Is this the first ASCB Newsletter that you’ve received since December?

There's a reason for that—we haven't received your membership renewal dues! Go to www.ascb.org, click on “Membership,” and renew your membership today!

Is this the first ASCB Newsletter that you’ve received?

See page 25 for more information on what ASCB can offer you and how you can join today! ASCB members can submit abstracts, enjoy discounted registration to ASCB meetings, and much more.
FEI Life Sciences
The premier provider of 3D ultrastructural imaging solutions for the life sciences.

The Tecnai Spirit TEM
With the ease of a light microscope, The Tecnai™ Spirit TEM allows for the imaging of biological systems with the resolution needed to answer crucial biological questions. By automating 2D and 3D image acquisition, reconstruction, and visualization procedures, the Tecnai Spirit TEM ensures repeatable, high-quality results.

Visit FEI.com/TecnaiSpirit for more information and a list of specific publications empowered by the Tecnai Spirit TEM.

Free Life Sciences Webinars
Learn about the latest tools for Life Science research and how FEI’s electron microscopy solutions are being used around the world. Current webinars: Bridging the Gap Between Light Microscopy and Electron Microscopy, High-throughput 3D Cellular Imaging, Cryo Transmission Electron Microscopy, and Introduction to Electron Microscopy in the Life Sciences.

Visit FEI.com/Webinars for more information and to register.

Negative stain preparation of rota virus.
Nerve biopsy from a patient with a peripheral neuropathy.
One of the things that I love most about my life is the opportunity to meet people from different countries and backgrounds driven by a shared passion for science and biology. In fact, I can think of few other jobs that come with the same freedoms of thought, creativity, and expression as those available to scientists. Add to that the pleasures of interacting with often highly unconventional and imaginative colleagues. So while the challenges of our work sometimes seem insurmountable, the many pleasures make the stresses and pressures worthwhile.

**Annual Meeting Offers Stimulation, Inspiration**

Where can you interact with colleagues and be sure to find stimulation and inspiration? At the 49th ASCB Annual Meeting in San Diego this December. In fact, the meeting may well count among the highlights of your year. Anahi Molla Herman, a 2008 ASCB Travel Awardee, says that attending the ASCB meeting was “the best experience I ever had during my Ph.D. studies.” Herman is a Ph.D. candidate, Department of Infectious Diseases, Institut Cochin, in Paris.

Attending from across the world, Minh Le, Ph.D. candidate, Department of Computation and Systems Biology, Singapore-MIT Alliance, found similar stimulation. The 2008 ASCB Travel Awardee adds: “This is the best conference I have been to. I found many interesting topics to learn, well-organized and simulating discussion during the talks, and a lot of useful information for career development.”

The ASCB Annual Meeting is a rich source of ideas, peer support, postdoctoral opportunities, possible collaborators, mentorship, and career development tools. In fact, I’m convinced that its breadth, depth, educational value, and opportunities for networking are incomparable.

Jing Jin, another 2008 ASCB Travel Awardee, agrees: “I enjoyed the diversity of research fields covered at the 2008 ASCB Annual Meeting, and the opportunity to learn various new techniques at workshops. Attending the meeting not only broadened my perspectives, but also brought me a lot of ideas for my current project and future career development.” Jin is a postdoctoral fellow, Section of Microbial Pathogenesis, Yale University School of Medicine.

If you come with the right attitude and energy, then you are in for a mind-altering experience. The key is to be both well prepared and flexible. Create a plan that includes talks and workshops in your area of research, but also leaves time for sessions that cover new ground and will expand your repertoire of techniques. That’s what Yuting Sun did. The 2008 Travel Awardee naturally enjoyed the scientific interactions in the session she spoke in. “Furthermore, I was… thrilled by the diversity of the topics offered, and enjoyed many sessions that were not in my field at all, such as information technology for cell biology,” she continued. “Attending the ASCB meeting expanded my horizons. I think attending such a meeting at the late stage of my graduate training has definitely helped a lot in determining my career plans.” Sun is a postdoctoral fellow, Department of Molecular Biology, Genentech.

Of course, you don’t have to be a graduate student or postdoc to be inspired by the ASCB Annual Meeting. More seasoned folk are in for a treat too. This year selections by Program Committee Chair Vann Bennett and his committee guarantee a rich and varied experience for all. Bennett is an unconventional and highly creative scientist. He has greatly stimulated my own way of thinking. Now, he and his committee will do the same for you in a superb array of Symposia, Minisymposia, Working Groups, and Workshops. Together, these events will offer a wide range of cutting-edge results and new ideas that will, we hope, blow your mind! I know that your thinking will change.

That’s what Kristopher Lee Schmidt, Ph.D. candidate, Department of Biology
ASCB NEWSLETTER SEPTEMBER 2009

and Biochemistry, Simon Fraser University, and Department of Biology, Trinity Western University, found last year: “While the ASCB meeting had a fair deal of C. elegans representation, it also provided a broad view of the current important topics and themes in cell biology, getting me to think outside the ‘model system’ box. The ASCB meeting also had a strong focus on translational research, clearly showing how, given a little creativity and cooperation, the day-to-day grind of the scientific pursuit can really pay off.” Schmidt was also a 2008 ASCB Travel Awardee.

Annual Meeting Furthers Collaboration, New Thinking

The biggest “secret” to a great experience is to come with an open mind. Be prepared to join in the discussions, go out of your way to meet other participants, and you may strike up collaborations that will last a lifetime. It didn’t take Anahi Molla Herman long to find a collaborator:

“I had extremely interesting discussions… which let me construct a professional network that has allowed me to develop new collaborations,” she recalls. “Indeed, I am currently finishing my Ph.D., working on a paper in collaboration with an Irish group I met at the ASCB.”

Networking and getting valuable feedback on your work from leaders in the field are everyday experiences at the ASCB Annual Meeting. Herman notes that she met all the people she admired in her field, along with fellow students from around the world. 2008 Travel Awardee Charles Peter Xavier reports that the Annual Meeting “was a great experience to learn about a lot of new, exciting research by a huge number of researchers throughout the world. It was also a good platform to share and initiate new collaborative work.”

Annual Meeting Furthers Career Development

The first meeting events are devoted to special interest workshops and mentoring sessions (see Saturday sessions on page 17). 2008 Minorities Affairs Committee (MAC) Travel Awardee Marc J. Carmichael explains the value of these opening career-focused sessions: “The MAC sessions, poster presentations, and meeting activities all offered opportunities to network. As a Ph.D. candidate about to defend my dissertation … it was extremely valuable for me to have so many opportunities to connect with individuals who shared their insights on the potential path forward after I earn my Ph.D.” Carmichael is a Ph.D. candidate, Biomedical Engineering, Joint Graduate Program of Rutgers University and University of Medicine and Dentistry of New Jersey.

The undergraduate poster session is a great opportunity for undergrads, as is the reception following. And on Saturday you’ll also find a special session—food and drink provided—for first-time attendees. I’ll be there with Vann and other Society leaders. Experience the buzz!

Annual Meeting Spotlights Science

Six o’clock pm on Saturday, December 5th, brings the opening Keynote Symposium. This year the speaker is Rudolph Jaenisch. He’ll talk about “Stem Cells, Pluripotency, and Nuclear Reprogramming”—topics in which he has made pioneering contributions. This promises to be an exciting and stimulating start to the scientific program.

The following day marks an experiment in programming to showcase an even more diverse range of topics than previously. There are eight concurrent Minisymposia in the morning and two concurrent Symposia in the afternoon, Sunday through Tuesday. One Sunday Symposium covers the cell biology of human genetic disorders, with Christine Petit, Val Sheffield, and Chris Walsh—all world-class leaders and great speakers. Or learn about the dynamics of cell organelles from Jennifer Lippincott-Schwartz, Jodi Nunnari, and Jonathan Weissman—another wonderful lineup of speakers!
After each Symposium students and postdocs can meet with speakers for a “Question and Answer” session. Meeting leaders “up close and personal” is one of the reasons the ASCB Annual Meeting is so memorable. If you are a student, please don’t be shy; attend and speak up. Most speakers are delighted by the opportunity to talk with students and attract a postdoc to their lab.

Poster sessions begin on Sunday. It’s worth putting considerable effort into designing and preparing your poster to showcase your research. For expert advice, see websites from Colin Purrington (www.swarthmore.edu/NatSci/cpurri1/posteradvice.htm) and Kathryn Tosney (www.bio.miami.edu/ktosney/file/PosterHome.html). You can elicit constructive feedback about your work and sell your ideas at your poster. Sometimes animated discussions nucleate around a poster; you may meet potential collaborators there (and blow away the competition!)

2008 Travel Awardees Maria Apostolopoulou, Jacob Morville Schrøder, Viviana Cremasco, and Katherine Moynihan speak highly of the value of poster participation and networking.

Apostolopoulou, a Ph.D. candidate, Department of Biology, Rensselaer Polytechnic Institute, notes she “had the chance to interact with a lot of leading scientists in the field and have them evaluate my research.” Schrøder, a Ph.D. candidate, Department of Biology, University of Copenhagen, concurs: “To meet and present your work among fellow students and leading scientists can generate fruitful discussions that will help advance your project as well as your scientific network.”

Cremasco echoes the thought, noting the valuable insights into her research that she gained. Not surprisingly, “attending the meeting was certainly one of the most formative experiences during my scientific training,” she says. Cremasco is a graduate student, Department of Orthopedics, Washington University School of Medicine.

Moynihan notes that she not only enjoyed the interaction with investigators, she came away with new techniques, along with new ideas. Moynihan is a graduate student, Department of Cell and Developmental Biology, Vanderbilt University.

Annual Meeting Features Leaders and Fun

Symposia cover the topics of stem cells (Ruth Lehmann, Amy Wagers, and Marja Timmermans), mechanisms of cell division (Abby Dernburg, Jan Lowe, and Andrea Musacchio), morphogenesis (Suzanne Eaton, Mark Krasnow, and Olivier Pourquié), nuclear dynamics (Bob Goldman, Bas van Steensel, and Wim Vermeulen), and cutting-edge microscopy (Toshio Ando, Stefan Hell, and Xiaowei Zhuang). The speakers are not only outstanding leaders in their fields, they’re great presenters too.

Also not to be missed are Ron Vale, who will present the Keith Porter Lecture, and Peter Walter, who will receive the E.B. Wilson Medal. Interactive Working Groups will raise fundamental questions about the nature of life, the Golgi, and the cell biology of disease.

As Sushmita Pahari, graduate student, Department of Infection and Immunity, National Centre for Cell Science, India, recalls, our “remarkable” meeting features not only “many excellent talks by scientists in diverse areas,” but also “noteworthy vendor exhibitions [and] tutorials….” So do plan to drop by the Exhibit Hall and the tutorials.

In the end, however, the meeting is not just about the science. Networking is a critical activity for scientists, and socializing is a great way to build friendships and meet collaborators. If you’re a graduate student or postdoc, join the ASCB Facebook group created just for you. If you’re looking for a job, consider our LinkedIn group and visit our Career Center in San Diego. (Note: Our online Job Board is expanding soon.)

Gay, lesbian, and transgender attendees and members are invited to join a special ASCB Facebook group too. (For these social media opportunities, visit the ASCB home page at www.ascb.org.)

Don’t forget: The ASCB Annual Meeting offers unique ways to have fun and enjoy science. Learn about Celldance and CellSlam (organized by ASCB staff and the Public Information Committee). Consider entering these extraordinary contests (see page 14). And come to San Diego to indulge your passion for science and your appetite for new ideas and experiences. See you there!

Comments are welcome and should be sent to president@ascb.org.
Detaching ADHERENT, CLUMPY Cells?

DON’T USE TRYPSIN!

Less Steps! Less Time! Less Cell Loss!

With

Accutase

Cell Detachment Solution

Typical Cell Passage Using
Trypsin

Remove Media
Rinse Flask with DPBS
Add Trypsin
Watch carefully so cells aren’t dissolved
Add trypsin inhibitor
Centrifuge 5-10 minutes
Discard supernatant & resuspend with media
Count and split cells
Dilute with media

Typical Cell Passage Using
Accutase

Remove Media
Add Accutase
Check for complete cell detachment
Count and split cells
Dilute with media

• Comparably Priced to Trypsin
• Detaches Adherent Cells in Minutes
• Gentle Cell Detachment for Maximum Cell Viability
• Does Not have to be Aliquotted
• Effortlessly Detaches most Cell Types including Embryonic Stem Cells and Neurospheres

Call or Email for a Free Sample

Manufactured & Sold by:
Innovative Cell Technologies, Inc.
6790 Top Gun St., Suite 1, San Diego, CA 92121
Tel: (858) 587-1716 • Fax: (858) 453-2117
http://www.innovativecelltech.com
info@innovativecelltech.com

No Pigs In Our Products
CENP-H–containing Complex Facilitates Centromere Deposition of CENP-A in Cooperation with FACT and CHD1
Masahiro Okada, Katsuya Okawa, Toshiaki Isobe, and Tatsuo Fukagawa

The centromere-specific histone H3 variant CENP-A plays a central role in specifying the locus where the centromere is constructed. Thus defining the mechanisms by which CENP-A is specifically deposited to centromeric chromatin will provide valuable insight into how the centromere is specified. The authors previously identified the CENP-H–containing complex and showed that it is required for targeting nascent CENP-A to centromeres. Here they show that the histone chaperone FACT localizes to centromeres in a manner that is dependent on the CENP-H–containing complex. In knockout cell lines for SSRP1, a subunit of FACT, centromere targeting of newly synthesized CENP-A is severely inhibited. The ATP-dependent chromatin remodeling factor CHD1 also associates with centromeres through direct binding to SSRP1. RNAi knockdown of CHD1 leads to a decrease in the amount of centromere-localized CENP-A. These findings indicate that the CENP-H–containing complex facilitates centromere-specific deposition of newly synthesized CENP-A by recruiting the chromatin-remodeling factors FACT and CHD1 to centromeres.

Pericentromeric Sister Chromatid Cohesion Promotes Kinetochore Biorientation
Tessie M. Ng, William G. Waples, Brigitte D. Lavoie, and Sue Biggins

Faithful chromosome segregation requires sister kinetochores to make bioriented attachments to microtubules from opposite poles. An essential regulator of biorientation is the Ipl1/Aurora B kinase, which destabilizes improper microtubule–kinetochore attachments. To identify novel biorientation pathways, the authors isolated mutants sensitive to reduced Ipl1 activity. One of the mutants was which destabilizes improper microtubule–kinetochore attachments. To identify novel biorientation mechanisms, the authors isolated mutants sensitive to reduced Ipl1 activity. One of the mutants was Ipl1/Aurora B kinase, which destabilizes improper microtubule–kinetochore attachments. To identify novel biorientation pathways, the authors isolated mutants sensitive to reduced Ipl1 activity. One of the mutants was Ipl1/Aurora B kinase, which destabilizes improper microtubule–kinetochore attachments. To identify novel biorientation mechanisms, the authors isolated mutants sensitive to reduced Ipl1 activity. One of the mutants was Ipl1/Aurora B kinase, which destabilizes improper microtubule–kinetochore attachments. To identify novel biorientation mechanisms, the authors isolated mutants sensitive to reduced Ipl1 activity.

Transportin Regulates Major Mitotic Assembly Events: From Spindle to Nuclear Pore Assembly
Corine K. Lau, Valerie A. Delmar, Rene C. Chan, Quang Phung, Cyril Bemis, Boris Fichtman, Beth A. Rasala, and Douglass J. Forbes

Importin β Regulates the Seeding of Chromatin with Initiation Sites for Nuclear Pore Assembly
Asaf Rotem, Rita Gruber, Hagai Shorer, Lihi Shaulov, Eugenia Klein, and Amnon Harel

Shuttling nuclear transport receptors mediate nucleocytoplasmic traffic through nuclear pore complexes (NPCs). Importin β, the best studied receptor, is also a key regulator of cell cycle events from mitotic spindle assembly to nuclear envelope fusion and NPC assembly. Now, Lau, Delmar et al. show that a second import receptor, transportin, regulates the same set of mitotic assembly events, including spindle assembly. Both transportin and importin β are seen to negatively regulate the earliest known step in NPC assembly, the seeding of chromatin with the critical proteins ELYS and the Nup107-160 complex. Indeed, the two import receptors bind directly to the C-terminus of ELYS. Rotem, Gruber, Shorer et al. focus on the chromatin seeding step and its regulation by importin β. Importin β is shown to form a high molecular weight complex with both ELYS and Nup107-160, preventing them from binding chromatin. Seeding sites consisting of ELYS and the Nup107-160 complex are formed along the topmost ridges of the chromatin landscape and can be visualized by immunolabeling and high-resolution scanning electron microscopy.

Distinct Roles for Key Karyogamy Proteins during Yeast Nuclear Fusion
Patricia Melloy, Shu Shen, Erin White, and Mark D. Rose

Yeast cells never break down their nuclear envelopes. After cells mate, the two nuclei must move together and fuse (karyogamy) to form the diploid nucleus. Like mitochondria, nuclei are surrounded by two membranes, the inner and outer nuclear envelopes, both of which must fuse correctly. Previously, the authors showed that nuclear envelope fusion occurs in two steps, with outer membrane fusion preceding inner membrane fusion. Using electron tomography and live cell studies, the authors have examined the roles of different karyogamy genes and find that they block at different steps of fusion. Mutation of an outer nuclear envelope protein, Prm3p, blocked prior to initiation of outer membrane fusion. Mutation of an integral membrane protein, Kar5p, blocked dilation of the initial fusion pore. Finally, mutations in the lumenal HSP70 chaperone Kar2p and its co-chaperone Kar8p blocked inner membrane fusion. Thus the proteins mediate different steps in the pathway of nuclear fusion, consistent with their locations.
The world’s first self-contained laser scanning confocal microscope.

And the most convenient.

FluoView® FV10i

A self-contained confocal microscope that allows simple, stress-free operation (even for first-time users), the all-new FV10i can be installed anywhere, with no need for a darkroom. Couple that with advanced optical performance that delivers high-definition confocal images, and you’ve got the ultimate combination of quality and convenience.

See more than ever before with the FluoView® FV10i. Call 800-446-5967 or visit olympusamerica.com/FV10i to schedule your free onsite demo.
Table of Contents

LETTER TO THE EDITOR
Putting the Upper-Division Cart before the Introductory Horse
Daniel J. Klionsky ................................................................. 155–156

FEATURES
From the National Academies
Effective Practices in Undergraduate STEM Education Part 1: Examining the Evidence
Jay B. Labov, Susan R. Singer, Melvin D. George, Heidi A. Schweingruber, and Margaret L. Hilton ........ 157–161

Current Insights
Recent Research in Science Teaching and Learning
Erin Dolan ................................................................. 162–164

Educator Highlight
Jo Handelsman
Interviewed by Laura L. Mays Hoopes. ........................................... 165–166

Book Review
Hello Old Friend, My How You’ve Changed!
Elisa M. Konieczko ................................................................. 167–168

Book Review
Success in Only 10,000 Hours
Desiree O. Abu-Odeh, David M. Rittenhouse, Natashay J. Bailey, Yodit A. Tesfaye, and Robin Wright .... 169–171

ESSAY
Teaching Creativity and Inventive Problem Solving in Science
Robert L. DeHaan ................................................................. 172–181

ARTICLES
Replacing Lecture with Peer-led Workshops Improves Student Learning
Ralph W. Feszler ................................................................. 182–192

Development, Implementation, and Assessment of a Lecture Course on Cancer for Undergraduates
Michèle Shuster and Karen Peterson ................................................................. 193–202

Active Learning and Student-centered Pedagogy Improve Student Attitudes and Performance in
Introductory Biology
Peter Armbruster, Maya Patel, Erika Johnson, and Martha Weiss ................................................................. 203–213

Using Affinity Chromatography to Investigate Novel Protein–Protein Interactions in an Undergraduate Cell
and Molecular Biology Lab Course
Kenneth D. Belanger ................................................................. 214–225

Analysis of Students’ Aptitude to Provide Meaning to Images that Represent Cellular Components at the
Molecular Level
Hassen-Reda Dahmani, Patricia Schneeberger, and IJsbrand M. Kramer ................................................................. 226–238

Providing Undergraduate Science Partners for Elementary Teachers: Benefits and Challenges
Camille A. Goebel, Aminata Umoja, and Robert L. DeHaan ................................................................. 239–251

Cloning the Professor, an Alternative to Ineffective Teaching in a Large Course
Jennifer Nelson, Diane F. Robison, John D. Bell, and William S. Bradshaw ................................................................. 252–263

CORRECTION
Minimal Impact of Organic Chemistry Prerequisite on Student Performance in Introductory Biochemistry
Robin Wright, Sehoya Cotner, and Amy Winkel ................................................................. 264
## New Meeting Format!

Two concurrent symposia will be held each afternoon, Sunday through Tuesday, December 6–8, from 4:00 pm–5:30 pm, and a special closing symposium will be held on Wednesday, December 9, from 11:00 am–12:30 pm. Seven minisymposia and one working group will be scheduled each morning, Sunday through Wednesday, December 6–9, 2009, during the ASCB Annual Meeting. Co-chairs will select up to six speakers for each minisymposium from regular abstracts submitted by July 30, 2009. Co-chairs are encouraged to present.

## Symposium

### Sunday, December 6, 4:00 pm

#### The Human Model: Genetics as Two-Way Information
- Christine Petit
  - College de France
  - and Institut Pasteur
- Val Sheffield
  - University of Iowa
  - HHMI
- Christopher Walsh
  - Harvard Medical School/Children’s Hospital Boston/HHMI

#### Under the Hood of the Cell: Dynamic Organelles
- Jennifer Lippincott-Schwartz
  - National Institute of Child Health and Human Development, NIH
- Jodi Nunnari
  - University of California, Davis
- Jonathan S. Weissman
  - University of California, San Francisco/HHMI

### Monday, December 7, 4:00 pm

#### All You Can Be—The Biology of Multipotency
- Ruth Lehmann
  - Skirball Institute, New York University
  - Langone Medical Center/HHMI
- Marja Timmermans
  - Cold Spring Harbor Laboratory
- Amy Wagers
  - Joslin Diabetes Center and Harvard Stem Cell Institute

#### In a Pinch: Cell Division from Prokaryotes to Sex Cells
- Abby Denburg
  - University of California, Berkeley/HHMI
- Jan Lowe
  - Medical Research Council, Laboratory of Molecular Biology
- Andrea Musacchio
  - European Institute of Oncology

### Tuesday, December 8, 4:00 pm

#### Cellular Sociology: Working Together in Morphogenesis
- Suzanne Eaton
  - Max Planck Institute of Molecular Cell Biology and Genetics
- Mark Krasnow
  - Stanford University School of Medicine/HHMI
- Olivier Pourquié
  - Stowers Institute for Medical Research/HHMI

#### Movers and Shapers: Nuclear Dynamics and Gene Regulation
- Robert D. Goldman
  - Northwestern University
- Bas van Steensel
  - Netherlands Cancer Institute
- Wim Vermeulen
  - Erasmus Medical Center

### Wednesday, December 9, 11:00 am

#### Breaking the Diffraction Barrier
- Toshio Ando
  - Kanazawa University
- Stefan Hell
  - Max Planck Institute for Biophysical Chemistry
- Xiaowei Zhuang
  - Harvard University/HHMI

---

### Keynote Symposium

**Saturday, December 5, 6:00 pm**

Stem Cells, Pluripotency, and Nuclear Reprogramming

**Rudolf Jaenisch**

Whitehead Institute for Biomedical Research and Massachusetts Institute of Technology

---

### Member-Organized Special Interest Subgroups

**Saturday, December 5, 12:30 pm–5:00 pm**

Session titles and speakers will be announced in the fall.
Minisymposia

Autophagy and Organelle Turnover
Judith Klumperman, University Medical Center, Utrecht
Beth Levine, University of Texas Southwestern Medical Center/HHMI

Cancer Cells
Erik Sahai, Cancer Research UK London Research Institute
Charles J. Sherr, St. Jude Children’s Research Hospital/HHMI

Cell and Tissue Mechanics
Dan Kiehart, Duke University
Ellen A. Lumpkin, Baylor College of Medicine

Cell Cortex and Membrane Dynamics
Buzz Baum, MRC Laboratory for Molecular Cell Biology, University College London
Doug Robinson, Johns Hopkins University School of Medicine

Cell Matrix Interactions and Signaling
Mark Ginsberg, University of California, San Diego
Erica A. Golemis, Fox Chase Cancer Center

Cell Migration
Alissa Weaver, Vanderbilt University Medical Center
Jochen Wittbrodt, University of Heidelberg and Forschungszentrum Karlsruhe

Cell Polarity
Julie Ahnert, University of Cambridge
Jeremy Nance, Skirball Institute of Biomolecular Medicine, New York University School of Medicine

Cell Senescence and Cell Death
Laura Attardi, Stanford University School of Medicine
Nika N. Danial, Dana-Farber Cancer Institute, Harvard Medical School

Cell–Cell Interaction
W. James Nelson, Stanford University
Erin Schuman, California Institute of Technology/HHMI, Max Planck Institute for Brain Research

Cellular Basis of Morphogenesis
Gail Martin, University of California, San Francisco
John Wallingford, University of Texas, Austin

Chromatin Organization and Dynamics
Asifa Akhtar, European Molecular Biology Laboratory Heidelberg
Andy Belmont, University of Illinois at Urbana–Champaign

Cilia and Centrosomes
Monica Bettencourt-Dias, Instituto Gulbenkian de Ciência Maxence Nachury, Stanford University School of Medicine

Clocks
Carl H. Johnson, Vanderbilt University
Amita Sehgal, University of Pennsylvania School of Medicine/HHMI

ES Cells, IPS Cells, and Germ Cells
Lawrence S.B. Goldstein, University of California, San Diego, School of Medicine/HHMI
Renée A. Reijo Pera, Stanford University

Functional Organization of Plasma Membranes
Benedicte Dargent, Université de la Méditerranée
Matthew Rasband, Baylor College of Medicine

Host-Pathogen Interactions
Kasturi Haldar, University of Notre Dame
Roger Innes, Indiana University

Intracellular Trafficking
Elizabeth Miller, Columbia University
Joachim Seemann, University of Texas Southwestern Medical Center at Dallas

Lipid Dynamics
Benjamin Podbilewicz, Technion–Israel Institute of Technology
Petra Schwille, Biotechnology Center (BIOTEC), Technische Universität Dresden

Mitosis and Meiosis
Jennifer DeLuca, Colorado State University
Arshad Desai, University of California, San Diego

Molecular Motors
Samara Reck-Peterson, Harvard Medical School
Linda Wordeman, University of Washington School of Medicine

Nuclear Structure
A. Gregory Matera, University of North Carolina at Chapel Hill
Lindsay Shopland, The Jackson Laboratory

Organization and Dynamics of the Cytoskeleton
James Bear, University of North Carolina at Chapel Hill
Gero Steinberg, University of Exeter

Regulation of Cell Growth
Duojia Pan, Johns Hopkins University School of Medicine/HHMI
David Sabatini, Whitehead Institute for Biomedical Research and Massachusetts Institute of Technology/HHMI

RNA Biology
Brenda Bass, University of Utah
James Eberwine, University of Pennsylvania School of Medicine/PENN Genome Frontiers Institute

Stress Responses
Richard Morimoto, Northwestern University
David Ron, Skirball Institute of Biomedical Medicine, New York University

Systems Biology
Aimée Dudley, Institute for Systems Biology
Peter K. Sorger, Harvard Medical School

The Nuclear Envelope and Nuclear Pore Complex
Beatriz Fontoura, University of Texas Southwestern Medical Center
Dirk Görlich, Max Planck Institute for Biophysical Chemistry

Undergraduate Biology Curriculum in the 21st Century
Caroline Kuo, University of California, Berkeley
Mark Rose, Princeton University

Working Groups

As an alternative to minisymposia, these sessions provide a more interactive experience for meeting attendees.

Cancer Stem Cells
Peter Dirks, Hospital for Sick Children
Franziska Michor, Memorial Sloan-Kettering Cancer Center
Sean Morrison, University of Michigan/HHMI

Cell Biology of Disease
Kevin Campbell, University of Iowa/HHMI
Michael Caplan, Yale University School of Medicine
Christine Seidman, Harvard Medical School

What Is Life?
Zac Cande, University of California, Berkeley
Nicole King, University of California, Berkeley
Norman R. Pace, University of Colorado at Boulder

What Is the Golgi?
Benjamin Glick, University of Chicago
Kathryn E. Howell, University of Colorado School of Medicine
Sean Munro, Medical Research Council Laboratory of Molecular Biology
Graham Warren, Max F. Perutz Labs

Important Dates

The ASCB 2009 Annual Meeting registration, abstract submission, and housing sites are active.

Deadlines
October 1 Early Registration
October 15 Late Abstract Submission

www.ascb.org/meetings
Illuminate biology in context—
use Molecular Probes®
fluorescent dyes and probes

Visit www.invitrogen.com/probes to learn more about the latest Molecular Probes® technologies for cellular analysis, including:

→ Organelle Lights™ and Cellular Lights™ reagents—easy, efficient delivery of fluorescent protein constructs
→ Qdot® nanocrystals—single-excitation multiplexing—now available as primary antibody conjugates
→ Click-iT® EdU assays—superior cell proliferation analysis
→ APEX™ antibody labeling kits—directly label small amounts of antibody
→ WesternDot™ 625 western blot kits—fast, simple western analysis detection

Get fast access to information about popular products, such as Alexa Fluor® dyes, and to a variety of technical and educational resources. Discover how the uniquely powerful Molecular Probes® labeling and detection technologies can help you get the results you need.
Dear Labby,

Last year you discussed the nuances of poster presenting. As this year’s ASCB Annual Meeting approaches, I would like your advice on how to get the opportunity to ask a question at minisymposia as well as what makes a good question altogether. I am a first-year graduate student and have asked questions occasionally at seminars but never at a big meeting. I am especially concerned about asking something obvious, or worse. Are there some general guidelines you can suggest?

—Questioning Questions

Dear Questioning Questions,

The first step is to arrive early and scope out the room. Sit near the front (the first row works nicely) and on the aisle, very near a floor microphone. (Sit near the aisle too if it appears that runners will bear microphones.) As the talk ends, go to a floor mike (or raise your hand) while the applause is under way (or even when an acknowledgment slide is showing). Don’t worry. No one will consider this overly aggressive.

Plan to be VERY brief and VERY focused. Avoid platitudes (no one cares whether or not you thought it was a great talk, and there are very few “great talks” in any case, only about one per decade). Leave clarification issues to a one-on-one with the speaker. In general, don’t inquire about whether certain follow-up experiments have been done or are under way; most likely they have been and it is a bit demeaning to imply the speaker hasn’t thought of them (and also labels you as somewhat naïve).

Very, very few questions asked at a meeting are simply a sober solicitation of information. Rather, they carry a dialectic element. It is the essence of science that we spar, joust, and make our thoughts and ourselves known. (At the faculty level, we are called professors because, presumably, we have something to profess.) Thus, the best questions are those that raise a point that is reasonably (or very) original. Obviously, this requires considerable knowledge of the subject and a mind that thinks outside the box. (The philosopher John Stuart Mill said “Genius is the ability to perceive analogies.”) Even if you are rather sure you have such a point to offer, phrase it as “I wonder if it could be that …?” rather than “Have you considered the possibility…?”

A general category of questions seeks to reconcile a talk with previous work not mentioned, and here a succinct format is best, such as: “How do these results relate to those published last year by Firstrike and colleagues?” Your phrasing can raise the temperature, or keep it cool. Thus, “Your results don’t fit with…” is less skillful than “How then can we integrate your results with…?” The latter, in turn, is a bit sharper than “I’m trying to think if there may be a way to reconcile your findings with those of Firstrike et al.”

Of course, these are just examples. An overarching rule is that if you have any doubt that your question is interesting or useful (hopefully not mutually exclusive), ask it of the speaker later rather than from the floor. A final matter of etiquette: Ration your questions in a session. Even if your questions are consistently quite good (or good), it is only fair to let others have their turn. Also bear in mind that the odds of a question misfiring (e.g., “The very point you’re suggesting about the dynamics was in the slide on the FRAP experiments; the diffusion coefficient for the two conditions was in the inset.”) increases with the number asked.

—Labby

Direct your questions to 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.

Did You Know…?

You’re not too late to register for the ASCB Annual Meeting at the discounted early registration rates! Deadline for early registration is October 1. After that, you can still register for the meeting, but at higher registration rates. Go to www.ascb.org/meetings and register for the meeting today.

The ASCB Annual Meeting Late Abstract Submission deadline is October 15. If you haven’t submitted your abstract yet, you still have time. Remember, sponsorship of the abstract is required.

■ All current members, and member-applicants, may sponsor their own abstract.

■ All regular, postdoctoral, and emeritus members may sponsor another person’s abstract if they are not submitting one themselves.

If you have nonmembers in your lab who want to submit an abstract, now is the time to encourage them to join the ASCB. Not only will member-applicants be able to sponsor their abstract, they will be eligible for the discounted member-only registration rate as well. For more information, go to www.ascb.org and click on “Membership.”

The deadline for hotel reservations for the ASCB Annual Meeting is November 10. Book your room now at the special discounted rates. Go to www.ascb.org/meetings for details.

See you in San Diego!
This is no knock on the seriousness of those heading, poster tube in hand, for the ASCB’s 49th Annual Meeting, but it has not escaped the attention of registrants from colder or cloudier climates that there are worse places to be than San Diego in December. Still, the quandary facing attendees is not to choose between soaking up the science and soaking up the sun and/or fun. It’s how to do both.

The ASCB Annual Meeting, December 5–9, 2009, at the San Diego Convention Center, will be this year’s largest gathering of research cell biologists in the world. Great will be the wisdom, powerful the data, and useful the career connections offered. But there’s another side to the ASCB meeting. San Diego will bring the fun side into its sharpest focus. We suggest that you bring your sunglasses, smart phone, and a large padded envelope.

Put your sunglasses on the top of your head or hat. In San Diego, that’s both practical and cool. Take your phone and a large padded envelope with you into the Exhibit Hall, with its mixture of dazzling scientific wares and long alleys of poster presentations.

The poster presentation lanes at ASCB are scientific democracy in action. Here the most senior and most junior scientists rub elbows, exchanging comments and connections. Here an undergraduate can find herself explaining her work to a member of the National Academy of Sciences or even a Nobel Prize winner. “The ASCB poster sessions are like walking around in a city and bumping into the most amazing people.” That’s how one ASCB member describes the accessibility. Poster people should have their smart phones ready to swap numbers and email addresses.

Six-Figure Shopping

Over in the Exhibit Hall, have your meeting badge out so it can be scanned by exhibitors who’d love to send you further information and samples. Exhibitors don’t seem to mind if you’re not really in the market for a six-figure microscope just then; they just want to convince you that this is the one you would buy, if and when you could. And who knows? Someday you may. There is nothing half so much fun as shopping for something expensive that you can’t remotely afford at the moment. At ASCB, it’s a perfectly acceptable activity.

The exhibit booths are also a great source of loot—three-ink pens, holographic mouse pads, and wall-sized posters of famous molecular pathways. Here’s where the padded envelope comes in. The socially aware can turn the Exhibit Hall into a science education outreach effort: Fill your bag with the strangest science stuff you can find and give it (or mail it) to someone under 12 who might be interested in biology. Or bring it to your next elementary or middle school visit as Exhibits A, B, and the rest of the alphabet.

Altruism can have its own rewards. If you’re spotted enjoying yourself at an exhibitor’s booth, you could be the winner of a Random Offers of Conference Kindness (an “I got ROCK’d”) gift bag, to be handed out by undercover ASCB staffers.

If this is your first meeting, don’t miss the early reception on the first night before the Keynote Symposium. At 5:00 pm on Saturday, December 5, ASCB leadership and staff are on hand to give you a preview of what’s ahead. Good eats, too. Those interested in either dancing or the sociology of science should flock to the Opening Night Reception on Saturday, December 5. This event will follow hard on the heels of the Keynote Symposium, which, in turn, starts at 6:00 pm. The Opening Night Reception will feature food, drink, and an interesting choice between a West Coast school DJ (in one corner), and a scrum of famous scientists (in the other). Among the milling scientists, you can pick out name badges known to you largely from high-impact citation indexes. Introduce yourself. Here, noted cell biologists exhibit their friendly phenotype.

Irreproducible Results

Cell biologists? Funny? That is the experimental question behind CellSlam, the ASCB Public Information Committee’s improbable, stand-up, juried science “slam” competition. It returns for its fourth attempt at data collection as “CellSlam 2009: The Hitchhiker’s Guide to Cell Biology.” This year, it’s on a new day—Monday, December 7—and a new time—7:15
pm–8:15 pm. Last year’s CellSlam in San Francisco attracted a judging panel of distinguished science journalists and two Nobel Prize winners. They all watched open-mouthed as doctors of philosophy rapped, sang, recited, and did schtick. The judges’ verdict? CellSlam has to be seen to be believed.

Another must-see is the winners’ reel from Celldance 2009, the ASCB’s cell biology film and image contest. The Celldance awards ceremony is set for 3:30 pm, Tuesday, December 8, at the ASCB Booth in the center of the Exhibit Hall. This year’s Celldance will feature a special category for “Science Outreach” films and a separate “stills” contest for micrographs. Nine hundred spectators turned up last year to see the winners announced and the cash prizes awarded. It being San Francisco, many were wearing fleeces and carrying poster tubes. This year being San Diego, many will be in flip-flops and carrying poster tubes. It’s that sort of meeting.

—John Fleischman

What Does ASCB Membership Mean to You?

Please tell us in 70 words or less for possible use on the ASCB website, or in emails, or the ASCB Newsletter. Send an email to Thea Clarke at tclarke@ascb.org by September 21 and we’ll send you a free t-shirt (sizes limited).

Second Annual “I Got ROCK’d at ASCB!”

We’re calling them “Random Offers of Conference Kindness” or “ROCK,” and you could be a random beneficiary if you’re spotted browsing the Exhibit Hall at the ASCB Annual Meeting by one of our incognito ROCK spotters. They’ll be giving away conference gift bags during the meeting. Each bag of goodies is marked with an “I GOT ROCK’d” sticker, including a ribbon.

“The ASCB conference is really well organized, and the talks were of high quality and inspiring. It is also a good opportunity to interact with people coming from different places.”

—Chi-Ping Chan, Ph.D candidate Department of Biochemistry, University of Hong Kong

Exclusive Savings. Without the firewall.

ASCB members could get an additional discount on car insurance.

Get a free quote today.

geico.com

2009 Celldance ASCB Cell Film Contest

The Wizard of Arp

2009 Celldance ASCB Cell Film Contest

“Over the Membrane”

“Follow the Yellow Brick Cytoskeleton”

Hear your favorite songs!

*2/3

“arps” arps

2009 Celldance ASCB Cell Film Contest

2009 Celldance ASCB Cell Film Contest

“We’re Off to See the Golly”

2009 Celldance ASCB Cell Film Contest

American Society for Cell Biology 49th Annual Meeting December 5–9, 2009 San Diego, California

NEWSLETTER
It’s a crime to waste your time looking for antibodies!

Let our AntibodyDetectives® find the antibodies for you!

- Our aim is to give you a complete and personalized answer within 24 hours.
- If we cannot supply the antibody of your choice directly, we will be happy to recommend a supplier who can.
- It’s FREE OF CHARGE! So come back and use our service as often as you want.

www.abdserotec.com/ADS
When making your plans to attend the 2009 ASCB Annual Meeting, remember to arrive early, so you don’t miss these Saturday events:

**Minorities Affairs Committee Mentoring Symposium and Poster Session**
9:00 am–4:00 pm: A full day of events is open to all, although space is limited, so register early. It starts with a Mentoring Keynote, followed by a workshop, presentation, and a poster session competition and reception. For details, see page 29.

**Member-Organized Special Interest Subgroups**
12:30 pm–5:00 pm: Choose from 15 concurrent sessions offering a wide range of popular topics. Speakers, titles, and session information will be available at www.ascb.org/meetings by October 15, and in the online Annual Meeting Program approximately one month before the meeting.

**International Affairs Committee (IAC) Roundtable Lunch**
12:00 Noon–2:00 pm: By invitation only, U.S. and international graduate students and postdocs will discuss issues of concern and meet fellow trainees over lunch with ASCB Council and IAC members. In case there are no-shows, other postdocs and graduate students may want to stop by at 12:15 to see if there is room to join in the discussion.

**Education Workshop**
1:30 pm–4:00 pm: “Opening the Gates to Science: Fostering Cutting-Edge Student Learning.” Free; preregistration is encouraged. For educators at the undergraduate level.

**Women in Cell Biology Committee (WICB) Workshop**
2:00 pm–3:30 pm: “Negotiation Strategies for Work and Life.” Free; preregistration is required.

**Undergraduate Program and Poster Session**
3:30 pm–5:45 pm: A talk, entitled “Worming Out Functions of Septins in Neurons,” will be followed by a poster session and reception. Free; students must register for the poster session when they register for the meeting.

**Meet the ASCB**
5:00 pm–5:45 pm: First-time meeting attendees are invited to meet the ASCB leadership and learn more about the ASCB, its membership, and the Annual Meeting.

**Keynote Symposium**
6:00 pm: “Stem Cells, Pluripotency, and Nuclear Reprogramming.”

**Opening Night Reception**
Following the Keynote, join colleagues for food and drinks (free buffet and cash bar) and dancing to the tunes of a great DJ.

For more details about all of these events, go to www.ascb.org/meetings/program.cfm.
BioScope Catalyst AFM
Accelerate Discovery

Visualize More
Combine tag-less, 3D imaging with existing fluorescence techniques

Discover More
Interact with samples to quantitatively measure binding forces or membrane elasticity

Uncompromised Integration of Atomic Force Microscopy and Light Microscopy

Find out how to accelerate your discovery at www.veeco.com/catalyst
Inspiration for Educators

Are inspiration and ideas on how to improve teaching of interest? ASCB has planned a variety of programs with you in mind. In addition, your high school or undergraduate students may want to attend events designed specifically for them.

- Education Minisymposium: “Undergraduate Biology Curriculum in the 21st Century,” co-chaired by Caroline Kane, University of California, Berkeley, and Mark Rose, Princeton University, on Wednesday, December 9. Representatives of major educational initiatives will explain how they are changing the curriculum to help students learn better.

- Education Workshop: “Opening the Gates to Science: Fostering Cutting-Edge Student Learning,” Gregory Light and Denise Drane, Northwestern University, on Saturday, December 5. Topics aimed at undergraduate educators will include how to advance cutting-edge student learning, promote peer mentoring, engage students in conceptual problem solving and collaborative group work, foster success of underrepresented students, and develop research training.

- K–12 Science Education Workshop: “No More Eyelashes and Air Bubbles...New Ways to Use Microscopes in High School Labs,” David Epel, Department of Biological Sciences, Stanford University, and Pamela Miller, Hopkins Marine Station, Stanford University. Participants will be introduced to a Web-based microscope lab on Sunday, December 6. Afterward, participants will know how to teach students 1) to use the microscope in a timely and effective manner, 2) how to measure cells or cell structures under the microscope, and 3) how representative cells look under different modes of microscopy.

- Bruce Alberts Award for Excellence in Science Education: Hear 2009 award winners Manuel P. Berriozábal, University of Texas at San Antonio, and Toby M. Horn, Carnegie Institution for Science, discuss their noteworthy contributions to science education on Sunday, December 6.

- Education Initiative Forums: Two fascinating presentations selected from education abstracts will be held Monday and Tuesday, 3:15–3:45 pm—the time slot between major scientific Symposia.

- CBE-LSE Reception: Join this informal session on Sunday, December 7, and speak with Editorial Board members about how to publish a paper in CBE—Life Sciences Education and about assessment as the key to a successful submission.

- Educational Resources/MAC Booth: Throughout the Annual Meeting visitors can peruse recent educational materials, attend informal presentations, and speak with Education Committee members and ASCB staff.

Programs Specifically for Students and Teachers

- Undergraduate Program and Poster Session: “Worming Out Functions of Septins in Neurons,” Fern Finger, Rennselaer Polytechnic Institute. On Saturday, December 5, students will learn why worms are an ideal, simple model system in which to study functions of septins in animal development. Septin proteins found in animals and fungi are of considerable interest because human septins are implicated in cancer and neurodegenerative diseases. Links to related articles will be available online if teachers wish to prepare students for the subject. The speaker program and question-and-answer period will be followed by an undergraduate poster session, which will enable students to practice presenting their posters before their main poster presentation in the Exhibit Hall later in the week.

- High School Program: “CSI (Cell Science Investigations): Clathrin-Mediated Endocytosis,” Sandra L. Schmid, The Scripps Research Institute. Learn how the CSI team is identifying the cellular machinery required for clathrin-mediated endocytosis (rounding up the suspects) and determining their mechanism of action (modus operandi). After the talk on Sunday, December 6, teachers and students are invited to visit the Exhibit Hall. Note: Meeting registration is free for all high school teachers.

More information on all these programs is available online at www.ascb.org/meetings and will be included in the Annual Meeting Program.

—Thea Clarke
WITHOUT KNOWLEDGE,
IT’S JUST DATA

Whether you are working on a dissertation, publishing journal articles or books, collaborating with colleagues or exploring a new research direction, Thomson Reuters can help with integrated information solutions that support your research goals.

- EndNote® locates full text for your references and includes EndNote Web for sharing your library on the Web.
- Reference Manager® 12 features Microsoft® Word 2007 support and much more.
- ResearcherID, a global scholarly author community, enables you to identify your published works uniquely, view citation metrics and find collaborators.
- Web of Knowledge® delivers quality content such as the Web of Science® that provides you with crucial research data back to the 1900’s as well as a unique look at citation impact.

Stop by our booth at the ASCB 49th Annual Meeting and continue your quest for knowledge.

ASCB ◆ Booth #724
Join our Exhibitor Showcase sessions
Room 16 A/B

- Keep your publishing on the fast track with EndNote and ISI Web of Knowledge
  Sunday, Dec 6, 9:15am
- Accelerate your research from start to finish with EndNote X3
  Sunday, Dec 6, 10:15am
STUDENT & POSTDOC Programs

Highlights for Students and Postdocs

What kinds of programs can students and postdocs look forward to attending at the 2009 ASCB Annual Meeting? This year’s lineup promises something for everyone:

Especially for Undergrads

- Undergraduate Program and Poster Presentation: “Worming Out Functions of Septins in Neurons,” Fern Finger, Rensselaer Polytechnic Institute. Specifically designed for undergraduates (and their teachers), this speaker program and question-and-answer period on Saturday, December 5, will be followed by a poster session and reception. This session will enable students to practice presenting their posters before their main poster presentation in the Exhibit Hall later in the week.

For Grad Students and Postdocs

- Postdoc Presentation: “Getting Out of the Box: Transitioning to a Career Outside Academic Research.” On Sunday, December 6, panelists from a secondary educational institution, science core facility, science museum, consulting company, and technology company will offer career advice for graduate students, postdocs, and early career scientists. Plenty of time will be allotted for a question-and-answer period at the end.

- SCOPT Open Forum: All postdocs, graduate students, and early career scientists are invited to attend the first hour of the meeting of the Subcommittee on Postdoctoral Training (SCOPT) on Monday, December 7. Committee members are especially interested in feedback from attendees.

Of Interest to All

- Meet the ASCB for first-time attendees: Join ASCB President Brigid Hogan and Committee Chairs on Saturday, December 5, to learn how you can become more involved in the ASCB.

- Keynote Symposium: “Stem Cells, Pluripotency, and Nuclear Reprogramming,” Rudolph Jaenisch. Don't miss an opportunity to hear what this innovative researcher has to say on Saturday, December 5.

- Opening Night Reception: Join your colleagues in Sails Pavilion right after the Keynote Symposium on Saturday, December 5, until 10:00 pm, for food and drinks (buffet and cash bar) and dancing to the tunes of a great DJ.

- MAC Mentoring Symposium: Daylong activities sponsored by the Minorities Affairs Committee on Saturday, December 5, include a Mentoring Keynote; a session entitled, “Case Study Teaching: From the Bench to the Classroom”; a presentation geared toward undergraduate and graduate students on how certain inappropriate behaviors can sabotage career efforts; and a poster session and reception.

- Career Center: Take advantage of the ASCB’s free job posting and interview areas in the Exhibit Hall throughout the Annual Meeting. Job seekers may leave CVs, reprints of articles, requests for interviews, or other materials for recruiters.

- CellSlam: One of the most entertaining events at the Annual Meeting, CellSlam shows that cell biologists can be funny and communicate science to the general public. Judged by a panel of scientists and science journalists, each contestant will get three minutes, a mike, and no audiovisual to make a bioscience issue, concept, or discovery come alive before a live audience on Monday, December 7.

- Educational Resources/MAC Booth: Throughout the Annual Meeting, visitors can peruse recent educational materials, attend informal presentations (see Annual Meeting Program for more details), and speak with Education and Minorities Affairs Committee members and ASCB staff.

- WICB Career Discussion and Mentoring Roundtables: Participants on Monday, December 7, meet informally for roundtable discussions on issues of importance to cell biologists at various career stages. Conversations are moderated by ASCB members experienced in various professional areas or issues. Attending this session can help postdocs obtain practical information on career choices, discuss career development strategies, and network with others.
Student Corner/Postdoc Square

The ASCB will provide a meeting area with tables in the Exhibit Hall for students and postdocs. This area provides a place where you can meet up with friends or make new ones. Look for the sign in the Exhibit Hall.

Meeting Deadlines

The Early Registration Deadline is October 1; the Late Abstract Deadline is October 15.

Tell your colleagues and urge them to join the ASCB now to take advantage of the discounted registration rates and abstract submission privilege!

Better still—show them this Newsletter…it’s all right here!

Housing Pirates

It has come to our attention that some ASCB members are being contacted via phone or email asking if they need a room for the ASCB Annual Meeting and offering deep discounts. Please be advised that neither the ASCB nor the official Housing Bureau (San Diego Accommodating...YOU!) will contact you (by either email or phone) about booking hotels for the 2009 Annual Meeting in San Diego. All exhibitors and meeting attendees should book hotels through the official housing bureau at www.ascb.org/meetings. Please do NOT provide your personal information, especially your credit card number, in response to unsolicited phone calls or emails.

For more information on this topic and why it is important to book within the ASCB Housing Block, please visit www.ascb.org/meetings/housing.cfm.
How to Get the Most out of the ASCB Annual Meeting

The ASCB Annual Meeting is a monster of an event that can easily overwhelm those who have not developed personal strategies for “doing” the meeting. There are many approaches that work, and the key is to find what works for you. I’ll offer a few strategies to help you develop a personal plan so that you can avoid going home feeling frustrated and unfulfilled because you “missed the good stuff” or didn’t make hoped-for connections.

Plan Ahead—But Be Flexible

First and foremost, plan ahead. Look at the schedule and get a sense of the layout of the meeting. Notice the afternoon Symposia. These will likely be out of your area but are general talks given by some of the best in the field. You will want to attend most of these. They are the fun and easy way to keep up-to-date on some of the big developments in cell biology.

As you plan for the meeting, take time to look at the abstracts. Do some keyword searches and make a list of posters and Minisymposium talks that you do not want to miss. Don’t let this list get too long. Keep it focused on your highest priorities. Make yourself a schedule that allows you to see and hear the presentations that are most important to you. Remember: You cannot do it all. Set some clear priorities, but do not fill all of your time. Leave room to be flexible.

When putting together your personal schedule for the meeting, take a close look at the special offerings. The ASCB offers workshops and special talks sponsored by the Education, Minorities Affairs, and Women in Cell Biology (WICB) committees. (Some of these events require preregistration.) What are your career goals? Are any of these events of special value to you? Of particular note is the WICB-sponsored Career Discussion and Mentoring Roundtables, which offer an opportunity for informal discussion of topics of interest while providing an excellent opportunity for networking.

Nota Bene

Take copious notes. The volume of information that you will encounter in the few days of this meeting is phenomenal. Plan to share what you’ve learned with the folks back home. Carry a notebook with you at all times. Jot down names and snippets of conversations as well as notes from talks and posters. Keep an action list of things that you want to follow up on after the meeting: papers to look up, people to write to, and experiments to do.

Connect

Ours is a social enterprise. The connections you make are very important, and the ASCB Annual Meeting is a great place to make these connections. Especially valuable are the connections that you make with your peers. Hang out at the poster sessions. Talk to people about their work. Be flexible: That Minisymposium talk that you were planning to attend would be good, but so is the conversation you are having with a new contact. Maybe you can set up a time to meet the person again later? Or maybe this is a rare opportunity and you can find a way to learn later what you missed in the talk.

Be brave, try not to worry about rejection, and don’t wait for introductions. When I was a relatively new graduate student attending a meeting on my own, the only familiar faces I saw were among a group of senior investigators who were sitting at a table; two of them had given seminars at my home institution. I asked if I might join them and was told no. Ouch! If you put yourself out there, rejection will happen, but so will some wonderful connections. Even if your overture is declined, say “thank you,” and consider that they might have been discussing confidential information.

The volume of information that you will encounter in the few days of this [ASCB Annual] meeting is phenomenal.
See the Latest Gizmos and Gadgets

Make time to visit the exhibits, where you can see the latest gizmos and gadgets. You will find valuable technical information, brochures and books, and free samples. If you've been having technical difficulties with equipment or reagents, enjoy the luxury of talking face-to-face with a technical representative.

And the Exhibitor Showcases and Tutorials scheduled at various times during the meeting provide in-depth technical information.

Enjoy

Finally, and truly the most important bit of advice that I can offer: Relax and enjoy yourself. After all, you are at this meeting because you know how fascinating cell biology can be. Here you are with this stunning opportunity to learn about some of the most exciting stuff happening in one of the coolest of all human endeavors. Don't cheat yourself of the opportunity to enjoy it thoroughly.

—Lynne Quarmby, Women in Cell Biology Committee

Be brave, try not to worry about rejection, and don’t wait for introductions.

If you’ve been having technical difficulties with equipment or reagents, enjoy the luxury of talking face-to-face with a technical representative.

STRETCH YOUR RESEARCH DOLLARS

Antibody Collections

- Muscular Dystrophy
- Drosophila Antigens
- NCI-Cancer Antigens
- Neural Development
- Cell Signaling
- Cell lines/Stem cells
- Extracellular Matrix
- CD Antigens
- Transcription Factors
- Anti-Human Antibodies
- Epitope Tags
- Dictyostelium Antigens

Popular Antibodies

- Sonic Hedgehog SE1
- Dystrophin (22 mAba)
- NMyosin MF-20
- Nestin RAT-401
- Pax7
- BrdU G3G4
- e-Myc 9E 10
- p53 7A4
- Pax6
- IL-18 CPTC-IL18
- SSEA-4 MC-813-70
- B-catenin PY654

with over 1,000 antibodies available at $25 per ml from the Developmental Studies Hybridoma Bank.

http://dshb.biology.uiowa.edu
(319) 335-3826
dshb@uiowa.edu
FAX (319) 335-2077

We distribute supernatants, concentrates, and select hybridomas at cost.
ASCB Membership Menu

Scientific Resources
- Abstract sponsorship for ASCB meetings
- Immediate access to, and discounted page charges for, *Molecular Biology of the Cell*
- iBioSeminars: hot topics presented by world-class researchers
- Discounted registration for the world's largest cell biology meeting and specialized meetings
- Access to ASCB Image & Video Library

Career Development Tools
- Advocacy for funding and policy
- Junior faculty workshops
- Monthly career advice and grants lists
- *Career Advice for Life Scientists, I & II, III*
- Programs for postdocs and graduate students
- Mentoring symposia
- Workshops on grant writing and writing for publications
- Travel, childcare, and honorary awards and fellowships
- Career discussions

Education/Networking Aids
- CBE—Life Sciences Education: assessment-based articles on inquiry-based learning
- Specialized Facebook groups
- Women in Cell Biology Network
- Monthly newsletter
- Regular email alerts
- Annual meeting sessions and events
- Informative website
- K-12 programs

We Deliver!

Are you hungry?
Check out the ASCB menu and make your selection...

For critical programs at every career stage, consider an ASCB membership.
It's easy to apply at www.ascb.org.
NLP 2000 System
desktop nanofabrication platform

- multiplexing capabilities
- infinite molecule – substrate combinations
- sub-micron / nanoscale feature sizes
- no cleanroom needed

See NanoInk and the NLP 2000 at ASCB San Diego- Booth #831

please visit NanoInk at:  www.nanoink.net
or call us at: 1-847-679-NANO
EXHIBIT Hall

Learn about Science in the ASCB Annual Meeting Exhibit Hall

Interested in learning about the latest technology and products for use in your lab? Want to see the latest products, books, and journals? Wouldn’t mind winning a prize or adding a giveaway to your suitcase? Then the ASCB Exhibit Hall is the place to visit! Not only is it the site of thousands of posters—showcasing the latest science—it is the place to visit more than 300 companies displaying products and services you use—or likely will someday.

Seasoned meeting attendees know it’s also the place to get their questions answered and receive a personal tour of new technologies, products, and services. Allow an exhibitor to “swipe” your badge, and you can get more information after the meeting—and help confirm for exhibitors the value of exhibiting at the ASCB Annual Meeting. Many companies will feature giveaways, games, and prize drawings as well as discounted pricing if you order during the meeting.

Books, Showcases, and Tutorials

Be sure to browse Publishers Row to see a display of new books and journals. If you are looking for a particular product, be sure to check the Annual Meeting Program for a description of what each company will display, and check the Product Index for a list of companies with the products that you are seeking. You can also use the online Buyer’s Guide by going to www.ascb.org/iweb/BuyersGuide/VendorSearch.aspx. The Annual Meeting Program will be available online approximately a month before the meeting at www.ascb.org/meetings. And you can pick up your print copy at the San Diego Convention Center after you arrive.

Don’t forget to check the schedule for the 30 Exhibitor Showcase presentations Sunday–Tuesday, and the Tutorial presentations on Monday from 5:45 pm–7:15 pm. These are special opportunities to learn more about products and technologies from the experts.

Refreshments and Commentary

The exhibits will be open Sunday–Tuesday from 10:00 am–4:30 pm. You are cordially invited to the Exhibit Hall each morning after the morning Minisymposia (8:30 am–10:35 am) to enjoy refreshments, including coffee, tea, and brownies. In the afternoon, popcorn and lemonade will be available in the Exhibit Hall from 2:30 pm–3:30 pm. On Tuesday, don’t miss the Celldance winners’ reel, showcasing the best videos and still images submitted to the ASCB’s annual contest. Hear directors’ commentary before or after getting your popcorn and visiting some booths.

Why not take a few minutes daily to visit the Exhibit Hall? Prepare to be wowed by the science! Your visits and questions are welcomed. And keep in mind: The revenue from exhibiting companies helps to defray the cost of your registration. So please show your appreciation to the exhibiting companies by visiting their booths and getting your badge scanned. And if you make buying decisions for your lab, and have grant supplements to spend, be sure to let them know that too.

—Ed Newman
Francis Crick: Hunter of Life’s Secrets
By Robert Olby
This engrossing biography by one of molecular biology’s foremost scholars reveals the remarkable evolution of Francis Crick’s scientific career and the shaping of his personality. From unpromising beginnings, he became a vital contributor to a remarkably creative period in science. Olby chronicles Crick’s life from his early studies in biophysics, to the discovery of the structure of DNA, to his later work in neuroscience and the nature of consciousness. This account is woven together with insights into his personal life gained through access to Crick’s papers, family, and friends. Robert Olby’s book is a richly detailed portrait of one of the great scientists of our time.

2009, 538 pp., illus., indexes
Hardcover $45 ISBN 978-087969798-3

Untangling the Double Helix: DNA Entanglement and the Action of the DNA Topoisomerases
By James C. Wang
This book, written by James Wang, the discoverer of the first topoisomerase and a leader in the field since, presents ten chapters covering the historical backdrop of the DNA entanglement problem and the discovery of the DNA topoisomerases, how DNA topoisomerases perform their magic in DNA replication, transcription, genetic recombination and chromosome condensation, and how they are targets of therapeutic agents. The book should appeal to readers from undergraduates upwards with interests in the biological and clinical aspects of topoisomerase function, or in the mathematics and physics of topology.

2009, 233 pp., illus., appendices, index
Hardcover $65 Paperback $45
ISBN 978-087969863-8

Statistics at the Bench: A Step-By-Step Handbook for Biologists
By M. Bremer and R.W. Doerge
This handbook is a convenient bench companion for biologists, designed as a handy reference guide for elementary and intermediate statistical analyses. Statistical methods most frequently used in publications and reports, as well as guidelines for the interpretation of results, are explained using simple examples with complete instructions for Excel.

Due November 2009, 200 pp. (approx.), illus., index
Hardcover $59 ISBN 978-087969857-7

Mouse Hematology: A Laboratory Manual
By Michael P. McGarry, Cheryl A. Protheroe, and James J. Lee
Mice are used extensively in studies of blood, the immune system and inflammation. This book is a concise review of conventional methods for preparing and examining blood and blood-forming tissues. It contains a short laboratory manual featuring detailed protocols, a DVD of video demonstrations, and a poster of blood cell types seen microscopically.

Due December 2009, 90 pp. (approx.), illus., appendix, index
Hardcover $165 Paperback $100
ISBN 978-087969885-0
ISBN 978-087969886-7

Genetics of Complex Human Diseases: A Laboratory Manual
Edited by Ammar Al-Chalabi and Laura Almasy
This manual brings together the tools that geneticists use to find disease genes with the genetic concepts and statistical theories that underpin these research approaches. Topics covered include basic genetics and Mendelian inheritance, statistical methods, genetic epidemiology, linkage studies, transmission disequilibrium test analysis, variance components analysis, genome-wide association studies, copy-number variation, methods for high-throughput genotyping, the complexity of RNA editing, and genetic computer programs. The book’s chapters, written by leading investigators in the field, blend practical information and reviews of each topic, providing both the how and the why of complex disease analysis.

Due November 2009, 250 pp. (approx.), illus., index
Hardcover $158 Paperback $95
ISBN 978-087969882-9
ISBN 978-087969883-6

RNA: A Laboratory Manual
By Donald C. Rio, Manual Ares, Jr., and Timothy W. Nilsen
So much has been learned about RNA in the past ten years that the ability to purify, analyze, and manipulate RNA molecules is now essential in all kinds of bioscience. Initiating RNA research can be intimidating but the new book RNA: A Laboratory Manual provides a broad range of up-to-date techniques presented in a functional framework, so that any investigator can confidently handle RNA and carry out meaningful experiments, from the most basic to the highly sophisticated. Originating in three of the field’s most prominent laboratories, this manual provides the necessary background and strategies for approaching any RNA investigation, as well as detailed protocols and extensive tips and troubleshooting information. It is required reading for every research laboratory in the life sciences.

Due December 2009, 600 pp. (approx.), illus., appendixes, index
Hardcover $240 Paperback $165
ISBN 978-087969890-4
ISBN 978-087969891-1

Edited by Jason Swedlow, Robert Goldman, and David Spector
The book is intended to be an advanced microscopy manual, generally appropriate for working scientists from the graduate level up to principle investigator. The content includes a collection of established and evolving methods for studying metabolic and developmental changes in living cells and organisms. The manual will present hands-on techniques as well as background material, in the style and intent of the first edition, and could be used as a text in advanced courses. The project is divided into two sections, the first covering the principles as well as fundamental issues of detection and imaging approaches, the second dealing with detailed protocols for imaging live cells, organelles and organisms.

Due December 2009, 650 pp. (approx.), illus., appendix, index
Hardcover $240 Paperback $165
ISBN 978-087969892-8

www.cshlp.com
CAREER Development

Taking the Next Career Step

Note: All ASCB Annual Meeting events are free and are for everyone—men and women! Some are geared toward students.

Saturday, December 5

- What kinds of behavior can sabotage your career? Undergraduate and graduate students can find out at the Minorities Affairs Committee (MAC)-sponsored presentation entitled “Welcome to the Land of Muckity Muckdom, or What You Don’t Know Will Hurt You!”

- Do you want to polish your teaching skills? A MAC-sponsored workshop, “Case Study Teaching: From the Bench to the Classroom,” is designed to help postdocs and junior faculty place cell biology in context. Learn how use of case studies of real-world problems can enhance interdisciplinary learning.

- Interested in enhancing your presentation skills? Sign up for an extra poster session offered to undergraduates at the conclusion of the Undergraduate Program. Students must sign up for the session when registering for the meeting.

- Do you need to be more assertive and stand up for yourself? If so, the Women in Cell Biology (WICB) Committee Workshop entitled “Negotiation Strategies for Work and Life” is just for you! This event will feature a combination of presentations, interactive discussions, and some role-playing. Attendees must preregister.

Sunday, December 6

- Need to explore career options? Hear from panelists from a secondary educational institution, science core facility, science museum, consulting company, and technology company. Get career advice targeted to graduate students, postdocs, and early career scientists. This program, entitled “Getting Out of the Box: Transitioning to a Career Outside of Academic Research,” is sponsored by the Subcommittee on Postdoctoral Training.

- Interested in networking? Read all about it! The WICB Committee invites you to a networking reception. Meet others in this informal, relaxed setting. Snacks and beverages will be served.

Monday, December 7

- How can you enhance your career? Come to the WICB Career Discussion & Mentoring Roundtables (formerly called the Career Discussion Lunch) to meet new colleagues, participate in lively discussions, and enhance your career. Over 25 different discussion topics will be offered. Attendees must preregister and get a ticket. Hurry and sign up now to get your favorite topic.

Tuesday, December 8

- Where can you get questions answered? Now showing…”Muddling through Mentoring,” featuring eminent leaders in the scientific community role-playing in a delightfully funny skit and answering your questions! The WICB Committee invites all to this free Mentoring Theater, immediately following the Junior and Senior Career Recognition Awards presentation. Bring your sense of humor!

Throughout the meeting, attendees are invited to stop by the Educational Resources/MAC Booth to peruse recent educational materials, attend informal presentations (see Annual Meeting Program for more details), and speak with Education and Minorities Affairs Committee members and ASCB staff.

More information on all these programs is available online at www.ascb.org/meetings and will be included in the Annual Meeting Program.

—Thea Clarke, Cheryl Lehr, Deborah McCall
ASCN Career Survey Results

“ASCB does the best job of building a community that deals well with career issues of any scientific group I know,” stated one of the respondents in ASCB’s recent career resources survey. Moreover, overall most ASCB resources had high recognition and quality ratings. With a 7% response rate, the survey not surprisingly found a high interest in career development assistance from the ASCB. Seventy-seven percent of predocs were interested vs. 78% of postdocs and 58% of early career, 46% of mid-career, and 20% of late-career respondents.

Top Career Resources
What is the most popular and best-known ASCB career resource? Dear Labby, with 96% of respondents reporting awareness; only 17% had never read the column. The ASCB website was a close second, with 95% reporting recognition. Also high on the list was the WICB column, with 87% reporting recognition; only 24% had never read that column. However, 56% were unaware of the free collections of WICB columns—Career Advice for Life Scientists—despite ASCB home page advertisements.

Next on the awareness list was the ASCB Annual Meeting (AM) WICB Career Discussion and Mentoring Roundtables, known by 82% of respondents; however, 57% of respondents had never attended the popular and now free event. (Note the new time slot.) Fortunately, 92% of respondents were aware that WICB events and columns were aimed at men too, but only 26% knew that events sponsored by the Subcommittee on Postdoctoral Training (SCOPT)—such as “Getting Out of the Box: Transitioning to a Career Outside of Academic Research”—welcomed graduate students too.

Career Center, Job Board Little Used
Fifty-eight percent knew about the AM Undergraduate Poster Session and reception. The WICB Workshop (this year on “Negotiation Strategies for Work and Life”) and WICB Awards and Mentoring Theater were next in line, with recognition levels of 56% and 52%, respectively; however, 73% and 72%, respectively, had never attended either event. Surprisingly, 65% of respondents had never taken advantage of the ASCB Career Center, and 67% had never used the Online Job Board.

Popular Career Sessions
What are the most popular subjects for future career sessions at the Annual Meeting? Alternative sources for funding was number one, selected by 80%. Grant writing was next at 76%, followed by building management skills: time, people, and conflict (72%). Next in popularity were writing for scientific publication (68%), hunting for an academic position (67%), building your research portfolio (67%), and winding down/recharging batteries (61%). Thirty percent were definitely interested in an ASCB online mentoring program, while another 49% might be. Be sure to look at the ASCB Annual Meeting program for career development sessions! (See page 29 for details.)

Assistant Professor Position
The Department of Biochemistry at the University of Wisconsin–Madison (www.biochem.wisc.edu) invites applications for a position in biochemistry at the Assistant Professor level. The Department is interested in candidates working at the cutting edge in all areas of biochemistry (e.g., chemical, structural, cellular, developmental and physiological). The University and Department provide an excellent environment for the development of an outstanding research program. The successful candidate will be expected to develop a vigorous, extramurally-funded, independent research program, and to participate in the undergraduate and graduate teaching programs of the Department. University and community service is also expected as appropriate. PDF applications should include a curriculum vitae, a list of publications, and a brief summary of accomplishments and directions of future research. Materials should be sent to facultysearch@biochem.wisc.edu. Three letters of reference should be forwarded to the same address with applicant’s name in the header. Applications should be completed by October 15, 2009.
EXHIBIT Hall

ASCB Exhibitor List (as of August 24, 2009)

μManager
21st Century Biochemicals, Inc.
89 North
A Slice of Life
Abbiotec
Abcam, Inc.
Abd Bioquest, Inc.
Abd Serotec
Abgent, Inc.
Academia Book Exhibits
Accurate Chemical & Scientific Corporation
Accuri Cytometers
Advanced Biomatrix, Inc.
Agilent Technologies
Alpha Innotech Corporation
American Peptide Company, Inc.
AMG - Advanced Microscopy Group
Anaspec, Inc.
Andor Technology PLC
Applied Biological Materials, Inc.
Applied Precision, Inc.
Appropriate Technical Resources, Inc.
ASI/Applied Scientific Instrumentation
Asylum Research
ATCC
Aves Lab, Inc.
Axis-Shield POC
BD Biosciences
Bel-Art Products
Bellco Glass, Inc.
Bender Medsystems, Inc.
Bertin Technologies
Bethyl Laboratories, Inc.
Biocompatibles UK, Ltd
Bioimaging Solutions, Inc.
Biolegend, Inc.
Biomed Central
Biomed Supply, Inc.
Bioneer, Inc.
Biosurplus, Inc.
Biotechniques
Biotium, Inc.
Bioventures, Inc.
Bitplane, Inc.
Boeckeler Instruments, Inc./RMC Products
Caliper Life Sciences
Carestream Molecular Imaging
Carl Zeiss Microimaging, Inc.
Cedarlane
Cell Applications, Inc.
Cell Signaling Technology
Cellasic
Celprogen, Inc.
Center for Integrated Systems for Microscopy and Manipulation
Chemglass Life Sciences
Chroma Technology Corporation
City of Hope
Clontech Laboratories, Inc.
Cold Spring Harbor Laboratory Press
Coriell Institute
Corning Incorporated
Covance
CVI Melles Griot
Cynvenio Biosystems, LLC
Cytoto Cell Architects
Cytoskeleton, Inc.
Diagenode
Discoverx Corporation
Drummond Scientific
Dualsystems Biotech
EBioscience
Electron Microscopy Sciences/Diatome U.S.
Elsevier/Cell Press
Embi Tec
Enzo Life Sciences
Epitomics, Inc.
Eppendorf North America
Essen Instruments, Inc.
Euromedex North America, Inc.
Evrogen
Exfo Life Science & Industrial Division
EY Laboratories, Inc.
Fibercell Systems, Inc.
Fine Science Tools
Flexcell International Corporation
Fluxion Biosciences
Full Moon Biosystems, Inc.
Garland Science
GE Healthcare
Gen-Probe Diaclon
Gene Tools, LLC
Genecopoeia, Inc.
Genesee Scientific
Genentics, a Division of Gene Therapy Systems
Genvault Corporation
Genway Biotech, Inc.
Gilson, Inc.
Global Cell Solutions
Hamamatsu Corporation
Hamilton Company
Hemogenix, Inc.
HybriGenics SA
Ibidi LLC
Imgenex
Intelligent Imaging Innovations
Intelligent Substrates, Inc.
Invitrogen
ISS, Inc.
Jackson Immunoresearch Laboratories, Inc.
JEOL USA, Inc.
John Wiley & Sons
Jones & Bartlett
JPK Instruments AG
Klaster-Karpushka Laser Technologies GmbH
Lampire Biological Laboratories, Inc.
LC Sciences
Leica Microsystems
Li-Cor Biosciences
Life Technologies
Lifecore Biomedical, LLC
Lifeline Cell Technology
Luminos LLC
Macherey-Nagel, Inc.
Mad City Labs, Inc.
Market Tech, Inc.
Mayachitra, Inc.
MDS Analytical Technologies
Media Cybernetics, Inc.
Millipore
Mirus Bio LLC
Mo Bio Laboratories, Inc.
Muscale, LLC
Nacalai USA, Inc.
Nanoandmore USA, Inc.
Nanoentek, Inc.
Nanoink, Inc.
Nanonics Imaging, Ltd.
National Center for Biotechnology Information
National Institute of General Medical Sciences
National Research Council of The National Academies
Nature Publishing Group
New England Biolabs, Inc.
Nexcelom Bioscience
Nikon Instruments Inc.
NT-MDT Company
The ASCB Is Grateful to Its Corporate Members for 2009

Gold
Roche Applied Science

Silver
Biogen/Ideas
ChejoMetec A/S
Chroma Technology Corporation
DualSystems Biotech AG
EBioscience
Leica Microsystems Inc.
Millipore Corporation
Thermo Scientific – Part of Thermo Fisher Scientific

Bronze
Corning Incorporated
Nikon Instruments, Inc.
Olympus America, Inc.
Veeco Instruments

The ASCB Gratefully Acknowledges the Following Annual Meeting Supporters

Bristol-Myers Squibb Research and Development
Burroughs Wellcome Fund
Cadmus Communications – A Cenveo Company
Chroma Technology Corporation
Cytoskeleton Inc.
Garland Sciences-Taylor & Francis Group
Leica Microsystems, Inc.
National Center for Research Resources, NIH
Nature Publishing Group
Olympus America, Inc.
Roche Diagnostics Corporation
The Rockefeller University Press
The Scientist
Worthington Biochemical Corporation
Search for cell biology jobs here!

- Over 5,000* vacancies, across scientific disciplines
- The latest job market news and regional features
- Job Alert emails or RSS feed
- Career advice, events and more...

*Publisher’s data May 2009

Employers: post your vacancies for free at

www.naturejobs.com
Help Welcome International Postdoc and Graduate Student Meeting Attendees

If you are attending the ASCB Annual Meeting, December 5–9, 2009, with your lab or, better yet, are local to the San Diego area, won’t you consider being a “buddy” to an international postdoc or grad student? The ASCB International Affairs Committee (IAC) wants to provide a special welcome to international attendees. U.S. postdoc and graduate student buddies or hosts will have the opportunity to get to know international attendees.

Buddies can help visitors navigate in a new and sometimes seemingly impersonal country. International guests can share their perspectives with their U.S. hosts. As part of this international contact program, the ASCB encourages at least one joint meal or get-together between buddies.

To volunteer to be a buddy, or to get a buddy, email Cheryl Lehr (clehr@ascb.org) and provide your name, career stage, institution, location, email, and interest no later than October 15, 2009.

The IAC fosters international exchanges between cell biologists from different parts of the world. At the ASCB Annual Meeting, the IAC also hosts a roundtable lunch (see below) for networking and discussion of issues of international scope. At this lunch, graduate students and postdocs from both U.S. and abroad meet the ASCB leadership and each other. This year, the IAC encourages U.S. and non-U.S. invitees to the roundtable to stay in contact during the meeting to enhance the meeting experience for both parties. And all graduate students and postdocs are invited to join the ASCB Facebook group (visit the ASCB home page at www.ascb.org to join) before the meeting.

Popular International Roundtable Returns to ASCB Annual Meeting

The International Affairs Committee (IAC) will again host a popular roundtable discussion on international science and science education. The lunch will take place on Saturday afternoon, December 5, at the ASCB Annual Meeting. Once again graduate students and postdocs selected from early registration lists to achieve geographic diversity are being invited to join with ASCB leadership to explore topics of common interest. Participants will be able to discuss their science, issues of career development, and other topics. The IAC hopes these meetings will help foster professional connections and possible collaborations between developing scientific investigators that cross national boundaries. Annual Meeting attendees should plan to arrive early for Saturday activities such as these and Special Interest Subgroups. (See page 17.) In case there are no-shows, other postdocs and graduate students may want to stop by at 12:15 to see if there is room to join in the discussion.
NOW AVAILABLE...

Our NEW Life Science Catalog

Chemglass Life Sciences, a leading manufacturer of scientific glassware and apparatus in Vineland, NJ, is pleased to introduce our NEW Life Science Catalog. This catalog features our extensive line of cell and tissue culture products, equipment and accessories with over 750 products.

Featuring:
- Spinner Flasks & Mag. Stirrers
- Cell Culture Bags
- Incubators
- Baffled Shake Flasks
- Tissue Culture Plastic Ware
- Rockers and Shakers
- Each Packs of Reusable Lab Ware
- Rotators
- Anaerobic Culture Tubes

Visit Us At Booth #1000

REQUEST YOUR FREE COPY OF OUR CATALOG TODAY
www.cglifesciences.com

3800 North Mill Road, Vineland, NJ 08360 | 1-800-843-1794
At the ASCB Annual Meeting

Format
Two concurrent Symposia will be held each afternoon, Sunday through Tuesday, December 6–8, from 4:00 pm–5:30 pm. A special closing Symposium will be held on Wednesday, December 9, from 11:00 am–12:30 pm. Seven Minisymposia and one Working Group will be scheduled each morning, Sunday through Wednesday, December 6–9, during the ASCB Annual Meeting.

Programs, Badges, Abstracts
ASCB Annual Meeting Program Book: For environmental conservation and to minimize costs, the ASCB will not mail the Annual Meeting Program. A fully searchable online Program will be available four weeks before the meeting; the print version will be available for pick up at the San Diego Convention Center.

Meeting Badges: The ASCB will not mail meeting badges in advance of the meeting. Instead, all attendees will pick up badges onsite at the San Diego Convention Center. Those who have preregistered by November 24 will receive an email one week prior to the meeting. Print and bring this email with you. The email will contain a barcode for you to scan to print your badge. Once you receive your badge, you may pick up a lanyard and meeting materials from bins located in the Registration Area.

Abstracts: All accepted abstracts will be available online only. For environmental conservation and to minimize costs, the ASCB will not publish abstracts on a CD. Abstracts may be viewed four weeks before the meeting online at www.ascb.org, onsite at the San Diego Convention Center via free wireless Internet access in certain areas, or onsite at one of six abstract look-up kiosks.

Exhibit Hall and Poster Session Hours
New Exhibit Hall Hours: The Exhibit Hall will be open three days only:
Sunday, December 6, 10:00 am–4:30 pm
Monday, December 7, 10:00 am–4:30 pm
Tuesday, December 8, 10:00 am–4:30 pm

The Hall will be closed on Wednesday, December 9.

New Poster Viewing and Presentation Hours: Regular and late posters will be available for viewing in the Exhibit Hall beginning Saturday from 5:30 pm–9:00 pm and from 7:30 am–9:00 pm Sunday–Tuesday.

- Regular and late poster presentations are scheduled Sunday–Tuesday, December 6–8, as follows:
  - Odd-numbered poster presentations, 11:00 am–12:30 pm, Sunday–Tuesday
  - Even-numbered poster presentations, 12:30 pm–2:00 pm, Sunday–Tuesday

- Late abstracts will be considered for poster presentation only. Late abstracts will be available for viewing Sunday–Tuesday, December 6–8 (at the times listed above), along with regular abstracts, but will be displayed in a separate section of the Exhibit Hall.

Camera, Cell Phone, and Tweeting Policy
Use of cameras and all other recording devices (this includes digital, film, and cell phone cameras, as well as audio recordings) are strictly prohibited in all session rooms, in the Exhibit Hall, and in all poster and oral presentation sessions. Tweeting and other forms of communication involving replication of data are strictly prohibited without the express permission and approval of the authors at the Annual Meeting or before publication, whether data presented are in the Exhibit Hall, poster area, poster sessions, or invited talks.

Persons caught taking photos, video, or audio recordings with any device or transmitting such information with any device will be escorted out of the hall or rooms and not be allowed room re-entry. Repeat offenders will have their meeting badge(s) revoked and will not be allowed to continue to attend the meeting. This policy is necessary to respect the willingness of presenters to share their data at the meeting as well as protect their publication opportunities.

OTHER INFO YOU NEED TO KNOW BEFORE THE MEETING

Sign Up Early for Housing
Room rates start at $69 per night! Visit www.ascb.org/meetings for more information. Please book within the ASCB Housing Block and
enjoy specially negotiated low rates. Booking within the Housing Block benefits both you and the Society (see ASCB website for more details). The deadline for reservations is November 10.

Room-Share Service
To help with hotel expenses, an expensive part of attending a meeting, the ASCB provides a room-share service. To be included in this list, please go to www.ascb.org/meetings/roomshare/roomshare.cfm. It is your responsibility to contact people on the list to find a roommate. This service is available to all registered meeting attendees.

ASCB Annual Meeting Poster Printing Service
Don’t want to travel to the ASCB meeting with your poster? ScholarOne is offering a poster printing service for accepted poster presenters at the ASCB 2009 Annual Meeting. Presenters will receive details on how to access this service in their acceptance notices, which will be emailed in late September. The poster service costs $75 and includes gloss printing, packaging, and shipping directly to the San Diego Convention Center. Posters will be available for pick up in the Registration area of Lobby D beginning at 8:00 am on Saturday, December 5.

The deadline to upload files and receive the $75 rate is November 25. Presenters will still be able to use this service for “rush jobs” after the deadline, but the price will be higher.

Direct questions about this service to: Wendy Passerell Director, Editorial & Composition Services Thomson Reuters Phone: (434) 964-4048 wendy.passerell@thomsonreuters.com

Restaurant Concierge
The San Diego Convention Center will provide a complimentary Restaurant Concierge Service that will make restaurant reservations on your behalf, assist with obtaining tickets to theater/sports events and local attractions, and offer shopping information, maps, discount coupons, and giveaway brochures for San Diego. Look for the service in Lobby D/E.

Use ASCB’s Facebook Page
Check out the ASCB’s Facebook groups for the latest pre–Annual Meeting buzz. Go to www.ascb.org and click on the Facebook icon to be part of the conversation!
Topics covered include:
- Polymer dynamics and spatial organization
- Motor proteins
- Cytoskeletal organizing centers and attachment sites
- Nuclear cytoskeleton
- Contractile systems
- Cell motility and division
- Cell morphogenesis, Cell adhesions & junctions
- Signaling to the cytoskeleton
- Single molecule analysis
- Theory and quantitative modeling
- Genetic and chemical-genetic analysis
- Systems biological approaches
- Genomic and proteomic analysis.

Benefits for authors:
- Rapid and fair review process (under 3 weeks)
- Accepted manuscripts published online within 5 days
- No page charges
- Free color figures available
- Free online access to the full text of review articles (2010)
- Compliant with NIH mandate

As the new Editors of CYTOSKELETON, currently known as Cell Motility and the Cytoskeleton, we are excited to present you with our vision for the journal. The journal's title will be officially changed to CYTOSKELETON with the first issue of 2010, and we are currently accepting submissions for CYTOSKELETON at http://mc.manuscriptcentral.com/cellmo.

Aims and Scope
CYTOSKELETON is an international, peer-reviewed journal that focuses on all aspects of cytoskeletal research, spanning genetic and cell biological observations, biochemical, biophysical and structural studies, mathematical modeling and theory. This includes classic polymer systems of eukaryotic cells and their structural sites of attachment on membranes and organelles, as well as the bacterial cytoskeleton, the nuclear cytoskeleton, and unconventional polymer systems with structural/organizational roles. The journal is published in 12 issues annually, and special issues will be dedicated to intensely active or new areas of cytoskeleton research.

CYTOSKELETON serves as a venue for rapid and fair review of manuscripts, leading to publication of high quality articles and reviews that advance the field. The journal welcomes submission of research papers, reviews & commentaries.

We welcome you to visit the journal’s website: www.interscience.wiley.com/journal/cytoskeleton regularly to sign up for eTOC alerts, to submit your manuscripts online, and to keep abreast of new features and editorial changes we plan to implement for CYTOSKELETON.

Respectfully yours,

Bruce Goode, Brandeis University
goode@brandeis.edu

Makoto Kinoshita, Nagoya University
kinoshita.makoto@c.mbox.nagoya-u.ac.jp

Pekka Lappalainen, University of Helsinki
pekka.lappalainen@helsinki.fi
Old Concept or New, the Tumor Microenvironment Is Today’s Hottest Idea in Cancer Research

Pathologists at New York-Presbyterian Hospital see lots of cancer slides—they screen 40,000 cases a year—but they’d never seen anything like the images that John Condeelis showed them. Condeelis, who is a cell biologist at Albert Einstein College of Medicine in the Bronx, had laser-illuminated videos of invasive breast cancer cells moving rapidly toward macrophages. These are white blood cells that normally engulf pathogens and cellular debris. The macrophages were perched on endothelial cells along a blood vessel and, as Condeelis explained, calling to the invasive tumor cells, sending out a chemical homing signal for each crawling cancer cell to follow and relay.

It was a chilling view of a deadly process—metastasis. It is the spread of cancer cells from a primary tumor into the blood or lymph system and then throughout the body, invading distant sites where they grow out as murderous secondary tumors. In cancer, it is metastasis that kills.

Understanding exactly how cells migrate is one of the great quests of basic cell research, and bringing that knowledge to bear on cancer treatment one of the great hopes of clinical medicine.

The Condeelis cell videos of metastasis were illuminating, but slides are what pathologists know. Condeelis teamed up with pathologist Joan Jones at New York-Presbyterian Hospital to develop a tissue staining method for human samples to find sites on blood vessels where macrophages attract tumor cells. The result was triple-stained breast cancer samples on which were highlighted the three different cell types—tumor, macrophage, and endothelium. Where the three stained types overlapped, Condeelis believed that they formed a “tumor microenvironment for metastasis” (TMEM). It was this intersection of cell types—an anatomical compartment, Condeelis called it—that was driving metastasis. He predicted that the more TMEMs in a given sample, the greater the likelihood of metastasis.

Until fairly recently, the idea of metastatic cancer as the product of a “tumor microenvironment” would have been considered slightly flaky. Today, it is the hottest idea in cancer research. For decades, the dominant paradigm for cancer research focused on “oncogenes,” genes key to controlling cell growth. When mutated or overexpressed, oncogenes helped otherwise normal cells go wild, multiplying without end and spreading without control. Oncogenes have been the focus for thousands of studies and the targets for hundreds of drugs. Some oncogene-directed therapies like the cell cycle-disrupting drug Gleevec have been effective, but their overall impact on the cancer death rate, especially for metastatic cancer, has been limited. Now tumor microenvironment theories are offering radical new approaches, especially for metastatic cancer.

Condeelis’s experiment was one of the first limited trials of a tumor microenvironment-based test in a clinical setting. Once Jones and her team of pathologists learned to recognize the TMEM compartments, they prepared sets of triple-stained slides drawn from a breast cancer tissue bank. The pathologists were “blinded” as to which were from patients whose breast cancer had metastasized and which were from patients whose primary tumors had remained localized. The results of this limited experiment, published in April 2009, were startling. The number of TMEMs in a given sample area correlated with only one cancer dimension—metastasis. No other traditional marker came close to TMEM
The central concept, Bissell explains, is that “Phenotype can be dominant over genotype if conditions are right,” that is, cancer cells with powerful oncogenes do not act like cancer cells unless they are surrounded by the “right” tumor environment of other cells, circulating growth factors, and cues from their immediate surroundings.

Oncogene Dogma
In the 1980s, Bissell published a series of experiments that seemed to contradict the dogma that once an oncogene, always an oncogene. Bissell and her collaborators injected chicken embryos with Rous sarcoma virus (RSV), the first “oncovirus,” discovered in 1911. It carries RNA coding for an aggressive cancer in chickens. Bissell’s injected chicken embryos developed essentially cancer-free, despite expression of the active oncogene. But when cells were isolated from embryonic tissues and grown in cell culture, they assumed a malignant behavior overnight. Something about the embryonic state prevented the oncogene from causing cancer. Bissell explains, “The architectural context, where the oncogene was placed, and the embryonic state were determining whether or not a tumor would form.”

Bissell’s RSV papers were met by an embarrassed but understandable silence, she recalls. Over time, Bissell expanded the notion of context, moving her work into mammalian systems to examine its relevance in breast cancer. She explored the three-dimensional context of both normal and cancer cells, pointing out the effects of cell geometry, signaling networks, the ECM attachment, adhesion, and inflammation.

Bissell says that in the mid-1990s the scientific tide began to turn. David Lyden and Shahin Rafii of Weill Cornell Medical College, for example, began talking about the microenvironment of metastatic cells and the premetastatic niche. Call it context or “tumor microenvironment,” it is now a respectable and fundable idea in cancer research, says Bissell. “I’m delighted to tell you that the field has arrived,” Bissell reports. “People are recognizing its importance now.”

The central concept, Bissell explains, is that “Phenotype can be dominant over genotype if conditions are right,” that is, cancer cells with powerful oncogenes do not act like cancer cells unless they are surrounded by the “right” tumor environment of other cells, circulating growth factors, and cues from their immediate surroundings. Context matters, says Bissell. “You can’t just treat the tumor cells. You have to think about the microenvironment that surrounds them as well.”

Condeelis cheerfully admits to being a latecomer to tumor microenvironment. He came into the field from an unlikely direction—following the slime mold Dictyostelium. “Dicty” is a famous amoeba, valued in laboratories for its hardy unicellular existence and for its ability to act socially in times of peril.
Condeelis was studying how individual Dicty amoebae, in the face of starvation, follow a signal from a “founder” cell, migrating epic distances (for slime molds) to form a multicellular protective mass called a slug. Dicty does this by “relay chemotaxis,” says Condeelis. Individuals home in on the founder’s chemical signal, while reproducing it for relay to neighbors. Mass movement guided by a relayed signal reminded Condeelis of contexts beyond the slime mold world—the self-organization of the human embryo into specialized tissues and the movement of metastatic cancers.

To see if the analogy was real, Condeelis developed an artificial blood vessel to capture metastatic tumor cells from mammary cancers. With these live metastatic cells in hand, Condeelis and colleagues Sumanta Goswami at Einstein, Paola Nistico at Rome’s Regina Elena Cancer Institute, and Frank Gertler at MIT identified a subset of breast cancer cells that express a high level of a protein, Mena, that allows them to crawl vigorously. In metastasis, the crawling cancer cells headed for macrophages perched on top of endothelial cells along blood vessels. “The tumor cells were homing in on the macrophages, but it was the macrophages around the blood vessels who kicked off the whole process,” Condeelis reports.

Cancer as Embryonic Recap

This suggests to Condeelis that cancer metastasis is a recapitulation of embryonic development: a highly motile cell interacting with surrounding cells in an elaborate epic of tissue remodeling. “The metastatic breast tumor is trying to make another breast. All of this is caused by the microenvironment,” he says.

All of which also suggests to Condeelis that predicting the outcome of untargeted bench research is impossible. Something as seemingly obscure as Dicty signaling led him to something as clinically important as predicting cancer metastasis. “This brings the cell biology of signaling, motility, and classic embryology together at the bedside in a way that you could never have predicted,” says Condeelis.

For Hynes, tumor microenvironment theory is a welcome new slant on the cancer equation. “It’s been apparent for some time that the oncogenes didn’t explain everything,” Hynes explains. So far, tumor microenvironment theory hasn’t made the explanation any simpler. Instead, it has brought in a host of new participants—normal cells like macrophages and platelets plus noncellular tissues like the ECM, growth factors, adhesion molecules, and microfactors. Suddenly all are players in the tumor microenvironment. Says Hynes, “It’s a very complex cast of characters, but there’s no point in pretending that it isn’t.”

Cancer is so complex that Hynes doesn’t see any single theory leading to a single cure. Previous research breakthroughs on oncogenes or in blocking tumor blood supply led to drugs that worked up to a point, according to Hynes. Those drugs are being improved, he says. “But the [cancer] cells evolve. They get around the inhibition. What we need is a bigger armamentarium so we can hit tumors with several things at once.” A good clinical parallel is combination therapy that uses two or more drugs against resistant bacteria, parasite-borne diseases, or HIV. Hynes thinks that tumor microenvironment research will eventually yield new “druggable” targets that could be attacked at the same time as other cancer elements, say, oncogene proteins or inflammation factors.

“One has to be careful in science not to overpromise. People overpromised on the idea that under all the oncogenes would be the answer. It wasn’t the whole story,” warns Hynes. “I’m incredibly optimistic that this [tumor microenvironment] approach will be successful, but will it work right here and right now? No. Still, it’s an incredibly exciting time to be a cell biologist.”

—John Fleischman
Research in Germany
Opportunities for Postdoctoral and Experienced Researchers

The Alexander von Humboldt Foundation enables highly-qualified scientists and scholars of all nationalities and fields to conduct extended periods of research in Germany in cooperation with academic hosts at German institutions. Fellowships are awarded solely on the basis of the applicant’s academic record, the quality and feasibility of the proposed research and the candidate’s international publications. The Humboldt Foundation particularly welcomes applications from qualified, female junior researchers.

Humboldt Research Fellowship for Postdoctoral Researchers
- For scientists and scholars who have completed a doctoral degree within the past four years
- Allows for a stay of 6-24 months in Germany; applications may be submitted at any time; monthly stipend of 2250 EUR

Humboldt Research Fellowship for Experienced Researchers
- For scientists and scholars who have completed a doctoral degree within the past twelve years
- Fellowships may be divided into a maximum of three visits lasting three months or longer; applications may be submitted at any time; monthly stipend of 2450 EUR

In addition to the monthly stipend, additional allowances are available for accompanying family members, travel expenses, and German language instruction. Application materials and information are available at:

www.humboldt-foundation.de
info@avh.de

ASCB September Newsletter
Mad City Labs, Inc.
1/4 page, BW (3.75” x 5“)
Created 8/26/09
Contact: jenice@madcitylabs.com

TriLink Biotechnologies
CleanAmp™
The Less Expensive Approach to High Stringency PCR
Reduce Primer Dimer, Reduce Mis-Priming, Save Money
www.trilinkbiotech.com/cleanamp

Nanopositioning Systems
Applications
- SR Microscopy
- Nanoscopy
- Fluorescence Microscopy
- High Speed Imaging
- Electrophysiology
- Particle Tracking

Advantages
- Low Noise, High Stability
- Picometer Precision
- Closed Loop Control
- Smooth, Piezo Motion
- High Speed
- Custom & OEM Solutions

MCL Mad City Labs Inc.
+1 608 298-0855
sales@madcitylabs.com
www.madcitylabs.com
SFN 2009, Chicago IL. Booth 449
ASCB 2009, San Diego CA. Booth 1434

Innovative research at the interface between the life sciences and the physical sciences
Browse our content at http://hfspj.aip.org

Open Access for All Articles after 6 Months
Immediate Open Access Available for Authors

Online submissions and subscription info at http://hfspj.aip.org
2010 NIH Budget Coming into Focus

Congress Removes White House Earmarks

Fiscal Year 2010 has not begun but we already have a good idea what the U.S. National Institutes of Health (NIH) FY10 budget will be: likely between 1% and 3% more than the FY09 budget.

Before leaving Washington, DC, for the August recess, both the U.S. House and Senate Appropriations Committees passed versions of NIH funding bills. The House FY10 Departments of Labor, Health & Human Services, and Education (LHHSE) Appropriations bill includes an overall NIH budget of $31.258 billion. That’s $941 million, or 3.01%, more than the FY09 NIH budget. It’s also $500 million more than requested by President Obama for FY10.

The Senate Appropriations Committee decided to match the President’s request of $30.758 billion, $441 million, or 1.4%, more than last year. Sen. Harkin, Chair of the Senate Appropriations Subcommittee on LHHSE, and a long-time NIH champion, explained that the American Recovery and Reinvestment Act $10 billion NIH funding was why the Committee provided the NIH with a small annual appropriation. Harkin said, “Instead of providing even more increases to programs that did very well in the Recovery Act, this bill instead emphasizes several other important programs.”

President Obama’s FY10 NIH budget request included a $268 million earmark for cancer research and a $19 million earmark for autism research. These earmarks represent more than half of Obama’s proposed FY10 NIH increase. Both House and Senate Appropriations Committees rejected that proposal. In the report accompanying the House bill, the House Committee said that it “believes it is more appropriate to allocate funding in a way that permits scientific peer review to decide the most promising research to support.” The Senate Committee’s report called the earmark proposals a “harmful precedent.”

—Kevin M. Wilson

Congressional Leaders Want Top 10 List

What is the global competitiveness of U.S. research institutions? That’s what four senior U.S. Congresspeople want the National Academies of Science (NAS) to determine.

The four members, Rep. Bart Gordon (D-TN), Chair of the House Science and Technology Committee, Rep. Ralph Hall (R-TX), the ranking Republican on the House Science and Technology Committee, Sen. Barbara Mikulski (D-MD), Chair of the Senate Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies, and Sen. Lamar Alexander (R-TN), wrote the NAS.

The U.S. Representatives want the NAS to provide Congress with the top 10 actions that must be taken to “assure the ability of the American research university to maintain the excellence in research and doctoral education needed to help the United States compete, prosper, and achieve national goals for health, energy, the environment, and security in the global community of the 21st century.”

This request is similar to a request in 2005 that led to the NAS report Rising Above the Gathering Storm. The report results led Congress to write the American COMPETES Act. That bill provided a blueprint for doubling funding for non-National Institutes of Health U.S. basic research. The report also focused congressional attention on the need to improve math and science teaching.

To read the letter to the NAS, go to www.mikulski.senate.gov/_pdfs/Press/NationalAcademiesLetter.pdf.

—Kevin M. Wilson
They Like You, They Really Like You

The American public may not have much respect these days for business executives and lawyers, but they hold American scientists and science in high regard. A wide-ranging poll conducted by the Pew Research Center, in collaboration with the American Association for the Advancement of Science, found that 84% of those surveyed think science has had a positive effect on society.

The public has a mixed view of scientists and American scientific achievements. Seventy percent think scientists contribute “a lot” to the well-being of society. The poll results place scientists in third place, behind members of the military and teachers, and ahead of medical doctors and the clergy. Those surveyed are not happy, however, with U.S. science in comparison to that of the rest of the world. Seventeen percent think American science is the best in the world; 73% believe it is either average or above average. In comparison, 49% of U.S. scientists surveyed consider U.S. research to be the best in the world.

Americans’ strong support for science and scientists does not translate into support for increased funding for scientific research. In fact, support for spending on science has become increasingly partisan. Even though 88% of Republicans think science is having a positive impact on society, 21% think spending should be decreased; and only 25% think it should be increased. Fifty-one percent of Democrats favor increased spending. In 2001, only 10% of Republicans favored reducing spending.

The Pew poll includes interesting insights about the way the scientific community views itself. Seventy-six percent of scientists surveyed said it is a good time to be a researcher. Media coverage of science and public understanding of science are viewed by researchers as two of the major problems facing the scientific community. An overwhelming majority of U.S. scientists polled feels that the media does not distinguish between well-founded and less well-founded research. A majority also feel that the press oversimplifies scientific research results.

Eighty-five percent of the polled scientists feel the public does not know much about science. Fifty-one percent are concerned that the public expects too much too quickly from science.

To read the complete poll results, go to http://people-press.org/report/528.

—Kevin M. Wilson

CLS Congressional Biomedical Research Caucuses Held

Left to right: Rep. Jackie Speier (D-CA) and Wendell Lim of the University of California, San Francisco, are pictured at the Congressional Biomedical Research Caucus on July 15, 2009. Lim spoke to attendees on “Innovation through Education: Harnessing the Energy of Young Scientists in the International Genetically Engineered Machine Competition.” Rep. Speier is one of two Democratic co-chairs for the Caucus and represents the southern part of San Francisco and San Mateo County.

Left to right: Congressman Rush Holt (D-NJ), one of four co-chairs of the Congressional Biomedical Research Caucus, with Keith Yamamoto from the University of California, San Francisco, before Yamamoto’s presentation on “Improving the Peer Review Process at the National Institutes of Health.” Yamamoto, who spoke at the Caucus on July 22, 2009, is a long-term member of the ASCB and an active at-large board member of the Coalition for the Life Sciences (CLS). The CLS hosts the regular Caucus presentations on Capitol Hill.
2009 Half-Century Fund Donors

The ASCB is grateful to the following donors whose contributions support Society activities:

**Gold**
- Elizabeth Blackburn
- Craig Blackstone
- Robert P. Bolender
- Bill Brinkley
- Joseph Gall
- Brigid Hogan
- Susumu Ito
- Sandra Schmid
- Emma Shelton
- Kenneth M. Yamada
- Koji Yoshinaga

**Sustainer**
- William M. Saxton
- Joan A. Steitz
- Masatoshi Takeichi

**Silver**
- Elizabeth Blackburn
- Craig Blackstone
- Robert P. Bolender
- Bill Brinkley
- Joseph Gall
- Brigid Hogan
- Susumu Ito
- Sandra Schmid
- Emma Shelton
- Kenneth M. Yamada
- Koji Yoshinaga

**Sustainer**
- Mina Bissell
- Donald Brown
- Werner Franke
- Daniel Friend
- Ursula Goodenough
- Craig Jeffries
- Michael Lampson
- Gordon W. Laurie
- Ruth Lehmann
- Wayne Lencer
- Jani E. Lewis
- Phyllis LuValle
- Marc Muskhavitch
- Ralph A. Nixon
- Jean Sanger
- Joseph Sanger
- Martin Schwartz
- P.J. Simpson-Haidaris
- Emanuel E. Strehler
- Elizabeth Sztul
- Marvin Tanzer

**Bronze**
- William M. Saxton
- Joan A. Steitz
- Masatoshi Takeichi

**Gold**
- Elizabeth Blackburn
- Craig Blackstone
- Robert P. Bolender
- Bill Brinkley
- Joseph Gall
- Brigid Hogan
- Susumu Ito
- Sandra Schmid
- Emma Shelton
- Kenneth M. Yamada
- Koji Yoshinaga

**Sustainer**
- Mina Bissell
- Donald Brown
- Werner Franke
- Daniel Friend
- Ursula Goodenough
- Craig Jeffries
- Michael Lampson
- Gordon W. Laurie
- Ruth Lehmann
- Wayne Lencer
- Jani E. Lewis
- Phyllis LuValle
- Marc Muskhavitch
- Ralph A. Nixon
- Jean Sanger
- Joseph Sanger
- Martin Schwartz
- P.J. Simpson-Haidaris
- Emanuel E. Strehler
- Elizabeth Sztul
- Marvin Tanzer

The list of 2008 Half-Century Fund donors is posted on the ASCB website at www.ascb.org. Click on “About.”

In Memoriam

We sadly note the recent death of John J. Biesebe, and express our condolences to his family, friends, and colleagues.
**Background**
Pending funding from the U.S. National Institutes of Health, the ASCB will be hiring eight cell biologists or microscopists, each at 25% time, beginning this fall to assist in the development of an extensive Image Library of Cells. These offsite annotators are not required to relocate to the ASCB office and can do their work anywhere in the world. Access to the Internet and email is required. Compensation will be provided.

**Position Requirements**
Annotators must be cell biologists or microscopists familiar with a variety of imaging techniques (e.g., LM, transmitted light, epifluorescence, polarization, EM transmitted, back-scattered SEM, EDAX) as well as image analysis and processing (e.g., background subtraction, low-pass noise filter, 3D-deconvolution). Candidates must have expertise in different aspects of cell biology as well as experience in evaluating image and video quality.

**Job Description**
Each annotator will be responsible for selecting exemplary images and videos and providing metadata for short tags or descriptions as well as longer annotations including technical details crucial for image interpretation. Annotators will select related key words and note biological source, context, item type, etc., in accordance with set guidelines. Annotators will upload images and videos to the Society’s new image library for research and education.

**Deadline for Applications**
Applications can be found on the ASCB website at www.ascb.org/index.php?option=com_form&form_id=1. Completed applications should be emailed or to the ASCB by October 30, 2009.

**Selection**
Selected annotators will be notified in November, and expected to attend a three-day training workshop to be held in Bethesda, MD, USA, in January 2010.

---

**Darwin: Evolution Revolution** offers an engaging and enlightening exploration of the extraordinary life and mind of Charles Darwin (1809–1882), whose curiosity, observations, and discoveries forever changed the perception of the origin and nature of our own species, as well as countless other species on this planet.

In addition to Darwin’s own manuscripts, notebooks, letters, artwork, and personal objects, the exhibition also contains fossils, taxidermy mounts, and live animals.

Purchase tickets online at www.tickets.sdnhm.org, by phone at 877.946.7797, or in person at the Museum’s Visitor Services Desks. Tickets for nonmembers, which include general Museum admission, range from $12–18 with discounts for children, students, military, seniors, and groups. Special pricing available for groups of 10 or more. Please call 800.290.4616 for details; for K–12 school groups, call 619.255.0210.

Darwin is organized by the American Museum of Natural History, New York, in collaboration with the Museum of Science, Boston, The Field Museum, Chicago, the Royal Ontario Museum, Toronto, and the Natural History Museum, London.
The new must-have instrument for every biology lab.

Right along with a centrifuge, plate reader and PCR system.

Now you can do the following applications with the Accuri cell analysis system.

- RNAi Knockdown
- Cell Cycle Analyses
- Immunophenotyping
- Cell Culture Monitoring
- Transfection Efficiency
- Microbiological Applications
- Cell Counts
- Viability
- Proliferation
- Protein-Based Multiplex Bead Assays
- Along with many, many other applications.

The essential cell analysis tool
You will want to add this powerful, cost-effective, cell analysis tool to your list of essential laboratory instruments such as a centrifuge, plate reader and PCR system. Designed specifically with the life scientist in mind and priced comparable to a fluorescent plate reader, the Accuri C6 has a small footprint and no special set-up requirements. Plus new users can be trained in about 30 minutes.

Get the information you need
With a plate reader one typically looks at aggregate results for assays such as GFP expression for determining transfection efficiency, but are you getting the whole story? Aggregate results could reflect the average characteristics of the population. The C6 drills down and provides cell-by-cell statistics allowing you to differentiate between cell subpopulations.

Free up your time
With built-in capabilities to measure cell concentration, you can get rid of your hemacytometer. The C6 is a perfect tool for cell counts and viability. If your lab is running large numbers of assays (proliferation, viability, cell cycle, etc.) add the optional, automated CSampler™ to eliminate tedious repetitive tasks and free up your time.

The new must have for every lab: an Accuri C6 Flow Cytometer®. Now you can have access to a system for all your cell analysis techniques, anytime you need it 24/7, just like your other essential laboratory tools.

Attend the Accuri Showcase at the 49th Annual Meeting in San Diego to learn more.

www.AccuriCytometers.com/welcome/cell-analysis
Ann Arbor, MI USA • St. Ives, Cambs UK
Flow cytometry within reach.
Problem 3: With several researchers sharing one incubator, cell growth seems to fluctuate on a daily basis.

Solution: NBS Galaxy 170 R and 48 R incubators solve that problem with on-board 72-hr data logging to monitor temperature, CO₂, O₂, humidity & door openings, providing a record of actual growth conditions. We also offer personalized 1.7 & 0.5 cu. ft. incubators for sample isolation.

For more about Galaxy CO₂ Incubators see: www.nbso.com/a
Educational Opportunity Administrative Supplements. NIH announced that $21 million of American Recovery and Reinvestment Act funding for administrative supplements to existing NIH grants over two years has been allocated for educational opportunities in NIH-funded laboratories for summer students and science educators. Applications may be submitted throughout FY09 and FY10, but some NIH institutes and centers may have specific deadlines. http://grants.nih.gov/grants/guide/notice-files/NOT-OD-09-060.html.

Mentored Quantitative Research Development Award. The purpose of the NIH Mentored Quantitative Research Career Development Award (K25) is to attract to NIH-relevant research those investigators whose quantitative science and engineering research has thus far not been focused primarily on questions of health and disease. Expiration: January 8, 2012. http://grants.nih.gov/grants/guide/pa-files/PA-09-039.html.

The National Academies’ Research Associateship Programs administer postdoctoral (within five years of the doctorate) and senior (normally five years or more beyond the doctorate) research awards sponsored by federal laboratories at over 100 locations in the U.S. and overseas. Quarterly application deadlines. www7.nationalacademies.org/rap.

National Centers for Biomedical Computing (R01). This funding opportunity is for projects from individual investigators or small groups to collaborate with the NIH Roadmap for Medical Research National Centers for Biomedical Computing (NCBCs). Collaborating projects are intended to engage researchers in building an excellent biomedical computing environment, using the computational tools and biological and behavioral application drivers of the funded NCBCs as foundation stones. Expiration: September 8, 2011. http://grants.nih.gov/grants/guide/pa-files/PAR-08-184.html.

NIGMS Grants. The National Institute of General Medical Sciences is accepting applications for funding research in which several interdependent projects offer significant advantages over support of these same projects as individual research. Standard NIH application dates apply. http://grants.nih.gov/grants/guide/pa-files/PA-07-030.html.

NIGMS Grants to Establish Consortia for High-throughput Enabled Structural Biology Partnerships. The National Institute of General Medical Sciences announces the availability of funds for consortia that will be a core research component of the Protein Structure Initiative (PSI)’s PSI:Biology network. Funding is available to apply high-throughput structural approaches developed during the earlier phases of the PSI to solve substantial biological problems. Awards will support functional studies of proteins as well the structural determination of those proteins by the PSI:Biology structure centers, which will be funded separately. Ideal projects will integrate functional and structural data for a large number of protein structures to solve significant biological problems. Both individuals and research groups from across all fields of biology may apply. Application deadline is October 9, 2009. http://grants.nih.gov/grants/guide/rfa-files/RFA-GM-10-007.html.

NIGMS Supplements for Functional Studies Based on High-resolution Structures Obtained in the Protein Structure Initiative. The National Institute of General Medical Sciences (NIGMS) announces the availability of administrative supplements to provide funds to enable investigators interested in protein function to capitalize on the information and material products of the Protein Structure Initiative (PSI). These supplements are available for 1) NIGMS-funded research grants (R01, R37, and P01) as well as 2) investigators with peer-reviewed research grants not funded by NIGMS, through the PSI research centers. www.nigms.nih.gov/initiatives/PSI/supplements.


Pathway to Independence Award. The primary purpose of the NIH Pathway to Independence Award (K99/R00) program is to increase and maintain a strong cohort of new and talented NIH-supported independent investigators. The program is designed to facilitate a timely transition from a mentored postdoctoral research position to a stable independent research position with independent NIH or other independent research support at an earlier stage than is currently the norm. Expiration: January 8, 2012. http://grants.nih.gov/grants/guide/pa-files/PA-09-036.html.

Research Supplements to Promote Diversity in Health-related Research. NIH and the Centers for Disease Control and Prevention (CDC) have announced to PI’s holding specific types of NIH research grants that funds are available for administrative supplements to improve the diversity of the research workforce by supporting and recruiting students, postdoctoral researchers, and eligible investigators from groups that have been shown to be underrepresented. http://grants.nih.gov/grants/guide/pa-files/PA-08-190.html.
Research Supplements to Promote Re-entry into Biomedical and Behavioral Research Careers. These supplements are intended to encourage individuals to re-enter research careers within the missions of all NIH program areas. This program will provide administrative supplements to existing NIH research grants to support full-time or part-time research by individuals in a program geared to bring their existing research skills and knowledge up-to-date. Expiration: September 30, 2011. http://grants.nih.gov/grants/guide/pa-files/PA-08-191.html.

Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellows in Pharm.D./Ph.D Programs. The objective of this NIH funding opportunity announcement is to help ensure that highly trained Pharm.D./Ph.D. graduates will be available in adequate numbers and in appropriate research areas to carry out the U.S. biomedical, behavioral, and clinical research agenda. Expiration: January 8, 2012. http://grants.nih.gov/grants/guide/pa-files/PA-09-029.html.

SCORE Awards. The National Institute of General Medical Sciences is accepting applications for its Support of Competitive Research (SCORE) developmental awards designed to increase faculty research competitiveness at minority-serving institutions. Multiple deadlines through May 18, 2010. The program announcement, as well as three other program announcements (PAR-06-491, PAR-06-492, PAR-06-493), can be found at http://grants1.nih.gov/grants/guide/pa-files/PAR-06-490.html#PartI.

---

ASM/NIGMS Institute for Evaluating Effectiveness of Student Interventions

January 11–14, 2010
Washington, DC

Sponsored by the National Institute of General Medical Sciences, NIH

- Have you considered expanding the scope of your scientific knowledge to research ways to improve chances that students succeed in science?
- Do you want to apply research skills to conduct studies that provide evidence about why students succeed or do not succeed in science?

Learn how to design behavioral and social science research projects to improve learning and advancement in science.

The application deadline is October 15, 2009. Space is limited. Application guidelines, submission processes, and forms are available at www.facultyprograms.org/page04d.shtml.

---

MEETINGS Calendar

A complete list of upcoming meetings can be found at http://ascb.org/othermeetings.psp. The following meetings have been added since the last issue of the Newsletter:

September 23–25, 2009. New York, NY

November 5–6, 2009. San Francisco, CA

February 20–24, 2010. San Francisco, CA


ASCB Annual Meetings

December 5–9, 2009. San Diego
December 3–7, 2011. Denver
December 15–19, 2012. San Francisco
December 14–18, 2013. New Orleans
December 6–10, 2014. Philadelphia
DNAfectin™

- Four formulations (DNAfectin™ 2100, 2200, 2300, 2400)
- Achieve over 50% transfection efficiency with one of the four formulations
- Low cytotoxicity
- Priced affordably ($95.00)

Results above show the percentage of cell lines with over 50% transfection efficiency with each formulation. Over 70 cell lines, including primary cells, were transfected with GFP DNA with over 50% transfection efficiency using DNAfectin™ 2100, 2200, 2300, and 2400.

Human miRNA qPCR Profiling

Your Sample

$1,750/run
2 weeks

Your results

Amplification Plot

Applied Biological Materials Inc.
Cutting-edge Scientific Training Courses in Woods Hole

Join us in 2010!

www.mbl.edu