iBioSeminars Receives Funding from NSF and NIGMS

iBioSeminars.org and iBioMagazine.org received a five-year joint grant from the National Science Foundation (NSF) and the National Institute of General Medical Sciences (NIGMS). This grant was awarded to the American Society of Cell Biology, with Ron Vale (University of California, San Francisco) as the PI.

The NSF/NIGMS grant will enable the iBioSeminars project to release approximately 20 new iBioSeminars (full-length scientific seminars from leading scientists) and 40 iBioMagazine talks (five- to 15-minute talks on careers, advice, and discoveries) per year.

Goldberg Leaving the ASCB

“I will be leaving the ASCB at the end of the year,” ASCB Executive Director Joan R. Goldberg announced last month. “I am proud of how the Society has expanded its outreach to members and its advocacy on members’ behalf. We have enhanced its influence, programs, resources, communications, operations, and member service during my six years as Executive Director. It has been a pleasure to work with so many dedicated professionals who have helped make this possible.”

“Joan’s contributions have been remarkable,” noted ASCB President Sandra Schmid. “She has served with passion and dedication, ably supporting me, past presidents, and the Council. She has also been a strong advocate for listening to members, making data-driven decisions, and focusing on ASCB’s mission and goals.”

“It was Joan who inaugurated annual strategic planning and mission analysis, goal-setting and evaluation, clear roles for Council, and innovative member communication—including regular surveys, focus groups, contests, the e-newsletter Pathways, broadcast emails, website updates, YouTube videos, and social media postings,” Schmid continued.

“Joan is to be commended for her leadership in motivating the cell biology community, playing the critical role in obtaining the $2.5 million NIH Grand Opportunities grant for The Cell: An Image Library, establishing the Half-Century Fund, garnering support for childcare grants and the [Don] Fawcett travel awards, and much more,” added Treasurer Goldberg.
Introducing the Integrated Light Electron Microscope from FEI

The new Integrated Light Electron Microscope from FEI delivers a breakthrough combination of microscopy width and depth. Now for the first time, you’ll be able to correlate fluorescent light microscopy images with electron microscopy images – all from the same instrument.

In other words, you can have it both ways.

Looking Backwards and Forwards

Almost a year ago, in my inaugural ASCB President’s Column, I wrote that my major objective was to create new opportunities for improved communication among the volunteer members of the ASCB leadership, between the ASCB and its members, and among ASCB members themselves. The year has sped by, and while our work is by no means complete, we’ve made significant progress toward these goals. I’ll describe this progress, but first it’s important to acknowledge who the “we” are.

Giving Credit Where It’s Due

The most important members of the “we” are the ASCB staff, most of them based in Bethesda, MD. Staff works tirelessly to:

- Edit, support, and produce the ASCB Newsletter and our outstanding journals (Molecular Biology of the Cell and CBE—Life Sciences Education).
- Keep us informed about ASCB activities and national and international events that affect our science and our profession.
- Represent us and advance our goals.
- Put together our exemplary Annual Meeting and other programs, to support the work of our volunteer committees and assist members to accomplish goals.
- Maintain our fiscal health, track trends, and advise volunteer leaders on best practices, tactics, and sustainability.
- Run the day-to-day operations of the ASCB for the benefit of our nearly 10,000 worldwide members.

For those of you who attend the ASCB Annual Meeting you’ll see staff doing double (and triple) duty—at the ASCB Booth and Attendee/Member Services Desk, at sessions and other events, in the Career Center, and handling many other behind-the-scenes responsibilities that ensure a great meeting for us all.

Other critical members of “we” are the many volunteer leaders who serve as Chairs and members of committees. Their numbers are many and I encourage you to check out the committee rosters on the website and express your thanks. Committees are another place where innovation happens and where identifying and serving our members’ needs starts.

Thank you also to the many who volunteered to help committee efforts. While we didn’t have slots for all, serving as Ambassadors, joining the Congressional Liaison Committee or Project 50, and blogging about discoveries presented through ASCB are all wonderful ways to advance cell biology.

I’m also grateful to the elected ASCB leadership—the Executive Committee and Council—for their advice, enthusiasm, and commitment to the valuable efforts of the ASCB.

What We’ve Started

So what’s been accomplished and what have we started? Here’s my list:

- We introduced ASCB Pathways, a new, monthly, easily accessible e-newsletter with clickable links that keeps you informed of ASCB activities, opportunities, and important developments. (We asked you about our communication, and thank you for the high marks you gave us.)
- We are collecting member information on research interests and approaches, teaching activities, etc., and creating a searchable member database that enables you to more easily find and connect with each other. (Haven’t updated your member profile yet? It’s easy. Go to www.ascb.org and click on the bright yellow button on the right-hand side of the page. This is a unique member benefit members asked for…and we complied.)
- Council now meets monthly by phone to discuss key issues important to our members and to think about new ways to better serve our members. We have conducted numerous focus groups among students, postdocs, and faculty—members and nonmembers—to learn more about your needs and how we...
can better address them. We also learned more about what members know and don’t know about what the Society offers, and are addressing that regularly.

- We are carefully planning for a major website overhaul that will provide more than just a new look and more effective interface, but also increased content of value to our members. (Interested in providing ideas? Write ascbinfo@ascb.org to volunteer.)

- Council members attended the December 2011 Subcommittee on Postdoctoral Training (SCOPT) Open Forum to hear first hand how the ASCB can better meet the career development needs of our young colleagues.

- We’ve increased the number of Science Discussion Tables and introduced new Networking sessions at the ASCB Annual Meeting.

- We conducted a Town Hall session at the ASCB Annual Business Meeting to hear more of your ideas and concerns.

No Place Like Home
We hope that these efforts will enhance your sense of belonging to a community of cell biologists. Many have told us, and I agree, that the ASCB is their scientific home, their community. We know that is one of the main reasons why people remain members of the ASCB.

I promised to use this President’s Column as a vehicle to discuss matters of concern to our community. My intent: inspire you to start some conversations within your own labs and departments. Many of the issues I’ve covered over the year affect young scientists—training, acknowledgment, and career preparation. I’ve also discussed the inevitable changes that will impact how we conduct science in an era of restricted growth. How can we most effectively utilize the limited financial resources available for the scientific enterprise and best leverage the diverse talents of our trainees?

Looking Optimistically Forward
I’m grateful to those who took the time to write and express their opinions, many of which were published as letters to the editor. I hope that I stimulated others to be introspective, to ask questions, and to think about what we’re doing right and where we might do better.

Some, more specifically my own postdoctoral fellows (whom I’d like to acknowledge for carefully reading and commenting on draft columns), have suggested that my columns might have been too pessimistic. Personally, I am an idealist and an optimist. So, for my last column, allow me to list three things I’m optimistic and excited about:

1. I’m excited about the emergence of cell biology as the central science capable of connecting scales from molecules to organisms. Skilled cell biologists, trained to understand the inter-relationships of complex cellular processes and able to develop and utilize quantitative measurements of these activities, are needed to place discoveries made in biochemistry, biophysics, and systems biology in the functional context of the living cell. Similarly, as advances in whole genome sequencing map phenotype-causing mutations in animal models and disease-causing mutations in humans with increasing ease, skilled cell biologists are needed to reveal disease-causing mechanisms at the level of the cell. Cell biology, as a discipline, is more relevant than ever.

2. I’m excited because the tools available to cell biologists have never been so powerful, and so cool! RNA interference allows us to selectively eliminate specific proteins, which can then be reconstituted with retroviral vectors; this makes living cells the ideal “test-tube” for structure/function analyses. New methods for genome editing in mammalian cells will enable us to directly tag or manipulate genes without altering expression levels, just as has been done in yeast. The ever-expanding family of fluorescent proteins (green, yellow, cyan, mCherry, tomato, strawberry, plum), together with their pH-sensitive, photoreactivatable or photoconvertible derivatives, allow us to track the activity and itineraries of our proteins of interest in living cells. High-speed spinning disc confocal microscopy, light sheet-based fluorescence microscopy, STORM/PALM super-resolution microscopy, TIRF microscopy, and EM tomography provide opportunities for high temporal and spatial resolution imaging to understand cellular structures and organization. Next generation sequencing
Skilled cell biologists, trained to understand the inter-relationships of complex cellular processes and able to develop and utilize quantitative measurements of these activities, are needed....

allows us to define the transcriptomes and to map mutations comprehensively with high accuracy and increasing (near single cell) sensitivity; this is opening new doors to discovery. Importantly, computational biology, bioinformatics, and mathematic approaches enable us to track, analyze, and model the data we collect. These are but a few examples of tools available today that were not available 20 years ago when I started my own lab. Being a cell biologist today is like being a kid in a toy store! These tools are accelerating the pace and depth of discovery.

3. I’m optimistic because the scientific enterprise is at a tipping point. Due to forces such as decreasing funding levels, a steady-state reality, and the complexity of the biological problems, we are finally ready and willing to tackle change, which has become essential. In the future, science will be even more collaborative and require teamwork. No single lab, let alone individual, will have the expertise to be the best cell biologist, physicist, computational biologist, structural biologist, physiologist, etc. Therefore, the only way to combine the best of these divergent skills—so as to be competitive, solve complex problems, and open new frontiers—will be to collaborate. To accommodate team science, individual laboratories will, in general, be smaller. Students and postdocs will receive more individual attention and learn to work more effectively with others. Cell biologists will be able to communicate in different technical “languages,” such as modeling, statistics, physics, structure, etc. Women and minorities may be more successful in the context of team science because diversity and a willingness to collaborate always work to a team’s advantage. Because effective team science requires a mix of students, postdocs, and professional staff, balancing personnel at these levels will change the current funnel-shaped pipeline to one more cylindrical. This will proportionally increase career opportunities for young trainees.

My father and I are Star Trek fans. He frequently declares that “300 years from now all of these problems (i.e., whatever it is we’re discussing) will be solved.” I’m more optimistic. I’m confident that every year cell biologists will boldly go where no cell biologists have gone before. The results from our explorations will hugely impact our understanding of human physiology and hence our abilities to treat human disease.

Thank you for contributing to my optimism.

Comments are welcome and should be sent to president@ascb.org.

Being a cell biologist today is like being a kid in a toy store!... tools are accelerating the pace and depth of discovery.

New ASCB Member Benefit

Are you planning to publish a book in 2012? If so, let ASCB know! Send the title, publisher, and ISBN information, and, if you wish, a thumbnail (300 dpi) of the cover. We’ll include it in the ASCB Newsletter. This publicity is available only to ASCB members. Please send submissions to Thea Clarke at tclarke@ascb.org.
Join us at the premier forum for the latest breakthroughs in cancer research, bringing together over 17,000 attendees from academia, industry, government, philanthropic organizations, and the survivor and patient advocacy community.

Be sure to take advantage of the Annual Meeting's excellent career advancement events:

- The AACR Cancer and Biomedical Research Career Fair on Saturday, March 31;
- Professional Advancement Series: Featured topics include grant writing, career options, getting your research published, and more;
- Meet the Research Pioneer, a special series of informal talks featuring luminaries in cancer research; and
- Career Conversations, a series of sessions to discuss with experts the challenges of different career paths and how to leverage your resources for future success.

Late-breaking and placeholder abstract submission deadline: Wednesday, January 25

Advance registration deadline: Monday, February 6

Housing deadline: Wednesday, February 15
Expand Educational Tools

Another major goal of the grant is to expand the educational tools associated with the project to facilitate the use of iBioSeminars and iBioMagazine in the classroom. This expansion will include new content (e.g., associated lecture notes and questions), improvements to the website to make it easier for teachers to find content that they need, and examples of successful uses of iBio in high school, undergraduate, and graduate courses. iBioSeminars also will produce its first full-length course in light microscopy. The new website with educational resources is projected to be released toward the end of 2012. The iBioSeminars group and volunteers from other countries will continue to subtitle talks in English, Spanish, and other languages, so that they can be used more easily by students throughout the world.

Richard Rodewald from the NSF, who oversaw the review and funding of the grant, commented: “The project is truly impressive in its scope to inform and educate a broad international audience, at all levels of understanding, about the many remarkable scientific achievements that have transformed the biological sciences. The focus of this project exemplifies what the NSF holds so dearly as the potential broader impacts of scientific research when combined with compelling educational outreach.”

One of the first orders of business was to hire iBioSeminars’ first full-time employee. Sarah Goodwin, who spearheaded the creation of English subtitles, was recently hired as the iBio director. “iBioSeminars and iBioMagazine are great educational resources that give people everywhere access to leading scientists and cutting-edge research. These seminars provide an easy and engaging way to learn about new areas of science, and I’m excited to help expand the educational component of the project,” says Goodwin. In addition to the new director, iBioSeminars now has a full-time video producer, Isaac Conway, who previously worked part-time for the project. With the new resources from NSF/NIGMS and full-time employees, everyone can look forward to more great talks and educational material from iBioSeminars in the coming years.

Users Encouraged to “Subscribe”

We encourage viewers of iBioSeminars.org and iBioMagazine.org to subscribe online (“Subscribe/contact” bar on the home page). Subscription helps us to continue our support from NSF/NIGMS by demonstrating that the lectures are being widely used. By subscribing, viewers can help to keep iBioSeminars free for users throughout the world and enable the site to remain free of advertising. Subscribers will only receive email updates about new lectures.


—Ron Vale

Did You Know…?

■ You have free access to ASCB’s quarterly online journal CBE—Life Sciences Education (CBE-LSE). It publishes peer-reviewed articles on life sciences education research and evidence-based practice at the K–12, undergraduate, and graduate levels.

■ The CBE-LSE Editorial Board believes that biology learning encompasses diverse fields, including math, chemistry, physics, engineering, and computer science, as well as the interdisciplinary intersections of biology with these fields.

■ One goal of the journal is to encourage teachers and instructors to view teaching and learning the way scientists view their research, as an intellectual undertaking that is informed by systematic collection, analysis, and interpretation of data related to student learning.

■ The 2011 Winter issue is now online. Check out the Table of Contents on page 11.
Turn to a world of true CO₂ incubator sterilization.

Binder CO₂ incubators offer:

- A 180°C hot-air sterilization cycle that eliminates contamination.
- A hot-air jacket that delivers consistent, uniform temperatures.
- Drift-free real-time CO₂ measurement that ensures stable pH values.
- Condensation-free humidification that maintains dry interior walls.
- A one-piece weld-free interior with rounded corners and integrated shelf supports.

Get directions at [www.true-sterilization.com](http://www.true-sterilization.com) or 866-885-9794.
Join the Biology Scholars Program in 2012!

Assessment Residency: Measuring Student Learning
Application deadline: February 15, 2012
June 27–30, 2012, in Washington, DC
- An intensive experience for developing capabilities to design course goals and assessments that are grounded in research on how people learn
- A venue to enhance skills to create, design, plan, and implement evaluations that provide both formative and summative feedback

Research Residency: The Scholarship of Teaching and Learning
Application deadline: March 1, 2012
- An intensive experience for understanding evidence-based research in biology education learning
- A venue to enhance skills to create, design, and implement an experiment to assess student learning

Transitions Residency: From Science Education Research to Publication
Application deadline: February 1, 2012
July 16–18, 2012, in Washington, DC
- An intensive experience for learning to transition from conducting science education research to publishing papers in science education
- A venue for participants to understand the significance of their research, contextualize their work within the larger framework of learning, and progress toward preparing their work for publication
- A context that offers time, space, and collegial feedback for engaging in writing aimed at disseminating scholarly research in teaching and learning

Who Are the Biology Scholars?
Over 100 participants from the U.S. to Australia have been accepted into the Biology Scholars Program. Learn more about Scholars and their research at www.biologyscholars.org/scholars. Alumni from the ASCB include David Dunbar, Cabrini College; John Geiser, Western Michigan University; Trudy Gillevet, Northern Virginia Community College; Jennifer Roecklein-Canfield, Simmons College; and Miriam Segura-Totten, North Georgia College and State University.

Who Are the Partnering Societies?
Society partners disseminate information, sponsor Scholars to present or publish in conferences and journals, showcase Scholar journeys in magazines, websites, etc., and recruit members to become Scholars:

- American Association for the Advancement of Science (AAAS)
- American Institute of Biological Sciences (AIBS)
- American Physiological Society (APS)
- American Society for Biochemistry and Molecular Biology (ASBMB)
- American Society for Cell Biology (ASCB)
- American Society of Human Genetics (ASHG)
- American Society of Plant Biologists (ASPB)
- Ecological Society of America (ESA)
- Genetics Society of America (GSA)
- Human Anatomy and Physiology Society (HAPS)
- Society of Toxicology (SOT)

Funding Is Available
Grant assistance is available for full-time biologists either at community colleges and/or those working with underserved and underrepresented populations in the sciences. Visit www.biologyscholars.org/travelgrant.

Sign Up for E-Alerts
Wish to receive information about future programs? Sign up at www.biologyscholars.org/e-alerts.

Visit www.biologyscholars.org or contact biologyscholars@asmusa.org
Bruker’s BioScope™ Catalyst™ makes it easier than ever to realize the full benefits of combining AFM and light microscopy. Our MIRO software enables true functional integration of the two techniques, allowing AFM measurements to be guided by optical images. Our exclusive ScanAsyst™ mode automatically optimizes imaging parameters to quickly obtain expert-quality results. Our Perfusing Stage Incubator accessory enables long duration live cell studies. Together these features make the BioScope Catalyst the most advanced and most productive life science AFM available today.

Register for a complimentary tutorial on Monday, December 5.
www.bruker-axs.com/afm_tutorial.html
Visit us in Booth # 826 for more details and demonstration. www.bruker-axs.com
Table of Contents

FEATURES

Approaches to Biology Teaching and Learning
Reconsidering “What Works”
Kimberly D. Tanner ................................................................. 329–333

Current Insights
Recent Research in Science Teaching and Learning
Deborah Allen ................................................................. 334–337

Book Review
In the Name of the Scientist
José Vázquez ................................................................. 338–339

Book Review
Probing the Origins of British Romantic Science
Jared Poley ................................................................. 340–341

Meeting Report
GCAT-SEEquence: Genome Consortium for Active Teaching of Undergraduates through Increased Faculty Access to Next-Generation Sequencing Data

ARTICLES

Assessment of Learning Gains Associated with Independent Exam Analysis in Introductory Biology
Adrienne E. William, Nancy M. Aguilar-Roca, Michelle Tsai, Matthew Wong, Marin Moravec Beaufre, and Diane K. O’Dowd ................................................................. 346–356

Integrating Theory and Practice to Increase Scientific Workforce Diversity: A Framework for Career Development in Graduate Research Training
Angela Byars-Winston, Belinda Gutierrez, Sharon Topp, and Molly Carnes ................................................................. 357–367

The C.R.E.A.T.E. Approach to Primary Literature Shifts Undergraduates’ Self-Assessed Ability to Read and Analyze Journal Articles, Attitudes about Science, and Epistemological Beliefs
Sally G. Hoskins, David Lopatto, and Leslie M. Stevens ................................................................. 368–378

Applying Computerized-Scoring Models of Written Biological Explanations across Courses and Colleges: Prospects and Limitations
Minsu Ha, Ross H. Nehm, Mark Urban-Lurain, and John E. Merrill ................................................................. 379–393

Active Learning Not Associated with Student Learning in a Random Sample of College Biology Courses

Using Clickers to Facilitate Development of Problem-Solving Skills
Aime A. Levesque ................................................................. 406–417

Osmosis and Diffusion Conceptual Assessment
Kathleen M. Fisher, Kathy S. Williams, and Jennifer Evarts Lineback ................................................................. 418–429

Adding an Extra Dimension to What Students See through the Light Microscope: A Lab Exercise Demonstrating Critical Analysis for Microscopy Students
Ashley Garrill ................................................................. 430–435
A Special Issue for the ASCB Annual Meeting

The November 1, 2011, issue of *Molecular Biology of the Cell (MBoC)* features essays by 2011 ASCB Award recipients, as well as specially commissioned Retrospective and Perspective essays.

The Editorial Board of *MBoC* has highlighted the following articles from the November 2011 issues. From among the many fine articles in the journal, the Board selects for these Highlights articles that are of broad interest and significantly advance knowledge or provide new concepts or approaches that extend our understanding.

**Bypass of glycan-dependent glycoprotein delivery to ERAD by up-regulated EDEM1**

*E. Ron, M. Shenkman, B. Groisman, Y. Izenshtein, J. Leitman, and G. Z. Lederkremer*

Extensive trimming of mannose residues targets a misfolded glycoprotein for endoplasmic reticulum–associated degradation (ERAD). Surprisingly, overexpression of EDEM1 or its up-regulation by the unfolded protein response bypasses this requirement. Delivery to OS9 in the ER-derived quality control compartment and ERAD become mannose trimming–independent, accelerating glycoprotein disposal.

*Mol. Biol. Cell 22 (21), 3945–3954*

**The tumor suppressor adenomatous polyposis coli controls the direction in which a cell extrudes from an epithelium**


Adenomatous polyposis coli (APC) controls the direction in which cells extrude from epithelia. APC acts in the dying cell to control where microtubules target actomyosin contraction in neighboring cells that squeeze out the dying cell. APC mutations that frequently occur in colon cancer cause cells to extrude aberrantly beneath epithelia, which could enable tumor cell invasion.

*Mol. Biol. Cell 22 (21), 3962–3970*

**The SCAR/WAVE complex is necessary for proper regulation of traction stresses during amoeboid motility**


A combination of traction force and F-actin measurements shows that cells lacking either of the SCAR/WAVE complex proteins SCAR and PIR121 exhibit an altered cell motility cycle and spatiotemporal distribution of traction stresses, which correlate in magnitude with F-actin levels.

*Mol. Biol. Cell 22 (21), 3995–4003*

**STARD4 abundance regulates sterol transport and sensing**

*B. Mesmin, N. H. Pipalia, F. W. Lund, T. F. Ramlass, A. Sokolov, D. Eliezer, and F. R. Maxfield*

The expression of a small sterol transport protein, STARD4, is regulated by cholesterol levels. We show that the abundance of STARD4 regulates the sensitivity of the SREBP-2 system to changes in cholesterol, providing an additional layer of regulation in the cholesterol homeostatic mechanism.

*Mol. Biol. Cell 22 (21), 4004–4015*

**β-Actin specifically controls cell growth, migration, and the G-actin pool**

*T. M. Bunnell, B. J. Burbach, Y. Shimizu, and J. M. Ervasti*

Targeted deletion of *Actb* demonstrates that the β-actin gene, in contrast to the γ-actin gene, is an essential gene uniquely required for cell growth and migration. Cell motility and growth defects in β-actin–knockout primary cells are due to a specific role for β-actin in regulating gene expression through control of the cellular G-actin pool.

*Mol. Biol. Cell 22 (21), 4047–4058*

**The filament-forming protein Pil1 assembles linear eisosomes in fission yeast**

*R. Kabeche, S. Baldissard, J. Hammond, L. Howard, and J. B. Moseley*

Eisosomes generate spatial domains in the plasma membrane of yeast cells. The core eisosome protein Pil1 is shown to form filaments in vitro and in cells. Pil1 filaments are stable at the cell cortex, and cytoplasmic Pil1 filament rods appear upon overexpression. This shows a role for self-assembly in organizing cortical domains.

*Mol. Biol. Cell 22 (21), 4059–4067*
Membrane-targeted WAVE mediates photoreceptor axon targeting in the absence of the WAVE complex in Drosophila
R. Stephan, C. Gohl, A. Fleige, C. Klämbt, and S. Bogdan

The Abelson interactor (Abi) has a conserved role in Arp2/3-dependent actin polymerization, regulating WASP and WAVE. In this study, the function of Abi was analyzed in the context of the developing fly visual system, and the steps in the molecular regulation of WAVE activity by its regulatory complex in vivo were identified.

*Mol. Biol. Cell* 22 (21), 4079–4092

Two novel WD40 domain–containing proteins, Ere1 and Ere2, function in the retromer-mediated endosomal recycling pathway
Y. Shi, C. J. Stefan, S. M. Rue, D. Teis, and S. D. Emr

Regulated responses to extracellular signals depend on cell-surface proteins that are internalized and recycled back to the plasma membrane. Two novel WD40 domain proteins, Ere1 and Ere2 (endosomal recycling proteins), are found to mediate cargo-specific recognition by the retromer pathway.

*Mol. Biol. Cell* 22 (21), 4093–4107

Dual roles of Munc18-1 rely on distinct binding modes of the central cavity with Stx1A and SNARE complex

The Munc18 central cavity plays a major role in trafficking syntaxin 1 (Stx 1) to the plasma membrane and in activating SNARE-mediated membrane fusion. This paper provides critical insight into the mechanisms of how the Stx1A H3 domain can compete with the SNARE complex for binding the Munc18 central cavity, first inhibiting, and later assisting, SNARE-complex assembly.

*Mol. Biol. Cell* 22 (21), 4150–4160

α-Catenin contributes to the strength of E-cadherin–p120 interactions
R. B. Troyanovsky, J. Klingelhöfer, and S. M. Troyanovsky

Cadherin–catenin interactions play an important role in cadherin adhesion. In the cadherin complex, α-catenin contributes to the binding strength of another catenin, p120, to the same complex. The data suggest that α-catenin–p120 contact within the cadherin–catenin complex can regulate cadherin trafficking.

*Mol. Biol. Cell* 22 (22), 4247–4255

The eIF2 kinase PERK and the integrated stress response facilitate activation of ATF6 during endoplasmic reticulum stress

This study shows that the eIF2 kinase PERK is required not only for translational control but also for activation of ATF6 and its target genes in the unfolded protein response. The PERK pathway facilitates both the synthesis of ATF6 and trafficking of ATF6 from the endoplasmic reticulum to the Golgi for intramembrane proteolysis and activation of ATF6.

*Mol. Biol. Cell* 22 (22), 4390–4405
The moment your sample is visualized with perfect clarity. **This is the moment we work for.**

The Axio Zoom.V16 combines the low magnification and wide field of view of stereomicroscopes with the high numerical aperture and superb image quality of compound microscopes.

Use the Axio Zoom.V16 to image large organisms or fields of cells and then zoom in and capture fine details with amazing brilliance.

Email micro@zeiss.com to request more information.
There is an alarming absence of women thought leaders in the media. For example, a survey of opinion bylines in *The New York Times* for the week of November 10–16, 2011, shows that only 20% of the writers were women. In *The Washington Post*, *The Wall Street Journal*, and *The Los Angeles Times* for the same week, the figures were 17%, 20%, and 16%, respectively.

In short, public thought leadership all but excludes half of the population. Now ask yourselves: What could we accomplish if we invested in broadcasting the missing voices, those of women, minority groups, and the underprivileged? What about the voices of scientists who can communicate important information to lay people? What about YOUR voice and the voice of the organization, research, or cause you champion? The OpEd Project (www.theopedproject.org) is a social venture founded to enrich and diversify the world’s conversation. Our near-term goal is to increase the ratio of women to men in key thought leadership forums. Our long-term vision is to create a new, sustainable ecosystem of experts and mentors that will constantly renew, enrich, and diversify the world’s conversation.

To accomplish this, we encourage and enable women to contribute opinion pieces to newspapers and other media. These opinion pieces are typically called op-eds, after their placement “opposite editorial” in many newspapers, and reflect the views of experts who are not members of a newspaper’s editorial board.

But placement of op-eds by women and minorities is just the beginning. Ultimately, we evaluate our success in terms of helping women and minorities to take concrete, measurable thought leadership positions. It’s what happens after the op-eds are published that matters most. As a direct result of their publications, OpEd Project members have gone on to speak on national TV and radio; receive book contracts; brief Congress and consult on policy; speak at national conferences; and be consulted and regularly cited as experts by national media. And—crucially—they have received national and international recognition for their ideas, thus becoming role models for a new wave of diverse brain power.

Regardless of Why There’s a Problem, How Do We Fix It?
A few years ago Larry Summers (then president of Harvard University) asked why there were so few women in higher math and science, and he wondered if it might be due to our lack of “biological aptitude.” From the impassioned national debate that ensued there arose an ancillary debate about why so few women were getting bylines on the op-ed pages. Susan Estrich accused *The Los Angeles Times* of institutional sexism. Maureen Dowd of *The New York Times* said the lack of participation by women reflected their fear of being attacked. And Anne Applebaum wrote in *The Washington Post* that she took offense to being called a “woman journalist” in the first place. And the debate went on and on…..

The OpEd Project isn’t interested in getting embroiled in why this disparity persists despite all the advances of the women’s movement. It’s an intractable, age-old argument. So instead of jumping on the debate dog pile, we’re intently focused on how to fix the problem.

Encouraging Women to Enter the Forum
The fact is that women do not submit op-eds with anywhere near the frequency that men do. *The Washington Post* did an internal survey in 2008 and found that 90% of their op-ed submissions came from men. When you consider that 88% of *The Washington Post* bylines were male, it becomes clear that women were actually being fairly represented. Biology, sexism, weather patterns—how will we ever know what causes the thought leadership gap if we aren’t even submitting?
And that’s how The OpEd Project was born. Our focus is on training and empowering women, and other disenfranchised groups, because we’re committed to reaching a tipping point (which we believe to be between 15% and 30%) that will permanently change this pattern.

Constructing an Op-ed
Anyone who wants to write a successful op-ed should understand the structure of such articles. It is also important to understand how to prepare compelling arguments.

A basic op-ed usually has five components:
- **Lede**: an opening line or paragraph designed to capture the reader’s attention, usually around a news hook
- **Thesis**: a statement of argument, either explicit or implied
- **Argument**: three main points based on evidence (such as statistics, news, reports from credible organizations, expert quotes, scholarship, history, first-hand experience)
- **“To Be Sure”**: a paragraph in which you pre-empt your potential critics by acknowledging any flaws in your argument and putting forth any obvious counter-arguments
- **Conclusion**: a statement that often circles back to your lede

Your op-ed will have a better chance of being well received if it conforms to this basic structure. In addition, it will help to keep in mind some basic guidelines for crafting a powerful argument:
- Own your expertise. Know what you are an expert in and why, but don’t limit yourself. Consider the metaphors that your experience and knowledge suggest.
- Stay current. Follow the news, both general and specific to your areas of specialty. If you write about Haiti, read the Haitian press. If you write about pop culture, read the media that cover it.
- The perfect is the enemy of the good. In other words: write fast. You may have only a few hours to get your piece in before the moment is gone. But also…
- Cultivate a flexible mind. Remember that a good idea may have more than one news hook. Indeed, if the idea is important enough it can have many. So keep an eye out for surprising connections and new news hooks. The opportunity to express your views may come around again.
- Use plain language. Jargon serves a purpose, but it is rarely useful in public debate, and can obfuscate—sorry, I mean cloud—your argument. Speak to your reader in straight talk.
- Respect your readers. Never underestimate your readers’ intelligence or overestimate their level of information. Recognize that your average reader is not an expert in your topic, and that the onus is on you to capture his or her attention and to make the argument compelling.

Pitching Your Op-ed
How do you get your op-ed published? It is fine to contact the editor of a newspaper by email. The key to a successful email pitch is establishing credibility, capturing interest, and conveying the immediate relevance of your perspective as efficiently as possible. Here are some tips on how to achieve that outcome:

An effective email pitch answers these basic questions:
- Why now? What’s the news hook? Why is this worth reading at this moment?
- So what? Why should people care?
- Why me? Why am I the best one to write this piece?

A pitch should also include:
- Your idea in a few lines
- Your credentials (but only those that are relevant)
- The finished piece pasted below your pitch
- Your contact information

A pitch should:
- Be timely
- Be well written
- Be brief and clear
- Convey expertise
- Offer an unexpected point of view

Follow up if the editor responds:
- Thank the editor, even if he or she said “no.” Remember that “no” can be the beginning of a conversation that can eventually lead to “yes.”
- If the editor accepted your article, thank him or her not for showcasing you but for giving space to the ideas and issues.

You should also follow up if there is

---

The fact is that women do not submit op-eds with anywhere near the frequency that men do.
no response. Have a time limit. If your idea has a very short shelf life, you might give an editor a day or less to respond. If it’s evergreen, wait a week or two or even more. Then send a follow-up email to the editor saying that you’d still like to run your piece in the publication. But explain that since the piece is timely, if you don’t receive a response by the end of the day (or week, or other clear deadline) you will assume the editor is not interested and will submit your op-ed elsewhere.

Also, keep in mind that most national newspapers will not consider your piece if you submit to more than one paper at the same time. If you have further questions about the process of submitting your op-ed to publications, as well as the requirements and specific contacts at major papers, please check out the OpEd Project website for more details.

### The OpEd Project Strategy

The foundation of the OpEd Project’s effort is our core thought leadership public seminar and training, which is currently being offered in New York City, Boston, Washington, DC, Chicago, San Francisco, Los Angeles, and San Diego. During this highly interactive, energetic full-day program, we explore the source of expertise and credibility and strategies for making a greater impact.

The training is about much more than writing an op-ed, but participants get all the essential, nitty-gritty tips like those discussed above. In addition, for one year after the date of their seminar, and for as many op-eds as they choose to write during that time, alums can tap into the Mentor-Editor Network. The Mentor-Editor Network is a national resource of high-level editors, columnists, and top thought leaders across all media platforms for truly insider editing and submission advice. The support of mentor-editors provides participants with inspiration and the focused help that often doubles their chances of breaking into public debate in a meaningful way.

We see women as a starting point, but we have already begun to export our model to minority men and youth. The larger goal is not a solution for women, but a solution for everyone. We envision a world where all the best ideas—regardless of where they come from—have a chance to be heard, and to shape society and the world. What we are doing, in essence, is building a global, open source think tank to diversify the world’s conversation.

Since our founding in January 2008, over 4,000 women and minority experts have come through our system, producing hundreds of op-eds in major (50,000+ readers) media outlets, as well as thousands of pieces in smaller media in print, online, on radio, and on television. The ideas of women and minorities in The OpEd Project community have reached hundreds of millions of people so far. We are not just creating new thought leaders, we are creating a new media landscape in which ideas are now increasingly shared.

So if you’re ready to jumpstart your influence, contribution, and thought leadership, please join our movement. The Larry Summers’ of the world will always be loudest until we drown them out with the expert voices of passionate, educated women and scientists.

And that begs the most important question of all: if not you, then who?

---Becca Frucht, The OpEd Project

### Editor’s Note

The OpEd Project is a social venture that offers a variety of seminars and keynote addresses to individuals, corporations, nonprofits, and universities. Its 501(c)3 status is pending.

We envision a world where all the best ideas—regardless of where they come from—have a chance to be heard, and to shape society and the world.
We have made TALENs® affordable through our exclusive TALEN® Access offer. We have a production capacity of 7,200 units per year. Our TALENs® can target any gene, at any position.

For the first time, any genome is accessible and affordable for the global research community.
And the Parrot Said…

It’s hard to tell a joke when everyone knows the punch line. It’s even harder when the joke turns out not to be funny. By the time you read this story, we all may know what the FY12 budget is for the U.S. National Institutes of Health (NIH).

In September, the U.S. Senate Appropriations Committee approved a Departments of Labor, Health & Human Services, and Education Appropriations bill (L-HHS) that included a 0.6% cut for NIH. The following week, the U.S. House of Representatives Appropriations Committee released an unofficial draft L-HHS bill that increased the NIH budget by 3.3%, the same amount President Obama requested in his FY12 budget request.

In order to provide the NIH with a 3.3% increase, however, the draft House bill reduces funding for a number of other programs within the same bill, including the Centers for Disease Control and Prevention, the Substance Abuse and Mental Health Administration, the Department of Education, and the National Labor Relations Board. All funding for President Obama’s Affordable Care Act is also eliminated.

As of press time, it was uncertain what would happen next. It was unclear if the House NIH budget increase or the Senate NIH budget decrease would prevail. It was also unclear what impact the deliberations of the Joint Deficit Reduction Committee, established as part of the federal debt limit increase deal and often referred to as the Super Committee, would have on future federal spending.

Washington, DC, was abuzz with speculation and rumors about whether the Super Committee would be able to agree on at least $1.2 trillion in savings in the federal budget. Congress might not complete action on the FY12 federal budget until after the Super Committee releases its recommendations on November 23, 2011, or even after Congress approves or disapproves of the plan in late December. ■

—Kevin M. Wilson

ASCB Proposes External Review

Good ideas take time to develop. For the last year, the ASCB has been trying to convince Francis Collins, Director of the U.S. National Institutes of Health (NIH), that periodic, outside reviews of NIH operations is a good idea.

After first discussing the idea with Collins at the 2009 ASCB Annual Meeting, the ASCB followed up by letter. The ASCB said, “Responsible independent external review would reassure the Congress and the public about the agency’s direction.” The ASCB continued, “Periodic reviews would also focus public attention on the gains that are being made in publicly funded biomedical research and provide you and future NIH Directors with concrete examples of gains being made thanks to NIH-supported research. Such reviews would also allow you to recommend appropriate reforms and or large-scale budgetary changes that may be necessary to respond to ever-changing fiscal realities.”

Unfortunately, Collins was not as enthusiastic as the ASCB had hoped. Collins replied that he would give our suggestion serious consideration.

At the same time he highlighted previous reviews of NIH operations, some as old as 19 years old, by outside groups. The most recent reviews cited by Collins were issued in 2003 and 2004, just as the five-year doubling of the NIH budget was concluding.

After reviewing the previous studies, the ASCB replied to Collins: “Perhaps a review of NIH as we approach the 10-year anniversary of the 2003 report, looking at implementation of those recommendations, would be helpful.”

With Congress and the public focusing on how the federal government spends tax dollars, it is important for the NIH to show that it is a good steward of the funds it already receives. ■

—Kevin M. Wilson
Have you seen it?

American Society for Cell Biology (ASCB)
Colorado Convention Center
December 3-7, 2011
Booth #309

Be the first to see it!
Scan this 2D bar code with your mobile device.

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore and the M logo are trademarks of Merck KGaA, Darmstadt, Germany.
Muse is a trademark of Millipore Corporation.
© 2011 Millipore Corporation. All rights reserved.
Biomedical Research Highlights and Opportunities in Australia and New Zealand

Despite the geographical isolation of Australia and New Zealand, the discipline of cell biology was firmly seeded in these countries as early as the 1970s. Discussions among leading cell biologists in the region that actively grew over the course of several conferences led to the establishment of the Australian and New Zealand Society for Cell Biology in 1981, with “the aim of advancing research and education in cell biology.” The society’s first annual meeting was held in Canberra the following year, in association with the Seventh Australian Conference on Electron Microscopy. The list of invited speakers and attendees at this first conference included Shinya Inoue, Lew Tilney, E.H. Mercer, Andrew Somlyo, and Sue Wick. Shortly after its formation, the society affiliated with the International Federation for Cell Biology, the Asia-Pacific Organization for Cell Biology, and the European Developmental Biology Organization. In 1996, it was agreed to establish a more formal relationship with developmental biologists; the society then renamed itself as the Australia and New Zealand Society for Cell and Developmental Biology (ANZSCDB).

In recent times, the society’s annual meeting has been held under the auspices of ComBio, the major Australian biology conference that is held in conjunction with the Australian Society for Biochemistry and Molecular Biology and a variety of other organizations each year. Although the meetings have occurred predominantly in Australia, they have been held twice in New Zealand—in Auckland in 1987 (in conjunction with the New Zealand Society for Electron Microscopy), and in Christchurch in 2009. Two of the society’s annual meetings have been held in association with international congresses. The Second Congress of the Asia-Pacific Organization for Cell Biology was held in Sydney’s Darling Harbour in 1994. Eminent invited cell biologists attended and spoke at that conference, including John Heuser, Ira Mellman, Richard Scheller, Nobutaka Hirokawa, Peter Dempsey, and Wanjin Hong. The 19th conference of the ANZSCDB was held on Queensland’s Gold Coast in association with the Seventh International Congress for Cell Biology, as well as the International Society of Differentiation and the Asia Pacific International Molecular Biology Network. Major features of these two international meetings were workshops on cell biology education... distinguished invited speakers included Mary Lee Ledbetter, Mina Bissell, Janet Oliver, and Denys Wheatley. In addition to these larger conferences, the Hunter Meeting (originally the “Hunter Cellular Biology Meeting”) has provided an informal yet internationally renowned forum since 2001 that has brought Australian and New Zealand cell and developmental biologists together with leading international

International Affairs, continued on page 23
Don’t let journal editors use language errors as an excuse to ignore your research. With American Journal Experts, you can present a polished paper to the world in perfect, publication-ready English.

AJE has helped thousands of international researchers to get their work published in the best journals in the world. All of our editors, translators and reviewers are highly qualified subject-matter experts who understand the challenges of the publication process.

Whether you need simple editing or comprehensive content review, AJE can help increase your chances of publication. Visit our site at www.journalexperts.com to learn more.
speakers. The conference takes place annually in the idyllic setting of the Hunter Valley (one of Australia's premier wine-growing regions) to discuss “cell biology among the vines.” The attendance of eminent cell biologists from overseas at cell biology conferences such as these over the years has helped to promote an air of excitement and fostered a sense of community that has established cell biology as a major research discipline in Australia and New Zealand.

Research Funding
Currently, the majority of funding for biomedical research within Australia is obtained through highly competitive, peer-reviewed grant schemes managed by the two main federal government science funding agencies, namely the National Health and Medical Research Council (NHMRC) and the Australian Research Council (ARC). As a general rule of thumb, both agencies expect that successful grant recipients will remain based in Australia for the duration of the award. Additionally, while there is a general requirement for lead investigators applying for NHMRC grant funding to be Australian citizens or permanent residents when they apply, the NHMRC may waive these requirements provided the applicant(s) clearly demonstrate that the research is based in Australia and justify how it will benefit Australian health and medical research (note that any lead investigator who is a New Zealand citizen does not require a waiver if he/she will be based in Australia for the duration of the grant). Although researchers who are not Australian citizens or permanent residents of Australia are typically not eligible to submit grant applications as the primary investigator, they may be included as a co-investigator. However, co-investigators from overseas who will stay based in Australia during the grant may be eligible to submit an independent request for salary funding by applying for a Personnel Support Package at the level that most closely matches the role/responsibilities of the position on the research project (not the investigator's expertise/past experience).

Generally, most of the award mechanisms brokered by these two federal agencies accept new grant applications only once per year; unfortunately, grant submission dates tend to cluster together early in the year (February–March) for both agencies (www.nhmrc.gov.au/grants/calendar/index.htm). As of last year, each agency requires all grant applications to be completed and submitted online via their respective Web-based systems. New grant applications to the NHMRC must be submitted via the Research Grants Management System; new grant applications to the ARC must be submitted via the Research Management System.

External Funding Partnerships
Over recent years—as the Australian federal government’s primary biomedical funding body—the NHMRC has formally partnered with a variety of external funding agencies both to leverage funding across agencies and allow foreign/private funding bodies to capitalize on the NHMRC’s significant infrastructure/expertise in grant review and administration within Australia. Examples include the establishment of formal linkages with the Juvenile Diabetes Research Foundation International and managing the NHMRC–European Union Collaborative Research Grants scheme that enables Australian researchers to participate in international projects funded under the Seventh Framework Programme of the European community for research and technology development. Access to the Human Frontier Science Program (HFSP), which supports international/interdisciplinary collaborations in basic research focused on complex mechanisms of living organisms, is afforded via Australia’s membership in the program through the NHMRC.

Compared with the NHMRC, ARC funding covers a much wider spectrum of research topics under its National Competitive Grants Program. However, through the ARC’s commitment to foster the development of Australia’s most talented researchers and support “discovery” research leading to new ideas and/or the advancement of knowledge, over the past few years the ARC has seen a substantial increase in the number of biomedically focused research grant applications encompassing more technologically innovative and ambitious science through its Discovery Projects scheme. In parallel, the ARC’s Linkage scheme centers on building Australia’s research capability by expanding and enhancing research networks and collaborations, establishing national centers of research excellence, and enabling international research collaborations. Notably, in addition to providing a number of senior research...
SINGLE-CELL GENE EXPRESSION — ELIMINATE AVERAGING EFFECTS TO SEE TRUE GENETIC DIFFERENCES.

Cells can differ dramatically, even within a homogeneous population. Pooling even a few cells averages out unique cell signatures and meaningful variances are often masked. The BioMark™ HD System was designed to help you find unique cell signatures through gene expression profiling of individual cells in populations of hundreds of cells. Now you can uncover previously unrecognized subpopulations.

View the Gene Expression Profiling Webinar at singlecellgeneexpression.com
A Review of The Cell: An Image Library

One of the most difficult concepts to impart to biology students is the critical difference between seeing something and truly observing it. Understanding structure and function in a biological system requires careful scrutiny. The American Society for Cell Biology (ASCB) has eased the path to observation and understanding by creating The Cell. This highly interactive site features still images, videos, and animations derived from the recent literature, as well as classic microscopy from earlier studies (matchless TEM images from the work of Don Fawcett are very welcome inclusions). This site offers much more than a mere atlas of microscopic anatomy, however. For each entry, information about the methodology used to create the image is included, as well as information about the featured process and/or cellular component. This additional content, which is extensive and easily searched, provides a rich context for the study of biological structure and process.

Further study of a structure, cell type, or study organism is facilitated by the inclusion of large tabs at the top of each page. A few clicks take readers from a particularly arresting image or video to a fuller presentation of a cell structure or a biological process. Observation, therefore, and not mere identification, is fostered in even a casual perusal of the site. Researchers are encouraged to submit their own images and videos for inclusion in the library, a feature that gives The Cell a uniquely interactive flavor. Publication in an ASCB venue is prestigious, so the society’s sponsorship of this new site will ensure a steady flow of superb images that document scientists’ growing understanding of cell structure and function. Teachers particularly will find this site a rich trove of material for their classes. Summing Up: Highly recommended. Students of all levels, researchers, and educators.

—S.K. Sommers Smith, Boston University

Reprinted with permission from CHOICE (www.cro2.org); copyright by the American Library Association.
See what others don’t

The IN Cell Analyzer system for high content cellular analysis provides a highly informative window on complex cellular mechanisms during early drug discovery.

• Automatically analyze up to 100 parameters in each cell.
• Do more cell assays, in less time, and in more depth.
• Achieve deeper insights to help assess the efficacy and safety of potential drug candidates.

In a world where nine out of ten drugs fail in trial, the advantage is clear. To learn more, visit:
www.gelifesciences.com/drugdiscoverysuite
Postdoc- or Senior Graduate Student–Initiated Minisymposium

New for 2012!

Is there a “hot topic” that you would like to see represented in the ASCB Annual Meeting? Would you enjoy the experience of organizing a Minisymposium? Then find a fellow young scientist and jointly submit your proposal to organize and co-chair a Minisymposium to the ASCB by Wednesday, March 7, 2012.

This year the ASCB will pick a Minisymposium topic proposed by a pair of young scientists (senior graduate students or postdocs eligible) that is not already covered at the meeting (see list below).

If your proposal is selected, you will both be responsible for:
- Reviewing abstracts in August 2012 and selecting a total of six talks from submitted abstracts. (You and your co-chair may give two of these talks.)
- Allocating the $1,500 in travel funds for your Minisymposium among the co-chairs and speakers.
- Contacting all speakers prior to the meeting to coordinate your session.
- Preparing a five-minute introduction for your session.

If your proposal is selected, you both will receive:
- Complimentary abstract submission to the meeting (so you may present a talk in your own session).
- Complimentary registration for the meeting.
- A certificate acknowledging that you co-chaired a Minisymposium at the 2012 American Society for Cell Biology Annual Meeting.

To submit your proposal for the meeting, you will need to prepare the following four items for consideration:

1. Topic Summary: In 300 words or less, propose your topic. Be sure to include why it is an interesting topic for cell biology and why it would be a good fit for the ASCB Annual Meeting. Also include one to two sentences about why you would both be great co-chairs and how you each bring a different perspective to the session topic.
2. CVs: Attach the CVs of both co-chairs.
3. Two Sample Abstracts: In 300 words or less, each of you must describe what you would speak about during your time slot.
4. References: Provide at least two references with name, phone, and email. (They do not need to send letters to us, but we may contact them.)

Please submit all materials by March 7, 2012, to: Minisymph2012@ascb.org.

Topics Already Selected for 2012

**Working Groups**
- New Technologies in Molecular Biology/Genetics
- New Technologies in Imaging
- New Technologies in Proteomics
- Visualizing Biological Models and Information

**Minisymposia**
- Actin Organization and Dynamics
- Autophagy, Self Renewal, and Cell Death
- Cancer Cell Biology
- Cell Biology of Neurodegeneration
- Cell Biology of the Neuron
- Cell Division
- Cell Growth and Cell Cycle Control
- Cell Mechanics and Intermediate Filaments
- Cell Migration and Motility
- Cell Polarity
- Cell-Cell and Cell-Matrix Interactions
- Cellular Stress, Protein Folding, and Disease
- Development and Morphogenesis
- Education Minisymposium
- Intracellular Sorting and Trafficking
- Membrane Organization and Lipid Dynamics
- Micro- and Coding RNA
- Microtubule Organization and Dynamics
- Molecular Basis of Infectious Disease
- Molecular Motors
- Nuclear Structure and Function
- Organelle Structure and Vesicle Formation
- Physical and Computational Tools for Cell Biology
- Prokaryotic Cell Biology
- Regulation/Organization of the Genome
- Signal Transduction/Signaling Networks
- Stem Cells and Induced Pluripotency

DECEMBER 2011 ASCB NEWSLETTER
Owned by The Histochemical Society, and published by SAGE Publications, JHC is an established cell biology journal known for publication of novel methodologies in imaging and cell biology.

Quality and relevance evident by long citation half-life of many papers
Well known cell biologist Editor-in-Chief
Rapid peer review by expert Monitoring Editors and global Editorial Board
Articles published online ahead of print
Editors known for track records of research accomplishment
New focus on minireviews across the spectrum of cell biology
Contributions welcome for articles, reviews, minireviews and perspectives

http://jhc.sagepub.com/ ~ http://mc.manuscriptcentral.com/hcs

Bridging the Gap Between Light and EM
Four Plenary Sessions
Poster Sessions
Lillie Award Presentations
Past-President Symposium
New Technology Review
JHC Plenary Lecture: Richard Hynes
3-Day Course on IHC & Microscopy
HCS Merit and Travel Awards
FASEB/MARC Awards
The Histochemical Society Meeting & Short Course
March 18-20, Course ~ March 21-23, Meeting
MBL, Woods Hole, Massachusetts
www.histochemistry2012.org
http://immunohistochem.com
Visit us at Booth #827
In Memoriam: David Marshall Prescott
(1926–2011)

We are sad to report the death of David Marshall Prescott on February 19, 2011. David’s scientific career spanned six decades. During that time, he influenced multiple generations of students and investigators and contributed many scientific discoveries. He always worked on unicellular eukaryotes, with a recent focus on ciliates such as *Oxytricha nova*, but he employed a range of experimental systems that is seldom seen today. He approached science by identifying and pursuing interesting and often unique questions, frequently developing novel experimental approaches to answer them.

David received his early education from Crosby High School in Waterbury, CT, but his further education was interrupted by World War II, when he served as a radio operator in the Merchant Marine. Following his honorable discharge, he enrolled at Wesleyan University (CT), where he completed his BA degree in 1950. He earned a PhD degree in Zoology at the University of California, Berkeley, with Daniel Mazia, who initiated David’s life-long interests in microscopy and the inner workings of cells. Postdoctoral studies were at the Carlsberg Laboratory in Copenhagen, Denmark, as an American Cancer Society Fellow.

In 1955 he returned to the U.S. as an assistant professor in the Department of Anatomy at the Medical School of the University of California, Los Angeles. In 1959 he moved to Oak Ridge National Laboratory in Tennessee, and then on to the University of Colorado Medical School, where he served as Professor and Chair of Anatomy from 1963 to 1966. He ultimately put down roots at the University of Colorado, Boulder, where he spent the remainder of his career, initially in the Institute of Developmental Biology, then as a founding member of a new Department of Molecular, Cellular, and Developmental Biology. He served as chair of that department from 1974–1975 and was named a Distinguished Professor in 1980.

During his career, David published more than 200 research and review articles, edited many volumes, and authored three books. David made so many significant observations that it is difficult to do justice to his many accomplishments. His early work provided insights into some fundamental aspects of cell biology that we now take for granted. One of these observations used a “Cartesian diver” to weigh a single amoeba throughout the cell cycle, providing basic information on growth during the cell cycle and evidence that cell division was not triggered simply by reaching a critical cell size.

He also was one of the pioneers in the use of radioisotopes in combination with single cell micromanipulation and/or autoradiography. He used such approaches to demonstrate that the nucleus was the primary site of RNA synthesis and, in collaboration with Lester Goldstein, he identified the transport of proteins both into and out of the nucleus. Also in conjunction with Goldstein, David carried out nuclear transplantation experiments that provided fundamental insights into nuclear-cytoplasmic interactions in the control of the cell cycle. With Peter Kuempel he demonstrated in an elegant study that *Escherichia coli* DNA replication is bidirectional.

In the early 1970s, David’s laboratory made the astounding discovery that the macronuclear genome of stichotrichous ciliates consisted of thousands of small “gene-sized” DNA molecules, more recently referred to as “nano-chromosomes.” This discovery formed the focus for the remainder of his career and led to a series of contributions on the organization of macronuclear DNA, as well as the structure of telomeres and DNA-interacting proteins. He also investigated how these macronuclear DNA molecules were derived from the more conventional chromosomes of the micronucleus during sexual reproduction/conjugation, leading to insights...
into chromosome fragmentation, de novo telomere formation, and DNA splicing. His work extended into the area of evolution, and he contributed to the field of ciliate phylogeny and the evolution of DNA rearrangement processes.

Most recently, he uncovered the wholly unexpected phenomenon of DNA scrambling in the stichotrichs, in which the segments of micronuclear DNA that will ultimately form a macronuclear DNA molecule are not only interrupted but also disordered, and sometimes inverted relative to each other. He focused on disentangling this DNA scrambling process through the end of his career, continuing with theoretical work even after retiring and closing his laboratory (e.g., reference 8).

David became a fellow in the American Academy of Arts and Sciences in 1970 and a member of the National Academy of Sciences in 1974. He received a Senior U.S. Scientist Prize from the Alexander von Humboldt Foundation (1979–1980) and was a fellow of the John Simon Guggenheim Memorial Foundation in 1990. He was active in numerous scientific societies, including serving as President of the American Society of Cell Biology (1965–1966) and the Society of Protozoologists (1996–1997). He was editor of BioScience (1966–1969) and Experimental Cell Research (1980–1989) and a member of the editorial boards of numerous journals throughout his career. David was the founding editor for the still influential series Methods in Cell Biology (originally Methods in Cell Physiology), which provided detailed descriptions of current protocols to generations of cell biologists, and he served as editor for the first 15 volumes in the series.

David was also a distinguished educator at multiple levels. He trained generations of graduate students and postdoctoral fellows, many of whom went on to establish their own successful research programs, and he hosted visiting scientists from around the world. For years David also taught one semester of freshman biology, and he designed a very well-received course entitled “Biology of the Cancer Cell.” Throughout his career, he hosted scores of undergraduate students in his laboratory. These teaching accomplishments were recognized by a number of formal awards, including his being named a University of Colorado President’s Teaching Scholar in 1993.

Some insights into David’s scientific philosophy come from his writings. In his 1999 commencement address at the University of Colorado (“On Learning, Wisdom, and the Game of Pinball”), David suggested his life had been circuitous and meandering, resembling the erratic motion, stops, and starts of a pinball. He took the greatest delight in finding the unexpected in life and in the lab. He was most happy when he had an experimental result that went against the grain, something that forced a reevaluation of one’s preconceived notions.

Finally, it must be mentioned that in addition to science, David greatly enjoyed and was dedicated to his family. He is survived by his loving and devoted wife Gayle, his daughter Lavonne, his sons Jason and Ryan, and four grandchildren (Hayden, Henry, Alexandra, and Zack). The fields of cell biology and protistology, and science in general, has lost one of its heroes and he will be missed by many. Contributions in David’s memory may be made to the Prescott Scholarship for undergraduate Arts and Sciences students at the University of Colorado Foundation, 4740 Walnut St., Boulder, CO, 80301. Memories and condolences may be conveyed to the family at http://david.prescott.muchloved.com.

—Larry Klobutcher, University of Connecticut Health Center, and J. Richard McIntosh, University of Colorado, Boulder

Editor’s Note

The authors thank the many colleagues who provided information and their impressions of David, and apologize to the many individuals whose work has not been mentioned. Gayle Prescott, Carolyn Jahn, and Ann Cowan are gratefully acknowledged for their thoughtful comments on the manuscript. The photograph was provided by Gayle Prescott.


References


IT IS ROCKET SCIENCE

BOOST YOUR PROTEIN RESEARCH WITH HYBRIGENICS SERVICES

Save time and money with our 3 lines of services to:

DISCOVER novel protein interactions,
VALIDATE protein functions in cells,
INHIBIT protein interactions with small molecules.

Over 150 publications in top-ranking journals.
Benefit from 15 years of expertise in protein interactions.

Enquire now services@hybrigenics.com
Visit our website hybrigenics-services.com
fellowships under the banner of its Discovery schemes, the ARC also either supports or formally partners with a variety of external entities through its Special Research Initiatives scheme, such as the European Molecular Biology Laboratory, to facilitate increased collaboration and scientific linkages between Australian and European scientists.

In addition to the NHMRC and the ARC, the Australian Academy of Science (AAS) offers a number of awards, such as Travelling Fellowships to allow Australian scientists to visit/study overseas, and funding to host research conferences that encourage stronger international linkages in rapidly evolving research areas. In particular, the AAS has a strong history of working hard to promote increased international activities through interactions with a variety of prestigious scientific organizations in overseas countries.

Opportunities for Scientific Exchange
Numerous opportunities for bilateral international scientific exchange other than those already outlined are available via targeted international programs as well as private foundations and governmental organizations. One of the most well-known programs is that of the Fulbright Scholarships offered through the Australian-American Fulbright Commission. Likewise, a number of strategic programs have now been established specifically to enable increased scientific exchange and collaboration between Australia and other countries, for example India, China, and France.

The prospects for scientific study, exchange, training and/or postdoctoral research within Australia are generally quite strong, offer a wide range of exciting opportunities, and vary only marginally among different states around the country. While numerous research centers, institutes, and universities offer unique opportunities for biomedical research and training in Australia, the so-called Group of Eight (Go8) universities afford a high level of quality for prospective students and postdoctoral scientists from overseas. The Go8 universities represent an alliance among Australia’s leading “sandstone” institutions, which are genuinely committed to ensuring a world-class research environment and internationally competitive research outcomes. Go8 members include the University of Adelaide, Australian National University, University of Melbourne, Monash University, University of New South Wales, University of Queensland, University of Sydney, and University of Western Australia. In addition, Australia now plays host to a handful of premier research institutes that have earned themselves strong international reputations for research excellence in cell biology. Such sites include the Institute for Molecular Bioscience and Diamantina Institute in Queensland, the Walter and Eliza Hall Institute of Medical Research and Bio21 Institute in Victoria, the Garvan Institute of Medical Research and Children’s Medical Research Institute in New South Wales, and the Western Australian Institute for Medical Research in Western Australia.

Research in New Zealand
Support for biomedical research in New Zealand is obtained mainly through competitive peer-reviewed schemes administered by the Health Research Council (HRC) of New Zealand, which also only accepts grant submissions once per year. The HRC is the major government-funded agency responsible for coordinating health research and the career development of health research professionals in New Zealand. The Marsden Fund, administered by the Royal Society of New Zealand, provides a substantial number of grants each year awarded for research excellence, including biomedical sciences and cellular/molecular/physiological biology. In addition, New Zealand also belongs to the HFSP.

Specific New Zealand universities have links internationally (for example, the University of Auckland is a member of the 13-country Universitas21 and of the Association of Pacific Rim Universities). These links encourage international cell biology collaborations. Increasingly more cell and molecular research is being carried out within the Crown Research Institutes, such as the National Institute of Water and Atmospheric Research, Landcare Research, AgResearch, Institute of Environmental Science and Research (ESR), and Industrial Research Ltd. ESR, for example, recently won a significant international grant from the U.S. Department of Health and Human Services for the Influenza Division of the National Center for Immunization and Respiratory Diseases to look at how the influenza virus and other respiratory pathogens spread through populations.

Numerous opportunities for bilateral international scientific exchange... are available via targeted international programs as well as private foundations and governmental organizations.
Academic Cell is pleased to announce *Molecular Biology, Second Edition (February 2012)*, by David P. Clark and Nanette J. Pazdernik. This invaluable resource contains new “Relevant Research” sections that integrate primary literature from Cell Press. In addition, new animations cover topics in protein purification, transcription, splicing reactions, cell division, DNA Replication and SDS-PAGE.

*Molecular Biology, Second Edition*
By David P. Clark and Nanette J. Pazdernik
Hardback | 862 pages | ISBN: 9780123785947 | $135.00 | Feb 2012

All Academic Cell textbooks present premium journal articles from Cell Press in a convenient way for both students and instructors.

**Primer to The Immune Response, Academic Cell Update Edition**
By Tak W. Mak and Mary E. Saunders
$89.95 | Nov 2010

**Biotechnology, Academic Cell Update Edition**
By David P. Clark and Nanette J. Pazdernik
Hardback/768 pages | ISBN: 9780123850638
$109.95 | Jan 2011
DEAR Labby

What Is a “Preliminary Result?”

Dear Labby,
My student is excited to have gotten a Minisymposium talk at the forthcoming ASCB Annual Meeting in Denver and he has already been rehearsing it with me and the lab members. All is going well. But a surprising degree of acrimony has arisen over the concept/definition of what is meant by a “preliminary result.” My student wants to mention something in his talk that I feel is so uncertain as to be inappropriate to report. We have had an intense discussion about this in my lab, and I have also gotten mixed feedback from several faculty colleagues. So I thought I would also ask Labby: What exactly is a preliminary result?

—Professor Not-Preliminary

Dear Professor Not-Preliminary,
There are, as you know, three canons in the scientific method in its modern era. Accuracy refers to the proximity with which a measured parameter approaches a known value. Sensitivity deals with how rare a measured entity or phenomenon can be detected by some method. Your query deals with the third: precision. It is the degree to which a finding can be reproduced.

The term “preliminary finding” is all about precision. But, as you have seen, it is a wobbly term. When it is used in a talk or published report, listeners/readers assume that the finding has been replicated at least one time. In many cases it has been. In other cases an observation may have been made multiple times and yet still is not understood. Such a finding is presented as “preliminary” because the investigator has the humility to admit that the interpretation is elusive. Such are the minority of cases, however.

In the majority of cases, the term “preliminary finding” translates as “we have seen this in one experiment.” The term usually carries the (unstated) footnote: “And we fully expect we will get the same result when we do this experiment again.” Therein lies the folly of using the term this way. Precision (i.e., repetition) is key to the scientific method, and anyone who dares to predict replication from a single experiment is not practicing science but rather sophistry.

As we all know, there is often a great temptation to convey a “preliminary finding” in a talk or manuscript. We like to tell a story and make it as up-to-date as possible. What needs to offset this temptation is the recognition that a single finding is not science. Your instinct was completely right, and you should prevail upon both your student and faculty dissenters. You are to be admired for your good instincts.

—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.

Labby’s Fan Mail

Dear Labby,
Whoever you are, you are brilliant, and your columns in the ASCB Newsletter are always interesting and insightful. I have to say I would have agreed with the external examiner [Dear Labby, October ASCB Newsletter] on the last one (from what we know), but “rediscovering” what has already been discovered—and expending federal funds to rediscover it—is one of the worst parts of so many folks not knowing anymore what was done in the field more than five years ago. The explosion in literature and the end of the traditional reading rooms are more at fault than the humans involved, I’m sure.

In this context, I loved your mention of Claude Bernard. I am a botanist but one of my favorite books, ever, is An Introduction to the Study of Experimental Medicine. I dedicated my dissertation to Bernard (and a more modern mentor) because of the great beauty and integrity of his wisdom about the scientific method. I read parts of this book to every class I teach.

—Susan Brawley, University of Maine
ASCB is...

Global
The American Society for Cell Biology.

ASCB promotes an inclusive, diverse, and international community with active outreach worldwide.

Join us.

Find out more at: www.ascb.org
MetaMorph® NX Analysis Builder Software

Image analysis made easy!

Workflow-oriented
- Build your own analysis modules with step-by-step guidance from the user interface.
- Preview the results of each step as you build your module.
- Add or remove steps from your module with one click.
- Integrate your custom modules into the software’s measurement capabilities.
- Share your modules with others with the easy Export tool.

Easy-to-use tools
- Graphical steps keep things in order.
- Plain language tools help non-experts quickly become experts.
- Enhanced tooltips show sample before-and-after images of each measurement function.
- Immediate visual feedback lets you know what to adjust as you build your module.
Room to Grow

Get Started with Confocal ... with an Entry-level Budget!
The Leica TCS SP5 II Growth Confocal imaging system for entry-level budgets offers high sensitivity and superb resolution, plus it is fully upgradable as your research demands grow. The growth possibilities are endless: add options for deep tissue imaging, high-speed cellular dynamics, and even super-resolution. Save more as you add features, functionality, service coverage, and lock-in future savings.*

Room to Grow for the Future of Your Science.

Visit www.leica-microsystems.com/growth for package pricing and more information today!

*This special offer is valid in the U.S. and Canada only.
LETTER to the Editor

To ASCB President Sandra Schmid:
Your article [President’s Column, October ASCB Newsletter] on Protocols for Leadership came at a perfect time. Standing at the crossroads, ready to take the leap from being a postdoc to an independent researcher, I am facing that inevitable question—am I ready to manage people? It was encouraging indeed to see that my worries are shared by someone who is as established as you are. I sincerely hope other institutions will take the cue and will start offering programs similar to the Master’s of Science in Executive Leadership at the University of San Diego.

Talking to students, fellow workers, and peers it seems that nine out of 10 people remain unhappy about how their labs are managed. Maybe, in an effort to get research funding and recognition, mentoring and lab management is taking a back seat in the present times. But as a scientist I feel that in addition to good research we are equally responsible for training our next generation.

Thank you so much for the reading suggestions. I will look forward to your future articles.

—Monalisa Mukherjea, University of Pennsylvania

Are You Getting the Latest ASCB Member Benefit?
You should now be regularly receiving our email update, ASCB Pathways—alerting you to the latest ASCB happenings and 2011 Annual Meeting updates. If you aren’t seeing the e-newsletter in your inbox, please check your spam filter, and/or contact your system administrator to whitelist ascb.org. Based on member input, ASCB Pathways moved to monthly publication in October.

Got Questions?
Labby has answers. ASCB’s popular columnist will select career-related questions for publication and thoughtful response in the ASCB Newsletter. Confidentiality guaranteed if requested. Write us at labby@ascb.org.

The Major Transitions in Evolution Revisited
edited by Brett Calcott and Kim Sterelny
“This book presents new and sophisticated ways of carving the history of life at its evolving joints. The clarity of the writing and the succinct introductions by the editors make the illuminating conceptual distinctions and imaginative expansions of major transitions’ range and loci, accessible and enjoyable by all theoretically-minded biologists and biologically-minded philosophers.”
— Eva Jablonka, Tel Aviv University
Vienna Series in Theoretical Biology
352 pp., 36 illus., $50 cloth
The MIT Press
Visit our e-books store: http://mitpress-ebooks.mit.edu
Limited Time Live Cell Fluorescence Offer!

Reduce your live cell experiment time while capturing publication-quality images.

- Leica LAS AF software guides you through experiments ... reducing experiment time
- Leica Inverted Microscopes are light efficient ... for publication-quality fluorescence

Buy an inverted microscope and digital camera and we will upgrade your order with complimentary microscope fluorescence and imaging software ... up to a $12,979 value!

Visit www.leica-microsystems.com/livecell_offer to take advantage of this special offer!

© 2011 Leica Microsystems, Inc. BGA#635

High-Throughput-Enabled Structural Biology Research (U01). The National Institute of General Medical Sciences (NIGMS) encourages applications to establish partnerships between researchers interested in a biological problem of significant scope and researchers providing high-throughput structure determination capabilities through the NIGMS PSI:Biology network. Applicants should propose work to solve a substantial biological problem for which the determination of many protein structures is necessary. Expiration: September 8, 2014. http://grants.nih.gov/grants/guide/pa-files/PAR-11-176.html.

L’Oréal USA Fellowships for Women in Science. This program annually recognizes and rewards five U.S.-based women postdoctoral researchers at the beginning of their scientific careers. Recipients receive up to $60,000 each that they must apply toward their postdoctoral research. Recipients also participate in a week of events that includes professional development workshops, media training, and networking opportunities. Applications due: December 15, 2011. www.lorealusa.com/forwomeninscience.

Mentored Quantitative Research Development Award (K25). The purpose of these National Institutes of Health (NIH) awards 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 Science Foundation (NSF) Innovation Corps Program. This program will award $50,000 to 100 teams each year to enable scientists and engineers to turn their discoveries into startup companies. Over the course of six months, the teams will be mentored by entrepreneurs and venture capitalists, and additional training will come from the Stanford Technology Ventures Program at Stanford University. The program is a public–private partnership between NSF, the Deshpande Foundation, and the Kauffman Foundation. www.nsf.gov/news/special_reports/i-corps/index.jsp.

Pathway to Independence Award. The primary purpose of the National Institutes of Health (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.

Grants & Opportunities, continued on page 43
Bioascend.

Achieve stellar research results with cell lines shaped for your research.

Get your hands on disease model, reporter or custom-engineered cell lines, created using CompoZr® ZFN technology from Sigma® Life Science, and launch your research into extraordinary new heights.

sigma.com/biocells
SHIFT Awards: Small Businesses Helping Investigators to Fuel the Translation of Scientific Discoveries (SBIR: R43/R44). These National Institutes of Health awards are intended to foster research that is translational in nature and to transform academic scientific discoveries into commercial products and services. They require that an investigator who is primarily employed by a U.S. research institution at the time of application transition to a small business concern (SBC) and be primarily employed (more than 50% time) by the SBC by or at the time of the award. Expiration: January 8, 2013. http://grants.nih.gov/grants/guide/pa-files/PA-10-122.html#SectionIV3A.

Short Courses on Mathematical, Statistical, and Computational Tools for Studying Biological Systems (R25). The National Institute of General Medical Sciences encourages applications for Research Education Grants (R25) from institutions and organizations to conduct workshops and short courses to improve integration of mathematical, statistical, and computational approaches into biological and/or behavioral research. Support will be limited to activities that reach a wide audience of researchers. (This program is not intended for university courses or curriculum development.) Expiration date: January 8, 2015. http://grants.nih.gov/grants/guide/pa-files/PA-11-351.html.

Structural Biology of Membrane Proteins (R01). This National Institutes of Health funding opportunity is for research that will lead to the determination of membrane protein structures at high resolution. In addition to the structures of integral membrane proteins, the structures of the complexes formed between these proteins and their biological partners are of interest. Expiration: September 8, 2013. http://grants.nih.gov/grants/guide/pa-files/PA-10-228.html.

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/Research/FeaturedPrograms/PSI/Supplements.

Support of NIGMS Program Project Grants (P01). The National Institute of General Medical Sciences encourages innovative, interactive program project grant applications from institutions/organizations that propose to conduct research that aims to solve a significant biological problem through a collaborative approach involving outstanding scientists who might not otherwise collaborate. Expiration: September 8, 2014. http://grants.nih.gov/grants/guide/pa-files/PAR-10-266.html.

Transformative Research Awards. The National Institutes of Health Director’s Transformative Research Awards support collaborative investigative teams or individual scientists who propose transformative research projects that, if successful, will have a major impact in a broad area of biomedical or behavioral research. Projects must have the potential to create or overturn fundamental scientific paradigms through the use of novel approaches or to lead to major improvements in health through the development of highly innovative therapies, diagnostic tools, or preventive strategies. Letters of intent due: December 12, 2011. Applications due: January 12, 2012. http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-11-006.html.
MEMBERS in the News

Mina J. Bissell, of the Lawrence Berkeley National Laboratory, an ASCB member since 1973 and 1996–1997 ASCB President, is the recipient of the 2011 Jill Rose Award for outstanding research excellence from the Breast Cancer Research Foundation.

Laertis Ikonomou, of the Boston University School of Medicine, an ASCB member since 2004, is the recipient of an American Thoracic Society Foundation/Children’s Interstitial Lung Disease Foundation Grant to study genetic mutations in children with interstitial lung disease.

Chris A. Kaiser, of the Massachusetts Institute of Technology, an ASCB member since 2002, was selected as the new director of the National Institute of General Medical Sciences. He expects to start his new position in the spring of 2012.

Ivan Raska, of the Charles University in Prague, an ASCB member since 2000, was recently elected as a member of the European Molecular Biology Organization.

Ralph L. Brinster, of the University of Pennsylvania, an ASCB member since 1965, and Shu Chien, of the University of California, San Diego, an ASCB member since 1986, were two of the seven researchers named by President Obama as recipients of the 2011 National Medal of Science.

George Q. Daley, of Children’s Hospital Boston, an ASCB member since 2004, and Jonathan D. Gitlin, of Vanderbilt University School of Medicine, an ASCB member since 1982, were among the 65 new members elected to the Institute of Medicine (IOM) of the National Academies. Christine Petit, of the College de France, Institut Pasteur, an ASCB member since 2004, was one of the five international associates elected to the IOM.

MEETINGS Calendar

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

January 12–13, 2012. Albuquerque, NM  

Society for Experimental Biology Education Symposium Researchers, Teachers, Learners—We’re All in It Together!  
www.sebiology.org/meetings/EPASymposium/home.html.

June 23–27, 2012. Abbazia di Spineto, Italy  

June 29–July 2, 2012. Salzburg, Austria  


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

J. David Castle  
Susan A. Gerbi  
Guido Guidotti  
Maryanne C. Herzig  
Connie M. Lee  
Robert J. Majeska  
W. James Nelson  
Daria Siekhaus  
Edwin M. Uyeki

MEMBER Gifts
Finally, Scientific CMOS for everyone - at a fraction of the cost!

QImaging Introduces the Rolera™ Bolt

Take advantage of all the latest features in this new camera. The Rolera Bolt is easy to purchase, easy to install and easy to use. Discover how you and your team can implement Scientific CMOS today – for nearly half the price!

Scientific CMOS Camera from QImaging

Easily achievable for every research facility, including yours.

Learn more now at www.qimaging.com
ASCB is...

Your Community in Action.

- ASCB Ambassadors
- Committee Members
- Hill Day Participants
- Society Leadership
- Science Advocates

ASCB advances cell biology and your career through the many Society volunteer opportunities.

Join us.

Find out more at: www.ascb.org
Simply a better alternative for your Co-IP assay

- Faster; more reliable results; higher throughput
- Detect weak and transient interactions
- Achieve localization simultaneously
- More than 150 publications and growing...

Duolink®
“In-cell Co-IP”

Alfa Aesar’s new biochemical product range adds over 3,000 products to the existing offering, including electrophoresis reagents, enzymes, signal transduction reagents and much more.

Request your catalog today at www.alfa.com/bio or by calling 800-343-0660.

BIOVIS3D
Research All Dimensions

3D Reconstruction for Life Science from serial slices

Boost your Research with BioVis3D

See Stories
Try it for Free

www.biovis3d.com

www.olink.com

Olink Bioscience

Duolink®
“In-cell Co-IP”

Simply a better alternative for your Co-IP assay

- Faster; more reliable results; higher throughput
- Detect weak and transient interactions
- Achieve localization simultaneously
- More than 150 publications and growing...

www.alfa.com
2011 Half-Century Fund Donors

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

**Gold**
- Ueli Aebi
- Mina Bissell
- Craig Blackstone
- David Drubin and Georjana Barnes
- Marilyn Farquhar
- Elaine Fuchs
- Joseph Gall
- Bob and Anne Goldman
- Brigid Hogan
- Tom Misteli
- Bill Saxton
- Randy Schekman
- Sandra Schmid
- Thoru Pederson
- Thomas Pollard
- Beverley Wendland and Michael McCaffery
- Susan Wente
- Zena Werb
- Kenneth Yamada

**Silver**
- Morris Karnovsky
- Daniel Lew
- Suzanne Pfaffer
- Jean Schwarzbauer
- Ron Vale and Karen Dell

**Bronze**
- Raymond Deshaies
- Sriparna Ghosh (in honor of Sandhya Ghosh)
- James Jamieson
- Caroline Kane
- Judith Kimble
- Marc Kirschner
- Guanpu Li
- Yuko Mimori-Kiyosue
- Sue Wick
- Yixin Zheng

**Sustainer**
- Paula Bubulya
- Merri Lynn Casem
- Lynne Cassimeris
- Jim Clegg
- Eliezar Dawidowicz
- Paul Forscher
- Sandra Lemmon
- Jani Lewis (in honor of Margaret Wheelock)
- Maryanne McClellan
- Rita Miller
- Naoki Mochizuki
- Ivan Robert Nabi
- Claire Walczak
- Ora Weisz
- William Wood
- Xi Xiang

*As of 11/28/2011

---

**New from Cold Spring Harbor Laboratory Press**

**Germ Cells**
Edited by Paolo Sassone-Corsi, 
*University of California, Irvine*, 
Margaret T. Fuller, *Stanford University*, and 
Robert Braun, *Jackson Laboratory*
Hardcover $135

**The Golgi**
Edited by Graham Warren, *University of Vienna* and James Rothman, *Yale University*
Hardcover $135

**The Mammary Gland as an Experimental Model**
Hardcover $135

**Calcium Signaling**
Edited by Martin D. Bootman, 
*The Babraham Institute*, Michael J. Berridge, 
*The Babraham Institute*, James W. Putney, 
*National Institutes of Health*, and 
H. Llewelyn Roderick, *The Babraham Institute*
Hardcover $135

**Extracellular Matrix Biology**
Edited by Richard O. Hynes, 
*Massachusetts Institute of Technology* and Kenneth M. Yamada, *National Institutes of Health*
Hardcover $135

**Protein Homeostasis**
Edited by Richard I. Morimoto, 
*Northwestern University*, Dennis J. Selkoe, 
*Brigham and Women's Hospital*, and 
Jeffrey W. Kelly, *Scripps Institute*
Hardcover $135

www.cshlpress.org
Cutting-edge Scientific Training Courses in Woods Hole

Join us in 2012! www.mbl.edu/education

MICROSCOPE AUTOMATION

Prior Scientific is the leading manufacturer of microscope automation equipment. Prior also provides standard and custom designed solutions as well as manufacturing capabilities for OEM automation systems.

- High precision motorized microscope stages
- Robotic sample handling
- LED and metal halide high intensity fluorescence illumination systems
- Motorized focus systems
- Nanopositioning Piezo Z stage systems
- Motorized filter wheels and high speed shutters
- Physiology stage platforms
- Custom optical systems

WHERE VISION MEETS PRECISION

Prior Scientific, Inc., 80 Reservoir Park Drive Rockland, MA 02370 Tel: 800-877-2234 www.prior.com
Andor’s Revolution DSD is an innovative imaging technology that brings an affordable confocal solution to your laboratory, offering you less dependency on laser-based solutions often restricted to core facilities. Whilst laser-free, the Revolution DSD can still achieve the optical sectioning you expect of a complex laser scanning confocal system, but with low maintenance costs.

“The key benefit is that at a relatively low cost we have access to a powerful microscopy system that allows optical, wide field and confocal fluorescence in combination with our TIRF and Raman microscopy. In the future we can easily change the system to a different excitation emission combination - something that would be prohibitively expensive with lasers”

Dr. Wesley R. Browne, University of Groningen

www.andor.com/dsd
A searchable collection of images, videos, and animations of cells and cellular functions available to students, educators, and the interested public.

**New features with optional free accounts:**

- Save favorite images for later use
- Automatically find new images that match your areas of interest

**Coming Soon!**

- Annotate images
- Invite colleagues to connect and share images
- Create multiple folders for saving/sharing images
- Subscribe to receive emails when new matching images are available

The ASCB welcomes image submissions and feedback and encourages you to visit www.cellimagelibrary.org for more information. Or email David Orloff (dorloff@ascb.org) Manager, Image Library.
FuGENE® 6 Confusion?

"TransIT®-LT1 has the same performance as FuGENE® 6 in our comparison tests."

- The RNAi Consortium (TRC), Broad Institute of MIT and Harvard

Mirus Bio scientists invented, developed and patented the formulation:

► Same product performance.
► No supply issues -- ever.

Buy from the source.

Inventor. Manufacturer. Transfection Expert.

PROVE IT TO YOURSELF with a FREE SAMPLE of TransIT®-LT1 Transfection Reagent.
Visit www.TheTransfectionExperts.com or Call 888.530.0801 (U.S. only) or +1.608.441.2852 (outside the U.S.)