Dr. Vale Goes to Washington

When it comes to guiding science policy, ASCB has a seat at the table in Washington, DC. On January 31, ASCB President Ron Vale joined other leaders of science-related organizations for a meeting with President Obama's science advisor, John Holdren, to discuss the science- and technology-related themes in the president's 2012 State of the Union message. The meeting took place in the Roosevelt Room of the West Wing of the White House, directly across from the Oval Office.

Vale was joined at the meeting by representatives from other leading science and technology organizations, including the American Association for the Advancement of Science, the Association of American Universities, the American Physical Society, and the Association of Public and Land-grant Universities. Holdren was also joined by White House staff from the President's Council on Jobs and Competitiveness and the Office of Public Engagement.

Although the meeting was short on specific outcomes, White House staff has already been in touch with Vale about ways they can continue the dialogue with ASCB leadership and members.

—Kevin M. Wilson

Why MBoC?

Where will you submit your next research manuscript? There seem to be more choices than ever. Here are 10 reasons to submit your next manuscript to Molecular Biology of the Cell (MBoC), the ASCB’s basic research journal:

- Manuscripts are reviewed expeditiously.
- Decisions are based on scientific rigor and completeness, not on what is in fashion.
- Scientists are at the controls.
- Because MBoC does not have article page limits, essential information need not be deleted or relegated to supplemental data.
- Proceeds support the ASCB’s education and advocacy programs.
- There are no color charges, and ASCB members pay discounted page charges.
- Authors’ manuscripts are available online in MBoC In Press within two weeks of acceptance.
- All ASCB members have access.
- All accepted papers are considered for highlighting on the table of contents and in the ASCB Newsletter.
- Graduate students and postdocs who are first authors of highlighted papers are eligible for the MBoC Paper of the Year award, which includes a chance to speak at the Annual Meeting.

For more information, write mboc@ascb.org. To view the latest issue, go to www.molbiolcell.org/content/current. Or to submit a manuscript, go to www.mbcpapers.org.

—David Drubin, MBoC Editor-in-Chief
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Opportunities for Young Scientists at ASCB

I know from personal experience how important the ASCB can be for young scientists. I attended my first ASCB Annual Meeting in 1984 when I was a graduate student, and I was fortunate to have the opportunity to present a Minisymposium talk the next year. It was exciting to be able to present and discuss my work in such a large venue, and looking back I see that meeting as an important event in my scientific development. Ever since that time the ASCB has been my scientific home and a place where my lab presents its work. I have always appreciated how the ASCB Annual Meeting brings people together, offering an exciting and interactive venue for both young and senior scientists. A major mission of the ASCB Annual Meeting is to catalyze interactions between upcoming and established scientists through small table discussions, career workshops, and mentoring sessions. These activities, which have been remarkably successful and are now ingrained in the meeting planning, create small, intimate settings for discussions within a big meeting environment that is rich in scientific content.

While graduate students and postdocs enjoy the ASCB Annual Meeting, the majority of young scientists do not renew their ASCB membership the following year. Therefore, a challenge for our Society is to engage young scientists so that they view the ASCB as their professional scientific home and appreciate the value of continued membership ($66 for postdocs, $42 for graduate students, and $22 for undergraduates). To meet this challenge, we must communicate more effectively with our young scientist members and ensure that we are their advocates.

Why do young scientists need ASCB? As I articulated in last month's President's Column, ASCB is an organization of volunteer scientists who promote our profession through scientific communication (the Annual Meeting, Molecular Biology of the Cell [MBoC], local meetings), advocacy (National Institutes of Health and Congress), and professional development (careers, science outreach, and education). All of these areas should deeply concern young scientists; they extend beyond the immediate needs of your scientific projects but affect your future as a scientist. Joining a professional scientific society is a good means of becoming informed about these broader topics that affect your profession.

Many young scientists are unaware of what the ASCB does beyond the Annual Meeting and of how they can participate. In this column, I would like to address the latter topic by describing a number of programs of the ASCB that are targeted specifically to young scientists. Many opportunities exist, but be aware that this collection of programs is still a work in progress. We want to listen to our young scientists so that we can improve existing programs and develop new ones. My message in this issue of the Newsletter is that the senior leadership at ASCB wants to work with you as young scientists to shape the future of ASCB, which will be the ASCB that you will inherit and the one that will support your careers. So join us (from any country) by becoming ASCB members, becoming active in our programs, networking with one another, and giving us your feedback.

Links to all the opportunities for involvement listed below are available at www.ascb.org. Click on “Postdocs/Students,” then “Opportunities” or go directly to www.ascb.org/postdoc-student-opps.html.

Help Us on Capitol Hill

One of ASCB’s most important activities is to engage with the U.S. Congress and advocate healthy federal funding for research and science education. International scientists have also helped us in this effort. I would like to invite three interested and eager postdoctoral fellows to join me, several members from the ASCB Council, and Public Policy Director Kevin Wilson on June 7 to represent the ASCB. You will visit several congressional Representatives or their staffs to discuss what ASCB does, why basic science funding in biomedical research is...
With the goal of promoting scientific communication and fostering local communities of cell biologists, ASCB is pleased to announce financial support for one-day local meetings organized by graduate students and postdoctoral fellows.

**Organize a Local Meeting**

Do you want to help to promote scientific exchange at your home institution? Are you interested in getting valuable experience in organizing an entire meeting? Do you want to do something good for your fellow students and postdocs?

With the goal of promoting scientific communication and fostering local communities of cell biologists, ASCB is pleased to announce financial support for one-day local meetings organized by graduate students and postdoctoral fellows. Such meetings will typically involve two or more local research institutions or colleges (within or outside of the United States). Topics can range from basic science to career development, as long as there is clear relevance to the broadly defined field of cell biology. Applicants, who must be or become members of ASCB, are asked to submit a brief proposal together with a budget request (funds might include food for the event and modest funds to invite a guest speaker). The first application deadline is May 1, and the meeting can be held anytime in 2012.

**Engage with Other Young Scientists**

You can meet and work with other young scientists through the Subcommittee on Professional Training (SCOPT). SCOPT was started as a grass-roots subcommittee of the Education Committee. It is led by postdocs for the purpose of disseminating information on careers and mentoring. SCOPT is concerned with issues pertaining to graduate students as well as to postdocs.

Currently SCOPT is led by Kaushik Gurunathan, Cheston Saunders, and Sarah Szarowicz. Gurunathan is a postdoctoral fellow in the University of Michigan Department of Cell and Developmental Biology in the lab of Ajit Joglekar. Saunders is a doctoral student at the West Virginia University Department of Biology in the lab of Michelle Withers. He is studying methods of scientific teaching in college biology classrooms and the factors that contribute to teaching assistants’ acceptance of reform-based educational practices. Szarowicz has recently transitioned from a postdoctoral fellowship at the United States Army Medical Research Institute of Infectious Disease to a career at Emergent Biosolutions. There she is a project analyst working on a clinical phase II anthrax vaccine. The co-chairs are eager
to make SCOPT more interactive and have more participation from young scientists. So please help them! Below are some of the things that SCOPT is doing this year. Gurunathan, Saunders, and Szarowicz welcome your ideas for its future growth.

**Panel Presentation at the Annual Meeting.**
Every year SCOPT plans a career workshop at the Annual Meeting. For the past several years, panelists from various areas have been invited to share their experiences at a program entitled, “Getting Out of the Box: Transitioning to a Career Outside of Academic Research.” The co-chairs are now in the planning phase for the 2012 workshop.

**ASCB Ambassadors.** A personal touch is often the best means for communicating information. In this regard, we need help from young scientist volunteers (from any country) to communicate information about ASCB by becoming ASCB Ambassadors.

As an ASCB Ambassador, you can help us by communicating occasional messages to your colleagues at your institution through emails, email listservs, and social media. Examples of information might include news about ASCB benefits/programs that are particularly relevant for young scientists, science advocacy efforts, new iBioSeminars/iBioMagazine videos, and career/mentoring information on the website or in *MBoC*. This does not require a major commitment of time, and we will make sure that we only call on you occasionally and with information relevant to young scientists.

We will keep ASCB Ambassadors informed of the behind-the-scenes ideas and developments at ASCB with a special biannual email. We also view the ASCB Ambassadors as a resource for soliciting feedback on how we can improve the Society, the Annual Meeting, and our outreach programs. These activities will help to bring ASCB Ambassadors in touch with the senior scientists at ASCB and with leadership issues facing a scientific society. We plan to invite ASCB Ambassadors to a special event at the Annual Meeting.

**Social Networking.** In addition to facilitating connections among postdocs and graduate students at the Annual Meeting, SCOPT would like to start a year-round opportunity for social networking through the ASCB Facebook site. Please join, participate, and give it a chance to grow (be patient). We want it to become a good opportunity for networking and a conduit for information. Again, we encourage international membership. Join at www.facebook.com/AmerSocCellBio.

**Work with ASCB Committees on Their Outreach Efforts**
Our ASCB committees occasionally seek volunteers for their efforts or outreach programs. In addition to the individual committee webpages, these opportunities will be announced on the Postdoc/Student Opportunities webpage and SCOPT Facebook.

**Give Feedback and Advice from Young Scientists to the ASCB Leadership**
It is important for the senior ASCB leadership (President, Council, and Committee Chairs) to get feedback from young scientists. We are initiating two new efforts to facilitate this interaction. First, we have invited the SCOPT co-chairs to participate in the Council meeting on Dec. 14 and 15, 2012, before our Annual Meeting in San Francisco. This will allow young scientists to be represented in our discussions and will provide a leadership role for the SCOPT co-chairs. Second, to cast our net out for opinions from a broader audience, we will hold a one-hour Town Hall Meeting on Saturday, December 15, from 11:00–Noon. This event will include the entire ASCB Council and be open to any young scientist who would like to attend and have a discussion with the leadership group. More information on the Town Hall will be announced.

**Participate in a Fun Networking Opportunity for Young Scientists at the Annual Meeting**
We are also trying to organize a special event (possibly with live music) in San Francisco for young scientists to get to know each other. More information will be announced.

Thank you for reading this President’s Column. I would also appreciate your bringing this column to the attention of young scientists in your laboratory or elsewhere who might benefit from hearing about these opportunities. As always, I welcome your comments.

Comments are welcome and should be sent to president@ascb.org.
If you had asked me two years ago if I would go to Capitol Hill and talk about my research and the importance of research funding, I would have laughed. As a graduate student I always had an interest in science policy, but I did not know how this interest would relate to my research career. While attending my first ASCB Annual Meeting I was drawn to a panel discussion entitled “Politicians Don’t Bite.” I thought this would be a great opportunity to learn how I could use my science background to impact public policy. At this session I learned about the Coalition for the Life Sciences (CLS), an alliance of six nonprofit professional organizations working to advance research. After the discussion forum I signed up to become a member of the CLS. I assumed nothing would come from just signing up to be a member, but I was at least making the effort to be proactive and fight for my research.

A few months after the Annual Meeting I received an email from the CLS asking if I would be interested in attending a Capitol Hill Day. To be considered all I had to do was provide a brief explanation of why I was interested in participating. Well, that seemed a little too easy, so I once again figured that was that. You can imagine my surprise when I received an invitation to attend a Capitol Hill Day in the spring of 2010.

What had I gotten myself into? As a newly minted postdoc how could I possibly go to Capitol Hill and talk with members of Congress? What would I say? Fortunately, CLS Director Lynn Marquis and ASCB Public Policy Director Kevin Wilson started the day off with a “boot camp” breakfast where we were briefed on how to conduct a meeting with members of Congress. I had the opportunity to discuss the impact of my research on the safety of the nation and educate my elected officials’ staffs on the importance of funding the National Institutes of Health and National Science Foundation. Even though I met only with staffers, at the end of the day I felt like I had made a difference. I knew I made a difference when I returned to Capitol Hill a year later and one of the staffers I had met the previous year remembered me, where I worked, and my research project.

Most members of Congress do not have a scientific background; therefore, lawmakers need to hear from scientists about the importance of scientific findings on furthering human health. All it took for me to become an active science policy advocate was to fill out my contact information to join the CLS. It was that simple!

—Sarah E. Szarowicz, Emergent Biosolutions

Note

For information on becoming a CLS member and other opportunities for postdocs and graduate students, visit www.ascb.org, click on “Postdocs/Students,” then “Opportunities” or go directly to www.ascb.org/postdocs-student-opps.html.
Creative Responses to the Current Funding Climate

Do you wake up in a cold sweat thinking, “How will I fund my exciting research program? What if my grant doesn’t get funded on the first round?” This anxiety is shared by most of your colleagues in 2012. We also share a sense of frustration because cutting-edge ideas and techniques mean that the potential for significant research has never been better, if only the funds were available.

The WICB Mentoring Theater presentation at the 2011 ASCB Annual Meeting dealt with how to get and stretch funds. And it was not surprising that the “actors” in these skits, all well-funded full professors, could easily and realistically portray the anxiety we all feel. The creative thinking of those experienced and long-successful cell biologists provides suggestions for how to identify new funding sources and how to further stretch the grant dollars you have.

Finding New Grant Support

You may already have been successful in your pursuit of National Institutes of Health (NIH) or National Science Foundation (NSF) funding on your research topic, but you fear that this may not continue. Here are a few strategies to consider, most of which will also be useful for those who are not yet funded.

First, contact the appropriate NIH program officer to discuss new ideas that you are developing. He or she can tell you if your plans fit that Institute’s funding priorities or those of a different Institute. Checking in at www.grants.gov might uncover other suitable opportunities.

Second, consider pursuing a collaborative, multidisciplinary, or multi-investigator grant. Support of such grants is a major new emphasis of many funding agencies. For example, cell biologists can apply for a recently announced R01 collaborative supplement (announcement GM13-003). But be aware that collaborative grants that involve multiple institutions can be particularly complicated, and this complexity needs to be managed with appropriate advanced planning. For example, it is critical to identify who will be the PI and the submitting institution. You will also need a clear leadership plan, and should identify a mediator to settle any disputes. Two particularly important fiscal points are: 1) to account for caps on total award costs as well as annual increases in salaries and expenses, plan the budget by working backward from the final year to the first year; 2) begin formulating the budget and working with your grants offices at least six weeks before the application deadline, because there can be many details to negotiate.

NSF also funds collaborative proposals. These grants are particularly attractive because the NSF makes the awards directly to each participating institution. Since indirect costs are deducted from the total award amount of NSF grants, having a direct award, as opposed to a sub-award, will result in a larger piece of the pie going to your institution.

Third, think outside the conventional NIH R01/NSF box. For example, NSF has a new program called Emerging Frontiers in Research and Innovation, and the Defense Advanced Research Projects Agency offers collaborative grants for engineers working on research with cell biologists. There are other unconventional sources that are more focused on funding new investigators. These include the American Heart Association, The American Chemical Society, and the American Society for Nephrology. Especially for new investigators, getting mentors and colleagues involved in reading and criticizing your grant application can increase your chances of success.

For collaborative grants you need to find collaborators. One way is to participate in low-time-commitment activities that expand your professional networks, such as serving on your departmental seminar committee. Take advantage of the opportunity to give seminars and work-in-progress presentations to other group or departments in your institution. Inquire about serving as an ad hoc member of a review panel to see how the process works from the inside.

A fourth strategy to find new funding is to remember that you are not the only grant writer in your lab: Encourage your graduate students, postdocs, and research associates to apply for their own funding. This not only teaches them grantsmanship but also helps to bring in some of the lab’s funding. It is a win-win for the lab.
and the trainee, and also gives you experience with mentoring.

Finally, try to get more money from your current grant support. See if you can negotiate with your chair or dean to receive financial credit from some of the indirect costs associated with your grant. This option is not available at all institutions, but it is worthwhile to check.

The other approach to relieving funding stress is to learn to do more with less. You have a grant, but how are other labs able to economize and do more with existing funds? Explore ways to save on reagents and equipment.

Reagents
Many labs save money with centralized storage sites for lab resources and also have centralized record-keeping. For example, they may have a single freezer to house common reagents used by the whole lab, e.g., restriction enzymes, polymerases, and antibodies. This approach requires a mechanism to ensure that the freezer is consistently well-stocked, which can be facilitated by using a single, lab-wide ordering list. A single ordering list helps prevent wasteful duplication of reagents and allows placement of fewer but larger orders. A corollary requirement for centralized resources to work well is to establish a culture in which everyone is responsible for smooth operation of the lab; lab members need to remember to add things to the ordering list before they run out.

If one person is responsible for ordering supplies, he or she can learn the cheapest sources and the lowest shipping costs (sometimes the shipping cost can exceed the cost of a reagent!). Also consider placing orders through a university supply store; shipping costs are often covered by the store or vendor.

Centralized storage works best when reagents are stored in numbered compartments (e.g., Stratacoolers or similar constant temperature devices) with regularly updated alphabetical lists of the contents located near the freezer. Finally, to make it easy to use the reagents at the freezer, construct a small work area nearby, with micropipettes, pipette tips, etc.

Another idea for saving on the cost of reagents is to purify some of your own enzymes or other reagents. This not only can save money, it can also improve your results, because in some cases the quality of the homemade reagent exceeds that of a purchased one. If you do purchase an expensive reagent, such as an antibody, and find it doesn’t perform as expected, request a refund or credit. Finally, an email to all researchers at your institution may secure that small amount of a reagent you need for a pilot study.

Equipment
We all need equipment to do our experiments, but service contracts to keep our equipment operational can be quite costly, and replacement is even more expensive. For maintenance of equipment, consider using local repair services. It can be much greener (environmentally) and lets you keep more of your green (cash).

Speaking of being environmentally conscious, consider reusing “consumables.” For example, purchase glass serological pipettes, rather than disposable plastic pipettes. The glass pipettes can be washed and reused, saving money while decreasing the amount of plastic in the environment.

Additionally, you should consider using shared research facilities at your own or a neighboring institution for a fee rather than purchasing an expensive piece of equipment that is used only part-time by your lab. Supporting such facilities frees up your own resources and also contributes to your institution’s ability to provide access to cutting-edge instrumentation to many investigators. If you do need expensive equipment, consider purchasing demo units and/or sharing the costs with another lab that may be in the market for a similar unit. Many manufacturers offer “new equipment” warranties on items that have been used for demonstration purposes.

In the end, the best advice in today’s difficult funding climate is be tenacious and do not take “no” for an answer in your pursuit of funds. Even if your first attempt to get a grant funded fails, you will receive feedback that will help improve your chances in the future. It is important to remember that doing science not only produces valuable knowledge for society, but it is one of the most fun jobs in the world. Just remember to persevere, keep up your spirits (and obtain valuable knowledge and advice) through networking, and spend your funds wisely; exciting discoveries await (and maybe a couple of restful nights!).

—Beverly Wendland and Triscia Hendrickson for the Women in Cell Biology Committee

Reference
**Bruce Alberts Award for Excellence in Science Education**

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

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

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

**Deadline:** March 30 (electronic submission preferred to Thea Clarke at tclarke@ascb.org)

**Public Service Award**

**Who is Eligible:** An individual who has demonstrated outstanding national leadership in support of biomedical research. Nominators must be ASCB members. The award winner may, but need not, be a scientist.

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

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

**Deadline:** March 30 (electronic submission preferred to Kevin Wilson at kwilson@ascb.org)

**Early Career Life Scientist Award**

**Who is Eligible:** An outstanding scientist who has served as an independent investigator for no more than seven years as of March 30.

**How to Apply:** Provide a nominating package that includes a CV, brief research statement, nominating letter, and no more than three letters of support (at least one of which must come from outside the nominee’s institution). Nominators must be ASCB members.

**Awards:** The winner is presented a plaque and will speak in a Minisymposium at the Annual Meeting. Expenses to attend the Annual Meeting are paid.

**Deadline:** March 30 (electronic submission preferred to Cheryl Lehr at clehr@ascb.org)

**E.B. Wilson Medal**

**Who is Eligible:** An individual who has demonstrated significant and far-reaching contributions to cell biology over a lifetime in science. Nominators must be ASCB members, but the candidate need not be.

**How to Apply:** Provide a letter of nomination, the candidate’s CV, and no fewer than three, and no more than five, letters of support.

**Awards:** The winner of the ASCB’s highest honor for science gives the E.B. Wilson Lecture at the Annual Meeting and receives the E.B. Wilson Medal. Expenses to attend the Annual Meeting are paid.

**Deadline:** March 30 (electronic submission preferred to Cheryl Lehr at clehr@ascb.org)

**E.E. Just Lectureship**

**Who is Eligible:** A minority scientist who has demonstrated outstanding scientific achievement. Nominators must be ASCB members, but the candidate need not be.

**How to Apply:** Provide a nomination package that includes a CV and a letter describing the nominee’s scientific achievement and mentoring support of underrepresented minority students and scientists.

**Awards:** The winner gives the E.E. Just Lecture at the Annual Meeting and receives a plaque and a medal. Expenses to attend the Annual Meeting are paid.

**Deadline:** March 30 (electronic submission preferred to Deborah McCall at dmccall@ascb.org)

**Merton Bernfield Memorial Award**

**Who is Eligible:** An outstanding graduate student or postdoctoral fellow (at the time of nomination) who has excelled in research.

**How to Apply:** The student or postdoc or his or her advisor should submit a one-page research statement, a CV, a list of publications, a copy of the abstract submitted to the current year’s Annual Meeting, and the advisor’s letter of recommendation. Postdocs may also submit the recommendation of their graduate student advisor. Duplicate applications from graduate students may be submitted for the Gilula and Bernfield Memorial Awards. Nominators must be ASCB members.

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

**Deadline:** July 16 (electronic submission preferred to Cheryl Lehr at clehr@ascb.org)

**WICB Career Recognition Awards**

**Who is Eligible:** For the Junior Award, a woman in an early stage of her career (generally less than five years in an independent position at the time of nomination) who is making exceptional scientific contributions to cell biology, is developing a strong independent research program, and exhibits the potential for continuing a high level of scientific endeavor and leadership. For the Senior Award, a woman or man in a later career stage (generally full professor or equivalent) whose outstanding scientific achievements are coupled with a long-standing record of support for women in science and by mentorship of both men and women in scientific careers.

**How to Apply:** For the Junior Award, provide a letter of nomination, a CV, and no more than three letters of support, at least one of which must come from outside the nominee’s institution. For the Senior Award, provide a letter of nomination, a CV, and no more than five letters of support, at least one of which must come from outside the nominee’s institution, to include two letters from those who have been mentored by the candidate, mentioning specifics of the nominee’s mentoring history. Nominators must be ASCB members.

**Awards:** Each winner is presented an honorarium and plaque at the Annual Meeting. Expenses to attend the Annual Meeting are paid.

**Deadline:** March 30 (Send electronic submissions only to Cheryl Lehr at clehr@ascb.org)

**Norton B. Gilula Memorial Award**

**Who is Eligible:** An outstanding graduate or undergraduate student (at the time of nomination) who has excelled in research or first-year postdocs whose work was performed while a PhD or MD/PhD student.

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

**Awards:** The student or postdoc or his or her advisor should submit a one-page research statement, a CV, a list of publications, if any, the abstract submitted to the current year’s Annual Meeting, and the advisor’s letter of recommendation. Postdocs may also submit the recommendation of their graduate student advisor. Duplicate applications from graduate students may be submitted for the Gilula and Bernfield Memorial Awards. Nominators must be ASCB members.

**Deadline:** July 16 (electronic submission preferred to Cheryl Lehr at clehr@ascb.org)
Congressional Biomedical Research Caucus
2012 Briefing Series

Each year the Coalition for the Life Sciences (CLS) plans a series of caucuses on Capitol Hill that are designed to foster an appreciation for and understanding of biomedical research. (ASCB is a founding member of the CLS.) Thanks to a generous grant from Howard Hughes Medical Institute, the caucuses provide a forum where congressional members and staff can interact directly with preeminent researchers responsible for important scientific research. ASCB members are invited to attend. All presentations take place on Capitol Hill in Washington, DC, and start at 12 Noon.

Here are some of the 2012 topics and speakers:

March 28
**Early Riser? Maybe It's in Your Genes**
Louis Ptacek, University of California, San Francisco
Rayburn House Office Building, Room B-339

May 9
**The Biodiversity of Science: When Physics and Biology Collide**
Steve Quake, Stanford University
Rayburn House Office Building, Room B-339

May 30
**Listeria: From Food Poisoning to Cancer Immunotherapy**
Dan Portnoy, University of California, Berkeley
Rayburn House Office Building, Room B-338

June 6
**How Do Bacteria Communicate with Each Other and What Does That Mean for People?**
Bonnie Bassler, Princeton University
Rayburn House Office Building, Room B-338

June 20
**Silencing Human Disease with RNA Interference**
Craig Mello, University of Massachusetts
Rayburn House Office Building, Room B-338

July 25
**Sins of the Fathers and Mothers: Epigenetic Influences Passed from Parent to Child**
Joe Nadeau, Institute for Systems Biology
Rayburn House Office Building, Room B-338

Sept. 12
**The Emperor of All Maladies**
Siddhartha Mukerjee, Columbia University
Rayburn House Office Building, Room B-340

Join the ASCB Public Policy Advocacy Team

- Are you interested in public policy advocacy?
- Concerned about federal funding for biomedical research in America?
- Worried about intelligent design being taught in America's science classrooms?
- Interested in educating your elected representatives about the importance of biomedical research?

**The ASCB Public Policy Committee Needs You!**

We need representatives in each of the 50 U.S. states to organize their colleagues in support of biomedical research. We need you to organize and lead meetings with your representatives and write letters and Op-Eds to your local papers.

*See www.ascb.org/publicpolicy/project50/index.cfm or email kwilson@ascb.org for more information.*
ASCB Speaks Out on Access to Research Results

Since 2010, the White House has been trying to develop a U.S. government–wide policy making the results of federally funded research more accessible to the public. On its first attempt in 2010, the White House asked the ASCB to provide comments based on its experience as a nonprofit scientific publisher. More than a year later, after two unsuccessful attempts to formulate a policy, the White House asked the ASCB to add to its original comments.

In its comments, the ASCB highlighted the importance of wide and prompt dissemination of scientific results to scientific progress. The ASCB statement said, “The sooner findings are shared, the faster they will lead to new scientific insights and breakthroughs.” To back up this belief, since 2001 the ASCB’s basic research journal, Molecular Biology of the Cell (MBoC), has provided free access to all accepted research articles soon after acceptance and to all finalized articles two months after publication. The ASCB believes that the taxpayers who fund the research are also best served when the results of research are made widely available.

The ASCB countered claims by some publishers that free access to their journals would have serious financial implications. The ASCB feels that the financial history of MBoC disproves that claim and that the time sensitivity of scientific information ensures that libraries will continue to subscribe to journals to provide researchers with immediate access. In fact, the rate at which individual articles in MBoC are viewed and downloaded is at its peak in the first few months after publication.

To read the 2010 and 2012 comments by the ASCB, go to www.ascb.org/Other-Policy-Issues.html.

—Kevin M. Wilson

ASCB Members Oppose Threat to NIH Peer-Review Process

When it comes to the federal government, everyone is in favor of reform and transparency, correct? Well, sometimes it’s not that easy.

In January, members of Project 50, the ASCB Public Policy Advocacy Team, joined with others from ASCB, members of the Coalition for the Life Sciences’ Congressional Liaison Committee, and other advocates to point out the real-world problems with a bill in the U.S. House of Representatives that would change the peer-review process at the U.S. National Institutes of Health (NIH) in unimaginable ways.

The bill, the Grant Reform and New Transparency Act, or GRANT Act, was introduced by Rep. James Lankford (R-OK). The GRANT Act would, according to the text of the bill, “provide transparency and require certain standards in the award of Federal grants.” One of the greatest concerns is a provision that could require that unpublished data be made publically available on a website administered by the U.S. Office of Management and Budget. According to the Holt-Price letter, this provision would “undermine the applicant and their institution’s right to the intellectual property.”

Another provision of the bill would require the public disclosure of the names of peer reviewers.

The GRANT Act was approved by the House Committee on Oversight and Government Reform and awaits further action by the full U.S. House of Representatives.

—Kevin M. Wilson

Fast Facts: President Obama Releases FY13 Budget Proposal

- President Obama’s FY13 budget request for the U.S. National Institutes of Health (NIH) is $30.702 billion, the same as the NIH FY12 budget.
- The budget proposal includes $7.4 billion for the U.S. National Science Foundation (NSF), which is $340 million, or 4.8%, more than the NSF FY12 budget.
- The budget request for the U.S. Department of Energy, Office of Science is $4.99 billion, $118.4, or 2.4%, more than its FY12 budget.
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Advances in Stem-Cell Technology

Culturing kits and a growing number of pluripotent and differentiated cells enhance uniformity.

The vast opportunities generated by stem cells for both basic biological research and healthcare drive a gigantic amount of research. A recent search of “stem cells” on PubMed, for instance, delivered 123,507 hits. Likewise, the range of kinds of stem cells—embryonic, adult, and induced pluripotent—gives this field even more breadth, and it is likely that each kind of stem cell may offer different insights for research and applications. The growing number of technologies that simplify stem-cell research, though, promise to push this field even farther. Nonetheless, researchers face ongoing battles when working with stem cells.

Even culturing stem cells poses a challenge. “You keep hearing that it’s tricky to standardize stem-cell culture,” says Jeffrey Hung, chief marketing officer at ATCC in Manassas, VA. “People are looking for a good solution.”

Beyond culturing stem cells, turning them into specific types of cells creates even bigger hurdles. “The biggest challenge in working with pluripotent stem cells, the most versatile kind, is directing their differentiation in a way that is highly reliable, so that a particular cell type with a particular identity is produced,” says George Q. Daley, director of the stem cell transplantation program at Children’s Hospital Boston. “It sounds easy, but there are many types of cells—maybe hundreds of, say, nerve cells or blood cells—and the methods to produce them aren’t immediately clear.” In fact, he adds, few cells can be produced such that they stand up to a high standard of identification in comparison to a tissue in an organism.

Although technological advances exist for all forms of stem cells, this article focuses on induced pluripotent stem cells (iPSCs).

Seeking Standardization

“Culturing stem cells is a little different from other cell lines, so the technique is quite labor-intensive,” says Yukari Tokuyama, a scientist at ATCC. “Sometimes, people see a high frequency of abnormal cells because of the media and culturing techniques.” Moreover, the wide variety of culturing methods being used today hinders the comparison of results between labs.

The variety of ways of making stems cells is especially apparent with iPSCs. To help with that, ATCC offers a growing collection of iPSCs and a complete system for culturing them. For now, the ATCC iPSC products include two normal cell lines and diseased lines for Down’s syndrome, cystic fibrosis, and Parkinson’s disease. “All of the cells in our repository are adapted to our media system, so that’s one less variable for the customer,” says Jeanmarie Curley, director of new product commercialization at ATCC.

Other groups also provide stem cells for research. For example, the Coriell Institute for Medical Research in Camden, NJ, is a nonprofit human genetics research institute with more than 60 years of history and expertise in cell culture. Michael Christman, president and chief executive officer at Coriell, says, “We are one of the largest distributors of human cells and DNAs in the world, with thousands of genetic diseases in our collection.” He adds, “We do in-house research and also provide cells to researchers around the world.”

Coriell is expanding its offering through a new federally funded lab for iPSCs. “Our stem-cell lab is growing and expanding submitted iPSC cells, as well as performing molecular characterizations,” says Steve Madore, director of biobanking at Coriell. “The availability of disease-specific iPSCs will facilitate the generation of the relevant human cell type in vitro, enabling scientists to perform ‘disease in a dish’ research.”

For now, Coriell offers only banked iPSCs. “Eventually, we will offer cells that have been differentiated,” Christman says.

Scanning the Cell Surface

Beyond making stem cells, researchers need to analyze them. “You want to understand what’s on the surface of a cell,” says Bob Balderas, vice president, BD Biosciences—Biological Sciences in San Diego, CA. “By understanding, say, receptors on the surface, we can isolate those cells and characterize them.” To do that, researchers can use the BD Lyoplate CD screening panels. These 96-well plates include antibodies that bind cluster-of-differentiation (CD) markers. “These arrays can be used to screen cells for expression of specific markers during differentiation,” says Balderas. The panels come prepared for mouse or human stem cells with 176 and 242 antibodies, respectively.
Through in-house research and collaborations, BD uses its Lyoplate CD technology to create antibody cocktails and kits to define specific differentiated cells, such as neural progenitor cells. So far, no one supplies a wide range of stem cells that have been differentiated. Consequently, scientists induce differentiation on their own and often in individual ways. “Differentiation is really not standardized yet,” says Jennifer Antonchuk, senior scientist at STEMCELL Technologies in Vancouver, Canada. “Every group has their own version of the best way to differentiate cells, and that makes it hard to compare end products.”

To help researchers develop standard approaches to differentiation, STEMCELL Technologies makes a collection of products. “We’re trying to put out kits that consistently generate certain lineages,” Antonchuk says. These kits will be sold under the brand name STEMdiff. The company already offers a neural differentiation kit, which makes neural progenitor cells. “They are characterized by the appearance of neural rosettes, with characteristic flower-like morphology, and by immunocytochemical staining,” Antonchuk says. STEMCELL Technologies will soon add kits for differentiating stem cells to hematopoietic cells and definitive endoderm.

**Dissecting Diseases**
For iPSCs, disease modeling creates an expanding application. These cells could help researchers unravel the genetic and epigenetic factors that trigger a disease phenotype. These cells will also contribute to the creation of treatments or even cures. “The most progress has been made in neurodevelopmental and neurodegenerative disorders,” says Daley.

In the future, iPSCs could also be used to reach science fiction–like capabilities. For example, Daley and his colleagues study Shwachman Diamond syndrome, in which a developmental error that results in pancreatic failure leaves newborns unable to digest food. “By the time babies with this disease arrive in the clinic,” Daley says, “much of their pancreatic tissue is already destroyed.” So he envisions taking a skin biopsy from a patient, making an iPSC, correcting the Shwachman gene defect, and then producing pancreatic tissue in a Petri dish for transplantation back to the patient to replace the diseased tissue.

To delve even deeper into disease with stem cells, researchers need defined individual cell types and ways to combine them, which is a key goal of scientists at Cellular Dynamics International (CDI) in Madison, WI. This company already offers cardiomyocytes, endothelial cells, neurons, and hepatocytes—all differentiated from iPSCs and available in large quantities. When asked how high these quantities are, Chris Parker, chief commercial officer at CDI, says, “I don’t want to sound like Carl Sagan, but billions.”

It’s not just the quantity but also the quality that matters. “We provide a robust, reliable, high-quality, unlimited quantity of highly pure, terminally differentiated cells,” Parker says.

The amazement starts when using these cells. When culturing the cardiomyocytes, for example, the cells come out of cryopreservation as single cells, but then they spread out in a dish. The cells start beating individually, Parker says, but as they touch they build a monolayer of cells that beats in synchrony. These cells can be used to track the effect of, say, a drug over time or to look for toxicity, which is especially valuable with cardiomyocytes and hepatocytes. In fact, by building these cells from a range of genetic diversity in the iPSCs, Parker says, “we can run an in vitro clinical trial.”

Continued advances in stem-cell technology will enhance a range of other “building” projects in this field. Instead of spending so much time making the parts, scientists can now focus on the systems.

—Mike May and Gary Heebner

**Note**
Mike May (mike@techyter.com) is a freelance writer and editor for science and technology based in Austin, TX, USA. Gary Heebner (gheebner@cell-associates.com) is a marketing consultant with Cell Associates in St. Louis, MO, USA.

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**Companies and Institutions Mentioned**

ATCC (Manassas, VA)  
BD Biosciences (Franklin Lakes, NJ)  
Cellular Dynamics (Madison, WI)  
Children’s Hospital Boston (Boston, MA)  
Coriell Institute for Medical Research (Camden, NJ)  
STEMCELL Technologies (Vancouver, Canada)

www.atcc.org  
www.bdbiosciences.com  
www.cellulardynamics.com  
www.childrenshospital.org  
www.coriell.org  
www.stemcell.com

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Biomedical Sciences at the Institut Pasteur de Tunis, Tunis, Tunisia

Research and Training

Research and training programs at IPT are mainly oriented toward Tunisian health and economic priorities. The aim of the Institute is to develop tools to control infectious diseases that are endemic in Tunisia. In this context, the IPT is a research-focused institute targeting the areas of:

- Molecular and genetic epidemiology of infectious diseases: leishmaniasis, hydatidosis, tuberculosis, bovine theileriosis, hepatitis, rabies, papillomavirus, viral avian pathologies, mycoplasmosis, and enteroviral infections
- Immunology of human and veterinary infectious diseases: leishmaniasis, tuberculosis, and rabies
- Entomology: epidemiological studies and surveillance of vector-borne diseases
- Molecular basis of genetic diseases: immune deficiencies, hemoglobinopathies, and orphan genetic diseases
- Biomolecules from venoms and their potential therapeutic applications: anti-cancer, anti-inflammatory, and anti-proliferative molecules
- Bioinformatics and mathematical modeling
- Biotechnology: production and development of new diagnostic tools and vaccines as well as therapeutic proteins

Institution Pasteur de Tunis

Plans are underway to enhance and build upon a long tradition of biomedical research in Tunisia, the northernmost African nation. There are four major Tunisian institutions of higher education and multidisciplinary research: Tunis El Manar, Carthage, Monastir, and Sfax Universities. All are directly involved in biomedical research, but these efforts are spearheaded by the Institut Pasteur de Tunis (IPT), which is affiliated with the University of Tunis El Manar.

IPT Missions, Status, and History

Established in 1893, IPT is overseen by the Ministry of Public Health. The Institute has three missions: research and training, diagnosis and public health activities, and production of vaccines and sera. IPT is internationally well established and collaborates with several foreign scientific institutions. The Institute is also a member of the Institut Pasteur International Network, which includes 32 institutes throughout the world.

IPT has a prominent place in the history of medicine in Tunisia and is linked to important discoveries in the field of infectious diseases. Since the beginning of the last century, major discoveries have been made at IPT in the transmission cycles of typhus, toxoplasmosis, and visceral leishmaniasis and in the concept of inapparent infections. Charles Nicolle of IPT won the 1928 Nobel Prize in Medicine or Physiology for his work on the transmission of typhus.
Preclinical and clinical trials: testing new biomolecules targeting infectious diseases

IPT research activities are conducted in nine laboratories where 108 scientists collaborate with 164 master's degree and PhD students. The availability of staff with different educational backgrounds (MD, PhD, PharmD, and VetMD) and from different disciplines provides a unique spectrum of competencies that allows a multidisciplinary approach to research and development.

Laboratory research activities are carried out in the framework of specific national and international programs funded by various governmental bodies (e.g., the Ministry of Public Health and the Ministry of Higher Education and Scientific Research) as well as by nongovernmental bodies and donor agencies. Funding sources include the World Health Organization's (WHO's) TDR program for research and training in tropical diseases, the WHO Eastern Mediterranean Research Office together with the Standing Committee for Science and Technology of the Organization of Islamic Countries, the U.S. National Institutes of Health, the European Union, the International Atomic Energy Commission, the Wellcome Trust, and the Institut Pasteur International Network.

IPT holds 14 international patents and published 129 articles in national and international publications in 2010. That represents a 215% increase since 2005.

**Diagnosis, Public Health, and Manufacturing**

IPT’s public health activities mainly involve biomedical analyses related to human and animal infections. These are conducted in 18 laboratories, where biochemistry, hormonology, toxicology, hematology, immunology, genetic diseases, cellular pathology, and food control techniques are performed.

IPT hosts several national reference centers (for rabies, poliomyelitis, measles, and bacteria) and international reference centers (for poliomyelitis, measles, and human papillomavirus). IPT is also a WHO Collaborating Center for research and training on leishmaniasis.

IPT is an international center for vaccination and a center for rabies treatment. It is the only producer of vaccines and sera for human use in Tunisia. Its production is conducted according to current best manufacturing practices and is focused on BCG and antiserum (anti-rabies, anti-scorpion, and anti-viper).

Recently, IPT was named an African Network for Drugs and Diagnostics Innovation (ANDI) Center of Excellence for Bio-molecule Discovery, one of 32 ANDI Centers for Excellence in health innovation.

**Prospects**

IPT plans to consolidate and expand its areas of expertise in the coming years through innovative strategies for research and development. The goals are to complement existing technology and generate new fields of expertise, enhance flexibility with a bottom-up strategy for managing laboratories, improve work conditions to boost innovation, and promote public–private partnership in biotechnology applied to health.

Efforts to develop translational and clinical research programs (including clinical trials) will also be one of the main targets of IPT as it seeks more rapid realization of benefits to patients. Moreover, IPT plans to further develop its technical expertise in areas such as sequencing, flow cytometry, biofermentation, microscopy, genomics, and proteomics. Finally, to promote its laboratories, IPT plans to disseminate information about the value of its products, processes, know-how, and research results. Thus the Institute continues its tradition of promoting health through research.

—Mehdi Chenik, Hichem Ben Hassine, and Hechmi Louzir, Institut Pasteur de Tunis

**Note**

Here are some useful links to websites of Tunisian institutions:

IPT
www.pasteur.tn

Tunisian Ministry of Higher Education and Scientific Research
www.mes.tn

University of Tunis El Manar
www.utm.rnu.tn

Carthage University
www.ucar.rnu.tn

Monastir University
www.um.rnu.tn

Sfax University
www.uss.rnu.tn
Table of Contents

FEATURES

Letter to the Editor
Catching Education Up with Technology: Preparing the Public to Make Informed Choices about Personal Genetics
M. E. Gelbart ................................................................. 1–2

Approaches to Biology Teaching and Learning
The Role of the Lecturer as Tutor: Doing What Effective Tutors Do in a Large Lecture Class
William B. Wood and Kimberly D. Tanner ........................................ 3–9

From the National Academies
Evolution Education across the Life Sciences: Making Biology Education Make Sense
Cynthia A. Wei, Paul M. Beardsley, and Jay B. Labov .............................. 10–16

ESSAYS

Writing-to-Learn in Undergraduate Science Education: A Community-Based, Conceptually Driven Approach
Julie A. Reynolds, Christopher Thaiss, Wendy Katkin, and Robert J. Thompson, Jr. ................................. 17–25

Using Science Songs to Enhance Learning: An Interdisciplinary Approach
Gregory Crowther ............................................................. 26–30

Molecular Thermodynamics for Cell Biology as Taught with Boxes
Luis S. Mayorga, Maria José López, and Wayne M. Becker ....................... 31–38

ARTICLES

The Utility of Writing Assignments in Undergraduate Bioscience
Julie Libarkin and Gabriel Ording .................................................. 39–46

Exploring Undergraduates’ Understanding of Photosynthesis Using Diagnostic Question Clusters
Joyce M. Parker, Charles W. Anderson, Merle Heidemann, John Merrill, Brett Merritt, Gail Richmond, and Mark Urban-Lurain ................................ 47–57

Using Targeted Active-Learning Exercises and Diagnostic Question Clusters to Improve Students’ Understanding of Carbon Cycling in Ecosystems
April Cordero Maskiewicz, Heather Peckham Griscom, and Nicole Turrill Welch ................................. 58–67

Using Student Learning and Development Outcomes to Evaluate a First-Year Undergraduate Group Video Project
Murray Jensen, Allison Mattheis, and Brady Johnson .............................. 68–80

Using Comparative Genomics for Inquiry-Based Learning to Dissect Virulence of Escherichia coli O157:H7 and Yersinia pestis

Teaching the Biological Consequences of Alcohol Abuse through an Online Game: Impacts among Secondary Students
Yvonne Klisch, Leslie M. Miller, Margaret E. Beier, and Shu Wang .................. 94–102

Visualizing Protein Interactions and Dynamics: Evolving a Visual Language for Molecular Animation
Jodie Jenkinson and Gaël McGill ....................................................... 103–110
Three-dimensional ultrastructure of the septin filament network in *Saccharomyces cerevisiae*

A. Bertin, M. A. McMurray, J. Pierson, L. Thai, K. L. McDonald, E. A. Zehr, G. Garcia III, R. Peters, J. Thorner, and E. Nogales

Septins are essential for membrane compartmentalization and remodeling. Electron tomography of yeast bud necks shows filaments perpendicular and parallel to the mother–bud axis that resemble in vitro septin arrays. Filaments are still present, although disordered, in mutants lacking a single septin, underscoring the importance of septin assembly.

*Mol. Biol. Cell* 23 (3), 423–432

Protein disulfide isomerases contribute differentially to the endoplasmic reticulum–associated degradation of apolipoprotein B and other substrates

S. Grubb, L. Guo, E. A. Fisher, and J. L. Brodsky

Protein disulfide isomerases (PDIs) are conserved chaperone-like proteins that play an essential role during protein folding and in some cases during degradation. Substrate-specific effects of PDI family members occur during the ER-associated degradation of diverse substrates in yeast and mammalian cells.

*Mol. Biol. Cell* 23 (4), 520–532

Ce-emerin and LEM-2: essential roles in *Caenorhabditis elegans* development, muscle function, and mitosis


*C. elegans* lacking both Ce-emerin and LEM-2 show that these proteins are essential for development of specific lineages, mitosis in somatic cells, and smooth muscle activity. Reduced life span and smooth muscle activity of LEM-2–null worms predicts human LEM2 gene links to diseases more severe than Emery-Dreifuss muscular dystrophy.

*Mol. Biol. Cell* 23 (4), 543–552

Zonula occludens-1 and -2 regulate apical cell structure and the zonula adherens cytoskeleton in polarized epithelia

A. S. Fanning, C. M. Van Itallie, and J. M. Anderson

Our study reveals that ZO proteins in fully polarized cells regulate the assembly and contractility of the perijunctional actomyosin ring associated with the adherens junction.


Choosing orientation: influence of cargo geometry and ActA polarization on actin comet tails


We reconstitute actin-based motility using ellipsoidal particles mimicking the rod shape of *Listeria monocytogenes* and systematically analyze bead motile behaviors. By combining features of elastic propulsion and tethered-ratchet actin-polymerization models, we can explain our observations with a comprehensive new biophysical model.

*Mol. Biol. Cell* 23 (4), 614–629

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The Editorial Board of *Molecular Biology of the Cell* has highlighted the following articles from the February 2012 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.

**HIGHLIGHTS from MBoC**

*Wild-type (top) and LEM-domain-null (bottom) Caenorhabditis elegans expressing a GFP-fused myosin heavy chain (MYO-3) in the body wall muscles. The body wall muscles of mutant animals show mis-oriented fibers, and the muscle cells are 15% shorter. See Mol. Biol. Cell 23 (4), 543–552. (Image: Rachel Barkan, Department of Genetics, Institute of Life Sciences, Hebrew University of Jerusalem, Jerusalem, Israel)*
Keiko U. Torii

Keiko Torii likes to describe plants as “beautiful strangers” because their cells are so much like animal cells in principle and yet so very different from ours in detail. These differences have tended to make plant and animal cell biologists into strangers, but Torii is not someone who sees barriers and divisions in science. She sees prospects and bridges. The first time she attended the ASCB Annual Meeting as co-chair of a 2010 Symposium on patterns and symmetry in development, Torii was one of a handful of “plant people” in attendance. Yet the meeting was an eye opener. “The ASCB is huge. Just the section for the actin cytoskeleton is gigantic,” she reports. “There were so many people there with special cell imaging techniques and then so many booths for software and microscopy.”

Torii even came away from the Exhibit Hall with a possible new collaborator, a company that sells pattern recognition software. Such a tool could be of use in her work with stomatal patterning on the leaves of the renowned plant model organism Arabidopsis thaliana.

Perhaps Torii should have picked up more of the big-ticket microscope sales literature for her lab at the University of Washington (UW) in Seattle. Two months after the ASCB meeting, Torii got the thin envelope saying that she was a finalist in a new Howard Hughes Medical Institute (HHMI) initiative with the George and Betty Moore Foundation (GBMF) to reinvigorate basic research in plant biology. Last June, Torii made the cut, becoming one of 15 new five-year HHMI-GBMF investigators in fundamental plant science. On her desk right now is the final paperwork for an HHMI-purchased tuneable white laser confocal microscope, an instrument with powers that Torii describes as “scary/amazing.”

On her desk right now is the final paperwork for an HHMI-purchased double white laser confocal microscope, an instrument with powers that Torii describes as “scary/amazing.”

The erecta Variant

The name was well known from a natural ecotype of Arabidopsis thaliana called the Landsberg erecta variant. The erecta variant is short with compact flowers and leaves, which makes it a favorite in crowded laboratory growth rooms. But Arabidopsis as a genus is famous for genetic redundancy, and tracking down the gene—if there was a single gene—behind erecta was a daunting prospect before 1994. “That was a remarkable piece of work for that time,” Scheres recalls, “so it was immediately clear to me that we would hear more from her.”

The field heard more about ERECTA after 2000 when Torii finally set up her own lab in Bellingham. When the HHMI-GBMF appointment was announced, Pillitteri recalls, “I wasn’t at all surprised. I thought to myself that she’d be a great person to get it because Keiko will do things that are a little more risky, a little bit more out of the box. Plus she’s so diligent about knowing the literature and knowing what’s going on in so many different disciplines.”

Ben Scheres of the University of Utrecht in the Netherlands wrote in support of Torii’s HHMI nomination and so was doubly pleased with the result. He met Torii through the Arabidopsis world and, from her first talk, Scheres marked her as someone likely to shake things up. This was soon after she’d left Japan for a postdoc at Yale with Xing-Wang Deng in 1994. But her talk was about work from her first postdoc at the University of Tokyo with Yoshifumi Komeda. Scheres recalls a very young Japanese postdoc who gave a polished presentation and stunned the Arabidopsis field by describing the first cloned transmembrane receptor kinase controlling plant development through a gene called ERECTA.
As they worked on the details of this intricate asymmetrical development path from stem cells to daughter cells, “It’s now transparent,” Scheres declares. “However, if 15 years ago you’d look at how these stomata came across the leaf blade and what kind of strange division patterns were at the basis of them, it was not all clear. It was not clear first of all that it was a stem cell lineage and second of all that it was a genetically controlled series of steps. It was Keiko’s work that has made much of that clear today.”

Torii’s stomatal model has attracted interest outside the Arabidopsis world. “We recently invited her here [Utrecht] for a university-wide developmental biology seminar,” Scheres recalls. “She had to stand up before this audience of mainly medical biologists and explain her system, but she beautifully made the point that you can learn basic facts from looking at plants.” Students crowded round afterward for discussion, Scheres reports. “My fear was that they would all go to the animal stem cell guys and we would have none left for Keiko, but the room was packed and they asked many, many questions.” Torii has a talent for making her work exciting and relevant, says Scheres. “She’s able to make bridges.”

Science in the Blood

Her first bridge was across the Pacific. Born in Tokyo, Torii first came to the United States as a high school student when her father’s business took the family to the northern suburbs of New York City for a year. It was then that she first met the scientific legend of her family, her great uncle Ichiji Tasaki, a pioneering biophysicist at the National Institutes of Health who discovered the insulating function of myelin in neurons. Years later, after she’d become a full professor, Torii visited her great uncle again in Washington, DC, shortly before his death at 98 in 2009. “He was very happy to hear that I was in science,” she recalls. “Everyone in my family says I have his blood.”

Yet as an undergraduate at the University of Tsukuba in Japan, Torii was torn between her flair for biology and an equal passion for music. Playing violin in the Tsukuba University orchestra cut so deeply into her science studies that she felt she had to renounce music entirely once she was accepted into the Tsukuba graduate biophysics and biochemistry program. Music came back into her life only recently, when her two daughters, Mari, 8, and Erika, 5, began Suzuki violin lessons. Parents are urged to play along and, at first, it was agony for Torii to hear how rusty she’d become. She acknowledges a tendency toward perfectionism, but the girls...
enjoy playing so much that Torii says she is working on self-tolerance. “Maybe I could become a good amateur musician,” she sighs.

Torii initially thought about graduate studies with the conventionally heroic dream of a career in cancer cell biology but grew intrigued by the excitement in plant biology in the late 1980s to early 1990s. Genetic engineering techniques from animal cell biology were making their way into plant science, and *Arabidopsis*, a.k.a. the mouse-ear cress, was becoming a worldwide model organism. “I thought maybe this would be a great opportunity because there were so many classic plant physiology questions that had never been answered. There would be room for students. And to be honest, almost any mutant that you screened for in those days would be new.”

*Arabidopsis* genetics led her to a postdoc at the University of Tokyo and the *ERECTA* gene. Yet when her fellowship ran out she had no prospects in Japan, so at a world botanical congress in Yokohama she cornered Yale’s Xing-Wang Deng. Eventually he promised her six months of support if she came to New Haven. Torii stayed at Yale for three and a half years working on *Arabidopsis* photomorphogenesis. It was great science, she says, but she was determined to pursue *ERECTA*. After a third postdoc at Michigan to learn cell–cell signaling and stem cell maintenance with Steve Clark, she landed an assistant professorship at UW in 1999. Ten years, two babies, and several high-impact papers later, Torii was granted full tenure.

Among other things, Torii is known today as a scientific role model—a top researcher and a deeply engaged mother of young children. With her husband, the German-born theoretical physicist Andreas Karch, Torii pursues both research and family. The day her second daughter was born in 2006, a major paper by Torii was published in *Nature*, the two achievements residing comfortably side-by-side. Torii’s outspokenness about the rights of female scientists to pursue careers and family has earned her an unexpected audience—in Japan.

It’s both ironic and good news, says Ben Scheres. “I’d like to point out that Keiko left for the United States because she saw there was no future for female Japanese scientists in Japan. It was an all-male world then. She came to the States and obviously she’s done beautifully there. Now the Japanese have become very much aware of her because in recent years she has gotten several prestigious Japanese prizes. I think this has made her a role model for Japanese female scientists.”

Torii believes that attitudes are changing rapidly in Japanese science. Increasingly, she is asked to lecture there not just on morphological development but also on promoting female scientists as a precious resource in an aging Japan. Torii points to Japanese universities that are opening day-care centers. One medical school has a place for “slightly sick children,” a wonderful resource for working parents when a child is on the mend but not strong enough for school. The University of Washington, Torii notes dryly, does not have such a facility.

**Return of the Natives**

Besides her overarching interest in family, Torii confesses to a new hobby—invasive plant removal. She’s never had any special interest in field botany or domestic gardening—although people seem to expect that from a plant biologist—but along with a new family home in the Cedar Park section of Seattle came a yard choked with invasive species such as English ivy and Himalayan blackberry. “It’s become my hobby to remove them,” she says. “The Pacific Northwest is so amazingly rich in soil and rain that if you remove invaders, all sorts of beautiful native plants start coming up, like salal and sword fern. You really don’t have to plant much,” says Torii.

You just have to look closely and see the possibilities growing under your nose.

—John Fleischman

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**Torii’s outspokenness about the rights of female scientists to pursue careers and family has earned her an unexpected audience—in Japan.**
New iBioSeminars

ASCB is pleased to announce six new iBioSeminars. These iBioSeminars can be watched and downloaded at www.ibioseminars.org, on YouTube, or on iTunes U. To find out about the latest iBioSeminars, follow us on Facebook, LinkedIn, Google+, or Twitter.

Melissa Moore, University of Massachusetts Medical School and Howard Hughes Medical Institute
RNA Processing
Melissa Moore discusses the molecular mechanism of splicing and the importance of alternative splicing in normal development and in disease. She also describes the assembly and function of the cellular splicing machine, the spliceosome.

Jack Szostak, Harvard Medical School, Massachusetts General Hospital, and Howard Hughes Medical Institute
The Origin of Life on Earth
Jack Szostak explains how life may have arisen on our planet by demonstrating that a primitive, self-replicating protocell can be generated with simple molecules, under conditions likely found on the early Earth.

Nancy Knowlton, Smithsonian National Museum of Natural History
Corals and Coral Reefs
Using brilliant images from her own years of reef research, Nancy Knowlton tells us what coral are and how they build reefs and why coral reefs are so important to humans. She illustrates the phenomenal biodiversity of a healthy reef and laments how much of this is being damaged or destroyed by human activities.

Roger Tjian, University of California, Berkeley, and Howard Hughes Medical Institute
The Molecular Biology of Gene Regulation
Roger Tjian gives an overview of the critical role that transcription factors play in regulating gene expression. For example, different cells from the same organism, such as muscle cells, neurons, and red blood cells, all of which have identical DNA, have very different phenotypes due to the activity of different transcription factors.

Scott Edwards, Harvard University
Genetic Variation and Phylogeography
Scott Edwards explains how studying gene alleles within different populations or species allows the construction of genetic trees, which can be used to link genetic variation to geographic distribution of populations—the study of phylogeography. Edwards goes on to discuss phylogeography in Australian songbirds and in the evolution of resistance to *Mycoplasma* in house finches.

Andrew Murray, Harvard University
Yeast Sex
Andrew Murray describes his work studying the yeast life cycle, including the molecular detail underlying the decision to bud in the absence of a mate, or to shmoo and mate in the presence of yeast of the correct mating type.
Eighteen members of the ASCB were among the 539 scientists elected as American Association for the Advancement of Science Fellows.

Elaine L. Bearer
University of New Mexico
Member since 1981

Nancy M. Bonini
University of Pennsylvania
First joined in 1987

Duane A. Compton
Dartmouth Medical School
Member since 1991

Susan P. Gilbert
Rensselaer Polytechnic Institute
Member since 1983

Kathleen Gould
Vanderbilt University
School of Medicine
Member since 1997

Eliot Herman
Donald Danforth Plant Center
Member since 1997

Hideko Kaji
Thomas Jefferson University
Member since 2010

Daniel P. Kiehart
Duke University
Member since 1989

Liqun Luo
Stanford University
Member since 2000

Jun-Lin Guan
University of Michigan Medical School
Member since 1992

Eliot Herman
Donald Danforth Plant Center
Member since 1997

Neil M. Nathanson
University of Washington
Member since 1984

John R. Pringle
Stanford University School of Medicine
Member since 1976

Sheila McCormick
USDA-ARS/University of California, Berkeley
Member since 1996

Sean Munro
MRC Laboratory of Molecular Biology
Member since 2002

Jeffrey E. Pessin
Albert Einstein College of Medicine
Member since 1999

Denisa D. Wagner
Harvard Medical School
Member since 1982

Angela Wandinger-Ness
University of New Mexico
Member since 1990

Lois S. Weisman
University of Michigan
Member since 1994

Pedro Carvalho, of Center for Genomic Regulation, an ASCB member since 2002, was one of the recipients of HHMI’s First International Early Career Award.

Kathleen J. Green, of Northwestern University Feinberg School of Medicine, an ASCB member since 1980, was awarded the 2011 Martin E. and Gertrude G. Walder Award for Research Excellence.
New ASCB Members

The ASCB Council admitted 1,270 new members from June–December 2011

Fatima Abdouni
Measho Abreha
Elizabeth Adams
Gregory Adams
Thomas Adams
Cynthia Addae
Rebecca Adikes
Aditi Aditi
Payal Agarwal
Francois Aguet
Audrey Ah-Fong
Eun Hee Ahn
Jared Ahrendsen
Laura Ahhtiainen
Elizabeth Akin
Mf.Maksudul Alam
Yasemin Alanaks
Barbara Alcaraz Silva
Turi Alciero
Shannon Alford
Jun Allard
Jaqueline Alvarez
Kechad Amel
Eyal Amiel
Rana Amini
Patrick Amoateng
Chung-II An
Troels Andersen
Douglas Andres
Su Fen Ang
Hartung Angelika
Amparo Angeles
Briehl Angeles
Pelin Armutlu
Eusondia Arnett
Claire Atkinson
Michelle Attner
Vera Auernheimer
Alexandre Baffet
Maria Francesca Baietti
Crystal Baietti
Daniel Baker
Mostafa Bakhti
Alexandra Banathy
Sudeep Banjade
Cynthia Barber
Guilherme Barbosa
Valeria Barbosa-Lorenzi
Renato Barboza
Sebastian Barg
Linda Barlow
Koushik Barman
Adrian Barts
Wassim Basheer
Joseph Belanto
Ilya Belevich
Erin Benanti
Christopher Bennett
Ines Bento
Dustin Berger
Jennifer Bernet
Annemarie Bettica
Suraj Bhat
Mahendra Bhatt
Rumpa Bhattacharjee
Swagata Bhattacharya
Samip Bhattacharai
Prosper Cabral Biapa
Claudia Bicho
Justin Bingham
Abdelazz Bior
Kristen Bjorkman
Peter Blattmann
Christa Blenc
Annegret Boge
K Adam Bohnert
Marie Boiler
Navid Bonakdar
Mathilde Bonnemaison
Josp Borovac
Anouk Bosson
Julie Bottlier
Cedric Bouguex
Isabel Brachmann
Patrick Brambert
Jennifer Brigati
Richard Brody
Laura Broederdorf
Savannah Brookins
Eric Brooks
Hanna Broome
Shelley Brunet
Brad Bryan
Chase Bryan
Minh Bui
Lucas Bukata
Aivova Bulow
Bhagavathy Burgute
Laura Burns
David Busha
Sonya Buznik
Massimo Buvoli
Donna Byers
Jiyun Byun
Daniela Cadinu
Shea Cadwell
Gina Caldas
Alexis Campetelli
Muqing Cao
Marianna Capurro
Nicole Carlson
Pamela Carpenter
Cara Carraker
Tyler Carter
Chanelle Case
David Castillo
Raphael Cautain
Betul Celebi
Francesca Ceroni
Hye Ji Cha
Jisook Chae
Madhavi Chakravadhana
Eboni Chambers
Ching-Wei Chang
Chuan-Hsin Chang
Kun-Chen Chang
Leo Chang
Shin Chang
Mandovi Chatterjee
Shubhash Chaudhary
Sidharth Chaudhry
Tarlo Chaya
Evelyn Chea
Liam Cheeseman
BaoYu Chen
Bin Chen
Christine Chen
Han Chen
Hsin Chen
Hungwen Chen
Jing Chen
Shu-Chuan Chen
Steven Chen
Yuzen Chen
Philip Cheney
Ben Chin
Min-Guk Cho
Mi-Young Cho
Sunglim Cho
Jong Ho Choi
Seok-Yong Choi
Youn-Hee Choi
Brendan Choy
Grace Choong
Keiske Cho
Kim-Hoe Chow
Tracy Chow
Nonne Christensen
Carmen Chu
Hong Chu
Dai Chung
Justin Chung
Mei-I Chung
Beth Cimini
Kristine Ciruelas
Brian Ciruna
Mame Cisse
Pedro Cisternas
Mireya Clark
Bradley Clarke
Joshua Clarke
Matthew Clay
Kelly Clemenzen
Emanuele Cocucci
Natalie Coe
Philip Coffino
Valerie Coffman
Adam Cohen
Max Cohen
Judith Cole
Kristen Coleman
Agneszka Collins
Paolo Colombi
Lance Connell
Jonathan Cook
Harbi Cornel
Marco Coronel
Greg Correa
Daniel Cortes
Cecilia Cotta-Ramusino
Maura Cotter
Kinye Cotton
Scott Crowder
Meghan Cuddihy
Yuanyuan Cui
Cecilia Culp
Sara Cuylen
Rosa Da Silva
Helen Dainton
Nazia Daneshjou
Nicholas Davenport
Eliott Davidson
Phillip Davies
Esther De Graaff
Stefano De Renzis
Adriane De Siqueira
Nicholas Deakin
Justine Debelius
Hawi Debelo
Justin Decarreau
Helena Decker
Pat Dee
Arpaporn Deeraksak
Mehdi Dehghani
Carlos A. Del Carpio
Brittany Demmitt
Celine Denais
Aaron Derdowski
Beau Desaulniers
Kristin DeSouza
Olivier Destaing
Michael Detmar
Scott Dougan
Joshua Douglas
Didier Doumatbe
Dustin Dovala
Jane Drake
Brita Dreier
Catherine Drexler
Monica Driscoll
Genevieve Drouin
Troy Drummond
Zachary Duff
Maria Duham
Mariana Duhne
Marc Dumas
Joanna Duncan
Roy Duncan
Bob Duronio
Dipanita Dutta
Kari Ecklund
Rasheenaw Edmondson
Amel El Bahlou
Mohamed Eltayeb
David Elzi
Chi-An Emhoff
Christopher English
Amanda Engstrom
Meike Erdt
Stacy Erickson
James Ernst
Wesley Errington
Tania Eskin
Eugenel Espeutu
Miriam Estin
Lisbell Estrada
Olivier Etchian
Ye-Jin Eu
Joseph Evans
Lesley Everett
Daniel Fachinetti
Marco Faini
Nikta Fakhr
Cibele Falkenberg
Lefi Fan
Karen Farritz
Daniel Farrell
Carmen Faso
David Fay
Marie-Paule Felder Schmittbuhl
Arel ys Fernandez
Merari Ferrari
Cristina Ferras
Lauren Field
Jordan Fishman
Kathryn Fletcher
Catherine Flynn
Andrew Folkmann
Samantha Fore
Rachel Forget
Arola Fortian
Jocelyne Franchi
Dale Frank
Emily Froh
Sergio Lucia Freire
Manfred Frick
Alexander Fuhrmann
Hrumi Fujiki
Yuki Fujita
Masako Fukuda
Ryosuke Fukuda
Colin Fuller
Ben Fulroth
Peter Fung
Fabienne Furt
Takako Furukawa
Becky Fusbey
Marta Gai
Dany Gaillard
Christopher Gaiser
Vitold Galkin
Jillian Gao
Xunme Gao
Yanhong Gao
Lina Garcia
Brooke Gardner
Richard Gardner
Manuel Garrigos
Amy Garrison
Leilis Gemta
Yijie Geng
Paula Genik
Bhavena George
Zachary Gergely
Farzad Ghamsari
Aicha Gharbi Ayachi
Ranita Ghosh Dastidar
Katelyn Giardino
Romain Gibeaux
Thomas Giddings
Daniel Giglio
Jung-Eun Gil
Rosalie Giordano
Emanuele Giordano
Jung-Eun Gil
Daniel Giglio
Katelyn Giardino
Aicha Gharbi Ayachi
Farzad Ghamsari
Aicha Gharbi Ayachi
Ranita Ghosh Dastidar
Katelyn Giardino
Romain Gibeaux
Thomas Giddings
Daniel Giglio
Jung-Eun Gil
Rosalie Giordano
Emanuele Giordano
Katelyn Giardino
Interesting Uses of The Cell: An Image Library-CCDB

It was expected that as The Cell: An Image Library-CCDB (www.cellimagelibrary.org) evolved there would be many uses for this collection of images, videos, and animations. Clearly it would serve as a resource for educators and students. It was also developed as a resource for researchers, as well as a place to find images for presentations. However, there are also some unanticipated but very exciting uses on the horizon for material from The Cell:

- A scientific advisor to a documentary on cancer contacted ASCB regarding the possible use of videos from The Cell.
- A small publisher that had success with a very image-focused book in a related field of science has expressed interest in developing a book that would draw extensively from images in The Cell.
- There was a presentation at the ASCB Annual Meeting by Cheston Saunders entitled “Close the Textbook and Open the Cell Image Library.” Saunders discussed an interactive classroom activity that uses images from The Cell.
- The façade of a new building, The Centre for Translational and Interdisciplinary Research at the University of Dundee, will include an abstract version of an image found in The Cell. The image will appear on three 5-foot × 50-foot panels. Plaques both inside and outside the building will include the statement, “We are grateful to ‘The Cell: An Image Library’ of the American Society for Cell Biology for helping us obtain permission to use this image.” The building should be completed by fall of 2013. If you would like to know more about this project, take a look at www.lifesci.dundee.ac.uk/other/ctir.

Please help us spread the word and share with your colleagues what a great resource The Cell: An Image Library-CCDB is.

Have you used The Cell in interesting ways? Please let us know by sending an email to David Orloff at dorloff@ascb.org. All documented usage helps support our efforts to obtain continued funding.

—David Orloff, Senior Manager, Image Library
A list of current grant and other opportunities can be found at www.ascb.org/GandO.html. The following items were added since the last issue of the Newsletter:

ASCB Minorities Affairs Committee (MAC) Linkage Fellowships. These fellowships, made possible through a grant from the Minority Access to Research Careers program of the National Institutes of Health/National Institute of General Medical Sciences, provide funds for faculty from minority-serving institutions to participate in a variety of professional and student development activities with the ASCB MAC. Funding is provided for Fellows to support outreach and activities that promote cell biology at their home institutions. Applications due: March 30, 2012. (If funding is available, applications may be considered after the deadline.) www.ascb.org/index.php?option=com_content&view=article&id=208&Itemid=6.

ASCB Minorities Affairs Committee Visiting Professorship Awards. The purpose of this awards program, provided through a grant from the Minority Access to Research Careers program of the National Institutes of Health/National Institute of General Medical Sciences, is to support research at primarily teaching institutions that serve minority students and scientists. This program will provide research support for professors at minority-serving institutions to work in the laboratories of members of the ASCB for an eight- to 10-week period during the summer of 2012. Applications due: March 30, 2012. www.ascb.org/VP-Program.html

Competing Revisions for Macromolecular Interactions in Cells (R01). The National Institute of General Medical Sciences (NIGMS) solicits competitive revisions of currently funded NIGMS grants specializing in the analysis of molecular systems and mechanisms in live organelles, cells, tissues, or organisms. Applicants may increase their budgets to extend the scientific scope of their projects or to add new approaches that enhance their capabilities for research on macromolecular interactions in cells. Applicants may request support for collaboration (including subcontracts) with investigators who have complementary expertise. Support for access of modestly funded laboratories to experimental approaches and research objectives that are otherwise financially out of reach is one priority of this funding opportunity. Letters of intent due: September 18, 2012. Applications due: October 18, 2012. http://grants.nih.gov/grants/guide/rfa-files/RFA-GM-13-003.html.

**MBoC to Publish Annual Meeting Highlights**

The March 15, 2012, issue of Molecular Biology of the Cell (MBoC) will include summaries of 15 Minisymposia and one Working Group from the 2011 ASCB Annual Meeting. If you missed a session or simply want to refresh your memory about the research presented at a session you did attend, be sure to check out these synopses by session co-chairs.

Look for the March 15 issue at www.molbiolcell.org, or better yet visit www.molbiolcell.org/cgi/alerts and sign up to receive emailed tables of contents. Then you will always know when a new issue of MBoC is published.

**Update Your Contact Info Today!**

Want to stay up-to-date on all the latest ASCB news and events? Ensure we have 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.
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:

April 29–May 5, 2012. Washington, DC

May 4–8, 2012. Boston, MA

May 18–23, 2012. San Francisco, CA

June 13–16, 2012. Yokohama, Japan

June 29–July 2, 2012. Salzburg, Austria

American Association of Immunologists Introductory Course in Immunology. www.aai.org/Education/Courses/Intro/index.html.

July 20–24, 2012. Austin, TX

July 29–August 3, 2012. Boston, MA
American Association of Immunologists Advanced Course in Immunology. www.aai.org/Education/Courses/Advanced/index.html.

August 12–17, 2012. Andover, NH

September 30–October 6, 2012. Woods Hole, MA

October 16–19, 2012. Montpellier, France


In Memoriam
We note the recent passing of long-time ASCB member Oscar Lee Miller, and express our condolences to his family, friends, and colleagues.

2012 Half-Century Fund Donors
The ASCB is grateful to the following donors* whose contributions support Society activities:

Gold
Susan Gerbi McIlwain
Helen Piwnica-Worms
Huntington Sheldon

Bronze
Virginia Zakian

Sustainer
Barbara Vartel

*As of February 14, 2012

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

Laura Lewis-Tufin
Stanley Kimani
Lawrence Goldstein

*As of January 31, 2012

ASCB Annual Meetings
December 15–19, 2012. San Francisco
December 14–18, 2013. New Orleans
December 6–10, 2014. Philadelphia
December 12–16, 2015. San Diego
December 3–7, 2016. San Francisco
Dear Labby,

How should a graduate student deal with the dilemma of wanting to join the lab of a faculty member who does not have tenure? The lab I want to join is happy and productive, and the lab head is the one faculty member in the whole department whose work, teaching, and mentoring style appeals to me. She has told me I can join the lab for my PhD, but her tenure decision year is 2014. I can’t even begin to predict if she will make it (I know zilch about how this works). The word among my fellow students is simply that it’s too soon to know. There is another lab I have considered, the head of which is tenured. I sort of liked their research when I did my rotation there, but it felt like a much less happy environment. What should I do?

—About to Choose

Dear About to Choose,

This is a tough decision, but you have provided Labby with some clues. The fact that you admire not only the first lab head’s research but also her full persona goes a very long way. Second, it sounds like her tenure decision is by no means thought to be problematic or in trouble. Rather, it’s simply not yet easy to read the tea leaves, as is often the case 24 months before a department makes a tenure recommendation. Third, even if the decision were not to grant tenure, you would be two and a half or even three years into your thesis research. Under those circumstances, the department would arrange for you to be able to finish your thesis.

Because the labs of many tenured faculty are full or have very limited student slots, students are often in the quandary you describe. But you have conveyed a sufficiently large differential between your first and second choice labs that Labby thinks you should trust your instinct. The upside outweighs the downside.

—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.

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.

Are You Getting ASCB Pathways?

You should now be regularly receiving our monthly email update, ASCB Pathways—alerting you to the latest ASCB happenings and 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.
Put yourself in the picture as a visiting professor or a host scientist. The experience is rewarding for everyone involved, and directly creates a more diverse scientific community...

“The opportunity was a rewarding experience. I enjoyed the research interactions with lab personnel. Being involved in state-of-the-art research stimulated interest in undergraduate research at my university.”

—Visiting Professor Jacqueline Jordan
Associate Professor of Biology, Clayton State University

“What started as a 10-week summer visiting professor program has turned into a rich collaboration which has continued on research projects. I am indebted to the ASCB MAC for introducing us!”

—Host Scientist Gary Miller
Professor and Associate Dean of Research, Emory University

MAC visiting professors receive travel funds, a stipend, and support for their home institution, and much more. Find out how you can put yourself in the picture—go to:

www.ascb.org/VP-Program.html or write mac@ascb.org

Deadline: March 30, 2012

This program is supported by a MARC grant from the NIH NIGMS to the American Society for Cell Biology Minorities Affairs Committee.
Recognize Those Who Have Made a Difference.
Submit an ASCB Award Nomination.

ASCB has a long history of recognizing outstanding scientific and educational achievements. Here’s your chance to participate. Nominate worthy scientists for the awards listed above. The submission deadline for these awards is March 30, 2012.

For nomination requirements go to www.ascb.org and click on “Awards.” Deadline: March 30, 2012