

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

A complete list of the symposia and special events
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Biophysical Journal Editor Announced



Robert Callender

Robert Callender of Albert Einstein College of Medicine was named Editor of *Biophysical Journal* by the Society's Council.

Callender will assume the position in July 2002, when the five-year term of the

Journal's current editor *Peter Moore* ends.

Callender, who is Professor of Biochemistry at Einstein, studies the structural and dynamical properties of proteins to understand the molecular mechanisms of protein function.

2002 Abstract Sort

The Society gratefully acknowledges the members listed below, who volunteered their valuable time and spent a day at the Bethesda office sorting the 2002 Annual Meeting abstracts. This year, 3210 abstracts were programmed for the meeting in San Francisco, making it another record-breaking year.

Mark Adelman

Nelson Arispe

Meredith Bond

Marco Colombini

Bertrand Garcia-

Moreno

Susan Gregurick

Jan Hoh

W. Jonathan Lederer

Catherine Lewis

Ingrid Markovic

Brian O'Rourke

Beverly Packard

Horia Petrache

Ivan Polozov

Rajini Rao

Peter Schuck

James Sham

Virginia Smith



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A New Look in 2002

With the start of a new year, the Biophysical Society Newsletter has undergone some changes in look and feel. We encourage readers to send feedback and let us know what features are most useful to you.

To go along with this 'New Year change' we are pleased to implement new features, beginning with the Profiles column.

Biophysical Society members come from a wide diversity of fields and have found a common bond in the study of Biophysics. Here, in Profiles, we will highlight the journey of your peers: how they got to where they are, why they chose the field of Biophysics, and what they learned along the way.

We hope you find this section interesting and insightful. And for those just beginning the journey, we hope this encourages and inspires you.

Profiles



Mary Barkley

Mary Dicky Barkley, of Case Western University, jokingly notes that she came to biophysics "through the back door."

Barkley was introduced to science and analytical thinking early in life. Her mother majored in chemistry and her father was a mechanical engineer. As an undergraduate at Stanford University, she had every intention of going to medical school. Barkley recalls that at that time, "biophysics wasn't really a field. It was more electrophysiology than molecular, like it

is now." So rather than go into biology, which then was more taxonomy, she opted for a degree in chemistry.

However, being such a huge animal lover, when she discovered she would need to "kill" dogs, she changed her career path from practicing medicine. Deciding that medical research would be a better alternative, she spent the summer before graduate school working in a radiology lab. There, a co-worker suggested she go into physical chemistry, specifically polymers. Her interest in biology, however, always stayed with her.

While working on her Ph.D. in the chemistry department at the University of California, San Diego, Barkley used pencil-and-paper mathematics for her thesis on polymer chain dynamics in the lab of *Bruno Zimm*.

When it came time to think about doing a postdoc, one event that was most influential in pointing her toward biophysics was a simple conversation with *Jonathan Singer*, a faculty member in the biology department at UCSD. During this conversation, Singer pointed out that there

are two career paths for a physical chemist: applying physical technique X to biological system Y, or understanding the biological system and choosing a physical technique to answer an important biological question. Because of this conversation, she began to use whatever technique is necessary to get the answer she needs.

While doing her postdoc fellowship at the Salk Institute in La Jolla, California, Barkley worked in the lab of *Suzanne Bourgeois*. There, the focus of her work was regulation of gene expression. Working on the binding of lac repressor protein to its operator site on DNA, she made a few runs on the analytical ultracentrifuge, the old Model E, and discovered that she really liked doing physical experiments. "I really liked the instrumentation part rather than the wet biochemistry," explains Barkley, "so I eventually ended up focusing on fluorescence spectroscopy."

The most important part of her journey to biophysics was that she paid attention to what she liked. "Only by doing different things do you get to know what you really like," claims Barkley. She uses this approach in encouraging her students at Case Western. "If I find that a student is not doing well in one area," Barkley explains, "then I try to move them into other aspects of the project."

Barkley's journey into the field of biophysics was not always a serendipitous, smooth ride. For women in her generation, gender often became an obstacle. If you were a woman, Barkley recounts, "People would, at times, blow you off, especially when it came to mathematics and instrumentation." Others didn't have the confidence that women could do the work.

"Not only was I a woman," Barkley remembers, "but I was also very small and looked younger than I was." She sometimes had trouble being taken seriously. With the increased number of women entering the field and proving their mettle, Barkley hopes those misconceptions have been dispelled.

Biophysics is exciting to Barkley because of its diversity, its ability to integrate disparate fields. To those who are considering a career in biophysics, Barkley recommends that they focus on the new and emerging areas. "We need to be looking continually toward the future," she explains. "New biophysicists need to remember that interdisciplinary training is very important—biology and physics in particular."

Barkley stresses that when trying to reach those who may not have discovered biophysics just yet, the biggest effort should go into putting biophysics on the radar screen so that it is identifiable to students and to the public. She realizes that biophysics and what biophysicists do is not easily explained. "The thing about biophysicists," states Barkley, "is that they are not in just one place, in one particular department. They are a diverse group that don't all have the same label." Barkley wants to reach out to students earlier in their careers so they can see what biophysicists do and what opportunities the field offers. A first step to take, she believes, is to reach into the undergraduate curriculum as do biology and chemistry. "Identification [of biophysics] is important in the undergrad curriculum," she argues, "perhaps even touching on it at the high school level. Probably the best thing we can do to reach people that may not be consid-

ering biophysics is getting it into the textbooks."

In addition to her teaching load at Case Western, Barkley is working on two research projects involving enzymes responsible for replication of the AIDS virus and the hepatitis C virus.

Although Barkley enjoys her teaching and research career, her love of animals continues to be an important part of her life. She shares her home with two Bouvier des Flandres, which is a breed of cow herding dogs, and four parrots. When not at home, she continues to pay attention to what she likes, whether close by at the Cleveland Orchestra, or further away like visiting her daughter-in-law's family at their home in the Marche region of Italy.

Call for Nominations

The Lasker Foundation is currently accepting nominations for awards in the following three categories:

- Basic Medical Research
- Clinical Medical Research
- Special Achievement in Medical Science

The deadline for nominations is February 1, 2002. Nomination forms are available at:

<http://www.laskerfoundation.org/awards/nominate.html>

For additional information contact dkeegan@laskerfoundation.org

Early Careers

Postdocs on the Move

The early career of a scientist is often characterized by regular moves to new positions, often involving a move to another state or country. However, there are few firm estimates of the percentage of postdocs that move, or to where they are moving. In an effort to determine the extent to which young biophysicists are moving around and what motivates these moves, the Early Careers Committee distributed an email survey this past summer. The survey was mailed to the 756 postdocs on the Society's postdoc email listserv. This listserv is largely composed of postdocs that have attended the postdoctoral breakfasts at the Society's Annual Meetings over the last two years.¹

The 106 replies that were received represent postdocs from 29 different countries, with the majority of the respondents having a US or EU nationality (Chart 1). The female (40%) as well as the male (60%) respondents have an average age of 32 years, and about two years of postdoctoral experience in one or two different labs. The duration of these appointments varied widely,

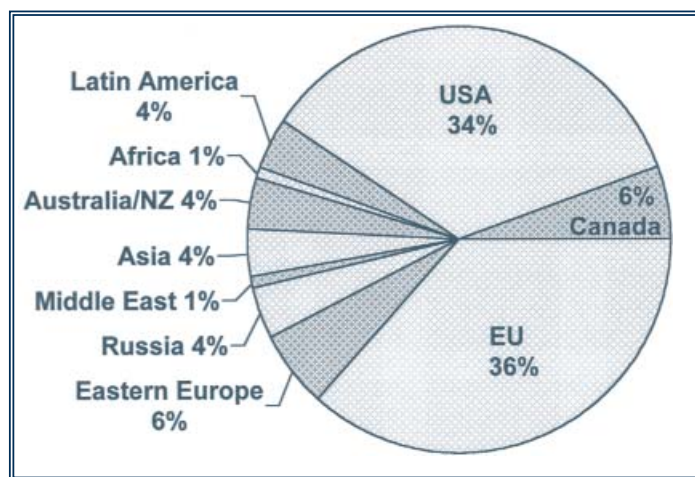


Chart 1. Nationalities of the 106 postdocs that responded to the survey, grouped by region.

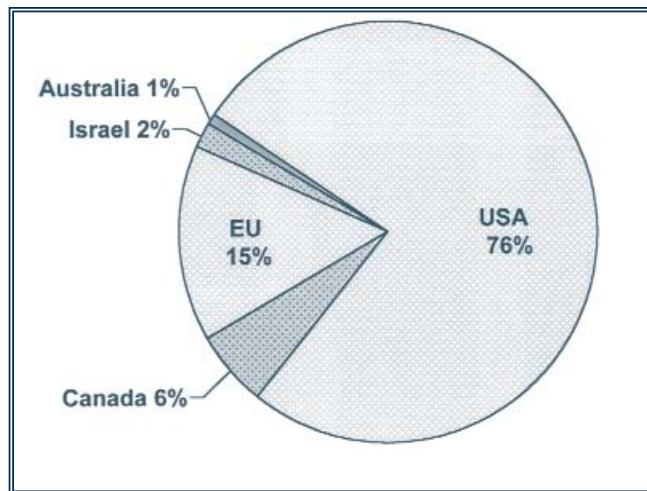


Chart 2. Current location of respondents.

from just six months to a full five years. More than 80 of the respondents are currently working in the US, with the remainder working almost exclusively in the EU or in Canada (Chart 2).

When asked to identify 'home', 27% of the respondents named a specific US state, 14% a US region such as the Midwest, and 56% a country other than the US. Not surprisingly, almost all of the respondents reported their nationality as that of the country they consider home.

The majority obtained the PhD degree in their home region, but a significant 25% finished their formal academic studies somewhere else. This latter group was very heterogeneous, ranging from Hungarians who studied in the US to Americans who studied in Australia.

Although most

people stayed in their home region as PhD students, 82% of the respondents moved to another country, state, or region as a postdoc. All of these young scientists are primarily driven by the expectation that the experience of a drastically different research environment will be beneficial to their careers. But many postdocs are also excited about living somewhere

else. Twenty-nine year-old Olivier² just returned to France after 2.5 years in Pullman, Washington. "I went abroad because it will help my career and it is an

"The prevalent notion that working in another environment improves your career opportunities appears as a strong incentive for young postdocs to work outside their home region."

opportunity to discover new cultures and countries," he said. However, for some people such a move was a necessity because of a

lack of research or funding in their home country.

The 18% of the respondents that made the decision to stay in their home region and could also get a job at that location unanimously based their decision on social reasons. Some people wanted to live close to their family; for others, an immobile or less mobile partner and/or children were the deciding factor. For example, one respondent mentioned an interest in pursuing a postdoc position abroad, but remained in the US ultimately due to his wife's career goals.

The prevalent notion that working in another environment improves your career opportunities appears as a strong incentive for young postdocs to work

outside their home region. But this does not imply that moving is the option of choice. Therefore, we asked explicitly whether the postdocs would have preferred to stay in one region after finishing their PhD studies. The majority (68%) of the respondents answered negatively, "No, I was encouraged to go elsewhere, and I think that was good advice from both a personal and professional standpoint," responded Charles, who earned a doctorate in Washington, and is a postdoc in California. "NO! I have really enjoyed getting out to meet more people. It has made me a very hot item as a postdoc," wrote 32 year-old Gregory, who earned his PhD in Kansas, and has been a postdoc in Switzerland, Austria, the Netherlands, and Washington. But this feeling is not universal. The "No choice" reply from a postdoc from Bangladesh speaks volumes, while thirty-three year-old Andrew, who studied in Illinois and worked in the UK and in Minnesota, disliked moving his kids around.

Similar considerations also apply to the postdocs that are enthusiastically working abroad, since a massive 70% of the respondents would prefer to obtain a permanent position in his or her home region. Apparently, the move to another region is attractive for many young postdocs, but under the strong provision that it is temporary. The postdocs that are not concerned with returning to

their home region still have very specific ideas about the places where they want to eventually settle, often choosing the cities where they studied or where they worked for a long time as postdocs. Some of the respondents indicated that it was unrealistic to return to specific countries anyway, because of a lack of research funding.

The survey responses presented here, while representing only a small sample of all Society postdocs, present an interesting dimension of the Society's postdoc population. The results indicate that most young biophysicists are very eager to improve their career opportunities by moving around, away from their home country or region. Many postdocs perceive this as a valuable experience, not only professionally but also personally. However, most of them do not want to stay abroad for a long time, and are aiming for a permanent position in their home region. Unfortunately, the uncertainty of acquiring a permanent position in any specific location can generate very high levels of frustration.

—*Maurits de Planque*
University of Melbourne

¹ Postdoctoral members of the Society who wish to be added to the postdoc email list serv should send an email to *Drita Schrufer* in the Society Office:

drita@biophysics.org

² Respondents have given permission for the publication of these quotes.

"...the move to another region is attractive for many young postdocs, but under the strong provision that it is temporary.."

International Affairs

International Opportunities

*Alexander Von Humboldt Foundation:
Humboldt Research Fellowship*

The Humboldt Research Fellowship Program supports scholars of all nationalities and disciplines so that they may carry out long-term research projects in Germany. The program is open to citizens from any country except Germany. Applicants must be under 40 years of age. Applications are accepted continuously and may be downloaded from the foundation's Web site at http://www.humboldt-foundation.de/en/programme/stip_aus/stp.htm

For complete guideline and application information contact:

Alexander von Humboldt Foundation
U.S. Liaison Office
1012 14th Street NW
Suite 301
Washington, DC 20005
Phone: (202) 783-1907
Fax: (202) 783-1908

<http://www.humboldt-foundation.org>
E-mail: avh@bellatlantic.net

Women's International Science Collaboration (WISC) Program

AAAS announces the Women's International Science Collaboration (WISC) Program for 2001-2003, supported by the NSF to increase the participation of women in international scientific research. The grants (\$4,000-5,000) will provide travel and living support for a U.S. scientist to develop a research program. Two competitions will be held with January 15, 2002, and July 15, 2002, application deadlines.

Approximately 40 awards will be made in each competition. For further information visit www.nsf.gov

Annual Meeting Summary

Schedule changes will be printed in onsite Addendum. See page 8 for complete symposia and workshop listing.

	Saturday <i>February 23</i>	Sunday <i>February 24</i>	Monday <i>February 25</i>	Tuesday <i>February 26</i>	Wednesday <i>February 27</i>
7:30 AM			Biophysical Society Annual Business Meeting	Postdoctoral Breakfast	
8:30 AM		Symposium 1 Channelopathies Symposium 2 Functional Protein Dynamics Platform Sessions A–E	Symposium 7 Prions and Proteins Misfolding Symposium 8 Microtubule-based Motors Platform Sessions P–T	Symposium 13 The Cell: Putting it Back Together Symposium 14 Acetylcholine Receptors & the Neuromuscular Junction: from Atom to Synapse Platform Sessions AF–AJ	Symposium 18 Membrane Channels & Pumps: Mechanisms of Transport Symposium 19 Guardians of the Genome: Biophysics of DNA Repair Platform Sessions BA–BE
8:50 AM	Bioenergetics Subgroup				
10:30 AM		Student Symposium	New Member Welcome Coffee		
11:00 AM	Molecular Biophysics Subgroup	Symposium 3 Membrane Rafts Symposium 4 Mechanisms of Kinase Specificity: Scaffolds vs. Sequences Platform Sessions F–J	Symposium 9 Complex Biological Machines: Structural & Functional Investigations Symposium 10 Phosphatase Regulation of Contractile Function Platform Sessions U–Y	Symposium 15 Awards Symposium Platform Sessions AK–AN	Symposium 20 Coupling between Surface & Intracellular Channels in Muscle Symposium 21 Animating the Ribosome Platform Sessions BF–BJ
12:00 NOON		CPOW Roundtable Discussion Public Policy CLC Award	Education Roundtable: Funding for Undergraduate Programs		
12:30 PM					
1:00 PM	Membrane Biophysics Subgroup Biological Fluorescence Subgroup Membrane Structure & Assembly Subgroup Motility Subgroup				
1:15 PM		Poster Sessions	Poster Sessions	Poster Sessions	Poster Sessions
2:00 PM		History of the Life Sciences			
3:45 PM		Symposium 5 Data Driven Systems Biology Symposium 6 Unconventional Myosins Platform Sessions K–O	Symposium 11 Structure & Function of Rotary Motors Symposium 12 Interrogation of Protein in Heterogeneous Environments Platform Sessions AA–AE	Symposium 16 Imaging Function in Situ to in Vivo: New Developments in Microscopy Symposium 17 Membrane Protein Structure: Multiple Technologies Platform Sessions AO–AS	Meeting Ends
5:00 PM	Opening Mixer	Public Affairs Panel Discussion Early Career Panel Discussion			
6:00 PM		SRAA Competition			
7:30 PM		Workshop I Spectroscopy & Isotopes: New Methods & New Results Workshop II Nucleic Acid Dynamics & Interactions Workshop III One- Two- and Three- Dimensional Ordering of Membrane Environments Workshop IV Single Molecule Imaging			
8:00 PM			Awards Ceremony & National Lecture		
9:30 PM			Society Reception & Dance		

Annual Meeting Special Events

Public Service Award



Nancy Pelosi

Nancy Pelosi, Democratic Representative from California's 8th District and Congressional Minority Whip, has been named the first recipient of the Society's Public Service Award. Pelosi was selected for the award for her leadership in the field of biomedical research.

The award will be presented on Sunday, at 12:00 NOON at a reception in the Convention Center.

Early Career Panel Discussion: The Elements of a Productive Postdoctoral Experience

Sunday 5:00–7:00 PM. Panelists will briefly describe the road to their current position, focusing on the elements of their postdoctoral experience that were helpful to their chosen career path. Audience participation will be encouraged.

Patricia L. Clark
University of Notre Dame,
Moderator

Dana Andersen
Genentech

Judith Frydman
Stanford University

Barrie Greene
Incyte Genomics

Clifford R. Robinson
Delaware Biotechnology
Institute & University of
Delaware

New Member Welcome

The Membership Committee invites all new Biophysical Society members to join them on Monday from 10:30–11:30 AM for coffee and cookies and to find out more about the Society and its activities.

Education Roundtable: Funding for Undergraduate Programs

Monday, 12:00 NOON–2:00 PM, the Education Committee is sponsoring a roundtable discussion featuring: *Adolphus Toliver* of NIGMS, *Terry Woodin* of NSF, and *Patricia Soochan* of HHMI

This is an opportunity to learn of current programs for undergraduate education and future directions, plus some hints on preparing proposals.

Public Affairs Panel Discussion NIH Reorganization and Plans for the Future

The panelists will discuss the reorganization of NIH study sections and the impact on biophysics.



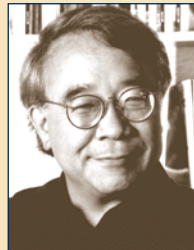
Bruce Alberts

President of the National Academy of Sciences, Washington, D.C.



Ellie Ehrenfeld

Director of the NIH Division of Research Grants



Keith Yamamoto

Professor and Chairman of the Department of Cellular and Molecular Pharmacology, University of California, San Francisco

CPOW Roundtable Discussion: Using Your Scientific Training to Pursue Alternative Career Paths

Sunday, 12:00 NOON–2:00 PM

Are you considering pursuing a career path alternative to academic or industrial science? This panel discussion will feature three Ph.D. scientists who have done so. The panelists include *Catherine Lewis*, who works in the extramural funding program at the NIH, *Michael Schuster*, a patent lawyer in San Francisco, and a third individual to be named.

Annual Meeting Schedule

Sunday, February 24

Symposia

8:30 AM–10:30 AM

Symposium 1: Channelopathies

Frances Ashcroft, Chair

Speakers:

*Frances Oxford, Judith Heiny
Cord–Michael Becker, Walter Stuhmer
Michael Sanguinetti, Thomas Jentsch*

8:30 AM–10:30 AM

Symposium 2: Functional Protein Dynamics

Julie Forman–Kay, Chair

Speakers:

*Julie Forman–Kay, Vincent Hilser
Gabriele Varani, Linda Nicholson*

11:00 AM–1:00 PM

Symposium 3: Membrane Rafts

Erwin London, Chair

Speakers:

*Erwin London, Harden McConnell
Kai Simons, Barbara Baird*

11:00 AM–1:00 PM

Symposium 4: Mechanisms of Kinase Specificity: Scaffolds vs. Sequences

Michael B. Yaffe, Chair

Speakers:

*Michael B. Yaffe, John Scott
Patricia Jennings, Joseph Falke,
John Kuriyan*

3:45 PM–5:45 PM

Symposium 5: Data Driven Systems Biology

Philip Bourne, Chair

Speakers:

*Philip Bourne, Charles Cantor
Shankar Subramaniam, Leroy Hood*

3:45 PM–5:45 PM

Symposium 6: Unconventional Myosins

Mark Mooseker, Chair

Speakers:

*Mark Mooseker, Justin Molloy
Lee Sweeney, Vladimir Gelfand*

Workshops

All workshops will be held on Sunday evening from 7:30 PM–10:30 PM in the Convention Center.

Workshop I: Spectroscopy and Isotopes: New Methods and New Results

Lewis Kay, Chair

Speakers:

*Lewis Kay, Mei Hong, Isaiah Arkin,
Kevin Gardner, Edward Olejniczak*

Workshop II: Nucleic Acid Dynamics and Interactions

David Millar, Chair

Speakers:

*David Millar, Tomasz Heyduk,
Taekjip Ha, David Bensimon*

Workshop III: One–Two–Three–Dimensional Ordering of Membrane Environments

Anthony Watts, Chair

Speakers:

*Anthony Watts, Francesca Marassi,
Werner Kuehlbrandt, Michael Wiener*

Workshop IV: Single Molecule Imaging

Kazuhiko Kinoshita, Jr., Chair

Speakers:

Kazuhiko Kinoshita, Jr., Andreas

*Engel, Christophe Brauchle, Gerhard
Schutz*

Monday, February 25

Symposia

8:30 AM–10:30 AM

Symposium 7: Prions and Proteins Misfolding

Stanley Prusiner, Chair

Speakers:

*Stanley Prusiner, Fred Cohen,
Jane Dyson, Holger Wille
Kurt Wuthrich, David Davies*

8:30 AM–10:30 AM

Symposium 8: Microtubule–based Motors

Steven Block, Chair

Speakers:

*Steven Block, Jon Scholey, Susan
Gilbert, Hideo Higuchi, Jeff Gelles*

11:00 AM–1:00 PM

Symposium 9: Complex Biological Machines: Structural & Functional Investigations

Cecile Pickart, Chair

Speakers:

*Cecile Pickart, Alisdair Steven, Tom
Rapoport, John Aitchison*

11:00 AM–1:00 PM

Symposium 10: Phosphatase Regulation of Contractile Function

Avril Somlyo, Chair

Speakers:

*Avril Somlyo, David Hartshorne,
Angus Nairn, Jack Dixon*

3:45 PM–5:45 PM

Symposium 11: Structure and Function of Rotary Motors

David DeRosier, Chair

Speakers:
*David DeRosier, Howard Berg,
 Masasuke Yoshida, Carlo Montemagno*

3:45 PM–5:45 PM

Symposium 12: Interrogation of Protein in Heterogenous Environments

Gary Drobny, Chair

Speakers:
*Gary Drobny, Lynmarie Thompson
 Jake Schaefer, Robert Tycko*

Mark Ellisman, Chair
 Speakers:
*John Sedat, Paul Wiseman,
 Winfried Denk, Roger Tsien*

3:45 PM –5:45 PM

Symposium 17: Membrane Protein Structure: Multiple Technologies

Timothy Cross, Chair

Speakers:
*Bing Jap, Charles Sanders,
 Timothy Cross, Nigel Unwin*

Tuesday, February 26

Symposia

8:30 AM–10:30 AM

Symposium 13: The Cell: Putting it Back Together

Speakers:
*Marvin Cassman, Stephen Burley,
 Mark Gerstein, Carlos Bustamante,
 Bridget Carragher, Garrett Odell*

8:30 AM–10:30 AM

Symposium 14: Acetylcholine Receptors and the Neuromuscular Junction: from Atom to Synapse

Anthony Auerbach, Chair

Speakers:
*Anthony Auerbach, Titia Sixma,
 Steven Sine, Jack McMahan*

11:00 AM–1:00 PM

Symposium 15: Awards Symposium

Speakers:
*William Zagotta, Peter Moore,
 Barry Honig, Gina MacDonald*

3:45 PM–5:45 PM

Symposium 16: Imaging Function In Situ to In Vivo: New Developments in Microscopy

Wednesday, February 27

Symposia

8:30 AM–10:30 PM

Symposium 18: Membrane Channels and Pumps: Mechanisms of Transport

Robert Stroud, Chair

Speakers:
*Peter Maloney, Lise Heginbotham,
 Klaus Schulten*

8:30 AM–10:30 AM

Symposium 19: Guardians of the Genome: Biophysics of DNA Repair

John Tainer, Chair

Speakers:
*John Tainer, James Strivers, Wei Yang,
 Cynthia McMurray,
 Stephen Kowalczykowski*

11:00 AM–1:00 PM

Symposium 20: Coupling Between Surface and Intracellular Channels in Muscle

Susan Hamilton, Chair

Speakers:
*Susan Hamilton, Kurt Beam, David
 MacLennan, Shmuel Muallem,
 David Clapham*

MacDonald to Receive Dayhoff Award



Gina Marie MacDonald

Gina Marie MacDonald of James Madison University has been named the recipient of the 2002 Margaret Oakley Dayhoff Award.

The award recognizes a junior woman scientist of very high promise who has not yet reached a position of high recognition within the structures of academic society. The award consists of a \$2,000 prize.

MacDonald will speak at the Awards Symposium, which will begin at 11:00 AM on Tuesday in San Francisco.

11:00 AM–1:00 PM

Symposium 21: Animating the Ribosome

Peter Moore, Chair

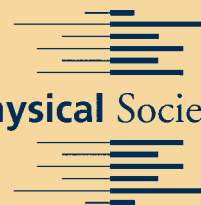
Speakers:
*Peter Moore, Joachim Frank,
 Wolfgang Wintermeyer, Harry Noller*

An Educational Symposium for Students
in the Life and Physical Sciences

Biophysics for Undergraduates

Sunday, February 24, 2002
Moscone Convention Center, San Francisco, CA

Sponsored by **Biophysical Society**



FREE ADMISSION

to the Symposium for all undergraduate students

PROGRAM ACTIVITIES

10:30 am Reception

11:00 am *Automated Protein Structure Analysis and Structural Proteomics:
What are the Implications for Scientific Training*

Gaetano Montelione

Center for Advanced Biotechnology and Medicine
Rutgers University, Piscataway, NJ

11:00 am *How Lasers can be used as Tractor Beams
to Study Individual Molecules*

Steven Block

Dept. of Biological Sciences and Dept. of Applied Physics
Stanford University, Stanford, CA

11:35 am *Molecular Machines*

Emily M. Gray
Award Lecture

Norma Allewell

College of Life Sciences
University of Maryland—College Park, College Park, MD

ATTENDEES WILL RECEIVE

Free one-day admission to
conference

1-year membership
in the Biophysical Society

Biophysical Society T-shirt

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Send notification to society@biophysics.org

What's the Biophysical Society all about?

Learn more at www.biophysics.org

A Personal History of the Biological Sciences

Below is an overview of the display that Henryk Eisenberg, of the Weizman Institute, will discuss on Sunday, February 24, in the Convention Center's lower level.



Henryk Eisenberg

The purpose of this venture is to write a personal history of the biophysical sciences based on focal contributions from about the beginning of the 20th century, as seen as almost at the end of maybe the most evolutionary, or rather revolutionary, period in the development of the natural sciences. By personal history I emphasize that it is not a complete history as produced by a historian, but rather a live presentation of a selection of scientists, laboratories and events as encountered in the course of a scientific career extending from about the middle of the 20th century to the present day. Thus part of the story is based on personal encounters and recollections, and part on events and personalities close to my own existence, but in contact only through their work or through common personal connectivities. I acknowledge a large number of written recollective contributions, quoted in this work, from which I have

culled material for my efforts within the framework, albeit incomplete, of presenting the drama of discovery from various points of view, in a hopefully unified way. I also acknowledge valuable criticism from many highly qualified friends and colleagues who have experienced the same thrill as I have, maybe from a slightly different point of view. The scientists and laboratories considered in this enterprise are as follows:

1) *Cohn and Edsall*, authors of the classical book *Proteins, Amino Acids and Peptides*; *Scatchard*, known to all for the Scatchard plot designation, contributor to electrolyte and physical protein research on a broad level; *Stockmayer*, basic theory in polymer research (Harvard University, MIT, Boston)

2) *Kirkwood, Onsager, Fuoss, Sturtevant*, followers of Gibbs in thermodynamic, electrolyte and, more recently, in protein calorimetry research (Yale University)

3) *Mark, Alfrey, Morawetz, Fankuchen, Zimm*, the famous and original Polymer Research Laboratory founded by Mark, active in theory, experiment and crystallography (Brooklyn Poly)

4) *Debye, Hermans, Overbeek, Verwey, Staverman*, the Dutch School in experimental and theoretical physical and biophysical chemistry (The Netherlands)

5) *Eyring, Kauzmann*, fundamental physical and biophysical theory, water structure and hydrogen bond interactions (Princeton University)

6) *Pauling*, polypeptide secondary structure and much more (Caltech)

7) *Linderstrom-Lang*, where and with whom many outstanding scientists met and collaborated in mid-century and in mid-Europe (Carlsberg Laboratory, Copenhagen)

8) *The Katchalsky brothers, Aharon and Ephraim*, polyelectrolyte theory and practice, membranes, mechanochemistry and irreversible thermodynamics, synthetic poly-amino acids, models of biological structure; *Sela*, chemical immunology; *Lifson*, theory, theory and theory; *Wilchek*, the avidin/biotin system (Weizmann Institute, Rehovot)

9) *Flory, Fox, Casassa*, polymer, polyelectrolyte, protein and nucleic acid theory and experiment, analysis of multi-component systems (Mellon Institute)

10) *Terrell Hill, Schellman, von Hippel*, biophysical theory and practice (Oregon University)

11) *Perutz*, hemoglobin; *Kendrew*, myoglobin; *Watson and Crick*, DNA; *Klug*, virus, tRNA and chromatin, structure and function (MRC-LMB, Cambridge)

12) *Tomkins, Felsenfeld, Davies, Gellert, Anfinsen, Eaton, Bax*, protein structure, folding and unfolding, DNA, polyA and chromatin, immunology, hemoglobin, crystallography and NMR (NIH)

13) *Antonini, Brunori, Chiancone, Wyman*, hemoglobin function, binding and linking (Rome University)

14) *Eigen*, fast chemical and biological reactions, principles of evolution and the origin of life, the yearly January Winterseminar, science, friendship and skiing, in Klosters (Max Planck Institute).

Selected Publications

Eisenberg, H. (2002) Focal contributions to molecular biophysics and structural biology: A personal view. *Biophysical Chem.* Parts I, II and III, in press.

Eisenberg, H. (2001) Aspects of the evolution of biophysics: Polyelectrolytes and the Weizmann, in *Supramolecular Structure and Function 7*, G. Pifat, editor, Kluwer, New York, 1-12.

Satellite Meeting on Computation in Biology and Drug Discovery

On February 21-22, 2002, scientists from academia and industry will meet at the UCSF Laurel Heights Conference Center in San Francisco to honor the memory of *Peter Kollman*, whose work profoundly influenced the computational drug discovery field. The meeting "Molecular Simulations in Structural Biology and Drug Discovery," organized by *Ken Dill*, *Thomas Cheatham*, and *Kennie Merz*, is sponsored by the Department of Pharmaceutical Chemistry of the University of California San Francisco and the UCSF Molecular Design Institute. It is co-sponsored by the Biophysical Society as a Satellite Meeting associated with the 2002 Annual Meeting of the Biophysical Society. The symposium will address the current status and future directions for molecular simulations in structural biology and drug discovery. Speakers will discuss computational approaches for the prediction of molecular recognition, the binding of ligands to proteins and DNA, and predicting protein folds. All who are interested are invited to attend. Poster sessions provide the opportunity for participants to present their recent results. Registration and meeting information are available at <http://mdi.ucsf.edu>.

Fluorescence Spectroscopy of Biomolecules

Satellite Meeting

Friday, February 22, 2002

8:00 AM - 6:30 PM

In honor of the contributions of Ludwig (Lenny) Brand
to biological fluorescence

8:15 AM

Introduction and Welcome from Organizers

8:30 AM

Session I

Dynamics of Macromolecules

Speakers

Antoine Visser

Jane Vanderkooi

Robin Hochstrasser

9:15 AM

Session II

Intrinsic Fluorophores and Photophysics

Speakers

Ari Gafni

Pat Callis

Mary Barkley

Art Szabo

Jay Knutson

Sandy Ross

10:45 AM

Break

11:15 AM

Session III

Macromolecular Assemblies

Speakers

Cathy Royer

Suzanne Scarlata

Bob Dale

12:00 NOON

Lunch break

1:30 PM

Session IV

Structural Insights from Fluorometry

Speakers

Joseph Beechem

Sherwin S. (Sam) Lehrer

Enrico Gratton

Marcel Ameloot

Michael Edidin

2:45 PM

Session V

Macromolecular Interactions

Speakers

Dave Jameson

Paolo Neyroz

Maurice Eftink

Bill Laws

S. Xie

4:00 PM

Break

4:30 PM

Session V (continued)

Speakers

Rudolf Rigler

Lesley Davenport

H. Cheung

J.R. Lakowicz

Myun Ki Han

Frank Prendergast

6:00 PM

Concluding remarks

7:00 PM

Banquet

Registration form on facing page.

To register online visit:

<http://www.biophysics.org/annmtg/brand-satellite.pdf>

Subgroup Annual Meeting Information

All subgroup programs take place on Saturday, February 23, in the Moscone Convention Center

Bioenergetics

Hartmut Woblrab
Bridgette Barry (Co-chairs)
8:50 AM–6:00 PM
ROOMS 130/131

Structure, Function, and Evolution of Channels and Transporters

Hartmut Woblrab, Bridgette Barry, Amy Davidson, Robert Stroud, Roderick MacKinnon, Milton Saier

Calcium Signaling and Mitochondria

Gyorgy Hajnoczky, Rosario Rizzuto, Andrew P. Thomas, Michael R. Duchen, John J. Lemasters

Molecular Biophysics

Dorothy Beckett, Chair
11:00 AM–4:00 PM
ROOM 134
Unraveling the Coupled Equilibria in Regulation of Transcription Initiation
Catherine Royer, Thomas Kerppola, Craig Martin, Dorothy Beckett

Membrane Biophysics

Robert French, Chair
12:30 PM–5:00 PM
ROOM 102
Molecular Motions Underlying Ion Channel Gating
Robert French, Peter Tieleman, Eric Gouaux, Zhe Lu

A Semi-Stochastic Discussion

Francisco Bezanilla, Ehud Isacoff, Gary Yellen, Kenton Swartz, Richard Horn, Peter Larsson

Biological Fluorescence

Enrico Gratton, Chair
1:00 PM–5:00 PM
ROOM 103
Taekjip Ha, Theodore Hazlett, Fabio Beltram, Petra Schwille, Paul W. Wiseman, Enrico Gratton

Membrane Structure & Assembly

Paul Axelsen, Chair
1:00 PM–6:00 PM
ROOMS 132/133
Membrane Protein Folding and Function
Paul Axelsen, Sajith Jayasinghe, William Dowhan, Arlene Albert, James U. Bowie, Rosemary Cornell, Charles Sanders, Don Engelman, Vishwanath Koppoka, Lukas Tamm, William C. Wimley

Motility

Thomas Irving
David Hackney, Co-chairs
1:00 PM–6:00 PM
ROOM 104
Keiichi Namba, Yale Goldman, Hernando Sosa, Frank Kozielski, Vincenzo Lombardi, Edwin Taylor

Beam Receives KS Cole Award



Kurt Beam

The annual K.S. Cole Award, given by the Membrane Biophysics Subgroup, will be presented to *Kurt Beam*, Colorado State University, at the subgroup dinner on Saturday, February 23.

The dinner will begin at 7:00 PM at Clouds Restaurant, above the Moscone Convention Center. Dinner will be followed by a talk by Beam.

The Cole Award is given in honor of Kenneth S. (Kacy) Cole, and it recognizes an individual who has contributed significantly to the field of membrane biophysics. Beam's research has focused on calcium channels, in particular the interactions between DHP and ryanodine receptors required for excitation-contraction coupling in muscle. Tickets for the dinner can be purchased for \$45 from *Bill Wonderlin* at: wonder@wvu.edu.

Biological Fluorescence Subgroup

The 2002 meeting of the Biological Fluorescence Subgroup is almost here! First of all let me remind all interested persons to please officially join the Subgroup if you plan to attend the meeting. Of course everyone is welcome to come to our sessions but the size of the meeting room is connected to the number of subgroup members and we will all be more comfortable in a bigger room! see page 14 for a list of speakers.

I'm sure that everyone will agree that this will be an exciting and dynamic program which will highlight many of the latest developments in the area of biological fluorescence.

We will also have a short talk from the winner of the 2002 Young Fluorescence Investigator Award, sponsored by the SPEX-Jobin-Yvon Group. Nominations for this prestigious award will be accepted up until January 15 and details can be found on the SPEX website (www.jyinc.com).

I am also pleased to announce a major new international award in the field of fluorescence spectroscopy. Namely, ISS, Inc., has established a prize for a senior investigator called the Gregorio Weber Established Investigator Award. This award, which will consist of a plaque and a \$2000 prize, is intended to recognize and honor the singular contributions of Gregorio Weber to our field. This award is intended for a senior level researcher (generally at the level of full professor or lab director) who has contributed to Biological Fluorescence. More details concerning this award will be announced at the Subgroup meeting. Nominations are accepted until December 30, 2001.

The day before our subgroup meeting a Satellite Symposium has been organized by *Lesley Davenport* and *Jay Knutson* to celebrate the contributions to *Lenny Brandt*. This Symposium will be held in San Francisco on February 22, 2002, from 8:00 AM to 6:30 PM, with banquet following. (See registration information on pages 12–13.)

I hope everyone interested in the application of modern fluorescence techniques to biophysical research will be able to meet with us in San Francisco in February 2002.

—*Enrico Gratton*, Chair

Call For New Subgroup

As the Biophysical Society continues its growth in membership and expansion of the scientific topics in the program at the Annual Meeting, the important role played by the Subgroups within the Society becomes ever more apparent. The gathering of Annual Meeting attendees at the specialized symposia sponsored by the Subgroups offers the opportunity for in-depth coverage of timely issues and a forum for follow-up discussions.

At the 2001 Biophysical Society Meeting held in Boston, a petition was circulated to evaluate support among the attendees for forming a new subgroup within the Biophysical Society to complement those that currently exist. The potential focus of this new subgroup was broadly proposed to focus on ion channels and the petition collected more than 140 names from the attendees.

On Saturday February 23, at the 2002 Biophysical Society Meeting in San Francisco, there will be an informal meeting to promote further discussions. The location will be Room 124 at Moscone Convention Center, from 12:00 NOON - 12:50 PM. The discussion leader will be *Maureen W. McEnery*, Ph.D., CWRU School of Medicine, (mwm4@po.cwru.edu) former Chair of the Bioenergetics Subgroup (1998-2001). All are invited to attend.

Future Annual 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

Public Affairs

Funding Updates

There is some good news for the National Science Foundation (NSF). On November 6, the United States House of Representatives passed its conference funding bill and sent it to the President for his signature. The bill contained the House's version of the VA/HUD language for the NSF total budget of \$4.8 billion, an 8.2 percent increase, up from last year by \$363 million.

Some of the allocations include:

- \$3.6 billion for Research & Related Activities
- \$139 million for Major Research Equipment
- \$875 million for Education & Human Resources

As the end of the year approached, The National Institutes of Health FY 2002 funding was still uncertain. On December 20, though, the conference committee agreed to spend \$23.285 billion on the NIH's budget. This 3 billion increase from FY 2001 will however be slightly reduced after funds for the Global AIDS, Malaria and TB Fund, and other initiatives are subtracted, leaving the NIH with a total of \$22.888 billion. This is a 14 percent increase.

Originally, the House had slated the NIH for \$22.9 billion and the Senate for \$23.7 billion. In order to remain on the doubling target though, in FY 2003, Congress would have to provide the NIH with \$27.3 billion, a \$4 billion increase over this year.

On average, Institutes received 12 to 14 percent increase. Other increases included:

- CDC, \$345 million, 9 percent increase
- NCI, \$4.19 billion, 12 percent increase

- NHLBI, \$2.576, 12 percent increase
- NIAID, \$2.347 billion, 13.8 percent
- NIGMS, \$1.72 billion, 12 percent increase

The Yin and the Yang

On November 29, White House Office of Management and Budget Director Mitch Daniels said the NSF is an example of how an efficient and effective government agency should be run. Pointing to the NSF as a model agency, Daniels said it is one of the "true centers of excellence in this government," because it provides funds "directly to researchers pursuing the frontiers of science" with "very low overhead costs." Daniels continued his praise by suggesting future funding for the NSF because of its accountability, saying that it deserves "to be singled out, deserve(s) to be fortified and strengthened" for its success. He was certain to stress that government agencies that do not meet performance standards will likely not fair as well under future federal budgets.

At the same time, Congress has directed the NSF to provide details of its major research equipment (MRE) account spending, dating back to 1995, to the House and Senate Appropriations Committees. MREs are large, sometimes international, facilities such as the Large Hadron Collider (LHC), a superconducting particle accelerator being built at the CERN laboratory in Geneva, Switzerland. The international project is supported by NSF, the U.S. Department of Energy and CERN (European Laboratory for Particle Physics) member states. The total U.S. contribution will be \$531 million, with \$450 million from the Department of Energy and \$81 million from NSF

The Revolving Door

With the Directorships of several major Institutes, including the NIH Director itself, vacant, search committees are being formed which will include senior people from within and without the Institutes. Acting NIH Director Ruth Kirschstein stated that recruitment for these positions will be carried out under Title 42, allowing the NIH to be more competitive in salaries than if it had to offer contracts under the Senior Executive Service salary scale.

The committees will be looking to replace *Steven Hyman*, director of the National Institute of Mental Health, who will become provost at Harvard in December; *Alan Leshner*, director of the National Institute on Drug Abuse, who also will leave in December to head American Association for the Advancement of Science; and *Enoch Gordis*, director of the National Institute on Alcohol Abuse and Alcoholism, who will retire in December.

On December 6, 2001, *President Bush* announced his appointment of *Dr. Andrew C. von Eschenbach*, a prostate cancer expert at the University of Texas M.D. Anderson Cancer Center as the Director of the National Cancer Institute. He was trained at M.D. Anderson and has served as its chairman of the urology department and head of prostate research. *von Eschenbach* replaces acting NCI director *Alan Rabson*.

Who Speaks for Science?

At this year's annual meeting of the Association of American Medical Colleges, a roundtable discussion on research was held with four Nobel laureates, the topic was the national strategy to fight bioterrorism. Panelist and

California Institute of Technology president *David Baltimore* was asked what he would do if he were leading the government's efforts, he said, "first of all we need a credible voice. One of the first things I would do is make someone of enormous respect in the scientific and/or medical community spokesperson for the country on issues of bioterrorism." He also said that appointments need to be made at the NIH and the FDA. The Center for Disease Control should also have a more central role in these discussions and its budget should reflect its importance. University of California at San Francisco, *Michael Bishop*, who was also a panelist, agreed and further commented that "we need to revalue public health; we need to bring field science and laboratory science and sociological disciplines together to improve our understanding of how to control disease, whatever its origins. We have to rejuvenate the [study] of microbes. We have been caught by surprise in the clinical aspects of anthrax."

OSTP Does Not Spell Stop

On October 23, the United States Senate confirmed the nomination of *John H. Marburger, III*, as the Director of the Office of Science and Technology Policy. Until the appointment, Marburger was the Director of the U.S. Department of Energy's Brookhaven National Laboratory and President of Brookhaven Science Associates. He is the former President of State University of New York at Stony Brook and a former Dean of the College of Letters, Arts and Sciences at the University of Southern California. A graduate of Princeton University, Marburger received his Ph.D. in Applied Physics from Stanford University. In his statement before Congress, Marburger said, "From satellites to software to superconductivity, the Federal government has

supported—and must continue to support—exploratory research, experimentation, and innovation that would be impossible for individual companies or even whole industries to afford. These partnerships in pursuit of innovation enable the private sector to generate new knowledge and develop novel technologies that ultimately lead to commercial success, increased jobs, and healthier and more productive lives for all Americans."

FASEB

FASEB held its annual Federal Funding Consensus Conference, the event during which representatives from its 21 member societies set recommendations for federal funding of biomedical and life sciences research, December 4–5. Prior to the Conference, the society delegates developed draft recommendations for programs and funding for seven federal agencies that support biomedical research: the National Institutes of Health (NIH), the National Science Foundation, the Departments of Agriculture, Energy, Veterans Affairs, the National Aeronautics and Space Administration and, for the first time, the Environmental Protection Agency.

The report from this conference is sent to every member of Congress and provides the basis for FASEB's advocacy efforts, including testimony before congressional appropriations committees.

This year's conference was particularly important for several reasons, said FASEB President *Robert R. Rich*. "We are at an important point in the effort to double the budget of the NIH in five years," he explained. "We are getting near our objective, and we must maintain our efforts to assure success. At the same time, we need to develop a new vision that will enable us to continue

our progress beyond the doubling goal that we set." The Biophysical Society was represented by President *Mary Barkley* and board member *Stephen White*.

Ruth Kirchstein, Acting Director of the NIH, spoke to members of the consensus conference and emphasized the challenges facing the National Institutes of Health during the federal appropriations process. At the previous evening's event, National Science Foundation Director, *Rita Colwell*, gave her perspec-



Mary Barkley (lft), Biophysical Society President and representative to the FASEB Board and Rita Colwell (rt), Director of the NSF

tive on the issues facing the NSF and on FASEB's recommendations for federal funding for biomedical and life sciences research. Both lauded FASEB's forward thinking and commitment to funding science research and development.

NIST Confirmation and NASA & DOE Nomination

On November 30, the Senate confirmed *Arden Bement, Jr.* as Director of the Department of Commerce's National Institute of Standards and Technology (NIST). Until the appointment, Bement was the David A. Ross Distinguished Professor of Nuclear Engineering at the Purdue University. He also headed the

(Continued on page 18.)

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School of Nuclear Engineering at the Purdue. A member of the National Academy of Engineering and the National Science Board, Bement has a background in the public and private sectors. Previously serving as a Vice President of Science and Technology at TRW, Inc. and as Deputy Under Secretary of Defense for Research and Engineering.

During his December 7th Senate confirmation hearing as NASA Administrator, *Sean O'Keefe*, was questioned about the problems facing the agency and how he would address those rather public challenges. Ironically, the obstacles facing the new administrator will be fiscal, managerial and personel. As O'Keefe faced the Commerce Committee, Democrats and Republicans had real concerns about the management of the space station, asking how the nominee might handle this crisis. In response to several Senators, O'Keefe said he that his skill was "that of a public administrator." He was warned by the committee members that NASA was unlikely to see an infusion of funds in the near future. O'Keefe promised the committee that his priority is "everything has got to get back to basics."

On December 11, *President Bush* announced his nomination of *Raymond Orbach* as the Director of the Department of Energy's Office of Science. Orbach was serving as the Chancellor of the University of California, Riverside, where he was a professor of physics. Upon the announcement, Orbach said, "this is an extraordinary opportunity to help my country achieve at the highest scientific levels. I am gratified by President Bush's trust and I am committed with all of my heart to his aggressive program furthering the nation's scientific endeavors."

Science Education

A national survey by the California Academy of Sciences, in conjunction with public opinion polling firm Harris Interactive, found that Americans have a profound lack of scientific knowledge. 43 percent of Americans say they understand less and less of what scientists are doing today. The results found:

- 53 percent of all American adults do not know that the Earth goes around the Sun once a year.
- 48 percent of all American adults do not have a sense of what percentage of the Earth's surface is covered by water.
- 42 percent of all American adults cannot correctly answer whether the earliest human lived at the same time as dinosaurs.
- 19 percent could not answer any of the above questions. Only 35 percent of college graduates were able to respond correctly to all three questions.

Visit www.calacademy.org/geninfo/newsroom/releases/survey_results.htm for more information on the survey.

In related news, Education Secretary Ron Paige released The Nation's Report Card: Science Highlights 2000, a survey of science education from the DOE's National Center for Education Statistics (NCES). It stated that 82 percent of U.S. high school seniors are not performing at the "proficient" level in science testing. The report states that "instead of improving our own science education, we have been relying on the education other countries provide to their citizens. There is nothing wrong with the H-1B program, but there is something wrong when...foreign workers are getting jobs in America because we failed to teach American graduates the skills."

However, there may be hope. The NSF has launched a \$100 million ini-

FASEB Consensus Conference



Ruth Kirschstein, NIH Acting Director, and Society member Steven White, University of California at Irvine, participated in the FASEB Consensus Conference held in Bethesda in December 2001.

tiative to regenerate leadership in teaching and research in math, science and technology. By creating the Centers for Learning and Teaching in different parts of the country, the NSF hopes to encourage the development of new faculty and materials to increase learning from kindergarten through grade 12. Students will have their science, math and technological inclinations nurtured with the hopes that they will become tomorrow's teachers. There will be five new Centers, each receiving \$10 million over the next five years.

Department of Defense

The Senate completed its work on the FY 2002 Appropriation for Defense Science and Technology bill in mid December. This includes total funding for basic research, applied research and advanced technology development. However, the House had yet to finish its work on the companion bill. While the Senate marked its version at an impressive 8 percent, the House was calling for a mere 3.5 percent in its version. The Senate's version of the bill included the following funding commitments:

- Total Basic Research funding would increase 3.5 percent, \$46 million, to \$1,363 million.
- Total Applied Research funding would increase 6.5 percent, \$239 million, to \$3,915 million.
- Total Advanced Technology Development funding would increase 10.9 percent, \$436 million, to \$4,435 million.
- Total S&T funding would increase 8 percent, \$721 million, to \$9,713 million.

Other News

- *DoD*: The Department of Defense (DoD) issued a planning document in

October saying "a robust research and development effort is imperative to achieving the Department's transformation objectives. DoD must maintain a strong science and technology program that supports evolving military needs and ensures technological superiority over potential adversaries." The Quadrennial Defense Review Report calls for three percent of the total DoD budget to be spent on science and technology.

- *Beamlines*: Although there is an acknowledged shortage of available beamlines, NIGMS and NCI have agreed to devote \$23 million over the next three years to increasing the availability of these beamlines for structural biologists. NIGMS has said that current lines are sufficient to accommodate the needs, they merely need to be used more efficiently.

- *Salary Gap*: In a report entitled *From Scarcity to Visibility: Gender Differences in the Careers of Doctoral Scientists and Engineers*, the National Research Council found that male doctoral scientists and engineers held a salary advantage of approximately 20 percent over women with the same educational status from 1973 until 1995. While making only limited policy recommendations, the NRC panel did suggest that efforts should be made with "greater attribution of girls and young women on the path to the Ph.D. and entry into science career."

- *NIST*: On November 27, the House passed H.R. 1259, the Computer Security Enhancement Act, designed to strengthen and protect the federal information technology infrastructure. The bill charges the National Institute of Standards and Technology (NIST) with protecting federal agencies' computer information security and privacy guidelines.

- *ROI Success Rates*: A 1998 study found that the success rate for RO1

awards in FY 00 was 31.4 percent. This is about 10 percent higher than before the NIH doubling effort began, when in FY 93 the rate was 21.3 percent. According to *Wendy Baldwin*, NIH deputy director for extramural research, "we've a pretty mortality rate out of funded research. The half-life of a funded RO1 investigator is about 5 years, which means 50 percent get a renewal. That's about right if you track the data."

- *Bioethics Council*: The newly formed National Bioethics Council has a recently named Executive Director, *Dean Clancy*. Clancy is a senior policy analyst in the office of House Majority Leader *Dick Armey* (R-TX). Clancy has stated that his job is "to serve the council as a neutral facilitator." The Council will review topics such as stem cell research, cloning and end-of-life care. Currently the Council is Chaired by *Leon Kass*. Potentially 17 more appointments can be made, many are expected from the fields of science and medicine, law and government, as well as philosophy and theology.

- *Homeland Security*: The Office of Homeland Security, headed by former Pennsylvania Governor *Tom Ridge*, is establishing a "central clearinghouse" for bioterrorism preparedness to be housed in HHS. As an extension of the CDC's Health Alert Network (HAN), the idea is to create "a permanent infrastructure, the infusion of technology into all 50 states and connecting all public health departments," Ridge said. More details will be developed for the FY 03 budget.

- *Tech Talent Bill*: Representatives *Sherwood Boehlert* (R-NY) and *John Larson* introduced a bill to address the decline in the nation's technical workforce and improve undergraduate math and science education. The Tech Talent Bill would create a competitive grant

(Continued on page 20.)

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program through the NSF for undergraduate institutions that pledge to increase the number of science, math, engineering and technology (SMET) degree seeking students. An identical bill was sponsored in the United States Senate by Senators *Christopher Bond* (R-MO), *Pete Domenici* (R-NM), *Bill Frist* (R-TN), *Joe Lieberman* (D-CT), and *Barbara Mikulski* (D-MD).

- *Student Visas:* Under an executive directive, *President Bush* ordered student visas to be subjected to tighter controls in an attempt to ensure that these visas are being properly used. The Secretary of State and the Attorney General are charged with creating a program that will “provide for tracking the status of a foreign student who receives a visa.” The President was careful to add that international students contribute “greatly to the vitality and quality of our...institutions of learning.”

- *Global Science Corp:* Former NIH Director and now President and CEO of the Memorial Sloan-Kettering Cancer Center, *Harold Varmus*, proposed the creation of a global science corp, patterned after the U.S. Peace Corp. In a speech at the Nobel Peace Prize Centennial Symposium December 6–8, Varmus explained that he wanted to bridge the gaps between the “highly refined and beautiful science” of research and the actual application of science that benefits global health. Varmus stressed that this is just an idea, as of yet there is no organization or money to fund such initiatives.

**NATIONAL UNIVERSITY OF SINGAPORE
DEPARTMENT OF PHYSICS
Faculty Search for Biophysicists**

The Department of Physics, Faculty of Science, National University of Singapore (NUS), invites Biophysicists to apply for tenure-track faculty positions at Assistant Professorship level and above. Preference will be given to applicants who specialize in the following areas:

- ◆ Physics of protein, bio macromolecules and biomembranes
- ◆ Biophysics imaging and spectroscopic techniques
- ◆ Tissue engineering

Candidates with outstanding potential in *other fields of biophysics* will also be considered. Candidates should have several years of independent research experience beyond their Ph.D., and demonstrated a leadership quality in research and a strong commitment to teaching.

NUS is in the same league as the top "Research 1 Universities" in USA (Carnegie Classification) and faculty can expect at least the same salary levels and research support as these top universities. For details, visit us on the Internet at <http://www.physics.nus.edu.sg/>

Outstanding individuals are encouraged to send their detailed curriculum vitae, a brief research plan and three letters of recommendation to:

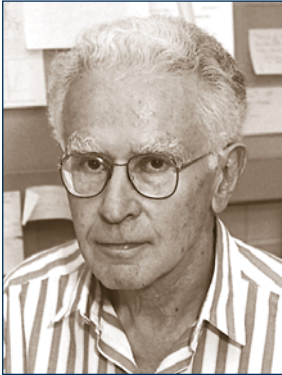
*Professor C H Oh; Head, Department of Physics
Block S12, Faculty of Science, National University of Singapore,
2 Science Drive 3, Singapore 117542
Please note that only short listed candidates will be notified.*

Breakthroughs in Bioscience



The latest in FASEB's Breakthrough's in Bioscience series, *Targeting Leukemia: From Bench to Bedside*, is now available. The illustrated article explains the development of treatments for leukemia, a disease which, thanks to basic research, now has a cure in sight. For copies of the article, contact 301-571-0657 or visit: <http://www.faseb.org/opar/break>

Obituary



Richard James Podolsky

Richard James Podolsky, a longtime member of the Biophysical Society, died in Boston on October 10, 2001. He was 78. Dick will be fondly remembered as much for his scientific brilliance as for his gentle nature. Born

in Chicago, Illinois, in 1923, he studied at the University of Chicago for both undergraduate and graduate degrees, receiving his B.S. in physical science in 1946, and earning a Ph.D. in biophysics in 1952. He spent most of his research career at NIH, starting from 1962. Podolsky made major contributions in the fields of muscle physiology and muscle structure, particularly in excitation-contraction coupling and the mechanism of contraction. These findings laid some of the groundwork for our present understanding of muscle function and structure. Podolsky perfected an innovative model of a nearly intact fiber that allows experimental access to the internal components. By this approach, he firmly established the role of calcium and the calcium sequestering activity of the sarcoplasmic reticulum *in vivo*. In muscle mechanics, one of his most original con-

tributions was to show that a great deal of information could be obtained from rapid pre-steady state perturbations and transient responses in contracting muscle fibers. During his later years, he was among the first to combine low angle x-ray diffraction and mechanical measurements on muscle fibers. His work also contributed to our understanding that titin, a molecular spring, is responsible for the passive elasticity of muscle cells.

Podolsky trained close to 30 post-doctoral fellows, most of whom are now themselves well established investigators in the field of muscle biology. He is survived by his two sons, Alexander and Paul, and two grandchildren.

—*Leepo Yu*
National Institutes of Health

Visiting Assistant Professor Position Physics/Biophysics ♦ St. Lawrence University

Applications are invited for a one-year visiting position, renewable for one additional year, at the assistant professor level to begin in August 2002. We have a strong preference for a person with a Ph.D. in experimental biophysics or in physics with a demonstrated interest in experimental biophysics. (ABD candidates may be considered.) The successful candidate will develop and teach a yearly course in biophysics, direct senior research projects in biophysics, and teach introductory and intermediate level courses in the physics curriculum as appropriate. Applicants should have a deep commitment to undergraduate education in a liberal arts environment. In return, we are committed to helping our junior faculty members develop effective teaching skills.

Review of applications will begin on February 22, 2002. Candidates should submit a letter of application, curriculum vitae, statement of teaching philosophy, description of research interests, and arrange to have three letters of recommendation sent to Dr. Daniel W. Koon, Search Committee Chair, Physics Department, St. Lawrence University, Canton, NY 13617. St. Lawrence University, chartered in 1856, is an independent, private, non-denominational university whose mission is to provide an inspiring and demanding undergraduate education in the liberal arts to students selected for their seriousness of purpose and intellectual promise. The University's 2100 students come from 35 U.S. states and 21 countries. Located halfway between the high peaks of the Adirondack Mountains and the national capital of Canada, Ottawa, the University provides unparalleled access to outdoor recreation and international social and cultural opportunities.

For more information please visit SLU's homepage at: <http://www.stlawu.edu/resources/job.html>.

*St. Lawrence University is an Affirmative Action/Equal Employment Opportunity employer.
Women, minorities, veterans, and persons with disabilities are encouraged to apply.*

Call for Nominations for 2003 Awards

Deadline for All Nominations: February 21, 2002

Recipients will be honored at the 2003 Annual Meeting in San Antonio.

The Biophysical Society Awards Committee solicits nominees for the Michael and Kate Bárány Award for Young Investigators, the Distinguished Service Award, the Founders Award, Emily M. Gray Award, Avanti Award, and the Fellows of the Biophysical Society Award. Nominees not selected as winners will remain on the list of nominations for future years. Descriptions of the awards and criteria for nominations follow.

Avanti Award in Lipids

Avanti Polar Lipids, Incorporated has established an annual award to be given by the Biophysical Society. The award will be given to an investigator for outstanding contributions to our understanding of lipid biophysics.

1. Nominees must have made important and well recognized contributions to an understanding of lipid biophysics, including but not necessarily limited to the metabolism, enzymology, structure, or function of lipids or lipid membranes.
2. Nominees must not have received an Avanti Award in any prior year and may not nominate themselves.
3. Nominations must be made by a member in good standing of the Biophysical Society by October 1 of each year, and must include the following:
 - a) A letter from the nominator, no longer than 2 pages in length, supporting the candidacy of the nominee and highlighting specific publications deemed representative or especially worthy of recognition.
 - b) Two supporting letters from other Society members.
 - c) A letter accepting nomination and a curriculum vitae from the nominee.
4. Nominees may be of any nationality or academic rank, and may be affiliated with nonacademic institutions provided that the work for which they are to be recognized has been published in recognized scholarly journals. The winner receives \$2,500.

Michael and Kate Bárány Award for Young Investigators

The Young Investigator Award was established by the Biophysical Society in 1992. In recognition of the endowment gift from Michael and Kate Bárány, the award was renamed in 1998. The award is for outstanding contribution to biophysics by a person who has not achieved the rank of full professor at the time of nomination. The winner receives a \$2,000 award.

Nomination packets should include a letter summarizing the nominee's qualifications for the award, two seconding letters and the nominee's curriculum vitae.

Distinguished Service Award

The award, established by the Biophysical Society in 1991, is intended to honor service in the field of biophysics. The award is for contributions beyond achievements in research. The recipient receives a \$1,000 award.

The nominator's letter and two seconding letters should discuss the rationale for making the award.

Founders Award

The award was established by the Society to recognize outstanding achievement in any area of biophysics. The award of \$1,000 is made annually. One test of significance is the acceptance and use of the advance by others in the field, either promptly or over a period of years.

Nomination packets should include a letter summarizing the nominee's qualifications for the award, two seconding letters, and the nominee's curriculum vitae.

Emily M. Gray Education Award

The Emily M. Gray Lecture is the keynote presentation at the Student Symposium at the Annual Meeting. This lecture is presented annually by a member of the Society who is judged to have made significant contributions to education in biophysics whether by teaching, developing novel educational methods or materials, promoting scientific outreach efforts to the public or to youth, generating a track record of attracting new students to the field of biophysics, or by otherwise fostering an environment exceptionally conducive to education in biophysics. The winner receives a \$200 monetary award and commemorative object.

Nomination packets should include a letter summarizing the nominee's qualifications for the award, two seconding letters, and the nominee's curriculum vitae focusing on educational and teaching contributions.

Fellow of the Biophysical Society

This award is designed to honor the Society's distinguished members who have demonstrated excellence in science and to the expansion of the field of biophysics. Fellows will be recognized at the Annual Awards Ceremony and will be identified in the annual Directory of Members and in the Biophysical Journal.

Nomination packets should include a letter summarizing the nominee's qualifications, two supporting letters, and the nominee's curriculum vitae.

*Mail nomination packet to:
Biophysical Society, (Name of Award), 9650 Rockville Pike, Bethesda, MD 20814-3998*

2003 Award Nomination Form

Consider the nominee below for the following award:

- | | |
|--|--|
| <input type="checkbox"/> Founders Award | <input type="checkbox"/> Fellow of the Biophysical Society |
| <input type="checkbox"/> Emily M. Gray Award | <input type="checkbox"/> Distinguished Service Award |
| <input type="checkbox"/> Michael & Kate Barany Award for Young Investigators | <input type="checkbox"/> Avanti Awards in Lipids |

Date: _____

Nominee:

Current Title:

Address:

Phone: _____

FAX: _____

Email: _____

Nominator:

Current Title:

Address:

Phone: _____

FAX: _____

Email: _____

Upcoming Events

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/biomaterialsApril>

April 3–12, 2002

*Excitability, Secretion, and Transport:
Molecules in Medication*

Channels and Transporters: International School of
Biophysics
Erice, Sicily

<http://medschool.mc.vanderbilt.edu/transporters2002/>

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/>

April 27–May 1, 2002

*International Union for Pure and Applied Biophysics:
XIV International Biophysics Congress*
Buenos Aires, Argentina

<http://www.biofisica.dna.uba.ar/2002/>

May 2–4, 2002

*2nd Annual International IEEE–EMBS Special Topic
Conference on Microtechnologies in Medicine
and Biology*

Madison, WI

<http://mmb.bme.wisc.edu/mmb2002/>

May 25–29, 2002

29th European Symposium on Calcified Tissues
Zagreb, Croatia

Contact Janet Crompton at admin@ectsoc.org

June 24–July 4, 2002

*N.A.T.O. ASI Molecular Electronics: Bio-sensor
and Bio-computer*

Pisa, Italy

For more information, contact Paolo Gualtieri at
gualtieri@ib.pi.cnr.it



9650 Rockville Pike
Bethesda, Maryland 20814-3998

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