Biophysical Society NEWSLETTER

November/December 2001

In This Issue

President's Message

Mary Dicky Barkley

On behalf of the Biophysical Society, we offer our sympathy and condolences to the friends and families of all those affected by the events of September 11. We greatly appreciate the expressions of sympathy and support received from Society members and scientific organizations throughout the world. It is through international exchanges, such as scientific collaboration and cooperation, that we build bridges to support lasting peace. Thus, it is fitting and important that we continue to come together as we do every year at our national meeting, this time in the beautiful city of San Francisco. The Program Committee, coordinated by *Meredith Bond*, has prepared an exciting meeting that covers the broad spectrum of interests of the Society. We hope to see all of you there.

Our National Lecturer at the upcoming Annual Meeting, *Watt Webb*, has been at the forefront of developing physical techniques for use in the biosciences. As *Ken Dill* forcefully argued in his *Strengthening the Foundations* article, we must keep a steady stream of advances flowing from the physical sciences to the life sciences if the spectacular progress in biotechnology and medicine is to continue. As biophysicists, we can make significant contributions toward this effort. One contribution is to help educate the next generation of physicists in the wonders of biophysics, beginning at the undergraduate level. Although some of our colleagues are in physics departments, many physics departments, particularly at predominately undergraduate institutions, but even at graduate institutions, do not have a biophysics course in the undergraduate curriculum. One initiative of the Education Subcommittee of the Careers Development Committee of the Biophysical Society is to generate course materials in biophysics suitable for undergraduate physics students. I hope we can all participate in a larger way by becoming active on the local level and offering our assistance to our physics colleagues in this vital endeavor. ▬

Biophysical Society 46th Annual Meeting
February 23-27, 2002—San Francisco, California

Preregistration Deadline: December 7, 2001

Updates: http://www.biophysics.org/annmtg/

2001 Biophysical Society Members

The following members renewed their membership or joined after the publication of the *2001 Directory of Members.*

George J. Baldo ◆ Peter R. Bergethon ◆ Inna I. Gorshkova ◆ Carla W. Gray ◆ Neil L. Harrison ◆ Robert M. Henderson ◆ Tibor Hianik ◆ Jonathon Howard ◆ Joerg Hueser ◆ Istvan Jona ◆ Tapan Kumar Khan ◆ Stephen B. Knisley ◆ Arcadius V. Krivoshein ◆ Matthew A. Kubasik ◆ Maria Cristina Monziani ◆ Frances L. Moody-Corbett ◆ Gina Marie Perez ◆ Muthukrisna Renganathan ◆ Venkatesan Renugopalakrishnan ◆ Kenneth James Rhodes ◆ Wipa Suginta ◆ Carlota M. Sumbilla ◆ Mehmet Toner.

Biophysical Society

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2002 Society Fellows

The following is a complete list of 2002 Society Fellows. Six awardees were mistakenly omitted from the July/August Newsletter. *William A. Eaton, Terrell L. Hill, Joseph Hoffman, W. Jonathan Lederer, John L. Markley,* and *Peter H. von Hippel* were not included. The photos of *Joachim Frank* and *Robert Gennis* were also switched, and not listed under their correct names.

David DeRosier
Brandeis University
For major contributions to structural, molecular and cell biology. In particular for pioneering development of image analysis methods for electron microscopy, and for applications of these methods to understand cellular motility mechanisms.

Ken A. Dill
University of California, San Francisco
For studies in protein structure, in particular for the use of lattice models to provide insight into the energetics and kinetics of protein folding.

William A. Eaton
LCP, NIH
For landmark research on the molecular pathophysiology of sickle cell disease and the dynamics and function of proteins, and for experimental and conceptual contributions to the new view of understanding the mechanism of protein folding from studies of fast kinetics using pulsed lasers and simple statistical mechanical models .

Joachim Frank
Howard Hughes Medical Institute
For the development of electron microscopy methods, particularly those related to image reconstruction, and for applications of these to the structure of the ribosome.

Hans Frauenfelder
Los Alamos National Laboratory
For significant contributions to our understanding of macromolecular structure and dynamics.

Robert Gennis
University of Illinois, Urbana
For work in bacterial bioenergetics, pioneering the combination of state of the art molecular genetics and physical chemical tools to dissect complex events in membranes that defy exploration by standard high-resolution structural methods.

Wayne Hendrickson
Columbia University
For contributions of numerous three-dimensional macromolecular structures to the scientific literature and innovations in x-ray crystallography.

Terrell L. Hill
Emeritus Member
For research in theoretical biophysics.

Joseph Hoffman
Yale University
School of Medicine
For investigation of cellular mechanisms and functions of ion transport.

H. Ronald Kaback
University of California,
Los Angeles
For pioneering biochemical and biophysical approaches to the study of active transport and for seminal contributions in the field of bioenergetics.

Irwin D. Kuntz
University of California,
San Francisco
For contributions to computational modeling in biology and chemistry, particularly the development of algorithms that search for optimal ligands to bind to target macromolecules.

W. Jonathan Lederer
University of Maryland
For work that has revolutionized the understanding of calcium signaling in the heart and other excitable cells.

John L. Markley
University of Wisconsin
For seminal work in the study of structure, dynamics, and function of proteins by nuclear magnetic resonance.

John A. Schellman
University of Oregon
For the development of theoretical methods for studying biological macromolecules, ranging from theories of helix-coil transitions in polypeptides and the energetics of protein folding to the statistical mechanics of nucleic acids.

Ignacio Tinoco, Jr.
University of California,
Berkeley
For seminal work in the RNA structure and the thermodynamics and kinetics of RNA folding.

Peter H. von Hippel
University of Oregon
For contributions to molecular biophysics through studies on protein-nucleic acid interactions, understanding of the specificity and dynamics of the binding of transcriptional regulatory proteins to DNA genomes, assembly, function, and regulation of the macromolecular machinery of DNA replication and RNA transcription.

Stephen H. White
University of California,
Irvine, School of Medicine
For important contributions to our understanding of biological membranes through work encompassing both structural and thermodynamic aspects of lipid bilayers.

Clare K. Woodward
Utah State University
For her research on protein folding and stability, particularly her pioneering work in the use of hydrogen exchange to study protein folding and dynamics.

Bruno H. Zimm
University of California,
San Diego
For studies in molecular biophysics, particularly for contributions in the areas of macromolecular structure, light scattering, gel electrophoresis and other transport properties.

Secretary's Message

Jill Trewhella

Science and Technology in Service to the Nation

The events of September 11 are one of those defining moments in our lives that will live vividly in our personal memories. As so many of us watched the collapse of the World Trade Center towers, we had not yet begun to take in how the fabric of our lives would be changed in such fundamental ways. The subsequent incidents involving anthrax delivered in the mail has amplified these effects many fold. The impact on our critical infrastructures — the economy, mail service, health systems, government functions — have been profound, and we are learning to deal with them.

Here at Los Alamos, our national security mission is suddenly foremost in everyone's thinking every day. Throughout the National Nuclear Security Administration, that part of the DOE responsible for the defense laboratories, many have been deployed on special projects responding to requests from various agencies for technical support. The opportunity to see our science and technology in service to the nation at this time is an inspiration to many of us. Science and technology have for a long time played a dominant role in the US defense strategy, and as Americans realize the new vulnerabilities of our new world, we all will bring the best that science and technology has to offer to protect our homeland.

For more than a decade, scientists at Los Alamos have been quietly developing molecular tools to identify pathogens in complex environmental samples. A team of scientists at Los Alamos and Northern Arizona University (NAU) pioneered this work. It started in the early 1990s because we were asked to analyze some tissue samples from the victims of the 1979 "Sverdlosk incident" in which 68 residents of the Former Soviet Union died of anthrax. This tragedy occurred downwind of a major Soviet biological weapons facility. A mistake in procedures left a filter misplaced and an unspecified amount of weaponized *Bacillus anthracis* was accidentally released causing this unprecedented human tragedy. The science challenge was to amplify DNA specific to *B. anthracis* and then to identify the strain of *B. anthracis* that infected the victims. In what is now a classic paper in the Proceedings of the National Academy of Sciences (Jackson et al., 1998) it was shown that four distinct strains of *B. anthracis* were present. Further work since 1998 has led to two more strains being identified in these samples. All natural outbreaks of anthrax are characterized by being caused by a single strain. This work provided critical insights into the sophistication of the biological weapons program in the former Soviet Union, which we know today involved tens of thousands of personnel and multiple institutes and has been described in some detail by the Soviet defector *Ken Alibeck*.

Since the Sverdlosk analysis, the work has expanded to include characterization and genotyping of a large number of *bacilli*, including but not limited to, *anthracis*. The genotyping that has been done to date, using AFLP (Amplified Fragment Length Polymorphism) and MLVA (Multiple Locus Variable number tandem repeat Analysis), has shown the phylogenetic relationships previously determined by studying the physiology of these microbes leads to significant errors. The new molecular based phylogenetic relationships have proven very powerful and important in their practical applications for understanding the factors involved in pathogenesis and for developing robust signatures for species and strain identification. Molecular epidemiology has been developed for microbes such that it is possible to do "geo-location" — that is to map the global distribution of different strains of organisms and in some cases to use that map to determine the origin of a microbe. The Los Alamos/NAU group showed how this works when they analyzed samples from an outbreak of anthrax in central Australia in the mid 1990s and matched it to a strain from a region of India. Trading records showed that cattle had been imported from that region in the 1850s and the infected carcasses were buried. When they were disturbed 150 years later, the *B. anthracis* spores were ready to infect new hosts.

The technology developed by the LANL/NAU group has been made available to the CDC, law enforcement, and other national laboratories and has the potential to provide important information with respect to current events. It is one compelling example, among many, of how research in the defense laboratories can provide unique capabilities for unanticipated applications in support of our mission to make the world a better and a safer place. ▬

International Affairs

International Opportunities

John E. Fogarty Fellowship

John E. Fogarty JSPS Short-term Fellowships (7 to 60 days) for Biomedical and Behavioral Research in Japan

Eligibility

- Citizenship or permanent U.S. residency.
- Qualified scientist engaged in biomedical or behavioral science research (PhD, MD or other doctoral degree, including PhD and MD candidates who can demonstrate that their collaboration with Japanese colleagues holds exceptional professional promise).
- Research plans arranged in advance with her/his Japanese host

Stipend

- Stipend of 16,000 Yen per day
- Domestic research-related travel allowance of 150,000 Yen (approximately US $1400).
- Accident and sickness insurance coverage for the Fellow only while in Japan
- Round trip airfare for fellowship recipient only.

Program Summary

Through arrangements made with the Fogarty International Center (FIC) of the National Institutes of Health (NIH), the Japan Society for the Promotion of Science (JSPS) will award up to 20 short-term fellowships for American researchers in the biomedical and behavioral sciences to pursue collaborative research in Japan for periods ranging from seven to sixty days during the Japanese fiscal year (April 1- March 31 of each year). These fellowships are intended to enhance American-Japanese collaboration in biomedical and behavioral research by providing flexible opportunities for capable American scientists to work with colleagues in leading Japanese laboratories on substantive projects of mutual interest. Although intended primarily for more senior researchers, doctoral candidates and post-doctoral level researchers may also apply.

Applicants who wish to continue their research period beyond 60 days are advised to apply simultaneously for another fellowship, such as the JSPS Invitation Program for Senior Researchers, to start immediately upon completion of their JSPS Short-Term Fellowship for Biomedical and behavioral Research in Japan.

Application Procedures

The required application materials are listed below:

- Curriculum vitae
- Brief description on applicant's current research or other professional activities
- Brief description of applicant's proposed collaborative research
- Letter of support from the director of applicant's proposed host laboratory
- Letter of reference from applicant's supervisor
- Optional: Applicants who believe that additional letters of reference are necessary to provide an objective picture of their professional or personal qualifications may request that up to two additional letters be submitted.
- Brief description of any prior experience living in Japan, using Japanese or working with Japanese scientists
- A very brief indication of how the applicant learned about this program
- Proposed flight to/from Japan

Applications should be sent to the following address:

Division of International Training and Research
Attn: JSPS Fellowship Program
Fogarty International Center
National Institutes of Health
Building 31, Room B2C39
31 Center Drive - MSC 2220
Bethesda, Maryland 20892-2220
E-mail: jsps@nih.gov

For further information, more complete information about application evaluation, students are referred to the web site at: http://www.nih.gov/fic/programs/ jspsshort.html or program information packet available in 1252 Murphy Hall.

AAUW Fellowships

American Association for University Women Education Foundation offers international fellowships for graduate or post-graduate women who are not U.S. citizens.

(Committees, continued on page 6.)

(Committees, continued from page 5.)

Doctorate Fellowship: $20,000
Postdoctoral Fellowship: $30,000
Deadline: Dec 15, 2001
Phone: 319-337-1716 ext. 60
info@aauw.org
http://www.aauw.org/3000/fdnfelgra/internat.html

NSF Fellowships

The objective of the NSF International Research Fellowship Program (IRFP) is to introduce scientists and engineers in the early stages of their careers to research opportunities abroad as a means of fostering mutually beneficial relationships between U.S. and foreign science and engineering communities. Applications may be for research in any country in the world, although travel restrictions by the State Department to certain countries may impose an additional level of review.

Appropriate host sites are foreign science and engineering centers in all geographical regions. This includes institutions of higher education, industrial research institutes/laboratories, government research institutes/laboratories/centers, nonprofit research organizations, and foreign sites or centers of excellence. The actual host should be the person that the postdoctoral researcher will be collaborating with abroad. No counterpart proposal is required by the host. A letter of invitation from the host describing the proposed interaction between the applicant's research and the ongoing research efforts at the foreign site is part of the proposal.

Awardees are expected to work full time on their research projects. Support is not provided for teaching, writing textbooks, preparation of prior research results for publication, or similar activities. The average award is about $60,000. Award decisions will be announced in March of 2002. Paperwork will be processed no earlier than April 1, 2002, the earliest possible starting award date.

Eligibility

Applicants must be citizens or permanent residents of the United States and must have earned a doctoral degree within six years before the date of application or expect to receive the doctoral degree by the award date. Women, minorities, and persons with disabilities are strongly encouraged to apply. These postdoctoral fellowships are available in any field of science and engineering research or education supported by NSF. Proposals for research in the clinical-medical or disease-related fields are not eligible for support from NSF. However, research in bioengineering with diagnosis or treatment-related goals that applies engineering principles to problems in biology and medicine while advancing engineering knowledge is eligible for support. Bioengineering research to aid persons with disabilities is also eligible.

For application and additional information contact:

Susan Parris, International Research Fellowship Program
Division of International Programs, Room 935
National Science Foundation
Arlington, VA 22230
Phone: (703) 292-7225
E-mail: sparris@nsf.gov
http://www.nsf.gov/cgi-bin/getpub?nsf01135

– *Ligia Toro*, Chair

International Meeting

Febs Special Meeting 2003
Brussels, Belgium
July 4–8, 2003

Signal Transduction: From Membrane to Gene Expression from Structure to Disease

Organizer: *J. E. Dumont*
Contact information:
cleclerc@ulb.ac.be

Education

Norma Allewell, winner of the Emily M. Gray Education Award, will speak about Molecular Machines at the Student Symposium on Sunday, February 24.

Allewell, who recently became Dean of the College of Life Sciences at the University of Maryland, College Park, after moving from Harvard University where she was the Associate Vice-President for Sponsored Programs and Technology Transfer, has won the Emily M. Gray Award for her contributions to biophysics education. Allewell has been involved in determining the structural changes that occur when ligands bind to multisubunit proteins. Her work has focused on *E. coli*. asparate transcarbamylase

and the homologous human protein, ornithine transcarbamylase (OTCD). Mutations in OTCD led to elevated ammonia levels in blood and subsequent neurological damage.

The Student Symposium is open to all meeting attendees and undergraduates in the San Francisco area. All undergraduate attendees will receive a one-year complimentary membership in the Biophysical Society.

The Education Committee will also host a workshop on obtaining grants to support undergraduate education. The workshop will be led by *Terry Woodin* from the National Science Foundation and will begin with a short talk about the types of funds available, followed by a grant writing workshop to help people think about how they write education related proposals. ■

– *Suzanne Scarlata*, Chair

Minority Affairs

Plans are underway for the upcoming meeting in San Francisco. We are most excited about the growing involvement of young scientists in the Society through the support of the MARC awards. In the past, we have met the MARC attendees at a breakfast held on Sunday morning. The breakfast was very successful in providing these young attendees with an opportunity to meet other young people as well as members of the Society interested in mentoring them. The mentoring aspect is important because many of the students come from small institutions without the support of older students, postdoctoral fellows or faculty. The problem with the breakfast has been the timing: too much is happening on Sunday morning to provide us with the time we need for this important meeting. This year we plan a dinner on Saturday evening for the MARC awardees where they will also join the student travel grant awardees. Members of both the MAC and the Education Committee will attend a before-dinner roundtable discussion. Other members of the Society are invited to participate as well, and we particularly encourage members of Council to join us. Following dinner, students will have the opportunity to socialize throughout the evening.

Summer Research Opportunities

Last year, Princeton University and the University of Maryland, Baltimore County, sent representatives to the meeting to talk with minority students about research opportunities. As the number of talented minority students in the Biophysical Society grows, we expect more institutions to follow suit. The MAC is working with the Society to expand the Placement Service to provide opportunities for minority students to learn about and interview for summer research opportunities. If you have a program at your institution or if you are interested in sponsoring a student for summer research, please register with the Placement Service through the Society web site.

> **"If you have a program at your institution or if you are interested in sponsoring a student for summer research, please register with the Placement Service through the Society web site."**

Our committee has also been working with the National Society of Black Physicists (NSBP) and the Society for the Advancement of Chicanos and Native Americans in Science (SAC-

(Committees, continued on page 8.)

Diversity Wanted!

The Biophysical Society is looking for interested undergraduates who are members of recognized minority groups (African-American, Puerto Rican, Mexican-American, Native American, Native Hawaiian, South Sea Islander) who would like to spend a summer doing research in biophysics. We recognize that the wider the ethnic participation in biophysics, the broader and healthier the discipline will become.

Biophysics is a fundamental discipline that intertwines molecular biology, biochemistry, physics, microbiology and medicine. It studies the interaction of important molecules in the cell, often elucidating basic mechanisms important in physiology and disease. No disease is fully understood until the biophysical activities are understood.

If you would be interested in a paid summer experience in a biophysical laboratory, visit http://www.biophysics.org/placement/

(Committees, continued from page 7.)

NAS) to develop topics in biophysics for their annual meetings. NSBP reaches many African-American undergraduate physics majors who have little or no access to courses in biophysics but who have the interest and potential to pursue advanced degrees in biophysics. Similarly, SACNAS reaches another pool of minority science students and *Paul Adams*, a member of MAC, recently attended their annual meeting. His report follows.

We look forward with excitement to the annual meeting because our interactions with the MARC awardees is so rewarding. I encourage anyone with ideas about expanding the involvement of minority scientists in the Biophysical Society and anyone interested in mentoring these talented young biophysicists to join the MAC.

— *Jackie Tanaka*, Chair

Call for Awards Nominations

The Awards Committee is actively soliciting nominations for the Society's awards as well as for designation as a Biophysical Society Fellow. Having outstanding awardees is an important way to strengthen and bring honor to our Society. There have been some difficulties in obtaining a sufficient number of nominations for all of our awards over the past few years, so we encourage each Society member to participate. Information about awards, including nomination forms, is available on the web at http://www.biophysics.org/awards/

–*Walter J. Chazin*, Chair

SACNAS Meeting Report

Paul Adams

I recently attended the national conference for the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) in Phoenix, Arizona. SACNAS is composed of 4000 members, undergraduate students, graduate students, postdoctoral researchers, junior and senior faculty in all branches of science, as well as, K-12 teachers. The activities of the society focus on promoting interaction among students of various ethnic backgrounds, with them sharing ideas and experiences as minority students. The mission of the society is to encourage these students to pursue their education to the highest level: graduate school, medical school, etc. The society is an excellent venue for providing strong leadership for those interested in math and science education, as well as introducing and cultivating opportunities for minorities in the science industry and academia. These opportunities include conferences, teacher workshops, summer research opportunities, mentoring programs, and internship/job placement resources.

As an attendee of the four-day conference, I was able to interact with students, mostly at the junior and senior level, and learn about their scientific research and their ambitions in science. These interactions were initiated by informal discussions between students and scientists at every stage of professional science including postdoctoral researchers, junior and senior faculty, and industry representatives. I was also able to participate as a judge for the student poster presentations in the area of biomedical sciences. This gave me the chance to talk to students personally, especially those with presentations relevant to biophysics, about the positive experiences and attributes of membership in the Biophysical Society. I distributed information about the upcoming meeting in San Francisco and encouraged students to apply for the MARC travel awards that are available to help them attend.

I also interacted with representatives of other scientific societies who were exhibitors. We exchanged ideas about how to better recruit students and other young scientists to our respective organizations. One particularly interesting idea came from the American Society for Pharmacology and Experimental Therapeutics (ASPET). This organization of about 5000 members offers free student membership as a way of recruiting students. Since the introduction of the waiver for students, enrollment of students to ASPET has grown from less than 1% to 10%. Another society, the Endocrine Society, offers a short course at minority institutions as a way of exposing their area of science to students. Hopefully, at the next SACNAS meeting, two scientists from the MAC Committee can attend and interact with even more students. With all of the other activities at the SACNAS meetings, there is not enough time in the day for one person to talk to everyone with whom they wish.

This conference provided me with an excellent opportunity to speak with minority students and other minority scientists to let them know that in the Biophysical Society, we

have unique opportunities to offer them in the area of biophysics. I hope that we can continue to attend meetings such as these to further promote the activities and benefits of Biophysical Society membership. ⊣

— *Paul D. Adams*
Cornell University

Early Careers

Additional discussion among the members of the Society's postdoctoral steering committee has focused on the need for a committee not just for postdoctoral members, but for all members in the early stages of their scientific careers, from graduate school through the first few years as an independent scientist. As a result, in cooperation with other Society committees, the postdoctoral steering committee has formed into the Early Careers Committee (EC). Our objectives are twofold:

1) To increase the participation of early-career biophysicists in the workings of the Society.
2) To help direct the Society's career development efforts for younger scientists.

In consideration of these aims, we are organizing two sessions at the 2002 Annual Meeting in San Francisco: an early careers breakfast will be held on Tuesday morning, February 26. We will discuss the organization of the Early Careers Committee, the accomplishments of the committee over the past year, and plans for the future. Particular attention will be paid to suggestions for the 2003 Annual Meeting (including ideas for scientific sessions, participation in the abstract sort and poster contest judging, and planning career development sessions), and for articles in the

(Committees, continued on page 10.)

Early Career Opportunities

Call for Proposals

Call to doctoral students or recent Ph.D. recipients interested in participating in a book on doctoral students' relationships with their faculty advisors being produced by *Elena Klaw*, PhD. Assistant Professor, San Jose State University.

Participants are invited to share specific experiences that relate to the role of the advisor on the nature and course of a doctoral student's graduate career. Of particular interest: the influence of such characteristics as gender, race, class, culture, sexual orientation, age, and student ability on the advisor-advisee relationship.

If interested in contributing to this book project, send a first-person narrative proposal to Elena Klaw, Ph.D. at eklaw1@email.sjsu.edu

For demographic purposes, you may include the following information at the bottom of your proposal: discipline of study, status of graduate study (year in grad school or year of Ph.D. completion), current job title, gender, ethnic identification,age, and identification with any minority group.

The submission of proposals and narratives implies consent to participate in the project and acknowledges direct attribution to you in the book. Please conceal names of all institutions and individuals mentioned in the submissions and indicate if use of a pseudonym is preferred.

Internships

The National Academies of Sciences is accepting applications for the 2002 sessions of the Christine Mirzayan Internship Program. The program is designed to engage graduate and postdoctoral students in science and technology policy. The stipend for the first 12-week program beginning January 14 is $5,600. The 10-week June stipend is $4,700; in addition, there is a $500 travel allowance. For more information, visit http://www.nationalacademies.org/internship.

Fellowships

The Pharmacology Research Associate (PRAT) Program of the NIGMS is sponsoring postdoctoral fellows interested in conducting research at the NIH in the pharmacological sciences. This can include research in the areas of signal transduction, drug metabolism, immunopharmacology, chemistry and drug design, structural biology, endocrinology, neuroscience, and clinical pharmacology, among other areas. Potential fellows receive a two-year appointment, salary, supplies and travel funds from the NIGMS to support research in the preceptors's laboratories. Applications are due on or before January 3, 2002 for fellowships starting in October of that year. Only U.S. citizens or permanent residents are eligible. Contact the PRAT Program Assistant at (301) 594-3583 or prat@nigms.nih.gov to request a PRAT Fact Sheet.

(Committees, continued from page 9.)

Society's newsletter. Postdoctoral and other early-career members who are interested in taking an active role in planning and organizing early-careers-related events will be invited to join the EC Committee.

- A panel discussion will be held on Sunday evening (5:00–7:00 PM), February 24. The topic of discussion is *Elements of an Effective Postdoctoral Experience.* The four panelists cover some of the more common career paths for biophysicists: academic teaching/research, industry research, institute-based research, and patent law. While each has a well-established independence, all are still early in their careers (4-7 years from the end of their training). The discussion will focus on the choices each of the panelists made when selecting a postdoctoral and graduate advisor, research project, and so forth, and how those choices have had impact on their current position. Audience participation is encouraged!

In addition, we received 106 replies to our survey of the international movements of our postdoctoral members; 29 countries were represented in the survey responses. ***Maurits de Planque*** will present a detailed discussion of the survey results in the next Society newsletter.

We hope all early-career biophysicists attending the 2002 Annual Meeting will find room in their schedules for the breakfast and panel career discussion. See you in San Francisco!

– *Patricia L. Clark*
Chair

Member in the News

Biophysical Society member, *Gregory A. Petsko,* was among the sixty scientists and public-health officials elected recently to the Institute of Medicine (IOM).

Petsko is the D.Phil., Gyula and Katica Tauber Professor of Biochemistry and Chemistry, and director, Rosenstiel Basic Medical Sciences Research Center, at Brandeis University.

2002
San Francisco, California
February 23–27

Biophysical Society Future Meetings

2003
San Antonio, Texas
March 1–5

2004
Baltimore, Maryland
February 14–18

2005
Long Beach, California
February 11–15

2006
Salt Lake City, Utah
February 18–22

2007
Baltimore, Maryland
March 2–6

2008
Long Beach, California
February 22–26

Subgroup Programs

All subgroup programs are scheduled for Saturday, February 23, from 1:00–5:00 PM except Bioenergetics, which will run from 9:00 AM–5:00 PM, and Molecular Biophysics, from 11:00 AM–4:00 PM.

Bioenergetics

As it has in recent years, the Bioenergetics Subgroup will host two symposia at the 2002 Annual Meeting. The morning symposium will highlight the exciting new insights that investigations are providing into the structure and modus operandi of a diverse group of intrinsic membrane proteins. Transporters include a symporter, which as a single protein catalyzes the coupled transport of lactose and protons with a 1:1 stoichiometry, and an ATP-binding cassette (ABC) transporter, which consists of a periplasmic maltose-binding protein and an ATP hydrolyzing pentameric transporter complex. In channels, topics include a glycerol-conducting channel, which as a single protein of two gene-duplicated segments, each with three-and-one-half membrane-spanning helices, excludes ions and water, and a potassium channel, whose new and very high resolution structure of four identical subunits defines a selectivity filter that excludes the smaller Na^+ ions. In addition, *Milton Saier*, University of California, San Diego, will describe how bioinformatic approaches can lead to better understanding of the evolution of transport systems.

The afternoon symposium will bring together some of the key researchers seeking to understand how mitochondria take up Ca^{2+} during physiological calcium signals and how mitochondrial Ca^{2+} uptake is utilized in the control of mitochondrial ATP production. The talks will explore the current status and future directions in this increasingly important field. Topics will include feedback effects exerted by mitochondrial Ca^{2+} handling on cytosolic calcium signaling and the role of mitochondrial calcium signals in mechanisms of cell death (apoptotic and necrotic).

Morning Symposium
Structure, Function, and Evolution of Channels and Transporters
Hartmut Wohlrab
Boston Biomedical Research Institute
Bridgette Barry
University of Minnesota, Co-chairs

FT-IR Spectroscopic Studies of A Symporter, the Lactose Permease,
Bridgette Barry
University of Minnesota

Trapping the Transition State of an ABC Transporter: Evidence for a Concerted Mechanism of Action
Amy Davidson
Baylor College of Medicine

Structure of a Glycerol–conducting Channel and the Basis for its Selectivity
Robert Stroud
University of California, San Francisco

High Resolution Analysis of Conduction through Potassium Channels
Roderick MacKinnon
HHMI and Rockefeller University

Bioinformatic Approaches Leading to an Understanding of the Evolution of Transport Systems
Milton Saier
University of California, San Diego

Afternoon Symposium
Calcium Signaling and Mitochondria
Gyorgy Hajnoczky
Thomas Jefferson University, Chair

Propagation of Cytosolic Calcium Signals to the Mitochondria
Rosario Rizzuto
University of Ferrara

Interplay between Cytosolic and Mitochondrial Calcium Signaling
Andrew P. Thomas
UMDNJ

Switch between Life and Death Pathways of Mitochondrial Calcium Signaling
Gyorgy Hajnoczky
Thomas Jefferson University

Calcium Overload, Mitochondria and Cell Death
Michael R. Duchen
University of London

Calcium and Cell Death in the Liver
John J. Lemasters
University of North Carolina, Chapel Hill

Biological Fluorescence

I am happy to announce the speakers for the upcoming meeting of the Biological Fluorescence Subgroup which will be held Saturday, February 23 from 1:00 PM to 5:00 PM at the annual meeting of the Biophysical Society. I am particularly looking forward to this year's meeting since I was unable to attend last year's meeting in Boston. Everyone has told me, however, that the last Subgroup meeting,

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organized by *David Jameson*, was a great success and the only complaint was that the room assigned was too small to accommodate the audience estimated at more than 400! I will make every effort to secure a larger room for the upcoming subgroup meeting, which features exciting young investigators working in the areas of single molecules and microscopy. This program was specifically designed to highlight what I believe to be some of the most exciting new trends in fluorescence spectroscopy as applied to biological systems.

Our first speaker will be *Taekjip Ha* from the Physics Department at the University of Illinois Urbana-Champaign. Taekjip will tell us about his latest work in single molecule spectroscopy. Next, *Theodore Hazlett* from the Laboratory for Fluorescence Dynamics at UIUC will tell us about a novel approach to enzymology. We will then take a coffee break to digest this information (and if we are lucky to digest a few cookies as well) followed by a brief business meeting during which we will elect the next Subgroup Chair.

The first speaker of our second session will be *Fabio Beltram* from the Scuola Normale Superiore in Pisa, Italy. Fabio will tell us about his latest work in the GFP area. *Petra Schwille* from the Experimental Biophysics Group of the Max-Planck Institute for Biophysical Chemistry in Göttingen, Germany, will then lead us into the field of fluorescence correlation spectroscopy. The final talk in our subgroup session will be given by *Paul Wiseman* from the Department of Chemistry and Physics of McGill University in Montreal. Paul will describe recent work in more complex biological systems. I will then close the session, and if the meeting was being held in Urbana-Champaign I would invite the entire Subgroup over to my home for dinner - but instead I will say "Ciao" and wish everyone Buon Appetito as they go out to enjoy the famous cuisine that San Francisco offers.

1:00 PM–1:15 PM
Introduction and Announcements
Enrico Gratton
University of Illinois, Urbana-Champaign

1:15 PM–1:50 PM
Single is Good, but a Couple is Better
Taekjip Ha
University of Illinois, Urbana-Champaign

1:50 PM–2:25 PM
A Two-Photon View of an Enzyme at Work: PLA2 Interactions with Giant Unilamellar Vesicles
Theodore Hazlett
Laboratory of Fluorescence Dynamics

2:25 PM–2:55 PM
Coffee Break

2:55 PM–3:10 PM
Subgroup Business Meeting/ Elections

3:10 PM–3:45 PM
Engineering Single Green Fluorescent Proteins for Molecular Devices and Biology
Fabio Beltram
Scuole Normale, Pisa, Italy

3:45 PM–4:20 PM
Single Molecules in Microstructured Environments: New Challenges for FCS
Petra Schwille
Experimental Biophysics Group, Max-Planck Institute for Biophysical Chemistry, Göttingen, Germany

4:20 PM–4:55 PM
Cell Biological and Neurobiological Applications of Single-Photon and Two-Photon Image Correlation Spectroscopy
Paul W. Wiseman
McGill University, Montreal, Canada

4:55 PM–5:00 PM
Closing Comments, *Enrico Gratton*, University of Illinois, Urbana-Champaign

– *Enrico Gratton*
University of Illinois, Urbana

Membrane Biophysics

2002 Symposium
Bob French, University of Calgary, is organizing the Membrane Biophysics Subgroup symposium for the Society annual meeting in San Francisco, in 2002. The session, entitled *Molecular Motions Underlying Ion Channel Gating*, will be a multi-format event with an interactive discussion on current issues in voltage-dependent channel gating initiated by provocateurs *Francisco Bezanilla*, *Richard Horn*, and *Gary Yellen*, and carried on with discussants *Ehud Isacoff*, *Peter Larsson*, and *Kenton Swartz*, as well as the audience. Come and join in!

There will also be presentations of recent work by *Eric Gouaux*, *Zhe Lu*, and *Peter Tieleman.*

Cole Award Dinner
The Cole Award Dinner will be at 7:00 PM, Saturday, February 23, venue to be announced. If you would like additional information, or to purchase tickets ($45.00 each), please contact *Bill Wonderlin* (wonder@wvu.edu).

Nominations for the K.S. Cole Award
The subgroup welcomes nominations for the K.S. Cole award. The deadline for nominations is November 1, 2001. If you would like to nominate a candidate for the K.S. Cole Award, please send the nomination to a member of the Advisory Committee: *Bob French*, University of Calgary

Bill Wonderlin, West Virginia University

Barbara Ehrlich, Yale University

Lynne Quarmby, Simon Fraser University

David Dawson, Oregon Health Sciences University

Sarah Garber, FUHS / The Chicago Medical School

Membrane Structure & Assembly

Membrane Protein Folding and Function, *Paul Axelsen*
University of Pennsylvania, Chair

Rhodopsin Structural Stabilization Studies, Arlene Albert
University of Connecticut

Stable Membrane Proteins for Structure Determination
James U. Bowie, UCLA

How Membrane Lipid Interactions Regulate the Activity of Cytidylyltransferase
Rosemary Cornell
Simon Fraser University

Lipids as Conformational and Topological Determinants of Membrane Protein Structure
William Dowhan
University of Texas, Houston

Chemical Principles of Membrane Protein Folding and Stability
Don Engelman
Yale University

Energetics, Stability, and Prediction of Transmembrane Helices, Sajith Jayasinghe
University of California, Irvine

Membrane–mediated Amyloidogenesis
Vishwanath Koppaka
University of Pennsylvania

Folding and Misfolding of Diacylglycerol Kinase
Charles Sanders
Case Western Reserve University

Membrane Protein Folding–What's the Problem?
Lukas Tamm, University of Virginia

Promiscuity and Specificity in the Folding of Beta-Sheets in Membranes
William C. Wimley
Tulane University

Molecular Biophysics

Unraveling the Coupled Equilibria in Regulation of Transcription Initiation
Dorothy Beckett, University of Maryland College Park, Chair

Promoter Clearance in Transcription: Watching RNA Polymerase Step Away from the Start Site, Craig Martin
University of Massachussetts

Transcriptional Control by Nuclear Receptors: Old and New Fluorescence Approaches to Unraveling Complex Interactions, Catherine Royer
Centre de Biochimie Structurale
University of Montpellier

gelFRET and BiFC: Visualization of Protein Interactions in Vitro and in Living Cells
Thomas Kerpolla, HHMI, University of Michigan School of Medicine

The Biotin Repressor: Ligand-induced Assembly and Competing Protein: Protein Interactions in a Biological Switch, Dorothy Beckett
University of Maryland, College Park

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Motility

Thomas Irving, Illinois Institute of Technology,
David Hackney, Carnegie Mellon University, Co-chairs

Speakers:
Structural Mechanisms of Self-assembly and Polymorphic Supercoiling of the Bacterial Flagellum
Keiichi Namba
Matsushita Electric

Single-Molecule Mechanics and Structural Dynamics of Actomyosin,
Yale Goldman
University of Pennsylvania

Studies on the Kinesin-microtubule Interaction by Fluorescence Polarization Microscopy
Hernando Sosa
Albert Einstein College of Medicine

The Conformation of Kinesin and Ncd Studied by X-Ray Crystallography and Small angle Scattering
Frank Kozielski
Institut de Biologie Structurale, Grenoble

The Mechanism of Force Generation in Muscle Determined by X-ray
Vincenzo Lombardi
Universita di Firenze
Discussion Session

Evening Speaker:
Theme and Variations
Edwin Taylor
University of Chicago, Molecular Motors

The Cell: Putting it Back Together

The symposim is sponsored by the National Institute of General Medical Sciences (NIGMS) in celebration of its 40th anniversary.

Introduction
Marvin Cassman
Director, NIGMS

Structural Genomics
Stephen Burley, Chair
The Rockefeller University and Howard Hughes Medical Institute

Integrative Structural Proteomics
Mark Gerstein
Yale University

Grabbing the Cat by the Tail: Recent Advances in Single Molecule Biophysics
Carlos Bustamante
University of California, Berkeley

Automated Molecular Microscopy
Bridget Carragher
Scripps Research Institute

How Does the Engine that Physically Animates Cells Work?
Garrett Odell, University of Washington

Annual Meeting Special Events

Saturday, February 24

5:00–7:00 PM, *Elements of an Effective Posdoctoral Experience*
Sponsored by the Early Careers Committee
Four panelists, representing academia, industry, law, and institutes share their experiences in the choices they made and the impact of those choices. All are invited to attend.

Sunday, February 24

12:00 NOON, *Careers for Biophysicists Panel Discussion*
Sponsored by the CPOW
This panel discussion will feature three individuals who have used their training in biophysics to pursue professional trajectories that deviate from the standard scientific career. The evolution of their career paths and contribution of a biophysics training to their success will be discussed. All are welcome to attend.

Undergraduate Student Symposium
10:30 AM Opening Reception (Coffee and Donuts)
11:00 –12:15 AM Emerging Topics in Biophysics:Various Lectures
12:15–1:00 PM Emily M. Gray Award Lecture: *Molecular Machines*
Norma Allewell, University of Maryland, College Park

Tuesday, February 26

7:30–8:30 AM
Early Careers Breakfast

Satellite Meeting

Kennie Merz, *Tom Cheatham* and *Ken Dill* are organizing a symposium, *Molecular Simulations in Structural Biology and Drug Discovery*, in memory of *Peter Kollman*, covering areas of computational biology that were of interest to Peter. The meeting will take place Thursday and Friday February 21 and 22, 2002, in San Francisco, at the Laurel Heights campus of UCSF.

Confirmed speakers:

Title to be Announced
Lucia Banci, University of Florence

Probabalistic Models of DNA Bending Based on Molecular Dynamics Simulations: Applications to Structural Genomics
David Beveridge, Wesleyan University

Title to be Announced
Frank Brown
R.W. Johnson Pharmaceutical Research Institute

Title to be Announced
David Case, Scripps Research Institute

Insight Into the Structure, Dynamics, Energetics and Interactions of Nucleic Acids from Biomolecular Simulation
Thomas Cheatham, University of Utah

Molecular Dynamics Studies of ProteinFolding/Unfolding Pathways
Valerie Daggett, University of Washington

Title to be Announced
Thomas Darden, NIH, NIEHS

Learning Protein Patterns
Ron Elber, Cornell University

Computational Methods for Protein Structure Prediction
Richard Friesner, Columbia University

Dynamics, Pathways, and Tunneling in Biological Processes
Jiali Gao, University of Minnesota

Informative Library Design in Drug Discovery
Peter Grootenhuis, DuPont Pharmaceuticals

Title to be Announced
Stephen Harvey, University of Alabama

Theoretical Explorations of Decarboxylations by Antibodies and Enzymes
Ken Houk, University of California, Los Angeles

Title to be Announced
William Jorgensen, Yale University

Reminiscences: The Joy of Science!
Irwin Kuntz, University of California, San Francisco

Title to be Announced
Richard Lavery, CNRS

Protein Folding: A Paradigm for Solving Hard Problems in Biology
Michael Levitt, Stanford University

Title to be Announced
J. Andrew McCammon
University of California, San Diego

Simulating Protein Folding Kinetics in Atomistic Detail Using World-Wide Distributed Computing
Vijay Pande, Stanford University

Title to be Announced
David Pearlman, Vertex Pharmaceuticals

Title to be Announced
Jed Pitera, IBM Almaden

The Nucleic Acid Field that Peter Loved
Tamar Schlick, New York University

Title to be Announced
Carlos Simmerling, SUNY Stony Brook

Title to be Announced
David Spellmeyer
Signature Bioscience, Inc.

Computational and Simulation in Pharmaceutical Research
Terry Stouch, Bristol-Myers Squibb

Advances in MD simulations of Biomolecules
Wilfred van Gunsteren. ETH Switzerland

The registration fee for the meeting is US $900 (corporate), and US $300 (non-profit). This includes breakfast, lunch, and dinner on Thursday February 21 and breakfast and lunch on Friday, February 22.

Checks should be made out to 'UC Regents' and sent to:

University of California San Francisco
533 Parnassus Avenue, S 926
San Francisco, CA 94143-0446
Attention: Kristina Clarke

You may also simply send your name, affiliation, postal address, email, website and indicate that you will be attending the meeting to kristina@cgl.ucsf.edu (Fax: 415-502-4690). Also, please indicate whether you will need a parking permit for the UCSF Laurel Heights Conference Center for February 21–22. Please register early as space is limited. Additional information can be found at http://mdi.ucsf.edu/PAK02_meeting.html

Congressional Appropriations Update

In the aftermath of the September 11 attack, the White House and Congress, as of this printing, have decided on $686 billion as the set amount for discretionary spending for FY 2002. However, Congressional Appropriators are waiting for the White House to officially request that sum before any real considerations begin.

This time of the year is usually consumed in partisan debate on the 13 Appropriations bills, with heavy deliberation into the late hours, as members of Congress argue over how to spend the billions of dollars in federal money. This year is obviously different. National security issues are paramount and there are no longer discussions of Social Security "Lock Boxes" or federal spending caps. In fact, all programs are being reviewed with the potential for drastic cuts.

This has affected the science advocacy community as well. Capitol Hill staffers have told the science community that the current priority is on fighting terrorism. Science is still on the agenda, but to a lesser degree.

The top figure being advanced for discretionary spending is $661.3 billion, plus $18.4 billion for the President's defense amendment. Additionally, there is another $4 billion above the budget baseline for education and $2.2 billion in emergency funding. The different number being bantered around between the White House and Congress has caused Senate Appropriations Chairman *Robert Byrd* (D-WV) to say, "They want to take the difference out of domestic discretionary spending. The administration ought to get off this kick of playing games so we can get our work done."

Equally frustrated was the ranking member of the Senate Appropriations Committee, Senator *Ted Stevens* (R-AK), who said, "somebody should tell them what the Constitution says—that it's Congress that controls the spending." Once the White House and Congress do come to an agreement, it is likely that the House and Senate Labor-HHS-Education subcommittees will move quickly to mark-up the FY 2002 bills.

The House subcommittee is expected to fund the NIH at close to the President's proposed $23.1 billion request. That is $2.75 billion in additional funding, which is a 13.5 percent increase over last year's budget. Again, as of this report, none of the 13 Appropriations bills had been signed into law. The President signed a continuing resolution to keep federal programs operational through October 16. Conventional wisdom is that there is likely to be some type of omnibus appropriations package passed in late October or early November.

During this period of national emergency, there is a strong sense of bipartisanship and there is discussion of finishing other bills like education and the possibility of passing other important legislation. The science advocacy community can maintain its unity by concentrating on next year's biomedical and science research budgets.

NSF Invests $156 Million in Information Technology

The Information Technology Research (ITR) program will award $156 million to 309 researchers in its second year. Last year the program awarded $90 million to basic researcher in IT science and engineering. The program's goal is to promote information technology nationally through growth in the IT workforce. Major subject areas include:

- Systems Design and Implementation—including human-computer interfaces
- People and Social Groups Interacting with IT—including economic and workforce implications
- Information Management—including content/data analysis and informatics
- Applications in Science and Engineering—including simulations and advanced computation
- Scalable Information Infrastructures—including security, "tetherfree" computing and "tele–imersion"

NSF has officially opened its third annual ITR competition, with an addition budget request of $217 million for FY 2002. For a searchable database of FY 2001 ITR awards, see http://www.itr.nsf.gov/

Klausner Resigns

National Cancer Institute Director *Richard Klausner* announced his resignation effective September 30. Heading the NCI since 1995, Klausner left to become the first president of the Case Institute of Health, Science and Technology, a philanthropic enterprise whose creation was announced in mid-September by the Case Foundation, a family foundation of AOL Time Warner Chairman *Steve Case* and his wife Jean.

NCI is the largest institute at the NIH and has seen exceptional growth

in the last few years. Klausner used his time at the NIH to bring the Institute into the modern era of molecular and genetic medicine. In a letter to *President Bush*, Klausner said, "It has been a privilege and an honor to head one of the world's great scientific institutions dedicated to the advancement and application of science aimed at reducing the burden of one of humanity's feared diseases."

The Case Foundation will likely provide Klausner with $100 million in the first few years, with the intention of funding research projects at the interface of biology and medicine, the physical sciences and the world of information technology.

On October 1, HHS Secretary *Tommy Thompson* named *Alan Rabson* as Acting NCI Director. Rabson, NCI's deputy director, will serve until a permanent appointment has been filled. Rabson came to the NIH in 1955 as a resident in pathologic anatomy. In 1975, he was named director of NCI's Division of Cancer Biology, Diagnosis, and Centers, where he served until his appointment as the institute's deputy director in 1995. Rabson holds clinical professorships in pathology at Georgetown University Medical Center and The George Washington University in Washington, D.C., and the Uniformed Services University of the Health Sciences in Bethesda, Maryland.

NIH Funds Biomedical Research Infrastructure Networks

The NIH awarded 24 new grants, totaling $45 million, as a way to provide funds to those biomedical research institutions not fully participating in NIH grant funding. Funded through the Institutional Development Award Program (IDeA), the grants were provided to 23 states. Recipient programs are funded through the NIH's Biomedical Research Infrastructure Network (BRIN), a subgroup of the National Center for Research Resources (NCRR), with the goal to:

- bring together institutions within a state to establish the network;
- make institutional alternations and renovations;
- improve laboratory equipment; and
- assist in the recruitment of new faculty.

The goal is to build effective research bases that will house competitive, multidisciplinary research teams. Only those states that have received less than $70 million in NIH funding on average from 1995 to 1999 or had an NIH grant award success rate of less than 20 percent over that period are eligible for the grants.

Other News

- *NIH Director*: It is unlikely that a permanent NIH Director will be selected until sometime in 2002. With recent national events taking priority, the Bush Administration is focused on international issues.
- *FDA Commissioner*: HHS Secretary *Tommy Thompson* has submitted *Lester Crawford*'s name as FDA Commissioner. Crawford is currently director of the Georgetown Center for Food & Nutrition Policy. Senator *Edward Kennedy* (D-MA) had some problems with previous choices being too close to the industry and asked that the President nominate someone with a stronger background in science and/or medicine. Since Kennedy chairs the committee that confirms the FDA appointment, this suggestion was taken seriously.
- *Performance Criteria*: The NIH and other research agencies are being asked to set performance criteria for basic research under the Bush Administration's management plan. These measurements are tighter than the Government Performance & Results Act (GPRA) of previous years. The NIH, NSF, NASA, and Departments of Defense and Energy are being told to create separate "investment criteria" for the FY 2004 budgets. This is difficult for the agencies, particularly the NIH with its 25 different diverse institutes and centers. The Office of Management and Budget would like agencies with applied research and development programs to hone their goals into "sub groups."
- *Genetically Modified Foods*: As the issue of genetically modified foods becomes more public, there are two bills before the House Science Committee that may help make this hard to swallow topic more acceptable. The bills focus on the NSF's basic research in plant biotechnology. H.R. 2051 would direct the NSF to create regional Plant Genome Expression Centers the costs are estimated at $3 million for FY 2002 and $4.5 million for FY 2003. A companion bill, H.R. 2192, would have the NSF establish partnerships for supporting the development of plant research targeted to the needs of the developing world. Estimated costs are $6 million for FY 2002, $9 million for FY 2003 and $9 million for FY 2004.
- *Public-Health Services:* Since the September 11 attack, certain public-health services have become a priority. Senators *Edward Kennedy* (D-MA) and *Bill Frist* (R-TN) are completing a $1.6 billion proposal to fund several

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public-health defense programs. Included in this bill are increases in the nation's stockpile of vaccines for anthrax, the plague and smallpox; improving plans to respond to bioterrorist attacks and making sure hospitals are prepared; training doctors and other health-care professionals; and providing more mental-health services.

- *Tech-Talent Bill*: Senators *Joseph Lieberman* (D-CT), *Kit Bond* (R-MO), *Bill Frist* (R-TN), and *Barbara Mikulski* (D-MD) postponed a scheduled September 11 press conference announcing their "Tech Talent" bill. The bill's goal is to increase the number of scientists, engineers and technologists in the United States. House Science Chairman *Sherwood Boehlert* will introduce a companion bill in the House of Representatives. In a recent press release, the legislators pointed to the decline in the country's technical workforce as the reason for the legislation. They wanted to "address the problem by establishing a competitive grant program at the National Science Foundation that rewards universities and community colleges pledging to increase the number of U.S. citizens or permanent residents obtaining degrees in science, math, engineering and technology (SMET) fields." This $25 million pilot program will award three-year grants, with future funding ranging as high as $200 million annually. The Senators plan to introduce the legislation in the next congressional session.
- *Terrorism*: The National Academies of Sciences and Engineering and the Institute of Medicine advised *President Bush* that they would be conducting a series of small groups of security specialists and scientists to "explore the new dimensions of terrorism," and that they will provide the President an assessment of "needs and opportunities" soon. The Academy said that three recent bipartisan congressional commissions "have suggested the Academies be given an active role in facilitating a more concerted and better coordinated involvement of the U.S. S&T community in assessing threats, developing counter measures and designing responses to terrorist incidents."
- *Bioterrorism*: "Yes, we need to do more on bioterrorism, but we are prepared to respond," HHS Secretary *Tommy Thompson* told a Senate panel on October 3. Senators *Edward Kennedy* (D-MA) and *Bill Frist* (R-TN) laid out a proposal to fund a biowarfare preparedness bill, with a $1.414 billion price tag, that could go to strengthen state and local public health agencies.
- *Department of Agriculture*: Agriculture Secretary *Anne Veneman* briefed members of the Senate Agriculture Committee and their staffs on September 25 on bioterrorism. Senator *Pat Roberts* (R-KS) said he believes that the Agriculture Department is an integral part of the Bush Administration's plan to combat domestic terrorism. Senator *Tom Harkin* (D-IA) had concerns regarding the threat to the U.S. food supply because livestock are raised in such concentrated locations and grain is stored in warehouses larger than ever before. ▬

– *Alec Stone*, Public Affairs Director

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The Society gratefully acknowledges the following 2001 members who made donations to Society programs. The donations allow for growth each year in Student and International Travel Grants, Public Affairs, Awards, and other outreach activities.

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UPCOMING EVENTS

January 28–29, 2001
AAPS Short Course on Computer Simulation and Its Role in Drug Development Research
Crystal Gateway Marriott
Arlington, VA
http://www.aapspharmaceutica.com/meetings/other/simulation/index.htm

January 13–18, 2002
AAPS 37 th Annual Pharmaceutical Technologies Conference at Arden House: Parenteral Products – Integrating Science, Innovation and Patient Needs
Arden House Conference Center, Harriman, NY
http://www.aapspharmaceutica.com/arden

February 28–March 1, 2002
AAPS Workshop on Critical Issues in the Design and Applications of Polymeric Biomaterials in Drug Delivery
Crystal Gateway Marriott, Arlington, VA
http://www.aapspharmaceutica.com/biomaterials

February 2–6, 2002
The 2002 Miami Nature Biotechnology Winter Symposium, "The Genome and Beyond-Genomics and Structural Biology for Medicine."
Miami Beach, FL.
http://www.med.miami.edu/mnbws

April 6–10, 2002
American Association for Cancer Research 93rd Annual Meeting.
San Francisco, CA.
http://www.aacr.org

April 19–22, 2002
Biophysical Society Discussions
Frontiers in Structural Cell Biology: How Can We Determine the Structures of Large Subcellular Machines at Atomic Resolution
Asilomar, California
http://www.biophysics.org/discussions/

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