Nunnari Elected President for 2018
Amon, Goldstein, Holzbaur, Marshall
to Serve on Council

Jodi Nunnari was elected by ASCB members to serve as ASCB President in 2018. Nunnari, Professor and Chair of the Department of Molecular and Cellular Biology at the University of California, Davis, and Editor-in-Chief of the Journal of Cell Biology, will serve on the Executive Committee as President-Elect in 2017.

Also elected to Council were Angelika Amon, Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology/Howard Hughes Medical Institute; Bob Goldstein, University of North Carolina at Chapel Hill; Erika Holzbaur, University of Pennsylvania; and Wallace F. Marshall, University of California, San Francisco. Each member of Council will serve

Election Results, continued on p. 6

Context Is Everything: Mina Bissell to Receive E.B. Wilson Medal

It is not every day that a scientific society gives its top award to a scientist who already has a top award named after her. But this December 6th at its Annual Meeting in San Francisco, the ASCB will bestow the E.B. Wilson Medal, its highest scientific honor, on Mina J. Bissell, the namesake of the Mina J. Bissell Award presented since 2008 in Portugal by the University of Porto’s Graduate Program in Areas of Basic and Applied Biology. The Wilson medal is an actual medal, struck in honor of one of the founders of modern cell biology. The Bissell award is a small metal sculpture, a ring set with moveable rectangles that change the award’s shape depending on where it’s standing. This seems entirely fitting for Bissell, who turned cancer biology on its ear by demonstrating the importance of context in cell biology, especially in her exploration of the 3D microenvironment’s effects on gene expression, tissue differentiation, and tumor fate.

E.B. Wilson, continued on p. 8
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*MD/PhDs are not eligible to apply

Application Deadline: June 30
www.ascb.org/gibcoprize
“What is the secret to a successful career in science?” is a question that I often encounter when meeting with students and postdocs at various institutions. It is a loaded question to which there is no tangible answer, and I always enjoy the discussion that follows. Each time the discussion takes off in a different direction, determined by the individuals sitting around the table, their life experiences and struggles, and the environment in which their work and training is embedded. Each time, the discussion causes me to reflect on my own career path, making me struggle to find an answer—some pieces of wisdom that could have more than just anecdotal value reflecting on my particular career path. This struggle to come up with a crisp answer reminded me of the supercomputer “Deep Thought” in Douglas Adam’s Hitchhiker’s Guide to the Galaxy.1 Asked to compute the answer to the “Ultimate Question of Life, the Universe, and Everything,” the machine calculated for an exorbitant length of time (7.5 million years to be exact) and then “with infinite majesty and calm” provided the answer: “42.” Meant as a humorous counterpoint to millennia of philosophical and religious contemplations, there is, to my knowledge, no deep or symbolic significance to Deep Thought’s answer. Yet it reflects beautifully on the futility of trying to distill simple and all-encompassing guidelines from issues of vast complexity.

Success can come in many different flavors, and for our graduate students and postdocs there are many examples of successful careers that diverge from the academic research path considered to be the only successful career some 50 years ago. The mere attempt to define a recipe for success, therefore, is as foolish as to answer the ultimate question of life, the universe, and everything. But on a much, much smaller scale, I can point to a few ingredients that had a strong impact on my becoming the scientist I am today. I picked a few of those that go beyond the obvious (i.e., work hard and meticulously; stay objective and honest; don’t cheat; don’t get caught eating in the lab; etc.).

So here you go, in no particular order:

1. See yourself as an explorer. As such, you need to take risks to try new things and be prepared for failure. Exploring a white spot on the map is incredibly rewarding, and white spots on the map are easy to find: Each time I leaf through Don Fawcett’s book The Cell and go over the fascinating collection of classical high-quality electron micrographs of numerous cell types, I am struck by the vast expanse of unexplained biology. Each one of the projects on which I and my colleagues embarked led us into depths where current knowledge stops. This is the place to be, a place to be excited rather than scared.

2. Embrace the paradox. When an experiment does not yield an expected result, it often is far more exciting than finding the expected, especially if there is no clear explanation. Many important discoveries, sometimes disparagingly portrayed as the result of “dumb luck,” actually derive from the follow-up of paradoxical observations. The word serendipity, coined by Horace Walpole in 1754 based on the fairytale “The Three Princes of Serendip” to describe the act of “making discoveries by accident and

On Careers and 42
by Peter Walter

Peter Walter

Exploring a white spot on the map is incredibly rewarding, and white spots on the map are easy to find....
sagacity of things not in quest of.”3 describes the element of chance in scientific progress much better than dumb luck. I previously wrote about our own encounters with serendipity on the meandering path to deciphering the mechanism of the unfolded protein response.4

3. Communicate with others. There is great value in discussing your out-of-the-box ideas or latest results with others. Many great new ideas and unforeseen connections in our own research resulted from an open dialogue, often at meetings over a beer or two. In my experience, the overall benefit of paranoia-free communication far outweighs the potential danger of giving away too much. Almost everyone appreciates being asked for input and suggestions.

4. Ask significant questions. Our daily life in the lab often centers on minutiae: determining a rate constant for your favorite enzyme or figuring out whether histidine 148 is really that important. We need to remind ourselves constantly of the larger question that prompted us to make these inquiries and how small answers will synergize as pieces of the larger puzzle. Whenever we communicate our work, the potential significance of it should take center stage. As Sydney Brenner said, “Think small, talk big.”

5. Don’t expect linearity. We write grants and research proposals as if we know where a project will lead us. It is important to look forward in this way, but this approach maps out only one obvious road where a project may go. As a project progresses, more often than not, opportunities for new (perhaps totally unexpected) findings will open up. Sometimes they might require you to learn a new expertise or enter a new field. My advice: Don’t let these opportunities slip away, but balance abandon with caution.

6. Balance your personal life and work. Research is hard and tedious and often frustrating—more so than we tell our incoming graduate students. It is important to have interests in (and draw satisfaction from) extracurricular activities. As a graduate student living in a little box in New York, I enjoyed photography. Now that I have a little more space and the kids are grown up, I try my hand at wood- and metal-working. I find that these activities stimulate my creativity and, even though they occupy some time, they feed back positively into my science. Likewise, the values of family and friends cannot be overestimated.

7. Show your enthusiasm. My daughter graduated with a major in psychology and theater from Lewis and Clarke College in Portland. She attended one of my lectures and, not being particularly interested in cellular proteostasis, afterwards critiqued my talk in terms of stage presence, liveliness, body movements, and pause-for-emphasis. For her, the lecture was a theatrical performance with more elements than just its intrinsic need to get information across. And she is right; how can we expect to motivate our students, colleagues, and the public unless we project enthusiasm and engagement? After all, our work is an adventure.

8. Appreciate your colleagues. Science is an intrinsically human enterprise. Our lab community is embedded in a university community, but also in the communities of our research fields. We interact at various levels, and over our career lifetimes we build and rely on interpersonal relationships. We are known and judged as much by our behaviors and personalities as we are by our scientific contributions. This point is sometimes forgotten, and it will become more important as review processes strive for more transparency. In my view there is no conflict between being critical and objective and still being nice and appreciative of the needs and feelings of others.

9. Teach and mentor. I am fortunate to have had the most amazing mentors at every stage of my career. I also find that passing on to our students, postdocs, and young faculty the tangible and, perhaps even more importantly, the intangible tools of the trade is one of the most rewarding experiences in my daily work.
When we address the beneficial role of graduate education in non-research careers, for example, we recognize that what we teach our students is the art of problem solving. Scientists are renowned for their analytical skills: They can naturally step back from a problem, objectively isolate the variables that affect the outcome, and suggest and implement solutions. Thus the skill set we teach extends far beyond the ability to pipet colorless liquids accurately—it enables our graduates to tackle many important challenges to benefit society.

10. Have high standards. It is obvious and of utmost importance that our work is solid and reproducible. But I also find pleasure in writing manuscripts that can be easily read and displaying data on slides and in figures in aesthetically pleasing ways. This takes time and effort, and I often draw strong criticism from the lab members when I complain about font sizes or varying line widths in their manuscript illustrations. But, “What is written without effort is in general read without pleasure,” and I find that my occasionally obsessive–compulsive behavior has served us well.

To be truly comprehensive and cover the entire gamut of career advice, this list of points to ponder would clearly need to be extended. Coming from a single voice, however, it undoubtedly would become increasingly one-sided. In this spirit, we would like to hear from you. Perhaps with Labby’s help to adjudicate, we will publish the most impactful of your insights in future Newsletters—until we have said everything there is to say and the all-encompassing list of our 42 entries is complete. ■

References and Footnotes


5Quote attributed to Samuel Johnson (1709–1764).

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

announcing

COMPASS Outreach Awards

These awards, of up to $1,000, will help ASCB members engage with local schools, science fairs, and society.

Application Deadline: September 1, 2016

Please visit ascb.org/compass-outreach-grants/
Election Results, continued from p. 1

a three-year term beginning January 1, 2017. All four new Council members have been long-time ASCB supporters.

Nunnari has been an active ASCB leader and volunteer who served on the ASCB Annual Meeting Program Committee for four years, has been a member of the Public Policy Committee since 2011 and the Finance and Audit Committee since 2015, and was Program Committee Chair in 2010. In 2014 she was elected to the ASCB Council, on which she currently serves.

Nunnari earned her PhD in pharmacology at Vanderbilt University in Lee Limbird’s lab. She has been investigating mitochondrial cell biology since her postdoc in Peter Walter’s lab at the University of California, San Francisco. As a postdoc, Nunnari was among the first to use GFP to visualize mitochondria in yeast, and helped establish the field of mitochondrial dynamics. Now the Nunnari lab uses cutting-edge microscopy to understand how mitochondrial structure is established and maintained, and how the mitochondrial genome is organized and segregated during division.

Pietro De Camilli, ASCB President-Elect and Professor at Yale University, commended his successor. “Jodi Nunnari is a stellar scientist, whose work on cell biology of mitochondria had a transformational impact in the field. With her vision and impressive energy she will be a most effective leader of the Society.”

The membership also voted to accept the changes to the Bylaws. Graduate students now have the right to vote in Society elections, and a new Educator membership category has been created for community college instructors and high school teachers.

The ASCB thanks the Nominating Committee members for their service: Chair Jennifer Lippincott-Schwartz, Peter Devreotes, Dan Fletcher, Dan Kiehart, Ruth Lehmann, Satyajit Mayor, and Clare Waterman.

Of the ASCB eligible voting membership, 1,617 participated in the election this year, up from 1,546 last year.

—Thea Clarke and Christina Szalinski

Elected Council Members (to begin terms in 2017)

Angelika Amon
Koch Institute for Integrative Cancer Research, MIT/HHMI

Erika Holzbaur
University of Pennsylvania

Bob Goldstein
University of North Carolina at Chapel Hill

Wallace F. Marshall
University of California, San Francisco
NRMN's evidence-based training programs are designed to help mentors and mentees engage in productive, culturally responsive mentoring relationships. Programs focus on:

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Supported by the NIH
Now in her fifth decade of a research career that shows no indication of slowing, Bissell is a Distinguished Scientist in the Life Sciences Division at the Lawrence Berkeley National Laboratory (LBNL) and a member of the faculty in five graduate programs at the University of California, Berkeley (UC Berkeley). Her publications list is staggering, her honors list overflowing (including the American Cancer Society’s Medal of Honor and an Honoris Docteur Causis from the Pierre and Marie Curie University in Paris). She has served both as ASCB President and as the chair of ASCB’s Women in Cell Biology Committee.

But it is Bissell’s controversial insistence that physical context matters in cells and her demonstrations that the extracellular matrix (ECM) is integral to breast tissue remodeling and to breast cancer progression that are being honored with the Wilson medal, according to Susan Lindquist of the Whitehead Institute. A former E.B. Wilson medalist herself, Lindquist wrote in support of Bissell’s nomination that, “In the past 20 years, she has revolutionized biologists’ view of the importance of external cues in controlling programs of gene expression and differentiation in normal tissue morphogenesis and in breast cancer. Her creative work forged a new frontier in cell biology, transforming our understanding of the role of extracellular matrix, the three-dimensional cellular microenvironment. She has fundamentally changed our understanding of the forces of tumor biology, and the ways in which tumor cells themselves influence their environment.”

Of Bissell, another previous E.B. Wilson medal winner (and previous ASCB President), Elaine Fuchs of Rockefeller University and the Howard Hughes Medical Institute, declared, “She put the field of the microenvironment on the map and was the major instigator for the creation of two Study Sections at the NIH in this area. Her contributions to the field of tumor biology and the relevance of her work to normal regulatory mechanisms and cancer are indeed paradigm-shifting.”

Valerie Weaver, who is now at the University of California, San Francisco, was a new postdoc at the Canadian National Research Council when she first heard Bissell speak in Ottawa on the role of the extracellular matrix in mammary cell differentiation. Weaver decided on the spot that this was the topic she wanted to work on and Bissell was the PI she wanted to work with. Weaver relocated her postdoc to Berkeley and the Bissell lab in 1994. “I ended up spending five very influential years working under Mina’s direct mentorship during which I studied the role of stromal–epithelial interactions and tissue architecture in breast morphogenesis and cancer,” Weaver recalled. “This experience working with Mina…changed the trajectory of my research and left an indelible imprint on my scientific perspective and world view that have proved critical for my scientific success.”

But beyond Bissell’s scientific impact, Weaver wrote, “It is only now that I am an established scientist and I am more frequently thrust into leadership positions that I can truly appreciate the full measure of Mina’s impact on today’s cell biology research community.” Bissell’s influence extends well beyond her field, Weaver believes. “Her larger gift is that she inspires others to participate and take on new challenges through her own passion and dedication and also by her fearless and uncompromising leadership.”

Bissell was born in Tehran, Iran, into a well-to-do, well-educated family. She excelled in science, emerging from high school as the top student of her class of 200. After postdocs at Harvard and UC Berkeley, she was hired as a staff biochemist at LBNL in 1972. In a 2009 interview, Bissell recalled that, “When I interviewed for my first job at LBNL, I was three months pregnant, but it did not show and I didn’t see any reason to announce it. Then, when I showed up to start the job four months later, and was obviously pregnant at seven months, I was fired on the spot! I was told that pregnant women didn’t belong.” An older colleague interceded, offering to take Bissell into
his lab. Bissell rose steadily in the Life Science Division at LBNL, reaching senior staff by 1976. In 1988, she became director of Cell and Molecular Biology. In 1992, she became director of the entire division.

Yet through the 1980s, Bissell’s papers were controversial, especially her hypothesis that there was a “dynamic reciprocity” between the ECM and the cell itself with signals passing in an interactive loop from ECM through the cytoskeleton to the nucleus to the chromatin, where changes in expression would in turn affect the ECM. Later in a 2009 interview with reporter Gina Kolata of the New York Times Bissell would describe some of the hostility she encountered. She recalled handing a new paper to a colleague visiting her office at LBNL. “He took the paper and held it over the wastebasket and said, ‘What do you want me to do with it?’ Then he dropped it in.”

But the scientific tide was turning as Bissell’s experiments yielded startling results. According to Fuchs, “In the 80s, she provided some of the more dramatic evidence of the significance of ‘context’ by showing that a potent oncogene such as Rous sarcoma virus [RSV] does not form tumors in chick embryos despite the activity of PP60 src. Yet isolated cells plated on 2D cultures become mass transformed overnight. She showed that even in chickens, wounding is required for RSV to form tumors, and her laboratory was the first to identify TGF as the culprit in wounding.” Bissell also championed 3D cell culture as the only way to replicate the complicated spatial arrangements in breast tissue or tumor architecture.

Bissell continues a rigorous speaking schedule that has included, by her calculation, over 130 named or distinguished lectures since 1980. She kicked off 2016 with a talk at the Indian Institute of Science, Education, and Research in Pune, India, and will be winding the year down next December in San Francisco when she receives her E.B. Wilson Medal and gives her lecture. Meantime Bissell continues to be a tireless mentor. At last count, Bissell reports that of her former postdocs and grad students, two are now deans, 25 are tenured professors, 18 are assistant professors, 18 are in senior biotech positions, and 12 are PIs, and there are numerous lab managers and educators, two patent attorneys, and one science editor. Here once again, the Bissell context is everything. ■

—John Fleischman

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ASCB-Gibco Emerging Leader Prize Essay

In fall 2015, ASCB awarded the first-ever ASCB-Gibco Emerging Leader Prizes to three cell biology researchers. ASCB introduced the prizes to honor not-yet-tenured independent investigators with outstanding scientific accomplishments and strong publication track records. The prizes were underwritten by Gibco, a brand of Thermo Fisher Scientific.

ASCB President Peter Walter invited each of the prize winners and each of the seven additional finalists to contribute an essay to the ASCB Newsletter. The writers were encouraged to provide a personal statement that articulates who they are, their science, and how they got into it; to describe their major scientific accomplishments; and to discuss their “dream results” and where they see themselves in the next five years.

This issue of the Newsletter features the essay of finalist Antonina Roll-Mecak.

Antonina Roll-Mecak

I was born behind the Iron Curtain, in Romania. I was a bit of a slacker in early childhood, but my extraordinary piano teacher Enikő Orth taught me focus and discipline. With her, I spent much of my time, including all my summer vacations, practicing for piano competitions. While I was mesmerized by the adventures of *The Microbe Hunters* in Paul de Kruif’s book, my dream was to become a concert pianist. However, one cannot thrive as a pianist without touring abroad. Because of travel restrictions imposed at the time by the Romanian regime, I chose as a teen to pursue an education in the hard sciences. I had always enjoyed and been rather good at math, and I graduated with a baccalaureate in mathematics and physics.

After the Iron Curtain fell, I was awarded a full scholarship from the Cooper Union in New York City to study engineering. Serendipitously, I attended a lecture at the New York Academy of Sciences on structural biology. It was love at first sight. After a formative undergraduate internship with Ernie Mehler and Harel Weinstein at Mount Sinai, I became a graduate student at The Rockefeller University. In Stephen Burley’s laboratory, I elucidated the structures and mechanisms of the two GTPases involved in the initiation of translation in all eukaryotes.

The GTP hydrolysis–induced structural transitions that I uncovered catalyzed my interest in molecular motors and led me to postdoctoral studies in Ron Vale’s laboratory at the University of California, San Francisco. There I discovered a new microtubule-severing enzyme, spastin. Microtubule-severing enzymes perform what seems an impossible task: They break microtubules into little bits despite their considerable girth and stiffness. My structural and biochemical analyses of spastin suggested that severing enzymes might break the microtubule by pulling single tubulin molecules out of the microtubule lattice. It is hard to break a tapestry by pulling on it, but if you find a loose thread, you can unravel it with little effort. The loose threads of the microtubule are the disordered C-terminal tails of tubulin, which are pulled on by the severing enzyme.

Since starting my lab at the National Institutes of Health, I have focused on cracking the “tubulin code.” When examined through a microscope, microtubules look uniform. This is deceptive. Tubulin is extensively functionalized by a complex array of reversible posttranslational modifications, including acetylation, detyrosination, phosphorylation, glutamylation, and glycylation. These modifications vary widely among cell types, and their developmental and intracellular distribution patterns are stereotyped. This is suggestive of temporally and spatially regulated control of microtubule effectors and dynamics. Such regulation would have parallels with the histone code.
A major impediment in breaking the tubulin code has been the inability to produce “blank” tubulin and to modify it in a biochemically well-defined manner. The majority of in vitro studies are performed with tubulin purified from brain tissue. Microtubules assembled with this tubulin are mosaic and contain a randomized mixture of many tubulin isoforms and posttranslational modifications. Thus, all the topographical information encoded in microtubules by the cell has been lost or irretrievably scrambled, making the task of deciphering the tubulin code impossible.

Imagine how little we would know about gene expression if DNA were purified by first separating nucleotides and then randomly repolymerizing them!

In my lab, we have taken a bottom-up approach to understanding tubulin modifications. We “write” the tubulin code in vitro using purified enzymes and use biophysical and cell biological techniques to uncover how the code is “read” by microtubule effectors. We have shed light on the mechanism of several of the key tubulin modification enzymes, including tubulin tyrosine ligase and the glutamylase TTLL7 as well as the tubulin acetyltransferase. We have also succeeded in generating recombinant engineered human tubulin and determined the high-resolution structure and dynamic parameters of single-isoform recombinant human neuronal microtubules, an initial step toward uncovering the biophysical correlates between tubulin sequence, structure, and dynamic instability.

More recently we discovered that spastin, which is mutated in patients with hereditary spastic paraplegia, is under rheostatic control by the number of glutamates attached to the tubulin tails, demonstrating the high level of precision achievable through the tubulin code for controlling microtubule effectors.

My dream is to generate a dynamic high-resolution map of posttranslational modifications in cells and watch as it changes in real time to regulate the targeting and activity of motors and microtubule-associated proteins. When people leave my lab, I give them a daruma doll. In Japanese folk culture, a daruma is a lucky charm that is bought missing the blacks of its eyes. The user paints in one of the eyes and makes a wish. The second black eye is added when the wish is granted. My one-eyed daruma is waiting patiently on my office shelf to receive its second eye.

You can now view videos from within the HTML version of an article in Molecular Biology of the Cell (MBoC). Previously, videos stored as supplemental data were several clicks away. Now thanks to a feature called video injection, they appear within the article where they are first mentioned in the text, just like other figures. (See examples in the article at http://bit.ly/1MVm4GD.)

ASCB has partnered with Glencoe Software to offer this feature, which has been installed retroactively for most articles since 2005 that have videos as data supplements.
David Lopatto Wins Alberts Award

David Lopatto, the Samuel R. and Marie-Louise Rosenthal Professor of Natural Science and Mathematics, Professor of Psychology, and inaugural Director of the Center for Teaching, Learning, and Assessment at Grinnell College, will receive the 2016 Bruce Alberts Award for Excellence in Science Education. Lopatto was selected for his leadership in assessing the benefits of undergraduate research experiences.

Central to his research and national impact have been several survey instruments that he developed to capture student self-reported feedback and enable analysis of the impact of experiences on student self-perceived gains in knowledge, skills, and confidence in research. In 2004, Lopatto developed the Survey of Undergraduate Research Experiences (SURE), the first instrument available to faculty and program directors for assessing the impact of research programs. It was quickly adopted by faculty for use in diverse applications.

Since the introduction of the SURE (now in its third iteration), Lopatto has directed the development of related instruments, including measures of self-perceived impacts on students of classroom-based science, technology, engineering, and mathematics (STEM) research (CURE), interdisciplinary STEM curricula (RISC), and research in non-STEM areas (ROLE). These assessment tools are now used by over 150 institutions with over 10,000 students annually.

Possibly the most significant impact of Lopatto’s work has been in establishing standardized faculty practice for assessment, which has laid the groundwork for development of new approaches and tools for student outcomes assessment. Progress in the past decade has advanced assessment practice in STEM communities, and the conversation has expanded to include education researchers, cognitive scientists, and evaluation scholars, all of whom now inform practical understanding of student learning in STEM. These interactions not only advance assessment practice but also have led to new areas of scholarship, including discipline-based education research. As noted by one of Lopatto’s nominators, Cynthia Bauerle of the Howard Hughes Medical Institute, “These developments continue to motivate improvements in faculty practice initiated originally by the efforts of early researchers like Dr. Lopatto, who recognized the importance of assessment practice as a driver for improved teaching, for achieving a more ‘scientific teaching.’”

—Thea Clarke

Valentina Greco and Bo Huang Win 2016 Early Career Award

Valentina Greco, Associate Professor of Genetics at Yale University and a member of the Yale Stem Cell Center, and Bo Huang, Associate Professor in the Department of Pharmaceutical Chemistry and Department of Biochemistry and Biophysics at the University of California, San Francisco, have been named recipients of the 2016 Early Career Life Scientist Award.

Greco was selected for her landmark contributions to stem cell biology and regenerative medicine. She has developed numerous, innovative methods to track and study skin stem cells in live mice in real time. These novel approaches allowed the Greco lab to demonstrate the essential role of a stem cell’s microenvironment, or niche, in tissue maintenance and regeneration and to reveal that stem cells are not all equal in fate. In addition to her research accomplishments, Greco is also noted as an exceptional and enthusiastic mentor.

Huang was selected for his innovation in microscopy. He introduced new algorithms, originally developed for signal processing and medical imaging, to improve super-resolution microscopy, in a technique called stochastic optical reconstruction microscopy (STORM). Huang also repurposed nanobodies, originally made for crystallography as imaging probes, to reveal an unexpected phase in G protein-
coupled receptor signaling. Additionally, he retooled CRISPR/Cas9 to develop a powerful approach for visualizing the dynamics of genome organization in live cells. Huang’s lab has become a hub for national and international microscopy collaborations.

The ASCB Early Career Awards will be presented in a Minisymposium at the 2016 Annual Meeting. The ASCB congratulates Greco and Huang and thanks the Selection Committee.

—Don Cleveland, University of California, San Diego; and Christina Szalinski
**ASCB Seeks New Co-Chair of Minorities Affairs Committee**

The ASCB is accepting applications and nominations for co-chair of the Minorities Affairs Committee (MAC), for a three-year term beginning in January 2017.

The MAC, one of the standing committees of the ASCB, has as its goal to significantly increase the involvement of underrepresented minority scientists in all aspects of the Society. To achieve this goal we recognize the need to promote the professional development of and to recruit minority scientists. The relatively small size of the pool of scientists with an interest in cell biology requires that we also develop programs for undergraduate and predoctoral students to assist them in achieving careers in biomedical research. A long-range goal of the committee is to contribute to the national effort to increase the number of underrepresented minority scientists.

ASCB is now seeking candidates for one of two MAC Co-Chairs. The Co-Chair serves for a three-year term, which can be renewed for an additional term, for a maximum of six years total.

The ideal attributes of a MAC Co-Chair are:

- Strong leadership in the field of cell biology together with the skills, passion, interest, and time to serve the mission of the Society and the mission of the MAC
- A demonstrated history of mentoring underrepresented minority students and scientists
- Experience working with and running committees—excellent communication, speaking, and writing skills
- A track record in grantsmanship and research

**Application Process**

Applications will be reviewed, and the Co-Chair chosen, by the ASCB Council. Please apply by September 1, 2016. ASCB members interested in seeking this unique leadership opportunity (or in nominating someone else) are asked to provide the following:

- Name of applicant
- Title and affiliation of applicant
- If a self-nomination, a one-page statement of why you want to be Chair
- If a nomination of someone else, a one-page statement by the nominator of why the person would be a good Chair. The person should know he or she is being nominated.
- Applicant’s CV

Please submit applications or questions to MACchairsearch@ascb.org.

**ASCB Member Benefit: One-on-One CV Review**

Need some help with a cover letter, CV, resume, statement of teaching philosophy, or other document for the next step in your career? Members of the ASCB are willing to help. Just fill out a short form (www.ascb.org/cvreview), and we’ll put you in touch with a reviewer. Then the two of you can decide which digital collaboration tool to use (email, Google Docs, Skype, Wikispaces, etc.). You must be a current ASCB member to take advantage of this service.

—Thea Clarke
Postdocs/Students/Community College Instructors

Do you want to Organize a One-Day Local Meeting?

ASCB Financial Support Available

Accelerate Your Career

ASCB helps to fund and organize your local meeting. Such meetings will typically involve two or more local research institutions or colleges (within or outside of the USA). Topics may range from basic science to career development, with a clear relevance to the broadly defined field of cell biology.

For more information go to ascb.org/local-meetings or email hkyler@ascb.org.

Deadline for Applications: September 15, 2016

#ascblocal
We recognize race and gender in a split second, thanks to a specialized region of the human visual system.¹ Neuroscientists studying the neural basis of prejudice propose that coupling facial recognition to amygdala “fight or flight” reactions enabled early humans to rapidly recognize friendly ingroup members in contrast to outgroup foes.¹–³ Allowing such ingroup vs. outgroup distinctions to be governed solely by an emotional response is at the root of implicit biases. This type of amygdala-driven response is what may lead to prejudice and stereotyping. These responses fly under the radar of our recognition and may impair effective problem solving by limiting our ability to utilize the diversity in experience and perspective that we now know to be essential to many tasks. Eliminating these implicit biases completely may be impossible—even on an evolutionary time scale—but to limit their detrimental effects, we must elevate such biases to our consciousness by engaging the “upstairs brain” that thinks, solves problems, and makes decisions.⁴ Here we provide strategies for increasing mindfulness and promoting diversity in education and research.

**Microaggressions lead to discouragement and disenfranchisement that can further diminish workforce diversity**

**Be Aware of Implicit Bias**

In response to criticism over lack of gender diversity, the Silicon Valley giant Google engaged its powerful analytics team to study the problem. Their systematic analyses revealed implicit biases that govern preferential attribution of specific skills and talents to males or females. Surprisingly, similar implicit biases are held by both men and women. Experience it for yourself by trying to follow the facilitator’s instructions as you watch the Google YouTube video *Unconscious Bias @ Work*⁵ or by participating in Harvard’s Project Implicit⁶ or the MTV quiz *Look Different.*⁷ To address and overcome implicit bias against women in the hiring process, Google asked recruitment teams to develop explicit job ads and interview procedures that more objectively focused on each individual’s skills and abilities and possible contributions to the team while deemphasizing the more subjective qualities of personality and rapport. From these activities, Google learned that awareness is the first step. By being mindful, by participating in deliberate training, and by being explicit, each of us can proactively contribute to greater gender, racial, and ethnic diversity in the scientific workforce.

Implicit biases, including those concealed for purposes of social or political correctness, form the core of “microaggressions,” i.e., behaviors and statements made by individuals in a majority group that are received as assaults, insults, or invalidations by members of minority group(s).⁸ Asian Americans or Latino Americans may be asked, “Where are you from?” or may be told, “You speak good English,” either of which sends a strong message that the individual is foreign-born, an outsider, and not American. Microaggressions lead to discouragement and disenfranchisement that can further diminish workforce diversity. Other common examples include statements related...
to being “colorblind” to race, or assuming that
a particular job would not be held by a person
of color or by a woman. Microaggressions
are felt cumulatively over a lifetime. They
perpetuate racial and gender inequity as well as
underrepresentation in the sciences and other
professions. This case was poignantly made at
the 2015 ASCB Annual Meeting in a Women
in Cell Biology Committee (WICB) Mentoring
Theater skit entitled “Death by a Thousand
Papercuts,” which was based
on lived experiences by skit
writers from WICB and the
Minorities Affairs Committee
(MAC).

How then to overcome our
biases? Here we describe two
strategies that can be effective
in classrooms and other group
settings.

Promoting Diversity
One strategy is The
Marshmallow Challenge, which stimulates team
building and problem solving
by diverse groups. Your
team of four has 20 pieces of
spaghetti, one yard of masking
tape, one yard of string, and
one marshmallow. Here’s the
challenge: In 18 minutes, you
must build the highest tower
possible using all the creative
brainpower and diverse skills in the group.
Ready, set, go!

Deceptively simple, the Marshmallow
Challenge prototype, originated by Peter
Sillman, has undergone refinement in design
and has been further studied and tested by Ted
Wujec in groups from kindergartners to CEOs
and from business school students to engineers
to lawyers. The common misconception of
the marshmallow as light and fluffy brings
team members to suspend it at the apex of the
spaghetti tower. However, this strategy fails.
To date, kindergartners are among the most
successful in building the highest structures.
Kindergartners prevail because they lack
biases; they are willing to immediately try
many testing and refining iterations without
judging or minimizing other team members’ ideas. The Marshmallow Challenge has been
shown to have benefits among all groups tested.
Graduate, postdoctoral, and junior faculty
training programs are beginning to leverage the
Challenge because of its efficacy in bringing
diverse individuals together in cohesive and
highly functional teams, and because it fosters
skills in brainstorming, collaboration, and
incorporation of diverse skills and thinking.
Key outcomes include creation of a shared
experience, development of a common language,
identification of hidden assumptions, and prototyping
and refinement through the
group’s collective wisdom.

An article by Brenda Collins
Flyswithhawks offers another
suggestion for teambuilding.
Flyswithhawks brings her class
together in a talking circle to
represent honesty, respect, and
equality. Students are asked to
create a name tag with colored
pencils and share the meanings
behind their names. Similar
strategies are used in executive
leadership sessions. When
individuals are asked to explain
the history of their names, it
reinforces individuality and
gives voice to the wisdom and
common humanity that lies
within and moves the group
away from seeing only the
surface. Through a semester of
engaging in dialog and using the talking circle
for discussion and problem solving there is
reciprocity in teaching and learning that values
the contributions of each individual. Inviting
each student to draw on the entirety of his or
her lived experience improves critical thinking
and problem solving while simultaneously
taking full advantage of the classroom’s collective
diversity of skills, thought, lived experiences,
race, ethnicity, and gender.

Try these exercises (or others) with your
group to spark meaningful conversations!

Improving Research through
Diversity
The benefits of a diverse workforce are well
established. Because diversity improves
productivity, creativity, problem solving ability,
and economics, mindfulness about bias, and
the promotion of diversity, emerge as essential
elements of future scientific vigor.

Although we have studied the role of race and ethnicity in disease for nearly 100 years, we need fresh approaches to this important topic, which can be brought by a more diverse workforce. A lack of diversity in the workforce helps explain why, even now, the Cancer Genome Atlas contains over 10,000 sequences of 34 different cancers but only ~5% of sequences derive from minority patient samples. Similarly, cell lines derived from women and minority patients are underrepresented. Such cell lines have relevance for diseases such as Parkinson’s and cancer, which vary by race and ethnicity. In the era of personalized medicine, such issues are of prime importance and illustrate the need to develop a diverse scientific workforce.

—Angela Wandinger-Ness, University of New Mexico Health Sciences Center; Paula Bubulya, Wright State University; Latanya Hammonds-Odie, Georgia Gwinnett College; Veronica Segarra, High Point University; and Maria Elena Zavala, California State University, Northridge

Acknowledgments

Heartfelt thanks to the colleagues who volunteered their time and shared their experiences and perspectives at the 2015 Mentoring Theater entitled Who Me? I’m Not Biased. Embracing Diversity to Improve Creativity. Three scripts (available upon request) were developed by a team of writers that included WICB members Paula Bubulya and Angela Wandinger-Ness, MAC liaison to WICB Maria Elena Zavala, and MAC members Latanya Hammonds-Odie and Veronica Segarra.

The Mentoring Theater cast featured Elaine Fuchs (Rockefeller University), Joann Trejo (University of California, San Diego), David Burgess (Boston College), Renato Aguilera (University of Texas at El Paso), Chelsea Saito-Reis (University of New Mexico), and Kathy Schmeidler (Education Committee member; Irvine Valley College). A.W.-N. would also like to extend thanks to Brian Gibbs, Vice President for Diversity, Oregon Health and Science University, and Maggie Werner Washburne, University of New Mexico, for their insights related to reducing bias in research.

Footnotes and References

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A rule just released by the Department of Labor (DOL) may have an important effect on the jobs of postdocs. The new rule arises from a proposal that President Obama announced last summer to extend overtime protection to millions of Americans. The president directed the DOL to make a change to the regulations that govern the exemptions to the Fair Labor Standards Act overtime pay requirements. The president’s proposal would have raised the salary threshold for exemption from overtime pay from $23,660 to $50,440. The threshold in the final version of the new rule is $47,476. That means that white-collar workers making less than $47,476 will be guaranteed overtime pay if they put in more than 40 hours a week. What does this mean for you? Well, if you’re a postdoc, it could mean a higher salary. Or it could mean that there will be fewer postdoc spots and you will have a harder time finding or keeping a position.

Current National Institutes of Health (NIH) guidelines for postdoc stipends are set at $42,840. For universities and other research institutions to comply with the new regulation, they will have to either bump up the salaries for postdocs to meet the new threshold or reclassify postdocs from exempt professional employees to hourly employees. This could cost universities millions of dollars. For example, Vanderbilt University calculated that nearly half its employees would be eligible for overtime pay, up from about a third now. It would cost about $7 million a year to increase salaries of the newly eligible workers to keep them exempt from the rule—or more than $9 million to switch them to hourly employees logging 10 hours of overtime weekly.¹ Not unsurprisingly, many universities, medical colleges, and research institutions submitted comments urging a more thoughtful approach to the implementation of this rule.

The National Postdoctoral Association, in its comments to the DOL, supported the increase in postdoc salaries. However, recognizing the financial challenge and complexity for universities to comply with the rule, it joined with universities in encouraging a gradual increase in the threshold. In an Op-Ed in the Huffington Post by NIH Director Francis Collins and U.S. Secretary of Labor Thomas Perez, Collins stated that he is fully supportive of the increased salary threshold for postdocs and will increase postdocs’ National Research Service Award stipends to levels at or above the new threshold.

The rule reached its final stages of review in April when the DOL sent it to the White House’s Office of Management and Budget. The final rule was released on May 17 and goes into effect on December 1, 2016.

—Lynn Marquis

Reference
Congressional Biomedical Research Caucus

The Congressional Biomedical Research Caucus held a briefing on May 20, 2016, featuring Han-Xiang Deng of Northwestern University. Deng’s presentation was entitled “Unearthing the Cause of ALS.” To view his presentation, visit http://bit.ly/1nQTPq2.

Washington in Review

- The Senate Commerce-Justice-Science Appropriations Subcommittee has met and marked up its FY17 bill, which includes funds for the National Science Foundation (NSF). The subcommittee provided no increase for NSF, proposing $7.5 billion for FY17.

- The National Cancer Institute (NCI), part of the National Institutes of Health, has launched an online platform to enable the research community and the public to submit ideas on the National Cancer Moonshot efforts. Submissions will be considered by a blue ribbon panel of scientific experts and patient advocates as they develop the scientific direction at NCI for the initiative. You can contribute your research ideas at http://1.usa.gov/1Ts7nig.

Are You Getting ASCB Pathways?

You should 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.
How to Choose a Research Area

Often in our scientific careers we are faced with the question of how to choose an area of research to pursue. As a graduate student picking a laboratory in which to do a PhD, as a postdoctoral researcher wanting to continue his or her career in research, or even as a PI running a laboratory, we are sometimes required to focus on or change direction to a new area of biological research. These decisions may be daunting because we have to devote a significant number of years to our chosen research field and it is important to be confident about the field before diving in.

Here are a few tips to help with picking a research area:

Read the scientific literature. Published scientific literature gives a good idea about the research field and the big unanswered questions that are left to be studied. It is often useful to read scientific reviews on the topic to understand the big discoveries in the field and the anticipated future studies. It is also important to know if the research area has sufficient unanswered questions that will be interesting to funding agencies. Try to understand if the field has long-term potential. Scientists often work on certain research areas for decades, so thinking ahead about hypothetical questions and probable answers is one key to success.

Attend conferences and seminars. Attending both large and small meetings helps us connect with our peers and have insightful discussions. Meetings also have poster sessions on various topics that may help you learn about the different research areas out there. Such meetings are also a good place to learn about technical details or new experimental strategies, which are often important when forging into a different field.

Brainstorm ideas with peers. When looking for a research laboratory it is important to find something that interests you. Working on an interesting question will help you go the extra mile and aid in making significant discoveries. Talk to your peers about their experiences and the pros and cons of their research field. Peers can also help review research grants, and their experience and perspectives may provide useful feedback.

Define focused questions in the research area. Research areas can be very broad. It is easy to digress into multiple directions without focus. Before diving into the research, decide on a few hypotheses and preliminary experiments. Having more than one hypothesis will be important in case the primary hypothesis does not hold. Once experiments work and the project progresses, remember to stay focused, but as part of your scientific growth learn to think of tangential experiments that may be useful projects for other members of the laboratory.

Ensure the research is fundable. To continue doing research it is essential to have funding. Before committing to an area of research define its significance. It is always useful if discoveries can, in the future, cure or treat diseases. Significance also helps us explain our research to nonscientists and family, so that they can relate to the research and understand what we study. Public outreach will help get more funding and aid in conducting more research.

Ultimately the research you do has to pique your interest and stimulate answers to tough questions. Good luck choosing a research laboratory or changing scientific direction!

—Sushama Sivakumar, University of Texas Southwestern Medical Center
This first-ever, full-day symposium, designed to familiarize the cell biology community with advances and opportunities in the cancer field, will be held on **Saturday, December 3, 2016**—on the first day of the Annual Meeting, in San Francisco, CA.

The meeting will cover a broad range of topics of current relevance to cancer to help researchers in cell biology develop a core knowledge of the disease and to identify areas of opportunity in which basic cell biological research promises to profoundly contribute to cancer prevention, treatment, and cure.

The event is jointly organized by ASCB and the National Cancer Institute, with generous funding from Howard Hughes Medical Institute. The program, organized by Alan Ashworth, University of California, San Francisco, and Ira Mellman, Genentech, Inc., will facilitate networking and discussion.

**Confirmed speakers include:**

- Valerie Weaver, University of California, San Francisco School of Medicine
- Shannon J. Turley, Genentech, Inc.
- Jeffrey W. Pollard, University of Edinburgh, UK
- Charles W. M. Roberts, St. Jude Children’s Research Hospital
- Joan Brugge, Harvard Medical School
- Melody A. Swartz, Institute of Molecular Engineering
- Aviv Regev, Broad Institute of MIT and Harvard/HHMI
- Sean J. Morrison, University of Texas Southwestern Medical Center/HHMI
- Michael Karin, University of California, San Diego

*Meeting capacity is limited to 150. Applications will be reviewed in September.*

Submit applications (ASCB members only) at [www.ascb.org/doorstep](http://www.ascb.org/doorstep)
What's New at Cell Biology 2016?
We will have even more Saturday subgroups this year, beginning at 8:30 am and ending at 5:30 pm

Workshop Topics
Super-Resolution Microscopy
CRISPR
Cryo-Electron Microscopy
Pedagogy in higher education using cancer resources to actively engage students
Want to give a talk?

30% of 2015 attendees who submitted an abstract by the first deadline were selected to give a talk, and we are adding even more speaking slots this year! Submit an abstract by August 2 to be considered for a talk in a minisymposium or microsymposium.

Find out more at www.ascb.org/2016meeting
Regardless of our current role in academe, education—for us and for our students—is central to our identity as scientists. With that in mind, the ASCB Education Committee (EdComm) is pleased to offer Office Hours with EdComm, a column addressing broad issues in education, ranging from career choice to curriculum development to incorporating technology into your lectures. EdComm Members and Associates look forward to answering your questions; please direct them to DearEdComm@ascb.org.

**Helping Undergraduates Approach Research Articles**

Dear EdComm,

I have been reading about using primary research articles for teaching biology at the undergraduate level. As much as I am keen to introduce research articles in my class—given the benefits of exposing students to the world of scientific inquiry in an authentic way—I worry that undergraduate students might find reading research papers intimidating and would reject such activities. Any tips on how to help students overcome their initial fears?

Thank you.

—Desperately-wanting-to-teach-authentic-science

Dear Desperately,

Yes, you are quite right that students benefit from exposure to research articles; several studies have shown this. You are also very correct that students feel anxious when faced with the prospect of having to read scientific articles for the first time. This is often a hurdle to learning more about the scientific method and could easily defeat the instructor’s intention of trying to excite students about research. Fortunately, this issue is not insurmountable!

The idea of scaffolding student learning is a very useful one and would work well when helping students work through a scientific article. In scaffolding, the instructor offers incremental guidance to students at each level of their approach to mastering a skill or activity, gradually increasing their understanding and their independence in the learning process. In this case, for example, the first scaffold could be simply to introduce students to the typical layout of a scientific article, i.e., the main sections including the Introduction, Materials and Methods, Results, and Discussion. This initial guidance about how a scientific article is organized will give students a concrete picture of a research paper.

Then it might help to work through each section with students, explaining the purpose of the section to help demystify why research articles are written in such a format. For instance, students can be shown that the Introduction helps lay the ground for the experiments described in the article by providing a review of what is known in the field as well as the gaps that the research described in the article tries to fill. Students should learn to look in this section for information about the hypothesis that the authors hope to test through the experiments in the paper. Equipped with a basic outline of the purpose of each section, students can approach the article in a stepwise manner and hence feel less apprehensive when reading their first article. Learning activities can help reinforce students’ understanding the function of each section.

One way to lower the barrier for students when introducing scientific articles is to choose an article that closely mirrors the learning outcomes of your module. Then activities can be incorporated to enhance student learning both of the content knowledge related to the module and of critical thinking skills. In relation to concepts, the short literature review in the Introduction of the article can be used to reiterate concepts learned in class. If the concepts are familiar to students, this might even help them gain confidence that what they learned in class is something that real scientists write about in their research papers. There’s nothing like familiarity to help students overcome their imaginary fears that research papers are inaccessible to all but the top scientists! Likewise, getting students to read research articles in which techniques and experimental approaches are similar to what they have used in labs can again really help boost students’ confidence.

Once students get going with reading the article, it is not difficult to incorporate additional activities to tap students’ critical thinking skills. This can be done, for example, by designing activities to guide students to evaluate the paper and not simply to read and accept what is in it. You can challenge students, perhaps in a step-by-step manner, to assess the experimental design, the strength of the data in relation to validity and reliability, and whether the data support the conclusions proposed by the authors. You can support your students using guided questions or activities so students think systematically through the issues.

One recent report shows that analyzing figures in research articles helps students overcome their frustrations as they learn to interpret data. One effective strategy is the CREATE (Consider, Read, Elucidate the hypotheses, Analyze and interpret the data, and Think of the next Experiment) model, in which scaffolding is achieved by...
challenging students with specific tasks to focus their attention on key aspects of research articles. Moreover, if students are guided in their readings with prompting questions and class discussions, reading research articles can actually be done with large undergraduate classes. So in your initial attempt to introduce activities linked to reading research articles in your class, you might consider adopting or adapting these methods to suit your students.

Getting students to critically examine the key aspects of an article such as the hypothesis, data, and experimental design is a good way to empower them to use their knowledge and thinking skills and is a positive step to encourage them to think as scientists. This might go a long way toward encouraging them to explore scientific research.

To reduce students’ stress levels when working on the higher-level activities, it might be worthwhile to get students to work in groups, since peers can also provide support for one another. By scaffolding student learning with tasks that are challenging in an incremental manner, it is actually possible to help them read research articles and accept that activity as part and parcel of undergraduate learning!

— Foong May Yeong (EdComm associate), National University of Singapore

References


RESPONSE to OFFICE HOURS with EdComm

Re: Biology Students Struggling with Math

Tired and Desperate, whose letter appeared in the March/April Office Hours with EdComm column, is facing exactly the situation I faced when I decided to write *Lab Math* in 2003: My cell biology students were struggling with math. I have a strong math background for a biologist, and I’d learned a lot of good shortcuts and tips for using math without all the Sturm und Drang, so I decided to collect them and share them. The second edition was published in 2013 by Cold Spring Harbor Laboratory Press.

There is no way I can write this letter without it seeming like a sales pitch; nonetheless, I truly believe this book can be of help, providing the math, clear explanations of how/why the math works, and shortcuts for using the math when needed. So, with my financial interest fully disclosed, I want to request that the EdComm take a look at *Lab Math* and perhaps consider reviewing it in a future issue of the *Newsletter*. The most beloved chapter, Chapter 4 (Solutions), is available as a free download at http://bit.ly/1TKtpek. The blog associated with the book is at labmath.org.

*Lab Math* is a one-stop source of the math biologists need but have now forgotten. The first edition received terrific reviews, and I’ve received spontaneous letters of thanks from students who stumbled across it. I say stumbled, because, unfortunately, the book is not as well known as I wish it could be and truly believe it should be. However, a number of colleges and universities have adopted it for particular courses and/or for all incoming biology graduate students, and it is on even mores lists of recommended reading.

Irina Makarevitch, in her response to Tired and Desperate, suggests thinking about ways to modify a course. *Lab Math* is designed to help teachers do exactly that, and to help students respond with ease rather than panic. I hope that she might consider adding it to her list of resources should another Tired and Desperate send an appeal for help.

—Dany Adams, Tufts University

Note

*Lab Math* will be reviewed in a future issue of *CBE—Life Sciences Education*, the ASCB’s education journal.
The chemistry and physics disciplines have long been more cohesive than biology in their approach to education, with clear standards and expectations. Unfortunately, biology educators have been more like a herd of cats and have been reluctant to coalesce around common curricula. Out of this chaos has arisen the landmark publication of national guidelines for undergraduate biology education to prepare students for the 21st century called Vision and Change (V&C; http://visionandchange.org). V&C set out five core concepts and six core competencies, spanning the breadth of biology, that every life science student should master regardless of career trajectory.

When V&C was published, faculty and departments around the country modified their curricula to try to align with the guidelines set forth by over 500 biology faculty from diverse subdisciplines, institutions, and geographical regions. The problem was that there was no one organization poised to coordinate or to provide feedback on these grassroots efforts in educational reform. Once again, V&C stepped into the vacuum and provided a structure—the Partnership for Undergraduate Life Sciences Education (PULSE; www.pulsecommunity.org). Forty PULSE Fellows were selected from a national pool of faculty. The PULSE Fellows developed rubrics that departments could use to evaluate their educational reforms. For the first time, a national body developed standards of progress toward the widely accepted goals described in V&C.

In 2015, PULSE Fellows organized the first departmental evaluation program. They collected 70 applications and selected eight departments to serve as the pilot cohort for evaluation. (Full disclosure: The Davidson College Biology department, in which I teach, was one of the eight chosen departments.) The process required a lot of effort from the entire department and a site visit by two PULSE Fellows. After all eight departments were assessed, the PULSE Fellows collectively deliberated how to evaluate and rate the departments. In the end, one department was rated as “beginning,” six were rated “developing,” and one was certified as “accomplished.” None of these programs received the lowest rating of “baseline” or the highest of five categorical ratings, “exemplar.” (The full report is available on the PULSE website at http://bit.ly/1RFaoHc.)

The pilot project was a very good effort to jump start a process that was missing in biology education. However, the first iteration required departments to submit excessive information. As you would expect, the PULSE community learned from its first effort and has produced streamlined rubrics and reporting requirements (http://bit.ly/1q9AVDB). Now departments will be able to submit the needed materials with less effort than in the pilot project.

At this point, most readers are probably wondering if they should participate in the recognition process. The answer is yes. Why? There are two main reasons. First, any department can become insulated from what others are doing and begin to suffer from “group think” to the point that it becomes difficult to know objectively if your plans are accomplishing what you wanted. So the first reason to participate is to help guide your department to recognize what it is doing well and where it has room for further improvements.

The second reason is one of leverage. Imagine you have a site visit from neutral observers who note a lack of resources (people, equipment, facilities, etc.).
With the PULSE recognition outcomes, you can communicate to the administration that outside parties have identified a need and your request for resources is not being made only out of self-interest. You can use the PULSE outcomes as a realistic national standard by which your department can be measured. If you are doing well, celebrate and share the information widely at your institution. If you are not doing as well as you would like, then leverage the results to request specific resources to patch the weakest area in your curriculum. The PULSE recognition program, with its leaner process, is a win–win proposition for all life science departments nationwide, including those in community colleges.

In research, you can tell if your publications are having an impact when other groups cite your work and when your grant proposals are funded. In education, it is much more difficult to know if you are doing a good job training the biologists of tomorrow. Students deserve the best possible education, which is the goal of V&C. I have been assured that the PULSE Fellows will be running another round of evaluations. Isn’t it time for your department to find out how your educational program measures up to a national standard?

—A. Malcolm Campbell, Davidson College
Recent Local Meetings

**Industry Careers Workshop Series**  
Baltimore, MD. April 7, 2016

The Industry Careers Workshop Series was held at the Johns Hopkins University’s East Baltimore Campus. Brad Fackler, Senior Director of the Office of BioHealth and Life Science at the State of Maryland Department of Commerce, provided participants with practical advice and strategies to transition successfully into an industry position. Fackler, who has more than 30 years of commercial and corporate experience in the pharmaceutical and biotech industries, developed these workshops at his previous appointment as career advisor at the National Institutes of Health. The participants, who had come from several institutions across Maryland, the District of Columbia, Virginia, and Pennsylvania, learned about the careers available to scientists in industry, techniques to build and manage professional relationships, strategies to navigate the industry job search process, and strategies to negotiate job offers and make the transition. The audience found the meeting very helpful and unique in its kind, some calling it “the best thing ever.”

**Bay Area Postdocs: Workshop on Scientific Teaching**  
San Francisco, CA. April 9, 2016

The 2016 Bay Area Postdocs: Workshop on Scientific Teaching was held at San Francisco State University (SFSU). Postdocs participated in interactive sessions on the principles of Scientific Teaching: active learning, equity and diversity, and assessment. Participants saw how misconceptions impede learning biology and explored nontraditional ways to assess students. Later, attendees spoke with panelists with teaching-related careers and heard from Kimberly Tanner of SFSU about her research on how undergraduates organize their biology knowledge. Finally, attendees gathered to plan how to grow their new knowledge about teaching and share it with other postdocs at their home institutions. Workshop evaluations showed that participants not only gained awareness of Scientific Teaching and biology education research, but also discovered a community of like-minded postdocs interested in teaching.

**The 3rd Annual Navigating Lipid Research in Baltimore Meeting**  
Baltimore, MD. April 22, 2016

The third annual Navigating Lipid Research in Baltimore meeting, held at the Carnegie Institution for Science, was a great success. Attendees heard exciting talks from students, clinicians, researchers, and industry professionals, all of whom were able to connect and share ideas during lunchtime table talks and an afternoon networking happy hour. The poster session was especially lively and well-
attended this year, with the “best poster” award going to Heather Lamb of the Johns Hopkins Bloomberg School of Public Health.

**Diversity in STEM: Career Opportunities for Doctoral Level Scientists**  
*Philadelphia, PA. April 28, 2016*

The first meeting of Diversity in STEM: Career Opportunities for Doctoral Level Scientists, organized by Jessica Chacon (University of Pennsylvania) and Zenobia Cofer (Children’s Hospital of Philadelphia) was held on April 28, 2016 in Philadelphia, PA. A total of 90 people attended, representing both predoctoral and postdoctoral researchers from universities in the Philadelphia area. A group of 20 panelists represented the magnitude of diverse career options available for doctoral level scientists. The career panels included: Academia, Industry, Scientific Communication, and Scientific Administration. The feedback Chacon and Cofer received throughout the day was extremely positive, with multiple attendees mentioning how much they enjoyed the panel discussions and hearing career advice. The organizers thank the sponsors, especially the American Society of Cell Biology, for making this first meeting a major success.

**Bay Area Worm Meeting**  
*San Jose, CA. May 7, 2016*

The goal of the Bay Area Worm Meeting was to bring together members of worm labs from 12 universities and institutes in the San Francisco Bay area at San Jose State University to create opportunities to meet colleagues and to discuss new research and tools. Our two keynote speakers, Miriam Goodman and Bruce Bowerman, gave excellent talks, as did the other 10 local speakers (master’s and PhD students, postdocs, and PIs). In addition, we had over 40 posters in a very busy and interactive poster session, and the meeting was a success! The organizers thank ASCB for its support!

**BAMMchella**  
*Cambridge, MA. May 7, 2016*

BAMMchella, the third annual meeting of the Boston Area Mitosis and Meiosis community, took place at the Whitehead Institute. The day included several talks covering various aspects of cytoskeletal dynamics, mitosis, and genomic instability; a poster session; and a fantastic keynote address by Titia de Lange.

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- Minority Travel Awards
- International Travel Awards
- Childcare Awards

In addition, your contributions provided support to the Early Career Scientist Award, the Bernfield Memorial Award, the WICB Awards presentation, the Keith Porter Lecture, the Undergraduate Program, the High School Program, international outreach, ASCB’s public policy and public information efforts, and the LSE Fund.

On behalf of the many beneficiaries of your 2015 donation, thank you.

Your 2016 donation will directly support the advancement of cell biology in many ways.

To donate visit [www.ascb.org](http://www.ascb.org) and click “Donate.”
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Sarah C. R. Elgin, Gita Bangera, Sean M. Decatur, Erin L. Dolan, Laura Guertin, Wendy C. Newstetter, Elvyra F. San Juan, Mary A. Smith, Gabriela C. Weaver, Susan R. Wessler, Kerry A. Brenner, and Jay B. Labov

WWW. Life Sciences Education
Bringing Climate Change into the Life Science Classroom: Essentials, Impacts on Life, and Addressing Misconceptions
Amy J. Hawkins and Louisa A. Stark

RESEARCH METHODS

A Primer for Developing Measures of Science Content Knowledge for Small-Scale Research and Instructional Use
Kristin M. Bass, Dina Drits-Esser, and Louisa A. Stark

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Beyond the Cell: Using Multiscalar Topics to Bring Interdisciplinarity into Undergraduate Cellular Biology Courses
Carolyn F. Weber

A Conceptual Framework for Graduate Teaching Assistant Professional Development Evaluation and Research
Todd D. Reeves, Gili Marbach-Ad, Kristen R. Miller, Judith Ridgway, Grant E. Gardner, Elisabeth E. Schussler, and E. William Wischusen

ARTICLES

Colleagues as Change Agents: How Department Networks and Opinion Leaders Influence Teaching at a Single Research University
T. C. Andrews, E. P. Conaway, J. Zhao, and E. L. Dolan

Practices and Perspectives of College Instructors on Addressing Religious Beliefs When Teaching Evolution
M. Elizabeth Barnes and Sara E. Brownell

Improved Student Learning through a Faculty Learning Community: How Faculty Collaboration Transformed a Large-Enrollment Course from Lecture to Student Centered
Emily R. Elliott, Robert D. Reason, Clark R. Coffman, Eric J. Gangloff, Jeffrey R. Raker, Jo Anne Powell-Coffman, and Craig A. Ogilvie

Teaching Real Data Interpretation with Models (TRIM): Analysis of Student Dialogue in a Large-Enrollment Cell and Developmental Biology Course
Patricia Zagallo, Shanice Meddleton, and Molly S. Bolger
Development and Assessment of Modules to Integrate Quantitative Skills in Introductory Biology Courses
  Kathleen Hoffman, Sarah Leupen, Kathy Dowell, Kerrie Kephart, and Jeff Leips

Development of the Central Dogma Concept Inventory (CDCI) Assessment Tool
  Dina L. Newman, Christopher W. Snyder, J. Nick Fisk, and L. Kate Wright

Development of a Lac Operon Concept Inventory (LOCI)
  Katherine M. Stefanski, Grant E. Gardner, and Rebecca L. Seipel-Thiemann

Multilevel Assessment of Middle School Students’ Interest in the Health Sciences: Development and Validation of a New Measurement Tool
  William L. Romine, Michele E. Miller, Shawn A. Knese, and William R. Folk

Exploring the MACH Model’s Potential as a Metacognitive Tool to Help Undergraduate Students Monitor Their Explanations of Biological Mechanisms
  Caleb M. Trujillo, Trevor R. Anderson, and Nancy J. Pelaez

Cognitive Difficulty and Format of Exams Predicts Gender and Socioeconomic Gaps in Exam Performance of Students in Introductory Biology Courses
  Christian D. Wright, Sarah L. Eddy, Mary Pat Wenderoth, Elizabeth Abshire, Margaret Blankenbiller, and Sara E. Brownell

Changes in Biology Self-Efficacy during a First-Year University Course
  Louise Ainscough, Eden Foulis, Kay Colthorpe, Kirsten Zimbardi, Melanie Robertson-Dean, Prasad Chunduri, and Lesley Lluka

Early Engagement in Course-Based Research Increases Graduation Rates and Completion of Science, Engineering, and Mathematics Degrees
  Stacia E. Rodenbusch, Paul R. Hernandez, Sarah L. Simmons, and Erin L. Dolan

A Social Capital Perspective on the Mentoring of Undergraduate Life Science Researchers: An Empirical Study of Undergraduate–Postgraduate–Faculty Triads
  Melissa L. Aikens, Sona Sadselia, Keiana Watkins, Mara Evans, Lillian T. Eby, and Erin L. Dolan

Development of the Neuron Assessment for Measuring Biology Students’ Use of Experimental Design Concepts and Representations
  Annwesa P. Dasgupta, Trevor R. Anderson, and Nancy J. Pelaez

Scaling Up: Adapting a Phage-Hunting Course to Increase Participation of First-Year Students in Research

A Quasi Experiment to Determine the Effectiveness of a “Partially Flipped” versus “Fully Flipped” Undergraduate Class in Genetics and Evolution
  Alison E. M. Adams, Jocelyn Garcia, and Tinna Traustadóttir
WHAT WE’VE BEEN READING on the ASCB Post

Visit ascb.org/ascbpost for more.

Sammy the Chlamy, Superhero for the Environment?
Sammy the Chlamy is a single-celled alga currently starring in an original musical video on YouTube. It advances the notion that while *Chlamydomonas* like all plants can photosynthesize, Chlamy has a carbon concentrating mechanism (CCM) that could blunt climate change and curb world hunger. ASCB member Martin Jonikas at the Carnegie Institution for Science in Stanford, CA, is a strong believer in Chlamy's CCM powers and the man who put Sammy the Chlamy onscreen.

Randy Schekman in Kansas City: Talking about Curiosity-Driven Research and a Nobel Prize Surprise
Nobel laureate and former ASCB president Randy Schekman was the keynoter at the Kansas City University (KCU) of Bioscience and Medicine's 100th Anniversary Research Symposium in March. Schekman sat down for an interview with KCU faculty member and regional ASCB Ambassador Abdulbaki Agbas. They covered painless publishing, curiosity- vs. translation-driven research, and college basketball.

Rumors or the Wave of the Future? Should Biologists Climb on the Preprint Bandwagon?
Preprint servers have been the norm in physics for years. Now it’s time for biology to get on board, say advocates. Preprints speed research progress by sharing information at once without the delays of peer-review, especially in urgent areas such as Zika virus research. Others worry that preprints will spread rumors and weaken rigor. Christina Szalinski talks to ASCB members close to the issue.

Did you know?

You Can Use MyASCB to Pay for Abstract Submissions and Annual Meeting Registration and to Enroll in AutoRenew

ASCB members can use ASCB’s new portal, MyASCB, to pay for abstract submissions, Annual Meeting registration, annual membership, and discounted journal subscriptions or to make donations.

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To take advantage of all these options, visit my MyASCB at https://my.ascb.org/portal/#/login.
If you have any questions about MyASCB, contact Marta Chacon at mchacon@ascb.org or 301-347-9324.
The Cell Image Library has now been accessed from its 221st country, Greenland.

Don’t forget if you are looking for big data cellular images, check out the Data Sets tab at the Cell Image Library.

If you will be applying for a grant soon and your funder requires you to post all your data, we can help. We can handle big data: Our “Human U2OS cells—compound cell-painting experiment” (www.cellimagelibrary.org/pages/project_20269) contains over five million images.

Even if you do not have millions of images, we can help you with your Data Management Plan (DMP). Be sure to contact us before submitting your grant application so we can help with your DMP for your cellular images.

Looking to find cell images on the go? Don’t forget to download the free Cell Image Library mobile app for iPhone and iPad. Just visit the App Store and search for “Cell Library.”

The Cell Image Library (www.cellimagelibrary.org) is a freely accessible, easy-to-search, public repository of reviewed and annotated images, videos, and animations of cells. Portions of the Cell Image Library were developed by ASCB under a Grand Opportunities grant from the National Institute of General Medical Sciences and are now managed by the National Center for Microscopy and Imaging Research under a perpetual license from ASCB.

—David Orloff
Call for Papers

Third Annual MBoC Special Issue on Quantitative Cell Biology

Submit by: June 15 • Release Date: Nov 2016 • Issue Co-Editors: Diane Lidke, Jennifer Lippincott-Schwartz, Alex Mogilner, and Valerie Weaver

About the issue:
ASCB and Molecular Biology of the Cell (MBoC) recognize the profound influence that concepts and technologies from the physical and computational sciences are having on cell biology. The 2014 and 2015 MBoC Special Issues on Quantitative Cell Biology were hugely successful with leading researchers in the field contributing a total of 37 research articles and 22 Perspectives.

MBoC invites you to submit your best research articles, including methods papers, in the following areas:
• Quantitative imaging • Superresolution imaging techniques and their applications • Single-molecule biology • Biophysical properties of cells and cell structures • Computational and mathematical modeling • Systems studies of cell signaling and complex physiological processes • Innovative physical or computational approaches to cell biological problems • Big data methods and applications

MBoC offers fair, constructive, and rapid peer review. It is your journal for the best in cell biology research. ASCB members receive a 20% discount on page charges.

Stop waiting. Start publishing.

Questions? Please contact Editor-in-Chief David Drubin at mboc@ascb.org. Submit your paper at www.mbcpapers.org.
HIGHLIGHTS from MBoC

The Editorial Board of Molecular Biology of the Cell has highlighted the following articles from the May 2016 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.

The actomyosin contractile ring, composed largely of nonmuscle myosin II and actin, drives cleavage furrow ingestion and facilitates the separation of daughter cells during cytokinesis. In this structured illumination microscopy image, the cleavage furrow of a dividing HeLa cell is shown to be made up of large, parallel nonmuscle myosin II stacks, whose rod domains (green) are flanked by nonmuscle myosin II motor domains (purple). Fenix et al. (Mol. Biol. Cell 27, 1465–1478) elucidate mechanisms of nonmuscle myosin II stack formation in both interphase and mitotic mammalian cells. This HeLa cell was transiently transfected with an N-terminal myosin II-GFP construct that labels the motors (purple), and stained via indirect immunofluorescence for the C-terminal rod domain (green). (Image: Aidan Fenix and Dylan Burnette, Vanderbilt University).

Subcellular optogenetic activation of Cdc42 controls local and distal signaling to drive immune cell migration
Patrick R. O’Neill, Vani Kalyanaraman, and N. Gautam
Cdc42 is believed to play an important role in controlling the polarity of migrating cells, but it has not been possible to directly determine the effects of localized Cdc42 activity. Optogenetic activation of Cdc42 at one side of the cell was used to identify local and distal signaling responses that contribute to directed cell migration.
Mol. Biol. Cell 27 (9), 1442–1450

Expansion and concatenation of nonmuscle myosin IIA filaments drive cellular contractile system formation during interphase and mitosis
Aidan M. Fenix, Nilay Taneja, Carmen A. Buttler, John Lewis, Schuyler B. Van Engelenburg, Ryoma Ohi, and Dylan T. Burnette
Stacks of nonmuscle myosin IIA filaments form by the expansion of single filaments and concatenation of multiple filaments. Expansion is the dominant mechanism and is characterized by distinct structural steps. It is dependent on both motor activity and actin filament concentration. Expansion and concatenation occur in both crawling and dividing cells.
Mol. Biol. Cell 27 (9), 1465–1478

Rga6 is a fission yeast Rho GAP involved in Cdc42 regulation of polarized growth
M. T. Revilla-Guarinos, Rebeca Martín-García, M. Antonia Villar-Tajadura, Miguel Estravís, Pedro M. Coll, and Pilar Pérez
Spatial regulation of Cdc42 activity is essential to maintain polarized growth. Fission yeast Rga6 is a new Cdc42 GTPase-activating protein (GAP) that collaborates with Rga4, the only known Cdc42 GAP, in the spatial restriction of active Cdc42 at the cell tip. Both GAPs localize preferentially at the nongrowing areas of the membrane in different clusters.
Mol. Biol. Cell 27 (9), 1524–1535
Hongtao Yu Combines Structure and Function to Solve the Mitotic Mystery of Separase

I remember the first time I saw a movie of chromosomes aligned at metaphase in a dividing cell. I was in seventh grade and my 13-year-old mind was largely focused elsewhere, but those first images of chromosomes condensing from the blob of the nucleus, neatly lining up, and then suddenly coming apart never went away. More than 30 years later, I met someone on whom mitosis has made a far more lasting impression. It has become his life. ASCB member Hongtao Yu is a structural cell biologist in the Department of Pharmacology at the University of Texas (UT) Southwestern Medical Center and a Howard Hughes Medical Institute (HHMI) investigator completely devoted to unraveling the molecular mechanisms of chromosome segregation.

“I have zero other talents,” Yu jokes. “I grew up in China where natural science was a priority.” This turns out not to be entirely true—when pressed, Yu admits that he is a serious long-distance runner—but Yu and his group at UT Southwestern have put their considerable scientific talents to work using protein structural analysis to dissect the structural features of chromosome proteins that allow for precise regulation by the cysteine protease separase.

For chromatid separation to occur, cohesins, ring-shaped protein complexes that hold chromosomes together, must be cleaved in the right location by separase. The process must be tightly regulated, or the daughter cells will end up with extra or lost chromosomes (aneuploidy). Reporting in a recent paper, Yu and his colleagues were able to describe the structural basis for cohesin recognition by separase. The challenge began, Yu says, with finding a suitable separase for structural analysis. “This thing [separase] has been found for more than two decades. It is fairly large and contains many repeat sequences, so it is very hard to express and you need to express it with securin [an inhibitory protein that restricts separase activity to the right time and place], and the resulting complex is inactive and unstable.”

Yu continues, “However, the complex is very well conserved, so we screened many organisms and were able to find a separase in a thermophilic fungus, Chaetomium thermophilum, that we could work with.” Once Yu’s team had purified the separase and determined the structure of its catalytic domain, they learned some surprising things about how separase is regulated. Notably, they found similarities between cohesin and securin, and showed that mutating two key residues of securin allowed it to be cleaved by separase. This shows structurally that securin functions as a competitive inhibitor of separase and may allow the design of new separase peptide inhibitors that could be used in cancer treatment.

Another surprise for Yu was the realization that, “Separase has two domains, an active protease domain and an inactive, or pseudo-protease domain, which people thought was just a structural domain. However, our work shows that this actually forms part of the separase active site.” He adds, “We would now like to go after the whole [separase] molecule, including the non-catalytic domains, where there could be other targeting modules for chromatin and for cohesin recognition. We have all sorts of structural tools at our disposal now and can use these to look at the biology; the techniques are getting easier and the pace has picked up.”

Yu has been picking up his pace since completing his chemistry degree at Beijing University and coming to the United States in 1990 for graduate studies. Joining Stuart Schreiber’s lab at Harvard University, Yu solved the structure of the SH3 Src-homology domain for his thesis in 1995. Structural biology was exciting, but Yu found his interests turning toward cellular problems with a structural dimension. He crossed the Charles River to Marc Kirschner’s lab at the Harvard Medical School. In 1999, he left Boston for Dallas and his own lab at UT Southwestern. “I had worked on protein structure but that was not enough, so I did a postdoc with Marc Kirschner. He didn’t do structural work, so I brought this with me. Now I am combining the structural work from grad school with the cell biology from my
postdoc.” He became an HHMI investigator in 2008.

Structural cell biology requires patience, discipline, and mental stamina, so perhaps it’s not a surprise that Yu is a long-distance runner. “I’m not a fast runner but I enjoy it and it keeps me focused.” He says. “I’ve run three marathons and I’m training for a triathlon.”

Yu has been an ASCB member since 2000. “The meetings are very good networking opportunities and I encourage the people in my lab to attend.” He recalls, “One of my postdocs told me he applied to my lab because he remembered me stopping by his poster and the conversation we had.”

Besides an ASCB membership, those wishing to join Hongtao Yu on his mission might want to invest in a good pair of running shoes.

—Nicholas Miliaras, Science Writer

Reference


New ASCB Committee Members

New members have been approved by Council to serve on four committees for three-year renewable terms beginning in 2016.

International Affairs Committee
Lawrence Banks, Tumor Virology Group Leader, International Centre for Genetic Engineering and Biotechnology, Italy

Isabel Palacios, Senior Research Fellow, Department of Zoology, University of Cambridge, UK

Frederick Westhorpe, Postdoctoral Researcher, Stanford University School of Medicine

Minorities Affairs Committee
Anthony Beas, Postdoctoral Researcher, Fred Hutchinson Cancer Research Center

Michael Boyce, Assistant Professor of Biochemistry, Duke University Medical Center

Giovanna Guerrero-Medina, Director, Yale Ciencia Initiative and Executive Director, Ciencia Puerto Rico

Christina King Smith, Professor and Chair of Biology, Saint Joseph’s University

Luis Vidali, Associate Professor, Department of Biology and Biotechnology, Worcester Polytechnic Institute

Jim Vigoreaux, Associate Provost for Faculty Affairs and Professor, Department of Biology, University of Vermont

Public Policy Committee
Holly Goodson, Professor, Department of Chemistry and Biochemistry, University of Notre Dame

Tony J. Koleske, Professor of Molecular Biophysics and Biochemistry, Yale University

Women in Cell Biology Committee
Dan Kiehart, Dean of Natural Sciences and Professor, Department of Biology, Duke University

Kathy Schmeidler-Sapiro, Professor, Departments of Biology and Health Sciences, Irvine Valley College
Members in the News

**Mary Beckerle**
CEO of the Huntsman Cancer Institute, University of Utah, an ASCB member since 1980, accepted an invitation to join Vice President Biden’s Moonshot Initiative as a member of a new 28-member blue ribbon panel that will advise the National Cancer Advisory Board on new cancer treatments and investments in cancer research.

**Andrew G. Campbell**
Brown University, an ASCB member since 1995, has been appointed the next dean of the university’s Graduate School.

**Jennifer Doudna**
University of California, Berkeley, an ASCB member since 2016, won the 2016 Canada Gairdner Award.

**Mark Peifer**
University of North Carolina, Chapel Hill, an ASCB member since 1997, has been appointed to the National Advisory General Medical Sciences Council, an advisory body of the National Institute of General Medical Sciences.

**Lila Gierasch**
University of Massachusetts, Amherst, ASCB member since 1993, has been named a Fellow of the American Society of Plant Biologists and is the first Latina to be so honored.

**Eva Nogales**
University of California, Berkeley/HHMI, ASCB member since 1997.

**Anne Villeneuve**
Stanford University, School of Medicine, ASCB member since 2012.

**Carl-Henrik Heldin**
Ludwig Institute for Cancer Research, ASCB member since 1991.

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It may be possible to bill ASCB membership dues to direct or indirect costs under a National Institutes of Health (NIH) grant. NIH guidelines state that subscriptions are allowable as direct costs and memberships as indirect costs (see section 200.454 of the U.S. Federal Government Uniform Guidelines). Your ASCB membership includes an annual subscription to *Molecular Biology of the Cell* valued at $626 per year.

Some universities allow membership fees as a direct cost to a project if it reduces the overall cost of attending a conference by more than the fee. The difference in price between a nonmember and member ASCB Annual Meeting registration far exceeds the cost of an ASCB membership. Savings range from $50 for undergraduate students, $130 for graduate students, $210 for postdocs, and $230 for regular members.

Check with your university, granting agency, or professor to find out if either of these circumstances applies to you.

If you have questions contact Membership Manager Marta Chacon at 301-347-9324 or MChacon@ascb.org.
MEETINGS Calendar

A complete list of upcoming meetings can be found at www.ascb.org/global-meetings. The following meeting was added since the last issue of the Newsletter:

April 22–26, 2017. Chicago, IL
2017 American Society for Biochemistry and Molecular Biology Annual Meeting (held in conjunction with Experimental Biology).
www.asbmb.org/meetings.

ASCB Annual Meetings
December 3–7, 2016. San Francisco
December 2–6, 2017. Philadelphia
December 8–12, 2018. San Diego

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We welcome your comments and suggestions at ascbinfo@ascb.org

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Awards: The winner is presented a plaque, is given financial support, and will speak at a Minisymposium at the Annual Meeting. Expenses to attend the Annual Meeting are paid.

Deadline: July 15 (apply at: https://my.ascb.org/portal/#/initiatives/67)

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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, 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 or self-nominators must be ASCB members.

Awards: The winner is presented a plaque and a ribbon for his/her poster board. Expenses to attend the Annual Meeting are paid. Funded by an annual grant from Rockefeller University Press.

Deadline: July 15 (apply at: https://my.ascb.org/portal/#/initiatives/68)

For names of prior awardees or more information, visit www.ascb.org and click on “Awards” or contact the ASCB at 301-347-9300 or ascbinfo@ascb.org.

MBöC Will Consider Previous Reviews of Your Manuscript

The Editorial Board of Molecular Biology of the Cell (MBöC) may be able to expedite review of a manuscript that has been previously reviewed by another journal if the authors provide (as supplemental material) the reviewers’ comments, the editor’s disposition letter, and a letter responding to the reviews and stating what changes have been made to the manuscript. The previous reviews and disposition letter may be shown to new reviewers. The use of such material in evaluating the manuscript is at the sole discretion of the Monitoring Editor. www.molbiolcell.org
The PALM Network Grant

up to $2,000 per fellow / $500 mentor stipend / $1,000 meeting travel
each for fellow and mentor

Mentoring Matters

The Promoting Active Learning & Mentoring (PALM) Network provides faculty and postdoctoral fellows with funds for in-person interaction with a mentor. Fellows will gain hands-on experience and long-term mentorship for bringing evidence-based, effective active learning strategies to their classrooms.

A PALM fellow will:

- Identify and secure partnership with an experienced mentor who already has reformed his/her classroom.
- Submit a complete proposal, including mentor information and letter(s) of support.
- Use the online submission portal to complete the full 5-step grant cycle.
- Submit videos for analysis both before and after the mentoring experience.
- Develop and implement an active learning module for one class with guidance from mentor(s).
- Plan to disseminate the new active learning materials to institutional colleagues and the greater science community, including publication (e.g., Course Source).
- Report on specific PALM fellowship activity at the annual PALM Network session.
- Report PALM fellowship findings/outcomes at respective national, regional, or sectional scientific society meeting(s).
- Complete follow-up PALM Network surveys (ideally 3-5 years post-fellowship) to inform assessment of network outcomes.

More information is available at www.ascb.org/PALM.

Next Application Deadline: June 15, 2016

PALM is funded by NSF Research Coordination Network in Undergraduate Biology Education grant #1539870.
Whose Data Go Where?

Dear Labby,

I am a fourth-year graduate student and have just done the most difficult and exciting experiment of my (admittedly short) career, using a new technique developed by one of my labmates, also a graduate student. The results of this experiment are the crowning touch that should make the paper I have been writing competitive for publication in one of the top biomedical research journals.

Yesterday, while doing an experiment in the hood near my technique-developing labmate’s bench, I overhead him and my PhD advisor discussing my experiment. The gist of the conversation was that the results of my experiment would be Figure X in the paper that my labmate was putting together describing his new technique, and that they would then send my labmate’s paper to Very Prestigious Journal A.

Labby, I was astounded and angry that the publication of my work would be determined without consulting me or considering how my own publication would be affected. Can you guide me on how to constructively communicate my displeasure and resolve this dilemma?

—Playing Second Fiddle

Dear Fiddle,

Labby sympathizes with your frustration. It seems like this might be a good time for a discussion among all the lab members of a larger issue: whose data will be incorporated into the construction of specific manuscripts. (And this naturally leads to the discussion of another very important lab topic, authorship sequence.) You should sit down with your advisor and calmly explain your disappointment that you were not part of the conversation regarding the publication of your data. It is likely that the conversation you overheard was a result of thoughtlessness, not a reflection of disrespect for you or your standing in the lab. You could suggest that outlining the proposed manuscripts would be an excellent topic for the next lab meeting.

If the organization of the papers and proposed figures are laid out in a lab meeting, it may be obvious to the group (including you) where your data should be included and where each person should be in the list of authors. If in fact your results belong best in your labmate’s manuscript, you will have the opportunity to ask for advice on other data that would be appropriate to add to your paper or if there is an experiment that you can readily do to round out your paper, an alternate crowning touch.

It will then be up to your advisor to make the final decision about where to include your data to optimize the strength of the scientific story and reputation of the laboratory. In the end, most of our scientific accomplishments will be part of some type of collaboration, and this is a great opportunity to learn early in your career how to navigate the complications, and reap the rewards, of collaborative research. Good luck!

—Labby
Win $5000, $3000, or $1000 for excellence in graduate research

Win one of three cash prizes or travel awards to the 2016 Annual Meeting. All finalists will be given the opportunity to speak at a minisymposium at the meeting.

Only ASCB members eligible (membership starts at $48)

Join now at ascb.org

Application to apply: June 30, 2016

http://ascb.org/kaluzaprizes
Save the Date

Cell Biology 2016
ASCB Annual Meeting

December 3–7, 2016
Moscone Center, San Francisco, CA

Workshops on CRISPR, cryo-electron and super-resolution microscopy
Support opportunities for full-day symposium on the Cell Biology of Cancer
Career center offering one-on-one CV review and career counseling, career panels, and a science writing workshop

Full details at ascb.org/2016meeting