

Message from the Program Chair



David Millar
The Scripps Research Institute
2005 Annual Meeting Program Chair

The 49th Annual Meeting of the Biophysical Society will be held at the Long Beach Convention Center in Long Beach, California, from February 12 through February 16, 2005. This year's meeting will present an exciting and varied scientific program comprised of 20 symposia, 5 workshops, 64 platform sessions and more than 3200 posters. The symposia offer a broad survey of contemporary biophysical research with contributions from many leading international researchers. The program this year introduces a variety of topics not included in previous meetings, highlighting the increasing use of quantitative biophysical approaches in fundamental studies in cell biology and glycobiology. The emergence and remarkable

growth of single-molecule biophysics is also particularly well represented in the program. The five workshops will survey and assess a variety of new experimental and computational tools for use in drug discovery, cellular imaging, membrane modeling and electrophysiology. A variety of specialized subgroup meetings, platform talks and poster sessions will complement the major symposia.

Whatever your specific area of interest, you will have an opportunity to learn about the latest developments in your field and to share information and ideas with many like-minded colleagues, all within an attractive setting in sunny Southern California. If you haven't already made your plans to attend, I strongly encourage you to participate in what promises to be an extraordinary annual meeting. Finally, I wish to express my appreciation to the members of the program committee and the various subgroup chairs for their invaluable assistance in shaping the scientific program. Looking forward to seeing you in Long Beach.

Annual Meeting Online On-site Registration Now Open

<http://www.biophysics.org>

Meeting attendees who missed the December 10 early discount registration deadline have the opportunity to register at the onsite rate and avoid registration lines onsite. Those who register before January 20 and live in the US will be mailed their badges and any tickets purchased; those residing outside the US may pick up their registration materials onsite at the International Badge Pick-Up Desk. Those registering after January 20 will be sent a confirmation notice and may pick up their registration material onsite. Students are reminded that they must present their student ID in order to pick up their registration materials.

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Annual Meeting Onsite Child Care

The Biophysical Society has this year contracted with KiddieCorp to provide onsite childcare during the Annual Meeting, in Long Beach, California.

Pre-registration is required. Time slots will be filled on a first-come, first-served basis. Registration closes January 14. Parents are encouraged to register early, as popular times slots fill quickly.

Childcare fees (three-hour minimum is required):

- Regular attendees:
\$10.00/hour per child
- Postdoc attendees:
\$7.00/hour per child
- Student attendees:
\$5.00/hour per child

Registration forms and information can be found at <https://www.kiddiecorp.com/bpskids.htm>.





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Biophysicist in Profile



Ligia G. Toro de Stefani

Her 81-year old father, Hermilo Toro, still practices medicine in Mexico City. "When I look at him at his age still working," Ligia Toro de Stefani says, "I say to myself, there is no reason why I should not be working very hard."

But it is more than a strong work ethic that drives Toro de Stefani. It is a passion for learning, for teaching, and for living. "Everyday is a great achievement," she says, "because everyday that I wake, I learn something new."

One of her former postdocs, Yoshio Tanaka, now Associate Professor in the Chemical Pharmacology Department at Toho University School of Pharmaceutical Sciences, says that he "learned a life philosophy" from Toro de Stefani. "Not only did I learn about ion channels from her, but I learned how to write, how to present that which I write, and how to conduct myself in the lab."

She would always say, "nothing is impossible in life if you want it."

Born in Mexico City, Toro de Stefani was surrounded by science and medicine through her father, an immunologist, and

her mother, the late Herlinda Calzada, who was a nurse anesthetist. Both parents instilled in her and her five siblings – three of whom also pursued careers in science and medicine – the determination to create their own opportunities and the importance of remaining passionate about what they chose to do in life. Toro de Stefani recalls her father constantly posing challenging questions to her and her siblings, forcing them to be analytical thinkers. Through her parents' work in a birthing clinic they founded together, Toro de Stefani witnessed firsthand the impact that science and medicine could have on society.

As a small child Toro de Stefani wanted to be a teacher. Her true passion for science started in secondary school when she began to take chemistry and biology classes. She was transfixed when she heard a story about Louis Pasteur looking into the tiny crystals of paratartronic acid and seeing two types of crystals, one mirror image of the other, which led to his discovery of dextrorotatory (d) and the levorotatory (l). After that, she could not get enough of being in the lab conducting crystallization experiments. She credits her chemistry teacher with encouraging her always to ask, "why" and to never be content with accepting a simplistic explanation.

After graduating from secondary school, Toro de Stefani attended the Universidad Iberoamericana, where she

received an undergraduate degree in Chemistry. She went on to receive her Masters and Ph.D. from Universidad Autónoma

Metropolitana-I and Centro de Investigación y de Estudios Avanzados del IPN (CINVESTAV), respectively.

While attending CINVESTAV and working on her thesis, she met Enrico Stefani, who at the time was her thesis

"Everyday is a great achievement..."

advisor and mentor. Toro de Stefani was captivated by the precision in Stefani's hands when conducting experiments and found him "always happy and enthusiastic." Following in her parents' footsteps – they too had met while pursuing individual careers in the same arena, fell in love, and made the choice to marry and collaborate professionally – Toro de Stefani and Stefani married and became colleagues. The commonality and passion they share for biophysics is evident when she speaks of their professional relationship. She explains that they are not unique in that there are a number of scientific husband and wife teams, and from her perspective this can be a big plus. Each influences and complements the other; both grow together.

Following completion of her Ph.D. program, Toro de Stefani remained in Mexico for one year working on her post-doctoral training at Centro de Investigación y de Estudios Avanzados del IPN before permanently moving to the states, where she continued her training at Baylor College of Medicine in Houston, Texas.

In 1987 she accepted a Research Associate position at Baylor and left there in 1994 as an Assistant Professor. She then joined the staff at David Geffen School of Medicine at UCLA, where she currently holds an appointment as Professor of Anesthesiology in the Division of Molecular Medicine with a secondary appointment in the Department of Molecular & Medical Pharmacology. Her husband Enrico Stefani is also on staff at UCLA, where he is the Director of the Division of Molecular Medicine of the Department of Anesthesiology, Vice Chairman of Research and Professor of Anesthesiology and Physiology.

"Basic research is the basis for the advancement of medicine, the advancement of technology," she states, "without research we cannot keep growing." Her research work reflects this philosophy. Although not a physician, Toro de Stefani is adamant that her research relate to a clinical aspect that will contribute to the

advancement of medicine.

Ramon Latorre, who met Toro de Stefani at Baylor, says that "Ligia combines an immense working capacity with lots of brain, a mixture difficult to beat." Latorre, currently at the CECS in Chile,

"...if you want to do this, study hard, recognize your potential, and create your own opportunities. If you produce good-quality work, you will be recognized for it."

explains that Toro de Stefani "has been important in the development of our knowledge of the structure and modula-

tion of the BK channel by beta subunits. The membrane topology proposed by Ligia and her team for the BK channel is now accepted by all researchers working in the field."

Her current research in ion channels and smooth muscle K channels will provide tools for molecular medicine and will help understand and treat cardiovascular disease in the growing aging population. The research team is studying calcium activated potassium (Ca-activated K-MaxiK) channels that control vascular tone and the changes that occur during aging to the blood vessels as it relates to this ion channel. They are studying the basic mechanisms of how the channel works and how it affects the physiology of the vascular system.

She is also a Co-PI, working with her husband, on studies involving remodeling of cardiac and smooth muscle K channels by sex hormones. This research further expands her studies investigating ion channel remodeling during functional cardiac hypertrophy in pregnancy. In their efforts to understand the genes that are expressed during pregnancy, they have discovered that the genes that are markers for hypertrophy are not turned on during



Ligia Toro de Stefani and her husband *Enrico* (left), on a recent visit to Japan. Also pictured (left to right) are *Kaoru Tanaka*, *Yoshio Tanaka* (former postdoc), and son *Michio*.

(Continued on page 19.)

MEETING SUMMARY

	Saturday FEBRUARY 12	Sunday FEBRUARY 13	Monday FEBRUARY 14	Tuesday FEBRUARY 15	Wednesday FEBRUARY 16
7:30 AM		Postdoctoral Breakfast	BPS Business Meeting	Graduate Student Breakfast	
8:00 AM		Placement Service	Placement Service	Placement Service	Placement Service
8:15 AM		Symposium 1–TRP Channels: What a Sensation Symposium 2–Molecular Machines that Organize DNA Structure Platform Session A–E	Symposium 7–Membrane Biophysics: Synaptotagmins, SNAREs & Vesicle Biogenesis Symposium 8–Biophysical Approaches to DNA Replication & Repair Platform Sessions P–U	Symposium 13–Molecular Mechanisms of Translation Symposium 14–Theoretical Models of Dynamical Systems Platform Sessions AH–AM	Symposium 18–Mitochondrial Ion Channels: Gatekeepers of Life & Death Symposium 19–Molecular Motors: Biophysical Mechanisms in Cell Biology Platform Sessions AZ–BE
8:45 AM	Molecular Biophysics Subgroup				
9:00 AM	Bioenergetics Subgroup				
10:00 AM		Undergraduate Student Symposium Exhibits Open	Exhibits Open	Exhibits Open	
10:15 AM		Coffee Break	Coffee Break	Coffee Break	Coffee Break
10:30 AM			New Member Welcome Coffee		
10:45 AM		Symposium 3–Glycobiology: Synthesis, Multivalency & Glycochaperones Symposium 4–Control & Regulation of Calcium Signaling in E-C Coupling Platform Sessions F–J	Symposium 9–Structural & Biophysical Dissection of Nucleocytoplasmic Transport Symposium 10–Protein Folding: Theory, Experiment & Design Platform Sessions V–AA	Symposium 15–Awards Symposium Platform Sessions AN–AS Grant Writing Workshop	Symposium 20–Exploring Molecular Motions of Channels & Transporters Platform Sessions BF–BL
11:00 AM	Permeation Transport Subgroup				
12:00 NOON	Placement Service (12:00–7:00)	International Travel Awards Luncheon			
1:00 PM	Membrane Biophysics Subgroup Biological Fluorescence Subgroup Membrane Structure & Assembly Subgroup Motility Subgroup Exocytosis/Endocytosis Subgroup	CPOW Career Luncheon Undergraduate Poster Session & Reception Minority Affairs Committee Forum: Resources for Attracting Minorities to Biophysics The Impact of Post-9/11 Visa Policies on Science & Technology	CPOW Panel Discussion–Starting in a New Position: Managing People Education Committee Panel–Innovations in the Teaching of Biophysics <i>Biophysical Journal</i> Workshop, Session I–How to Prepare Print-Quality Digital Art Photos	Early Career Development Panel Discussion Government Affairs Committee Meeting: Bridging the Sciences & Interacting with your Congressman <i>Biophysical Journal</i> Workshop, Session II–An Experts Guide to Preparing Digital Art Photos	Poster Sessions (1:00–3:00) Late Poster Session (1:00–3:00) Popcorn Break
1:30 PM			Professors at Undergraduate Institutions (PUI) Luncheon		
1:45 PM		Poster Sessions (1:45–3:45) Popcorn Break	Poster Sessions (1:45–3:45) Popcorn Break	Poster Sessions (1:45–3:45) Popcorn Break	
2:00 PM					
3:00 PM					Meeting Ends
4:00 PM		Symposium 5–Cooperative Mechanisms in Molecular Motors Symposium 6–Moonlighting Proteins: Old Proteins Learning New Tricks Platform Sessions K–O	Symposium 11–Rho-GTPase Family Signaling: Intracellular & Structural Mechanisms Symposium 12–Nucleic Acid Packaging in Virus Particles Platform Sessions AB–AG	Symposium 16–New & Notable Symposium 17–Allosteric Pathways Uncovered Platform Sessions AT–AY	
5:00 PM	Opening Mixer Early Careers Committee Meet & Greet				
6:00 PM		SRAA Poster Competition			
6:30 PM	Student Travel Grant & MARC Awardee Reception				
7:30 PM		Workshop 1–RNA as a Therapeutic Drug Target: Progress and Challenges Workshop 2–Advances in High-Resolution Cellular Electron Tomography Workshop 3–Simulation Methodologies for Membrane Structure & Dynamics		Workshop 4–Advances in Single-Molecule & Single-Cell Detection & Manipulation Workshop 5–New Technologies for Electrophysiology	
8:00 PM			Awards Ceremony & National Lecture		
9:30 PM			Society Reception & Dance		

International Travel Grants

The International Relations Committee has awarded 20 travel grants to the 2005 Annual Meeting in Long Beach.

<i>Mahnaz Amini</i>	Institute of Biochemistry and Biophysics
<i>Svetlana Baoukina</i>	Moscow Institute for Steel and Alloys
<i>Piotr Bednarczyk</i>	Agricultural University SGGW
<i>Daniel Fraiman Borrazas</i>	Universidad de Buenos Aires
<i>Cecilia Bouzat</i>	Instituto de Investigaciones Bioquimicas
<i>Sebastian Brauchi</i>	Centro de Estudios Cientificos
<i>Cesar Cardenas</i>	ICBM
<i>Luis Chaves</i>	USP – FMRP
<i>Juliana Cortines</i>	UFRJ
<i>Tatinana Demina</i>	Moscow State University
<i>Tatinana Hushcha</i>	Institute of Bioorganic Chemistry and Petrochemistry
<i>Allen Kaasik</i>	University of Tartu
<i>Svetlana Khaymina</i>	Institute of Cytology RAS
<i>Sundara Narayanan</i>	Madurai Kamaraj University
<i>Olga Ostrumova</i>	Institute of Cytology RAS
<i>Lia Pietrasanta</i>	Centro de Microscopias Avanzadas
<i>Yen Sun</i>	National Taiwan University
<i>Yegor Tourleigh</i>	Moscow Lomonosov State University
<i>Rosen Ugrinov</i>	Institute of Solid State Physics
<i>Gregor Zupancic</i>	Univeristy of Ljubljana

Student Travel Awards

Thirty-three students, from among 107 applicants, were selected to by the Education Committee to receive travel awards to the 2005 Annual Meeting.

<i>Aashiish Agnihotri</i>	Pennsylvania State University
<i>Bradley Akitake</i>	University of Maryland
<i>Ali Alaouie</i>	North Carolina State University
<i>Gregory Bokinsky</i>	Harvard University
<i>Audrey Chang</i>	University of Miami
<i>Neetu Chhabra</i>	University of Toronto
<i>Abigail Doura</i>	Johns Hopkins University
<i>Fabio Fernandes</i>	Instituto Superior Tecnico
<i>Pabhashi Fernando</i>	University of Cambridge
<i>Julia Forman</i>	University of Cambridge
<i>Gaurav Girdhar</i>	Washington University
<i>Xing Gong</i>	Oklahoma State University
<i>Sanjeewa Goonsekera</i>	University of Rochester
<i>Suzie Hight</i>	Purdue University
<i>Sebastien Huet</i>	CNRS UPR
<i>Johan Hurtig</i>	Chalmers University of Technology
<i>Chiaki Ishii</i>	Stanford University
<i>Maxine Jonas</i>	Massachusetts Institute of Technology
<i>Taeho Kim</i>	University of Toronto
<i>Alexander Komarov</i>	University of Maryland
<i>Yosef Kuttner</i>	Weizmann Institute of Science
<i>Yuan Liu</i>	National Taiwan University
<i>Steven Mansoor</i>	Oregon Health & Science University
<i>Sundra Baalaji Narayanan</i>	Madurai Kamaraj University
<i>Sean Pin Ng</i>	University of Cambridge
<i>Afua Nyarko</i>	Oregon State University
<i>Sterling Paramore</i>	University of Utah
<i>Richard Pomerantz</i>	Suny Downstate Medical Center
<i>Sripad Ram</i>	University of Texas, Southwestern Medical Center
<i>Maria Ratajczak</i>	University of Chicago
<i>Karen Thickman</i>	Johns Hopkins University

Annual Meeting Public Affairs Events

**The Impact of Post-9/11 Visa Policies
on Science and Technology**

Sunday, February 13, 1:00-2:00 PM

Public Affairs Committee Meeting

Monday, February 14, 12:00-2:00 PM

Grant Writing Workshop:

How to Write Your First Proposal

(Co-Sponsored by Early Careers Committee)

Tuesday, February 15, 10:45 AM - 12:45 PM

Government Affairs Committee Meeting
*Bridging the Sciences and Interacting with Your
Member of Congress*

Tuesday February 15, 1:00-2:00 PM

Graduate Student Breakfast

Sponsored by the Burroughs Wellcome Fund

Tuesday, February 15, 7:30-8:30 AM, Room 203 A/B

The Early Careers Committee will host this breakfast meeting with graduate student meeting attendees. This breakfast will serve as a valuable forum for discussing current issues facing graduate students in biophysics. Bring your ideas for improving the Society's career development efforts and support for younger members.

Minority Affairs Committees Forum New Society Resources for Attracting Minorities to Biophysics

Tuesday, February 15, 1:00-3:00 PM, Room 101

The Minority Affairs Committee (MAC) has planned a Forum for the 2005 meeting entitled *New Society Resources for Attracting Minorities to Biophysics*. *Barry Lentz*, Committee Chair, will lead the discussion, which includes *Cliff Poodry*, *Jim Cassatt* (not pictured), and *Jean Chin* of NIGMS, NIH.



Barry Lentz,
University of North
Carolina, Chapel Hill



Cliff Poodry,
NIGMS, NIH



Jean Chin,
NIGMS, NIH

International Travel Grant Luncheon

Sunday, February 13, 12:00-1:00 PM, Room 203C

The International Affairs Committee will honor the International Travel Grant Awardees at this annual luncheon.

Undergraduate Student Symposium

Sunday, February 13, 10:00 AM-2:00 PM, Room 202

The Education Committee will sponsor this program for undergraduate students. This event will introduce college and university undergraduates to research and career opportunities in biophysics through seminars on emerging topics on biophysics, the Emily M. Gray Award Lecture, and a special poster session highlighting undergraduate research. Students must register by February 4 to attend. To register, complete the Undergraduate Student Symposium Registration form found on page 10 of the newsletter or at <http://www.biophysics.org/meetings/annmtg/student.pdf>

10:00 AM

Undergraduate Opening Mixer

11:00 AM

Seminar: Emerging Topics in Biophysics

12:00 PM

Emily Gray Award Lecture

Why Did Nature Design Membranes with So Many Lipid Species?

Barry Lentz, University of North Carolina, Chapel Hill

1:00 PM

Undergraduate Poster Session & Reception

The mixer, seminars, and poster session are open to all undergraduate students registered for the meeting. Local undergraduate students from the Long Beach area who are not presenting a poster will be admitted to the conference for free on this day, receive a one-year student membership in the Biophysical Society, and receive an Annual Meeting T-shirt.

Biophysical Journal Workshops

Session 1: *How to Prepare Print-Quality
Digital Art Photos*

Monday, February 14, 1:00-2:00 PM, Room 201

Session 2: *An Expert's Guide to Preparing
Digital Art Photos*

Tuesday, February 15, 1:00-2:00 PM, Room 201

Join us for these sessions, presented by our printer, Dartmouth Journal Services, for tips on how to prepare figures that will reproduce the finest detail and most accurate color in the *Biophysical Journal*. Come view our presentation on why we are now asking for color figures to be submitted in RGB. Come with questions!!

MARC Travel Awards

The Minority Affairs Committee, through the FASEB/MARC program, has awarded 14 Faculty/Student Travel and Postdoctoral/Student Travel Awards to the 2005 Annual Meeting.

Postdoctoral Presenter Award Winners

<i>Courtney Brown</i>	Oakwood College
<i>Adrian Olivares</i>	Yale University
<i>Veronica Segarra</i>	Yale University
<i>Rebecca Tinsley</i>	University of Michigan

Faculty/Student Award Winners

<i>Mark Jack</i> , Faculty	Florida A&M University
<i>D. John Hakizimana</i> , Student	
<i>Albert Osei</i> , Faculty	Oakwood College
<i>Maisha Baker</i> , Student	
<i>Don Rufus Ranatunga</i> , Faculty	Oakwood College
<i>Andrew Patterson</i> , Student	
<i>Alexander Volkov</i> , Faculty	Oakwood College
<i>Jessica Lee</i> , Student	
<i>Laura Zanello</i> , Faculty	University of California,
<i>Xiaoyu Zhang</i> , Student	Riverside

Postdoctoral Breakfast

Sponsored by the Burroughs Wellcome Fund
Sunday, February 13, 7:30-8:30 AM, Room 203C

The Early Careers Committee will host this annual breakfast, where discussion will focus on the career development activities of the Early Careers Committee, plans for future events, and other issues facing the younger members of the Society. Please bring your ideas for improving the Society's career development efforts and support for younger members.

Meet and Greet at the Opening Mixer

Saturday, February 12, 5:00-7:00 PM
Grand Ballroom Foyer

New to the Biophysical Society? Don't know anyone at the meeting? Stop by the Meet and Greet Table at the opening mixer, and members of the Early Career Committee will help you get to know other people, find company for dinner, and interact with other Society members.

Career Development Workshops

This year we are fortunate to have Ed Bocko, Jr., returning to the Placement Center at the Biophysical Society Annual Meeting. Bocko will be leading career development workshops throughout the meeting. In addition, he will provide one-on-one sessions to review and improve resumes and CVs. Workshops will include Interviewing 101, Business Correspondence, Goals for Each Step in the Job Search, Uncovering the Hidden Job Market, and Career Transitions Away from Bench Science. Bocko will also lead a workshop discussing his own path into human resources consulting. A complete workshop schedule will be available in the Annual Meeting program book, and posted outside the Placement Center (Room 101). All meeting attendees are invited to attend the workshops. Appointments for one-on-one sessions will be available on a first-come, first-served basis; sign up early to reserve a spot. See you in Long Beach!

Sunday, February 13, 2005

10:00 AM *Interviewing 101*

11:30 AM *Resumes and Business Correspondence: Cover Letters, Broadcast Letters and Follow-Up Letters*

1:30 PM *ED's TOP TEN: Ten Ways to Ensure a Positive and Lasting First Impression in the Employment Arena*

3:00 PM Resumé 1-on-1 Critiques

Monday, February 14, 2005

10:00 AM *Your Job Search: A Sequential Process with Different Goals at Each Step of the Way*

11:30 AM *Uncovering the Hidden Job Market: Tactics That Work!*

1:30 PM *My Journey To Becoming an HR Consultant In The Biotech/Life Sciences Arena*

2:30 PM *Career Open Forum: Career Q&A Session*

3:30 PM Resumé 1-on-1 Critiques

Tuesday, February 15, 2005

10:00 AM *So... You Don't Want to Work at the Bench Anymore? Planning Your Career Transition in the Sciences*

11:30 AM *ED's TOP TEN: Ten Ways to Ensure a Positive and Lasting First Impression in the Employment Arena*

2:00 PM Resumé 1-on-1 Critiques

Over 3,200 Abstracts Programmed for Long Beach

The Society greatly appreciates those members who volunteered their time to sort and program the abstracts submitted for the Annual Meeting. This year 3,276 abstracts have been programmed across 64 platform sessions and 4 poster sessions. The Society would like to extend a special thank-you to the following members that joined *David Millar*, this year's Program Committee Chair, in sorting and scheduling the abstracts:

<i>Mark Adelman</i>	<i>Kathleen Giangiacomo</i>	<i>Ivan Polozov</i>
<i>Jim Ames</i>	<i>David Giedroc</i>	<i>Jim Sellers</i>
<i>Paul Blank</i>	<i>Rachel Laudadio</i>	<i>Kathleen Trybus</i>
<i>Marco Colombini</i>	<i>W. Jonathon Lederer</i>	<i>Harel Weinstein</i>
<i>Peter Fajer</i>	<i>Colin Nichols</i>	<i>Joshua Zimmerberg</i>
	<i>Eva Nogales</i>	



Pictured left to right are *Mark Adelman, Jim Ames, Ro Kampman, David Millar, Ivan Polozov, and Yvonne Cissel.*

Education Committee Panel Discussion Innovations in the Teaching of Biophysics

Monday, February 14, 1:00-2:30 PM, Room 101

This panel discussion will focus on innovative ways to teach biophysics to undergraduate students. Audience participation is encouraged, and refreshments will be provided! The panelists and their topics include:

Undergraduate Biophysics at Haverford.
Suzanne Kane, Haverford College (not pictured)

Using Case Histories in Biophysics Teaching.
Richard Ludescher, Rutgers University

Experience with Courses Based on the Biological Physics Text.
Phil Nelson, University of Pennsylvania

The 2004 Summer Mini-Course in Biophysics at Hampton University.
Bernard Chasan, Boston University



Richard Ludescher,
Rutgers University



Phil Nelson,
Rutgers University



Bernard Chasan,
Boston University

Satellite Meeting

Drug Discovery for Ion Channels V

Friday, February 11

Ian Herzberg, ALA Scientific Instruments
and *Chris Mathes*, Axon Instruments, Co-
Chairs

Opening Remarks

Ian Herzberg

**HERG-Lite, a High throughput Screen
for Drug-induced hERG Liability Due
to Direct Block and Inhibition of
Trafficking.**

Arthur M. "Buzz" Brown, ChanTest, Inc.

Title to be Announced.

Elke Guenther, NMI, Reutlingen

**Pharmacological Screening Using
Nanion's Technology.**

Bela Kelety, longate Biosciences

Title to be announced.

Mads P.G. Korsgaard, NeuroSearch A/S

Title to be announced.

Charles Luetje, University of Miami

**High-Throughput Screening and High-
content Follow-up for Small Molecule
Blockers of Voltage-gated T-type Ca²⁺
Channels.**

Joe McGivern, Amgen

**Drug Discovery in Academia: CFTR
Chloride Channel Activators and
Inhibitors.**

Alan Verkman, University of California, San
Francisco

Closing Remarks

Alan Finkel, Molecular Devices

Titles and additional speakers to be
announced.

Satellite Meeting Registration Form

Drug Discovery for Ion Channels V

FRIDAY, FEBRUARY 11, 2005

8:00AM-5:00PM

LONG BEACH CONVENTION CENTER - ROOM 104A

REGISTRATION DEADLINE: FEBRUARY 4, 2005

REGISTRATION IS LIMITED AND ACCEPTED ON A FIRST-COME, FIRST-SERVE BASIS.

Name (First): (Last):

Address:

City: State:

Zip/Mail Code: Country:

Telephone: _____ Fax: _____

Required Field – E-mail: _____

I require special accomodations to fully participate in the meeting.
Describe briefly: _____

Registration: (\$30.00)

Please charge my credit card: Visa MasterCard American Express Discover

Credit Card #: _____

Expiration Date: _____

Name as it appears on card: _____

Signature: _____

My check is enclosed (make check payable to Biophysical Society in US funds drawn on a US bank).

Return this entire form to:
Biophysical Society Office, 9650 Rockville Pike, Bethesda, MD 20814-3998; Fax: 301-634-7133
(DO NOT fax form and then mail it.)

Undergraduate Student Symposium Registration

SUNDAY, FEBRUARY 13, 10:00 AM–2:00 PM

Local undergraduate students within a 50-mile radius of the Long Beach Convention Center may register for this symposium and gain access to the entire 2005 Annual Meeting, on Sunday, February 13, 2005.

REGISTRATION DEADLINE: FEBRUARY 4, 2005

To register, fill out the form below and fax it to the Biophysical Society office at 301-634-7133
or e-mail: society@biophysics.org.

Last Name: _____

First Name: _____

Address: _____

University: _____

Phone Number: _____

Fax Number: _____

E-mail: _____

Planning to Present a Poster? Yes No

Title of Abstract: _____

This program, sponsored by the Education Committee, aims to introduce college and university undergraduates to research and career opportunities in biophysics. The symposium includes a seminar on emerging topics on biophysics, the Emily M. Gray Award Lecture, and a special poster session highlighting undergraduate research.

CPOW

Herding Cats?

Many learn that their scientific insight and ability are nearly useless in managing a lab...too late. A single student or post-doc poisons the atmosphere, the whole bunch bickers over resources or project boundaries, projects languish – usually, just as deadlines approach.

Don't let this happen to you! Work on the skill set that keeps your lab rolling. Come to the *Panel Discussion* on Monday, February 14, 1-3 pm in room 202 (sponsored by CPOW).

Seasoned veterans of the lab management wars will be on hand to pass on management tips that you won't find on bookshelves or in business classes, because science is different (the motives of employees lean more toward glory and less to salary, for example).

Specifically, this panel will discuss the nitty-gritty of managing people in the lab, getting them to work together and be efficient and productive. How can you maintain a productive and friendly atmosphere without jealousies and resentments between students, employees, etc.? The panel will include investigators at different levels in their careers and in different types of institutional settings. Scale will range from managing a big lab down to the more typical one (for instance, where the PI actively works 'at the bench'). Come, have fun, and inoculate your lab against several strains of 'mismanagement malaise'.

Not running your own lab yet, but interested in getting a job that will allow you to do so? Come to the *CPOW Luncheon*, Sunday, February 13, 1:00-2:00 pm, Room 203 A/B. Roundtable discussions with established scientists will allow you to informally find out the information you need to "write your resume," "interview with success," "write the perfect grant," and so on. Whatever

level you are at, this luncheon promises to provide a few tips to keep you moving in a forward direction. Preregistration is required and the cost of the luncheon is \$19. (<http://www.biophysics.org/meetings/annmtg/career.pdf>).

–*Ishita Mukerji*, Chair

Subgroups

Membrane Biophysics

2005 K.S. Cole Award Winner Named



Barbara Ehrlich,
Yale University
School of Medicine

Barbara Ehrlich, from the Department of Cellular and Molecular Physiology, Yale University School of Medicine, is the recipient of the 2005 Cole Award presented by the Membrane Biophysics Subgroup. She will be honored at the Subgroup's annual dinner on Saturday, February 12. The dinner will begin at 7:00 pm at a location to be announced later. 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. Ehrlich's investigations of intracellular calcium channels has added much to our understanding of calcium signaling and homeostasis. Tickets for the dinner can be purchased for \$45 from *Bill Wonderlin* (wonder@wvu.edu).

To encourage participation in the Subgroup, any student member of the Biophysical Society entering the student poster competition will receive a free ticket to the Cole dinner. Additional free tickets will be available on a lottery basis to student members who do not enter the poster competition. The deadline for requesting student tickets is January 28,

2005. Students should contact Bill Wonderlin to be included in the lottery.

–*Deborah Nelson*, Chair

Exocytosis/Endocytosis

The Exocytosis and Endocytosis Subgroup looks forward to its 3rd Subgroup Meeting in Long Beach. The meeting is co-chaired by *Manfred Lindau* of Cornell and *Meyer Jackson*, University of Wisconsin. Other members of the organizing committee are *Eileen Lafer*, University of Texas, *Kevin Gillis*, University of Missouri, and *Guillermo Alvarez de Toledo*, University of Seville, Spain. The committee is delighted that a group of outstanding speakers has agreed to present their exciting research. *Zhuan Zhou*, Peking University, China will present recent results of exocytosis and endocytosis that is surprisingly voltage dependent but calcium independent. *Jenny Hinshaw* from NIH will talk about structural studies of dynamin and their implications for the mechanisms of membrane constriction during endocytosis. In the second part *Tim Ryan* of Cornell and *Richard Tsien* of Stanford will speak about exocytosis-endocytosis coupling and the balance between modes of vesicle fusion and retrieval, a topic that has recently generated much controversy.

The subgroup meeting will be concluded by the presentation of the second annual "*Sir Bernard Katz Award for Excellence in Research in Exocytosis and Endocytosis*" and the subsequent award lecture. This year's recipient is *Wolfhard Almers* from the Vollum Institute at Oregon Health and Sciences University. Following a successful career in the field of ion channels, Almers drew his attention



Wolfhard Almers,
Vollum Institute at
Oregon Health and
Sciences University

about 20 years ago to the study of exocytosis, employing patch clamp capacitance measurements and fluorescence imaging. He has made a large number of seminal contributions including the first characterization of single fusion pore conductances. In recent years, much insight into docking fusion and retrieval of single vesicles has come from his application of total internal reflection fluorescence microscopy to the study of exocytosis and endocytosis. His award lecture in the Exocytosis and Endocytosis Subgroup Meeting is entitled "How Separate are Exocytosis and Endocytosis?"

The subgroup meeting is followed by a Gala Dinner, the location of which is to be announced. Those who wish to attend the dinner and have not prepaid with subgroup registration, may order tickets by e-mail from the current Chair-Elect and Treasurer *Meyer Jackson* (mjackson@physiology.wisc.edu).

The committee gratefully acknowledges the support from its sponsors HEKA Electronic, Axon Instruments, Rapp Opto Electronic, Till Photonics, Applied Scientific Instrumentation, ALA Scientific Instruments, Sutter Instruments Company, Bruxton Corporation, NPI Electronic, Invitrogen, and Elsevier (TINS and TCB).

—*Manfred Lindau*, Chair



The Long Beach marina.

2004 Discussions Meeting Summary

The 2004 Biophysical Discussions meeting, *Probing Membrane Microdomains*, was held at Asilomar Conference Grounds, in Pacific Grove, California, October 28-31. Over the course of 2 ½ days, nearly 200 scientists, from disciplines ranging from cell biology and immunology to theoretical physical chemistry, gathered to discuss currently available techniques that can be used to characterize membrane lateral heterogeneity. Speakers described techniques, including fluorescence and electron microscopic methods, NMR, mass spec and X-ray, as well as computational and theoretical methods, that can be used to investigate lipid and protein lateral heterogeneity in membranes. Applications included those focused both on model membranes and cell membranes. Discussion also focused on newly available techniques and the types of methodology that should be developed in the future. Although no grand strategy emerged, participants began to learn the right questions to ask and profited greatly from the interdisciplinary environment. In addition to plenary sessions, the 2004 Discussions hosted two abstract poster sessions with exhibits, and three exhibitor talks from sponsoring companies. All presentations and discussions may be viewed online at <http://www.biophysics.org>.

The Biophysical Society would like to thank the following sponsors for their generous contributions to the 2004 Discussions meeting:

Asylum Research
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Nearly 200 people participated in the 2004 Discussions Meeting.

Annual Meeting Symposia, Workshop, and Subgroup Schedule

Symposia

Sunday, February 13

8:15 AM–10:15 AM

TRP Channels: What a Sensation

TRP Channels as Cellular Sensors.

David E. Clapham, Harvard Medical School, Chair

TRP Channels in Nociception and Thermosensation.

David Julius, University of California, San Francisco

Biophysics of TRP Channel Gating.

Thomas Voets, University of Leuven

TRP Channels in *C. elegans*.

Cori Bargmann, University of California, San Francisco

8:15 AM–10:15 AM

Molecular Machines that Organize DNA Structure

James Kadonaga, University of California, San Diego, Chair

Molecular Mechanism of SMC Protein-containing Complexes.

Jan Lowe, MRC Laboratory of Molecular Biology

Muk BEF, a Bacterial Condensin, Organizes DNA into a Compact, Repetitive, Stable Structure in an ATP-dependent Manner.

Carlos Bustamante, University of California, Berkeley

Mechanism and Targeting of an Essential Chromatin Remodeling Complex.

Brad Cairns, University of Utah

Assembly of Chromatin by ATP-dependent Molecular Motors.

James Kadonaga, University of California, San Diego

10:45 AM–12:45 PM

Glycobiology: Synthesis, Multivalency and Glyochaperones

Automated Solid Phase Oligosaccharide Synthesis.

Peter H. Seeberger, Swiss Federal Institute of Technology, Chair

Proteomics and the discovery of biocatalysts for glycobiology

Nicola Pohl, Iowa State University

Carbohydrate Cluster Effect and Multivalency of Carbohydrate-Protein Interactions.

Eric J. Toone, Duke University

Structure and Function of Glyochaperones in the ER.

David Y. Thomas, McGill University

10:45 AM–12:45 PM

Control and Regulation of Calcium Signaling in E-C Coupling

Clara Franzini-Armstrong, University of Pennsylvania, *W. Jonathan Lederer*, University of Maryland, Chairs

Introduction: New Views in Calcium Signaling and E-C Coupling.

Clara Franzini-Armstrong, University of Pennsylvania

Regulation of the Calcium Pump by Phospholamban and Sarcoplipin.

David MacLennan, University of Toronto

Conformational Coupling of DHPRs and RyRs: Probing the Topological Interrelationship of these Two Proteins in Skeletal Muscle.

Kurt Beam, Colorado State University

Ca²⁺ Release Regulation from Within the Sarcoplasmic Reticulum in Skeletal Muscle.

Eduardo Rios, Rush University

Ca²⁺ Spark Regulation in Heart.

W. Jonathan Lederer, University of Maryland

Ca²⁺ Blinks in Heart.

Heping Cheng, National Institutes of Health

4:00 PM–6:00 PM

Cooperative Mechanisms in Molecular Motors

Yale E. Goldman, University of Pennsylvania, Chair

When Myosin Heads Communicate They Perform Well.

David Warshaw, University of Vermont

The Gating/Flexibility Paradox in Myosin VI.

H. Lee Sweeney, University of Pennsylvania

How Kinesin Keeps Its Grip.

Jeff Gelles, Brandeis University

Stretching the Hand-Over-Hand Model: How Kinesin Uses Internal Strain to Walk Processively.

Steven Rosenfeld, University of Alabama at Birmingham

4:00 PM–6:00 PM

Moonlighting Proteins: Old Proteins Learning New Tricks

Moonlighting Proteins: Examples of Gene Sharing.

Constance Jeffery, University of Illinois at Chicago, Chair

DNA Cleavage and RNA Splicing by a Bifunctional Intron-encoded Protein.

Barry Stoddard, Fred Hutchinson Cancer Research Center

Unraveling the Multifunctional Proline Utilization (PutA) Flavoenzyme.

Donald Becker, University of Nebraska

Regenerating Argininosuccinate Lyase Activity in Its Eye Lens Homologue $\delta 1$ Crystallin.

Lynne Howell, Hospital for Sick Children, Toronto

Monday, February 14

8:15 AM–10:15 AM

Membrane Biophysics: Synaptotagmins, SNAREs and Vesicle Biogenesis

Molecular Analysis of Exocytotic Fusion Pores.

Edwin Chapman, University of Wisconsin, Chair

The Neuronal SNARE Complex: Is it Involved in Vesicle Priming or Ca²⁺-dependent Fusion?

Jakob Sorensen, Max Planck Institute for Biophysical Chemistry

Detecting and Dissecting Vesicle Biogenesis with Light.

Graeme Davis, University of California, San Francisco

Membrane Bending and Curvature Sensing in Clathrin-mediated Endocytosis.

Harvey McMahon, MRC Laboratory of Molecular Biology

8:15 AM–10:15 AM

Biophysical Approaches to DNA Replication and Repair

Structure and Mechanism of Translesion DNA Synthesis.

Wei Yang, National Institutes of Health, Chair

DNA Unwinding and Translocation by SF1 DNA Helicases.

Timothy Lohman, Washington University

Characterizing Dynamic Molecular Assemblies in DNA Damage Recognition and Repair.

John Tainer, Scripps Research Institute

Insights into the Progression of DNA Processing Assemblies.

Walter Chazin, Vanderbilt University

10:45 AM–12:45 PM

Structural and Biophysical Dissection of Nucleocytoplasmic Transport

The Nuclear Pore Complex and Nucleocytoplasmic Transport: Who is Doing What?

Ueli Aebi, Biozentrum, Chair

Karyopherins: A Structural View by X-ray Crystallography and Small Angle Scattering.

Elena Conti, European Molecular Biology Laboratory

Structural Basis for the Function of Nucleoporins in Import Complex Disassembly and Importin Recycling.

Murray Stewart, MRC Laboratory of Molecular Biology

Nuclear Pore Complex: The Hole Picture?

Michael P. Rout, Rockefeller University

10:45 AM–12:45 PM

Protein Folding: Theory, Experiment and Design

Protein Folding/Unfolding at Atomic Resolution.

Valerie Daggett, University of Washington, Chair

Folding of Repeat Proteins.

Lynne Regan, Yale University

Protein Folding Dynamics.

William Eaton, National Institutes of Health

The Energy Landscape for Protein Folding and Function.

Jose Onuchic, University of California, San Diego

4:00 PM–6:00 PM

Rho-GTPase Family Signaling: Intracellular & Structural Mechanisms*Avril Somlyo*, University of Virginia, Chair

Rho Signaling: Molecular Mechanisms to in vivo Roles.

S. Narumiya, Kyoto University

G-Protein Coupled Receptor Repertoires Defined by Rho Activation.

Joan Heller-Brown, University of California, San Diego

The RHOad from the Membrane to the Nucleus.

J. Silvio Gutkind, National Institutes of Health

Crystallographic Studies of Human RhoA and Its Regulatory Mechanisms.

Zygmunt Derewenda, University of Virginia School of Medicine

4:00 PM–6:00 PM

Nucleic Acid Packaging in Virus Particles*John E. Johnson*, Scripps Research Institute, Chair

Physical Aspects of Viral Self-Assembly and Genome Packaging.

William Gelbart, University of California, Los Angeles

Atomic Resolution Studies of Molecular Switching Mediated by RNA in Icosahedral Viruses.

John E. Johnson, Scripps Research Institute

Examining the Packaging of Viral Genomes with Molecular Simulations.

Stephen C. Harvey, Georgia Institute of Technology

The Ordering of RNA in Viruses from X-ray Crystallography and Atomic Force Microscopy.

Alex McPherson, University of California, Riverside*Tuesday, February 15*

8:15 AM–10:15 AM

Molecular Mechanisms of Translation

Structural and Functional Dynamics of the Ribosome.

Wolfgang Wintermeyer, University of Witten/Herdecke, Chair

FRET-detected Nascent Chain Folding Inside the Ribosome.

Arthur Johnson, Texas A&M University

Mutational Analysis of the Ribosome as a Tool to Probe Discrete Steps in Elongation.

Rachel Green, Johns Hopkins University

The Overture of Protein Targeting: When SRP Meets the Ribosome.

Roland Beckmann, Humboldt University

8:15 AM–10:15 AM

Theoretical Models of Dynamical Systems

Dynamic Fluctuations in Biological and Physical Systems.

Ken Dill, University of California, San Francisco, Chair

Computational Characterization of the Functional Dynamics of Supramolecular Assemblies Using Elastic Network Models.

Ivet Bahar, University of Pittsburgh

Engineering Principles Applied to Biology.

John Doyle, California Institute of Technology

Dynamic Behavior in Autocrine Cell Signaling Circuits.

Douglas Lauffenburger, Massachusetts Institute of Technology

10:45 AM–12:45 PM

Awards Symposium*Stephen C. Harvey*, Georgia Institute of Technology, Society President, Chair

4:00 PM–6:00 PM

New and Notable*David Millar*, Scripps Research Institute and *David Giedroc*, Texas A&M University, Organizers

Program information to be announced.

(Continued on page 16.)

(Continued from page 15.)

4:00 PM–6:00 PM

Allosteric Pathways Uncovered

Rama Ranganathan, University of Texas Southwestern Medical Center, Chair

Genetic Control by Allosteric Riboswitches and Ribozymes.

Ronald Breaker, Yale University

Switches and Scaffolds: The Logic of Modular Signaling Proteins.

Wendell Lim, University of California, San Francisco

Disentangling the Web of Allosteric Interactions in an Oligomer.

Greg Reinhart, Texas A&M University

Evolutionary Rules Underlying Protein Folding and Function.

Rama Ranganathan, University of Texas Southwestern Medical Center

Wednesday, February 16

8:15 AM–10:15 AM

Mitochondrial Ion Channels: Gatekeepers of Life and Death

ROS-activated Anion Channels Underlying Mitochondrial Communication.

Brian O'Rourke, Johns Hopkins University, Chair

ADP/ATP Transporter and Permeability Transition Pore.

Douglas C. Wallace, University of California, Irvine

Regulation of Cytochrome c Permeability through the Mitochondrial Apoptosis-induced Channel, MAC.

Kathleen Kinnally, New York University

Intracellular Patch Clamping of Mitochondrial Ion Channels and Their Regulation by BCL-2 Proteins.

Elizabeth Jonas, Yale University

8:15 AM–10:15 AM

Molecular Motors: Biophysical Mechanisms in Cell Biology

Unconventional Myosins, Role in Cell Adhesion and Motility.

Margaret A. Titus, University of Minnesota, Chair

Coordinated Motor Activity Drives Organelle Motility.

Steven Gross, University of California, Irvine

Linking Molecular Motors to Signaling and Neurodegenerative Disease.

Lawrence Goldstein, University of California, San Diego

Morphogenesis: Biophysics and Genetics of Dorsal Closure

Dan Kiehart, Duke University

10:45AM–12:45 PM

Exploring Molecular Motions of Channels & Transporters

Eitan Reuveny, Weizmann Institute, Chair

Molecular Dynamics Study of Membrane Channel Gating.

Klaus Schulten, University of Illinois, Urbana-Champaign

FRET Analysis of GIRK Channel Gating.

Eitan Reuveny, Weizmann Institute

Phenotype Screening and Homology Modeling Approaches to Define Ion Selectivity and Transport in Ion Pumps.

Rajini Rao, Johns Hopkins University

Solid-state NMR Approaches for Probing Structure and Dynamics of Membrane Proteins.

Steven Smith, State University New York, Stony Brook

Workshops

All workshops will be held from 7:30–9:30 PM on Sunday, February 13, and Tuesday, February 15.

Sunday, February 13

RNA as a Therapeutic Drug

Target: Progress and Challenges

Richard Roberts, California Institute of Technology, Chair

Advancing RNA as Drug Target.

Yizhak Tor, University of California, San Diego

Targeting Functional RNA with mRNA Display.

Richard Roberts, California Institute of Technology

Antibiotic Recognition of Ribosomal RNA.

Daniel Pilch, Rutgers University

The Role of Electrostatic Forces in RNA Ligand Binding and Catalysis.

Thorsten Diekmann, University of California, Davis

Targeting Peptides to RNAs.

Alan Frankel, University of California, San Francisco

Advances in High-Resolution Cellular Electron Tomography

Mark Ellisman, University of California, San Diego, *Niels Volkman*, Burnham Institute & University of California, San Diego, Chairs

Advanced Computational Tools for Electron Tomography.

Niels Volkman, Burnham Institute & University of California, San Diego

3D Structure Studies of Insulin-Secreting Pancreatic beta Cells by High Resolution EM Tomography.

Brad Marsh, University of Queensland

Use of Biarsenical Ligands as a Tool for Investigating Structure and Dynamics of Gap Junctions.

Gina Sosinsky, University of California, San Diego

Electron Tomography of Actin Assemblies at the Leading Edge of Motile Cells.

Delaver Anjum, Burnham Institute

Mapping the Cellular Proteome by Cryo-Electron Tomography.

Stephan Nickell, Max Planck Institute for Biochemistry

Multivariate Statistical Analysis of Three-dimensional Structural Motifs in Electron Tomograms.

Kenneth A. Taylor, Florida State University

Simulation Methodologies for Membrane Structure and Dynamics

H. Larry Scott, Illinois Institute of Technology, Chair

Choice of Algorithms and Simulation Parameters in Molecular Dynamics Simulations of Membranes.

Peter Tieleman, Calgary University

New Advanced Monte Carlo Methods for Simulation of Bilayers and Biomolecules.

Juan De Pablo, University of Wisconsin

Simulations of Lipid Bilayers on Mesoscopic Scales: Issues, Answers, Challenges.

Olle Edholm, Royal Institute of Technology, Stockholm

Challenges and Opportunities in Simulation and Modeling of Chemically Heterogeneous Membranes.

Eric Jakobsson, University of Illinois & National Institute of General Medical Sciences

Discussants:

John Nagle, Carnegie Mellon University
H. Larry Scott, Illinois Institute of Technology
Thomas B. Woolf, Johns Hopkins University

Tuesday, February 15

Advances in Single-Molecule and Single-Cell Detection and Manipulation

Steven M. Block, Stanford University, Chair

Bioconjugated Nanoparticle Probes for Single-Molecule Imaging and Detection.

Shuming Nie, Emory University

Multicolor Single-Molecule FRET Methods for Studying Biological Folding and Assembly.

Asbok Deniz, Scripps Research Institute

Force Spectroscopy Captures the Folding Reactions of a Single Protein.

Julio Fernandez, Columbia University

Putting It All Together: Combined Optical Trapping and Single Molecule Fluorescence.

Steven M. Block, Stanford University

Serial-Sectioning Scanning Electron Microscopy: Automatic Acquisition of 3D Tissue Nanostructure.

Winfried Denk, Max Planck Institute for Medical Research

New Technologies for Electrophysiology

PDMS Patch Electrodes and Microfluidics.

Kathryn Klemic, Yale University, Chair

Planar Glass Patch Electrodes.

Andrea Bruggemann, Nanion Technologies GmbH, Munich

Cells on Silicon Devices.

Peter Fromherz, Max Planck Institute for Biochemistry

Digital Patch Clamp.

Dan Brown, Bruxton Corporation

Inverted-Pipette Patch Clamping.

A. Schafer, Flyion GmbH, Tübingen

Patch Fluorometry.

Jie Zheng, University of California, Davis

Subgroups

All Subgroup Meetings will be held Saturday, February 12.

Bioenergetics

Marco Colombini, University of Maryland, Chair

Morning Symposium: Mitochondria in Diseases and Therapeutics

Shey-Shing Sheu, University of Rochester Medical Center & *John Lemasters*, University of North Carolina, Chapel Hill, Chairs

Ca²⁺, ATP, and ROS: A Mitochondrial Love/Hate Triangle.

Shey-Shing Sheu, University of Rochester Medical Center

Mitochondria in Cardiac Ischemia-Reperfusion (I-R) Injury.

Paul Brookes, University of Rochester

Mitochondrial Pathways to Apoptosis, Necrosis and Autophagy.

John Lemasters, University of North Carolina, Chapel Hill

Mitochondrial DNA Defect in Pathogenesis, Apoptosis, and Therapeutics.

Mei-Jie Jou, Chang Gung University, Taiwan

Mitochondrial Proteomics and Oxidative Stress.

Bradford Gibson, Buck Institute

Afternoon Symposium: Mitochondria in Cellular Dynamics

Carmen Mannella, New York State Department of Health, Wadsworth Center and *Gyorgy Hajnoczky*, Thomas Jefferson University, Co-Chairs

Mitochondrial Morphology.

Carmen Mannella, New York State Department of Health, Wadsworth Center

Mitochondrial Biogenesis and Motility.

Michael Yaffe, University of California, San Diego

Mitochondrial Fusion and Fission.

Heidi McBride, University of Ottawa Heart Institute

Intermitochondrial Communication.

Gyorgy Hajnoczky, Thomas Jefferson University

Mitochondrial Dynamics in Calcium Signaling.

Nicholas Demaurex, University of Geneva

Mitochondrial Dynamics during Cell Death.

Mariusz Karbowski, National Institutes of Health

Biological Fluorescence

Joseph Beechem, Molecular Probes Inc., Chair

***In vivo* Brain Imaging Using One- and Two-Photon Fluorescence Microendoscopy.**

Mark J. Schnitzer, Stanford University

Dynamic Imaging of Fluid Forces and Heart Motions in Developing Embryos.

Mary Dickinson, Caltech, Beckman Institute

Light Emission Tomography: Visualizing Bioluminescence in Whole Living Mice in 3D.

Ralph P. Mason, The University of Texas Southwestern Medical Center at Dallas

Imaging with Fluorescent Proteins *in vivo*, the New Cell Biology.

Robert M. Hoffman, University of California, San Diego

Functional Optical Imaging of Breast Cancer.

Bruce J. Tromberg, Beckman Laser Institute

Exocytosis/Endocytosis

Manfred Lindau, Cornell University, Subgroup Chair

Manfred Lindau, Cornell University, and *Meyer Jackson*, University of Wisconsin, Symposia Chairs

Ca Independent but Voltage Dependent Exocytosis and Endocytosis in a Sensory Neuron.

Zhuan Zhou, Institute of Molecular Medicine, Peking University

Structural Properties of Dynamin Reveal a Mechanism for Membrane Constriction.

Jenny Hinshaw, NIDDK, NIH

(Continued on page 18.)

(Continued from page 17.)

Exo-Endocytosis Coupling at Nerve Terminals.

Timothy Ryan, The Weill Medical College of Cornell University

Tipping the Balance between Modes of Vesicle Fusion and Retrieval.

Richard Tsien, Stanford University Medical Center

Membrane Biophysics

Deborah Nelson, University of Chicago, Chair

Intracellular Ion Channels: Targeting and Function

The Mitochondrial Uniporter, a Highly Calcium-selective Ion Channel

David Clapham, Harvard Medical School

Role of Intravesicular pH in Endomembrane Traffic

Sergio Grinstein, Hospital for Sick Children, Toronto

Chloride Channels and Phagosomal Biology

Deborah J. Nelson, University of Chicago

pH Regulation in the Secretory Pathway Studied with Genetically Targeted Fluorescence

Terry Machen, University of California, Berkeley

Intermolecular Interactions Regulating the Trafficking of ClC Channels

Christine Bear, Hospital for Sick Children, Toronto

Mechanisms of Synaptic Vesicle Biogenesis: Targeting of Ion Channels and Transporters

Victor Faundez, Emory University

Gating Regulation of IP3R Channels in ER Membrane

Kevin Foskett, University of Pennsylvania

Membrane Structure & Assembly

Stephanie Tristram-Nagle, Carnegie Mellon University, Chair

Relevance of Lipid Bilayer Structure and Dynamics for Biological Function

Ceramide-rich Domain Formation in Membranes

Jenifer Thewalt and *Ya-Wei Hsueh*, Simon Frazier University

The Lipid Organization of the Skin Barrier

Joke Bouwstra, Leiden University

Hydrophobic Matching in Lipid Bilayers and Consequences

Huey Huang, Rice University

Membrane Protein Activity and the Lateral Pressure Profile

Robert Cantor, Dartmouth College

How Lateral Pressure Profiles Can Influence the Stability of Oligomeric Membrane Proteins

J. Antoinette Killian, University of Utrecht

Short Chain Alcohols Modulate Mechanical Properties and Area/Molecule of Lipid Bilayers in Agreement with Traube's Rule

Marjorie Longo and *Hung Ly*, University of California, Davis

A Flexible Surface Model for Lipid Protein Interactions

Michael F. Brown, University of Arizona, Tucson

Discussants:

Richard Ewand, McMaster University

Olaf Anderson, Weill Medical College

Felix Goñi, University Basque Country

Stephanie Tristram-Nagle, Carnegie Mellon University

Molecular Biophysics

Thomas Schmidt, Leiden University, Chair

Single-Molecule Biophysics: From Molecules to Cells

Single-Molecule Dynamics of Novel DNA/RNA Structures and Their Enzymatic Processing.

Taekjip Ha, University of Illinois, Urbana-Champaign

Protein Folding Dynamics from Single-Molecule FRET.

Ben Schuler, ETH Zurich

Watching Proteins Work and Being Born.

X. Sunney Xie, Harvard University

Signaling Proteins in Action.

Thomas Schmidt, Leiden University, Chair

Visualizing Cellular Entry of Individual Viruses and Gene Delivery Vectors.

Xiaowei Zhuang, Harvard University

Permeation/Transport

David Busath, Brigham Young University, Chair

Program information to be announced.

Motility

Steven Rosenfeld, University of Alabama at Birmingham, and *Kazuhiko Oiwa*, Kansai Advanced Research Center, National Institute of Information and Communications Technology, Co-Chairs

A Panoply of Motors

Exploring the Multiple Kinetic Pathways for Myosin V Processivity.

Josh E. Baker, University of Vermont

Listening to Myosin I.

Lynne M. Coluccio, Boston Biomedical Research Institute

Mitotic Kinesin Eg5 Mechanochemistry.

Susan P. Gilbert, University of Pittsburgh

Mechanochemistry of Kinesin Motility.

Shin-Ichi Ishiwata, Waseda University

Coupling of ATP Hydrolysis and Force Generation by the Recombinant Dynein.

Kazuo Sutoh, University of Tokyo

New Forms of FIONA Applied to Myosin V & VI.

Paul Selvin, University of Illinois

Functional Diversity of Non-Muscle Myosin II Isoforms.

Mibaly Kovacs, National Institutes of Health

Evening Talk

John Kendrick-Jones, MRC Laboratory of Molecular Biology



Long Beach Convention Center (foreground). Queen Mary (background).

MAC Activities

This year's Society for the Advancement of Chicanos and Native Americans (SACNAS) meeting was held in Austin, TX from October 21-24. The Biophysical Society was once again represented by a booth with programs and flyers giving an introduction to the field of Biophysics, as well as flyers and pamphlets from various programs from contributing schools and labs. Grant applications for the FASEB/MARC travel awards to attend our Annual Meeting and information on our Summer Mini-course in Biophysics was also displayed. Over the course this three-day meeting, the largest amount of response came from two groups of attendees: faculty at various schools interested in the Summer Mini-course in Biophysics and students curious about the field of Biophysics. It has become obvious in working conferences over the last couple of years that there is still a misunderstanding of what the field of biophysics is, as well as a misunderstanding in the research and potential employment within the field. These are subjects we as a Society need to address in order to gain interest from our students at an earlier point in their education careers. On another note, SACNAS has done a wonderful job of getting interest and attendance from K-12 teachers. We were approached by several teachers interested in whether we had any information pertinent to students at their level. We should consider ways to do this for the next meeting. Lastly, I would like to give special thanks to *Alberto Roca* for helping with running the Biophysical Society booth at this year's meeting. Overall, I think we have made significant strides with the SACNAS community and with additional changes will continue to increase our numbers of both Chicano and Native American Biophysicists.

—*Gabriel A. Montaña*, Los Alamos National Laboratory

(Continued from page 3.)

pregnancy. The only gene that changes both in hypertrophy during pregnancy and hypertrophy in a deceased state is an ion channel called Kv4.3. The genes that are turned on during hypertrophy in pregnancy are not turned on in hypertrophy in a deceased state, which is believed to be the reason why the heart does not fail and recovers after partum. This research could potentially lead to important breakthroughs in the treatment of cardiovascular disease in the aging population.

In addition to her research, Toro de Stefani finds great satisfaction in teaching, although she does not feel that research and teaching are separate functions. She finds that teaching enhances her learning process and growth, and seeing students grow is a great satisfaction. She advises her students and all those interested in research that "if you want to do this, study hard, recognize your potential, and create your own opportunities. If you produce good-quality work, you will be recognized for it."

Since joining the Biophysical Society in 1980, Toro de Stefani has remained very active in Society activities. She currently serves on the Executive Board and the Program Committee. She is also Chair of the International Relations Committee. "From every committee, I have learned," she says, but "everything has responsibilities and I try to do what I say I am going to do and follow through." She feels her service on the Program Committee is particularly important. There, she explains, "you are delineating where science is going and showing the new things that are being done, that's why you recommend speakers. I think

the symposia are important for the members of the Society to keep them abreast and informed of new innovations in the world of science." She also notes the important work of the International Affairs Committee, whose efforts "make a difference to those who are abroad and do not have the opportunity to come to the United States or be exposed to a vast

"...you chose what you think is a priority and you just do it."

array of scientists." That committee awards travel grants to the Annual Meeting each year, and Toro de Stefani knows firsthand how important those awards are. When living in Mexico, she was herself a recipient of a Society travel award. She attended her first annual meeting in New Orleans in the early 80s, and to date has not missed a meeting. "The work of the International Affairs Committee can be the deciding factor for a young person to make the decision to become a scientist," she believes, "because the travel award alleviates economic constraints or barriers some may have."

In addition to her work, Toro de Stefani loves spending time on the beach with her husband, daughter Paola, and two grandchildren, Andrea, age 11 and Ivan, age 8.

Whether work or play, "there are always time limitations and deadlines," she says, "but you choose what you think is a priority and you just do it." And if she follows in her father's footsteps, she'll be doing it for a long time to come.

Public Affairs

NIH & NSF Sponsor Meeting on Bridging the Sciences

The National Institutes of Health (NIH) and the National Science Foundation (NSF) sponsored the **Conference on Research at the Interface of the Life and Physical Sciences: Bridging the Sciences** on November 9 in Bethesda, Maryland. The conference was a result of recommendations from a May 10 interagency workshop that was mandated by language in the House Report accompanying the FY2004 Federal budget. That language was inserted on behalf of the Bridging the Sciences Coalition.

A total of about 170 people attended this meeting including 29 invited primary discussants from the life, physical, and interface sciences. Ken Dill, UCSF and BPS Public Affairs Committee co-chair, Claire Fraser, TIGR, and Jose Onuchic, UCSD, served as co-chairs for the event and led discussions by breakout groups throughout the day.

The overall objective of the one-day conference was to obtain input from the scientific community on how to bridge the life and physical sciences. Questions considered during the workshop-style meeting included (1) what are the primary questions that will require collaborative efforts between the life and physical sciences to solve, (2) what are the primary issues and barriers to interdisciplinary collaboration, and (3) what actions or approaches are necessary to bridge the sciences and realize the potential benefits? The meeting agenda included breakout and plenary sessions aimed at answering these questions. Current plans are to prepare a summary report for posting on the internet and to convene a meeting of Federal agency representatives to discuss recommendations from the May 10 and

November 9 meetings and determine a course of action.

From the perspective of the Bridging the Sciences Coalition, the meeting was successful in bringing visibility to the Coalition, bringing visibility to the need to fund research at the interface, and providing input to the Coalition and the government on important issues to consider in order to move forward.

Organizers of the conference plan to post a detailed report of the conference on the Internet, and to write a paper describing the most significant grand challenges and recommendations. That information will be found at <http://www.nibib1.nih.gov/> when it becomes available.

Open Access Update

According to the NIH Freedom of Information Office, the NIH received over 6,000 comments on NIH's plan for Increased Access to NIH-sponsored research information. The agency plans to set up an electronic reading room where those interested can read the comment. Go to: <http://www.nih.gov/icd/od/foia/> and scroll down to "Reading Room" for more information.

In finishing the budget for FY 2005, Congress also finalized language related to the open access issue at NIH. The final wording acknowledges that NIH has already completed a report and solicited comments and neutralizes the original language placed in the House appropriations. It draws attention to the fact that the NIH plan currently does not provide a cost estimate for implementation. The original language, inserted by Representative Istook, required NIH to write a report explaining how the agency would make NIH-sponsored research results available freely and immediately upon publication.

The language, which appears in a

report attached to the Omnibus Bill, reads as follows: "NIH is directed to give full and fair consideration to all comments before publishing its final policy. The conferees request NIH to provide the estimated costs of implementing this policy each year in its annual Justification of Estimates to the House and Senate Appropriations Committees. In addition, the conferees direct NIH to continue to work with the publishers of scientific journals to maintain the integrity of the peer review system."

Final FY 2005 Federal Budget: Not Generous to Science

On Saturday, November 20, Congress passed the \$388.4 billion omnibus spending bill. The omnibus bill sets FY 2005 funding for 13 government departments and dozens of agencies, including the National Institutes of Health, the National Science Foundation, The Department of Energy, the Department of Commerce, and NASA, and, freezes overall domestic spending at last year's funding level. In general, the budget is bad news for non-defense R&D.

NIH: The NIH budget for 2005 is \$28.4 billion, an increase of \$563 million (two percent increase) over FY 2004. Most institutes will receive increases between 1.6 and 2.5 percent. This is far below the projected inflation rate for biomedical research of 3.5%. It should be noted, though, that compared to other science funding agencies, NIH did quite well.

NSF: NSF has been cut by \$107 million from last year's level to \$5.5 billion – that's about 1.9 percent less than last year's budget. The five largest research directorates will see budget cuts of about 2 percent. Congressman Vern Ehlers (R-MI), submitted a statement for the

Congressional Record expressing his displeasure over the cut to the NSF budget, noting that the agency has a record of efficiency. Ehlers voted in favor of the omnibus despite his concerns about NSF.

DOE: The Office of Science received \$3.6 billion, which is a \$100 million or 2.9% increase over its FY 2004 appropriation.

NASA: With Majority Leader Tom Delay supporting the agency, NASA received an appropriation of \$6.1 billion. While this is an increase of 4.5% over the 2004 agency budget, the agency will still have to make deep cuts in some research programs, including its biological and physical research, in order to resume construction on the Space Station, return the shuttle to space, and start a Mars program.

COMMERCE: The National Institute of Standards and Technology's Advanced Technology Program, which provides seed money for risky private-sector research, received \$142.3 million for 2005. At that level, which is down 24% from the 2004 budget, no new awards will be allowed. The NIST laboratories, which saw funding slashed last year, received a 10 percent increase in its budget to \$379 million.

Roundup:

Energy: Secretary Spencer Abraham submitted his resignation on November 14. He will remain in his position until a successor is approved by the Senate.

State: Colin Powell has stepped aside at the Department of State and Condoleeza Rice will be taking over when confirmed by the Senate. According to comments the Honorable John Porter made at a Research America!/AAAS briefing on science and technology after the election,

any changes made regarding visas and international travel will depend on whether another terrorist event occurs.

On the Hill: Many chairmanships of significant committees will change due to self-imposed term limits that the Republican caucus's in both the House and Senate instituted. The Chairmanships will be determined in January when the new Congress convenes. Senator Michael Enzi (R-WY) is speculated to take over the Senate Health Education, Labor, and Pensions Committee. On the House side, the House Appropriations Committee will have a new leader, which, depending on whom is selected, could have a dominoes effect across other committees. Congressman Joe Barton (R-TX) will remain at the helm of the House Energy and Commerce Committee. In that position, he plans to take up reauthorization of the NIH in 2005.

Bridging Coalition: The American Crystallographic Association has joined the coalition, bringing total coalition membership to thirteen organizations... The ACA represents over 2500 scientists worldwide.

NAS: The National Academies of Science has released two reports of interest to the biophysics community. The first is a report on **Facilitating Interdisciplinary Research**. Released on November 19, this report focuses on ways scholars and institutions can more effectively conduct, facilitate, and evaluate interdisciplinary research. While the report looks at all players, academic institutions are a major focus of the report, with recommendations pertaining to departments.

The second report, **Science and Technology in the National Interest: Ensuring the Best Presidential and Federal Advisory Committee Science and Technology Appointments**, looks at the appointment process and recommends that the process operate more quickly and transparently. The report is the third in a series that the National Academies have issued since 1992 on the presidential appointment process. The study committee emphasized the need for credible, trustworthy S&T experts to offer both the president and the nation at large critical advice in these fields.

To obtain a copy of either report, go to <http://www.nap.edu> or call 1-800-624-6242.

U.S. FY 2005 Budget for Discretionary Non-defense R&D (in billions)					
Agency	04 Enacted	Pres FY 05 Request	FY 05 Omnibus	% Change from 04	% Change from Pres
NIH	27.8	28.5	28.4	2.2%	-0.4%
NSF	5.600	5.75	5.5	-1.8%	-4.3%
DOE Office of Science	3.5	3.432	3.6	2.9%	4.9%
NASA	15.4	16.2	16.1	4.5%	<-1%
NIST ATP Program	.169	0	.140	-17.0%	--
NIST Laboratories	.331	.418	.373	12.8%	-11%

Ask Professor Sarah Bellum

Professor Sarah Bellum answers your questions on navigating the often-uncharted waters of early career development. Professor Bellum was inspired by Ms. Mentor, a column by *Emily Toth* appearing in *The Chronicle of Higher Education*, and is written by *Patricia L. Clark*, chair of the Early Careers Committee. Do you have a question for Professor Bellum? Send it to sarah_bellum@biophysics.org. Your privacy and anonymity are assured!

USA-bound?

Q: *I will soon finish graduate school in the Netherlands. Originally, I was planning to look for a postdoctoral position in the United States. I have few family ties (no spouse, etc.), and I have heard great things about the support for science in the U.S.; a postdoc there seems like a great opportunity to add to my scientific development. However, with what I have been reading recently about the US position on the war in Iraq, and the tightened security surrounding visas and so forth, now I am not so sure. Is it crazy to accept a job in a country that seems increasingly hostile to foreigners? Particularly if I strongly disagree with the foreign policy of that country?*

--Unsure in Utrecht

A: Your questions have two components: a practical, administrative component related to obtaining a visa and moving to the U.S., and an emotional, “will I be miserable there?”, quality-of-life component. Let’s look at the practical part first:

Yes, it is definitely more difficult to get a visa nowadays than it was a few years ago. It will undoubtedly take longer to receive your visa, and you will be subjected to increased scrutiny both during the application process and during your entry into the country (fingerprinting, etc.). This increased scrutiny is not applied uniformly; applicants from many Asian and African countries will receive much more scrutiny than those from Western Europe. In addition, expect extra scrutiny if you get a visa and start work in the U.S., but then decide to return home for a vacation: there is a larger chance now that your return might be delayed some sort of administrative tangle, particularly if you need to complete a bureaucratic formality like renewing your passport (best to take care of this before your first departure for the U.S.). Realize, however, that U.S. research institutions rely heavily on foreign graduate students and postdocs to drive forward the research enterprise. So these institutions are all too aware that the tightened regulations on visas for foreign scientists have the potential to damage the progress of U.S. scientific advancement. [Indeed,

many scientific societies have written policy statements arguing against many of the new security procedures; read the Biophysical Society’s statement at:

<http://www.biophysics.org/pubaffairs/immigration.pdf>]. As a result, every institution with a decent number of foreign visitors (particularly students/postdocs) will have an office devoted to facilitating the visa application process. In particular, this office will probably generate (or help your future PI generate) a letter in support of your appointment; this letter can be submitted along with your visa application. Provided you do not have a criminal record or anything else in your past that could be regarded suspiciously, support from your future institution can still go a long way towards easing the visa process. Many of these institutional offices have information available online about what sort of support and/or guidance they offer, so if you have already identified potential postdoc labs, it may be worth looking up these offices now in order to get their view on the process.

Once you begin your appointment, this same office may be able to facilitate other administrative processes like setting up a bank account and getting a social security number. In addition, this office should be contacted well in advance of a trip home, so you can check to see what documents you should carry with you on your trip.

This is a bit peripheral to your ques-

tions, but if you do decide to go abroad, keep in mind that moving country, even to a country that welcomes you with open arms and has a foreign policy exactly to your liking, is never an easy business. Imagine taking all the stress of a normal move to a new place in your home country, then add to it the stress of learning a new banking system, new driving laws, a new tax code, new renting policies, new TV shows, new fruits and vegetables at the grocery store, etc., etc. Some people respond well to these challenges, others struggle. You are lucky in this respect because the Biophysical Society has a very helpful article available to help people prepare for inter-country moves, written by Maurits de Planque of the Early Careers Committee. Maurits himself is a veteran of moves to at least three different countries, on two different continents, so he is in an excellent position to write on this topic (view the article at <http://www.biophysics.org/abroad.pdf>).

The emotional, “will-I-hate-it-there” component of your questions is more a function of your own personality and outlook. If you go to the U.S. expecting that you will be treated poorly, defensive about your status as a visiting foreigner, and suspicious of peoples’ intentions, you probably will hate it, regardless of the reception you receive. If you keep an open mind, however, you will probably be pleasantly surprised.

While it is true that most U.S. citizens have never traveled abroad, and therefore have limited firsthand exposure to foreign cultures or politics, there are good reasons why Americans are regarded, on average, as warm, friendly, curious people. It is important to note that this is in direct contrast to how the U.S. is often represented in the foreign media, and underscores that the attitudes of individual Americans towards you has little or nothing to do with U.S. foreign policy. Many Americans will be sincerely curious about how your perspectives and views differ from their own. And many Americans are very conscious of the fact that their not-to-distant ancestors were originally foreigners in the U.S. Notice I wrote, "on average" and "many": sure, there will always be some close-minded jerks (in every country!), but keep in mind that academic institutions in the U.S., as in most countries, are bastions of liberal thinkers, many of who have actively protested against the war in Iraq. So in a sense, you are stacking the deck in favor of finding people sympathetic to your own political views by settling in an academic/research community. I have heard that some foreign students/postdocs try to stack this deck even further by targeting a part of the U.S. with political views that resemble their own: If you are strongly anti-Bush, for example, the voting record suggests you might be more comfortable in a state like Massachusetts than Texas. But given that, regardless of where you wind up, you will be surrounded by a bubble of liberal thinking, I would not exclude Texas (or any other state that voted for Bush) merely for this reason. If anything, I would be much more concerned if your political leanings were pro-war, and pro-Bush; I think you would have a much harder time right now finding a U.S. research university with a community that strongly favors these views.

Something else to consider: What, exactly, are your motivations for wanting a postdoctoral position in the U.S.? The

atmosphere for science is indeed quite different from the atmosphere in Europe. Many excellent U.S. academic labs are quite small, meaning all graduate students and postdocs might report directly to the PI, rather than first to a senior postdoc or research faculty. There can be great opportunities to develop skills as an independent scientist in an environment like this. There is a lot of money available for research, but the competition for awards can be fierce. As a foreigner, you will not be eligible for postdoctoral fellowships sponsored by the U.S. government, but other fellowships opportunities are available through private foundations, and perhaps your home country; take a look at the Society's funding page (<http://www.biophysics.org/opportunities/grants.html>) for more ideas. If you want to experience the U.S. scientific environment but are leery of a radical cultural change, aim for an institution in an older U.S. city (Boston, Philadelphia, or even New Orleans or San Francisco); these older cities have a distinctly more "European" feel than newer U.S. cities. On the flip side, if you are looking for a distinctly American experience, consider institutions in newer cities like Chicago, Dallas, Denver, and so forth. Just keep in mind that, since much of the growth in these newer cities occurred after the development of automobiles, you may need a car to get around.

Do keep in mind that larger institutions, and those with larger populations of foreign students/postdocs, are more likely to have larger, more active foreign student associations. These organizations can be a great way to ease the transition to a new country, and meet others who share your upbringing and culture. Just make sure that you do not rely exclusively on these organizations to establish your entire social network. If you play sports, take in a movie, go grocery shopping, get picked up at the airport, hit the bars, and talk on the phone only with other expatriates, you will likely miss out on a fantastic opportunity to learn firsthand

about the culture of a country unlike your own. And ultimately, that appreciation of different cultures might just be the most valuable part of your postdoc abroad.

2005 International Biophysical Congress Montpellier, France August 27-September 1

This year's International Biophysics Congress will be held in Montpellier, France, home to one of Europe's oldest functioning medical schools. The Congress is jointly sponsored by IUPAB (the International Union of Pure and Applied Biophysics), EBSA (the European Biophysical Societies Association), and SFB (the French Biophysical Society). The theme of the conference is *Biophysics In All Its Complexity*. Each day will include one plenary lecture and 6 symposia. In addition to 3-4 invited speakers in each symposium, 3-4 abstracts will be chosen for a symposium presentation. Poster sessions will feature wine and cheese, and participants can also attend exhibitor presentations and individual biophysical society meetings during the 5-7 pm duration each day.

All of the updated information about the meeting, including updated speaker list, symposium lists, registration and travel and lodging information, as well as tourist information about the region can be found at the Congress website <http://worldbiophysics2005.sfbphys.org>.

Opportunities

Pilot-Scale Libraries for High-Throughput Screening

Letter of Intent: January 14, 2005

Deadline: February 15, 2005

<http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-05-014.html>

Upcoming Events*

January 20-26, 2005

Biophysics International Conference

Colima, Mexico

<http://www.ucol.mx/acerca/coordinaciones/cgic/muscular/>

February 25-26, 2005

14th Annual National Conference of the Quality Education for Minorities (QEM) Mathematics, Science, and Engineering (MSE) Network

Washington, DC

<http://qemnetwork.qem.org/msenetwork.html>

March 27- March 30, 2005

First UAE International Conference on Biological and Medical Physics

Al-Ain, United Arab Emirates

<http://icbmp.uaeu.ac.ae>

March 31- April 5, 2005

35th International Congress of Physiological Sciences

San Diego, CA

<http://www.iups.org/>

April 2-6, 2005

Experimental Biology 2005 (joint meeting by AAI, AAA, APS, ASBMR, ASIP, ASNS, ASPET)

San Diego, CA

<http://www.aai.org/>

April 30-May 4

6th European Symposium of The Protein Society

Barcelona, Spain

<http://www.proteinsociety.org/>

*Please visit <http://www.biophysics.org/> for a complete list of upcoming events.



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