

## Beckerle Becomes President

**Page 2**

## Bad Budget for NIH

**Page 31**

## Call for Nominations

**Page 44**

## MBC InCytes

**Page 50**

## Inside

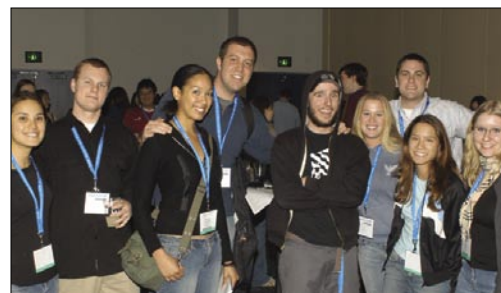
President's Column	2
ASCB Council Report	4
ASCB Committee Reports	8
Annual Meeting Highlights	18
Public Policy Briefing	31
Dear Labby	34
ASCB Profile	35
WICB Column	40
Member Gifts	41
Members in the News	42
AAAS Fellows	43
Call for Nominations	44
New Members	46
InCytes from MBC	50
Grants & Opportunities	52
Classified	52
Calendar	56

# ASCB Holds 45th Annual Meeting in San Francisco

## Council Approves 2007 Budget, Reviews Programs, Meets with CSR Director, Welcomes New Staff

Amidst healthy reserves and strong financial performance, the ASCB Council met last month to review programs and publications, consider new initiatives, and continue to usher publications and meetings into the 21st century. Zena Werb of the University of California, San Francisco, who completed her term as President at year-end, presided over the two-day Council meeting. Mary Beckerle, of the University of Utah Huntsman Cancer Institute, became President January 1st, and Bruce Alberts became President-elect. Larry Goldstein completed his term as Secretary, and Jean Schwarzbauer assumed the role this month. In addition, other Council members present included: Treasurer Gary Ward; Past-President Harvey Lodish; Councilors Kerry Bloom, Tony Bretscher, Juan Bonifacino, David Burgess, Peter Devreotes, Linda Hicke, Kathryn Howell, Caroline Kane, Erin Keane O'Shea, and Janet Shaw; and Councilor-elect Sandra Masur.

*Science, Networking:  
and Sessions: New  
science presented at  
poster sessions (above),  
students socialize  
at the Reception for  
Undergraduate Poster  
Presenters, and (below)  
Bruce Alberts Award  
winner Samuel Silverstein  
(left) and 2006  
President-Elect  
Bruce Alberts.*



*See Council Report, page 4*

## Join the Congressional Liaison Committee

Concerned about government funding for cell biology research? Not sure how to participate in ASCB advocacy on research funding and science policy issues? The Congressional Liaison Committee (CLC) of the Joint Steering Committee provides you with the tools you need to influence decisionmakers. The CLC is operated by the ASCB, the Genetics Society of America, the Society for Neuroscience, and Science Service.

As a CLC member you will receive alerts about important pending legislation or other federal actions so that you can make your feelings known to your elected representatives. In addition, the CLC will provide you with talking points, background information, and how-to tips to strengthen your message.

It has never been more important for scientists to communicate with their elected officials. Continued advocacy for the NIH, the NSF, and other funding agencies is essential (see NIH story, page 31). There is no cost to join the CLC. Simply complete the form found at [www.jscpp.org/clc](http://www.jscpp.org/clc). For further information, contact JSC National Coordinator Lynn Marquis, at [lmarchis@jscpp.org](mailto:lmarchis@jscpp.org). ■

8120 Woodmont Avenue, Suite 750  
Bethesda, MD 20814-2762  
Tel: (301) 347-9300  
Fax: (301) 347-9310  
ascbinfo@ascb.org; www.ascb.org

Joan R. Goldberg  
*Executive Director*

#### Officers

Mary Beckerle	<i>President</i>
Bruce Alberts	<i>President-Elect</i>
Zena Werb	<i>Past-President</i>
Gary Ward	<i>Treasurer</i>
Jean Schwarzbauer	<i>Secretary</i>

#### Council

Kerry Bloom  
Juan Bonifacio  
David Burgess  
John Condeelis  
Peter Devreotes  
Linda Hicke  
Caroline Kane  
Sandra Masur  
Barbara Meyer  
Anne Ridley  
Erin O'Shea  
Daphne Preuss

**ASCB Newsletter**  
is published twelve times per  
year by The American Society  
for Cell Biology.

Joan R. Goldberg	<i>Editor</i>
John L. Saville	<i>Production Manager</i>
Nancy Moulding	<i>Production Assistant</i>
Kevin Wilson	<i>Public Policy Briefing</i>
Ed Newman	<i>Advertising Manager</i>
John Fleischman	<i>Science Writer</i>

**Deadlines for submission of  
articles and advertising  
materials:**

Issue	Deadline
March	February 1
April	March 1
May	April 1

**ASCB Newsletter**  
**ISSN 1060-8982**  
**Volume 29, Number 1**  
**January 2006**

© 2006

The American Society for Cell Biology

Postmaster: Send change of address to  
**ASCB Newsletter**  
American Society for Cell Biology.  
8120 Woodmont Avenue, Suite 750  
Bethesda, MD 20814-2762

# PRESIDENT'S Column



## The ASCB Needs YOU!

The American Society for Cell Biology has been my primary scientific organization since I was a graduate student with Keith Porter, one of its founders. I attended my first ASCB meeting in 1978 when I was a second year graduate student. I remember driving my pale yellow 1971 VW beetle, with sunroof, from Boulder, Colorado, to San Antonio with a fellow student, Susan Spath. We got up early, stayed up very late, and slept on the floor in a room already occupied by four students from Dan Branton's lab, friends of Susan's from her days as a lab tech at Harvard. If memory serves me, Velia Fowler, now at Scripps, was in one of the beds; we have been friends ever since.

I was awestruck by the science at the meeting—both the quality and the magnitude. I had never seen so many posters in my life. I was working on cell motility, and I was fascinated to see what Gary Borisy and Tom Pollard actually looked like. I witnessed their animated debate in a minisymposium session. Having read many of their papers in my classes, it was incredible to see these scientific heroes in action. It was also tremendously exciting to meet so many people with common interests and to experience being part of a vibrant international community of cell biologists.

Nearly 30 years later, the core focus of the ASCB on promoting scientific exchange in cell biology remains unchanged. The Society continues to organize an exceptional annual meeting. The meeting brings the membership together, highlights recent scientific advances, and provides an opportunity for discussion and debate. The program for the 46th annual meeting—to be held next December in San Diego—is currently being developed by Tony Bretscher and his committee.

### Developing and Promoting Best Practices

Along with the constant focus on scientific excellence and exchange, there have been many changes. Over the years, the Society has assumed a leadership role in several areas: public affairs and advocacy, education, scientific publishing, and issues for women and minorities in science.

The ASCB has consistently looked to the future, developing and promoting best practices in all its areas of interest and influence while providing forums to discuss professional challenges and opportunities.

The past successes of the many Society initiatives have relied on members' energy and commitment. Likewise, the future impact of our existing programs and new initiatives will depend on your involvement. Many of you have expressed an interest in becoming involved in the Society's activities. Some have

wondered aloud how they might participate. One focus of the coming year will be to develop strategies to engage more members

in contributing to our shared goals. I view this as a central challenge and opportunity for the Society.

The challenge has arisen simply because of our remarkable growth. When I attended my first annual meeting, the ASCB had a total membership of 3,600. This year, we have over 11,000 members. While the scope of ASCB activities and the number of working committees has increased, a smaller percentage of

our members currently enjoy the experience of participating actively in the work of the Society. We have a tremendous opportunity to avail ourselves of the energy and experience of our membership. There is much important work to be done, and the Society truly needs the



Mary Beckerle

**"... the Society has  
assumed a leadership  
role in ... public  
affairs and advocacy,  
education, scientific  
publishing, and  
issues for women and  
minorities in science."**

participation of our members to maximize the impact of ASCB activities.

## Promoting Involvement in Defined Goals

I have asked each committee chair to identify activities that would benefit from additional member engagement. Beginning next month, these will be highlighted in the Newsletter with information on how you can volunteer to participate. We are not envisioning increasing the size of our regular committees, which are already quite large. Rather we hope to identify new ways for members to contribute to ASCB activities. Opportunities for participation will vary in time commitment and in focus—perhaps reviewing meeting abstracts, leading a discussion group at an annual or summer meeting, electronic mentoring, participating in local advocacy—we will aim to have something for everyone! We also anticipate that future committee appointees will be solicited from the group of actively engaged members.

Member engagement is key to the vitality of our already robust scientific society. Participation is empowering and will make a difference in our ability to achieve our aims. I believe it is also critical to the future of the Society. Our future depends on a loyal and active membership that participates in defining the focused goals of the ASCB and, therefore, by definition, embraces those goals.

Former ASCB President Suzanne Pfeffer took the lead in establishing member forums at the Annual Meeting. Members representing selected interest groups meet with the elected leadership of the Society to brainstorm about issues of particular concern and develop concrete strategies to address them. These sessions have been held on Saturday afternoon, before the opening of the meeting. Meeting invitees were selected by lottery. The meeting in 2003 with student members of the ASCB led to separate listings of student events in the Annual Meeting Program and a “students” web site (the Community Forum). Similar round-table discussions were held with post-docs (2004) and

with minority members (2005). At the San Diego meeting next December, the leadership will host a conversation with international cell biologists, who represent nearly 23% of the Society’s membership. This will enable us to learn how we can best support the needs of our international community of cell biologists.

## Maintaining Our Responsibilities to the Community

There may be a tendency at a time like this, when funding is tight and the business aspects of the scientific enterprise may feel all-consuming,

for scientists to assume a stance that is more competitive than collaborative, more insular than expansive. I do not mean to minimize the impact of the current funding climate. Indeed, both of my grants are up for renewal this year. So I know the meaning of stress, and I know it is much worse for junior scientists trying to establish their programs. Nevertheless, even in these trying times, we must not lose sight of the joy of the

scientific enterprise and our responsibilities as scientists to our broader community.

The energy and commitment of our members have: (1) had a significant impact on framing the debate on the teaching of evolution in U.S. public schools, (2) increased the appreciation of our elected officials and the public for the value of biomedical research, (3) provided mentoring and guidance for cell biology trainees, (4) developed wonderful periodicals to highlight advances in cell biology and education, (5) provided tutorials to enhance professional development, and (6) created a community of cell biologists who share a passion for our field.

With your involvement, we have tremendous potential to lead in the future. As Margaret Mead said, “A small group of thoughtful people could change the world. Indeed, it’s the only thing that ever has.” I look forward to working with you in the coming year and beyond. ■

*Comments are welcome and should be sent to [president@ascb.org](mailto:president@ascb.org).*

**“Member engagement is key to the vitality of our already robust scientific society. Participation is empowering and will make a difference ....”**



*Council Report, continued from page 1*

The ASCB Council thanked Interim Executive Director David Driggers and other staff. Councilors also welcomed new ASCB Executive Director Joan Goldberg, along with Image and Video Library Curator David



2005 ASCB Council: (back row, left to right) Janet Shaw, Linda Hicke, Kathryn Howell, Peter Devreotes, Juan Bonifacino, Anthony Bretscher, Erin O'Shea, Kerry Bloom. (Front row, left to right) Jean Schwarzbauer, then Secretary Lawrence Goldstein, President-Elect Bruce Alberts, Executive Director Joan Goldberg, then President Zena Werb, then President-Elect Mary Beckerle, Past-President Harvey Lodish, and Treasurer Gary Ward.

Ennist, Director of Publications Mark Leader, and Joint Steering Committee National Coordinator Lynn Marquis, to their first meeting.

## New Initiatives Approved

Council considered and acted upon a variety of proposals:

- A call for an NIH Consensus Development Conference to counter the growing problem of cross contamination and misidentification of cultured cells: Endorsed.
- Free registration for high school teachers at the Annual Meeting: Approved.
- Options for the Society's 50th Anniversary Celebration: A task force will be established.
- Outreach to ASCB international members: To be re-invigorated.
- A review of past and planned ASCB summer meetings: Their financial impact and educational value were considered; a task force was established to investigate technology (e.g., webcasting). Council also expressed interest in cosponsoring such meetings with international groups.
- Discontinuing the print version of the *ASCB Directory of Members*: With online, member-only accessible, continuously updated information available, Council agreed that the print version was outdated. Saved funds can be better applied to travel grants, etc.

*See Council Report, page 6*

## THE COMPLETE SOURCE FOR MICROSCOPE AUTOMATION

# PRIOR

Scientific







Prior Scientific is a Leading Manufacturer of:

- ProScan™ II and OptiScan™ High Precision Motorized Microscope Stages
- High Speed Filter Wheels & Shutters
- Custom and OEM Optical Systems
- Nanopositioning Piezo Z Stages
- Laboratory & Stereozoom Microscopes
- Programmable Keypads, Ergonomic Joysticks, Digipots and Additional Accessories

**Visit us on the web at [www.prior.com](http://www.prior.com)**

Prior Scientific, Inc. 80 Reservoir Park Drive Rockland, MA 02370  
**Tel: 800-877-2234 • 781-878-8442 Fax: 781-878-8736**





innovate.

## shRNA<sup>mir</sup>...Breakthrough for RNAi Knockdown!

*Introducing Expression Arrest™ Assay-Ready™ shRNA<sup>mir</sup>*

Our unique microRNA-adapted design maximizes knockdown specificity and efficiency over all other RNAi solutions. Try something better. Try something guaranteed to work!

- Already cloned into retroviral and lentiviral vectors
- Entire human and mouse genomes available
- Transient, stable or *in vivo* RNAi
- Guaranteed to work
- Assay-ready format for superior high throughput RNAi screening

***Why experiment when you can discover?***

Your expert partner for  
Genomic, RNAi and Proteomic resources.



Toll Free 888.412.2225  
[www.openbiosystems.com](http://www.openbiosystems.com)

GENOMICS • RNAi • PROTEOMICS  
express    repress    detect



## 45th ASCB Annual Meeting Statistics

Members .....	3,132
Nonmembers .....	773
Students.....	1,147
Nonmember students .....	656
Guests of Exhibitors .....	965

**Total Scientific Participants .....6,673**  
Exhibitors..... 2,395

Press..... 48

**Total Registration .....9,116**

*Council Report, continued from page 4*

### Finances and Membership Presented

Ward presented an overview of ASCB's finances and the draft FY 2007 budget, which was approved.

ASCB membership was over 11,000 by year's end, noted Goldstein. Retention of regular members is good. A 2006 membership survey will highlight member needs and satisfaction.

### CSR Director Antonio Scarpa Described Changes

To address innovations in NIH grant review, and to discuss ideas for further improvement, Center for Scientific Review (CSR) Director Antonio Scarpa joined Council. Since his July

1, 2005, start, Scarpa has focused on improving the management, receipt, referral, and coordination of CSR peer review. He responded to Werb's *ASCB Newsletter* charge (August 2005) that "the judging of grants has become a charade," by emphasizing the importance of CSR peer review.

Scarpa reported that NIH received 80,000 grant applications in 2005; this number has climbed significantly since 2001 and nearly doubled since 1998. He shared data demonstrating that 2/3 of the grants submitted result from researchers writing more grants than previously: The average number per researcher grew to 1.2 by 2002 and 1.4 by 2005. In addition, Scarpa noted:

- More RO1 applications request salary support.
- More faculty is supported 100% by grants.

### Addressing Review Cycle, Reviewer Shortage, and Peer Review

To help fulfill CSR's mission, Scarpa is working with staff to:

- Shorten the review cycle
- Improve the assessment of innovative, high-risk/high-reward research
- Increase recruitment and retention of high quality reviewers

Council recommended shorter grant applications, questioned the value of appendices, and agreed on the need to shorten review cycles and attract more senior reviewers.

### ASCB Program Expansion Discussed

Rounding out the Council Meeting were:

- Presentations on the Image and Video Library, scheduled for launch this spring
- Concerns raised regarding NIH and NSF funding and the need for member involvement in advocacy efforts
- Updates on ASCB publications and committees
- Discussions on expanding ASCB international outreach, the successful first ever Cell Film Contest, and media outreach year-round
- Brainstorming about:
  - Educational strategies for diverse audiences regarding evolution
  - Educational approaches in recognition of the ASCB's 50th anniversary in 2010
  - Strategies for increasing member involvement (see page 2) ■

## ASCB Exhibit Hall

524 Booths, 360 Companies, 2,395 Exhibitors





## The Most Rewarding Experience on the Web

### Professional Rewards

- Influence technologies
- Promote your research
- Access resources
- Learn lab techniques
- Identify collaborators

### Personal Rewards

- Raise your scientific profile
- Voice your opinions
- Contribute to discussions
- Earn honoraria
- Win prizes

Access protocols, reviews, career leads, blogs and forums contributed by scientists from around the world

### ***Did You Miss Us at the ASCB Annual Meeting in San Francisco?***

Download FREE reviews of research tools and technologies used by cell biologists at [www.scienceboard.net](http://www.scienceboard.net)

The Science Advisory Board is a vibrant community of more than 27,000 life science and medical professionals. Members convene electronically to express their opinions on issues affecting the development of research and clinical technologies.

**Join The Science Advisory Board**  
**[www.scienceboard.net](http://www.scienceboard.net)**





## Keynote Symposium/Opening Night Reception



ASCB President Zena Werb introduces new Executive Director Joan Goldberg and Interim Executive Director David Driggers.



Attendees at the Keynote hear Linda Buck, Fred Hutchinson Cancer Research Center/HHMI (left), and Claire Fraser, The Institute for Genomic Research (right), speak on the topic of Big Science, Little Science.



Former ASCB Executive Director Elizabeth Marincola was recognized at the Keynote Symposium. (Left to right:) 1995 President Ursula Goodenough, Marincola, and 2004 President Suzanne Pfeffer.



## CBE Changes Name, Expands Scope

The number of registered users has more than doubled for the former *Cell Biology Education* since early 2005, Editor-in-Chief William Wood announced at the 2005 Editorial Board meeting. He thanked former Coeditors-in-Chief Sarah Elgin and Malcolm Campbell for building the journal and making it a success.

A major theme of the meeting was the effort to make the journal more inclusive of other areas of biology:

- The name of the journal has changed to *CBE—Life Sciences Education (CBE—LSE)*. The URL will be [www.lifescied.org](http://www.lifescied.org).
- Board members are being recruited with expertise in other life science disciplines, including plant biology and microbiology.
- Several cross-disciplinary special issues are planned: Neuroscience (Summer 2006), Developmental Biology (2007).
- Links will be created to tables of contents of other life science education journals.

Wood announced that Elgin, Campbell, and Gary Reiness will serve as Senior Editors, advising the Editor-in-Chief and overseeing features.

The group discussed topics for upcoming articles and special issues. It reaffirmed its ambition that the journal will generate a culture of research among teachers. The Board approved changes to the Instructions for Authors that address sharing of propagative biological materials, instructional materials, and data and Institutional Review Board approval of research involving human subjects.

The group discussed the financial status of the journal. Members of the Board expect that the journal will continue to be sustained by grants and by support from biological societies. The Board believes that introducing publication fees would reduce submissions and that requiring paid subscriptions would limit readership.

## Education Committee Hosts Annual Meeting Events, Focuses on 2006

The Education Committee hosted a variety of well-attended events at the 2005 ASCB Annual Meeting, including the Education Workshop, the 5th Annual K–12 Science Education Partnership Lunch, three Education Initiative Forums, the Bruce Alberts Award presentation, a reception for undergraduate students, and the Education/Minorities Affairs Committee Booth. For more information, visit [www.ascb.org/committees/edcom/index.html](http://www.ascb.org/committees/edcom/index.html).

Members of the committee discussed topics and possible speakers for next year's ASCB Annual Meeting in San Diego. In addition, committee members agreed to reorganize the



# ASCB COMMITTEE Reports

undergraduate reception to include a poster display and link it to the preceding student program. The Education Committee also plans to help publicize the ASCB Image and Video Library, currently under development, at various biology conferences during the year.

## Image and Video Library Report

The Image and Video Library, a comprehensive, high quality internet collection covering the field of cell biology is governed by two new boards. A Scientific Advisory Board (SAB), chaired by Kathryn Howell, is composed of ASCB member scientists. The SAB works closely with Curator David Ennist to develop the scientific content of the peer-reviewed site. The External Advisory Board (EAB), chaired by Harvey Lodish, is comprised of both academic scientists and industry leaders. The EAB advises the ASCB on business issues, including the development of business, marketing and fundraising plans.

The SAB has been hard at work gathering images that illustrate the contributions of the founders and early members of the ASCB. This will form the groundwork for the expansion of the collection with more recent micrographs and

## EB Wilson Medal Presentation

*Joan Steitz of Yale University School of Medicine/HHMI receives the ASCB's highest honor from then ASCB President Zena Werb.*



*Steitz spoke about SnRNPs: Cellular and Viral Regulators of Gene Expression.*

movies. The collection will be built by topics, and contributions will be reviewed for possible inclusion in the Library. All ASCB members will have the opportunity to contribute. Much work remains to be done, including the construction of on-line submission and review modules. ASCB expects to launch the website late this spring.

**DEEP  
DEFINITIVE  
GAS-EFFICIENT  
UNINTERRUPTIBLE  
SCALABLE  
AFFORDABLE  
HYPOXIA  
CELL CULTURE**

For technical information please visit:  
[www.biospherix.com/cbn6](http://www.biospherix.com/cbn6)

Call **315-387-3414** or toll free **800-441-3414**

**MBL**

Biological Discovery in Woods Hole

Founded in 1888 as the Marine Biological Laboratory

## 2006 Microscopy Courses

**ANALYTICAL & QUANTITATIVE LIGHT MICROSCOPY**

May 4 - May 12, 2006

Application Deadline: January 26, 2006

This comprehensive course provides an in-depth examination of the theory of image formation and the application of video methods for exploring subtle interactions between light and the specimen.

**OPTICAL MICROSCOPY & IMAGING IN THE BIOMEDICAL SCIENCES**

Dates: To be announced

Application Deadline: To be announced

This course will enable the participant to obtain and interpret microscope images of high quality to perform quantitative optical measurements and to produce video and digital records for documentation and analysis.

For further information and applications, visit our website:

[www.mbl.edu/education](http://www.mbl.edu/education)

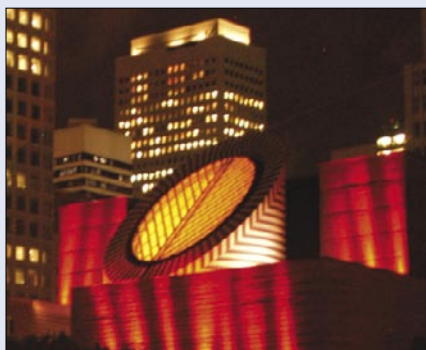
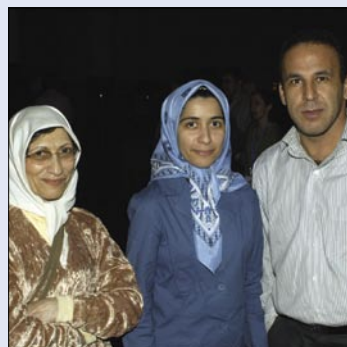
or contact: Admissions Coordinator  
[admissions@mbledu](mailto:admissions@mbledu), (508)289-7401

Women & minorities encouraged to apply. The MBL is an EEO/Affirmative Action Institution.

## The ASCB Social

### San Francisco Museum of Modern Art

Over 700 meeting participants enjoyed the exhibits at the San Francisco Museum of Modern Art during the ASCB Social.



## MAC Committee Activities at the Annual Meeting

Chaired by Lydia Villa-Komaroff, the ASCB Minorities Affairs Committee (MAC) met on December 12, 2005. In attendance were MAC members Renato Aguilera, David Burgess, Cherie Butts, Tony DePass, Sandra Murray, Thoru Pederson, Laura Robles, and Peter Satir. Invited guests included MAC Linkage Fellow Latanya Hammonds-Odie and 2005 MAC Postdoctoral Travel Awardee Veronica Lopez. Also attending were MAC Director Irelene Ricks and ASCB Executive Director Joan Goldberg. New 2006 members are: MariaElena Zavala (California State University, Northridge); and Eva McGhee (University of California, San Francisco).

MAC priority issues included ensuring MAC continues support for faculty and student programs, including course support at the Marine Biological Laboratory; research collaborations of Visiting Professors and host faculty; and Linkage Fellows program participants. The MAC also proposed the design of a MAC Minority Speaker

Referral Service for a variety of purposes, including resources for academic institutions, private organizations, and the ASCB. MAC members also discussed issues of research, tenure, teaching, and mentoring support.

The MAC was pleased by the success of the annual MAC Mentoring Symposium on December 10, 2005, in which over 150 participants came to hear keynote speakers Bruce Alberts and George Langford.

The MAC was also encouraged by the enthusiastic participation of ASCB Council in a MAC-Council brown bag lunch about underrepresented scientists in biomedical

Visitors to the ASCB booth in San Francisco last month were treated to a preview of the website. The presentation featured an image of the first electron micrograph of a eukaryotic cell, published by Keith Porter, Albert Claude and Ernest Fullam in 1945. Lee Peachey, one of Keith Porter's graduate students, generously loaned an original print so that a scan of this famous image could be made. The annotation of items in the collection will be extensive and will include a title, authors, description of the image with historical significance (if any), materials and methods, and a link to the original publication, if available. Readers should look for announcements on the ASCB home page and in an upcoming issue of the *Newsletter*.

## Annual Meeting Lost & Found

There are a few unclaimed items from the Annual Meeting such as a pair of glasses, gloves, a sweater, shirt, notes, keys, etc. If you think you have misplaced items from the Annual Meeting, please contact Trina Armstrong at (301) 347-9300 or via [tarmstrong@ascb.org](mailto:tarmstrong@ascb.org).



Solutions for Your Research

# Custom Recombinant Protein + Polyclonal Antibodies



**New!**

## Custom Recombinant Protein + Polyclonal Antibodies

Select your gene of interest...  
Primm will provide

- Gene cloning
- Protein fusion expression and purification
- Rabbit immunization

**Peptide Synthesis**

**Custom Antibodies**

**1,950**

**\$**

**PrimmBiotech, Inc.**  
Box 425695 Kendall Square  
Cambridge, MA 02142 USA  
phone 800 893 4388  
fax 617 325 2703  
[www.primmbiotech.com](http://www.primmbiotech.com)  
[info@primmbiotech.com](mailto:info@primmbiotech.com)

## Nominating Committee Chair Announced



Elizabeth Blackburn

Elizabeth Blackburn has agreed to serve as the Chair of the ASCB Nominating Committee for 2006.

Blackburn is at the University of California, San Francisco. She served as Society President in 1997-98 and received the 2004 ASCB Public Policy Award for her steadfast commitment to science-based policy while serving on the President's Bioethics Council.

The Nominating Committee will recruit candidates to run for ASCB Council terms beginning in 2007, and for a candidate to serve as President in 2008. Committee members will be named later in 2006. ■

Committee Reports, continued from page 10

research. Suggestions made by participants included providing more dynamic and interactive information for students on the ASCB MAC website; more information on the Just Garcia Hill website/database for minority scientists; public and private grant writing workshops for minority faculty and postdocs at the ASCB Annual Meeting; and consideration of alternative career pathways beyond academia. [Note: There is an existing NSF workshop offered each Annual Meeting that describes available funding opportunities and tips on writing a successful grant proposal.]

Other successful MAC activities in San Francisco included 52 MAC travel awardee poster presentations on December 10, 2005. Cash prizes sponsored by St. Jude Children's Research Hospital were awarded to four graduate students. Undergraduate, postdoctoral, and faculty cash awards were provided by an anonymous donor.

Roundtable discussions later that day involved science writing, science ethics, pharmacology and universities. Guest speakers from Roche, Merck, The University of Arizona, and Science magazine were active

## Press Room



ASCB Science Writer John Fleischman conducts daily press briefings at the ASCB Annual Meeting.

discussants of these and other science topics. Rounding out a full MAC program in San Francisco was E.E. Just Lecturer Maggie Werner-Washburne on "The Quiescent State of Yeast." The Lecture was followed by the first annual MAC Junior Faculty Workshop.

## Schmid, Board Chart Course for MBC

The 2005 meeting of the *Molecular Biology of the Cell* (MBC) Editorial Board was very well attended. Editor-in-Chief Sandra L. Schmid remarked that this was one of several signs that the Associate Editors are committed to the journal. At the meeting, Schmid and the Associate Editors discussed recent enhancements to the review process and how the journal may increase its impact on the field.

Schmid noted changes in the Board:

- Randy Schekman resigned as Editor but will continue to serve as an Associate Editor.
- Joan Brugge agreed to become an Editor, joining Richard Hynes, Tom Pollard, and Mark Solomon.
- Eight Associate Editors are stepping down.

Schmid thanked Schekman and the departing Associate Editors for their dedicated service to *MBC*. In recruiting new Associate Editors, Schmid said she tried to balance the expertise of the Associate Editors with the types of manuscripts received. The distribution of papers among the Associate Editors has become much more even since last year's Board changes.

Another change is that the newly organized Board of Reviewing Editors (BRE) is now in place. The BRE will set the tone for constructive peer review, maintain editorial consistency, and provide a broad range of expertise. Each member of the BRE has agreed to review

## ASCB Business Meeting



2006 ASCB President Mary Beckerle and presiding President Zena Werb.



Above right: ASCB Treasurer Gary Ward updates members on Society investments. Right: Susan Gerbi listens to a query from Samuel Silverstein.



# ASCB COMMITTEE Reports

one or two papers per month for *MBC*; most peer-reviewed papers will be reviewed by at least one BRE member. Schmid has prepared guidelines for reviewers that emphasize the need for scholarly, constructive, and clear reviews. Journal Production Manager Rachel Altemus demonstrated how to assign reviewers in the journal's online review system.

Schmid presented data on the review process and complimented the Associate Editors for having reduced the time taken for every step in the process. Overall, the time from submission to first decision has dropped to about 19 days.

ASCB Director of Publications Mark Leader reported:

- *MBC* received 1,112 new submissions between November 2004 and October 2005, a 9.1% increase over the previous year.
- The journal continued to increase in size, to 5,901 pages for the 2005 volume.
- The average time from receipt to print publication was 75.9 days in the period from December 2004 to November 2005.
- Authors' final papers are typically posted online within a week of acceptance.

Schmid stated:

- To avoid the journal becoming even larger given increasing submissions, it will be necessary to decrease the acceptance rate.
- The journal's most important criterion for acceptance is that a paper should significantly

advance knowledge or provide new concepts or approaches that extend understanding.

- She highlights outstanding papers in *InCytes* from *MBC*, which appears in the *ASCB Newsletter* monthly (see page 50) and in the print edition of the journal.
- Any paper nominated by the Associate Editors for *InCytes* will also be a candidate for *MBC*'s Paper of the Year award.

There was a consensus that the Essays section should be maintained for topics not covered in typical review journals and should be broadly defined to allow for flexibility.

## Public Information Committee Tackles Evolution, Press Outreach

In its regular meeting, the Public Information Committee (PIC) discussed the new joint committee task force on "Creationism/ID/Evolution" mandated by Council. The task force will draw on members from the PIC, and the Education and the Public Policy Committees. PIC members agreed that a three-legged response was probably the best approach. They suggested various projects for the joint group, ranging from a stronger "Evolution" section on the ASCB website to organizing "Practice of Science" workshops on how to talk about Evolution in your local community. Council has also asked the task force for recommendations on how the ASCB can mark the Charles Darwin bicentennial in 2009. PIC member Tom Egelhoff volunteered to join PIC Chair Rex Chisholm on the Evolution task force.

The committee also evaluated "Cell Biology 2005," the latest edition of the PIC's press book for the Annual Meeting. Faced with increasing competition from other scientific meetings and more restrictive embargo policies by "big" science journals, PIC asked for a new allocation to promote press coverage of the ASCB meeting. Chisholm reported that Council had approved PIC's \$10,000 request. He would be soliciting proposals from public relations professionals to present at the spring PIC meeting in Bethesda, MD, in April 2006.

## E.E. Just Lecture



2005 ASCB President Zena Werb presents the E.E. Just Award to Margaret Werner-Washburne of the

University of New Mexico. Werner-Washburne spoke about The Quiescent State in Yeast.



## ASCB Public Policy Award Presented



Accepting the ASCB Public Policy Award for Sen. Arlen Specter (PA-R), Science Advisor for the U.S. Senate Committee on Appropriations Sudip Parikh urged Annual Meeting attendees to educate their representatives about science and ensure their voices are heard.



Arshad Desai

## Desai Named LAC Chair

ASCB President Mary Beckerle announced the appointment of Arshad Desai of Ludwig Institute for Cancer Research as Chair of the Society's Local Arrangements Committee. Committee members will be named this winter.

The 2006 Local Arrangements Committee will organize events for the ASCB Annual Meeting in San Diego this December, including the ASCB Social, the High School and Student Programs, and the ASCB-Invitrogen Molecular Probes Run. ■

## Bruce Alberts Award



Alberts Award recipient Samuel Silverstein of Columbia University College of Physicians & Surgeons and 2005 ASCB President Zena Werb



Silverstein spoke on Research Experiences for Science Teachers: Benefits for Students and the Economy.

## Public Policy Committee Focuses on Funding

Funding for biomedical research was a major topic for the ASCB Public Policy Committee at its full day meeting in December 2005. In attendance were Mary Beckerle, David Burgess, Committee Chair Larry Goldstein, Ursula Goodenough, Dan Kiehart, Bob Palazzo, Tom Pollard, Randy Schekman, Maxine Singer and Zena Werb. Also present were ASCB staff Joan Goldberg and Kevin Wilson and Joint Steering Committee for Public Policy staff Peter Kyros and Lynn Marquis.

At the time the Committee met, the U.S.

Congress had not yet approved the 2007 budget for the National Institutes of Health (NIH). Both the House of Representatives and the Senate had passed their own versions of the Departments of Labor, Health & Human Services and Education Appropriations bill, which contains funding for the NIH. The Senate bill included \$29.323 billion for NIH, \$1.049 billion or 3.7% more than last year's budget. The House bill allotted \$28.515 billion for NIH, \$241 billion or 0.5% more than the previous budget. The first Conference Report of House and Senate conferees included a budget of \$28.526 billion for the NIH which is \$252 million or 0.9% above the 2005 budget. However, in an unusual move, the Conference Report was rejected by the full House of Representatives.

Members of the Committee expressed concern that members of the biomedical research community were not actively engaged in public policy advocacy. Many reasons for the lack of interest were discussed. Public Policy Committee staff will focus on developing new methods of advocacy to engage researchers better. They will also reach out to other communities affected by reductions in NIH funding to engage them in the fight to increase funding.

## Education in Schools, On the Hill

The Committee discussed ongoing efforts to include the teaching of creationism and Intelligent Design in science education curricula. Goldstein reported that the ASCB Council wants to have a set of events at the 2006 Annual Meeting centered on evolution. Along with recommending a symposium speaker, the Public Policy Committee will work with other Society Committees to develop outreach events to take place at the 2006 meeting.

The ASCB continues to work closely with the Joint Steering Committee for Public Policy (JSC) and the Congressional Biomedical Research Caucus. The Caucus has a membership of over 100 Representatives and ten Senators. During 2005, the Caucus conducted 12 briefings on a wide range of scientific topics including Parkinson's Disease, organ transplantation and nanotechnology. The 12 briefings were attended by over 600 people, including Members of Congress and Congressional staff.

Changes in JSC staff forced a smaller number of Capitol Hill Days than normal. The JSC's Congressional Liaison Committee (CLC) Capitol Hill Day program was only able to conduct three of the five scheduled Hill Days. Despite the reduction, CLC members

See Committee Reports, page 16

## ASCB 2006 Summer Meetings

### Stem Cell Niches

Boston University  
Boston, MA  
July 15-18

#### Deadlines

Abstract: May 12  
Registration: May 31

### The Cell Biology of HIV-1 and Other Retroviruses

Emory University  
Atlanta, GA  
July 20-23

#### Deadlines

Abstract: May 19  
Registration: June 7

[www.ascb.org](http://www.ascb.org)

## Practice of Science



Maxine Singer, President Emerita of the Carnegie Institution (left); Keith Yamamoto, University of California, San Francisco (below left); and Allan Spradling, the Carnegie Institution of Washington/HHMI discussed How Long Should It Take to Train a Cell Biologist?



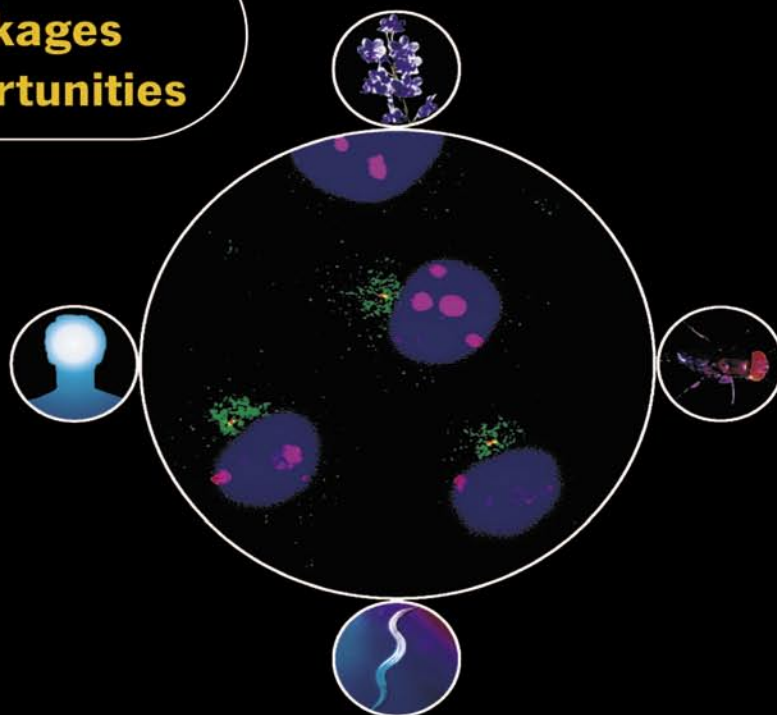


## BioScience 2006

bioscience for the 21st century

23-27 July 2006, Glasgow, UK

**Centenary events**  
**Sponsorship packages**  
**Advertising opportunities**



### **Biochemical Journal Centenary Events 2006**

An opportunity to reach research scientists and industrial scientists with budgeted spending power through a programme of high-profile events.

One hundred years of the *Biochemical Journal* are being celebrated by the Biochemical Society with three major events during 2006.

Bioscientists from around the world will gather in the UK to mark the Centenary - and companies in the biosciences industry will have tailored opportunities to promote their products and services to more than

1,500 prospective customers in person.

Centenary Events Sales Director Christina Wortley is currently placing companies in a masterplan of sponsorship, advertising and event hosting activities - engaging companies with decision-makers they want to meet and associating their products with the most relevant programme subjects.

If you haven't already spoken, Christina can be contacted at:

Christina Wortley ● CoverPoint Communications ● 5 The Quay ● St Ives  
Cambridgeshire ● PE27 5AR ● United Kingdom

Tel: +44 (0) 1480 467371 ● Fax: +44 (0) 1480 467381 ● Email: [christina@coverpoint.net](mailto:christina@coverpoint.net)

## Keith R. Porter Lecture



Randy Schekman of the University of California, Berkeley/HHMI, delivers the Porter Lecture on Morphogenesis of a Transport Vesicle.

Committee Reports, continued from page 14

conducted 95 Congressional meetings. 2005 was the second year of a CLC travel award program funded by a grant from the Open Society Institute. The awards have been particularly helpful in bringing constituents to Washington, DC to meet with Members of Congress with whom JSC members had not previously met.

## Women in Cell Biology Committee

The Women in Cell Biology Committee met on December 10 and discussed its programs, including the workshop on conflict resolution, the annual Career Lunch, the Evening Program, and selection and presentation of the WICB Junior and Senior Awards. Topics for the popular monthly *ASCB Newsletter* WICB Column were discussed, and potential authors identified. ■

## Women in Cell Biology Awards

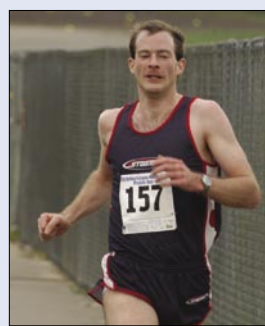


Top: WICB Chair Ursula Goodenough of Washington University (right) presents the 2005 Junior Award to Rebecca Heald of the University of California, Berkeley. Bottom: Elizabeth Blackburn of the University of California, San Francisco (left), receives the WICB Senior Award from Goodenough.

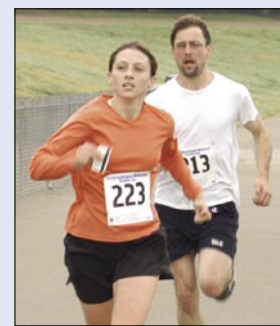
## ASCB/Invitrogen-Molecular Probes Run



All this effort, just to get a free t-shirt!



Overall Winner of the Men's 10K: Christoph Burckhardt from the University of Zurich.



10K Runners Colleen Ball and Brad Nolen race toward the finish line.



Greg Lucier from Invitrogen with Overall Women's 10K winner Marjan Huizing of the National Human Genome Research Institute/NIH.



Lucier with Men's Overall 5K Winner Michael Freeley of the Trinity Centre Health Sciences, St. James Hospital in Dublin.



Taking a well-deserved rest after completing the race...and cheering on the rest of the runners about to cross the finish line.



Mission Accomplished!



Overall Winner of the Women's 5K Jennifer Gillette from the National Institute of Child Health & Human Development/NIH.

## ASCB-Invitrogen-Molecular Probes Run Results

### 10K Overall Winners

Christoph Burckhardt—33:28  
Marjan Huizing—41:27

### 5K Overall Winners

Michael Freeley—16:13  
Jennifer Gillette—25:07



**The Difference is Better Technology**

## Introducing the *WhisperFuge*<sup>TM</sup>

### **The Gentle Bench Top Disc Centrifuge from Westfalia Separator.**

With a 12" by 20" footprint this bench top lab centrifuge fits almost anywhere. Yet it delivers impressive clarification and g-force, for the following applications:

- Microbial Separation
  - E-coli
  - Lysate
  - Inclusion Bodies
  - Yeast
- Mammalian Cells
- Vaccines
- Enzymes

Benefits include:

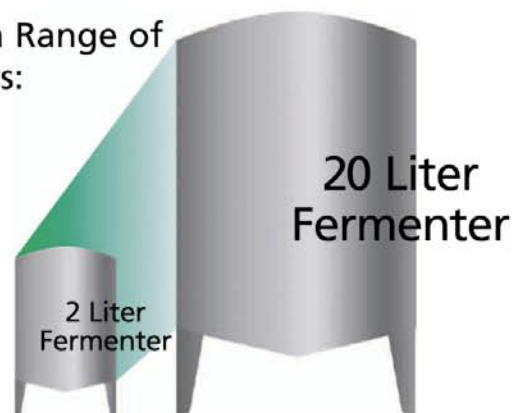
- Easy installation
- Low maintenance
- Rapid and easy bowl dismantling for cleaning
- Accurate scale up to larger units
- Compact size allows for installation under lab style hood

For more information, call Derek Ettie at (201) 784-6477.

**GEA** Westfalia Separator, Inc.  
A company of mg technologies group

Westfalia Separator, Inc. • 100 Fairway Court • Northvale, NJ 07647  
Tel: (800) 722-6622 • Fax: (201) 784-4331  
After Sales Service: (800) 509-9299  
[www.wsus.com](http://www.wsus.com)

**Ideal For a Range of Fermenters:**



# ANNUAL MEETING Highlights

## Lights! Camera! Cells! "Celldance 2005" Premieres in San Francisco

Hollywood didn't blink but the world premiere of "Celldance 2005," the ASCB's first annual cell biology film contest, at the Annual

Meeting drew an excited crowd and Council's backing for a sequel. Organized by the Public Information Committee (PIC), the contest's \$500 first prize went to Daniela Cimini of the University of North Carolina at Chapel Hill for her short film, "Meeting In The Middle Before Parting."

Ron Vale of the University of California, San Francisco, took the \$300 second prize for his animation, "A Moving Kinesin Motor Protein." Rosalind Silverman-Gavrila of the University of Toronto won the \$200 third prize for "In Perfect Synchrony." The judges awarded

honorable mentions to Alexey Khodjakov of the Wadsworth Center in Albany for "Dance of the Chromosomes" and to Susan Janicki and David Spector of the Cold Spring Harbor Laboratory on Long Island for "DNA → RNA → Protein."

"Celldance 2006 is already in the works," said PIC Chair Rex Chisholm. "Cell biology is an intensely visual science. These films will be useful in biology classrooms, but the PIC is always looking for ways to open the eyes of the world to life on the cellular level. This is just the beginning." Chisholm praised PIC member Kip Sluder for getting the "Celldance" contest off the ground.

"Celldance 2005" was open to all ASCB members and attracted 29 entries from the U.S. and Canada. Judges were drawn from the PIC and the ASCB's general membership. To overcome the daunting logistics of collecting, distributing and judging entries from ASCB's worldwide membership, "Celldance" was conducted through an RSS or "really simple syndication" feed, using free software developed for video podcasting. Instructions for

setting up an RSS feed and downloading the "Celldance 2005 Winners' Reel" are at [www.ascb.org](http://www.ascb.org). The winning entries of "Celldance 2005" will also be submitted to the new ASCB Image and Video Library.

## College Student Program Addresses Pathogenesis

Recent scares about a potentially looming avian flu pandemic thrust the field of pathogenesis back into the limelight. Or was it ever out of it? HIV, SARS, and dwindling flu vaccines have appeared in and out of the media. They are hot topics studied by some of the foremost researchers in the world. By scrutinizing these microorganisms, along with the many others that colonize a variety of hosts, researchers continue to diminish the mystery behind the cell biology of the host and its invaders. But can we ever triumph over them all? "Even if we conquer all of the pathogens that we know, there will always be something new coming down the pike," stated Dan Portnoy of the University of California, Berkeley.

Portnoy, along with Joe DeRisi of the University of California, San Francisco, and Julie Theriot of Stanford University, participated in a panel discussion entitled "Emerging Pathogens and Biodefense." The forum was held during the college student program. Speakers discussed how they became involved in their current research endeavors. They also revealed interesting facts about the field of microbial pathogenesis. Theriot recalled how, as a graduate student, after reading a paper by Portnoy's lab, she became

*See Highlights, page 20*

## Celldance Contest Winners



(Left to right:) ASCB Science Writer John Fleischman and Public Information Committee Chair Rex Chisholm present awards to Celldance winners Ron Vale of the University of California, San Francisco; and Rosalind Silverman-Gavrila of the University of Toronto. Kip Sluder (right) chaired the "Celldance" Public Information Subcommittee.

## Renew Your Membership for 2006

To continue enjoying ASCB membership benefits, including the *ASCB Newsletter*, go to [www.ascb.org/ascbsec/DuesRenewal/dues06.cfm](http://www.ascb.org/ascbsec/DuesRenewal/dues06.cfm).

## Forgotten Your ID Number?

Contact the ASCB at (301) 347-9300 or [ascbinfo@ascb.org](mailto:ascbinfo@ascb.org).

## Student Program

From left to right: Joseph DeRisi, University of California, San Francisco; Julie Theriot of Stanford University; and Daniel



Portnoy, University of California, Berkeley, spoke about Emerging Pathogens and Biodefense.





Now pioneering EMCCD technology  
is within everyone's reach.

#### LOW LIGHT IMAGING

**Andor Luca** is the latest imaging innovation from Andor, the leaders in EMCCD technology. Finally a cost-effective option making EMCCD available to every laboratory, for every application. Operate "gain off" for conventional CCD operation under brighter conditions, or turn on the EM gain when the photons become scarce!

#### Features include:

- Single photon sensitivity.
- Detection of extremely weak signals with optimal S/N and high resolution.
- Rapid Frame Rate.
- USB 2.0 interface.
- Multiple camera support.

Don't hang around, net yours today!

To find out more visit [www.andor.com](http://www.andor.com)  
or [www.emccd.com](http://www.emccd.com)

**ANDOR™**  
TECHNOLOGY | luca



\$8,850\*

- widefield fluorescence microscopy
- living and fixed cells
- single molecule detection
- fluorescent proteins inc. GFP
- FISH
- immunofluorescence
- comet assay

\*Domestic US price quoted.

**ANDOR™**  
TECHNOLOGY

discover new ways of seeing™

[www.andor.com](http://www.andor.com)

# ANNUAL MEETING Highlights

Highlights, continued from page 18

excited about the way the stomach churning *Listeria monocytogenes* bacteria hijacks the host's machinery to invade and spread. DeRisi

later discussed the importance of assays to detect viruses of unknown etiology. He also explained how his lab uses microarray technology to identify mysterious microbes and learn more about elusive organisms like *Plasmodium falciparum*.

After each researcher spoke, the floor was opened to attendee questions.

Approximately

150–200 college students from various universities attended, and there was no shortage of inquiries for the panelists. One student from California State University (CSU), Monterey Bay, asked whether bioterrorism was really the threat portrayed by the media. Other students, from schools like CSU, Stanislaus and the University of California, Berkeley, inquired about the state of current research funding, the correlation between the rise in the human population and that of new viruses, and how chronic antibiotic use affects the way disease spreads in current society.

## Congress 101/CLC Meeting

The U.S. scientific community is facing challenging times due to cuts at the National Institutes of Health (NIH) that directly affect, among other budget priorities at NIH, new grants, grant size, and grant duration. Future NIH budgets look equally bleak. Scientists across the U.S. need to be actively involved to change the direction of current funding levels by meeting their Members of Congress, making a call to their offices, and/or writing a letter to their Senator. This was the message repeated

to ASCB Annual Meeting attendees at the annual Congress 101 and Congressional Leadership Caucus (CLC) meetings. This message was also echoed by Sudip Parikh, Science Advisor to the U.S. Senate Appropriations Committee, when he accepted the ASCB Public Service Award on behalf of Senator Arlen Specter.

Congress 101 was hosted by Larry Goldstein, ASCB Public Policy Committee Chair, and was attended by over 100 people. The panel also included the JSC Congressional Education Liaison Peter Kyros and Committee member and WICB Chair Ursula Goodenough. The presentation and audience discussion focused on why researchers should become involved in public policy advocacy and the valuable role they can play in influencing and shaping public policy in Washington, DC.

The Joint Steering Committee for Public Policy's (JSC) Congressional Liaison Committee (CLC) reception also drew about 100 people for an informal discussion on the best ways to approach your Member of Congress. Tom Pollard, who heads the CLC, hosted the panel discussion. The panel included Omar Quintero who discussed his own experience in meeting his member of Congress through the JSC's Capitol Hill Days.

See Highlights, page 22

## Congress 101



ASCB Public Policy Committee Chair Larry Goldstein (at podium) and below with fellow panelists JSC Education Liaison Peter Kyros and WICB Chair Ursula Goodenough discussed the role that scientists can play in influencing policy in Washington, DC.



## Exhibitor Showcases

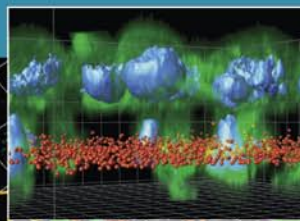
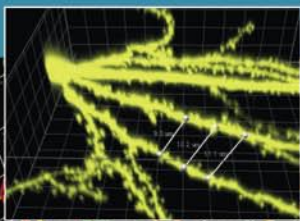
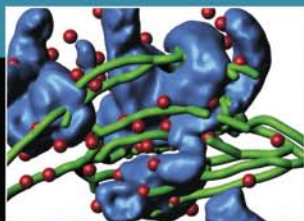
BD Biosciences presented several showcases highlighting its new imaging technologies.





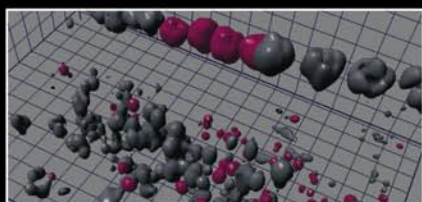
# Segmentation, Measurements, Statistics, Tracking

## You will never see 3D and 4D microscope images the same way again.



Time	Length	Duration	Speed	Displacement
1	100.0 µm	20 s	5.0 µm/s	100.0 µm
2	80.0 µm	15 s	5.3 µm/s	80.0 µm
3	60.0 µm	10 s	6.0 µm/s	60.0 µm
4	40.0 µm	5 s	8.0 µm/s	40.0 µm
5	20.0 µm	2 s	10.0 µm/s	20.0 µm
6	10.0 µm	1 s	10.0 µm/s	10.0 µm
7	5.0 µm	0.5 s	10.0 µm/s	5.0 µm
8	2.5 µm	0.2 s	12.5 µm/s	2.5 µm
9	1.25 µm	0.1 s	12.5 µm/s	1.25 µm
10	0.625 µm	0.05 s	12.5 µm/s	0.625 µm
11	0.3125 µm	0.02 s	15.6 µm/s	0.3125 µm
12	0.15625 µm	0.01 s	15.6 µm/s	0.15625 µm
13	0.078125 µm	0.005 s	15.6 µm/s	0.078125 µm
14	0.0390625 µm	0.002 s	19.5 µm/s	0.0390625 µm
15	0.01953125 µm	0.001 s	19.5 µm/s	0.01953125 µm
16	0.009765625 µm	0.0005 s	19.5 µm/s	0.009765625 µm

**Bitplane provides you with the tools to quantify your research results.**



Innovative, functional, powerful; Bitplane's suite of software offers researchers some of the most advanced and easy to use software tools on the market.

Six unique, tightly integrated modules, provide users with an opportunity to build a package based on their specific needs.

[www.bitplane.com](http://www.bitplane.com) [ussales@bitplane.com](mailto:ussales@bitplane.com) 1-888-3D-BITPX (332-4879)

**the image revolution starts here.**



**BITPLANE AG**  
SCIENTIFIC SOLUTIONS



# ANNUAL MEETING Highlights

## Education Workshop



*Diane Ebert-May of Michigan State University conducted a lively and well-attended Education Workshop: Pathways to Scientific Teaching.*



*Ebert-May discussed how undergraduates learn and how assessment improves student learning to a rapt audience at the Education Workshop.*



*Highlights, continued from page 20*

Peter Kyros, Lynn Marquis, the National Coordinator for the JSC, and Kevin Wilson, the Public Policy Director for the ASCB, were also on the panel.

All panel members urged researchers to become involved in public policy advocacy and stressed the many simple and non-time-consuming things they can do such as calling or writing your Senator or Member of Congress.

For information on how to be an effective voice for science, please contact Kevin Wilson at [kwilson@ascb.org](mailto:kwilson@ascb.org) or Lynn Marquis at [lmарquis@jscpp.org](mailto:lmарquis@jscpp.org).

## K-12 Science Education Partnership Lunch



*Barbara Nagle, SEPUP Director, Lawrence Hall of Science (left), leads a discussion at the K-12 Lunch, Introducing Cell Biology to K-12 Students: Getting Kids Hooked on Microscopy.*



## Education Initiative Forums

The three Education Initiative Forums sponsored by the Education Committee at the Annual Meeting attracted standing-room-only audiences. The forums, which were chosen from among many excellent education poster submissions, described topics of great interest and impact.

Robin Wright, University of Minnesota, described her school's program called "The Nature of Life." This highly successful, mandatory freshman orientation course for biological science

students, brings together students and professors for intensive seminars and bonding. It is held at Lake Itasca, the headwaters of the Mississippi River, during the summer.

Charles Evans, Georgetown University, spoke about an outreach program to promote biomedical health careers among youth in three rural communities: Lakota Ogala Sioux American Indians from the Pine Ridge Reservation in South Dakota; African American and Cajun participants from Napoleonville, Louisiana; and Mexican-American students from a farm migrant worker community in Florida. The students travel to Washington, DC, and spend three weeks on the Georgetown University campus. They attend lectures and field trips, experience laboratory exercises and cultural activities, and participate in science and nonscience classes. All of these activities expose the high school students to a myriad of biomedical science-based careers.

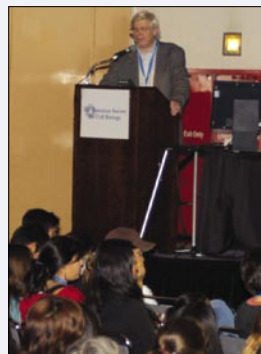
Finally, Anna Ballew, Stanford University, described a lab course for university sophomores that is designed to engage students in yeast genetics through the study of chemicals that may affect human health. The course allows students to design their own projects; conduct independent, original research in the lab using sophisticated equipment; collect data; and present their findings in a final report and poster presentation.

## High School Program Discusses Stem Cells

Teams around the world are working on approaches to stimulate stem cells to replace dead cells in diseases like Parkinson's or diabetes. But many American researchers have sought posi-

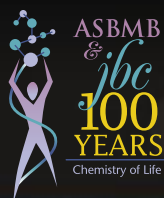
*See Highlights, page 24*

## High School Program



*Allan Spradling of the Carnegie Institution of Washington/HHMI speaks about Bringing Basic Science to the Study of Stem Cells.*





# ASBMB Annual Meeting and Centennial Celebration

San Francisco, California • April 1-5, 2006

Program Co-Chairs: George M. Carman, Rutgers University  
Laurie S. Kaguni, Michigan State University

**History Comes Alive...Register Now!**

## Preliminary Program

### Molecular Structure

**Macromolecular Structure and Dynamics**  
Andrej Sali, UCSF

**Proteomics and Bioinformatics**  
Michael Snyder, Yale University  
David S. Eisenberg, UCLA

**Chemical Genetics and Drug Discovery**  
Chaitan Khosla, Stanford University  
Kevan Shokat, UCSF

**Glycobiology and Extracellular Matrix**  
Carlos B. Hirschberg, Boston University  
Goldman School of Dental Medicine

### Genome Dynamics

**Genome Dynamics: Replication, Repair, and Recombination**  
Laurie S. Kaguni, Michigan State Univ.

**Chromatin: Structure, Expression, and Regulation**  
Sharon R. Dent, University of Texas M. D. Anderson Cancer Center

**RNA: Structure, Metabolism, and Regulation**  
Alan D. Frankel, UCSF

**Protein Synthesis, Folding and Turnover**  
William Merrick, Case Western Reserve University

### Cell Signaling

**Metabolic Regulation**  
Richard W. Hanson, Case Western Reserve University  
Daryl K. Granner, Vanderbilt Univ.

**Signaling in Growth and Development**  
Michael B. Yaffe, MIT

**Signaling in Aging and Disease**  
Natalie G. Ahn, University of Colorado at Boulder

### Membrane Biogenesis

**Biochemistry and Molecular Biology of Lipids**  
George M. Carman, Rutgers University  
Christian R.H. Raetz, Duke University

**Structure, Function, and Biogenesis of Cell Membranes**  
William Dowhan, University of Texas-Houston Medical School

## Minority Affairs Sponsored Symposia

Juliette Bell, Fayetteville State Univ.

**Issues in Breast Cancer Among Minority Populations**  
K.V. Venkatachalam, Nova Southeastern University

**Minorities and the HIV/AIDS Epidemic**  
Juliette Bell, Fayetteville State University

**EPD/MAC Symposium – Undergraduate Student/Faculty Science**  
Joseph Provost, Minnesota State University-Moorhead,  
Mark A. Wallert, Minnesota State University-Moorhead  
and Phillip A. Ortiz, Empire State College

**EPD/MAC Symposium – Outreach and Public Education**  
Neena Grover, Colorado College

## Public Affairs Advisory Committee Symposia

William R. Brinkley, Baylor College of Medicine

**Teaching the Science of Evolution Under the Threat of Alternative Views**  
William R. Brinkley, Ken Miller, Don Johanson, Eugenie Scott, Ted Peters

**Education and Professional Development: Focus on the Future, Shape the Debate**  
J. Ellis Bell, Univ. of Richmond

**Undergraduate Poster Session and Plenary Lecture: My Life in Science**  
Edmond H. Fischer, University of Washington School of Medicine and Edwin G. Krebs, University of Washington School of Medicine

**Current Themes in Molecular Evolution**  
Michael M. Cox, University of Wisconsin – Madison

**Plenary Lecture: Integrity and Independence of Scientific Thought**  
Elizabeth Blackburn, UCSF

**Matching Expectations: Employers and Education in the Molecular Life Sciences**  
Joy A. McMillan, Madison Area Technical College

**The Classroom of the Future**  
J. Ellis Bell, Univ. of Richmond

## Workshops

**Mass Spectrometry and Proteomics**  
Al Burlingame, UCSF and Sue Weintraub, UTHSC, San Antonio

**Surface Plasmon Resonance and Proteomics**  
Eileen Lafer, UTHSC, San Antonio

**How to Publish in the JBC**  
Presented by Associate Editors of JBC

## Award Lectures

- Herbert Tabor/Journal of Biological Chemistry Lectureship
- ASBMB-Amgen Award
- ASBMB Award for Exemplary Contributions to Education
- ASBMB-Merck Award
- Avanti Award in Lipids
- FASEB Excellence in Science Award
- Herbert A. Sober Lectureship
- Howard K. Schachman Public Service Award
- Schering-Plough Research Institute Award
- William C. Rose Award

## Centennial Special Events

- Opening Centennial Celebration Reception
- ASBMB/JBC Birthday Bash, A Taste of San Francisco
- ASBMB 5k Fun Run
- An Evening with the San Francisco Symphony

## ASBMB Travel Awards

ASBMB Centennial Clara Benson Travel Fellowship Award  
Graduate Minority Travel Award  
Graduate or Postdoctoral Travel Award  
Undergraduate Student Travel Award  
Undergraduate Faculty Travel Award

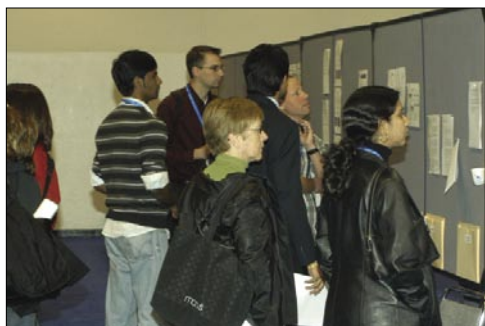
## Special Events

10th Annual Undergraduate Student Research Achievement Award Poster Competition, Saturday, April 1, 2006  
ASBMB Graduate Student and Postdoctoral Travel Award Symposium, Saturday, April 1, 2006  
ABRF/ASBMB Symposium  
Minority Scientists Mixer  
Women Scientists' Mentoring/Networking Session and Reception  
Graduate Student and Postdoctoral Mentoring/Networking Session and Reception  
ASBMB Business Meeting

**Abstract Deadline: February 8, 2006**

**www.asbmb.org/meetings**

# ANNUAL MEETING Highlights



Highlights, continued from page 22

tions in other countries due to stringent restrictions placed on stem cell research in the United States by the Bush Administration. What are stem cells, what kind of research is performed on these intriguing cells, and what is the heat of the controversy behind using these cells? Allan Spradling of the Carnegie Institution in Washington/HHMI discussed these and other issues during the high school program.

Approximately 350 students from schools around the greater San Francisco Bay Area attended the presentation. It spanned Spradling's unique introduction to fruit fly research in high school, his graduate and postdoctoral careers, and his current work using fruit fly stem cells. Spradling explained how working with fruit fly stem cells is not controversial like human stem cell research. He also detailed some of his groundbreaking results that provided a library of stem cell mutants to the *Drosophila* research community. After Spradling's talk, students asked questions and were escorted to the vendor exhibits and poster sessions.



Over 3,000 posters were presented at the ASCB Annual Meeting.

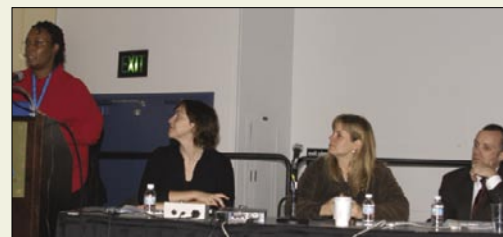
## Subcommittee on Postdoctoral Training

The ASCB Subcommittee on Postdoctoral Training (SCOPT) hosted a session at the Annual Meeting

on "Networking for Success: The Essence of an Effective Postdoctoral Association."

Members of the panel included Keith Micoli, National Postdoctoral Association; Christina Lewis, University of California-San Francisco Postdoctoral Scholars Association; and Jill Fuss, Biosciences

## Subcommittee on Postdoctoral Training



Tracie Gibson of Purdue University introduces (left to right) Christina Lewis of the University of California, San Francisco, Postdoctoral Scholars Association; Jill Fuss of Lawrence Berkeley National Laboratory; and Keith Micoli of the National Postdoctoral Association. The Subcommittee on Postdoctoral Training presentation was titled *Networking for Success: The Essence of an Effective Postdoctoral Association*.

Postdoctoral Society Committee, Lawrence Berkeley National Laboratory. The panelists addressed how postdocs can get involved in such associations and how to tap into existing resources.

Members of the subcommittee met separately to organize plans for next year's Annual Meeting and to appoint a new chair. Cherie Butts, a postdoctoral fellow at the National Institute of Mental Health, will replace Tracie Gibson as chair. Laurie Littlepage and Kristen Kwan have agreed to serve as co-vic chairs. SCOPT plans to continue to expand its outreach to ASCB postdocs.

## WICB Workshop



Michael Milano of Murphy & Milano, Inc., led the WICB Workshop on From Conflict to Confidence: Negotiating Day-to-Day Conflicts.



## WICB Workshop

Are scientists concerned with conflicts that might affect their ability to perform professionally? The highly interactive Women in Cell Biology Workshop on Conflict Resolution held December 10, 2005, provided dozens of participants the opportunity to learn how to go from conflict to confidence and how to negotiate situations on a day-to-day basis. Led by Michael Milano of Murphy & Milano Inc., attendees learned, among other things, that conflict is not an unusual situation, that there are many styles to resolving conflict, and that each individual needs to find a comfortable and productive style that provides her or him with confidence to resolve a conflict by working with others to achieve a resolution.

## WICB Career Lunch

Approximately 400 people attended the Career Lunch sponsored by WICB. The attendees selected from 25 topics of interest, at 38 labeled ta-



# ANNUAL MEETING Highlights



WICB Career Lunch

bles. The most popular topics included the “newer” areas, such as Biotech & Pharmaceuticals, as well as the more “traditional,” Obtaining an Appropriate Postdoc Position, Job Application Strategies for Academic Positions, and Developing Your Career. From the animated discussions and an unofficial exit poll, it is clear that the Career Lunch continues to be a highlight for both the table leaders and registrants.

## WICB Thespians

The Impostor Syndrome was aptly dramatized during the Women in Cell Biology evening program by Committee Thespians Lydia Villa-Komaroff, Linda Hicke, Gary Borisy, Randy Schekman and Matthew Welch. They displayed the anguish, anxiety, and raw fear that come when you think others have an inflated opinion of your prowess. That is, your self-confidence is disconnected from the reality of your talent. The thespians also portrayed the flip side of the anxiety-prone suffering the Impostor Syndrome. That is, some colleagues may have a history of being “often wrong but never in doubt” (a phrase quoted from Ellen Goodman, a columnist at *The Boston Globe*). These individuals bombast their way through their own worries about being discovered as intellectual frauds.

Perhaps the most telling observation from this evening program was the number of prominent members of the Society, including no fewer than six current and former Presidents, who remarked on their own anxieties surrounding these issues. They showed how they relied on caring mentors, friends and loved ones to begin to believe in their own talents.

Clearly this year’s evening program struck a chord, touching a nerve in both men and women, junior and senior cell biologists. An article on the issue, penned by WICB member Sue Wick, can be found in *Career Advice for Life Scientists*, Volume 1. A workshop on the topic seems warranted at a future ASCB meeting. ■

## WICB Evening Program

*Finding the Balance Between Over-Confidence and the Imposter Syndrome*



Caroline Kane facilitated the Evening Program.



Committee Thespians included (left to right) Gary Borisy, Lydia Villa-Komaroff, Randy Schekman and Matthew Welch.



Gary Borisy and Lydia Villa-Komaroff are getting into the seriousness of their roles ...



... while Linda Hicke and Matt Welch are having too much fun with their role-play.

**Applied  
Scientific  
Instrumentation**

**Products for Automation & Sub-Micron Motion Control**

Ultra-Precise Closed-Loop DC Servo  
XYZ Stage Systems  
for all major microscopes and stand-alone applications

Piezo Top-plate Stages  
for ultra-fast and precise Z positioning

Low Vibration  
Filterwheels

Video Autofocus &  
Laser Based Feedback  
for maintaining sub-micron focus for days  
and *much more...*

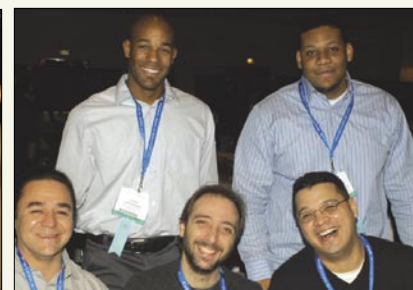
**ASI** *imaging* **.com**

PHONE : (541) 461-8181  
US/CAN : (800) 706-2284

# ANNUAL MEETING Highlights

## Minorities Affairs Committee Activities

### MAC Mentoring Symposium



Above left: Cherie Butts of the National Institute of Mental Health/NIH moderated the MAC Mentoring Symposium. At left: Bruce Alberts of the University of California, San Francisco, and George Langford of Dartmouth College spoke on Trailblazers and Path Finders: Secrets for Career Success from Leading Scientists. Above: Mentoring Symposium participants.

### MAC Poster Session



MAC Poster organizers Peter Satir (far left) and Anthony DePass (far right) with MAC poster session winners (left to right) Dwane Clarke, Mauricio Cortes, Kiani Lopez, Anthony Aragon, Veronica Lopez, Sabrice Guerrier, Lymarie Maldonado-Baez, and Juan Reyes.



MAC Poster presenters: James Olzmann (left) of Emory University and Omayra Rivera-Denizard of the University of Puerto Rico, Mayaguez (right), present their research.

#### MAC Poster Winners

##### Undergraduate

###### First Place

Dominick Lemas—University of Vermont, Burlington

###### Second Place

Kiani Lopez—University of Puerto Rico, Mayaguez

###### Third Place

Dwane Clark—Morgan State University

##### Graduate Awards

###### First Place

Sabrice Guerrier—University of North Carolina, Chapel Hill

###### Second Place

Lymarie Maldonado-Baez—The Johns Hopkins University

###### Third Place

Mauricio Cortes—University of Chicago  
Anthony Aragon—University of New Mexico, Albuquerque  
Juan Reyes—Chicago State University

##### Postdoctoral Fellows

###### First Place

Alexis Rodriguez—Albert Einstein School of Medicine

###### Second Place

Veronica Lopez—University of California, Davis

##### Faculty Awards

Omar Quintero—Franklin and Marshall College

### Underepresented Minorities/Council Roundtable Discussion





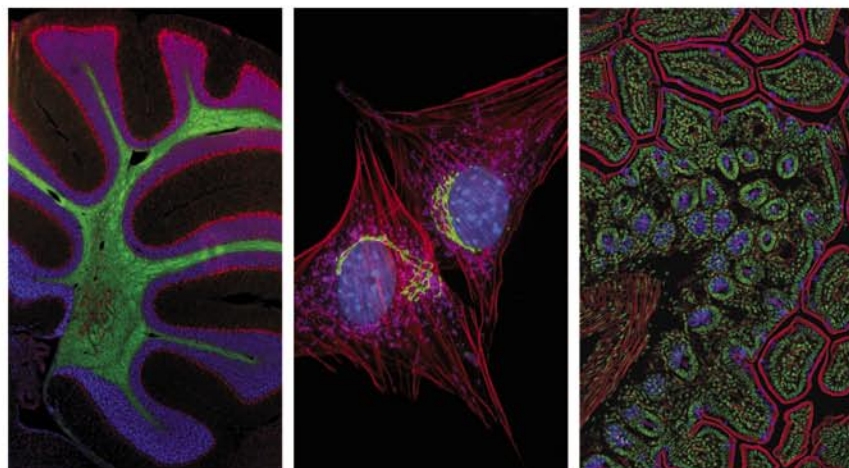


# The Art of Imaging

## How'd they do that?

Visit [probes.invitrogen.com/theartofimaging](http://probes.invitrogen.com/theartofimaging) and get the facts behind select images from the Molecular Probes image gallery, including:

- A full materials list
- Detailed protocols
- Instrumentation and filter requirements

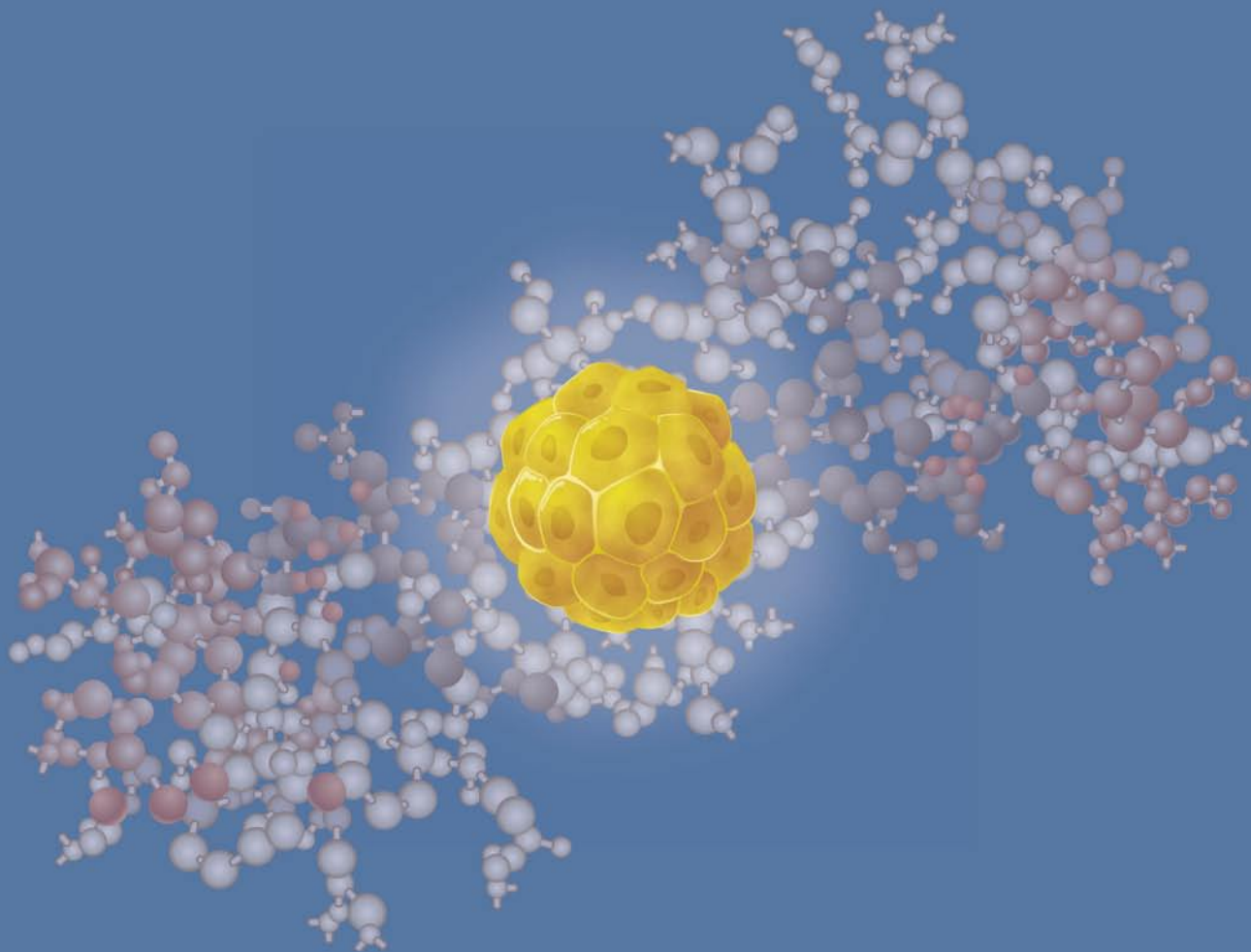


Get the most out of your experiment, with information-rich images that show you what you really need to see. And be sure to request copies of the 11" x 17" posters of all three of our featured images. (We'll include a pair of 3D glasses for some extra viewing fun.)

Molecular Probes' Art of Imaging from Invitrogen — where art and science meet.



**Molecular Probes™**  
invitrogen detection technologies



# BRAVE NEW CELLS

## Defining the Future of Medicine

March 13 & 14, 2006 The Palace Hotel, San Francisco, CA



THE  
STEM CELL  
MEETING

### JOIN US AT THE INAUGURAL STEM CELL MEETING

This premier international event brings together world-renowned scientists with decision makers and thought leaders in policy, ethics, patient advocacy, finance, business, and media to explore the challenge and promise of stem cell research and the compelling potential of emerging therapies. This two-day meeting will focus on all the most pressing issues facing what many consider to be the future of medicine.

For more information,  
please visit  
[www.thestemcellmeeting.com](http://www.thestemcellmeeting.com)

BURRILL & COMPANY

LIFE SCIENCES: VENTURE CAPITAL, MERCHANT BANKING, MEDIA



# Brilliant Signals.



**New. Axio Imager.  
Discover New Worlds.**

A new generation of microscopes is setting new standards in digital imaging. Through ultimate optimization of components, flawless integration of digital imaging and pioneering developments in optics - Axio Imager from Carl Zeiss.

Carl Zeiss MicroImaging, Inc. • 800-233-2343 • [zeiss.com/axio-imager](http://zeiss.com/axio-imager)



**We make it visible.**



# ACS chemical biology

The New Interface of Chemistry and Biology

Call For Papers

Recommend  
*ACS Chemical Biology*  
to your library today.

**Now accepting your original research and reviews at: [www.acschemicalbiology.org](http://www.acschemicalbiology.org)**

*ACS Chemical Biology* is a new journal for a rapidly expanding area of research, acting as a catalyst to foster substantive collaboration between biologists and chemists. Results will be published in which molecular reasoning has been used to probe questions through *in vitro* investigations, cell biological methods, organismal studies, or computational approaches. We welcome mechanistic studies on proteins, nucleic acids, sugars, lipids, and non-biological polymers. The journal serves a broad-based scientific community, exploring cellular function from both a chemical and biological perspective.



**ACS PUBLICATIONS**  
HIGH QUALITY. HIGH IMPACT.

Note: there are no page or color charges associated with *ACS Chemical Biology*



## Historically Bad Budget for NIH

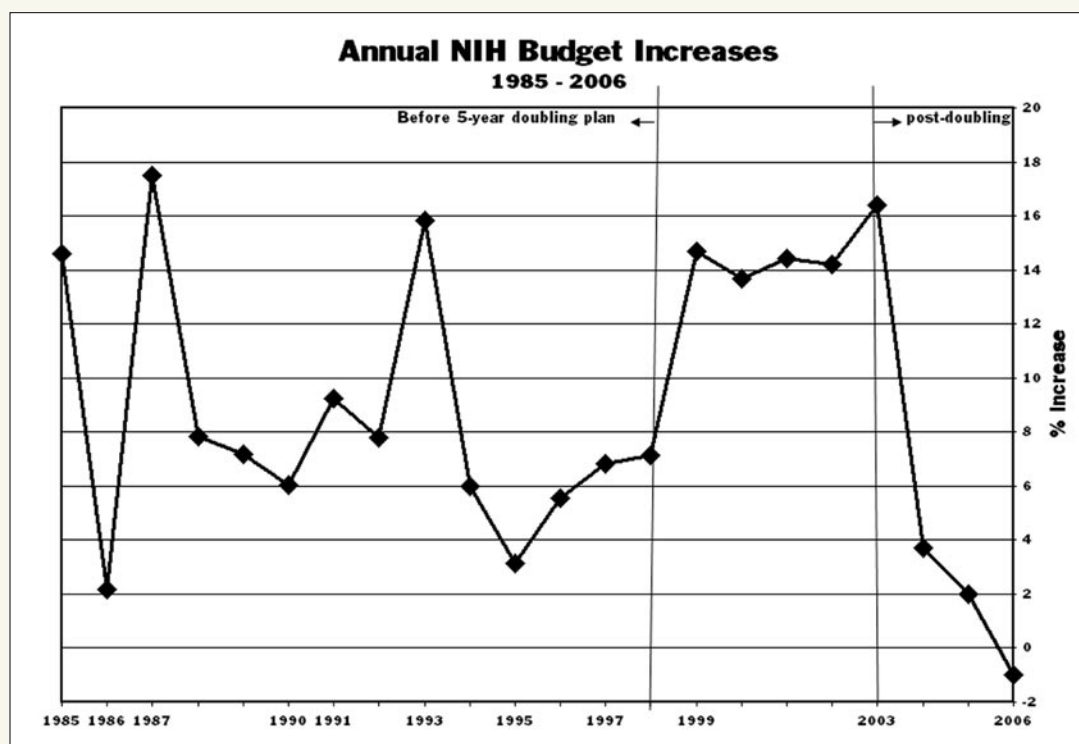
In the final hours before U.S. Congress adjourned for 2005, Congress completed its work on the FY 2006 Departments of Labor, Health & Human Services and Education Appropriations bill. This bill includes funding for the National Institutes of Health (NIH). Unfortunately, the budget does not include good news for the NIH. A small funding increase in the Appropriations bill combined with a 1% government-wide budget cut will result in a 2006 NIH budget that is \$33 million less than the 2005 budget. The NIH has not seen a cut in its budget since 1970 when President Nixon cut the budget by \$48.8 million.

President Bush's original budget proposal included a request of \$28.418 billion for the NIH which was \$144 million or .5% more than the final 2005 NIH budget. The House of Representatives budget included \$28.515 billion, an increase of \$241 million or 0.8% above the 2005 NIH budget. The Senate bill included \$29.323 billion for NIH, \$1.049 billion or 3.7% more than last year's budget.

**The growth of the NIH budget has steadily decreased in each of the three federal budgets since the 2003 completion of the five-year doubling of the NIH budget.**

A Conference Committee of both House and Senate members included a budget of \$28.526 billion for the NIH in the final version of the budget bill. This is \$252 million or 0.9% above the 2005 NIH budget. In an unusual move, however, the Conference Report was rejected by the full House of Representatives. After making changes to the bill not connected with the NIH, a second Conference Report was narrowly approved by the House by only two votes and later by voice vote in the Senate. After the government-wide 1% reduction, the final NIH budget will end up at \$28.241 billion.

The growth of the NIH budget has steadily decreased in each of the three federal budgets since the 2003 completion of the five-year doubling of the NIH budget. In each of those years, the increase has been below the Biomedical Research and Development Price Index (BRDPI), an index intended to provide a more precise gauge of the resources necessary to keep up with inflationary costs particular to biomedical research. ■



## Court Says ID Is Not Science

A U.S. District Court judge has ruled that “Intelligent Design” cannot be taught in Dover, Pennsylvania, biology classes. The ruling is the result of a court case filed against the Dover Area School Board by parents of 11 students after the Board voted to amend the school biology curriculum. The new policy required that a statement be read in each ninth grade biology class stating that Darwin’s Theory of Evolution is “not a fact” and has inexplicable “gaps.” ASCB member Ken Miller was the first witness for the plaintiffs.

In his ruling, U.S. District Court Judge John E. Jones III wrote that, “In making this determination, we have addressed the seminal question of whether ID is science. We have concluded that it is not, and moreover that ID cannot uncouple itself from its creationist, and thus religious, antecedents.”

Judge Jones continued, “To be sure, Darwin’s theory of evolution is not perfect. However, the fact that a scientific theory cannot yet render an

explanation on every point should not be used as a pretext to thrust an untestable alternative hypothesis grounded in religion into the science classroom or to misrepresent well-established scientific propositions.”

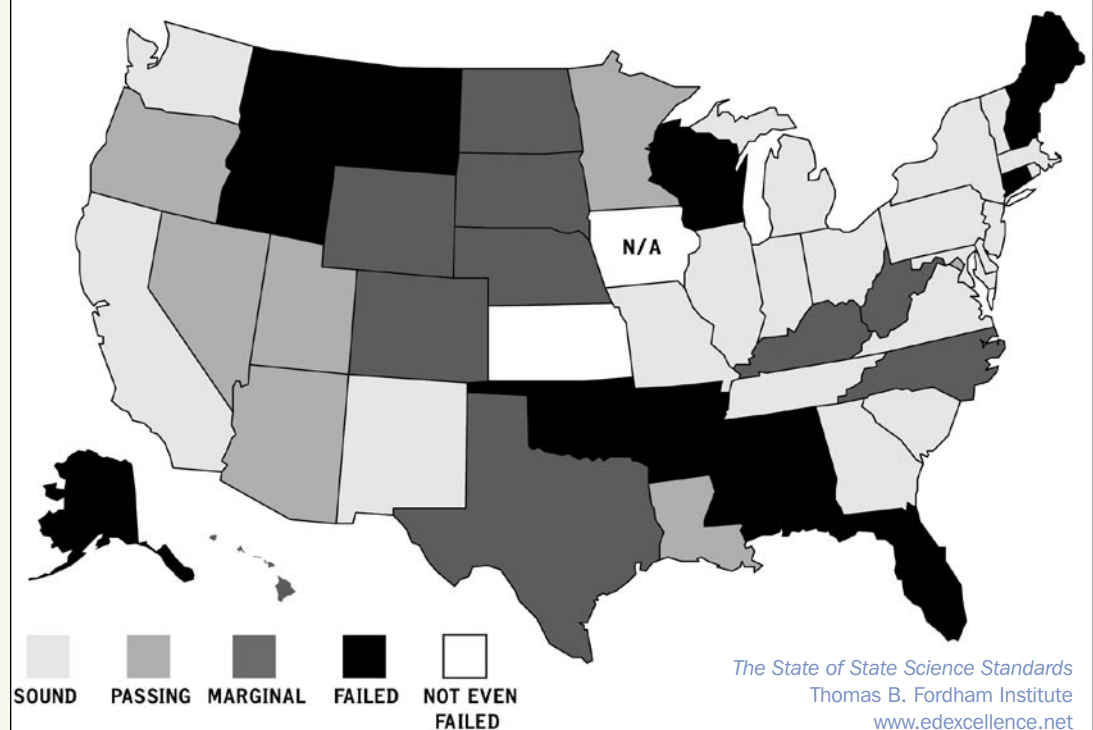
Jones was equally blunt in his criticism of the Dover School Board and the proponents of Intelligent Design. He charged that the citizens of Dover “were poorly served by the members of the Board who voted for the ID Policy.” In his harshest words, the judge said, “It is ironic that several of these individuals, who so staunchly and proudly touted their religious convictions in public, would time and again lie to cover their tracks and disguise the real purpose behind the ID Policy.”

While this ruling applies only to the Dover Area schools, it may have a major impact on efforts to include ID in the science classes of other school systems around the U.S.

To read the complete ruling, go to [http://coop.www.uscourts.gov/pamd/kitzmiller\\_342.pdf](http://coop.www.uscourts.gov/pamd/kitzmiller_342.pdf). ■

## Creationism Monitor

Treatment of Evolution in 49 States and the District of Columbia





# Need a custom antibody to differentiate between closely-related antigens?



## It can be yours in just 8 weeks!

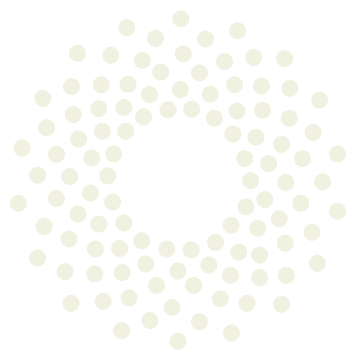
Our HuCAL GOLD® recombinant antibody library is ideal for **direct selection** of monoclonal antibodies that do not recognize related antigens. Pre-adsorption of the library and intelligent counter-screening drive the antibody selection process towards the unique epitopes on your specific antigen.

We also offer **direct selection** of:

- Epitope- and phospho-specific antibodies
- Anti-idiotypic antibodies
- Antibodies recognizing related antigens

Our experienced scientists will develop the best selection strategy based on your antigens and your specificity needs.

**Just complete an Inquiry Form on-line at [www.a-by-d.com/inquiry-ascb](http://www.a-by-d.com/inquiry-ascb) or email us at [antibodies@a-by-d.com](mailto:antibodies@a-by-d.com) and get started on your antibody project today!**



Dear Labby,

I am writing to you in an anxious state of mind. I am a 36-year-old Assistant Professor of Cell Biology and this is my tenure review year. I am at a pretty good institution, though not one of the real Ivory Towers. Things have gone quite well for me but my Department Chair told me last summer that my tenure decision could be a close call because my publication record is “just a bit short.” Her comment refers to the fact that although I have published an average of 2.5 papers a year in two leading cell biology journals (*MBC* and *JCB*), I have yet to publish in one of the so-called “elite” journals.

I don’t want to get into the controversies about Impact Factors, etc. I have a more specific question. Last year, I submitted what I consider my most important paper so far to one of the “elite” journals and received what I regard as very positive reviews. Nonetheless, the editor turned my paper down. I appealed but the editor dug in her heels.

When I assembled materials for my tenure review, I wanted to include the two referees’ enthusiastic reviews on the aforementioned manuscript, but my Chair advised me not to do so. Now I wonder if that was the right decision. If the Tenure and Promotions Committee saw how close my paper came to being accepted in the “elite” journal, maybe that would be an influential factor—perhaps a decisive one? By the way, on the other tenure criteria, teaching and service, my Chair said I am fine.

—Worried

Dear Worried,

Labby would have recommended inclusion of the referee reports—why not? There is no apparent downside. Did your Chair think members of the committee would be turned off knowing that an “elite” journal turned down your paper? It sounds like she was trying to protect you but it may have been overdone. It is likely that every member of the committee has had this experience (Labby certainly has)

It might also have been useful to include the editor’s letter, explaining the rejection. The editor must have pulled out a major issue in order to traverse two very positive reviews. (But bear in mind that you have not seen the referees’ confidential comments to the editor, and these can sometimes be very different from the tone of the reviews—a totally corrupt practice but it happens.)

You have high marks in two other categories, teaching and service, and at most good institutions these do count. And your research productivity sounds extremely good, more like A- (at least) than warranting your Chair’s “close call” remark. The two journals you are publishing in (at a frequency higher than many established, famous labs) are extremely well regarded.

To paraphrase a line from the great reggae song: “Everytin’s almost certainly gonna be all right.” But your experience does raise an interesting issue, and hopefully airing it here will be helpful to ASCB members (either pre-tenure faculty or Chairs, as there are teachings for both). Labby looks forward to the news of your grant of tenure.

—Labby ■

***Direct your questions to [labby@ascb.org](mailto:labby@ascb.org). Authors of questions chosen for publication may indicate whether or not they wish to be identified. Submissions may be edited for space and style.***

## Quality Calibrations Inc Pipette Repair Service

Comprehensive Pipette Service — On Site and Mail-In

Calibrations ■ Repairs ■ Replacement Parts ■  
Certificates of Calibration

Service Available on all Pipettes - Single Channel,  
Multi-Channel and Electronic

Customized services to meet customer’s laboratory  
requirements and budget

On Site Service available in MD, DC, DE, VA, NY, CT, PA,  
OH, NJ, MA, NC, SC, AL, TN, AZ, CA

Woman-owned small business successfully serving the Bio-  
tech Research Industry since 1991

TOLL FREE (877) 747-3883 or (800) 846-0034



# Peter Satir

"It came to me as I was walking down Second Avenue," Peter Satir recalls. It was 1959. Satir was on his way back to work as a graduate student in Keith Porter's electron microscopy laboratory in what was then called the Rockefeller Institute in New York. The problem on Satir's mind was cilia and whether they moved by contracting or by sliding the structures we now call microtubules. Satir's experimental epiphany was the idea of stopping a metachronal wave in its tracks. The cilia that line the gills of freshwater mussels beat in metachronal waves, each cilium just out of phase with its neighbor. If Satir could "fix" a wave instantaneously, he would capture cilia in every stage of the beat cycle from the effective to the recovery position. A blast of OsO<sub>4</sub> fixative would do it, Satir calculated. It would chemically freeze the wave and preserve each cilium for serial cross-sectioning and close study under the electron microscope. "Or at least that was my idea," Satir says.

His Eureka moment on Second Avenue took five years to unfold. The fixative flash-freezing

worked like a charm, Satir recalls, yielding a bountiful supply of samples. "I was able to describe some ultrastructural changes but when you look carefully at ultrastructure, it's actually much more difficult to know what is going on. I didn't really figure it out until 1964 when I realized that by studying the tips of cilia, I could actually see whether the microtubules contract or slide when they bend."

We know today that microtubules do slide along and so much more about the ultrastructure underpinning cell motility because of Peter Satir's pioneering work, according to Win Sale. An early Satir graduate student, Sale is now at Emory University Medical School. Satir's proof of sliding was especially elegant, says Sale. Satir hypothesized that, "If microtubules were inextensible, then based simply on the geometry, microtubules on the inside edge of a bent axoneme (one of the nine doublet microtubules bundled around the cilium perimeter) must extend beyond those on the outside. Peter reasoned that microtubule



Peter Satir

# Buy 3, Get 1 FREE!\*

## **accu-jet<sup>®</sup>** motorized pipette controller

- Provides smooth, intuitive meniscus control for cell culture applications.
- Integral check valve and filter protect instrument from aspirated liquids; exhaust port vents vapors.
- Lightweight and comfortable; 8-hour charge life at full speed.
- Dual mode switch permits both powered and gravity dispensing – simple soft blowout!

The accu-jet<sup>®</sup> pipette controller features continuously variable pipetting speed and precise meniscus control for 0.1-100mL pipettes. Pressure-sensitive triggers control pipetting speed, and prevent meniscus "jumping", even with low-volume pipettes. Available through leading lab dealers in blue (#2026510), yellow (#2026511), mint (#2026512), or gray (#2026506).

**BRANDTECH**  
SCIENTIFIC, INC.

\*Product & offer details at:  
[www.brandtech.com](http://www.brandtech.com)  
Toll-free 888-522-2726



**“Satir has ... had a tremendous impact on cell biology through the generations of scientists he has trained.”**

**Driving everything was Satir’s hunger for new data and new insights.**

displacement could be identified in the pattern of microtubules at the tips of cilia.” Satir used a geometric model of a circular bending arc to predict the angle between inside and outside axonemes, that is, if microtubules did slide. Satir’s model, the EM images and the measurements matched precisely, says Sale. That work and Satir’s subsequent discovery of the minus-end polarity of the dynein protein were critical to the cell motility revolution that continues to this day, says Sale.

Satir has also had a tremendous impact on cell biology through the generations of scientists he has trained, Sale adds. “I took his cell biology class at Berkeley so I was still an undergraduate when I went to ask if I might be able to do some research work in his lab. And Peter said, ‘By all means! Come in and we’ll find you something to do.’ That’s how I started in electron microscopy but it was later as his graduate student that I really began to understand Peter’s vision of what research could be about.”

Soren Christensen was a Satir post-doc at Einstein from 1998 to 2000. “It was my best place ever,” says Christensen who is now at the University of Copenhagen. “Peter is such a warm, gregarious person but he also knows how to grow scientists. He allows new students to think for themselves. He gives you a certain freedom and then he supports you in every way he can. So now I send my students to Peter’s lab. He is not only a colleague but still a very important mentor for me.”

Christensen says that Satir’s scientific influence has been particularly strong in Denmark through Satir’s fellowships in Copenhagen labs, his mentoring of Danish students in the Bronx, and his marriage to Birgit Hegner, who among many other things is a Fellow of the Royal Academy of Science in her native land. Peter Satir’s influence was recognized last November by an honorary doctorate from the University of Copenhagen and a reception by Queen Margrethe II. According to Christensen, “It was quite an event.” A ceremony at the University was followed by a formal reception with the Queen and later by a performance at the new Opera House. “Peter speaks almost fluent Danish so he was able to converse with the Queen about his work,” Christensen adds.

Though Satir didn’t mention this honor, he can be forgiven as his CV has a lot to cover. Among other things, Satir was at the first meeting of the ASCB in 1961 where he remembers giving a cilia paper at Edgewater Beach Hotel in Chicago. In the 1970s, Satir was

involved in the formation of ASCB’s Minorities Affairs Committee (MAC). Two years ago, Satir agreed to rejoin MAC. “There’s a lot more activity on MAC and a much wider perspective on the issues today,” says Satir. “I originally got involved because of Winston Anderson,” says Satir. “It was Winston who really got MAC going when he brought in the first grant to organize the Woods Hole minority program.”

Peter Satir was born in Manhattan but grew up a proud product of the Bronx, educated in the public schools and a graduate of the famed Bronx High School of Science. As an undergraduate at Columbia, Satir fell under the influence of cell physiologist Teru Hayashi. “Of course, my parents wanted me to become a doctor but I had no interest in becoming a physician,” Satir recalls. “Fortunately, Columbia had all incoming students take aptitude tests. My advisor called me in and said, ‘Whatever you do, don’t apply to medical school. You have absolutely no aptitude for medicine.’ This was a great relief to me as I could call up my mother and tell her that my advisor strongly recommended against it.”

Free to pursue his research interests, Satir followed his mentor, Hayashi, to Woods Hole in the summer after his senior year to audit the MBL Physiology Course and hear Keith Porter’s Harvey Lecture on the wonders of electron microscopy. He joined Porter’s lab at Rockefeller as a graduate student in 1956. In those early years, Rockefeller graduate program strongly urged (and underwrote) a year’s fellowship in an overseas lab. Satir spent 1958 in Copenhagen as a fellow in Erik Zeuthen’s lab, one of only a few in the world then studying the cell cycle, mainly by synchronizing cell division in *Tetrahymena*. Satir returned to the Rockefeller and his Second Avenue epiphany about the ultra structure of cilia the following year but his Danish connections flourished, especially after he convinced Birgit to see what American science had to offer. They married in 1962, soon after Peter took his first position at the University of Chicago.

In truth, American academic science had very little to offer married couples in the early 1960s. Fierce departmental “anti-nepotism” rules doomed one scientific spouse, usually the woman, to a non-salaried bench or an appointment elsewhere. Birgit and Peter Satir became career trailblazers in 1967, when the Physiology Department at Berkeley made them its first-ever double job offer. Birgit was not fully salaried, Peter remembers, but she had her own appointment, and eventually her own lab.



When the Satirs left Berkeley for the Bronx in 1977, Peter says that a major enticement was the full double appointment, salary and lab space offer from Albert Einstein. The move was also poetic revenge for Satir's mother. Her son with no aptitude for medical school was now Chair of Anatomy at the Albert Einstein College of Medicine. The move also brought Satir full circle in the Bronx. His family's old apartment was only blocks from his new office.

The Satir labs have drawn a steady stream of talent to Einstein, including Jeff Salisbury who was finishing his doctorate at Ohio State in 1978 when he accepted an invitation from Satir to come see him in the Bronx. A long train, subway and bus ride later, Salisbury wondered if he'd ever find his way home. The journey was worth the effort, says Salisbury who is now at the Mayo Clinic Medical School. "I stayed there in the Bronx for six years and gained 30 pounds which I haven't lost since. Part of that was Peter. He loves life. Not only did he teach me a lot of great science, he taught me how to eat."

Driving everything was Satir's hunger for new data and new insights, Salisbury recalls. "Peter's office door was always open. No matter what he was doing, there was nothing he liked better

than for you to come in there with a stack of new EMs. He'd drop everything, clear a space and go through them with you, one by one. He just couldn't resist."

Salisbury continues, "I can't emphasize this too much but a major part of Peter's strength as a scientist is that he has Birgit as a partner. The two of them have an interesting balance to life. They banter back and forth constantly but always in a very positive way. They are unique."

Today the Satirs live in Greenwich, Connecticut. The elder son, Jakob, is a computer programmer in Florida and the father of Anthony, their only grandchild, so far. Their other son, Adam, is a personal banker in Spain. The Satirs have no plans to retire anytime soon, says Peter Satir. He is especially energized these days by the "renaissance" in ciliary biology following recent discoveries linking mutations in primary cilia to polycystic kidney disease (PKD). "It's really taken off because of the disease relevance," says Satir, "but it's not just PKD and the kidneys. It seems to be involved as a growth control mechanism almost everywhere that there are primary cilia. There isn't any reason to retire. I'm having a great time." ■

**"A major part of Peter's strength as a scientist is that he has Birgit as a partner .... They are unique."**

## The New InFocus® DepthQ® 3D Video Projector

is truly the first of its kind. This affordable, portable 3D projector delivers rock-solid 120hz stereo 3D for a fraction of the cost of other single-lens 3D projectors. The new InFocus® DepthQ® 3D video projector uses the latest Texas Instruments Digital Light Processing™ technology and provides a stunning 2000:1 contrast ratio.

Discover why Johnson & Johnson, Pfizer, Stanford University and countless others worldwide are selecting the InFocus®DepthQ® for their stereo 3D needs.

*"Thanks for providing a cost-effective and high quality product for 3-D visualization."*

**Dr. P. Shing Ho**  
Professor and Chair  
Dept. of Biochemistry and Biophysics  
Oregon State University

- ❑ **Affordable** – **Less than \$4,000** - A fraction of the cost of other single-lens 3D projectors
- ❑ **Portable** – At 6.8 pounds it fits under your arm and takes 5 minutes to set up
- ❑ **Quality** – Flicker-free, 120hz 3D with DLP™ technology from Texas Instruments



**First in its class:** Lightspeed presents the portable 3D stereo solution.

**For more information, contact:**

Mathew Amandoli  
A1-3D Vision, Inc.  
14072 Arnold Drive  
Glen Ellen, CA 95442  
Office: 707 935 1922  
Mobile: 707 318 7430  
mathew@A13DVision.com

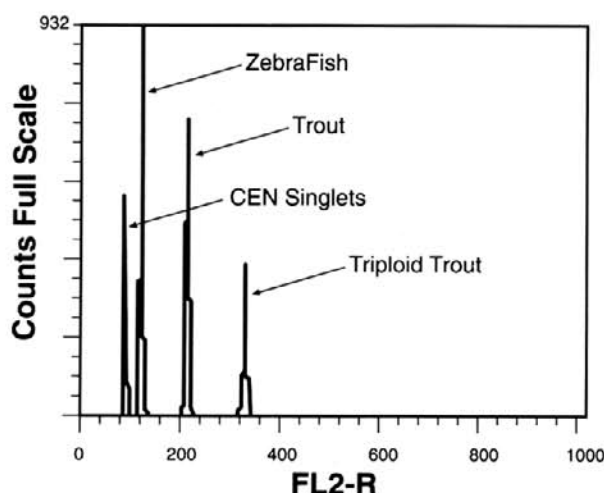


# memorandum

**To:** Joe Melmian, Research Director  
**From:** Sarah McChesney, Flow Cytometry Supervisor  
**Subject:** New, Versatile ZebraFish Control

I'm pleased to report the success of our lab's latest genetic analysis project. Next month I expect even better results, because I am using the ZebraFish Control from BioSure®. This new control, *Danio rerio*, gives us an additional reference point for greater confidence in our data. We already have found lots of applications for the ZebraFish control. For example, I have tried it as a DNA index to compare to both plant and animal cells.

Our lab has conducted experiments using the ZebraFish Control along with other controls, including BioSure TENS (trout erythrocyte nuclei), Triploid Trout, and CENs (chicken erythrocyte nuclei). The genome sizes were 2.5, 3.4, 5.2, and 7.8 picograms (see histogram). These will be useful reference points when we monitor our tissue cultures over time.



Look at the  
new reference  
point!  
— Sarah

Like the other controls in the BioSure line, the ZebraFish Control is economical, convenient, and easy to use. The 2.0-mL bottle lasts for at least 90 days. All in all, it sure beats making our own controls! Let's tell our other labs that the BioSure ZebraFish Control will add a new level of quality to their studies.



**BioSure®**  
12301 Loma Rica Drive, Suite G  
Grass Valley, CA 95945

Toll-Free Phone: (800) 345-2267  
FAX: (530) 273-5097  
Web Site: [www.biosure.com](http://www.biosure.com)

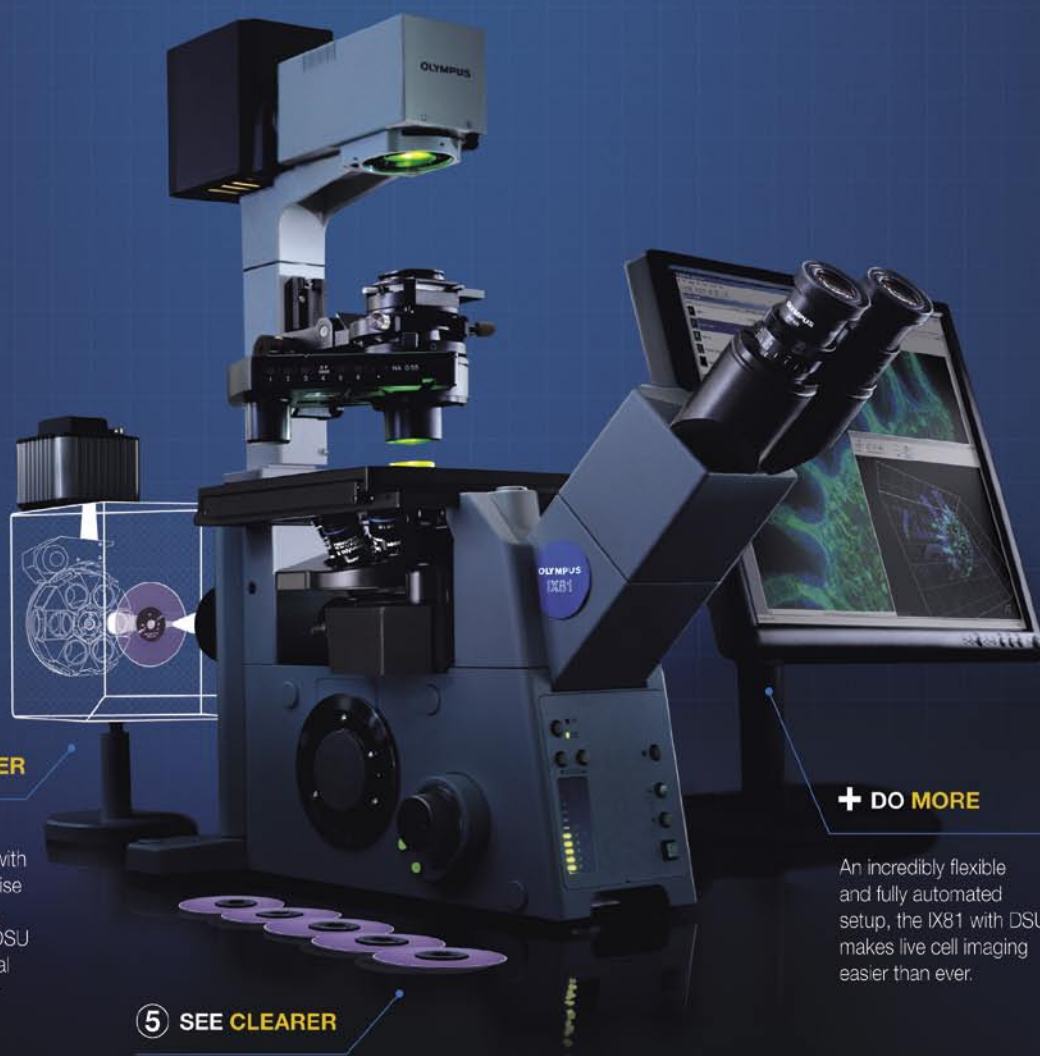


SCIENCE THIS ADVANCED ISN'T SUPPOSED TO BE SO EASY.

# OLYMPUS IX81 + SPINNING DISK CONFOCAL



5



## LOOK CLOSER

Clear, continuous, confocal 4D imaging with improved signal-to-noise and optical sectioning makes the IX81 with DSU Spinning Disk Confocal the workhorse of your lab toolbox.

## + DO MORE

An incredibly flexible and fully automated setup, the IX81 with DSU makes live cell imaging easier than ever.

## 5 SEE CLEARER

From 10x to 100x, the IX81 with DSU offers five interchangeable disks to match your objective's numerical aperture and specimen type.

© 2005 Olympus America Inc.



OLYMPUS IX81 with DSU  
FLEXIBLE, POWERFUL... AND SECOND TO NONE  
[www.olympusamerica.com/microscopes](http://www.olympusamerica.com/microscopes) 800 448 5967

**OLYMPUS**

Your Vision. Our Future



## Science Education in America: What to Do?

Judge John Jones III released his eloquent verdict refuting the presentation of intelligent design creationism (IDC) in public-school science classes. And the brilliant testimony of Kenneth Miller, chair of the ASCB Education Committee, makes for particularly wonderful reading ([www2.ncseweb.org/wp/?p=39](http://www2.ncseweb.org/wp/?p=39)). It does not follow, unfortunately, that U.S. K-12 science education is thereby out of the woods.

This year I joined five other scientists to review the 50 State Science Standards in a project funded by the Fordham Foundation. Our report, which includes a state-by-state assessment, can be found at [www.edexcellence.net/foundation/publication/publication.cfm?id=352](http://www.edexcellence.net/foundation/publication/publication.cfm?id=352). More can be found in the Public Policy section of this Newsletter.

What we found was troubling to us, both as parents and as scientists. Only 19 states have produced standards that we would regard as meritorious (as parents, we would be satisfied to have our children educated in such contexts). Sixteen states' standards, however, were highly flawed, and 15 were flat-out unacceptable. In some cases a lackluster presentation of evolution contributed to a poor outcome. But the dominant and unsurprising pattern was that states with weak standards overall were also weak in evolution education. Moreover, we understand that teachers often tend to "skip over the evolution sections" so as to avoid conflict—in some cases, conflict with their own views.

Probably like most of you, I had at best a vague notion that such standards existed and had certainly never read one. But I encourage curious American readers to go to [www.edexcellence.net/sciencestandardslinks.html](http://www.edexcellence.net/sciencestandardslinks.html), click on your state, and discover how the teaching of science is presented.

If this exercise confuses, bewilders, and/or discourages you, you may wish to get involved. These documents undergo frequent rounds of revision. Moreover, the current version of the No Child Left Behind Act requires that states

must test student knowledge of science starting in 2007-2008. While we did not quantify this impression, our panel noticed that the standards that were deemed meritorious were often ones that listed scientists as participants in their drafting. Should any of you wish to consider volunteering input for future drafts, please email me at [ursula@biology.wustl.edu](mailto:ursula@biology.wustl.edu). I'll try to be of assistance.

Of primary concern is that students come to understand and appreciate both how science is done and some of what scientific inquiry has discovered. But I have an ancillary concern as well. The ancillary concern is that science education, both as articulated in the standards and as practiced in our schools, basically fails to convey to students what can be called the scientific worldview -- a narrative account, with supporting empirical evidence, of our current understandings of the origins and evolution of the universe, the planet, and life (including humans) -- a worldview based on the findings of the historical sciences. One can find material on the Big Bang and stars in some physics classes, and material on plate tectonics in some geology classes, and (usually) some units on fossils and evolutionary theory in some biology classes. But no attempt is made to bring the historical sciences together into a comprehensive framework in

the way that American History classes would offer an overview of 400 years of U.S. history.

It's my view that a presentation of such a comprehensive scientific framework could help ameliorate the epidemic of scientific illiteracy in our society. As things now stand, K-12 students in science classes hear about cells one day and atoms the next. But they lack opportunity or guidance to integrate these understandings into larger contexts. While this is not a problem for the "science types" who soak up cells and atoms no matter what, it's the others who concern me. Most students find science classes tedious and boring and drop out as soon as they've met the requirements.

**"... our panel noticed that the standards that were deemed meritorious were often ones that listed scientists as participants in their drafting."**

**"Sixteen states' standards ... were highly flawed, and 15 were flat-out unacceptable."**



I've come to hold this view because I co-teach a course at the college level, with a physics and a geology professor, called the Epic of Evolution: Life, Earth, and the Cosmos. This class presents the scientific worldview to science-disaffected students who take it as a distribution-requirement option. They report that their interest in, and mastery of, scientific concepts is greatly enhanced when such larger contexts are provided. We've become convinced that a robust and mindful grasp of the scientific worldview generates a more abiding commitment to scientific inquiry, to environmental sustainability, and to societal responsibility. Many students report an appreciation for the scientific enterprise that was lacking when research was presented solely as the "engine" for technological advancement. They also report that an understanding of their own lives in the vast evolutionary context that made those lives possible instills a new and valuable framework for existential orientation and informed environmental awareness. Even our graduate-student teaching assistants invariably express appreciation for having been exposed to the "big picture" in a rigorous and memorable way for the first time.

Obviously, the introduction of such a perspective into K-12 education is a vast project that few of us can yet directly influence. But I warmly encourage you to consider offering such a course at your college or university. Please email me at [ascbinfo@ascb.org](mailto:ascbinfo@ascb.org) if you'd like to learn more about what we do. ■

—Ursula Goodenough

## MEMBER Gifts

The ASCB is grateful to the following members who have recently given a gift to support Society activities:

Robert S. Adelstein  
Qais Al-Awqati  
Jean-Marie Beckerich  
Daphne Blumberg  
B. R. Brinkley  
Keith W. T. Burridge  
Grace M. Donnelly  
Caroline A. Enns  
Laurence D. Etkin  
Thomas Baer Friedman  
Daniel S. Friend  
Joseph Gall  
Gary Ian Gallicano  
Darrel E. Goll  
Krisztina Hegyi  
Catherine S. Hibbert  
Vincent W. Hollis  
Elizabeth Kordyum  
Wayne I. Lencer  
Alastair Mackay

Jacquelyn J. Maher  
Tadashi Maruyama  
Christine R. Montague  
Kathleen Slone Morgan  
Carmela Pasternak  
Bernard Pollara  
John R. Pringle  
Evelyn S. Ralston  
Laura S. Rhoads  
Mary K. Rundell  
Carolyn D. Silflow  
Clifford J. Steer  
Richard J. Stenger  
Donna Beer Stolz  
Kelly Tatchell  
Richard D. Veenstra  
Barbara M. Vertel  
Peggy Weidman  
Michael Wise



**GEICO AUTO INSURANCE.**  
**BECAUSE ONE INDUSTRY**  
**LEADER**  
**DESERVES ANOTHER.**

You have plenty of great reasons to be a part of ASCB. Now GEICO gives you one more: a special member discount on your auto insurance.\*

Call **1-800-368-2734** for your free rate quote today, and be sure to mention your ASCB affiliation.

GEICO offers you:

- Outstanding, 24-hour service from knowledgeable insurance professionals
- Fast, fair claim handling, with many claims settled within 48 hours
- Guaranteed claim repairs at GEICO-approved facilities\*

Find out just how much you could save – and how much you'll get – with GEICO.

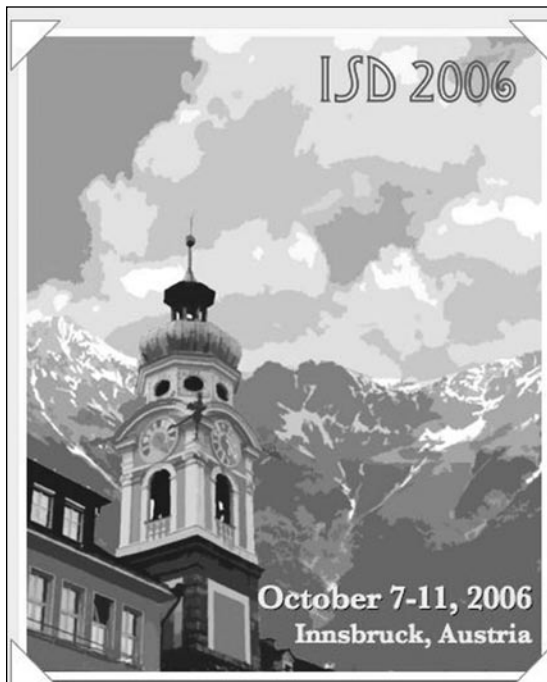
**1-800-368-2734**

\*Discount amount varies in some states. Some discounts, coverages, payment plans, and features are not available in all states or in all GEICO companies. One group discount applicable per policy. Government Employees Insurance Co. • GEICO General Insurance Co. • GEICO Indemnity Co. • GEICO Casualty Co. These companies are subsidiaries of Berkshire Hathaway Inc. GEICO auto insurance is not available in Mass. GEICO, Washington, DC 20076. © 2003 GEICO

**SPECIAL  
DISCOUNT  
FOR ASCB  
MEMBERS\***

**THE AMERICAN  
SOCIETY FOR  
CELL  
BIOLOGY**

**GEICO**  
geico.com



**The 14<sup>th</sup> International Conference of the  
International Society of Differentiation**

**ORDER AND DISORDER  
IN DIFFERENTIATION AND CANCER**

Hosted by the Medical University of Vienna

Early registration: April 30 2006 Abstract submission: June 30 2006

Programme, student travel awards, information at <http://www.isd2006.at>

G. Almouzni  
W. Bickmore  
M. Bissell  
H. Blau  
M. Bronner-  
Fraser  
H. Clevers  
S. Dimmeler  
P. Ekblom  
G. Evan  
N. Fausto  
P. di Fiore  
H. Gronemeyer  
T. Grunt  
L. Gudas  
W. Gullick  
R. Harvøy  
L. Huber  
N. Hynes  
S. Izumo  
R. Jaenisch  
J. Lawrence  
R. Lupu  
T. Ng  
A. Paldi  
N. Rosenthal  
C. Roskelley  
G. Schütz  
M. Sibilio  
C. Streuli  
F. Watt

# MEMBERS in the News



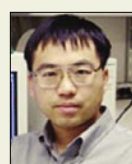
**Wolfgang Baumeister** of the Max Planck Institute, an ASCB member since 1997, was awarded the 2005 Harvey Prize in the field of Science and Technology.



**Elaine Bearer** of Brown University, an ASCB member since 1981 was named a 2005 Dart Scholar in Learning and Memory, sponsored by a grant from the Dart Neuroscience Limited Partnership and was also named a Moore Distinguished Scholar at Caltech.



**Ronald Breaker** of Yale University/HHMI, an ASCB member since 2004, received the Eli Lilly and Company Research Award from the American Society of Microbiology.



Guo-Qiang Bi



Robert Morris



Jason Swedlow

**Guo-Qiang Bi** of the University of Pittsburgh, an ASCB member since 1994, **Robert Morris** of Wheaton College, an ASCB member since 1990, and **Jason Swedlow** of the University of Dundee, an

ASCB member since 1994, were among the 2005 fellows to conduct research at the MBL.



**Guy Caldwell** of the University of Alabama, an ASCB member since 1992, was named the state's 2005 Professor of the Year today by the Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Education.



**Stephen Elledge** of the Brigham and Women's Hospital/HHMI, and ASCB member since 1993, received the Hans Sigrist Award from the University of Bern, Switzerland.



**Brian Druker** of Oregon Health & Science University/HHMI, an ASCB member since 2002, won the 2005 Robert Koch Award from the Robert Koch Foundation.



**H. Robert Horvitz** of the Massachusetts Institute of Technology/HHMI, an ASCB member since 1988, won the 2005 Alfred Knudson Award from the National Cancer Institute.



**William Green** of the University of Chicago, an ASCB member since 1995, has received a 2005 Grass Faculty Awards at the MBL.



**Mark Warchol** of Washington University, an ASCB member since 2004, has received a 2005 Grass Faculty Awards at the MBL.



Liqun Luo



Joshuan Sanes



Ronald Schnaar

**Liqun Luo** of Stanford University/HHMI, an ASCB member since 2005, **Joshua Sanes** of Harvard University, an ASCB member since 1996, and **Ronald L. Schnaar** of the Johns Hopkins University

School of Medicine, an ASCB member since 1982, were among the researchers to receive the 2005 Senator Jacob Javits Award from the National Institute of Neurological Disorders and Stroke.



**Nedra Wilson**, an an ASCB member since 1992, received an academic appointment at Oklahoma State University. Wilson joined the OSU College of Osteopathic Medicine as Assistant Professor of Anatomy and Cell Biology.

## ASCB Members Elected to the American Society for Microbiology



Claire Fraser  
The Institute for  
Genomic Research  
Member since 2005



Kathryn V. Holmes  
University of  
Colorado Health  
Sciences Center  
Member since 1969

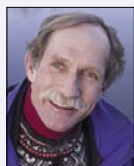


Craig B. Thompson  
University of  
Pennsylvania  
Member since 1997



## ASCB Members Elected AAAS Fellows

Fourteen members of the ASCB were among those elected Fellows to the American Association for the Advancement of Science.



**Peter Agre**  
Duke University  
Member since 1988



**James Garrels**  
Garbrook Associates  
Member since 1992



**Leslie Leinwand**  
University of Colorado,  
Boulder  
Member since 1988



**Jim Jung-Ching Lin**  
University of Iowa  
Member since 1980



**Berl Oakley**  
Ohio State University  
Member since 1979



**Louise Prakash**  
University of Texas  
Member since 2005



**Satya Prakash**  
University of Texas  
Member since 2005



**Patricia Pukkila**  
University of North  
Carolina at Chapel Hill  
Member since 1976



**Andrej Rotter**  
Ohio State University  
Member since 1990



**Sandra Schmid**  
Scripps Research Institute  
Member since 1990



**David Soll**  
University of Iowa  
Member since 1984



**Margaret Werner-  
Washburne**  
University of New Mexico  
Member since 1990



**H. Steven Wiley**  
Pacific Northwest  
National Lab  
Member since 1987



**Meng-Cao Yao**  
Meharry  
Fred Hutchinson  
Cancer Research  
Center  
Member since 1978

## Analytical Instruments

### Measure Cell Volume in Real Time Easily, Quickly, Affordably

Exciting, new instrument can measure the volume of a small number of cells in real time with unprecedented resolution. The method is applicable to all adherent or suspended populations of cells and membrane-bound organelles.

- How do your drugs affect cell volume?
- Does cell volume affect your assay?
- Keep track of total neutral flux.  
Let your cells do the integration.
- How do your interventions change the kinetics of cell volume change?
- Do your interventions affect nuclear volume?  
Chloroplast volume? Mitochondrial volume?  
ER volume? Bacterial growth?

SEE US AT THE  
**American  
Society of  
Cell Biology  
Meeting**  
(ASCB)  
EXHIBIT #1739

**Reichert, Inc.** • 3374 Walden Avenue  
Depew, NY 14043 • Toll Free: 888-849-8955  
Tel: (716) 686-4500 • Fax: (716) 686-4545  
Email: ai@reichert.com  
[www.reichertai.com](http://www.reichertai.com)

**Reichert**  
Analytical Instruments

# The American Society for Cell Biology

## 2006 Call for Nominations

### Bruce Alberts Education Award

**Who is Eligible:** An individual who has demonstrated innovative and sustained contributions to science education with particular emphasis on the local, regional and/or national impact of the nominee's activities. The primary nominator must be a member of the ASCB but the candidate and support letter authors need not be.

**How to Apply:** Provide a letter of nomination, letters of support and CV.

**Award:** The winner is presented a plaque and will give remarks at the 46th ASCB Annual Meeting. Expenses to attend the Annual Meeting are paid.

**Deadline:** March 31.

### Public Service Award

**Who is Eligible:** An individual who has demonstrated outstanding national leadership in support of biomedical research. Any ASCB member may submit a nomination. The award winner may but need not be a scientist.

**How to Apply:** Provide a letter of nomination with a description of the nominee's advocacy for and promotion of scientific research.

**Award:** The winner gives the Public Service Award Lecture at the 46th ASCB Annual Meeting and receives a certificate. Expenses to attend the Annual Meeting are paid.

**Deadline:** March 31.

### Norton B. Gilula Memorial Award

**Who is Eligible:** An outstanding graduate or undergraduate student who has excelled in research.

**How to Apply:** The student or advisor should submit a one-page research statement, a list of publications, if any, the abstract submitted to the current year's Annual Meeting and the advisor's letter of recommendation. Duplicate applications from graduate students may be submitted for the Gilula and Bernfield Memorial Awards.

**Award:** The winner is presented a plaque. Expenses to attend the Annual Meeting are paid.

**Deadline:** August 1.

### MBC Paper of the Year Award

**Who is Eligible:** A student or post-doc first author who published the best paper in *Molecular Biology of the Cell* from June 2005 through May 2006.

**How to Apply:** Submit your best work to *MBC*. The winner is determined by *MBC* Associate Editors. All papers are considered; no additional application or nomination is required or invited.

**Award:** The winner speaks in a Minisymposium at the 46th Annual Meeting. Expenses to attend the Annual Meeting are paid.

**Deadline:** Associate Editors make recommendations by June 18.

**All applications and nominations  
may be submitted to:**

**The American Society for Cell Biology**  
8120 Woodmont Avenue, Suite 750  
Bethesda, MD 20814-2762  
[ascbinfo@ascb.org](mailto:ascbinfo@ascb.org)

**For names of prior awardees or more information, see  
[www.ascb.org](http://www.ascb.org) or contact the ASCB at (301) 347-9300, or  
[ascbinfo@ascb.org](mailto:ascbinfo@ascb.org).**

### Early Career Life Scientist Award

**Who is Eligible:** An individual who has received a doctorate since 1993 and has served as an independent investigator for no more than seven years. The primary nominator must be a member of the ASCB but the candidate and support letter authors need not be.

**How to Apply:** Provide the candidate's CV, a brief research statement and a nominating letter plus no more than three letters of support, at least one of which must come from outside the candidate's current institution.

**Award:** The winner gives a lecture at the 46th ASCB Annual Meeting. Expenses to attend the Annual Meeting are paid.

**Deadline:** March 31.

### Merton Bernfield Memorial Award

**Who is Eligible:** An outstanding graduate student or postdoctoral fellow who has excelled in research.

**How to Apply:** The student or post-doc or their advisor should submit a one-page research statement, a list of publications, a copy of the abstract submitted to the current year's Annual Meeting, and the advisor's letter of recommendation. Post-docs may also submit the recommendation of their graduate student advisor. Duplicate applications from graduate students may be submitted for the Gilula and Bernfield Memorial Awards.

**Award:** The winner speaks in a Minisymposium at the 46th ASCB Annual Meeting and receives an honorarium. Expenses to attend the Annual Meeting are paid.

**Deadline:** August 1.

### E.E. Just Lectureship

**Who is Eligible:** A minority scientist who has demonstrated outstanding scientific achievement. The primary nominator must be a member of the ASCB but the candidate need not be.

**How to Apply:** Provide a nomination letter with a description of the nominee's scientific achievement and mentoring support of underrepresented minority students and scientists.

**Award:** The winner gives the E.E. Just Lecture at the 46th ASCB Annual Meeting, and receives a plaque. Expenses to attend the Annual Meeting are paid.

**Deadline:** March 31.

### E.B. Wilson Medal

**Who is Eligible:** An individual who has demonstrated significant and far-reaching contributions to cell biology. The primary nominator must be a member of the ASCB but the candidate need not be. The E.B. Wilson Medal is the ASCB's highest award for science.

**How to Apply:** Provide the candidate's CV and no fewer than three and no more than five letters of support.

**Award:** The winner gives the E.B. Wilson Lecture at the 46th ASCB Annual Meeting, and receives the E.B. Wilson Medal. Expenses to attend the Annual Meeting are paid.

**Deadline:** March 31.

### WICB Career Recognition Award

**Who is Eligible:** The Junior Award is for a woman in an early stage of her career (assistant professor or equivalent) who has made exceptional scientific contributions to cell biology and exhibits the potential for continuing a high level of scientific endeavor while fostering the career development of young scientists. The Senior Award is for a woman or man in a later career stage (full professor or equivalent) whose outstanding scientific achievements are coupled with a long-standing record of support for women in science and mentorship of young scientists.

**How to Apply:** For the Senior Award, provide a letter of nomination, CV of the candidate and a maximum of five letters of support. For the Junior Award, provide a letter of nomination, CV of the candidate, and a maximum of three letters of support.

**Award:** The winners are presented an honorarium and plaque at the 46th ASCB Annual Meeting. Expenses to attend the Annual Meeting are paid.

**Deadline:** March 31.

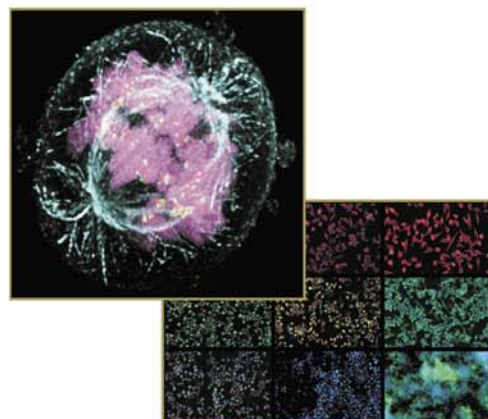


# AppliedPrecision®

## *Complete Imaging Solutions for Discovery, Screening and Validation*

### *North American Roadshow*

coming to a city near you in 2006



Congratulations to our  
ASCB iPOD nano winners:

*John Daum  
Sheona Drummond  
Beat Schaub  
Rosalind Silverman*

*Call to schedule your on-site demo  
of our mobile Cellular Imaging Lab*

[www.appliedprecision.com](http://www.appliedprecision.com)

# New Members

The ASCB Council admitted 1,455 new members and granted Emeritus status to nine members of the Society last month:

Khadar M. Abdi Alireza Abdolmohammadi Wassim G. Abou Kheir Suraj Abraham Russell C. Addis Amit Shrikant Adhikari Nassiba Adjerd Silvia Agostini Ramses M. Agustin Kashif Adil Ahmad Nesar Ahmed Katja M. Aho Taby Ahsan Erkang Ai Fumiko Aikawa Lakkureddi Alagarsamy Suresh K. Alahari Nael H. Alami Kristin L. Albert Hector Aldaz Bree Beardsley Aldridge Stefano Alema Paula M. Alves Amr A. Amin Xiuli An Aikaterini Anagnostopoulou Vikram C. Anand Allan Atienza Ancheta P. Kumari L. Andarawewa Nicholas J. Andersen Parker L. Andersen Thomas Ettore Angelini Wolfram Antonin Edna E. Aquino Victoria Aranda Rajesh Arasada Luis E. Arias-Romero Jyothi Arikath Ayelet Armon-Omer Lourdes Andrea Arriaga-Pizano Gustavo Arrizabalaga Gerardo Arroyo Haruhiko Asakawa Charles L. Asbury Angela L. Asirvatham Sirisha Asuri Syed Atif Abbas Rajith Nandana Aturaliya Scott X. Atwood Stephen Richard Au Benoit Auclair Nina M. Aula Christopher M. Austin Hibah O. Awwad Bilal Azakir Olga Azarenko Ishara F. Azmi Tonie Luise Baars Vladimir Babakov Zsolt Bacso Xiaoyang Bai Daniel J. Bailey Robert Edward Bakin Malina A. Bakowski Colleen L. Ball Anna Chrisman Ballew Kenneth Ban Gregory Bannish Parmil K. Bansal Natalya N. Baranova Sonja Karin Bareiss Irene Barinaga-Rementeria Ramirez Robert B. Barlow Daniel Hull Barnett Duarte C. Barral Justine V. Barry Elizabeth P. Bartley Kristen Marie Bartoli Francesca Bartolini Rene Bartz Amanda E. Bass Ricardo J.C. Nunes Bastos Roshni Basu	Eddie Bautista Jordan R. Beach Andrew Richard Beardsley Anthony O. Beas Marta K. Bechtel Daniel Becker Angela Beckett Benjamin L. Beckstead Babak Bedayat Michael Frank Beil Greg J. Beitel William J. Belden Olivier Belzile Jacqueline M. Benjamin Craig L. Bennett Ahmi Ben-Yehudah Emanuela Benzoni Jeffrey M. Bergelson Lloyd C. Berger Gabriele Bergers Ian C. Berke Jessica Berthold Arnaud Besson Craig M. Betts Jennifer P. Bharucha Rajat Bhattacharya Pankaj Bhumireddy Xiaoning Bi Sergei Bibikov Ainsley E.D. Bigg Amber E. Bilak Israel Biran Jonathan E. Bird Monique D. Birger Cheryl L. Birmingham Jason Edward Black Evelyne Bloch-Gallego Vincent Blot Ann-Marie B. Bolger Ewa Borowczyk Maegen A. Borzok David C. Bouck Emer Bourke Kevin M. Bourzac Amy H. Bouton Susan D. Bowers Susie Boydston-White Scott N. Boyle Matthew R. Bozovsky William D. Bradley Andrea H. Brand Evan Mark Braunstein Gerda E. Breitwieser Ian M. Brennan David Breslauer Vania Broccoli Daniel R. Brown Eric M. Brown Heather Megan Brown John W. Brown Anja C. Bruehl Christina D. Buchanan Andrea Buchstaller Yadunanda K. Budigi Christoph J. Burckhardt Jemima J. Burden Jason A. Burgess Allison K. Busch Cherie L. Butts Matthew T. Cabeen Rodrigo Cabrera Linda A. Cahill Dawen Cai Troy D. Camarata Alp Can Veronica A. Canadian Canhong Cao Chunzhang Cao Anne Elizabeth Carlson Hector Y. Caro-Gonzalez Anne E. Carpenter Jesús Casas Rodríguez Michael Albert Casha Aurelia Cassany Alesha B. Castillo	Carlos A. Castro Rodrigo Orlandini Castro H. Dwight Cavanagh Juliane P. Caviston Jitka Cejkova Brian P. Ceresa Santanu Chakraborty Anna H. Chan Srikripa Chandrasekaran Dilip Chandu Eun-Ju Chang Il-Chi Chang Jennifer Chang Jihoon Chang Te-Hung (Leo) Chang Jui I. Chao Robert S. Chapkin Vandhana M. Chari Kanokwan Charoonpatrapong Raghava V. Charya Ian C. Cherke Ovijit Chaudhuri Tathagata Chaudhuri Philippe Chavrier Aditi Chawla Baozhi Chen Catherine Chen Chiung-Ya Chen Christine Yehua Chen Hsuan-hsu Chen Hueih Min Chen Ihsiang Brandon Chen Liang Chen Nien-Tsu Chen Qian Chen Shu-Fen Chen Xueni Chen Yi Chen Catherine Q. Cheng Chiang-Min Cheng Lina Cheng Nai-Lin Cheng David Chereau Peter S. Cheslock John R. Chevillet Susan Chi Christine M. Chiasson Andy J. Chien Jeremy Chien King Tung Chin Matthias Chiquet Ajay B. Chitnis Yi-Jen Chiu Hyeseong Cho Somi Kim Cho Sun Joo Choi Thanat Chookajorn Jung Nyeo Chun Jean-Ju L. Chung Jared Markam Churko Audrey Claing Katherine Clark Pamela Agatha-Georgia Clarke Anne-Kathrin Classen Christoph S. Clemens Christian A. Clement Brian Coblitz David Coffey Michael S. Cohen Richard N. Cohen Sarah Cohen Jessica M. Colon-Franco Cosimo Commisso Salvatore J. Coniglio Emilee Colleen Connors Suzanne D. Conzen Atlanta G. Cook Daniel Coombs Emily M. Coonrod Colin A. Cooper Manning J. Correia Rosaria Costa Mathieu Cotton David W. Courtman	Jose F. Covian-Nares Rebecca Anne Cowling Braden D. Cox Madeleine Lisa Craske Alexis Kohnstamm Crow Sara Eustace Crumm Zobeida Cruz-Monserrate Charles Cuerrier Ping Cui Zhengfang Cui Ognjen Culic Francisco J. Cullere-Luengo Kathryn D. Curtin Christin Ann Cvetic Bruno Da Rocha-Azevedo Sepehr Dadsetan Shipan Dai Zonghan Dai Sashko Damjanovski Savita V. Dandapani Thao Dang Alexes C. Daquinag Mainak Das Sudipto Das James R. Davenport Sandra M. Davern John S. Davis Sandra De Keijzer Heidi E. De Luca Alicia B. De Maria Ann M. De Maziere David De Semir Tara Lynn Deans Marcus O. Debiassi Agnes Genevieve Delaunay Violaine D. Delorme Agnieszka M. Demczuk Paula B. Deming Daryle J. Depianto Merran C. Derby Celine DerMardirossian Kathleen Lee Derrick Parima Desai Ravi Anand Desai Nirupama S. Deshpande Marguerite Marie Desko Shankar Devasenathipathy Vikram Devgan Francesca Di Sole Eileen T. Dimalanta Wei Ding Zhijie Ding Ndeye Khady Diop Kevin Ditolvo Gilles Divita William E. Doering Katherine R. Doherty Toshio Doi Gang Dong Yimin Dong Emmanuelle Donier Luke E. Dow Haining Du Tina Xiaogu Du Sophie Dumont Sarah Dunn Emilie Dupre Omer Dushkek Mahasweta D. Dutt Olivier Duverger Arnaud F. Echard Rachael E. Eckert Mark L. Edwards Rachid M. El Bejjani Jack Elands Nesrine El-Bizri Maria Christina Elias Carrie Ann Elzie Edward Wai Young Eng Holly C. Epple Patrick Erbacher Alejandro A. Erices Muneer A. Esmail Christopher William Espelin Eric J. Espinosa	Anthony W. Essex Luis D. Estévez-Salmerón Osigwe Esue Helge Ewers Alexander H. Farley Rizwan Farooqui Helen Katherine Farr Kelly E. Fathers Nicole Faust Constance Y. Fears Timothy N. Feinstein Edward A. Felinski Ying-Hong Feng Barbara Murray Fenner Gabriel Fenteany Matthew L. Ferguson Michael J. Ferkowicz Cristina C. Fernandez Rodrigo Fernandez-Gonzalez Ester Fernandez-Salas Micah Jered Ferrell Andrew Douglas Ficzyz Gero Helge Fink Carla V. Finkelstein Alyson A. Fiorillo Ronald R. Fiscus Terry Fitzpatrick Brendan Flaherty Marta Flandez Roberto Pingol Flores Kevin C. Flynn Nicole Foeger Alla F. Fomina Polly M. Fordyce Michael S. Foulk Anne Fourrest-Lieuvin Danielle Cook France Isabelle Frechette Eric O. Freed Melanie Mae Frigault Lillian K. Fritz-Laylin Enrique Fuentes-Mattei Hideaki Fujita Kenji Fukasawa Aline Harumi Fukuzawa Brie Katherine Fuqua Elizabeth J. Furnish Brian G. Gabrieli Galina Gabrielly Ana Paula Gadelha William Allen Gahl Leontine Lorenza Galante Shawn A. Galdeen Thierry C. Galvez Qiong Gan Meghal Gandhi Haixia Gao Qingshen Gao Ana F. Garcia Elizabeth Garcia Kristin C. Garcia Melissa Carmen Garcia Fiona Claire Gardiner Jesse C. Gatlin Nancy S. Gavert Scott R. Gehler Martina G. Gentzsch Sharon Gerech-Nir Jennifer Lynn Gerton Rory König Geyer Haifa P. Ghandour Larisa Gheber Kaustabh Ghosh Pradipta Ghosh Patrick Giguere Michael L. Ginger Paul Gissen Shannon S. Glaser Kevin A. Glenn Kristina M. Godek Eva Marie Goellner Jacky Goetz Avanti S. Gokhale Elysa Brooke Goldberg Ken N. Goldie	Amir Goldkorn Inna N. Golubovskaya Maria Adelaida Gomez Alexandr M. Goncharov Delquin Gong Yixuan Gong Sailesh Gopalakrishna Pillai Gabriel M. Gordon Julian X. Gordon Jessica A. Gorski Grace A. Goschke Moloy Goswami Cristian Gradinaru Michel Grandbois Colin G. Griffin Eva-Maria Sarah Grimm-Günter Matthew C. Groll Alberto Grossi Ingrid Gsandtner Chen Gu Zhizhan Gu Yingjie Guan Zejiang Guan Dominique Guerette Robert D. Guettler Nilanjan Guha Sandra Guilmeau Huazhang Guo Neetu Gupta Vijay Gupta Cemal Gurkan Eric A. Gustafson Nicholas R. Guydosh Jeongim Ha Tara L. Haas Thomas C. Haberberger Olivier Hachet Angela T. Hahn Sarah Elizabeth Haigh Anders P. Hakansson Ben A. Hall Takahiro Hamada Lisa P. Hammerle Jennetta Watson Hammond Cheri M. Hampton Hsiao-Fen Han Ka-Hyung Han Kyoung-Youn Han Sung Sik Han Wendy Knowles Hancock Meredith L. Hanel Helen G. Hansma Kazutsune Harada Masaru Harada Jessica R. Harrell Yosuke Hashimoto Emily M. Hatch Courtney G. Havens Kyle A. Havens Aki Hayashi Ikuko Hayashi Kazutaka Hayashida Melissa Annette Hayden Suqin He Wen-Jun He Xiangwei He Dorian T. Henderson Jacqueline A. Hendries Carmel E. Hensey Won Do Heo Shane P. Herbert Sandra Hernandez Heather Anne Hess Misao E.L. Higashi Wendy Maile Higashide Yoshinori Hiraoka Masafumi Hirono Janet M. Hock Jason Hodin Jan B. Hoek Maarten Hoek Jeremy Damon Hoff Brenton D. Hoffman Oliver Hofnagel
--	---	--	--	--	--



David E. Hokanson  
Julie E. Hollien  
William B. Holmes  
Catarina Homem  
Amy Saw-Tin Hong  
Jeff W. Hook  
Osamu Hori  
Jonathan Michael Horowitz  
Rosy Hosking  
Ming-Chin Hou  
Fiona Jillian Houghton  
Mary Howe  
Roxanne Patreace Howell  
Ventzi A. Hristova  
Andy T. Hsieh  
Chang-Deng Hu  
Ling-Yueh Hu  
Mickey C. Hu  
Shaw (Xiao) Tang Hu  
Kai-Ling Huang  
Pei-Hsin Huang  
Ping Huang  
Pinwei Huang  
Shile Huang  
Yinyi Huang  
Zhen Huang  
Sebastien Huet  
Patrick Orson Humbert  
Mien-Chie Hung  
Geoffrey Charles Hunt  
Marguerite E. Hunt  
Ginny Graham Hutchins  
Lara D. Hutson  
Kevin J. Hybiske  
Miki Ii  
Tal Ilani  
Hiroshi Imai  
Lisa M. Imboden  
Julie Goeun In  
Takanari Inoue  
Pablo M. Irusta  
Hisamitsu Ishihara  
Yasuhiro Ishihara  
Yoshihiro Ito  
Akihiro Iwahashi  
Marcin P. Iwanicki  
Lahoucine Izem  
Nabila Jabrane-Ferrat  
Graham Dillon Jack  
James W. Jacobberger  
Julie A. Jadowiec  
Sarvesh Jajoo  
Jennifer Susan Jamieson  
Kevin A. Janes  
Hyo Sang Jang  
Florence Janody  
Ralph Jans  
Matthias Karl Jansen  
Kent Eric Jardemark  
Paul J. Jasper  
Fanny Jaulin  
Louise Marie Jawerth  
David John Jay  
Liam Joseph Jeffers  
John R. Jefferson  
Abbie M. Jensen  
Grant Jay Jensen  
Hyesung Jeon  
Heetae Jeong  
Lin Ji  
Jing Jiang  
Keni Jiang  
Xiuju Jiang  
Taiguang Jin  
Martin Jinek  
Corinne M. John  
Inneke M. Johnson  
Jill L. Johnson  
Martha Browning Johnson  
Rohan Abraham Joseph  
Bret L. Judson  
Youngsoo Jun  
Nadja Jung  
Yeon Joo Jung  
Jeannette Justesen  
Gregory Lee Kabachinski  
Risto M. A. Kajanne  
Saori Kakehi  
Manjula Kalia  
Makoto Kamei  
Maryam Kamkar  
Ho Man Kan

Ravi Kandasamy  
Makoto Kaneda  
Xiao Kang  
Natalia A. Kaniuk  
Lukas C. Kaptein  
Iakovos Karakesisoglou  
Ryan L. Karcher  
Karen E. Kasza  
Kosaku Kato  
Fumoto Katsumi  
Hiroaki Kawashima  
Katherine Ann Kedrowitz  
Thomas J. Keller  
Salla Elina Keskitalo  
Elaine M. Khan  
Abha Khandelwal  
Paul A. Khavari  
Arlinet V. Kierbel  
Areum Kim  
Chan Woo Kim  
Dae-Ran Kim  
Dae-young Kim  
Dong-Hwan Kim  
Hong-Hee Kim  
Jae Hwan Kim  
Jinoh Kim  
Jung A. Kim  
Jung Kyung Kim  
Jung-Mi Kim  
Mi-Lyang Kim  
Minsoo Kim  
Sujeong Kim  
Su-jin Kim  
Sunhong Kim  
Lorraine M. King  
Megan C. King  
Andrea Stewart Kirby  
Elizabeth Ann Kirk  
Adam Edward Kisailus  
Katsumi Kitagawa  
Toshio Kitazawa  
Balaji N. Kithiganahalli  
Khomeeka Nicole Kitt  
Juha T. Klefstrom  
Lawrence A. Klobutcher  
Vitaly Kochin  
Mohamed Kodiaha  
Lauren Elizabeth Kokai  
Juergen F. Kolb  
Helen D. Kollias  
Olena Kolotushkina  
Masayuki Komada  
Vangelis Kondylis  
In Deok Kong  
Katarzyna Konior  
Ja Seok Koo  
Seunghyi Kook  
Greg Koontz  
Kelly K. Kopp  
Eric Dean Koppelman  
Farida V. Korobova  
Steven Todd Kosak  
Atanas V. Koulou  
Tajjun Kouno  
Olga Kovalenko  
Sunita Gupta Kramer  
Laurent Kreplak  
Kannan Krishnamurthy  
Anna M. Krzywicka-Racka  
Ashwini S. Kucknoor  
Mitsuhiro Kudo  
Dmitri S. Kudryashov  
Hao Kueh  
Anu Marika Kukkonen  
B. N. Kumar  
Sudha Kumari  
Anup Kumer Kundu  
Ruprecht A. Kuner  
Yasuhiro Kurasawa  
Robin KurFurst  
Akira Kurisaki  
Eric Lacazette  
Yatish Lad  
Yiu-Kay Lai  
Fara Lakhani  
Premkumar Lakshmanane  
Carla Lalande  
David P. LaLonde  
Tina Iun San Lam  
Teartse Tim Lambers  
Marilyn L. G. Lamm  
Jan Lammerding

Charles-Antoine  
Lamontagne-Carpin  
William L'Amoreaux  
Wendy Lan  
Yves D. Landry  
Stephanie D. Lane Njuguna  
Ellen M. Langer  
Caroline E. Laplante  
Paul D. Larsen  
Hakeem O. Lawal  
Zoltan Emery Lazaryi  
Michelle Denise Lazarus  
Isabelle Le Blanc  
Craig A. Leach  
Jennie B. Leach  
Chih-Ying Lee  
Hyunsook Lee  
James T. Lee  
Kyung Jin Lee  
Linda Lee  
Mike Lee  
Ping-Chin Lee  
Sang-Hoon Lee  
Seunbok Lee  
Seungmin Lee  
Suho Lee  
Sung Haeng Lee  
Tae Hoon Lee  
Kay K. Lee-Fruman  
Sally J. Leevers  
Jennifer L. Leight  
Colleen R.M. Lemmon  
Jan Heiko Lenz  
Tzeng-Hong Leu  
Ilya Levental  
Stephanie K. Levi  
Lindsay Kyle Lewellyn  
Christina Carol Lewis  
Laura Jane Lewis-Tuffin  
Julieta P. Leyt  
Chun-Chun Li  
Chunying Li  
Fang Li  
Jonathan J. Li  
Lei Li  
Ming Li  
Nianzhen Li  
Ning Li  
Xiaodong Li  
Xinying Li  
Xuehui Li  
Xuezhi Li  
Yang Li  
Ying Li  
Xuehai Liang  
Yun Liang  
Yi-Hua Liao  
Tim Christian Lienau  
James In Soo Lim  
Precious J. Lim  
Roderick Y.H. Lim  
Chih-Chien Lin  
Chiou-Feng Lin  
Daisy Lin  
Paulo J.C. Lin  
Qiong Lin  
Steve T. Lin  
Wendy W. Lin  
Wen-Jie Lin  
Yuan Lin  
Cory R. Lindsay  
Han Liu  
Han-Ching Liu  
Qian Liu  
Yan Liu  
Yuan Liu  
Zhe Liu  
Ching-Hsiung Frederick Lo  
Hui-Wen Lo  
Angelia D. Lockett  
Muhammad A. Lodhi  
Dinah Loerke  
Ann Logan  
Mustafa F. Lokhandwala  
Jadranka Loncarek  
Veronica Lopez  
Yasmin Lotfi  
Dawn A. Lowe  
Gordon Lu  
Lei Lu  
Pengfei Lu  
Wanli Lu

Wenxiao Lu  
Eliana Pires Lucas  
Anna Lisa Lucido  
Alexandra Vitko Lucs  
Hilary F. Luderer  
Kara Beth Lukasiewicz  
Sarah Luke-Glaser  
Nicole Lund  
Troy C. Lund  
Elaine Patricia Lunsford  
Carine R. Lussier  
Michael P. Lynch  
Chongze Ma  
Peisong Ma  
Samar W. Maalouf  
Valentin Magidson  
Susanne Maier  
Jean-Christian Maillet  
Sankar Maiti  
Sankar N. Maity  
Amitabha Majumdar  
Helen P. Makarenkova  
Hector M. Maldonado  
Marina Alexandra Malikova  
Alvin M. Malkinson  
Emily K. Malmberg  
Shu Mao  
Yong Mao  
Ron R. Marchelletta  
Deborah Maret  
Owen J. Marshall  
Rosie K. Martin  
Anne-Marie Marzocco  
Alexandre V. Matov  
Hidetada Matsuoaka  
Ken Matsuoka  
Chris P. Mattison  
Rosalie Maurisse  
Kapil Mayawala  
Gaetan Mayer  
Lisa K. Mayor  
Joseph H. McCarty  
Anne Knowlton McCullough  
Joseph S. McGonigle  
Rebecca McLennan

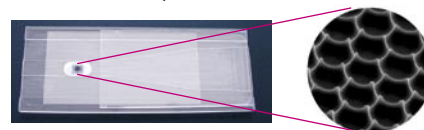
Matthew W. McNatt  
Jason A. Mears  
Nida Meednu  
Karim Mekhail  
Caroline Valentine Meloty-Kapella  
Andrew C. Melton  
Rima Mendonsa  
Gustavo C. Menezes  
Shekar Menon  
David C. Merz  
Gulistan Mese  
Stephanie K. Mewborn  
Kristin E. Michael  
Angel P. Miera  
Kirstin J. Mills  
Dana L. Miller  
Eric D. Miller  
Julie J. Miller  
Stephanie A. Miller  
Steven C. Miller  
Kyoeng Woo Min  
Naoki Mine  
Miguel Miron Mendoza  
Shalini Mitra  
Daisuke Mizuno  
Emi Mizuno  
Craig A. Mizzen  
Toshifumi Mogami  
Anand Mohan  
Alexandra G. Montalvo  
Sun-Young Moonlee  
Caronda J. Moore  
Daniel P. Moore  
William James Moore  
Felipe Mora-Bermúdez  
Alberto S. Moraes  
Francisco R. Morales  
Claire Anne Moran  
Carl Benton Moree  
Ole V. Mortensen  
Eva Mortier  
Pangkong Moua  
Keesla E. Moulton  
Jose V. Moyano

Norbert Muecke  
Kathrin Muentener  
Khawaja A. Mujeeb  
Monalisa Mukherjee  
Shaeri Mukherjee  
Svetlana A. Mukhina  
Saikat Mukhopadhyay  
Somshuvra Mukhopadhyay  
Srinivas R. Mullapudi  
Ji Young Mun  
Vidhya Munnamalai  
Hitoshi Murata  
Silvia Muro  
Jane Elizabeth Murphy  
Madeline A. Murphy  
Sivaram V S Mylavarapu  
Saburo Nagata  
Satoko Nakada  
Hideaki Nakamura  
Shun Nakamura  
Naoki Nakayama  
Yuji Nakayama  
Roland M. Nardone  
Hoorig Nassanian  
Paramasivam Natarajan  
Sangeeta Nath  
Svetlana Nazarenko  
Taku Nedachi  
Belinda Sonia Nedjai  
Cheryl Neilson  
Lene N. Nejsum  
Elisa M. Nevalainen  
Karen Ann Newell  
Erin D. Newman-Smith  
Khao T.D. Nguyen  
Mai-Anh Thuy Nguyen  
MT Audrey Nguyen  
Tu Nguyen-Ngoc  
Thomas Q. Nhan  
Susan Melanie Nicholls  
Zhongzhen Nie  
Mark G. Nielsen  
Akiko Niibori  
Yusuke Niino  
Rick William Nipper

**Experience** *the first slide-based  
High Content Analysis tool  
for both adherent and non-adherent  
individual living cells:*

## The Optical LiveCell™ Array

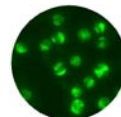
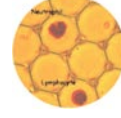
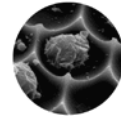
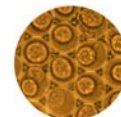
*Microscope Slide Format  
for simultaneous HCA of  
thousands of cells*



- Compatible with all standard microscopes
- Easy to use
- Minimal sample size + reagent volume
- Each cell has its designated address
- Study heterogeneous populations of primary cells
- MetaMorph® Imaging Software Applications for enhanced analysis

**Also available –  
Optical LiveCell Assay Kits –  
Apoptosis, Cell Surface Markers**

© 2005 Molecular Cytomics Inc.  
LiveCell is a licensed trademark of Molecular Cytomics



www.molecular-cytomics.com

1-800-660-6123

Wei Niu  
Ching-Ni Njauw  
Daisuke No  
Marissa E. Nolan  
Mark Nolden  
Brad J. Nolen  
Joshua John Nordberg  
Pontus Bill Nordenfelt  
Kristi Lynn Norris  
John T. Norton  
Ryan M. Nottingham  
Roberta B. Nowak  
Shun-ya Nunokawa  
Caitlin E. O'Brien  
Lori Lynn O'Brien  
Kristen M.S. O'Connell  
Andrea Jean Oestreich  
Maiko Ogata  
Kiyoko Ogawa-Goto  
Peter O'Hare  
Ryosuke L. Ohniwa  
Takashi Ohyama  
Voytek S. Okgrelak  
Athenia Lequan Oldham  
James Arthur Olzmann  
Evgeny A. Onishchenko  
Maria Luisa Oppizzi  
Shane W. Oram  
Alana M. O'Reilly  
Owe J. Orwar  
Mayuko Osada-Oka  
Kyle D. Osborne  
Mitsunori Ota  
Christian E. Overgaard  
Katherine Anne Owen  
John A. Ozolek  
Ville O. Paavilainen  
Eunju Pack-Chung  
Lesley J. Page  
Thomas M. Pagliaruli  
Chi Won Pak  
Kirsi Inkeri Pakkanen  
Hildur Palsdottir  
Erikur Palsson  
Ewa Paluch  
Yonghua Pan  
Sanjay C. Panchal  
Marcelo Jorge Pando  
Sophie Pang  
Portula Panorchan  
Feroz R. Papa  
Iraklis Papageorgiou  
Sangram Subhash Parelkar  
Audrey Parent  
Bum-Chan Park  
Han Jeong Park  
Hee-Sae Park  
Hee-won Park  
Jihye Park  
Jong Sung Park  
Sun Yi Park  
Young-Kyu Park  
Jeremy D.K. Parker  
Samantha Louise Passey  
Jenna N. Passman  
Vinay Pasupuleti  
Snehal B. Patel  
Sian T. Patterson  
Sara M. Paulillo  
Adriana Aparecida Paulucci  
Visnja Pavicic  
Dmitry A. Pavlov  
Sangita C. Pawar  
Bradley T. Pawlikowski  
Nina Peel  
Stephanie Pellegrin  
Jun Peng  
Xu Peng  
Ying Peng  
Rhiannon R. Penkert  
Naomi L. Pentland  
Samantha J. Perez-Miller  
Alex Perieteanu  
Leticia Peris  
Nathalie Perreault  
Shanda Nicole Perry  
Gary Anthony Pestano  
Marina Petcherskaia  
Elizabeth Margaret Peter-Ross  
Iver Petersen  
Snezana Petrovic

Rossanna C. Pezo  
Sandra Pfister  
Pallavi Phartiya  
Katrin Philippar  
Andrew John Phillips  
James Ashby Pickett  
Jan Pielage  
David M. Pier  
Monique S. Pierre  
Cecile Marie Pinaudeau  
Stuart M. Pitson  
Sabine Pokutta  
Joseph R. Pomerening  
Lisa A. Postow  
Jeroen Pouwels  
Elaine A. Powers  
Marianne K. Poxleitner  
Yogikala Vasudeva Prabhu  
Louise Prakash  
Satya Prakash  
William Frederic Pratt  
Ken E. Prehoda  
Virginia Baker Probin  
Jasmina Profirovic  
Derek C. Prosser  
Anetta Ptasinaka  
Xu Pu  
Megan J. Puckelwartz  
Lee Pullan  
Pawan Puri  
Andrew J. Putnam  
Ihtishaam H. Qazi  
Zu-he Qi  
Yi Qian  
Liang Qiang  
Jun Qin  
Baoli Qu  
Leonie M. Quinn  
Peter B. Rahl  
Emily K. Rainey  
Thejani E. Rajapaksa  
Radhan Ramadass  
Edward Ramos  
Maria E. Ramos-Nino  
Claudine Rancourt  
Aparna C. Ranganathan  
Maija Kaarina Rantanen  
U. S. Rao  
K. Rathinasamy  
Claudie Ratthe  
Arpita Ray  
Colin Reardon  
David A. Recinos  
Elizabeth F. Redente  
Amber Nicole Reed  
Mia D. Reed  
Nathan A. Reed  
Tanya A. Rege  
Veronika Reiterer  
Maia Kathleen Renihan  
Erin C. Rericha  
Juan F. Reyes  
Khosrow Rezvani  
Seung K. Rhee  
Danielle N. Ringhoff  
Wanida Rittidach  
Francisco Rivero  
Kevin P. Roarty  
Kim L. Roberts  
Marnie S. Roberts  
Brian Wilson Robertson  
Danielle M. Robertson  
Flavia Riso Rocha  
Katherine W. Roche  
Jennifer M. Rodenberg  
Jose Francisco Rodriguez  
Rene Rodriguez Gonzalez  
Carlos Romero  
Panteleimon Rompolas  
Jachinta E. Rooney  
Sara E. Rosasco  
Raphyel O. Rosby  
Martin Rosen  
Krysten M. Ross  
Stefano Rossetti  
Daniel Roth  
Lise Roth  
Elon C. Roti Roti  
Aurelien Roux  
Kyle J. Roux  
Regina K. Rowe  
Isabelle Royal  
Richard B. Rubin

Madalina Rujoi  
Jennifer Marie Rutkowski  
Sean Patrick Ryan  
Hisataka Sabe  
Katharine L. Sackton  
Witchuda Saengsawang  
Naoyuki Sakai  
Akira Sakakibara  
Tomoyo Sakata  
Shinji Sakaushi  
Takashi Sakurai  
Eduardo Perez Salazar  
Anna-Leena Salmela  
Azadeh Samadani  
Joshua M. Sante  
Virginie S. Santilman  
Suparna Sanyal  
Helen Sarantis  
Oli Sarkar  
Souvik Sarkar  
Bhaskarjyoti Sarmah  
Noriaki Sasaki  
Laura A. Satkamp  
Takehiro Sato  
Pamela J. Savage  
Thomas E. Schaus  
John Andrew Schmidt  
Rebecca Leigh Schmidt  
Jean-Francois Schmouth  
Michael Schnoor  
Barbara Schroeder  
Joyce Ann Schroeder  
Graham B.I. Scott  
Damon Charles Scoville  
Aristeo Aris Segura  
Seema Sehwat  
Akiko Seki  
Paul R. Selvin  
Arunima Sengupta  
Rho H. Seong  
Benjamin R. Sessions  
Lisa Michelle Sevilla  
Catherine M. Shachaf  
Julia Shackelford  
Joshua W. Shaevitz  
Sasha H. Shafikhani  
Kavita Shah  
Sameer B. Shah  
Sze Wan Shan  
Yueting Shang  
Irina M. Shapiro  
Shalini Sharma  
Vandana M. Sharma  
Tom Shemesh  
Hao-Wei Shen  
Yongquan Shen  
Maryam Shenasa  
Don C. Sheppard  
Anna Shestakova  
Svetlana A. Shestopal  
Binhai Shi  
Qi Shi  
Yang Shi  
Yuling Shi  
Jennifer Cynthia Shieh  
Jonathan M. Shillingford  
Ai Shima  
Katsuya Shimabukuro  
Norio Shimamoto  
Arti V. Shinde  
Tomoyasu Shinoda  
Orian Shaul Shirihai  
Viji Shridhar  
Andrew Shubov  
Robert D. Shurina  
Anita Sil  
Pascal Silberzan  
Ece Simsek  
Aman K. Singh  
Pankaj Kumar Singh  
Vijay Prem Singh  
Merek Siu  
Nadimpalli Siva Kumar  
Senthilkumar Sivagurunathan  
Sivaraj Sivaramakrishnan  
Sudhakar Sivasubramaniam  
Stephan Urs Sixt  
Lara C. Skwarek  
Adam C. Smith  
Andrew Leslie Smith  
Geoffrey L. Smith  
Chi K. So  
Jacqueline Ariel Sobota

Syrus R. Soltaninassab  
Deena V. Soni  
Aman Sood  
Celeste Siochi/S. Soriano  
Julian Sosnick  
Dan F. Spandau  
Nathalie Spassky  
Christoph Spiess  
Susan C. Spiller  
Cynthia C. Sprenger  
Tim W. Sprul  
R. Michael Sramkoski  
Carly St Germain  
Pascal St Pierre  
Ewa K. Stachowiak  
Angeliki Stathopoulos  
Jeffrey H. Stear  
Stephanie A. Stehman  
Anna Karolina Stephan  
Ruth Anne Stetler  
Jane C. Stinchcombe  
Julie Stirling  
David L. Stokes  
Agnieszka Stokowski  
Timothy R. Stowe  
Sten Strunze  
Jason K. Stumpff  
Amy K. Sturycz  
Dmitry Suchkov  
Matthew K. Summers  
Fang-Chun Sun  
Liping Sun  
Sean Sun  
Xinghui Sun  
Jinfeng Suo  
Alexandra Surcel  
Benjamin Michael Sutter  
Toshiharu Suzuki  
Maria Sverdllov  
Hideaki Takata  
Joy Nicole Talbot  
Dawn A. Tamarkin  
Yasushi Tamura  
Tarvinder K. Taneja  
Xiaoyu Tang  
Yitai Tang  
Zhaohua Irene Tang  
Naoki Tanimizu  
Rocio Tapia  
Agne Taraseviciute  
Nicolas Taulet  
J. Philip Taylor  
Julie P. Taylor  
Rohan D. Teasdale  
Rita O. Teodoro  
Laura J. Terry  
Mathewos Z. Tessema  
Anita Annajothi Thambirajah  
Sean E. Thatcher  
Melanie C. Thein  
Clement Thomas  
Sufi Mary Thomas  
Jeffrey M. Thompson  
Kathryn A. Thompson  
Kristian L. Thompson  
Oliver Thompson  
Thorildur Elva  
Thorarindottir  
Laura J. Thornton  
Geng Tian  
Lin Tian  
Winston G. Timp  
Shigenobu Toda  
Chris B. Todd  
Andrei A. Tokarev  
Masoud M. Toloue  
Louis H.T. Tong  
Michinori Toriyama  
Jorge Torres  
Junko Toshima  
Ian K. Townley  
Lucas Trencie  
Niraj Trivedi  
I-Chun Tsai  
Robert Y. Tsai  
Ann-Ping Tsou  
Andrey S. Tsvetkov  
Jeffrey J. Tung  
Jeffery Lewis Twiss  
Salit Tzaban  
Pradeep D. Uchil  
Takashi Ueno  
Ahmad R. Utomo

Rajivkumar J. Vaidya  
Asta Valanciute  
Dustin S. Vale-Cruz  
Megan T. Valentine  
Manojkumar Valiyaveettil  
Pascal Vallotton  
Diana L. Van De Hoef  
Jasper Van Der Gucht  
Johannes J. Van Der Want  
Peter B. Vander Horn  
Asta Sinikka Varis  
Hanne Varmark  
Lavanya Vasudevan  
Jessica Leslie Verburg  
P. Thomas Vernier  
Thuha Nora Vinh  
Philip Vitorino  
Pompun Vivithanaporn  
Nicole E. Vlahovich  
Luiz Eduardo Cabral Von Dannecker  
Michelle Valentina Wagner  
Marisa Judith Wainszelbaum  
Adam Alexander Wall  
Logan A. Walsh  
Thomas Walz  
Xiaohu Wan  
Chao-Wen Wang  
Chung-Ju Rachel Wang  
Guanghu Wang  
Hongmin Wang  
Jie Yi Wang  
Jinrong Wang  
Jiz-Yuh Wang  
Li-Wen C. Wang  
Ningning Wang  
Qian Wang  
Shujie Wang  
Ting Wang  
Xinhua Wang  
Zhaohui Wang  
Heather Hilary Ward  
Nancy E. Ward  
Fiona J. Warner  
Katrina B. Washburn  
Shinya Watanabe  
Tomonobu Watanabe  
Barbara D. Wawro  
Benjamin P. Weaver  
Susanna H. Weerth  
Bih-Rong Wei  
Ho-Chun Wei  
Huijun Wei  
Douglas B. Weibel  
Astrid Weins  
Georg Weitzer  
Jennifer V. Welser  
Shu-Fang Wen  
Jeffrey L. Werbin  
Brandi R. Whatley  
Ann P. Wheeler  
Matthew A. Wheeler  
Anita Elizabeth Wichmann  
Therese Wiedmer  
Darran J. Wigelsworth  
David J. Wiley  
Brooke Blairanne Williams  
Courtney M. Williams  
Geoffrey S. Williams  
Justin E. Wilson  
Kathleen L. Wilson  
Reinhard Windoffer  
Rockland Luke Wiseman  
Tobias Wolfram  
Charles W. Wolgemuth  
Cheuk Y. Wong  
Joyce Y. Wong  
Wan Man Wong  
Christopher Sinclair Wood  
Chia-Shan Jenny Wu  
Chieh-Hsi Wu  
Chi-Hwa Wu  
Guangyu Wu  
Jianhong Wu  
Jie Wu  
Karen Wu  
Wei Wu  
Wen-Guey Wu  
Yuehan Wu  
Eric S. Wunderlich  
Jessica Paige Wyles  
Wa Xian  
Lele Xie

Ting Xie  
Xiaoling Xiong  
Chang Xu  
Jin Xue  
Sivaramakrishna Yadavalli  
Akiko Yamada  
Takenori Yamamoto  
Hitomi Akutsu Yamauchi  
Raghuatha R. Yammani  
Helen Hoi Ning Yan  
Chung S. Yang  
Ge Yang  
Hailing Yang  
Jianguo Yang  
Jiefei Yang  
Lin Q. Yang  
Ling Yang  
Ning Yang  
Ruey-Bing Yang  
Yidai Yang  
Ying Chen Yang  
Zhiwei Yang  
Chia-Hui Yeh  
BhargavaKrishna Yekkala  
Jordan Tyler Yelinek  
Clare E. Yellowley  
Kexi Yi  
Yang-In Yim  
Shanghua Yin  
Kyoko Yokomori  
Hiro Yonekawa  
Seong Keun Yoo  
Sung Ok Yoon  
Takeshi Yoshimura  
Brian A. Young  
Bryan E. Youree  
Chun-ying Yu  
Soon-Kyu Yun  
Ken K.L. Yung  
Adam J. Zahand  
Asgar Zaheer  
Homeira Zahiri  
Sofia V. Zaichick  
Mark Zajac  
Liudmila Zakharova  
Kseniya Zakharyevich  
Anna J. Zandy  
Laura P. Zanello  
John K. Zehmer  
Alex Zelter  
Fan Zhang  
Jianliang Zhang  
Jun Zhang  
Li Zhang  
Sheng Zhang  
Siyi Zhang  
Vivian Qingqing Zhang  
Wei Zhang  
Wenzheng Zhang  
Ying Zhang  
Yongli Zhang  
Bin Zhao  
Xin Zhen  
Wei Zheng  
Anyu Zhou  
Dan Zhou  
Fuguo Zhou  
Shuxia Zhou  
Yuchen Zhou  
Zheng Zhou  
Zhenqing Zhou  
Zhongjun Zhou  
Changjun Zhu  
Jun Julius Zhu  
Xiaodong Zhu  
Amy F. Ziober  
Li Zou  
Magdalena Zuerner  
Marek Tadeusz Zygmunt

## Members Granted Emeritus Status

William W. L. Chang  
Joseph Feder  
Robert E. Fellows  
Gordon Gill  
Peter Hepler  
James D. Jamieson  
Joseph Kinkade  
Ramon Lim  
Andrej Rotter



# Beatson International Cancer Conference

Co-sponsor ASSOCIATION FOR INTERNATIONAL CANCER RESEARCH



## 24 Years of Ras and Human Cancer

*Sunday June 18 to Wednesday June 21 2006, Glasgow, Scotland*

### Speakers and Sessions

**Keynote Address:** A Hall (UK), C Marshall (UK)

**Classical Ras:** A Balmain (US), M Barbacid (ES), C Der (US), J Downward (UK), F McCormick (US), F Wittinghofer (DE)

**Additional GTPases:** J Bos (NL), P Chardin (FR), H Mellor (UK), M Olson (UK), P Silver (US)

**Signalling Pathways:** A Alberts (US), J Blenis (US), G Bokoch (US), W Kolch (UK), L Machesky (UK), M White (US)

**Regulators:** D Bar-Sagi (US), J Cherfils (FR), J Hancock (AU), J Sodek (US), H Welch (UK), A Yoshimura (JP)

**Models and Translation:** T Jacks (US), R Marais (UK), M McMahon (US), J Sebolt-Leopold (US), J Settleman (US), D Tuveson (US)

### Aims of the conference

The aims of this commemorative meeting are to highlight the recent advances in understanding the important and diverse roles played by Ras family proteins in multiple aspects of human tumour biology and also to demonstrate how these proteins can be exploited by translational research into novel therapies to control the disease.

Short talks will be granted to the authors of outstanding abstracts. Some financial assistance will be available to presenters of these short talks through sponsorship from the Association for International Cancer Research. For additional information, registration forms and details for poster presentation please contact:

Tricia Wheeler, Conference Co-ordinator, The Beatson Institute for Cancer Research,  
Garscube Estate, Switchback Road, Bearsden, Glasgow G61 1BD, UK

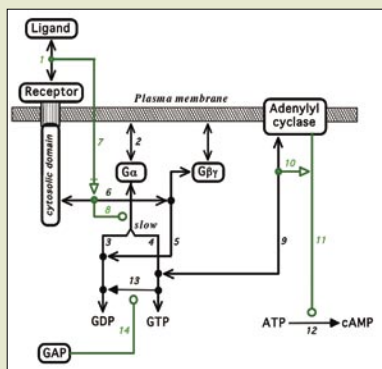
Tel: (24 hrs) +44 (0) 141 942 0855. Fax: +44 (0) 141 330 6426.

email: [t.wheeler@beatson.gla.ac.uk](mailto:t.wheeler@beatson.gla.ac.uk) Website, on-line registration and abstract submission: <http://www.beatson.gla.ac.uk/conf>

**Deadline for registration, payment and abstract submission: April 5, 2006**

10th CR-UK Beatson International Cancer Conference:

CANCER THERAPEUTICS: NEW DIRECTIONS, June 17 - 20, 2007



## Molecular Interaction Maps of Bioregulatory Networks: A General Rubric for Systems Biology

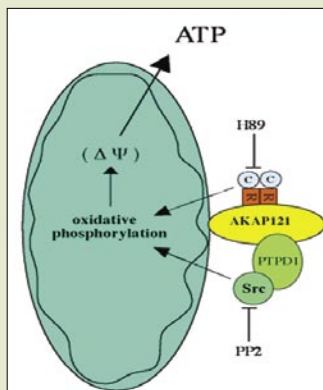
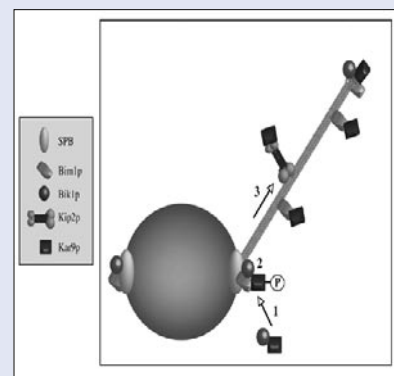
Kurt W. Kohn, Mirit I. Aladjaem, John W. Weinstein, and Yves Pommier

As information regarding the protein interactions, posttranslational modifications, regulatory kinases, and GTPases associated with bioregulatory networks expands, their complexity becomes too great to be displayed by simple linear notation or understood by simple intuition. Thus, a new standard for bioregulatory network diagrams using common graphical notations is urgently needed to serve cell and developmental biologists in the same way as circuit diagrams serve electrical engineers. Here the authors describe a graphical notation for molecular interaction maps (MIMs), including protein interactions, posttranslational modifications, ligand binding, translocation, transcription, etc., which, from a biologist's perspective, is both intuitive and versatile. Generating initial "heuristic" MIMs (i.e., those in which all known interactions and their consequences are diagrammed) requires deep and critical thinking about the structure and function of a specific network. Once generated, MIMs can be annotated and made interactive (<http://discover.nci.nih.gov/mim>) and can serve as the basis for more "explicit" MIMs that are amenable to computer modeling and simulation.

## The CLIP-170 Homologue Bik1p Promotes the Phosphorylation and Asymmetric Localization of Kar9p

Jeffrey K. Moore, Sonia D'Silva, and Rita K. Miller

Accurate positioning of the mitotic spindle is critical for cell division in all eukaryotes. In the budding yeast *Saccharomyces cerevisiae*, the spindle pole bodies (SPBs) are embedded in the nuclear envelope and their accurate positioning requires two sequential microtubule (MT)-dependent processes. The first uses cytoplasmic MTs and actin cables to direct the nucleus to the bud neck and to orient the SPBs along the mother-bud axis. The MT-to-actin linker, Kar9p, is asymmetrically localized to the SPB destined for translocation into the bud and plays a critical role in this process. Kar9p is transported to the plus ends of cMTs where it interacts with Myo2p, attaching them to the bud cortex. The Kar9p-containing SPB is then drawn into the bud by dynein, which is targeted to the plus ends of cMTs by the CLIP170 homologue Bik1p. The authors have discovered that Bik1p also interacts with Kar9p and has a second, unrelated function of promoting Kar9p phosphorylation, thereby ensuring its asymmetric localization to one SPB and associated cMTs.



## Mitochondrial AKAP121 Links cAMP and Src Signalling to Oxidative Metabolism

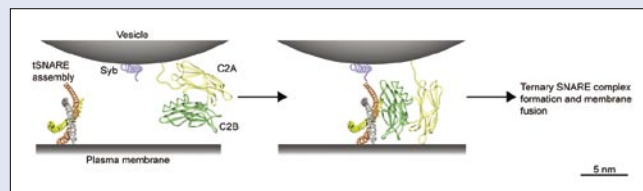
Alessandra Livigni, Antonella Scorziello, Savina Agnese, Annagrazia Adornetto, Annalisa Calucci, Corrado Garbi, Imma Castaldo, Lucio Annunziato, Enrico V. Avedimento, and Antonio Feliciello

External signals are transmitted intracellularly by protein kinase signaling cascades. A-kinase anchor proteins (AKAPs) are a family of proteins that target kinases to distal cellular substrates, thereby enhancing the efficiency of signal propagation. Here it is shown that AKAP121, which binds protein kinase A (PKA) and the protein tyrosine phosphatase PTPD1, forms a signaling complex that also includes src kinase. In response to stimuli, AKAP121 targets these kinases to the mitochondria where they phosphorylate specific mitochondrial target proteins. The authors used co-expression, dominant-negative mutants, and siRNA approaches to establish that PKA- and src-dependent changes in mitochondrial membrane potential and ATP synthesis are enhanced by AKAP121. Thus, AKAP121 functions as a nodal point to integrate cAMP-dependent PKA activity with src-dependent tyrosine phosphorylation and efficiently adapt mitochondrial metabolism to changes in cell physiology.

## Conserved Pre-fusion Protein Assembly in Regulated Exocytosis

Colin Rickman, José L Jiménez, Margaret E. Graham, Deborah A. Archer, Mikhail Soloviev, Robert D. Burgoyne, and Bazbek Davletov

Regulated secretion is mediated by ternary complex formation between the plasma membrane t-SNAREs, syntaxin1 and SNAP-25, and the secretory vesicle-associated v-SNARE, synaptobrevin, and regulated by the  $\text{Ca}^{2+}$ -sensor synaptotagmin (SYT). The structural nature of the pre-fusion complex that docks secretory vesicles to the plasma membrane and the mechanism of rapid calcium-triggered fusion remain unknown. Guided by evolutionary conservation, the authors identified residues that demarcate the binding interface between SNAP-25 and SYT. Computer-based algorithms were then used to dock the known atomic structures of the C2B domain of SYT with the ternary t-SNARE/v-SNARE complex. A model is presented in which the C2B domain of SYT binds perpendicular to the helices of a binary SNAP-25/syntaxin1 t-SNARE assembly. This pre-fusion complex would provide a precisely organized "tethering" scaffold that limits t-SNARE diffusion, positions them for rapid engagement with synaptobrevin, and positions the C2 domains of SYT for optimal  $\text{Ca}^{2+}$  responsiveness.





# Microarray Resources

## GeneSifter

Built for biologists, by biologists, the GeneSifter® web-based gene expression analysis system

combines an easy-to-use interface with powerful data management tools to quickly load data files from every array platform (CodeLink®, Affymetrix®, Illumina®, Agilent® and custom arrays). Once loaded, GeneSifter integrates advanced statistical

algorithms, robust ontology and pathway reports, and the most current gene annotations to help bench researchers move quickly from data to discovery. Plus, as a web-based system, GeneSifter makes it easy to share findings in real time with colleagues and collaborators across the hall and across the globe.

In addition to statistics and reporting, GeneSifter provides full scientific support. Led by PhD-level biologists, the GeneSifter Scientific Staff provides support on a range of levels from experimental design to grant submission to data publication.

To learn more, visit [www.GeneSifter.net](http://www.GeneSifter.net)

## The Seven Keys

Maximize the potential of your microarray experiments with "The Seven Keys To Successful Microarray Data Analysis," a free microarray training website providing an overview of and introduction to the microarray data analysis process. The Seven Keys site, [MicroarraySuccess.Org](http://MicroarraySuccess.Org), has already helped thousands of researchers gain a better understanding of basic microarray data analysis.

The Seven Keys are:

- 1) Experiment Design
- 2) Platform Selection
- 3) Data Management
- 4) System Access
- 5) Differential Expression
- 6) Biological Significance
- 7) Data Publication

View the Seven Keys and download the case study "Identification of cell cycle genes regulated during erythroid differentiation," at [www.MicroarraySuccess.Org](http://www.MicroarraySuccess.Org)

## Data Center

Access and analyze diverse sets of microarray data with the GeneSifter

microarray data analysis system, using the GeneSifter Data Center. Analysis summaries and step-by-step tutorials are provided for each dataset, making it an excellent resource for developing microarray data analysis skills. Use the Data Center to better understand microarray data analysis

or to explore the data for interesting connections and expression patterns.

Available datasets include:

- FVB heart development time series
- Microarray analysis of CD40-mediated gene expression in Ramos cells
- Transcriptome analysis of apoE -/- mouse aortas
- TNF-mediated gene expression in HUVEC
- Drosophila innate immune response time series
- Transcriptome analysis of orofacial development in mouse embryo
- Astrocyte response to beta amyloid
- Huntington's disease and combination drug therapy
- Sex-related differences in gene expression in salivary glands
- Chronic contusion spinal cord injury
- Transcriptome analysis of colon cancer progression

For free access to these datasets and others, visit [www.GeneSifter.net/DC](http://www.GeneSifter.net/DC)

## Webinars

Monthly webinars presented by the GeneSifter Scientific Staff present alternative analyses of recently published microarray studies. This series extends published results and emphasizes how experimental design affects the analysis process.

N. Eric Olson, PhD, Genesifter Chief Scientific Officer, will present the next webinar, "Transcriptome analysis of adult male germ cell tumors," on February 7.

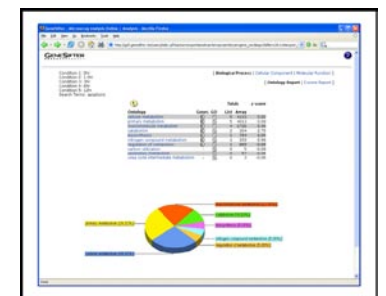
Email [info@genesifter.net](mailto:info@genesifter.net) to learn more. To register for these webinars at no cost, visit [www.GeneSifter.net/webinar](http://www.GeneSifter.net/webinar)



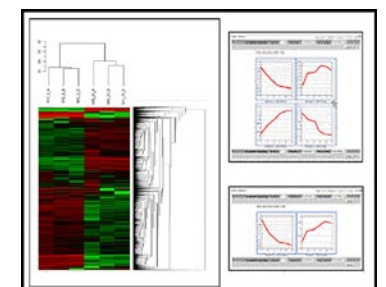
*Step-by-step tutorials walk through common analyses*



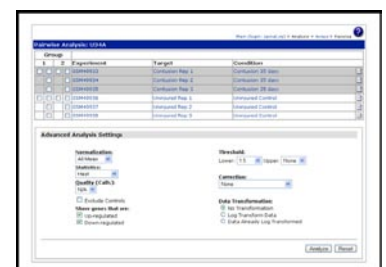
*Search by gene function*



*Gene Ontology Reports identify significant pathways and molecular functions*



*Examine gene expression profiles*



*Intuitive web interface to R statistics*

**[www.GeneSifter.net](http://www.GeneSifter.net)**  
**1-877-WEB-GENE**

# GRANTS & OPPORTUNITIES

**BWF/HHMI Lab Management Guide.** *Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty* is available at [www.hhmi.org/labmanagement](http://www.hhmi.org/labmanagement).

**The Human Frontier Science Program.** Funding opportunities for team research projects in the basic life sciences. Deadline for letter of intent is March 30; potential applicants must pre-register by March 20. [www.hfsp.org](http://www.hfsp.org).

**NIH Virtual Career Center.** The NIH Office of Education offers resources for exploring employment options and career development opportunities in health sciences. See [www.training.nih.gov/careers/careercenter/index.html](http://www.training.nih.gov/careers/careercenter/index.html).

**NIAID Biodefense Fellowships.** The NIH National Institute of Allergy and Infectious Diseases solicits applications from biodefense training and development researchers of prevention, detection, diagnosis and treatment of diseases caused by potential bioterrorism agents. Grants, fellowships and career development awards. See [www.niaid.nih.gov/biodefense/research/funding.htm](http://www.niaid.nih.gov/biodefense/research/funding.htm).

**NIH Re-entry Program.** The NIH and Office of Research on Women's Health announce a continuing program for faculty who have taken time out for family responsibilities. See <http://grants.nih.gov/grants/guide/pa-files/PA-04-126.html>.

## NIH Grants.

- Large-Scale Collaborative Project Awards, see <http://grants2.nih.gov/grants/guide/pa-files/PA-04-128.html>. Deadlines: September 20, 2006, and June 21, 2007.
- Predoctoral Research Training in Biostatistics, see <http://grants2.nih.gov/grants/guide/pa-files/PA-04-132.html>. Deadline: October 12, 2007.
- Tools for Genetic and Genomic Studies in Emerging Model Organisms, see <http://grants2.nih.gov/grants/guide/pa-files/PA-04-135.html>. Deadline: November 2, 2007.
- National Technology Centers for Networks and Pathways, see <http://grants2.nih.gov/grants/guide/rfa-files/RFA-RM-04-019.html>. Deadline is February 22. ■

THE CLEVELAND CLINIC



## Chair, Department of Cancer Biology Lerner Research Institute The Cleveland Clinic Foundation

The Cleveland Clinic Foundation is seeking a Chair for the Department of Cancer Biology, which occupies ~30,000 sq. ft. in the Lerner Research Institute. An endowed chair accompanies this position. The department currently consists of 12 faculty with well-funded research programs in the areas of signal transduction and gene expression, apoptosis, cytokine action, and cell cycle regulation. The ideal applicant will have an outstanding national reputation in an area that complements the strengths of the department. The Chair of Cancer Biology will also hold appointment as Associate Director for Basic Science of the Cleveland Clinic Taussig Cancer Center, and will have a cross appointment in the matrix format of the NCI-designated Case Comprehensive Cancer Center.

The Chair will be provided with generous start-up support and recruitment packages for 4 to 5 new faculty. The Lerner Research Institute, with over 130 independent investigators in 10 departments and an annual budget of >\$110 million, has a commitment to excellence in basic and applied biomedical research.

A curriculum vitae and letter of interest should be sent to Paul E. DiCorleto, Ph.D., Search Committee for the Chair of Cancer Biology, Cleveland Clinic Lerner Research Institute-NB21, 9500 Euclid Avenue, Cleveland OH 44195; [www.lerner.ccf.org/cancerbio/](http://www.lerner.ccf.org/cancerbio/); [dicorlp@ccf.org](mailto:dicorlp@ccf.org).

*The Cleveland Clinic Foundation is an Equal Opportunity Employer.*

## Free Career Advice Publications



**Pick up your copies at the ASCB Annual Meeting or  
order your copies through the ASCB Online Store**

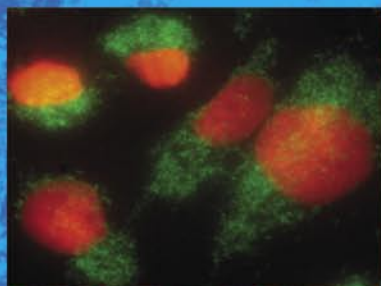
**[www.ascb.org](http://www.ascb.org)**



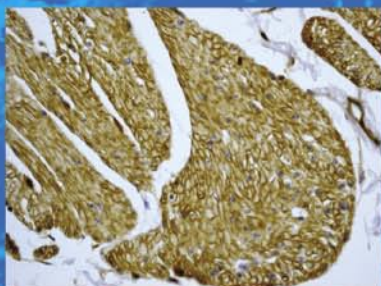
# RabMAbs

Rabbit Monoclonal Antibodies

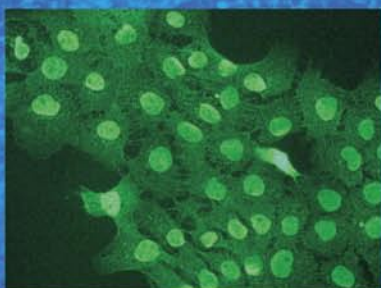
*Better Antibodies for Better Results*



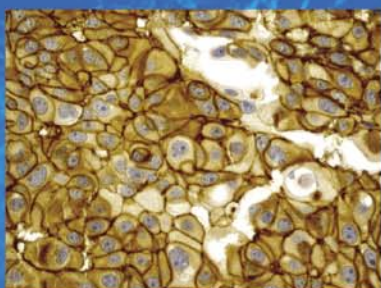
AIF (#1020-1)



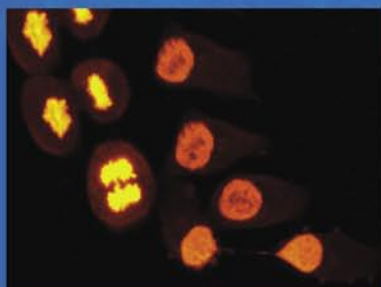
Caveolin-1 (#1249-1)



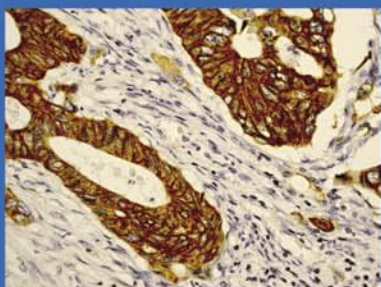
Stat-3 (#1122-1)



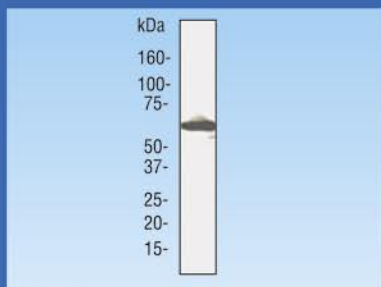
Her-2 (#1149-1)



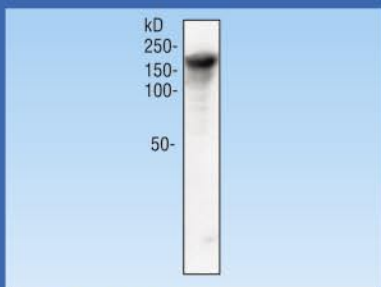
Histone H3 (#1326-1)



Keratin 18 (#1433-1)



AKT 1 (#1086-1)



EGFR (#1114-1)

- Unrivaled specificity
- High affinity
- Tested for use in multiple applications (Westerns, IHC, ICC, IP and Flow Cytometry)

- Antibodies for:

**Apoptosis**

**Cell Cycle**

**Cytoskeleton**

**Cancer Markers**

**GPCR's**

**Kinases**

**Chromatin**

**Phospho Specific**

*View* our entire collection of over 250 RabMAbs :

[www.epitomics.com](http://www.epitomics.com)

*New* 2005-06 Epitomics Catalog  
Request your copy online.

**EPITOMICS®**  
BETTER ANTIBODIES • BETTER SCIENCE

## Contact

PH : 877-772-2622

Toll free NA

PH : 650-583-6688

[info@epitomics.com](mailto:info@epitomics.com)

[www.epitomics.com](http://www.epitomics.com)



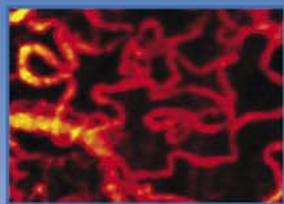


► Umbrella cells of healthy urothelial mucosa after instillation of rhodamine 123.

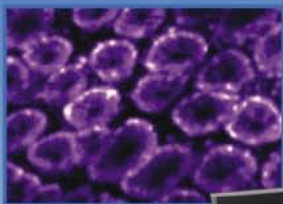
# *In vivo & in situ* microscopy

## Discover cells' secrets in their natural environment

Cellvizio®, the world smallest microscope, lets you peer into the secrets of cellular life. Simply. Immediately. Intuitively. Just insert the tip of a fibered microprobe to the site of interest and make real time movies. **Learn more at [www.maunakeatech.com](http://www.maunakeatech.com)**



▼ Tumoral vessels stained with FITC-Dextran 500 kDs. Field of view 400 x 280 µm.



▼ Mouse colonic crypts after instillation of Syto 13 and Cresyl Violet. Field of view 400 x 280 µm.



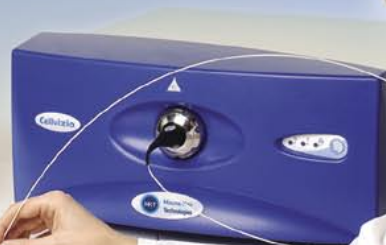
► Subcutaneous prostate tumor capillaries stained with FITC-Albumin. Field of view 400 x 280 µm.

Courtesy of Dr M.A. D'Hallewin, Centre Alexis Vautrin, Nancy, France; Anne-Carole Duconseille and Olivier Clément, Descartes Image, Small Animal Imaging Facility, Université Paris V, Paris, France; Igor Charvet, Paolo Meda, Centre Medical Universitaire, Geneva, Switzerland; Nathalie Faye and Laure Fournier, LRI, Faculté Necker, Paris, France. Photo by A. Perchant©2004. Version 200509.

# Cellvizio®



**Mauna Kea Technologies**



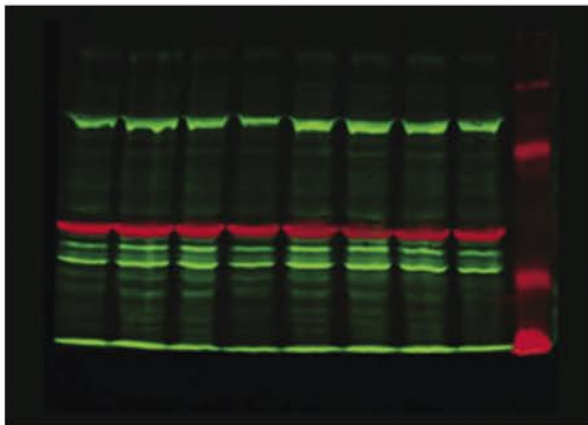
cellvizio@maunakeatech.com  
phone: US +1 888 590-1798. Worldwide: +33 1 48 24 03 45.



# **Antibodies**

SUPPORTING LIFE SCIENCE RESEARCH FOR OVER 35 YEARS

- Ubiquitin Abs
- Apoptosis Abs
- Signal Transduction Abs
- Neuroscience Abs
- Epitope & Fusion Protein Abs



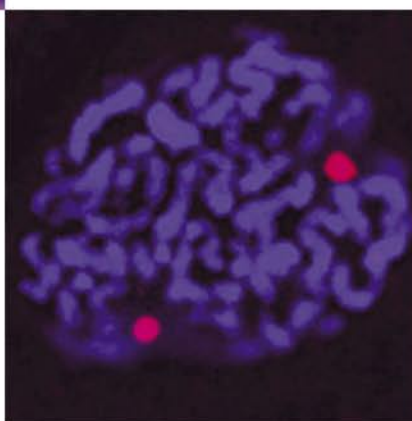
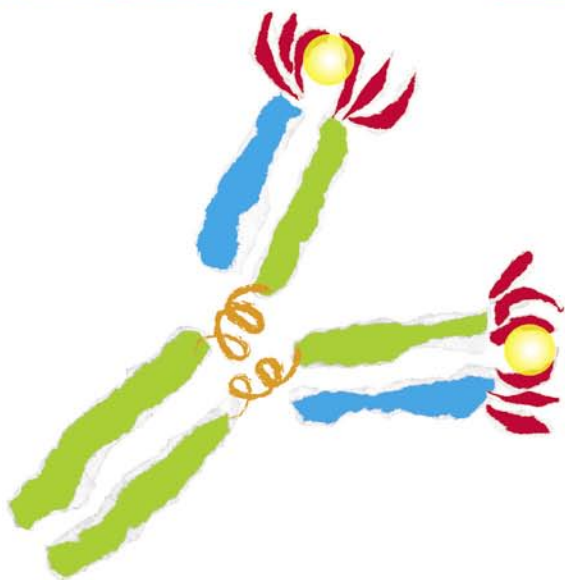
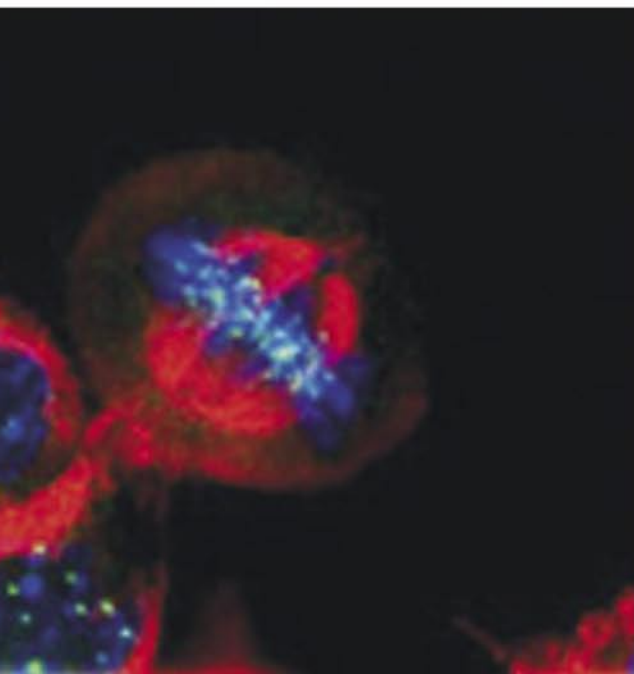
> two color westerns

> immunohistochemistry

> two color in-gel westerns

> protein phosphorylation

> immunofluorescence

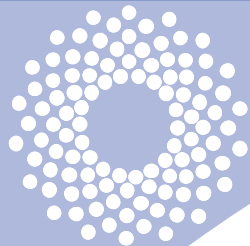


 **ROCKLAND**  
**Immunochemicals**

Phone: 800-656-ROCK  
Fax: 610-367-7825  
Email: [info@rockland-inc.com](mailto:info@rockland-inc.com)  
Website: [www.rockland-inc.com](http://www.rockland-inc.com)

Shop online at  
[www.rockland-inc.com](http://www.rockland-inc.com)





# MEETINGS Calendar

## ASCB

### Annual Meetings

**2006**

**San Diego  
December 9-13**

**2007**

**Washington, DC  
December 1-5**

**2008**

**San Francisco  
December 13-17**

**2009**

**San Diego  
December 5-9**

**2010**

**Washington, DC  
December 11-15**

**2011**

**Denver  
December 3-7**

**March 8-10, 2006. Bethesda, MD**

Cell Line Identification and Authentication lecture/lab course. Sponsored by Foundation for Advanced Education in the Sciences at the NIH. [www.biotrac.com](http://www.biotrac.com).

**April 3-7, 2006. Bethesda, MD**

Animal and Human Cell Culture lecture/lab course Sponsored by Foundation for Advanced Education in the Sciences at the NIH. [www.biotrac.com](http://www.biotrac.com).

**March 15-19. Lake Tahoe, CA**

Third International Conference on Structural Analysis of Supramolecular Assemblies by Hybrid Methods. [www.burnham.org/hybridmethods2006/](http://www.burnham.org/hybridmethods2006/).

**April 30-May 4. Barcelona, Spain**

European Symposium of the Protein Society. [www.proteinsociety.org](http://www.proteinsociety.org).

**May 2-3. Bethesda, MD**

Bone Quality: What Is It and Can We Measure It? [www.asbmr.org/bonequality.cfm](http://www.asbmr.org/bonequality.cfm).

**May 16-17. Bethesda, MD**

Cellular Niches Workshop sponsored by NIDDK/NIH/DHHS. <http://cellularniche.niddk.nih.gov>.

**May 23-25. Charlottesville, VA**

Morphogenesis and Regenerative Medicine Symposium at the University of Virginia. [www.morphogenesis.virginia.edu](http://www.morphogenesis.virginia.edu).

**June 5-9. Atlanta, GA**

American Society for Microbiology General Meeting. [www.asm.org](http://www.asm.org).

**June 10-22. Vancouver, BC**

Eleventh Annual International 12-Day Short Course on 3D Microscopy of Living Cells. Applications due March 15. [www.3dcourse.ubc.ca/application.htm](http://www.3dcourse.ubc.ca/application.htm).

**June 24 -26. Vancouver, BC**

Tenth, Post-course Workshop on 3D Image Processing. Applications due March 15. [www.3dcourse.ubc.ca/application.htm](http://www.3dcourse.ubc.ca/application.htm).

**July 13-17. New York, NY**

Second International Symposium on Triglycerides, Metabolic Disorders and Cardiovascular Diseases. [www.lorenzinifoundation.org/](http://www.lorenzinifoundation.org/).

**July 15-18. Boston, MA**

Stem Cell Niches. ASCB Summer Meeting. [www.ascb.org](http://www.ascb.org).

**July 20-23. Atlanta, GA**

The Cell Biology of HIV-1 and Other Retroviruses. ASCB Summer Meeting. [www.ascb.org](http://www.ascb.org).

**September 1-5. Muensterschwarzach Abbey, Germany**

The Wilhelm Bernhard Workshop-19th International Workshop on the Cell Nucleus. [www.zeb.biozentrum.uni-wuerzburg.de/](http://www.zeb.biozentrum.uni-wuerzburg.de/). ■



THE AMERICAN  
SOCIETY FOR  
CELL  
BIOLOGY

8120 Woodmont Avenue  
Suite 750  
Bethesda, MD 20814-2762

Non-profit  
Organization  
US Postage  
**PAID**  
Bethesda, MD  
Permit No. 356