

NEUROSCIENCE

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Q U A R T E R L Y

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as scientists, get involved?"
...You know the issues;
you are constituents;
and you have stories that
are compelling."*

— Frankie Trull, president, Policy Directions, Inc.

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Experts Focus on Science Advocacy at Neuroscience 2002

A special panel convened at the 32nd annual meeting in Orlando to discuss the importance of public advocacy and how members of the scientific and biomedical communities can work together to communicate the importance of research to elected officials, members of the news media and the general public.

A key speaker was the Honorable John Porter, who served in the US House of Representatives for 21 years, representing the 10th Congressional district in Illinois. He also was chairman of the House Appropriations Subcommittee on Labor, Health and Human Services, and was the driving congressional force behind the NIH doubling effort. Porter, whose remarks are excerpted below, made an impassioned plea to SfN members to organize as a political force and voice their concerns — particularly about research funding — to policy makers, members of the news media and the public.



Jon Miller

"Science advocates cannot do it alone," he said. "They need the commitment, the involvement, the help of all caring scientists and their representative professional societies to steer public policy affecting science in the right direction.

"The President, in his February 2002 budget message to Congress, proposed a fifth year of 15 percent increases for the National Institutes of Health. This would complete a process doubling funding for biomedical research from \$13 billion just four years ago to \$27 billion by this year. . . but how many of you bothered to write the President or the White House to say 'Thank you?'"

He added that the Office of Management and Budget is working on the fiscal year 2004 budget, planning for a two percent increase. Increases of two percent for the next five years would entirely negate the five years of 15 percent increases, Porter said. If the scientific community's response to this is tepid at best, this says two things to the White House and Congress — that scientists don't care, or worse, are ungrateful for the federal resources they receive and that the science community is so uninvolved, so weak and disorganized as a political force, that it can be ignored. "Is that the message you want to send to policy makers?" he asked.

Jon Miller, director of the Center for Biomedical Communication at Northwestern University, noted that "Only one in five American adults is scientifically or biomedically literate." This low rate of scientific literacy — the ability to read and understand a science story in the *New York Times* — poses a serious problem for neuroscience, he added.

Another 32 percent of American adults are somewhat more scientifically literate, suggesting they could understand less rigorous material. However, close to half of American adults are biomedically illiterate, he said.

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Does this mean Americans don't like science? "To the contrary, most American adults have a very high regard for science and even higher expectations for what it will accomplish in the future," Miller said. "Furthermore, 80 percent of American adults agree that scientific research that advances the frontiers of knowledge is necessary and should be supported by the federal government, even if it brings no immediate benefit."

Although many American adults get information about science and technology via reading daily newspapers, news magazines, science magazines and science books, adult use of the World Wide Web for science and health information is growing rapidly. In 1997, fewer than five percent of American adults accessed this kind of data via the Internet; in 1999 the number more than doubled. About 67 percent of American adults had computer

access at home or at work in 1999; of those who were college graduates, more than 90 percent had computer access.

"While the patterns of information acquisition change gradually for adults, we are in the early stages of a major change in information acquisition and use in the United States and most industrial countries," Miller said. "It is important to understand previous patterns, but it is more important to begin to think about broadband and the new era of communications that is emerging."

Thus, scientists should work to increase public understanding and support of neuroscience. Miller suggested that researchers:

- Invite their elected officials to tour their laboratory or university.

Funding Delay Blocks New Grants

Researchers who have been awaiting the completion of the doubling of National Institutes of Health (NIH) will have to wait a bit longer. A long-term continuing resolution (CR) was passed at the end of the 107th Congress. This legislation maintains funding for government programs at the current (FY 2002) level. Until the FY 2003 legislation is passed and signed into law, NIH and other agencies cannot depend on the influx of new funds. This means it cannot request proposals for new grants or hire new researchers or additional administrative staff to review applications and allocate grant funds.

The current CR ran out after January 11, so Congress is likely to need another shorter-term resolution to continue operations until the details have been worked out in the House version and when the Senate joins the House to conference the bills.

The Society asks you to take action and contact Congress, urging members to complete the FY 2003 Appropriations bills, which must include the increases for the NIH to complete the budget doubling. For copies of letters to send, please visit our Web site at: www.sfn.org/capwiz.

During the 107th Congress, the Senate's \$136.7 billion version of the FY 2003 Labor-HHS-Education Appropriations bill (S.2766) included \$27.262 billion for NIH, with a \$3.7 billion increase for biomedical research, the final phase of the five-year doubling plan. Although the Senate passed this bill, the House did not take action. This legislation may serve as a starting point for bills to be considered in the 108th Congress.

When NIH Director Elias Zerhouni was called last year to testify before the House Appropriations Subcommittee on Labor-HHS Education, he made it clear that NIH could operate with minimal interruption until mid-December. NIH buildings construction projects would be the first agency programs to suffer because of the set payment schedule. According to Zerhouni, the second program that would be negatively affected is biodefense. Half of the last installment of the agency's budget increase is dedicated to biodefense. Zerhouni said that smallpox protection and anthrax research would be negatively affected.

Because appropriations bills are often held up, NIH implemented a system to award new grants in December and early January rather than at the beginning of the fiscal year. With this CR extended at least until mid-January, the funding decisions usually made in December will have to be delayed even further and scaled back significantly.

For those researchers who hold National Science Foundation (NSF) and Veterans Administration (VA) Medical Research Grants, the funding situation also remains unclear. The House and Senate version of the bills that fund these two accounts, the FY 2003 VA-HUD Appropriations, were passed by the House and Senate Appropriations Committees, respectively. Included in the Senate version (S.2797) is \$5.353 billion for NSF and \$400 million for Medical Research. The House bill (H.R.5605) includes \$5.422 billion for NSF and \$405 million for Medical Research. When Congress reconvenes, it will be necessary for the House and Senate to conference to reconcile the disparate numbers. Furthermore, because the overall funding allocation for discretionary spending will likely be lowered, these accounts could see a reduction when a final bill is approved.

The bill reauthorizing NSF for fiscal years 2003 through 2007 (H.R.4664/ S.2817), signed by President Bush in late December, provides a doubling of funding over the next five years. The measure authorizes \$37.6 billion over five years, beginning in FY 2003. The FY2003 allocation is \$5.536 billion, an increase of \$500 million over the President's request and \$700 million more than NSF received in FY 2002. However, authorization does not actually appropriate the funds; NSF still needs allocations through the regular appropriations cycle to receive these increases.

At press time, the outlook for the FY 2003 Appropriations bills is a complicated one. The possibility of an omnibus funding measure, where several funding bills are rolled into one larger one, may make the doubling of the NIH budget difficult to attain. There is also talk among some Members of Congress to leave funding levels at FY 2002 levels, which would mean no funding increases and no new grants for NIH.

Neuroscience Quarterly will keep its readers informed about developments on this issue. ■

- Become active in relevant interest groups.
- Teach at least one undergraduate science course each year.
- Run for (and get elected to) your local school board.

“...80 percent of American adults agree that scientific research that advances the frontiers of knowledge is necessary and should be supported by the federal government, even if it brings no immediate benefit.”

— Jon Miller, Northwestern University

Frankie Trull, president of the Foundation for Biomedical Research and president and founder of Policy Directions, a legislative advocacy firm, spoke to the assembly about the who, what, why and how of effective advocacy.

“Why should you, as scientists, get involved?” she asked. “To put it simply: You know the issues; you are constituents; and you have stories that are compelling. Think of the issues that are important to you as scientists — research funding, stem cell research, animal research, safeguards in human research. You need to educate not just policy makers but also the entire biomedical research community and the general public because people’s opinions and their votes matter. One vote can make a difference and you can influence that vote.”

For example, Trull noted, one vote saved President Andrew Johnson from impeachment in 1868; one vote admitted the states of California, Oregon, and Idaho and Washington into the Union (in 1850, 1859 and 1890, respectively); one vote made Adolph Hitler head of the Nazi Party in 1923; and one vote per precinct in three states would have given the presidency in 1968 to Hubert Humphrey instead of Richard Nixon.

Scientists have an incredible array of tools to help them, she continued. “E-Mail, letter campaigns, Internet postings, public and professional meetings, op-ed pieces, building relationships with representatives of the news media, celebrity spokespersons, congressional testimony and coalition building all are ways you can educate and garner support for matters that are important to you.”

Coalitions can be especially important to help raise awareness of a certain cause. The development of a coalition can diversify the constituency and increase the number of stakeholders for a given issue. (This also can help when you reach out to members of the House of Representatives and the Senate for support.) Larger groups also may have more financial resources to conduct

more extensive analyses. Working within a coalition also can help in the creation of broad legislation to help your cause — e.g., more funds for biomedical research vs. increased funding for a particular disease.

On an individual level, you can develop a congressional strategy for an issue that is important to you. First of all, find out who your congressional representatives are and seek out key members of authorizations and appropriations committees. Review their legislation and visit their Web sites. Then, arrange to meet your legislators. Identify and explain the issues; develop a one-page description for your representative; offer your personal story; make a specific request; and describe the impact of your solution for the district and constituents — tax revenues, jobs and quality of life. Then, schedule a follow-up meeting and maintain contact with your representatives. Finally, send a letter of appreciation that includes answers to questions raised, as well as any other pertinent information.

“Go forth and advocate,” Trull said. Simply put, you can publicize your cause, join a coalition, find a solution and get help from the Congress, your local community, the research and medical community and other advocates. “Publicize your progress and proceed.”

“Publicize your cause, join a coalition, find a solution and get help from the Congress, your local community, the research and medical community and other advocates.”

— Frankie Trull, president, Policy Directions, Inc.

The forum was moderated by Joseph Coyle, chair of the Society’s Government and Public Affairs Committee, and was co-sponsored by the GPA, Social Issues and Chapters Committees.

Since SfN recently became a member of the Joint Steering Committee for Public Policy (JSC), society members can help champion biomedical research policy and funding issues by becoming involved in the JSC’s Congressional Liaison Committee. This no-cost opportunity allows concerned scientists to meet with members of Congress to help convey the neuroscience community’s messages about research funding, regulations or specific scientific advances. Join the CLC by filling out the online registration form at www.jsccp.org/clc.html. For further information visit www.jsccp.org or contact JSC staff Matt Zonarich (mzonarich@jsccp.org) or Michelle Grifka (mgrifka@jsccp.org). ■

C O M M E N T S

From the Honorable John Porter



It is a great honor for me to have a chance to talk with you this afternoon and to share the podium and the time with Dr. Jon Miller of Northwestern University, my alma mater, and Frankie

Trull of Policy Directions. They will give you insights on how the American public perceives science and the practicalities of influencing public policy affecting science.

My role is a little different. I served for 21 years on the public side as part of your support team.

I am not a scientist, but I am a science advocate — someone who has a basic understanding of science and its relationship to government, someone who appreciates science and marvels at your immense achievements, someone who is inspired by the progress already achieved in understanding the human organism (and others) and by the exciting possibilities of research that lie ahead.

As someone who not only cheers you on but now works outside government to secure the resources you need for your vital work, we need to talk!

Science advocates can only go so far for you.

Fred Gage, Joe Coyle, Marty Saggese and Allison Kupferman in Washington can only go so far for you.

You can't abdicate or transfer to advocates your individual responsibilities as scientists and citizens of this great country and our world at large.

Let me give you some examples:

I assume that a substantial part of the resources you depend on come from peer-reviewed grants from NIH.

The President, in his February 2002 budget message to Congress, proposed a fifth year of 15 percent increases for the National Institutes of Health. This would complete a process doubling funding for biomedical research from \$13 billion just four years ago to \$27 billion in 2002.

Yes, we know that the President's \$3.7 billion increase for NIH contains a large amount of money for research and facilities related to protecting America from bioterrorism. We know, too, it taps on NIH funds for activities related to biomedical research but not available for research grants themselves.

But how many of you bothered to write the President or call the White House to say "Thank you"?

You think they won't notice?

Believe me, they do.

You think they won't care?

Now — right now — that appropriation of \$27 billion for NIH (and many others) is still pending in Congress, not yet passed into law. Congress is coming back after the election Tuesday, hopefully to complete their work. But there's a large group in the House that want to make government, including NIH, do with last year's spending level, meaning no increase for NIH until next March at the earliest. That would mean no new research grants, no decisions on renewals, no new facilities money and would put all of NIH virtually on hold. Do you care?

What are you going to do about it?

The President's Office of Management and Budget now is working on the next fiscal year's budget.

Mitch Daniels, the OMB Director, plans a post-doubling budget for NIH in the 2 percent increase range. Bob Rich, of FASEB, recently calculated that 2 percent increases for the next five years would entirely negate the five years of 15 percent increases, leaving us just where we started.

If the response of the scientific community to placing NIH on hold this year and of proposing rock-bottom 2 percent increases for NIH for the next five years is tepid at best, that says two things to the White House and to Congress:

First, scientists don't care, or worse, are ungrateful for the federal resources they receive. Second, the science community is so uninvolved, so weak and disorganized as a political force, that they can be ignored.

Is that the message you want to send to policy makers?

I have suggested 10 percent increases

for NIH for the next five years as a reasonable figure after doubling to sustain research momentum and take advantage of the good science that is available. The Ad Hoc Group for Medical Research has adopted 10 percent as its goal.

You and I could easily and rationally argue for much more, but politics is the art of the possible.

How many of you will write the President, urging a 10 percent increase?

And even more important — because Congress, not the White House, appropriates the money — how many of you will visit, call or write your Congressional representatives (your Congressperson and your two Senators) to work for this kind of sustaining funding for NIH?

There also are other issues and other questions for you.

It took this Administration almost a year to select a science advisor to the President.

In early April 2002, after 15 months in office, we had no director of NIH, no surgeon general, no director of the Centers for Disease Control and Prevention, and no director of the Food and Drug Administration.

These positions have now finally been filled with very able people.

But frankly, among the long months that these positions were vacant, I was astounded at the silence of the science community, and I was greatly concerned that you were abdicating the field to those looking not for excellence in science but through some philosophical filter.

You know and I know that the President and the White House are impacted constantly by those who think the United States should have a saliva test for appointees to federal health policy posts.

Shouldn't the science community — the professional societies and every individual researcher — loudly endorse the recommendation that we need the best possible people for these appointments, people respected and acclaimed within the community, rather than someone who meets some philosophical standard?

I believe that all saliva tests — of the right or left — are wrong.

I believe they're un-American.

I believe they're intolerable in any

society devoted to promoting the very best and brightest.

Fortunately, excellent appointments were made. I would like to say this was the result of massive pressure by the science community, but I'm certain that's not true.

Unfortunately, what enters my mind is, rather, "Where has the science community been?"

Today there is pending before Congress legislation going right to the heart of the freedom of scientific inquiry that has always been the hallmark of our country.

A bill already passed by the House would make research into DNA replacement therapies — so-called "therapeutic cloning" — and the importation from abroad of the results of such research unlawful.

A scientist who conducted somatic cell nuclear transfer research or an individual who went overseas to pursue therapies that might be developed from such research to address Alzheimer's or Parkinson's disease would be subject to fines and imprisonment.

Let me repeat: This legislation would subject a scientist to a prison term for pursuing research!

The only physician in the Senate, Senator Frist of Tennessee, a thoracic surgeon, has endorsed the proscription on therapeutic cloning, though not the prohibition on importation — giving other Senators cover to vote for it.

While advocacy groups like Research!America have spoken out and been working against it, I have not seen great concern about the dangers of criminalizing scientific inquiry this way by the professional societies.

Many brilliant contributors to American biomedical research have come from across the world and have enriched American science and advanced American scientific achievement beyond measure.

Didn't they come here to be free from government directing or restricting where their studies and intuition might lead them?

What would the passage of this bill mean to those elsewhere who might otherwise have come to and benefited our society?

That bill won't pass in this Congress, but I guarantee it or something very like it will be back in the next Congress.

Will the scientific societies be ready to prevent its becoming law?

There is more:

In his budget proposal earlier this year, the President suggested greatly increasing funding for cancer research, meaning less for research that might be related to other diseases that afflict humankind — for example, neurological diseases.

Congress, I should tell you, has almost always refrained from substituting its political judgment for scientific judgment as to which areas of research should be pursued.

Should the President's priorities prevail over the scientific judgment of NIH?

What are you as an individual investigator doing to keep science free from politics?

Still more:

"...the OMB Director plans a post-doubling budget for NIH in the 2 percent increase range...2 percent increases for the next five years would entirely negate the five years of 15 percent increases, leaving us just where we started."

Federal funding for the physical sciences has not kept up with that for the life sciences, even though they are now more and more closely intertwined.

Indeed, the kind of research many of you now pursue is completely dependent on information technology, chemistry and bioengineering. Shouldn't the scientific community be impacting federal policy makers on the importance of increasing funding for the physical sciences as well as the life sciences?

Research!America, together with the Alliance for Science and Technology Research in America (ASTRA) and others, is attempting to do so.

Are you?

Finally — though the issues citizen scientists should be concerned with and impacting is far from exhausted — what about all that is going on relative to financial conflicts of interest in research, both individual and institutional? What about the secretary of Health and Human Services transferring all communications functions from NIH and CDC and the surgeon general and FDA to his direct

control, so that scientists from these agencies can no longer speak for them directly to the media and the American people? Is this okay?

Perhaps it is rude for a guest to come to one of America's most prestigious scientific societies and challenge you in these ways.

But let me return to my opening statement: Science advocates cannot do it alone.

They need the commitment, the involvement, the help of all caring scientists and their representative professional societies to steer public policy affecting science in the right direction.

Scientists have tremendous respect in America.

But Research!America finds that elected officials rarely hear from individual members of the science community.

Forty-two percent of scientists surveyed by Research!America have no involvement in science outreach — not civic, not media, not corporate, not religious, not political, nothing.

When you receive a research grant, do you write a letter to your Member of Congress and to your two Senators to tell them about it (they will be proud of you) and thank them for their support of NIH?

Do you go to a town meeting or even better, a campaign debate, and raise the scientific issues?

Do you take a small group of your fellow scientists and go in to see your Congressman or Congresswoman? Do you write up a script in advance, get the points you want to convey briefly in mind and be ready to tell your representative exactly what it is you want him or her to do?

Do you engage with your local science journalists and tell them the exciting research you're working on?

If you don't know what to do or how to do it, there are organizations like your own Society for Neuroscience and Research!America that will show you the way.

Let me repeat, scientists have tremendous respect in America.

When you speak, the people and policy makers listen.

But you must speak! Loudly. Publicly.

There are numerous challenges before us.

They are our collective and individual responsibilities.

It won't do to sit on the sidelines.

Let's all of us work together to meet them.

Thank you. ■

MESSAGE FROM THE PRESIDENT

Falling in love with science was one of the greatest gifts I have received, and it happened to me when I was an adolescent living in an unlikely place where the last thing a young girl was expected to care about was scientific inquiry. This experience left me convinced that whenever we share the beauty of scientific knowledge, the impact is both unpredictable and immeasurable. While a number of people may ignore it, many will be interested, some will be fascinated and a few will be smitten. Some of the smitten few might go on to transform our understanding of the world. The others who care, and even those who do not, will undoubtedly be affected in exciting and unpredictable ways.

I was moved and delighted to learn how many members of the SfN shared this perspective. Over 5,000 SfN members responded to the Society's survey last year, and many of you spoke eloquently about the importance of public education in neuroscience and asked us to include it as a key component of our Strategic Plan. We listened. Thus, one of the four main goals of the plan is focused on public information and neuroscience education.

NEED AND OPPORTUNITIES FOR NEUROSCIENCE EDUCATION:

As we embark on this educational journey, we recognize that there is much to be done. Surveys show that although Americans see themselves as more interested than ever in scientific discoveries and new technologies, they score low on actual understanding of scientific terms and concepts. For example, a study conducted by Jon Miller of Northwestern University shows that American adults have a very high regard for science and even higher expectations of what it will accomplish in the future. Yet, only one in six Americans is scientifically literate — defined as being able to read and understand a science story in the *New York Times*.

The need for greater public understanding of the brain is particularly acute. Brain-related disorders are emerging as the most debilitating worldwide. From the biomedical standpoint, the challenging task of uncovering the neural mechanisms of these illnesses is critical for diagnosing, treating and preventing them. But some understanding of these illnesses by the lay public will go a long way in helping detect them early, cope with them adequately and deal wisely and humanely with those who suffer from them.

In carrying out this goal, we have the opportunity to tell a truly remarkable story. During the last few years, the treatment of brain disease has been transformed by our fundamental knowledge at the genetic, molecular, cellular, anatomical, physiological and behavioral levels. The first useful treatments for acute stroke, spinal cord injury, amyotrophic lateral sclerosis, multiple sclerosis and some forms of blindness and deafness have recently become available. A wide range of novel treatments for mental illnesses and substance abuse have greatly improved the lives of millions of people. Much remains to be done, but our progress will continue to be fueled by the dramatic advances in basic research.

Beyond the clinical relevance, humans have a fundamental need to understand the workings of the mind. Adolescents in particular spend a great deal of time trying to sort through their physiological and endocrine changes, dealing with their fluctuating emotions and attempting to comprehend their place in the world. Offering them, their parents and teachers, a thoughtful, scientifically based framework in which to conceive of their transformation could be extremely valuable psychologically while being stimulating intellectually. It will also lay the groundwork for powerful thinking habits that will allow them to handle emotionally demanding times later in life. These and many other examples make the case for the critical importance of increasing the public's knowledge about neuroscience, its implications for a healthy life and its contribution to self-knowledge.



Huda Akil,
SfN President

In turn, a scientifically literate electorate can help convince policymakers and legislators about the vital importance of investing in neuroscience research. If legislators are aware of the social and economic burden of debilitating neurological and psychiatric disorders, they will be more likely to support increased funding for research. Because most of us receive public funding, we have a responsibility to talk to the public about the progress and advances resulting from this support. As the French playwright Moliere said: "We are responsible not only for what we do but for what we do not do." Whether the goal is to help, inform or inspire, public neuroscience education is our contribution to the public good.

NEXT STEPS: The SfN is currently defining its trajectory for public education in neuroscience. New initiatives will target audiences at several levels, including establishing neuroscience as part of the core curriculum in schools, educating the general public about the fundamentals of neuroscience and its promise, and communicating to policy makers the importance of investment in brain research. Our Society should become the authoritative source of neuroscience information for the nonscientist at all levels. SfN's publications *Brain Facts* and *Brain Briefings*, along with the Brain Awareness Week activities, are key aspects of this program. But we must do more.

The Society needs to develop materials for secondary education to incorporate neuroscience and the biological basis of behavior into the core curriculum. This would include model educational curricula and resources about neuroscience for teachers and young students as well as those preparing for higher levels of education.

Other potential directions include an active and creative educational component of our Web site. It could involve not only basic descriptions of key topics, but also updates on the latest

developments in a given area of research, and a discussion of the implications of recent findings, all in language that is accessible to the educated layperson. Such an undertaking would require a scientific editor of the on-line educational program and would rely on participation from numerous members of the SfN who would oversee particular areas of research expertise. All this would of course be in collaboration with the central office staff.

Designing and launching such a program requires a multi-year plan that Council, with the help of several committees, is beginning to discuss. However, the SfN Council has also underscored the importance of initiating the process immediately by building on existing efforts, while various task forces elaborate the longer-term plans.

SHORT-TERM INITIATIVES: The Strategic Plan calls for several 2003 initiatives to help us start raising public awareness about neuroscience. These include:

- Expanding Brain Awareness Week by increasing coordination and strategic alliances with like-minded organizations such as the Dana Alliance, through seeking expanded public- and private-sector funds for BAW activities and by raising the involvement level of SfN regional chapters.
- Improving neuroscience literacy by sponsoring the Committee on Neuroscience Literacy's teacher education workshops up to four times a year in different geographic locations, possibly in conjunction with SfN regional chapter meetings.
- Launching a major educational outreach program aimed at the public schools to offset misinformation distributed by animal rights groups. Developing strategic alliances, nationally and internationally, with appropriate organizational partners to ensure the effectiveness of the educational outreach campaign on animals in research.

LONGER-TERM PLAN: A Neuroscience Information Center. The Society already has created specific Strategic Plan working groups to coordinate committee support for expanded public information and general education activities. This will include preparing a multi-year action plan for the development of a Neuroscience Information Center or clearinghouse to provide accessible, up-to-date neuroscience teaching and educational program resources for K-12 students. Also on the agenda is exploring the feasibility of developing fixed or traveling exhibitions to present neuroscience information and discoveries to the public. Information from these and other sources will contribute to developing the educational aspects of our Web site.

WHAT YOU CAN DO: Improving public scientific literacy is a goal we can achieve only with your help. Members of the Society for Neuroscience are the best carriers of its educational message. You can participate in Brain Awareness Week by speaking to junior and senior high school classes and by organizing activities at your institution for students, church groups and residents of nearby assisted living facilities. Last year, the Oregon Health Sciences University partnered with the Oregon Museum of Science and Industry to develop a neuroscience exhibit that incorporated virtual reality activities, video games,

optical illusions and special effects that entertained and educated. They also enlisted David Heil, former host of PBS's *Newton's Apple* to co-host Brain Games, an afternoon of brain-teasers and mindbenders. The Vanderbilt Brain Institute's "Brain Storm 2002" attracted more than 1,000 people to such activities as the Tennessee State Brain Bee, tours of the Institute's labs and the Brain Blast science fair.

A highlight of BAW is the International Brain Bee, a live Q&A competition that tests high school students' knowledge of neuroscience. Many SfN members organize Brain Bees in their locales with hopes of sending "one of their own" to the international competition. The International Brain Bee is directed by Dr. Norbert Myslinski of the University of Maryland School of Dentistry.

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To learn more about how you can help guide public education activities surrounding Brain Awareness Week, go to the SfN Web site at www.sfn.org/baw or to the Dana Alliance for Brain Initiatives at www.dana.org/brainweek.

Beyond Brain Awareness Week, we are open to your ideas and projects. We already have some good examples of very promising initiatives. The University of Minnesota department of neuroscience and the Science Museum of Minnesota are recipients of a five-year, \$1.6 million grant from the National Institutes of Health to develop, implement and distribute a model biomedical science education program in neuroscience. The project, Bringing Resources, Activities and Inquiry in Neuroscience (BRAIN), aims to develop in-depth, multi-year inquiry-based curriculum materials and teacher training programs to middle school science classes. Clearly, this project would dovetail very well with the SfN's educational efforts. Brain Power is a traveling outreach program developed jointly by the Pacific Science Center and Group Health Cooperative. Designed for grades five through eight, this curriculum offers a combination of teacher-taught and student-taught lessons to educate students about the nervous system, anatomy/physiology and the biology of drug dependence. It is supported by grants from the National Center for Research Resources and the National Institute on Drug Abuse in partnership with the University of Washington and the Washington Association for Biomedical Research.

These and other projects are telling us that you believe as we do: For neuroscientists, there has never been a better time to make a difference, to reach out, educate and inspire. I hope you will all join in this exciting journey. ■

Changing the Ways We Communicate

At the annual meeting in Orlando, the Society's Council endorsed a set of changes based on a review of the Society's member and public communications activities. The review coincided with the Society's development of strategic goals to provide for professional development, improve general education materials and to engage in effective advocacy activities.

This issue of the newsletter reflects those changes. The new newsletter, now called *Neuroscience Quarterly*, will be printed four times annually. It will focus on longer articles about major Society developments and initiatives and substantive, less time sensitive, features such as profiles or Q&As with important policy makers, Nobel winners or other prominent scientists; and discussions of important topics such as neuroethics or public education.

Some information that once appeared in the newsletter will now appear in a new monthly electronic newsletter. It will include items on the annual meeting, science policy and funding opportunities, major appointments of interest to neuroscience, reminders of deadlines and links to Society Web site pages containing classified advertisements, obituaries, the monthly *Brain Briefings* newsletter and a new feature called *Neuroscience in the News*, a compilation of recent neuroscience stories appearing in the media.

The Society will continue to issue alerts on important pending legislative and science policy matters. These will include urgent requests to write to legislators on a specific issue through our online letter writing mechanism called CapWiz, or important regulatory matter deserving comment. The alerts also might include time-sensitive communications on very important SfN matters, such as elections.

Other member communications initiatives endorsed by Council include an annual report, redesign of the Society's Web site and a reorganization of classified ads.

An annual report, which the Society has never produced, will bring members and others up to date on important SfN activities and be a tremendous help in explaining the mission of the Society to the public. It also will serve as a vital instrument to inform the government agencies, advocacy groups, funding organizations and other potential partners about the Society and what it does. The report will be available this spring.

The Society's Web site will be cleaned up and made more appealing to audiences beyond SfN members. Its design will be updated to communicate important information more effectively and clearly. The site will be arranged so that it can be easily accessed by members, the media, general public and educators.

In regard to Web classified ads, we include them both on the Web site and in *The Journal of Neuroscience* in a way that will allow easy access from either location.

In the area of public information, the Society will continue to produce *Brain Briefings* and *Brain Facts*, a 52-page primer on the brain and nervous system; work to coordinate a package of science curriculum materials; issue news releases more regu-

larly during the year based on articles appearing in science journals; and develop a media resource directory for reporters and brochure for the general public.

In publication since 1990, *Brain Facts* was recently updated with a print run of 15,500 copies. *Brain Facts* has been extremely useful to the Society in bringing a wide variety of information about the nervous system to reporters, advocacy groups, high school teachers and students, undergraduate students and the general public. It also is one of the primary background sources used by students participating in regional Brain Bee contests and the final competition held during Brain Awareness Week.

Brain Briefings is a monthly, two-page, four-color newsletter describing how basic neuroscience discoveries lead to clinical applications. With a print run of 10,000 copies, the newsletter is designed for high school teachers and students and is also mailed to reporters and key Congressmen and committee staffers responsible for science funding and policy. *Brain Briefings* is the most visited section of our Web site other than the annual meeting. The newsletter is extremely popular with teachers who use it as a supplementary teaching aid. Reporters frequently write feature stories on *Brain Briefings* topics.

Brain Facts and *Brain Briefings* serve as the basis for a teachers' neuroscience resource kit that would be distributed through all available channels, including print, Web, SfN annual meeting, teachers meetings and other venues.

Future science curriculum materials will build on what we do already. New materials, such as brochures on the importance of the humane use of animals in research, will be developed. We might also explore a Web-based teaching module. The production and distribution of all these materials will be done in concert with partners who are interested in developing and disseminating extensive teaching materials for any and all levels.

In media relations, the Society's primary interaction with reporters occurs at the annual meeting. We develop 15 to 18 press conferences and accompanying news releases as well as a lay-language summary book. Media interaction also consists of news releases issued throughout the year on neuroscience papers appearing in journals; and in referring reporters to outside sources for comment on papers for news stories. We plan to issue more frequent news releases during the year and develop a Web-based media resource directory so that reporters will have easy access to a list of senior neuroscientists organized by an extensive topic category.

A new brochure will introduce the Society to the public and will include the Web site address and ways to seek more information. A more scientist-specific brochure — to recruit new members — will include information about the annual meeting, the *Journal* and other member benefits.

To guide the look of all print and Web products, the Society has started to develop a coherent and flexible visual identity, including a SfN logo, a standard color scheme, a stationery suite and a graphic standards manual.

We look forward to feedback and suggestions from members as we move ahead to implement these changes. ■

BAW Forum Draws Interest at Neuroscience 2002

A Brain Awareness Week participant forum, moderated by SfN past president Bruce McEwen, took place at the 32nd annual meeting and included commentaries from incoming president Huda Akil, Dana Alliance for Brain Initiatives executive director Barbara Gill, SfN committee on neuroscience literacy chair Eric Chudler and Oregon Health Sciences University community affairs and education coordinator Bobby Heagerty.

"The Strategic Plan of the Society for Neuroscience highlighted public education as one of its four main purposes," noted Akil. "And I think Brain Awareness Week and its associated activities are key aspects of this process." (See Message from the President, page 6).

Brain Awareness Week (BAW), which elevates public awareness and creates interest in brain and nervous system research, takes place in classrooms, laboratories and lecture halls across the globe during March of each year. In 2003, mark your calendars for March 10-16.

Sponsored by the Society for Neuroscience and the Dana Alliance for Brain Initiatives, BAW involves scientists, patient advocacy groups, government agencies, hospitals, universities and members of health care organizations. They organize educational events emphasizing the importance of basic neuroscience research to the health and well-being of the public. Activities include classroom visits, laboratory tours, lectures and exhibits.

"The idea for Brain Awareness Week originated with the Dana Alliance, but early on the Society for Neuroscience became our major and chief partner," said Gill. "We could not do this program without everyone at the Society for Neuroscience. This truly is a collaborative effort."

Gill also noted that the 1,400-plus partners from 52 countries who participated in last year's campaign represented a 15 percent increase over 2001.

Many of the activities are aimed at elementary, junior high and high school audiences and often can interest young people in neuroscience as a career.

One of the highlights of BAW is the International Brain Bee, a live question and answer competition that tests high school students' knowledge of the brain as it relates to intelligence, emotions, memory, stress, sleep and brain disorders. Many SfN members hold local Brain Bees with the hope that they can send one of their own students to the International Brain Bee.

Society for Neuroscience members have branched out to wider audiences, holding evening lectures for members of the public and visiting nursing homes to speak about the latest advances in Alzheimer's disease and Parkinson's disease. The BAW campaign serves to inform legislators about the importance of funding neuroscience research, investing in higher education and contributing to technological developments to combat diseases of the brain and nervous system. To find out more please visit the BAW Web page at: www.web.sfn.org/baw. ■

Committee on Committees Formed

The committees of the Society for Neuroscience play a vital role in the Society's diverse activities. The Society's newly formed Committee on Committees (CoC) is designed to take maximal advantage of the talents, skills, interests and concerns of SfN's 31,000 members. The objective is to promote a more open and inclusive selection process that matches interested and qualified members with the committee most appropriate for their talents. This should ensure highly productive committees whose members enthusiastically devote the time and energy necessary to achieving the Society's goals.

The CoC became a standing committee of SfN in accordance with approval of new bylaws in January 2003. David Van Essen, Secretary of the Society, serves as chair of this committee.

The CoC will recommend new committee members for approval by Council each spring and committee chairs for approval each fall. The CoC also will generate the SfN officer/councilor candidate slate each spring.

The process for selecting new committee members will include an e-mail solicitation to the entire SfN membership, as well as targeted solicitation to current and recent committee members. SfN members can propose colleagues whom they consider appropriate or can nominate themselves for particular committees. Each nomination should be accompanied by a statement of up to 50 words explaining the rationale. All suggestions should be sent each year to cmterec@sfn.org at the SfN office by January 31.

Collated lists will be distributed to the CoC by late February. The CoC will meet in March to propose slates for each committee, plus alternates. After a consultative process with current committee chairs, final recommendations will be brought forward for approval by Council.

When selecting committee chairs, the CoC will request suggestions from current committee chairs, current committee members and past committee members (five years). Suggestions should be accompanied by explanatory comments and should be made by August 15. The CoC then will propose committee chairs, vice-chairs (when appropriate) and alternates. After contacting prospective chairs regarding their willingness to serve, recommendations will be sent to Council for approval.

Nominations for Council and Officers will be requested in February of each year. The slate will be determined by the CoC in March, and voting will be handled by e-mail in late spring. The election outcome will be made public in June. SfN members interested in a listing of the existing committees, their missions and their current composition can visit the SfN Web site (www.sfn.org/committees). Alternatively, visitors to the Web site can click on "About SfN" and then click on "Committees" along the left margin. ■

NEUROSCIENCE

ADVOCACY

10

The Honorable John Porter, who served in the US House of Representatives was a keynote speaker at an advocacy assembly. He was chairman of the House Appropriations Subcommittee on Labor, Health and Human Services, and was the driving congressional force behind the NIH doubling effort. Porter made an impassioned plea to SfN members to organize as a political force and voice their concerns — particularly about research funding — to policymakers, members of the news media and the public. Porter was joined in this assembly by Jon Miller, PhD, of Northwestern University and Frankie Trull, president and founder of Policy Directions, a legislative advocacy firm. Michael Manganiello of the Coalition for the Advancement of Medical Research addressed SfN members at an advocacy breakfast. (See page 1 and Comments from the Honorable John Porter, page 4.)



Michael Manganiello



John Porter



Joseph Coyle



Frankie Trull



Paul Aravich



EDUCATION

The Society actively is working to improve the public's understanding of neuroscience. In addition to our publications *Brain Briefings* and *Brain Facts*, Brain Awareness Week helps spread neuroscience information on a global scale.

SfN member Paul Aravich discusses neuroscience with high school students at the annual meeting. (See Message from the President, page 6.)



2 0 0 2 E V E N T S

PROFESSIONAL DEVELOPMENT

The professional development activities of the Society for Neuroscience help to attract, support and retain the best and the brightest students and professionals as the field of neuroscience flourishes and grows. Officers listen to members who are encouraged to speak about matters of concern at the Society's business meeting. Through various programs, such as mentoring, the Society seeks to increase diversity and provide assistance to members. Courses and workshops conducted at the annual meeting provide additional opportunities for member advancement.



Minority travel fellows

Gordon Shepherd (foreground), Fred H. Gage and Donald Price (background)

SCIENCE/RESEARCH

One of the Society's primary goals is to advance the frontiers of neuroscience research. The annual meeting draws thousands of neuroscientists from all over the world to discuss and debate the latest research in the field. Luminaries, such as SfN member H. Robert Horvitz, one of the 2002 Nobel Prize recipients in medicine, are key attractions of the annual meeting. This year Horvitz presented the Grass Lecture at Neuroscience 2002.



Working Groups Will Implement Goals of Strategic Plan

Council recently established five Working Groups whose members will be responsible for implementing one or more goals of the Society for Neuroscience's proposed Strategic Plan (which can be seen at www.sfn.org/strategicplan).

The Working Groups will deal with

- Annual meeting initiatives (Richard Haganir, chair).
- Strengthening and determining future directions for Society publications, including *The Journal of Neuroscience* (Peter Strick, chair).
- Professional development and training (Joanne Berger-Sweeney and Kristen Harris, chairs).
- Public education initiatives (Susan Amara, chair).
- Public affairs and advocacy (Nancy Wexler, chair).

The Groups were established to draw upon the diverse strengths and experiences of SfN members, specifically those who have demonstrated interest, as well as knowledge or skills derived from past activities in these areas.

The Working Group dealing with annual meeting initiatives is charged with preserving the quality and preeminence of the meeting through identifying, implementing and evaluating a series of organizational, programmatic and support-service changes designed to enhance a sense of "user-friendliness" and make the experience satisfying for all attendees. Means of accomplishing this may include such changes as

- Increasing the number of cross-disciplinary lectures.
- Increasing the amount and quality of Web-based information to help with meeting navigation.
- Continuing to enhance the on-line and CD-based Itinerary Planner software and possible modifications for handheld devices.
- Improving the format of the printed *Program*.
- Providing orientation sessions for first-time attendees.
- Exploring the possibility of later abstract submissions.
- Enhancing shuttle bus service.
- Improving signage, color-coding and other navigational aids.
- Tasking the Program Committee with continuing to monitor and refine the sections, specializations and topics used to organize and session the meeting.

Additionally, this group is charged with assessing the annual meeting's effectiveness in light of the SfN's continuing growth, the sheer size of the meeting and the increasing diversity of attendee interests and preferences; and learning lessons from other organizations through analysis of other annual meetings.

The Publications Committee will serve as the Working Group that will examine options for future publications. A central goal of the Society is to ensure that *The Journal of Neuroscience* is the preeminent neuroscience journal. Initiatives to strengthen this publication include

- Enhance journal operations.

- Clarify its economic model in light of the changing balance between academic and nonacademic worlds and between the roles of print publishing and the increased trend toward electronic publishing.
- Evaluate options for online submission of articles.
- Ensure continuing collaboration between its editors and the Society's Publications Committee, Council and central office.

Options for future directions for Society publications include

- Completing market research to evaluate short- and long-term product/content enhancements for online and/or print editions.
- Exploring the desirability of producing additional journals, books or monographs.
- Evaluating the potential market for a spin-off magazine and the feasibility of producing this publication.

A focus of the Working Group to deal with professional development and neuroscience educational activities will focus on career development. Members of the group will

- Introduce an SfN-managed Neuroscience Job Fair at Neuroscience 2003 in New Orleans and evaluate its appeal among interested parties.
- Expand the scope of professional development information available through the SfN Web site.
- Sponsor Web-based job fairs in addition to those held during the annual meeting.
- Organize an SfN Web-based audioconference on career development issues and opportunities.

A second focus will be on preparing a multi-year action plan to increase Society-sponsored professional development activities. Potential initiatives for this include

- Expanding the scope of existing neuroscience training workshops and educational activities.
- Holding a series of cross-disciplinary lectures in Washington, DC or lectures at regional chapter-sponsored forums.
- Conducting selected short courses in different cities under the auspices of regional chapters and/or the SfN Education Committee.
- Establishing a learning center that would sponsor two- to three-day courses on various neuroscience topics for CME credit.
- Supporting the development of model curricula and other age group-specific teaching materials.

The Working Group for public information and general education will concentrate on these areas:

- An educational outreach campaign on animals in research to offset misinformation distributed by animal rights groups and the development of strategic alliances with appropriate organizational partners in conjunction with this goal.

- Expansion of Brain Awareness Week and Neuroscience Literacy through increased coordination and strategic alliances, secured public and/or private sector funding and sponsorship of teacher education workshops up to four times per year in different locales, possibly in conjunction with SfN regional chapter meetings.
- Coordinate committee support for expanded public information and general education activities.
- Prepare a multi-year action plan to develop a Neuroscience Information Center or clearinghouse to provide accessible up-to-date teaching and educational program resources designed for K-12 students.
- Explore the feasibility of developing fixed or traveling exhibits to present neuroscience information and discoveries to the public.

Finally, the Public Affairs and Advocacy Activities Working Group will be charged with continuing the Society's sustained

and effective advocacy activities in support of basic biomedical research in general and neuroscience research in particular. The group will work to enhance SfN's public affairs role and effectiveness through supportive strategic relationships and collaborative initiatives with other organizations and societies, as well as ensure improved coordination of SfN committee activities and stronger membership support for advocacy efforts. In addition, the Group will identify ways to strengthen the Society's ability to inform policy makers about the value of new scientific knowledge, the implications of the latest basic and applied research and the importance of government support for continued scientific progress. The Group will focus on looking at how SfN interacts with such key stakeholders as members of Congress and congressional staffs, Administration officials responsible for science policy, officials of the National Institutes of Health, news media representatives, representatives of other scientific societies and patient advocacy groups. ■

See you in

New Orleans!

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NSF Funds Wide Range of Basic Neuroscience Research

by Lawrence Parsons,
Program Director, Cognitive Neuroscience Program, NSF

Innovative research funded by the National Science Foundation will provide new knowledge to advance our basic understanding of the processes involved in brain and nervous system diseases. New and ongoing investigations that shed light on the molecular, cellular, genetic, computational and behavioral mechanisms that govern the functioning of neural systems can, in the long run, enhance quality of life for the millions affected by these disorders.

Funding innovative research is a challenging prospect. The funding landscape has been affected by today's cost-conscious and competitive attitudes. Some people may think that traditional funding streams, long available to support biomedical and scientific research, may no longer be enough. But has funding for neuroscience research decreased?

The perception of whether the funding for neuroscience research is increasing or decreasing depends largely on one's definition of the field. If people are looking at a narrowly defined subfield, they may perceive funding as declining; however, if others look at neuroscience as a broadly defined area of investigation that includes collaborative efforts across disciplines, they may see funding as increasing.

NSF holds the latter view. The problems at the forefront of neuroscience research increasingly yield to cross-disciplinary approaches, and this can make it more difficult to tease apart how much funding is devoted to neuroscience.

"The perception of whether the funding for neuroscience research is increasing or decreasing depends largely on one's definition of the field. If people are looking at a narrowly defined subfield, they may perceive funding as declining; however, if others look at neuroscience as a broadly defined area of investigation that includes collaborative efforts across disciplines, they may see funding as increasing."

Neuroscientists should consider NSF when looking for funding opportunities. NSF programs in the biological sciences, behavioral and cognitive sciences, computer science, engineering, mathematical and physical sciences and education offer a variety of opportunities for innovative research ideas, including support for cross-disciplinary collaborative work and high-risk approaches with potential for high impact.



Lawrence Parsons

NSF continues to support research on a variety of biological questions about nervous system structure, function and development, often with cross-disciplinary approaches. Many NSF projects exploit unconventional species with unique specializations to study such topics as axonal pathfinding, glial cell functions, adult neuroplasticity, mathematical modeling of oscillating systems, neuroendocrine modulation of social behavior, sensory ecology, evolution of nervous systems and cellular mechanisms of learning. Exceptional multidisciplinary research and training also has been made possible by large NSF Science & Technology Centers awards to the Center for Biological Timing at the University of Virginia and the Center for Behavioral Neuroscience at Emory University.

Newer areas of support enable researchers in computational science and engineering, education and cognitive science to interact with other scientists. Recent new program areas include cognitive neuroscience, collaborative research in computational neuroscience, research on learning and education and science of learning centers. Such interactions also are enhanced in some of NSF's existing engineering research centers such as the Caltech Center for Neuromorphic Systems Engineering.

NSF's cognitive neuroscience program is focused on hypotheses about the human brain. To study patients, healthy subjects and non-human primates across development, projects in this program integrate a wide array of techniques such as high spatial/temporal resolution functional and anatomical imaging, transcranial magnetic stimulation, intra-operative and deep brain stimulation, physiological measures, biophysically realistic computational modeling and psychophysical experiments. Recent projects include imaging neural plasticity in bilateral hand transplantation, hormonal variation in cognitive-affective processing, evolutionary precursors to written language and development of emotional regulation. Method development projects include perfusion fMRI, diffusion tensor imaging and 'vertical integration' models linking cell membrane, neural populations, pathways and functional systems. Non-imaging projects include the neuropsychological effects of poverty, ethical implications of advanced applications of cognitive neuroscience and monkey neurophysiological tests of stochastic computational

models of executive control in humans. The program is seeking new projects, not necessarily related to those just described.

A joint program supported by NSF and NIH supports collaborative research in computational neuroscience, uniting computer science and engineering perspectives with computational analysis of how the nervous system executes complex computational tasks. Funded projects have ranged from invertebrate systems to humans, from adaptive mechanisms at the molecular level to analyses of visual and spatial cognition. Each has integrated computational tools and theory into empirically testable areas of biological investigation.

The research on learning and education program has brought neuroscience perspectives into the study of educationally relevant aspects of learning. Through this program, projects on mathematical cognition, development of spatial skills and imitation learning have been funded by NSF's education directorate.

New in 2003, the science of learning centers build on advances in learning research across the sciences, including biological, psychological, computational, educational and other approaches. Support for up to 10 years at a scale of \$3-5 million per year is available for centers that will advance the frontiers of learning research, connect to educational and other societal needs and build collaborative research communities in this area. Smaller catalyst awards also will be available for preliminary collaborative work leading to establishment of a full-scale center.

Across all of these programs, NSF emphasizes intellectual creativity and innovation, training and career development, opportunities for new investigators and researchers who are new to neuroscience and the integration of research and education. In addition, NSF emphasizes opportunities for women, minorities, people with disabilities and other under-represented groups in science and engineering. Support ranges from large-scale centers to standard grants, workshops, graduate training grants and study abroad, graduate teaching in K-12 classrooms, dissertations, early career development and training and research opportunities for undergraduates and faculty at non-PhD-granting institutions.

Further information about funding and respective program directors can be found at www.nsf.gov. ■

This article includes information from Christopher Platt, director of the computational neuroscience program, integrative biology and neuroscience directorate, and Kenneth Whang, director of collaborative research on learning technologies program, computer information sciences and engineering directorate.

SfN Election Process Goes Electronic

Due to changes in the SfN bylaws revision, the Call for Nominations and Election will be held electronically. You will be receiving additional information via an e-mail bulletin in early February.

NEUROSCIENCE

Q U A R T E R L Y

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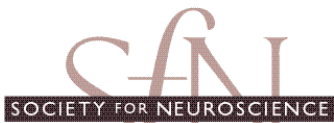
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