishments* wallet card is an easily portable list for neuroscientists to keep on hand at all times.

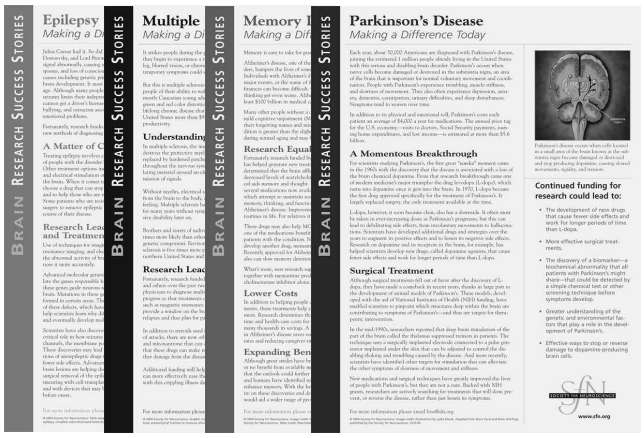
In 2003, SfN's Virtual Committee on Translational Neuroscience formulated a list of 12 achievements in neuroscience, called *Translational Neuroscience Accomplishments*, that were possible only through animal research. The purpose of the document was to give SfN members concrete neuroscience examples demonstrating the benefits of using animal models in research to use when talking to students, policymakers, and the press. The list is available in pdf format online at www.sfn.org/transneuro.

To improve upon this already useful publication, SfN's Council decided to make *Translational Neuroscience Accomplishments* even more accessible to SfN members by printing a wallet-size card that members can carry in their wallet or purse to have on hand at all times. Animal activists seeking to question or attack scientific research have little regard for timing or convenience; therefore, having immediate availability of solid examples of how animal research has benefited human health is crucial. Included with this article is the list, which can be cut out and folded for carrying in wallets.

SfN committee members who contributed to the development of the list of translational neuroscience accomplishments include John Morrison, Amy Arnsten, Flint Beal, Floyd Bloom, Dennis Choi, Linda Cork, Mahlon Delong, John Dowling, Suzanne Haber, Mortimer Mishkin, and Adrian Morrison. ■

Brain Research Success Stories

A NEW SfN SERIES TO FOSTER DISCUSSION AMONG THE PUBLIC AND POLICYMAKERS ABOUT THE NEED FOR INCREASED BIOMEDICAL RESEARCH FUNDING.



The second set of four are now available, covering epilepsy, multiple sclerosis, memory impairment, and Parkinson's disease.

Download the new *Brain Research Success Stories* from the SfN Web site (www.sfn.org/brss) or contact SfN for copies (brss@sfn.org). Also online are success stories for stroke, post-traumatic stress disorder, depression, and schizophrenia.

Translational Neuroscience Accomplishments

SfN SOCIETY FOR NEUROSCIENCE

Depression and Bipolar Disorder Animal research has revealed the biochemical systems involved in mood and led to better treatments for depression that more directly target the key neurotransmitters that regulate mood.

Drug Addiction Rodent research has led to the understanding that addiction is a brain disease, how chemical signaling is altered in addiction, and to the testing of new drug treatments for drug abuse.

If you have any questions concerning the list, contact tna@sfn.org.

Multiple Sclerosis Rodent models have created a unique opportunity to observe the way the nerve covering myelin is created, damaged, and repaired in MS, findings that have been essential in improving treatment.

Stroke The use of animal models has guided the successful development of treatments including a drug which relieves clots blocking blood flow to the brain, cooling the brain, and drugs to reduce damage once a stroke has occurred.

Stress Basic animal research has revealed the chemical and anatomical systems involved in anxiety and post-traumatic stress disorder, providing targets for medications to help restore normal function.

The Brain's Chemical Code The development and use of new neuroanatomical techniques in rodents and nonhuman primates advanced the understanding of how neurons communicate with each other. This led to a molecular understanding of the synapse, the communication point between neurons, and several brain disorders.

Polio Experiments in monkeys led to the understanding that polio was caused by a virus and set the stage for subsequent development and testing of a polio vaccine in nonhuman primates that was then translated for use in humans.

Prions Experiments using rodents found that prion diseases, such as scrapie, kuru, Creutzfeldt-Jakob disease, and "mad cow" disease, are all infectious, yet they are transmitted through a novel mechanism. This has laid the groundwork for the diagnosis and, eventually, the treatment of prion-related disorders.

Neural Circuitry of Memory Experimental analyses of both rodent and nonhuman primate models have revealed the neural circuitry and several molecular mechanisms of memory that have implications for Alzheimer's disease and aging.

Blindness and the Retina The unraveling of the genetic basis for a particular form of retinitis pigmentosa that leads to blindness in both dogs and humans has led to the successful use of gene therapy to restore vision in dogs with this genetic defect, laying the groundwork for such an approach in humans.

Parkinson's Disease Studies of animals led to understanding the mechanisms that underlie neurodegeneration and the detailed circuitry affected in PD. This has led to two promising treatments involving surgery and deep brain stimulation, and provided molecular targets for countering the degeneration of dopamine neurons that are involved in PD.

Neuroscience 2004 Featured Lectures

Public Lecture
Alzheimer's Disease: Paving the Way from Genetic Pathways to Therapeutic Inroads for Intervention
Speaker: Rudolph Tanzi, PhD
Saturday, October 23, 8 – 9 p.m.
San Diego Convention Center, Ballroom 20

Presidential Special Lecture
RNA Editing and RNA Interference: How do dsRNA Binding Proteins Affect Behavior?
Speaker: Brenda Bass, PhD
Monday, October 25, 2:30 – 3:30 p.m.
San Diego Convention Center, Ballroom 20

Presidential Special Lecture
Molecular and Cellular Mechanisms of Neuronal Migration
Speaker: Pasko Rakic, MD, PhD
Sunday, October 24, 4:15 – 5:15 p.m.
San Diego Convention Center, Ballroom 20

Presidential Special Lecture
Intrinsic Dynamics of Neurons Dominate Network Interactions in the Basal Ganglia
Speaker: Charles Wilson, PhD
Tuesday, October 26, 4:15 – 5:15 p.m.
San Diego Convention Center, Ballroom 20

Albert and Ellen Grass Lecture
Building and Breeding Molecules to Spy on Cells and Networks
Speaker: Roger Tsien, PhD
Monday, October 25, 4:15 – 6:15 p.m.
San Diego Convention Center, Ballroom 20

Peter Gruber Lecture
Adventures in Neurogenetics
Speaker: Seymour Benzer, PhD
Saturday, October 23, 4:15 – 5:15 p.m.
San Diego Convention Center, Ballroom 20

SfN Lecture on Neuroethics
Whither Neuroethics? A Developmental Perspective
Speaker: Stephan Chorover, PhD
Monday, October 25, 10 – 11 a.m.
San Diego Convention Center, Ballroom 20

Pfizer Lecture
Rewards, Predictions, and Uncertainty
Speaker: Wolfram Schultz, MD
Sunday, October 24, 11:15 a.m. – 12:15 p.m.
San Diego Convention Center, Ballroom 20

History of Neuroscience Lecture
Ethology, Birdsong, and the Innateness Controversy
Speaker: Peter Marler, PhD
Tuesday, October 26, 1 – 2 p.m.
San Diego Convention Center, Ballroom 20

. . . Q and A, Continued from page 5

diseases will impose an enormous economic and personal burden on the patients, their families, and society. Third, each of the patient and medical communities have been engaged in advocacy and lobbying in their separate spheres for some time, with good success, but these communities have matured in their own efforts and are ready to branch out and join with other groups to strengthen and solidify the message of advocacy.

NQ: How will smaller patient advocacy groups be represented among the larger, high-profile groups?

Kittredge: In formulating the business plan for ABC, those volunteers from patient, research, and medical groups realized that ABC needs to be inclusive. We needed to provide a mechanism whereby all member organizations—large and small, wealthy and those just starting out—have representation and a voice. Smaller patient groups are welcome and will have a say in the ABC message. All organizations will participate in the development of policy recommendations and advocacy programs.

NQ: What was the inspiration for you to create a coalition like ABC?

Kittredge: During my time as American Academy of Neurology (AAN) president from 1999 to 2001, I was struck by the scale and the costs of neurological disease: 50 million patients affected, 100 million family members affected, more than $600 billion in cost to our economy and untold death and suffering. We found more than 85 patient advocacy groups, many of which were too small to be effective. We became convinced that a unified basic advocacy program adopted and vigorously pursued by all should be much more effective. We felt that reaching out to the patient advocacy community was necessary.

AAN executive director Catherine Rydell and I spent much time reaching out to those patient groups with which we have had relationships, and convinced them to join One Voice (our original title for a coalition). We also invited a variety of other groups, scientific and medical in scope, to join. However, it was not until we decided to revamp One Voice and rename it the American Brain Coalition, and move toward establishing a mission/vision statement and business plan, that it was formalized.

This new effort, in which a number of voluntary groups participated, was the first step toward creating a coalition of action. ABC, with its 501(c)4 status, is finally able to do for the patients, scientists, and clinicians what we intended One Voice to do—give them representation and a presence on Capitol Hill for their important issues of funding, patient care, and public understanding. ■

NQ welcomes reader responses to articles that appear in the newsletter. To provide a forum for comment, NQ is introducing 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 will edit them for style, length, and content.

— The Editors

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