Scientific Citizenship Urged at ASCB Annual Meeting

Weaving through the 48th ASCB Annual Meeting was a common thread: the importance of scientific citizenship. With eloquence and passion, a variety of speakers emphasized the need for scientists—and scientists in training—to proselytize for basic science.

Where to champion the message? In the halls of academe and the halls of power. In lecture halls, university-wide colloquia, company boardrooms, and representatives’ offices. To students, administrators, elected officials, neighbors, family and friends, scientists have an obligation.

Education begins in the classroom…but it doesn’t end there. We need to reach the public and our elected officials, urged Keynote speaker Francis Collins, former director of the National Human Genome Research Institute.

Scientific Citizenship, continued on page 4

Cossart Named 2009 ASCB Council Member

The ASCB Council has approved Pascale Cossart of the Pasteur Institute to finish the remaining one-year term of Timothy Mitchison on the ASCB Council, for 2009. Mitchison is the 2009 ASCB President-Elect.

Did You Know…?

- You have free access to ASCB’s quarterly online journal, an assessment-based publication for educators in the life sciences: CBE—Life Sciences Education (CBE-LSE).
- CBE-LSE examines education approaches for teaching cell biology, developmental biology, neuroscience, genetics, bioinformatics, and more.
- You can download CBE-LSE’s new poster, featuring five questions to stimulate classroom discussion.
  - Obtain a free copy from the ASCB Online Store. Go to www.ascb.org and click on “Online Store.”
- The Winter 2008 issue of CBE-LSE is online now. Check it out at www.lifescied.org/current. dtl.
- CBE-LSE is supported in part by the Howard Hughes Medical Institute.
New Year’s Resolutions

It is a great honor and pleasure to greet you as the new President of your Society. I know that you expect a great deal from me. Past presidents have all served you with outstanding vision and dedication. They have tirelessly promoted the core missions of the ASCB, helped balance the needs of different constituents with the resources available, and found ways to grow the Society and increase its influence. In the year ahead I will try to live up to their examples.

I also will have to take on another challenge—to try to help everyone, and particularly young members, maintain a sense of optimism and enthusiasm in the face of the huge economic setbacks the world is experiencing. These economic problems will likely last several years. They will affect us all, whether we are chairs trying to balance department budgets, investigators resubmitting grants, postdoctoral fellows applying for jobs in an ever-tightening market, or teachers trying to support families on a low income.

One of the greatest driving forces to keep us motivated in the face of these difficulties is a burning passion for science. The joy to be gained from scientific inquiry and discovery was in evidence throughout the 2008 Annual Meeting in San Francisco. It was just as forcefully conveyed by students and postdoctoral fellows at their posters as by winners of awards year ahead I will try to live up to their examples. I also will have to take on another challenge—to try to help everyone, and particularly young members, maintain a sense of optimism and enthusiasm in the face of the huge economic setbacks the world is experiencing. These economic problems will likely last several years. They will affect us all, whether we are chairs trying to balance department budgets, investigators resubmitting grants, postdoctoral fellows applying for jobs in an ever-tightening market, or teachers trying to support families on a low income.

One of the greatest driving forces to keep us motivated in the face of these difficulties is a burning passion for science. The joy to be gained from scientific inquiry and discovery was in evidence throughout the 2008 Annual Meeting in San Francisco. It was just as forcefully conveyed by students and postdoctoral fellows at their posters as by winners of awards year ahead I will try to live up to their examples.

So how can we maintain our enthusiasm for science, and stay innovative and creative when there is so much to discourage us? I would like to propose two scientific “New Year’s Resolutions” that may help us stay motivated and energized. These resolutions are, of course, in addition to the others that we have made, such as to exercise more, reduce our carbon footprint, and support our local communities!

Resolution 1: Think Outside the (Cell Biology) Box

When faced with reduced funding or a decline in resources, it is easy to “hunker down” and to concentrate more and more on a few ideas. You feel too pressed to learn about something new, or you tell your students to focus on one particular project. Of course, focus is a good thing—especially for students and postdocs! But there is a great deal to be gained from thinking outside the box and viewing issues from a different perspective.

By taking time to learn about other people’s research, you may suddenly recognize an unexpected link between your problem and one that has just been solved. Or you may discover a new technique that could be applied to your own material. Alternatively, you may realize that your experimental approach could help solve a completely different question being studied by someone else.

So I would like to encourage you all to take time to learn about a topic that is very different from your own. Go to a seminar by an outside speaker that you would normally pass over and, what’s more, take a student with you. Read a paper or commentary in a journal that you would otherwise ignore, and then discuss it with your colleagues afterwards. Another approach would be to follow a link in PubMed from a paper in your field and then see where it takes you.

For members attending the ASCB Annual Meetings, the rich selection of talks and posters provides many opportunities for such lateral thinking. In addition, for the past two years the meeting has included “Working Groups.” At these sessions a few leaders in a field present different aspects of a problem and then open the session to discussion from the audience. Organizers choose topics to be either controversial or particularly amenable to new and collaborative approaches. These sessions have been very successful. There is no reason why a similar approach could not be tried in a much smaller venue, for example in a departmental or institutional retreat.

One of the goals of these groups is to introduce the idea that lively discussion and arguments can be fun. Unfortunately, young scientists from some cultures or backgrounds...
may not feel comfortable arguing with senior people or presenting alternative ideas in formal seminars. Informal “working groups” can help to overcome these reservations and introduce the idea that discussing science and challenging experts can be fun and very stimulating for everyone.

Another way to think outside the box is to ask how your research might relate to complex biological questions such as organ development or repair after injury, or to a human disease. There have been some outstanding examples over the past few years of quite unexpected connections between cell biology, developmental biology, and disease processes. Two that come immediately to mind are the link between nuclear lamins and progeria, and between cilia and the multiple developmental defects seen in patients suffering from disorders such as Bardet-Biedl and Meckel-Gruber syndromes, known collectively as ciliopathies. (See the July and December 2008 ASCB Newsletter stories on this research for more information.)

The ASCB is highlighting these examples in stories disseminated to community newspapers and to legislators and their staff to bring attention to the need for more NIH funding for basic research. (If you’d like to help disseminate such stories at your institution and to your elected officials, visit www.ascb.org/progeria and download and forward this example.) Sharing such stories with your colleagues can also help highlight how unexpected interconnections bring together scientists working in different fields, inspiring and invigorating their research.

Resolution 2: Communicate More about Our Research

An excellent way to become re-energized and regain the child-like enthusiasm we once had is to explain to someone who works in another field, or who is not a scientist, why we find our work so interesting. This can be a real challenge, but the effort also has the potential to be very energizing. I find that people are usually fascinated to know about what cell biologists do, and they crave to learn more about the mysteries of life.

There are many ways in which we can communicate our excitement about cells, and the ASCB is here to help. For example, at the ASCB Annual Meeting, sessions focused on talking about science to our neighbors and discussed outreach to legislators. In addition, a workshop showed how we can make or correct Wikipedia entries. (The February 2009 ASCB Newsletter will feature more information about these sessions.) Wikipedia is now widely used by young people to learn about science, but the information related to cell biology is often inadequate and out of date.

Another example of how the ASCB promotes science communication in unconventional ways is the decision to place the winning Celldance contest videos, premiered at the ASCB Annual Meeting, on YouTube. There they have the potential to reach a huge audience, including people who might never open a newspaper or even watch TV.

Indeed, we as scientists need to think much more about the changing face of journalism and take advantage of the new and alternative routes to communicate science to the public. One example of this was the video placed last year on YouTube by neurobiologists at the University of North Carolina, Chapel Hill. The video was made in response to the criticism by Alaska Governor Sarah Palin, then a vice presidential candidate, of federal funding for fruit fly research. Her comments implied that money spent on studies on flies could have “little or nothing” to do with human health problems such as autism. The video showed how basic research using Drosophila was illuminating the function of neurexins, proteins localized in neuronal synapses. Abnormalities in neurexins have been implicated in cognitive disorders in people, including autism. This video was an effective way for scientists to defend and explain their work to a much larger audience than they could otherwise reach without extensive resources. In addition, 2008 E.B. Wilson Medalist Martin Chalfie explained the importance of the research on http://airamerica.com.

In future columns I hope to feature members of the ASCB on how they stay enthusiastic about science, and how they help communicate this to others. I will also showcase examples of how we as a Society can help scientists and scientists in training from disadvantaged communities, who are particularly vulnerable to economic downturns, to stay motivated about their work and build their careers. Working together, and keeping our resolutions, we can make 2009 a fantastic year for everyone in the ASCB.

Comments are welcome and should be sent to president@ascb.org.
ASCB does a great job of staying interactive with policy,” Collins told ASCB Annual Meeting attendees at the conclusion of his talk. That’s critical because “good science requires good science policy,” he added. Collins advised persistent public and policymaker outreach. “You’ve got to keep at it,” he emphasized.

U.S. attendees were particularly appreciative of Collins’ remarks that in the Obama administration “we’ll have an administration that’s actually interested in science.” Collins serves on an Obama transition team. He called attention to the Obama-Biden platform’s call for increased investment in science. “I think you’ll see that science will be at the table when important decisions are made. So I encourage you to take action when exhorted to do so,” he concluded.

Promoting Relevance
“Democratic process is akin in many respects to scientific practice,” according to 2008 ASCB Bruce Alberts Award for Excellence in Science Education recipient Wm. David Burns.

It’s “a process for dealing with problems which acknowledges uncertainty, sees its results as provisional, subjects its practices to a degree of public inspection, is socially mediated, and involves hard work and cooperation.”

Teaching science, like teaching democracy, involves teaching important concepts...like scientific citizenship. And when science is tied to real issues, learning is improved, Burns observed.

What do students learn in undergraduate classrooms about the importance and relevance of what scientists do and how to apply scientific concepts? In many classrooms, the answer is not much. Instead students are “sprayed with 10,000 definitions,” noted Burns. He is at the National Center for Science and Civic Engagement at Harrisburg University. He and fellow awardee Karen K. Oates developed a better way to teach science. Oates is currently affiliated with the Division of Undergraduate Education at the U.S. National Science Foundation.

Interestingly, Burns and Oates didn’t initially focus their program, Science Education for New Civic Engagements and Responsibilities (SENCER), on scientific majors. Instead they targeted nonmajors enrolled in introductory science courses; such courses were “true bridges to nowhere,” as Burns noted. Often, the courses are, in effect, “terminal” science classes, as Jay Labov of the National Academy of Sciences has observed.

It doesn’t have to be that way. So Oates posed the question: Why did she and others become scientists? “It wasn’t because we liked to memorize vocabulary words or definitions or run experiments with known results, predictable reactions, and all we had to do is follow instructions someone else provided,” she answered. “We had questions about things that mattered to us.”

In recognition that students want to “apply what they know,” “use knowledge,” “know why they should learn more,” and “be let into our intellectual world,” as Oates put it, she and Burns developed SENCER courses. They embraced the following lofty, intertwined goals:

- Create scientific citizens
- Teach science that’s relevant to contemporary problems
- Promote social justice
- Foster civil engagement

Targeting an area of interest—such as cancer or climate change—offers a lens for viewing how science works. Problems may lie at the “edges of academic disciplines,” Burns noted because, as Woody McKenzie said, “life is not parsed like the undergraduate curriculum.”

Not surprisingly, many courses for science majors have now been “SENCERized.” Burns noted that SENCER courses began with HIV and a focus on cell biology; they have expanded to embrace climate, nanotechnology, obesity, traffic, and more. There are 38 model courses, and faculty design and teach new courses, apply new pedagogies, and employ new assessment techniques. Kelly Wentz-Hunter of Roosevelt University was recognized at the ASCB Annual Meeting for her course on cancer. More are sure to follow as assessment of SENCER courses...
Recognizing Basic Science

Another ASCB Annual Meeting highlight was the presentation of the E.B. Wilson Medal to two of the 2008 Nobel Laureates in Chemistry, longtime ASCB members Martin Chalfie and Roger Y. Tsien. On the heels of their Nobel acceptance in Sweden, the Nobel Laureates arrived in San Francisco, jet-lagged but happy to be honored at the ASCB Annual Meeting. As then ASCB President Bob Goldman noted, the E.B. Wilson Medal selection was announced months before the Nobel.

Chalfie noted his pleasure in receiving the award, “in addition to the obvious reasons for feeling so honored. First, this award is a prize for basic science. GFP was discovered by Osamu Shimomura in a quest to answer a fascinating question: How can some organisms produce light? And the tools that Roger Tsien and I have developed enable additional investigations in cell biology, developmental biology, neurobiology, in fact, throughout the life sciences.”

At a time when a U.S. vice presidential candidate failed to recognize the connection between the study of nonhuman organisms and human disease, Chalfie’s words were particularly resonant:

“I would also add that the study of *C. elegans*, a soil nematode, has also taught us so much about life. These days one hears much talk about how science should be directed more toward translational research, research that applies understanding gained in the laboratory to problems in human health. Although the application of knowledge to human health and well-being is obviously important, I feel that many statements urging a switch from basic to translational research are based on two false premises.”

Chalfie continued, “The first is that scientists are either uncaring or ignorant of the implications of their research for human disease. I find this attitude ironic and false, since virtually every scientist I know thinks deeply about the meaning and implications of his or her research. Second, I feel that some people promoting translational research act as if we have already learned all that we need to know to cure human diseases.”

As Chalfie added, this is far from the case: “We have so much more to learn. Not only what these proteins do, but also how they all interact together to sustain life and development. As many people have said, one needs to have material to translate to have translational research. And when we consider how few organisms scientists have studied, the mystery that surrounds us becomes even greater. What will be the *Aequoria victoria* and *C. elegans* of the future? Indeed, what will be the GFP of the future?”

The past, present, and future of cell biology were showcased in San Francisco last month. So too was the need for advocacy by scientific citizens. If not us, then who?

—Joan R. Goldberg

---

What Happened to Your Cultures Over the Weekend? Our CO₂ Incubators Will Tell You.

View 72 hrs. of data: Chamber temperature, CO₂ and O₂ levels, door open duration and alarms.

New Brunswick
an eppendorf company
800-631-5417 • nbsc.com/a

“We have so much to learn.... One needs to have material to translate to have translational research.”
FuGENE® HD Transfection Reagent

Powerful Transfection
Enabling Stem Cell Research

Is your stem cell research limited by difficulties in transfecting your cells? FuGENE® HD Transfection Reagent enables you to study the stem cell lines that are essential to your research.

- Successfully transfect difficult-to-transfect cell lines used in stem cell research (Figure 1).
- Generate physiologically relevant data you can trust with a unique non-liposomal formulation that minimizes off-target effects often seen with other transfection reagents.
- Maximize cell survival and limit cellular damage by using a reagent with exceptionally low cytotoxicity.

Convert to FuGENE® HD Transfection Reagent today, and generate the results you need to move your stem cell research forward!

For more information and a database of successfully transfected cell lines, visit www.powerful-transfection.com

To place your order today, visit www.roche-applied-science.com or call 800 262 1640.

Figure 1: Cell morphology and GFP fluorescence from a transfected gene in human ES cell colonies. Cells were transfected with either FuGENE® HD Transfection Reagent or a transfection reagent from another supplier (L2K). After 24 hours, changes in morphology were not observed when FuGENE® HD Transfection Reagent was used. Furthermore, the percentage of GFP-positive cells was high, and strongly fluorescing cells were observed also in the central area of the colonies.

Data courtesy of Kouichi Hasegawa, Kyoto University, Biochemica 4, 24-26 (2006).
Women and Men Together in the Academy: Institutional Implications

As more women receive Ph.D.s and set out to forge lives that include commitments to both career and family, universities must consider the implications of this shift for the resources and supports they provide. In addition, more men want to add commitments to their families to their traditional commitments to their careers, and this has similar implications. A recent survey of Princeton University faculty highlights the fact that the dual-career family has become the norm rather than the exception:

- Eighty-two percent of tenured women and 92% of tenured men are married or in a domestic partnership.
- Seventy percent of tenure-track women and 82% of tenure-track men are married or in a domestic partnership.
- Of those who were married or in a domestic partnership, 98% of tenured women and 75% of tenured men have working spouses or domestic partners.
- Among younger faculty, 96% of tenure-track women and 81% of tenure-track men have working spouses or domestic partners.

I believe the prevalence of dual-career families means that universities must revise their thinking in three ways. First, universities must understand that they have always provided resources and support for the personal lives of faculty. The shift in work/family life configurations outlined above simply changes the range and specifics of what must be provided. Second, universities in recent years have focused their support efforts on the assistant professor years when the competition between work and family life seems most acute. Now universities must also pay attention to graduate students and postdocs, in whose lives career and family formation are often taking place simultaneously. Third, as the family configurations of graduate students, postdocs, and faculty become more variable, the range of programs provided must increase so that individuals can find the particular supports that matter to them.

Expanding Support as Families Change

Universities are strongly committed to having productive faculty. To accomplish this, they provide resources designed to help faculty be as accomplished as possible in their research and teaching. Much of this support has focused on the professional lives of faculty (e.g., laboratory space, equipment, etc.), but supports for family life have traditionally been provided as well. For example, universities have for many years provided health insurance, life insurance, housing, and tuition grant programs. This traditional configuration of resources served everyone well for many decades, but a different (and expanded) configuration is needed now that the prevailing norm is no longer men who concentrate on their careers and women who concentrate on their families.

Graduate Students and Postdocs Have Families Too

Since many assistant professors are already part of dual-career families, for many people the juggling that is an inevitable aspect of commitments to both career and family life must have begun during the graduate student or postdoc years. This suggests that universities need to consider the kinds of supports they provide for graduate students and postdocs beyond the traditional supports that have been provided for career formation.

The need may be quite urgent. At Princeton, we find that the percentage of women among the applicants for assistant professor positions is substantially lower than the percentage of women receiving Ph.D.s. Similar data have been reported at other research universities. There are many possible reasons for this consistent
disparity. One hypothesis is that many women, daunted by the prospect of dealing simultaneously with family demands and career demands in the intense setting of establishing a tenurable record at a research university, opt for other professional venues.

Some support for this hypothesis can be found in an exceptionally interesting article in EMBO Reports that reported data from a survey of 1,300 intramural postdoctoral fellows at the National Institutes of Health. Two-thirds of the male survey respondents but only one-half of the female survey respondents said that they were considering a PI position, and the disparity between men and women was even greater among respondents who were married with children. The survey asked respondents to rank 15 factors that could influence their decision to pursue a position as a PI. Across the board, the largest differences between men and women occurred on items that related to children, spending time with children, and spending time with other family members. (It is important to note that there were no significant differences between men and women in how they rated factors such as competition, managerial duties, or the need to obtain tenure.)

These data suggest that universities must find ways to help graduate students and postdocs, as well as faculty, balance the demands of professional and family life if they hope to take advantage of the full range of available scientific talent. It is important to remember that the early years of an academic career, which are full of uncertainty and which often require several household moves, are the years when the decision is made whether (or not) to proceed to a faculty career.

Meeting Varied Needs

Families come in many different shapes and sizes, and indeed the configuration of individual families can change over time. Thus, the resources and supports that people need vary a lot. (This is of course also true for the professional resources and supports that people need—think, for example, of laboratory fittings versus library needs—but universities are accustomed to taking these differences into account.) Such varied needs suggest that universities should try to provide a panoply of policies and programs. At Princeton, where we have tried to do this, the programs include:

- For each new child in the family, automatic one-year extensions of the pre-tenure period for assistant professors and one-semester extensions of support for graduate students
- Grants for childcare when people are traveling to conferences and workshops
- Subsidized back-up care when any member of the family is ill
- Income-based grants to subsidize the cost of daily childcare

To learn more about the programs for Princeton faculty visit www.princeton.edu/dof/policies/family_friendly. To learn more about those for graduate students, visit http://gradschool.princeton.edu/studentlife/childcare.

A Final Point

Especially in the current economic climate, many university administrators feel that they cannot afford to provide all the personal and family supports for graduate students, postdocs, and faculty that are now needed. This is undoubtedly true. I would urge two things. First, it would be exceedingly helpful if every university would publicly acknowledge the importance of a range of policies and programs to support the new family configurations that impact the work of faculty, postdocs, and graduate students, and declare its intention to provide these supports when and if it can. Second, it would also be helpful if every university undertook to design and implement one or two low-cost policies or programs as a clear signal to its graduate students, postdocs, and faculty that it is determined to take advantage of all the available talent and to provide what is needed to do so.

—Joan S. Girgus, Princeton University

Reference

Martinez ED, Botos J, Dohoney KM, Geiman TM, Kolla SS, Olivera A, Qiu Y, Rayasam GV, Stavreva DA, Cohen-Fix O. (2007). Falling off the academic bandwagon: Women are more likely to quit at the postdoc to principal investigator transition. EMBO Reports 8, 977–981.
Imagine what can emerge from a partnership like this.

MetaMorph® for Olympus®

World-class image acquisition and analysis software. Microscope systems from the world leader in optic technology. How could good things not come from a partnership this powerful?

MetaMorph® for Olympus® means that you can now purchase Olympus microscopes and MetaMorph software in one convenient, preconfigured package. A truly complete solution, this new microscopy option is a highly reliable modular system that can be upgraded as your needs evolve—and as new possibilities emerge.

For more information on MetaMorph for Olympus, call 800-446-5967 or visit olympusamerica.com/metamorph.
UNCOMPROMISING QUALITY.

Fine Science Tools is committed to serving the world’s scientific and biomedical research communities with a full range of precision surgical and micro-surgical instruments. Unparalleled quality and customer service has made us the leading global distributor of fine European surgical tools.

Request a catalog at finescience.com or call 1-800-521-2109
Science in Tanzania

A horrifying statistic—malaria is said to kill an African child every 30 seconds. Many of these deaths occur in populations with little access to healthcare, and beyond the reach of research efforts that might find new solutions. Tanzanian and American scientists are working together to turn the tide against this deadly disease, by focusing on basic aspects of parasite biology and host-parasite interactions, and by training the next generation of scientists.

Launching, Supporting MOMS

Launched by T. K. Mutabingwa of the National Institute for Medical Research in Tanzania, and Michal Fried and Patrick Duffy of Seattle Biomedical Research Institute and University of Washington, the international partnership was initiated in 2002. The clinical research project known as the Mother-Offspring Malaria Studies (MOMS) Project began in a small, 600-square-foot laboratory. The lab was erected at the relatively isolated Muheza district hospital in northeastern Tanzania. Within this small footprint, MOMS Project scientists brought in everything they needed to perform detailed studies of parasites and immune cells. This included power generators, back-up water supplies, and a VSAT (very small aperture terminal) connection to the Internet. Initially supported by a grant from the U.S. National Institutes of Health (NIH), the scientists installed facilities for cell culture, parasite biology, and molecular biology, as well as a routine clinical laboratory to support the medical care provided to study participants.

Since that small beginning, the MOMS Project has received major funding awards from the Grand Challenges in Global Health (GCGH) program, Bill & Melinda Gates Foundation, and NIH. Over the ensuing six years since its inception, MOMS has grown into a regional center of excellence. It now includes:

- The original clinical research laboratory in Muheza
- A second clinical research laboratory at the Morogoro Regional Hospital (a six-hour drive from Muheza)
- An allied Genome Science Center (GSC) at Sokoine University of Agriculture (focused on microarrays and bioinformatics studies of global infectious diseases)

In 2007, the GSC, led by Professor Paul Gwakisa, fabricated the first DNA microarrays ever produced in East Africa. The GSC is now focusing on transcriptional studies of Plasmodium falciparum parasites that cause severe malaria.

Offering Training

A key element of the MOMS Project has been an integrated program of graduate training for young African scientists interested in molecular and cell biology studies related to malaria pathogenesis and immunity. The training program provides long-term support to young Tanzanian scientists conducting their graduate thesis or postdoctoral fellowship research. This is supported in part by funds from the Fogarty International Center at NIH, and through the GCGH award administered by the Foundation for NIH. The training program also organizes annual regional workshops for short-term intensive training opportunities, with a distinct theme each year. The program’s primary focus is on malaria in pregnant women and young children. However, it trains in other diseases such as trypanosomiasis, which also afflict humans and animals in the East African region.

In 2008, the program joined forces with the American Society for Cell Biology to focus its annual workshop on the theme “Cell Biology of Protozoan Pathogens.” Illustrious Society members, such as Dick McIntosh, Keith Gull, and David Roos, guided 24 young scientists from Uganda, Kenya, and Tanzania through an intensive foray into the basics of cell biology. Other faculty members led modules on immunology and vaccine development, parasite genomics and drug discovery, and functional genomics and bioinformatics. The workshop emphasized student participation through journal clubs, ethics discussions, group problem-solving exercises, hands-on laboratory sessions, and informal interactions. As a highlight of
Research activities of all stripes have visibly increased in Tanzania over recent years.

The research undertaken by the scientists and students of the MOMS Project also reflects their diverse interests and tools. Tanzanian M.D.-Ph.D. student Edward Kabyemela recently published work showing that the fetal response to maternal malaria can influence fetal outcomes. In another study he showed that mothers with iron deficiency are protected from malaria for unknown reasons. University of Washington M.D.-Ph.D. student Atis Muehlenbachs found evidence of maternal-fetal conflict in the VEGF-VEGFR pathway during placental malaria. Subsequently, she demonstrated that the fetal gene encoding VEGFR is a malaria resistance gene. This was the first example of a resistance gene against any infectious disease that functions in utero. Scientist Susan Francis used microarrays and other tools to show that the malaria parasites that infect pregnant women express a distinct subset of genes. The proteins encoded by these genes are now being assessed as potential vaccine candidates to protect pregnant women from malaria.

Research activities of all stripes have visibly increased in Tanzania over recent years. The MOMS Project foresees a continuing role for itself as a partner and catalyst for studies of pregnancy and childhood malaria, emphasizing advanced technologies and molecular and cellular studies. Its success will ultimately be judged according to the degree to which its research findings and capabilities are disseminated throughout endemic areas.

In the anonymous words of one MOMS Project workshop participant: “Thank you very much. Inviting participants who do not have access to such trainings is really a good investment. It helps not only the participant, but also the institution where we come from.” In the future, expect to see increasing productivity from East African scientists focused on cell and molecular biology, particularly where those studies are relevant to the devastating diseases that afflict their communities.

—Patrick Duffy, Seattle Biomedical Research Institute

At Abcam we are dedicated to building a catalogue of the best antibodies in the world.

Pan-cadherin antibody (ab22744)
Tested Applications: ICC/IF, WB
Species Reactivity: Hu, Rat

Alpha-tubulin antibody (ab18251)
Tested Applications: ICC/IF, IHC-P, WB
Species Reactivity: Hu, Ms, Chk, ChHm, InMtj

COXIV antibody (ab16056)
Tested Applications: ICC/IF, WB
Species Reactivity: Hu, Ms, AGMk, Ptto, Xi

For the latest Nuclear Signaling pathways, posters and conferences visit www.abcam.com/nuclearsignal
Introducing A1
Confocal Laser Microscope System

Hybrid Confocal Technology changes everything.

Nikon's A1 Confocal System achieves simultaneous high speed imaging and photostimulation along with spectral confocal capabilities.

Nikon's exclusive Hybrid Scanning Technology is nothing short of a breakthrough in confocal imaging. Nikon’s new fully automated confocal imaging system incorporates the typical galvano paired scanner with a super-fast resonant scanner into one powerful unit. The result? The ability to simultaneously perform high-speed imaging and photostimulation in addition to fast one-shot true spectral imaging capabilities.

The A1 is ideal for advanced research methods using photo-activation fluorescence proteins and enables high-speed, live-cell work with a huge array of new imaging strategies. With the perfect combination of speed, sensitivity, and high data throughout, the A1 gives you the best of both worlds in confocal imaging. For more information, call 1-800-52-NIKON or visit www.nikoninstruments.com/a1

Bring Imaging to Life.

© 2008 Nikon Instruments Inc. • 1-800-52-NIKON • In Canada, 1-888-99-NIKON • www.nikoninstruments.com

The Eyes of Science
HYBRiGENiCS

PROTEIN INTERACTIONS

WHO ELSE CAN DO IT?

A complete and customized solution provider, expert in understanding proteins’ functions in cells through the elucidation and modulation of protein interactions.

We offer 3 lines of services to:

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

15 years of experience
600+ customers
93% customer satisfaction

Enquire now
services@hybrigenics.com

Visit our website
www.hybrigenics-services.com

HYBRiGENiCS SERVICES,
THE PROTEIN INTERACTIONS EXPERT
Dear Thesisologist,

We have come a long way from the time when the thesis was the only publication expected by the guild or needed by the student, from an era when the entire text was generated ab initio and expected to appear nowhere else. Policies today vary but, in general, it has become the custom to allow students to insert the text of a published, accepted, or submitted manuscript as a chapter of the Results section. Various issues loom however. In the simplest case, a student plays a major role in writing the paper and is the sole author other than the faculty member. (Note that we have also “progressed,” at least in certain quarters, past the time when the professor was not a co-author; the late Hewson Swift was particularly generous in this regard). In such cases, it seems acceptable for the student to put the very same text into the thesis, in whatever transfer of sections the format requires (e.g., Materials and Methods to Materials and Methods, etc.), as long as this is acknowledged. Such an acknowledgment might read: “The following chapter is taken from the Results section of the paper by Smith and Jones, Mol. Biol. Cell 19: 5604–5618, 2008.” (Note the authors’ good taste in choosing a journal for publication.) After all, if in the published paper the student had written “Figure 4A shows the sucrose gradient profile of the complex,” it would seem silly to require this to be written in the thesis as: “The chromatin remodeling complex displayed a sedimentation coefficient of ~23S (Figure 4A),” since nothing is being taught to the student by this harassment. Moreover, the verbatim text is rendered legitimate by the acknowledgment of its source.

However, it is a dicier matter when the student’s publication has been co-written with other authors, including the faculty adviser. If a co-author has written a paragraph (in any section), with no input into that paragraph by the student, then in Labby’s view, it should not be inserted into the thesis. The point being made can certainly be conveyed easily enough in a paragraph written de novo.

From here, there is an ascending staircase of severity of misuse of text. On one “step” there could be for example a brilliant insight into the findings made solely by a co-author in the published article. In such a case, the thesis sentence would need to state: “Notwithstanding the aforementioned interpretations, we ultimately have concluded that the most plausible one is that developed by Ida Bean Feynman in our laboratory, as further developed in our recent publication Jones, Feynman, and Smith (2009).”

One caution should be noted even in the acceptable case where a student uses verbatim text mentioned above. Labby knows of a recent case in which a faculty member plagiarized herself, i.e., used identical text (Introduction and Discussion) in multiple publications. The motive was not to deceive but resulted from sheer intellectual laziness (precipitating due wrath by the institution’s investigative committee). So if we allow our students to use verbatim text in their theses, we should mentor that this is actually a statutory exception to the standard doctrine about publications. Other publications will not be governed by this relaxed standard.

—Labby

Correction: Labby’s reply in the December column contained two errors: “refracting” should have read “diffracting” and the name of the company’s hopeful cancer therapeutic protein should have read “curein.”

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.
Transcriptional Regulation in Eukaryotes


By Michael F. Carey, University of California, Los Angeles; Craig L. Peterson, University of Massachusetts Medical School, Worcester; and Stephen T. Smale, University of California, Los Angeles

Strategies for studying gene regulation mechanisms have changed dramatically over the past several years in light of the emergence of complete genome sequences for many organisms as well as the development of or improvements to technologies such as chromatin immunoprecipitation, RNA interference, microarrays, and proteomics.

The first edition of the highly successful Transcriptional Regulation in Eukaryotes, written by Michael Carey and Stephen Smale at UCLA, provided a comprehensive source of strategic, conceptual, and technical information for investigating the complexities of gene regulation at the level of transcription.

With the ever-increasing importance of genome data and the appearance of new and better techniques, the second edition of this book has added a third author, Craig Peterson at the University of Massachusetts Medical School. In addition to a new chapter on the in vitro analysis of chromatin templates for DNA-binding studies and transcription, this second edition has been extensively rewritten and updated to discuss new advances in the field and their impact on gene regulation mechanisms. The second edition retains the approach of the first in covering both the conceptual and practical aspects of how to study the regulation of a newly isolated gene and the biochemistry of a new transcription factor.

Transcriptional Regulation in Eukaryotes serves as both a powerful textbook and manual for advanced instruction in molecular biology which

- supplements clearly written text with extensive illustrations
- puts methods in the context of underlying theory
- gives expert recommendations on experimental strategies
- encourages creativity in investigative design
- explains protocols for essential techniques step by step, with extensive advice on troubleshooting
- provides the latest methods in use in the field

This important and unique book is essential reading for anyone pursuing the analysis of gene expression in model systems or disease states, providing underlying theory and perspective to the newcomer and the latest techniques to the expert.

Published in December 2008, 620 pp., appendix, index

Hardcover $240 ISBN 978-087969777-8

Paperback $165 ISBN 978-087969762-4

www.cshlpress.com
**INCYTES from MBC**

January, Vol. 20, Nos. 1 and 2

---

**Sterols Are Mainly in the Cytoplasmic Leaflet of the Plasma Membrane and the Endocytic Recycling Compartment in CHO Cells**

Mousumi Mondal, Bruno Mesmin, Sushmita Mukherjee, and Frederick R. Maxfield

Transbilayer asymmetry is a general feature of most lipids in the plasma membrane and other post-endoplasmic reticulum organelles. This asymmetry has important consequences for membrane physical properties and cell signaling. Although cholesterol is a major lipid in these membranes, its transbilayer distribution is not well understood. Using fluorescent sterols (dehydroergosterol and cholestatrenol) and a variety of fluorescence quenchers, the authors determined that the majority of sterol is in the cytoplasmic leaflet of the plasma membrane and endocytic recycling compartment of CHO cells. Quenchers that are restricted to the exofacial leaflet of the plasma membrane reduce the fluorescence intensity by about 20–30%, whereas microinjection of quenchers into the cytosol quenched the fluorescent sterols associated with the plasma membrane and endocytic recycling compartment by about 60%. The presence of high amounts of cholesterol in the cytoplasmic leaflet might have important implications for intracellular cholesterol transport and for membrane domain formation.

---

**Genetic Hypervariability in Two Distinct Deuterostome Telomerase Reverse Transcriptase Genes and Their Early Embryonic Functions**

Trystan B. Wells, Guanglei Zhang, Zenon Harley, and Homayoun Vaziri

Within a species of complex animals, genes for functional proteins are rarely variant. This constancy is thought to be required for the function of essential proteins. One such crucial protein is telomerase reverse transcriptase catalytic subunit (TERT). To study the function of TERT during early development, the authors cloned SpTERT from purple sea urchin embryos. Unexpectedly, they discovered two distinct telomerase genes named SpTERT-S and SpTERT-L. By cloning SpTERT from several individuals, they further discovered regions, especially exon 11 of SpTERT-S, with intraspecific germline hypervariability. Although the variant enzymes remained catalytically active, there were significant amino acid variations in multiple regions, including those involved in binding of TERT to its RNA component. The authors also uncovered a noncanonical essential function for telomerase that is required for embryo polarity at the mesenchymal blastula stage. These results suggest the presence of an active diversity-generation mechanism that has neofunctionalized telomerase throughout evolution.

---

**The Aspergillus nidulans Kinesin-3 UNCa Motor Moves Vesicles along a Subpopulation of Microtubules**

Nadine Zekert and Reinhard Fischer

The microtubule cytoskeleton is not as rigid and uniform as the name implies, but is characterized by its dynamic instability. In addition, microtubules can be made up of different tubulin isoforms and—to make a eukaryotic cell even more complex—of different posttranslationally modified tubulins. Microtubule modifications, such as acetylation or polyglutamylation, are evolutionarily old “inventions” and occur in primitive eukaryotes such as Giardia lamblia, whereas detyrosination appeared later during evolution. Although many modifications were discovered more than 20 years ago, their cellular functions are not well understood. Here, the authors show that in the filamentous fungus Aspergillus nidulans at least two different microtubule populations exist. This discovery came from studies of an unc-104–related motor protein that preferentially moves along detyrosinated microtubules and transports vesicles. These microtubules are more stable than the tyrosinated ones and even remain intact during mitosis when other cytoplasmic microtubules are degraded.

---

**Competitive Nuclear Export of Cyclin D1 and Hic-5 Regulates Anchorage Dependence of Cell Growth and Survival**

Kazunori Mori, Etsuko Hirao, Yosuke Toya, Yukiko Oshima, Fumihiro Ishikawa, Kiyoshi Nose, and Motoko Shibanuma

Anchorage dependence of cell growth is a critical trait that distinguishes nontransformed from transformed cells. The authors report a novel mechanism whereby anchorage-independent cell growth and survival is prevented. Cyclin D1 is a proto-oncogene that exhibits cell cycle–dependent nuclear localization. Its nuclear export is dependent on CRM1. The authors report that the nuclear localization of cyclin D1 is adhesion-dependent and regulated by the focal adhesion protein Hic-5 and its binding partner PINCH, which also cycle in and out of the nucleus. Hic-5 binds to CRM1 with high affinity and is a competitive inhibitor of CRM1-dependent cyclin D1 export in adherent cells. PINCH interacts with both cyclin D1 and Hic-5 and enhances the Hic-5–dependent inhibition of cyclin D1 export. Under nonadherent conditions, the cellular level of reactive oxygen species increases and inhibits the nuclear export of Hic-5, resulting in the nuclear export of cyclin D1. Consequently cells undergo growth arrest and apoptosis. Ras overexpression led to the anchorage-independent nuclear localization of cyclin D, revealing an interesting interdependence of the oncogenic potential of two oncogenes.
Dingell vs. Waxman: A Battle of Titans

Only days after the 2008 congressional election, newly elected House Democrats had to cast what could be the toughest vote of their congressional careers—who to support for chair of the House Energy and Commerce Committee. For the soon-to-be members of Congress, supporting the wrong candidate could doom their legislative careers before they even start.

The House Energy and Commerce Committee is the oldest and most powerful committee in the House of Representatives. It has jurisdiction ranging from biomedical research and the National Institutes of Health (NIH) to U.S. energy policy and travel and tourism. Rep. John Dingell (D-MI) has served as the chair or senior Democrat on the Energy and Commerce Committee since 1981. As the longest-serving member of the House, first elected in 1955, Dingell is also the Dean of the House of Representatives.

The Challenge

In the days following the 2008 election, Rep. Henry Waxman (D-CA) announced that he would challenge Dingell for the chairmanship of the Energy and Commerce Committee. Waxman, first elected in 1974, currently serves as chair of the House Oversight and Government Reform Committee. That is the main investigative committee of the House, but it has no legislative powers.

Waxman won the battle of congressional titans 137–122. While Waxman will continue to be supportive of the NIH in his new position, he may also continue to use his investigatory skills in his new oversight role.

NIH-related issues that will confront the Waxman-led committee include reversal of the Bush policy on federally funded stem cell research, NIH reauthorization, and ongoing congressional concern about scientific conflict of interest.

—Kevin M. Wilson

get focused!

Introducing the C-Focus System

- eliminates microscope focus drift
- high resolution piezo movement
- retrofits to most microscopes
- dual mode operation
- simple 1-button operation
What a site to see.

We’ve redesigned our website to make ordering and shopping much faster, easier and more convenient. Come visit us at pipetman.com to see for yourself.

**Pipettes** Recognized worldwide as the gold standard in pipettes, our product line continues to grow and improve to advance your research abilities. From the classic Pipetman® and now the new Pipetman Neo with lower spring forces, to digital and motorized pipettes that give you greater control and expanded functionality, you’ll find many options to choose from.

**Tips** Gilson’s Diamond® tips ensure accuracy, precision and purity for trustworthy results. Our Diamond tips cover a full range of volumes and are offered in many convenient quantity and packaging options to best fit the needs of your laboratory.

**Service** Our new Gilson Service Center of Excellence and our new field service team are now available to serve you. From calibration to repair, using only genuine Gilson replacement parts, we ensure your pipettes always perform like new.

**Special Offer**

Place your order at pipetman.com and receive 15% off of your entire purchase! Offer expires 3/31/2009. Available only to US customers. Offer may be combined with other discounts or offers. Promotion code M9ASC8 must be used at the time order is placed.
Scitable is an educational website offered by Nature Publishing Group for educators who want to help students develop a deeper comprehension and appreciation of science.

Scitable is a free resource for both faculty and students. An up-to-date, steady stream of undergraduate-level educational overviews from the editorial staff of Nature Publishing Group ensures that genetics & biology educators and their students will have easy access to a reliable source of evidence-based information.

Scitable currently features content in genetics, including: chromosomes and cytogenetics, evolutionary genetics, gene expression and regulation, genes and disease, gene inheritance and transmission, genetics and society, genomics, nucleic acid structure and function, population genetics and much more.

To learn how you can engage students by exposing them to reliable, evidence-based content and thought-provoking discussion, visit www.nature.com/scitable today.
New ASCB Half-Century Fund Donors

The American Society for Cell Biology gratefully acknowledges the following Society members who have generously donated to the ASCB Half-Century Fund.* These 2008 Half-Century Society members are helping to support the Society’s continued innovation.

<table>
<thead>
<tr>
<th>Gold</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruce Alberts</td>
<td>Richard Anderson</td>
</tr>
<tr>
<td>Craig Blackstone</td>
<td>Marilyn Farquhar</td>
</tr>
<tr>
<td>Christine Field</td>
<td>Tim Mitchison</td>
</tr>
<tr>
<td>Suzanne Pfeffer</td>
<td>Susan Wente</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Silver</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Joseph Besharse</td>
<td>Qingshen Gao</td>
</tr>
<tr>
<td>Morris J. Karnovsky</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bronze</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diana C. Bartelt (in memory of Dr. William D. Cohen)</td>
<td>Henry G. Brown</td>
</tr>
<tr>
<td>Silvia Corvera</td>
<td>Paul Forscher</td>
</tr>
<tr>
<td>Richard Hynes</td>
<td>Shinya Inoue</td>
</tr>
<tr>
<td>George Langford</td>
<td>Daniel J. Lew</td>
</tr>
<tr>
<td>Eva Nogales</td>
<td>Thoru Pederson</td>
</tr>
<tr>
<td>William Saxton</td>
<td>Jonathan Scholey</td>
</tr>
<tr>
<td>Jean Schwarzbauer</td>
<td>Masatoshi Takeichi</td>
</tr>
<tr>
<td>Earl H. Weidner</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sustainer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Donald Brown</td>
<td>Coralie A. Carothers Carraway</td>
</tr>
<tr>
<td>Cyril E. Challice</td>
<td>Shu Chien</td>
</tr>
<tr>
<td>Alan L. Epstein</td>
<td>Alan F. (Rick) Horwitz</td>
</tr>
<tr>
<td>Yasunori Kitamoto</td>
<td>Geri Kreitzer</td>
</tr>
<tr>
<td>Phoebe S. Leboy</td>
<td>Gloria Lee</td>
</tr>
<tr>
<td>James C. Lee</td>
<td>Vincent T. Marchesi</td>
</tr>
<tr>
<td>Pierre D. Mccrea</td>
<td>W. Sue Shafer</td>
</tr>
<tr>
<td>Amy Tang</td>
<td>William B. Wood</td>
</tr>
<tr>
<td>Howard Worman</td>
<td>Xin Xiang</td>
</tr>
<tr>
<td>Masaki Yanagishita</td>
<td></td>
</tr>
</tbody>
</table>

* At press time, since the December Newsletter listing

Environmentally Engineered Equipment

Store Your Vital Samples in Confidence with a Glacier™ -86°C Ultra Low Temperature Freezer

- Microprocessor precision control provides first-class temperature uniformity
- Lowest operation noise in the industry at 47 dBA
- Multiple alarm and back-up systems
- RoHS compliant, 100% CFC-free refrigerants

www.nuaire.com • 1.800.328.3352
Research Residency for Biology Scholars

Have you ever wondered if your teaching approaches are effective? Have you considered investigating your own teaching practices? Would you like to improve your teaching and its impact on student learning? If so, consider applying for the National Science Foundation–supported Biology Scholars Program Research Residency (www.biologyscholars.org). The application deadline for the Research Residency is March 1, 2009. More details about the program and application process are available below and at the website: www.biologyscholars.org/page02c.shtml.

The Research Residency is a year-long program that begins with a Scholarship of Teaching and Learning (SoTL) Institute in Washington, DC, July 15–18, 2009. The SoTL Institute is an intensive program designed to help faculty learn how to conduct research in teaching and learning in the biological sciences with improved pedagogy practices and student learning outcomes. Space is limited to 20 scholars.

Update Your Contact Info Today!

We want to make sure you’re kept up-to-date on all the latest ASCB news and events. That means we need your most recent contact information. It’s easy to update this information on our website:

- Go to www.ascb.org and click on “Members Only” at the top of the page.
- Click “Update Profile” and enter your Username and Password.
- To update your address, email, or phone number, click “Main” under Address Type.
- Enter your changes, click “Continue” and then “Save.” It’s that easy!

If you have any questions, contact the ASCB at (301) 347-9300 or ascbinfo@ascb.org.
Cellular Imaging & Analysis

NEB introduces SNAP-tag™ and CLIP-tag™ protein labeling systems. These innovative technologies provide simplicity and extraordinary versatility to the imaging of mammalian proteins in vivo, and to protein capture experiments in vitro. The creation of a single genetic construct generates a fusion protein which, when covalently attached to a variety of fluorophores, biotin, or beads provides a powerful tool for studying the role of proteins in living and fixed cells.

Advantages:
- Versatile - Compatible systems enable dual labeling
- Flexible - Multiple fluorophores allow for choice & flexibility
- Innovative - A range of applications is possible with a single construct

Live COS-7 cells transiently transfected with pSNAPm-Tubulin. Cells were labeled with SNAP-Cell TMR-Star (green pseudocolor) for 30 minutes and counterstained with Hoechst 33342 (blue) for nuclei.

SNAP-tag Technology: SNAP-tag (gold) fused to the protein of interest (blue) self labels releasing guanine.

www.neb.com
WHY SHENANDOAH BIOTECH SHOULD BE THE ONLY SUPPLIER OF QUALITY RECOMBINANT PROTEINS FOR YOUR RESEARCH NEEDS...

- Our scientists have over 60 years combined experience in molecular biology and recombinant protein technology
- Our recombinant proteins are developed and manufactured in our facility - no middle-man translates into a typical 10-15% savings over other vendors
- All recombinant proteins are produced under strict QC/QA protocols and bioassayed to ensure optimal, specific biological activity
- Not limited to products listed below — we can engineer and produce almost any recombinant protein your research may require... quickly, economically and confidentially.

HERE IS A LIST OF OUR FEATURED PRODUCTS, NEW ADDITIONS, AND THOSE COMING SOON...

Products shown in green are our newest additions.

ON FEATURED RECOMBINANT PROTEINS!
PURCHASE A MINI OR STANDARD VIAL FROM OUR FEATURED RECOMBINANT PROTEIN LIST AND RECEIVE

50% OFF YOUR FIRST PRODUCT!
OFFER NOT AVAILABLE VIA WEBSITE. DOES NOT INCLUDE SHIPPING.
PLEASE USE THE CODE SBTMLJ FOR DISCOUNT.

In addition to the assortment of products listed, Shenandoah Biotechnology offers services including:

- custom protein expression in E. coli
- molecular cloning and design consultation
- bioassays

FOR MORE INFORMATION ABOUT OUR PRODUCTS, SERVICES OR PRICING:
PHONE 513.539.2769  FAX 513.539.2769
EMAIL MJONES@SHENANDOAH-BT.COM
WEBSITE WWW.SHENANDOAH-BT.COM

RECOMBINANT CYTOKINES, CHEMOKINES, GROWTH FACTORS, SOLUBLE RECEPTORS & LIGANDS AND OTHER PROTEINS TO SUPPORT AND ENHANCE YOUR VALUABLE RESEARCH
The ASCB Gratefully Acknowledges the Following 2008 Annual Meeting Supporters

**GOLD**
- BD Biosciences
- Roche Applied Science

**SILVER**
- Biogen/Idec
- Chemometec A/S
- Chroma Technology Corporation
- Leica Microsystems
- Millipore Corporation

**BRONZE**
- Corning Incorporated
- Nikon Instruments, Inc.
- Novare Biologistics
- Olympus America, Inc.
- Point Source
- Veeco Instruments

---

**The Burroughs Wellcome Fund**
- Minisymposium 20: Cellular Response to Infectious Agents
- Translating Progeria: A Bench-to-Bedside Story

**Chroma Technology Corporation**
- Undergraduate Student Travel Awards

**Cytoskeleton, Inc.**
- Minisymposium 21: Genomic Instability and Cancer
- Minisymposium 16: Signaling from the Extracellular Matrix

**The Elsevier Foundation**
- Elsevier Childcare Awards

**Garland Sciences-Taylor & Francis Group**
- Undesignated

**JEL**
- JEOL USA, Inc.

**Merck Research Laboratories**
- Minisymposium 16: Signaling from the Extracellular Matrix
- Minisymposium 21: Genomic Instability and Cancer

**Nature Publishing Group**
- Morning and Afternoon Refreshment Breaks and Educational Resources/
  Minorities Affairs Committee Booth

**Nikon Instruments, Inc.**
- CellSlam 2008: SF Shoutout!

**Olympus America, Inc.**
- Lanyards

**Optical Imaging Association**
- Subgroup B: At the Limits: Optical Methods for Single Molecules, Cells, and Organisms

**Roche Applied Science**
- Notepads

**The Rockefeller University Press/The Journal of Cell Biology**
- Norton B. Gilula Memorial Award

**Worthington Biochemical Corporation**
- Predoctoral Student Travel Awards
MEMBERS in the News

Mina Bissell of Lawrence Berkeley National Laboratory, an ASCB member since 1973 and 1996-97 ASCB President, and Susan Band Horwitz of Albert Einstein Medical College, an ASCB member since 1980, are two of the four recipients in 2008 of the American Cancer Society’s highest honor, the Medal of Honor. Bissell received the Medal of Honor for Basic Research; Horwitz received the Medal of Honor for Clinical Research.

Michael D. Ehlers of Duke University Medical Center/HHMI, an ASCB member since 2000, won the 2008 Life Sciences Achievement Award for Breakthrough Research. The award is given jointly by the North Carolina Biotechnology Center and the National Multiple Sclerosis Society.

Joachim Frank of Columbia University/HHMI, an ASCB member since 1998, was one of the recipients of the 2008 George E. Palade Gold Medal from Wayne State University for his research with Thomas A. Steitz on ribosome structure and function.

Alfred Goldberg of Harvard Medical School, an ASCB member since 1993, was awarded the 2008 Jacob Heskel Gabbay Award for Biotechnology and Medicine by Brandeis University.

Susan Lindquist of the Whitehead Institute for Biomedical Research, an ASCB member since 1983, is the recipient of the 2009 Ralph and Helen Oesper Award from the American Chemical Society.

Sandra Mayrand of the University of Massachusetts Medical School (UMMS), who first joined ASCB in 1982, was one of the recipients of the 2008 Manuel Carballo Governor’s Award for Excellence in Public Service. Mayrand, who is director of the UMMS’s Regional Science Resource Center, received the award for her extraordinary contributions to science and math education in Massachusetts.

Correction: In the November 2008 Members in the News, Peter Novick’s affiliation was incorrect. He is in the Department of Cellular and Molecular Medicine at the University of California, San Diego.

Treasurer’s Report Correction

The total printed for ASCB’s audited expense in Short Year 2007 (the nine-month fiscal year ending December 31, 2007) in the December ASCB Newsletter was incorrect. The correct total is $4,930,276.
Either way you look at it, there’s potential for more.

University and non-profit research institutions have a vast array of innovations that previously haven’t been available outside of the research labs. The iBridge Network provides a window into these institutions by aggregating research materials, technologies, and related outcomes on the iBridge Web site. With innovations from a variety of subject areas and over 40 universities, there are endless possibilities to further work already being done, spark collaborative relationships, and license technologies.

With research and technologies from across the United States, the potential is boundless. And, may lead to unexpected advances and next-generation solutions across every field.

Tap into a new network. Visit the iBridge Web site, where we link ideas and innovations, or stop by booth 217 at the ASCB Annual Meeting to learn more.

www.iBridgeNetwork.org
Cell Counting and Viability
Mix - Load - Analyse

NucleoCounter®
- High precision and stability
- Count in 30 sec.
- Calibration free/no settings
- Easy, 1 button operated
- No cleaning
- Maintenance/service free
- Portable and robust

Sample aspiration
Volume calibration
Mixing
Immobilized nuclear dye
Measurement chamber

ChemoMetec A/S
Gydevang 43
DK-3450 Allerød
Denmark

Phone (+45) 48 13 10 20
Fax (+45) 48 13 10 21
Mail contact@chemometec.com
Web www.chemometec.com
 MEMBER Gifts

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

Richard L. Blanton  
Rebecca S. Boston  
Ann Hart Erickson  
Harrison W. Farber  
Marvin J. Fritzler  
Susan A. Gerbi  
Walter N. Hittelman  
Lynne Ann Lapierre  
David R. Lye  
R. John Lye  
Michael J. Matunis  
Carrie J. Merkle  
John R. Merriam  
Yuko Mimori-Kiyosue  
W. James Nelson  
Thomas D. Pollard  
Edward D. Salmon  
David R. Samols  
Lindsay Susan Shopland  
Edwin M. Uyeki  
Clare M. Waterman  
David A. Weisblat  
Keith R. Yamamoto  
Maria Elena B. Zavala

The ASCB wishes to express deep appreciation to all the exhibitors who attended the 2008 Annual Meeting and helped ensure its success.

ELSO Fuses with EMBO

For the past 10 years, ELSO, the European Life Scientist Organization, has hosted an annual international congress. The 2008 ELSO Meeting, organized jointly by ELSO and the European Molecular Biology Organization (EMBO), in Nice last summer was the 7th and last ELSO meeting. ELSO is now being incorporated into EMBO. “We now need a structure that is more sustainable to carry the meeting forward into a new era,” says Kai Simons, ELSO President.

Established in 1964, EMBO has focused on recognizing and fostering talented scientists, disseminating knowledge, and stimulating cooperation across borders. The fusion of ELSO and EMBO sets the stage for the EMBO Meeting in 2009, in Amsterdam.

ASCB/JSCB/RIKEN CDB Meeting

Building the Body Plan: How Cell Adhesion, Signaling and Cytoskeletal Regulation Shape Morphogenesis

Kyoto International Conference Hall, Kyoto, Japan

September 21–23, 2009

Meeting Organizers:
Mark Peifer, University of North Carolina, Chapel Hill, ASCB
Masatoshi Takeichi, RIKEN Center for Developmental Biology, Japan
Sachiko Tsukita, Osaka University, Japan, JSCB

Important Deadlines:
Abstract: Wednesday, July 22
Travel Award: Wednesday, July 8
Registration: Thursday, August 20

Support Opportunities Available

www.ascb.org/JAPAN2009
Important
*MBC* presents conceptual advances of broad interest within all areas of cell biology, genetics, and developmental biology.

Accessible
Each issue is freely available two months after publication. Manuscript versions of articles are published within a few weeks of acceptance.

Twenty-four issues per year starting in 2009!

Fair
*MBC* offers fair, prompt, thorough review coupled with responsible editorial adjudication.

No author charges for color figures.
Our CELLestial™ brand of molecular and cellular probes provide you with a diverse selection of labeling and detection solutions.

Learn about our new products in Booth #2043 at the 48th Annual Meeting for the American Society for Cell Biology.

The Vermont Immunobiology / Infectious Diseases Center is undergoing significant expansion and is seeking an outstanding tenure-track faculty member at the Assistant, Associate or Full Professor level to contribute to the Center’s research and teaching programs. Candidates appointed at the level of Assistant Professor may be eligible for research funding from a recently awarded NIH Center of Biomedical Research Excellence (COBRE) Award. We are seeking a scientist with a demonstrated research track record and an innovative research program in the areas of microbial/viral pathogenesis or immune response to infectious agents. Extensive opportunities for collaborative research exist within and outside the Center in cell, molecular and structural biology. Primary appointment will be in the Department of Microbiology and Molecular Genetics. Details about the Center, the Department, the University and the Burlington area may be accessed at http://www.med.uvm.edu/vcii and http://www.uvm.edu/microbiology/mmg_home.php. A curriculum vitae, a summary of research interests and three letters of reference should be sent electronically (if possible) to: Search Committee Chair, c/o Ms. Debra Stern (Debra.Stern@uvm.edu), 201 Stafford Hall, University of Vermont, 95 Carrigan Drive, Burlington VT 05405, or apply online at: https://www.uvmjobs.com/applicants/jsp/shared/frameset/Frameset.jsp?time=1170944834156. Review of applications will begin immediately and continue until a suitable candidate is identified. The University of Vermont is an equal opportunity, affirmative action employer. Women and under represented minorities are encouraged to apply.
The ASCB Council admitted 1,635 new members and granted Emeritus status to 8 members of the Society last month:

Monika Abedin
Marina Abravanel-Newerly
Elliot Warren Abrams
Seydah Acaar
Melanie R. Adams
Georgina Boakyewaa Addae
Ruth Oluwatoyin Adekunle
Eric Kwanela Afoakwah
Qurratulain Aftab
Shivangi Agarwal
Shivani Agarwal
Jin Hyun Ahn
Juhyun Ahn
Molly J. Ahrens
Yoshikatsu Aikawa
Adebuemi B. Akinkuotu
Adewonuola Adelodi Alase
Kurt H. Albertine
Mistre Alemayehu
Irina Alexandar
Adrian Douglas Allen
Shabeeh Al-Hussain
Anish Alyahya
Sunittha T. Ambazapati
Jaejin An
Graham A. Anderson
Johnathon David Anderson
Michael Andrew Anderson
Meghan Andekos-Abak<br>
Mihela Anitei
Quintella Fri Anjeh
Sarah Daniella Appel
Tomas Aramigo
Delphine Arcizet
Thomas Armstrong
Julia Arpino
Laura A. Beker
Marc P. Ascione
Christopher Ashwell
Andrea Asimoglou
Chaitanya Anil Athale
Nicanor Austriaco
Petri Auvinen
Junya Awata
Daniel Aydin
Behnam Azimi
Juliette Celine Azimzadeh
Ayta Aziz
Joanne Robyn Babb
David Bader
Munsook Bae
David Bader
Joanne Robyn Babb
Juliette Celine Azimzadeh
Ayta Aziz
Joanne Robyn Babb
David Bader
Munsook Bae
David Bader
Joanne Robyn Babb

New Members
Your Mission: Successful Research
Mission: Possible

You Could Be a Winner!

Corning’s newest product innovations can help you make your research possibilities real and help you **win** your share of **$100,000** of Corning® products.

You are invited to submit the results of your original research incorporating the use of one of Corning’s latest innovations:

- Corning 10 layer HYPERFlask® Cell Culture Vessel
- Corning CellBIND® Surface
- Corning Ultra-Low Attachment Surface
- Corning Labware with Ultra-Web® Synthetic Surfaces

Once your research with these products delivers more successful results than you’ve had in the past, you are eligible to win a share of $100,000 of Corning products.

Go to [www.corning.com/lifesciences/mission](http://www.corning.com/lifesciences/mission) to learn the full details of our Mission Possible program.

---

It’s a crime to waste your valuable time searching for cell biology antibodies!

Go back to your experiments and let our AntibodyDetectives™ find them for you!

- Personal service
- Handled by experienced scientists
- 24 hour turnaround
- No charge!

Just complete the form at [www.ab-direct.com/ADS](http://www.ab-direct.com/ADS)

The AntibodyDetectives will do the rest!
“Science is a collection of successful recipes”
—Paul Valéry, Poet and Essayist

Current Protocols
www.currentprotocols.com

If your lab needs protocols, your lab needs Current Protocols. Relied upon for dependability, accuracy and ease of use, Current Protocols contains thousands of protocols in all areas of the life sciences:

- Cell Biology
- Cytometry
- Human Genetics
- Immunology
- Magnetic Resonance Imaging
- Microbiology
- Molecular Biology
- Neuroscience
- Nucleic Acid Chemistry
- Pharmacology
- Protein Science
- Stem Cell Biology
- Toxicology

- New and updated content added continually
- Presented in context and suitable for anyone in the lab, from the novice to the expert
- Editorial boards include leading names in their fields
- Expert commentary and guidelines provide an extraordinary level of detail
- Video protocols now available, in convenient step-by-step format

Current Protocols is a continually updated collection of peer-reviewed laboratory protocols published by Wiley-Blackwell. The series contains over 11,000 protocols, and provides the global life sciences community with the highest quality, step-by-step procedures, enabling more rapid and reliable research.

Including basic procedures such as weight and volume measurement, the use of routine instrumentation, as well as advanced topics such as real time PCR and bioinformatics, Current Protocols Essential Laboratory Techniques provides the skills and understanding of fundamental laboratory procedures needed to ensure success at the bench.

Subscribe to Current Protocols Essential Laboratory Techniques Now!
For institutions, request free trial access at: wissales@wiley.com
For laboratories, request a 25% initial discount on subscription at: protocol@wiley.com

*Offers end January 31st 2009

Visit Current Protocols at www.interscience.wiley.com to start your lab’s subscription today!
**HHMI Postdoctoral Fellowships.** Howard Hughes Medical Institute will partner with the Jane Coffin Childs Memorial Fund, Helen Hay Whitney Foundation, Damon Runyon Cancer Research Foundation, and Life Sciences Research Foundation to fund 16 annual fellowships to help advance young scientists. [www.hhmi.org/news/20070604postdoc.html](http://www.hhmi.org/news/20070604postdoc.html).

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

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

**NIH Administrative Supplements for Induced Pluripotent Stem Cell Research.** The National Institute of General Medical Sciences, the National Institute of Arthritis and Musculoskeletal and Skin Diseases, and the National Eye Institute announce the availability of one-year administrative revisions (also referred to as supplements) for funded grantees to encourage research into the derivation, characterization, and/or utilization of induced pluripotent stem cells (iPS) from non-embryonic sources. Application receipt date: April 1, 2009. [http://grants.nih.gov/grants-guide/notice-files/NOT-GM-08-136.html](http://grants.nih.gov/grants-guide/notice-files/NOT-GM-08-136.html).

**NIH CSR Marcy Speer Award.** The Marcy Speer Award recognizes scientists who demonstrate extraordinary commitment to NIH Center for Scientific Review peer review groups, making it possible for NIH to fund the best applications and, ultimately, improve public health. The next nomination deadline is April 16, 2009. [http://cms.csr.nih.gov/AboutCSR/SpeerAward.htm](http://cms.csr.nih.gov/AboutCSR/SpeerAward.htm).

**NIH OPASI Transformative R01 Program.** The NIH Office of Portfolio Analysis and Strategic Initiatives, which houses the NIH Director’s Roadmap for Medical Research, has announced a new Transformative R01 Program in support of investigator-initiated research that proposes to disrupt currently existing paradigms or create new ones where none exist. Application receipt date: January 29, 2009. [http://nihroadmap.nih.gov/T-R01](http://nihroadmap.nih.gov/T-R01).

**NIH Administrative Supplements for Induced Pluripotent Stem Cell Research.** The National Institute of General Medical Sciences, National Institute of Arthritis and Musculoskeletal and Skin Diseases, and National Eye Institute announce the availability of one-year administrative revisions (also referred to as supplements) for funded grantees to encourage research into the derivation, characterization, and/or utilization of induced pluripotent stem cells (iPS) from non-embryonic sources. This opportunity replaces NOT-NS-08-013, NIH Administrative Revisions for Human Pluripotent Stem Cell (hPSC) Research Using Non-Embryonic Sources, which was announced January 17, 2008. Formal requests must be received on or before April 1, 2009.


GRANTS & OPPORTUNITIES

Research Supplements to Promote Re-entry into Biomedical and Behavioral Research Careers. These supplements are intended to encourage individuals to re-enter research careers within the missions of all NIH program areas. This program will provide administrative supplements to existing NIH research grants to support full-time or part-time research by individuals in a program geared to bring their existing research skills and knowledge up-to-date. Expiration: September 30, 2011. http://grants.nih.gov/grants/guide/pa-files/PA-08-191.html.

RISE (Research Internships in Science and Engineering) and RISE Professional Programs. The German Academic Exchange Service (DAAD) offers scholarships to American and Canadian students to work on cutting-edge research projects at top research institutions (e.g., Max-Planck-Institutes) and universities in Germany. 2009 deadline for undergraduates: January 31, 2009. www.daad.de/ris.

SCORE Awards. The National Institute of General Medical Sciences is accepting applications for its Support of Competitive Research (SCORE) developmental awards designed to increase faculty research competitiveness at minority-serving institutions. Multiple deadlines through May 18, 2010. The program announcement, as well as three other program announcements (PAR-06-491, PAR-06-492, PAR-06-493), can be found at http://grants1.nih.gov/grants/guide/pa-files/PAR-06-490.html#PartI.
Biophysical Society 53rd Annual Meeting. www.biophysics.org/
2009meeting.

March 4–8, 2009. Chicago, IL
Genetics Society of America: 50th Annual Drosophila Research

March 7–11, 2009. Charleston, SC
American Society for Neurochemistry
asneurochem.org/2009Meeting/
ASN2009.htm.

March 17–22, 2009. Pacific Grove, CA
fusc.net/25thFGC/FGC25.htm.

April 13–24, 2009. Biopolis,
Singapore
European Molecular Biology
Organization and Institute of Medical
Biology Course: FRET, FLIM, FCS,
FRAP and 3-D Imaging—Application
to Cell and Developmental Biology.
http://cwp.embo.org/wpc09-01.

May 3–7, 2009. Fort Lauderdale, FL
Association for Research in Vision and
Ophthalmology 2009 Annual Meeting: Reducing Disparities in Eye Disease
and Treatment. www.arvo.org/eweb/

May 24–27, 2009. Xiamen, China
Wnt Signaling, Organogenesis, and
xmu.edu.cn/wntmeeting/index.htm.

May 27–29, 2009. Charlottesville,
VA
4th Biennial Morphogenesis and
Regenerative Medicine Symposium
www.morphogenesis.virginia.edu/
index.htm.

June 4–6, 2009. Toronto, Canada
Organization for the Study of Sex
Differences Third Annual Meeting.
www.osswdweb.org/mc/page.
do?sitePageId=64130.

June 14–18, 2009. Zürich,
Switzerland
VIII European Symposium of The

July 4–9, 2009. Prague, Czech
Republic
34th Congress of the Federation of
European Biochemical Societies: Life’s Molecular Interactions.

Gordon Research Conference, Cell–
Cell Fusion. www.grc.org/programs.as
px?year=2009&program=cellcell.

Society for Developmental Biology

August 29–September 1, 2009.
Amsterdam, The Netherlands
The EMBO Meeting 2009.
www.the-embo-meeting.org.

September 3–7, 2009. Cambridge,
England
Strategies for Engineered Negligible
Senescence (SENS), 4th Conference.

September 5–8, 2009. Visegrád,
Hungary
12th European Meeting on
Complement in Human Disease.