Pushing the Boundaries of Cell Biology
Highlights of the 2017 ASCB|EMBO Meeting

Nearly 7,000 scientists gathered in Philadelphia in December to learn, share, network, and celebrate all things cell biology at the 2017 ASCB|EMBO Meeting. The five-day meeting included daily poster sessions featuring more than 2,500 posters, six major Symposia, 25 Minisymposia, 18 Microsymposia, 24 Member-Organized Special Interest Subgroup sessions, 13 exhibitor demonstrations, three scientific workshops, and an ASCB–National Cancer Institute Emerging Topic Symposium. There were also career-enhancement sessions, award lectures, roundtable discussions, and myriad panel and satellite events.

ASCB’s partnership with EMBO increased the geographic diversity of presenters as well as broadened the scope of topics covered at this meeting. Talks on core cell biology topics, such as the cell structure, organelles, the cytoskeleton, quality control, metabolism, and DNA/RNA biology, remained the mainstay of the annual event and were enthusiastically received. But attendees also engaged in lively discussions on novel and advanced methods of imaging, neurodegenerative diseases, gene editing tools, stem cells, and much more.

Fred Kavli Keynote Lecture: Cori Bargmann

The meeting officially kicked off Saturday evening with a welcome address by ASCB and EMBO leadership and a rousing keynote lecture by Cornelia “Cori” Bargmann. Bargmann is the president of science at the Chan Zuckerberg Initiative (CZI), a scientific research hub launched by Facebook founder Mark Zuckerberg and his wife, pediatrician Priscilla Chan. Part of Bargmann’s talk focused on her own research.
Have a **bold** idea for science outreach in your community?

The American Society for Cell Biology (ASCB) can help you make it happen. In addition to funding, support will include mentoring and evaluation assistance, as well as networking opportunities with other science communicators.

**Apply now until March 31 at ascb.org/public-engagement-grants**

Funded by Science Sandbox, an initiative of the Simons Foundation
Last year, I was invited to speak at a “nonscientific” session of the Young MitoScientists Forum, a meeting organized by students, postdocs, and junior clinicians attending the associated international EuroMIT meeting. This marked the first and so far only time I have been asked to present a talk that was not strictly focused on the scientific work being done in my laboratory. I was both excited (wow, they’re interested in my personal thoughts?) and intimidated (who really cares what I think?) by the prospect. As I labored to find something helpful and impactful to share, I couldn’t get past the fact that I was being asked by these wonderful junior scientists to express thoughts and insights they considered to be nonscientific in nature. For as long as I can remember, I have been a scientist—everything I do and think, at least in my professional life, I consider relevant to being a scientist.

One Leg Won’t Do
The session was focused on mentoring, and while my presentation touched on this, ultimately it evolved into a lecture on my deeply held belief that being a complete scientist intrinsically includes—and must include—activities that transcend research. To make my point, I compared being a scientist to the proverbial three-legged stool. To do its job, a stool needs three legs of equal length—two won’t do, nor will three of different strengths or lengths. In my analogy, the legs of the stool represent what I consider the three essential and equally important skills that scientists must master to be truly successful: research, leadership/mentoring, and public policy/outreach. At the time I was preparing my talk, I was already the President-Elect of the ASCB and the meaning and reality of my forthcoming role was also very much on my mind. So, it wasn’t lost on me that the legs of my stool almost perfectly reflect the ASCB’s mission: to advance scientific discovery, advocate sound research policies, improve education and public outreach, promote professional development, and increase diversity in the scientific workforce.

I wish I could say that I have always embraced and advocated this ideal of a complete scientist. The fact is that as a postdoc, I was exclusively focused on research, happily and smugly ensconced in my lab and cold room—my version of an ivory tower. At the time, the only reason I joined the ASCB was to attend its Annual Meeting and soak up the research being discussed during its scientific sessions. As I started my lab, however, it became immediately apparent to me that I was lacking in essential leadership skills, which I scrambled to master. Later in my career, during its scientific sessions. As I started my lab, however, it became immediately apparent to me that I was lacking in essential leadership skills, which I scrambled to master. Later in my career, largely due to my increasing involvement in the ASCB’s amazing Public Policy Committee, it became obvious that I had neglected my responsibility to communicate the importance of the scientific endeavor to our government representatives and the
PRESIDENT’S Column

Current policies on critical societal issues...are being determined despite scientific knowledge, rather than based on scientific knowledge.

public. Learn from my mistakes: embrace the ideal now.

The Rewards of Mentoring and Outreach

During my career, some of my most professionally and personally rewarding experiences have come from mentoring junior scientists and reaching out to policy makers and the public at large to drive sound policy in science and to explain the central and vital role science plays in our everyday lives. The scientific discoveries made in my lab are all the better and sweeter because I have acted on my belief that my job is more than producing data. Luckily, the ASCB is an incredible resource for scientists who strive to become the complete package—the very reason that I find myself in the role of President today.

I now judge the success of my science colleagues not only by the results of their research programs, but by whether they exhibit the holistic skills I believe are essential to being a good scientist. In a recent junior faculty search committee meeting, we were making the very difficult choice of which applicants to interview and I was impressed and heartened to see that for the very first time without prompting the nonscientific pieces—leadership/mentoring and public policy/outreach—were actively being valued and weighed into the decision. In my role as department chair, I am now considering whether we should formalize these criteria in future searches.

Dare I hope that this signals that we as a community are beginning to value and embrace the concept that being a scientist is more than doing science? I think so; the future, in my mind, looks bright. The junior scientists I’ve interacted with are perhaps the most committed to this ideal, as evidenced by the actions of our Committee for Postdocs and Students (COMPASS), which represents young scientists within the ASCB. Their creative and innovative activities directly promote opportunities for science advocacy and outreach. Their outreach grant program provides opportunities for ASCB scientists to engage their local communities in an effective grassroots fashion, with a focus on underserved communities. The impact of this program has been tremendous and inspiring (see, for example, www.ascb.org/2017-compass-grant) and was the motivation behind the newly created ASCB Public Engagement Grant Program (www.ascb.org/public-engagement-grants) funded by Science Sandbox, an initiative of the Simons Foundation (see p. 2).

Let’s Venture Out of Our Labs

I could share some of my philosophy on the research and mentoring legs of the scientist stool and probably will in future installments of this column, but here my objective is simpler: It is to call upon all of us to accept and fulfill our responsibility as scientists to venture out of our labs and comfort zones and to reach out to the public—a concept that COMPASS clearly gets. Why? For at least two reasons. First, it is the public—through government and charitable foundations and research institutes—that funds a majority of
the research conducted in our labs today. We have an obligation to convince them it matters and to continue their support. Second, we are living in an era of extreme populist post-truth politics, where science is under siege, especially in the United States. Current policies on critical societal issues, like climate change, are being determined despite scientific knowledge, rather than based on scientific knowledge. We must change this mindset by building the public’s trust in science so that informed and better decisions are made. The goal of our outreach should be to create a better world by helping people understand the essential role science plays in their lives and by determining policy, building broad support for science funding, and encouraging nonscientists to think like a scientist without having to be one.

**Make Outreach Personal**

So, how do we as scientists go about effective outreach? We need to make outreach an everyday activity. We need to make it personal. I find inspiration in the social movement to obtain civil marriage rights for same-sex couples—a movement that successfully changed deeply held beliefs. The driving force behind this change was implementing an evidence-based approach that deliberately shifted the message to the public from the abstract (i.e., medical coverage issues) to one of personal connections and stories tied to common values. We can and should learn from this success.

As scientists, developing good communication skills is an integral part of our training. Seek out opportunities to put them to work and regularly tell a nonscientist a story about doing science that will matter to him or her on a personal level. Thoughtfully tailor your message to your audience. Be broadly knowledgeable in areas of science that impact society so that you can provide critical facts in the moment to nonscientists. Actively create opportunities. Use social media to communicate the work published in your lab so that it is accessible and understandable to the lay public. Create an outreach program. Encourage your institution to prioritize outreach through education and in other ways. Persistently communicate with government representatives—these efforts work, as demonstrated by the current bipartisan congressional support of the National Institutes of Health in the face of a President who seeks to slash science funding and by the recent removal of the provision from a tax bill that would have increased graduate student taxes.

To help you become an everyday advocate, take advantage of all the resources available through the ASCB. In our recent strategic plan, outreach was a top priority. It’s my top priority as ASCB President. Our Public Policy Committee continues to do its vital work and our Public Information Committee is busy creating a suite of tools that members can use to enhance their everyday outreach activities. Stay tuned.

I conclude with gratitude to you, the ASCB membership, for your continued support. I am very much looking forward to our Annual Meeting, which will again be held jointly with EMBO, this year in San Diego. I thank our Past-President, Pietro De Camilli, and the Director of EMBO, Maria Leptin, for establishing this wonderful and fruitful collaboration. We will continue to build on it. I would also like to thank the 2018 ASCB|EMBO Program Chairs, Thomas Langer and Sam Reck-Peterson, and their committee for creating what will be a truly outstanding program. We will continue to build on the wildly successful Doorstep Meetings, initiated by our wise past, past president Peter Walter. We continue the tradition in 2018 with a Doorstep Meeting organized by Elaine Fuchs and Sean Morrison, “Beyond Homeostasis: Stem Cells under Stress.” Finally, I am grateful to the many scientists who volunteer their precious time by serving on our ASCB standing committees and Council and to the ASCB staff for their continued dedication and hard work. I look forward to working with all of you in 2018.

**Reference**

The ASCB Council met December 1, 2017, prior to the ASCB|EMBO Meeting in Philadelphia. The day was jam-packed with updates from staff and committee chairs. The morning kicked off with a welcome to new Council members whose terms began January 2018. They included ASCB President-Elect Andrew Murray; Secretary Kerry Bloom; Councilors Janet Iwasa, George Langford, Mike Ehlers, and Julie Theriot; and Treasurer Gary Gorbsky, who is serving a second term.

Jeff Borschadt of Association Development Solutions presented the Council with the results of his company’s ASCB member survey on fundraising. His findings will provide the Council with insight on ways to approach their fundraising efforts.

David Drubin, Editor-in-Chief of Molecular Biology of the Cell, gave an update on the journal, noting that the quality of papers submitted has remained high. There was a discussion about ways to further promote the journal among members and the scientific community at large and to increase submissions.

The Council approved the 2018 budget and the draft program for the 2018 ASCB|EMBO Meeting, which is slated to occur in San Diego from December 8–12. Council also voted to reduce the frequency of the ASCB Newsletter from eight to six issues per year. This will help reduce the considerable cost of printing and mailing the Newsletter and recognizes that the print publication’s role has changed with the development of the online ASCB Post and other electronic means for the Society to communicate rapidly with its members.

What’s Next in Publishing?
After lunch the Council hosted a discussion “What’s Next in Publishing?” with invited panelists Bodo Stern (HHMI), Annette Thomas (Clarivate Analytics), and Darla Henderson (American Chemical Society [ACS]). Some of the questions considered during the panel discussion included, What are opportunities for societies to improve peer review? and Should ASCB look at new approaches to publishing?

Stern said he’d seen a troubling trend among young researchers where they perceive the need to publish in specific journals to attract funding and jobs. He added that the model whereby journals control what gets published should be replaced with a new model for publishing whereby authors decide what and when to publish. This model proposes that authors improve their work based on peer reviews before they publish,
that peer reviews are published alongside the published work, and that editors serve as curators assigning “merit badges” to the best papers. Over time, Stern said, this increased transparency would improve the quality of scientific publishing and ultimately the academic incentive system.

During her career with the journal Nature, Thomas launched several subspecialty journals. Through her work at Clarivate Analytics, she has investigated the publishing and peer review process. She has discovered that the reviewer pool is not keeping up with the author pool, which has delayed the publishing of quality research. Thomas noted that, while the advent of open-access journals has allowed for more research to be published, the peer review process has lengthened, the consistency of peer review has gone down, and the potential for scientific fraud has increased. Furthermore, she said, that while “peer review is the heart of scientific communication,” geographical, gender, and racial bias among reviewers persists and that no real incentives to participate in the peer-review process exist. Her hope is that scientific societies will play a greater role in encouraging peer review.

Henderson described some of the publishing programs offered at ACS, including options for authors regarding payment in an e-commerce system, a rewards program where authors received credits to publish open access, fully open access, and hybrid open access journals, publication embargoes and delayed open-access, and licensing. ACS editors (practicing research scientists) also have the option to vote for certain articles to earn “editor’s choice,” receiving an ACS-sponsored open access license (no charge to authors), and becoming a coveted distinction that authors add to their resumes. Her experience has shown that even delayed open-access journal articles are downloaded more than non–open access articles. She also has noted that many research funders are encouraging or even requiring preprints of research, and therefore the majority of editors at ACS have changed the policy that barred articles previously posted as preprints from being published in certain of their journals. ACS now also has launched its own chemistry preprint server.

Committee Updates
Lynn Marquis, Director of the Coalition for the Life Sciences, described some of the means by which she and leaders in the scientific community communicate with elected officials about important issues around federally funded research. Some of these methods include the Congressional Biomedical Research Caucus Briefings and Capitol Hill Days.

Connie Lee, chair of the Public Policy Committee (PPC), and Kevin Wilson, ASCB’s Director of Public Policy, described the pressure they have been putting on Congress regarding the taxation of graduate student tuition waivers and immigration restrictions. ASCB’s PPC has been directly involved in assisting international members with visa complications. During the development of the ASCB Strategic Plan, PPC presented the idea of forming a political action committee (PAC) to fund those members of Congress who have championed science. However, Wilson explained that to create a PAC, ASCB would have to create a separate nonprofit, 503 (c4), to administer it, which would be cost prohibitive. Further discussion of PAC formation was tabled.

Lee and Wilson also discussed development of the draft of ASCB’s position on the new National Institutes of Health Next Generation Researcher Initiative and urged the Councilors to provide feedback and input. A lengthy discussion ensued with Wilson agreeing to revisit the issue until the Society’s position can be defined.

During the Membership Committee and International Affairs Committee updates, Councilors discussed the idea of offering alternative membership models based on what time of year a person joined as well as offering reduced membership fees for scientists residing in countries classified as low income by the World Bank. The council voted to support reduced membership based on these criteria, beginning in 2019.

Minorities Affairs Committee co-chair Veronica Segarra explained how the ASCB has collaborated with other scientific societies and organizations to increase diversity in the life sciences and expand the network of junior faculty mentors and mentees. She said she hopes these partnerships will lead to further inter-society collaborations. Segarra reported
that the committee has applied for renewal of its current National Science Foundation Innovative Programs to Enhance Research Training (IPERT) grant as well as sought out alternative sources of funding to be used for career enhancement programs.

Education Committee chair Sue Wick reported the success of the Promoting Active Learning and Mentoring (PALM) Network, a one-on-one mentoring program for biology educators who want to employ evidence-based, active learning techniques in their classroom. Wick said she was excited to report that ASCB had worked with other professional societies to identify many mentors and mentees and that the network had greatly expanded.

Public Information Committee chair Lee Ligon discussed the success of the Celldance and Elevator Speech Contest programs. She also explained the development of five science communication and outreach toolkits that will be made available to ASCB members.

COMPASS co-chairs Pinar Gurel and Courtney Schroeder informed the Council of the enthusiasm on the part of participants in Ask a Scientist Bar Night, which was held on Saturday, the day after the Council meeting. They explained that if the event is held in the future, it should be moved to a less busy bar night.

The meeting concluded with President Pietro De Camilli presenting certificates to the outgoing Councilors and Officers, including Kathy Green, Tony Hyman, Denise Montell, and Sam Reck-Peterson, as well as to Ira Mellman, who was not present.

—Mary Sprio

New Home, New Look for ASCB’s Journals

In late March Molecular Biology of the Cell (MBoC) and CBE—Life Sciences Education (LSE) will move to a new hosting platform. With that change will come new, more modern website designs and new features.

One feature that will be introduced with the move is “single sign-on,” which will allow ASCB members to access their MBoC subscriptions by logging in with their ASCB username and password. Look for an email about this feature shortly before the transition.

The journals are moving from HighWire Press (formerly part of Stanford University), which has hosted MBoC since the online journal was launched in 1997 and LSE since 2006, to Atypon. Atypon is an established vendor that hosts thousands of scholarly journals on its Literaturm platform, including those of many scientific societies. The new platform will offer much greater flexibility as the journal sites evolve in the future, and the move will result in significant cost savings for ASCB.

ASCB and Atypon staff are working to make sure all back content is transferred and properly displayed on the new sites and that the move is as seamless as possible for readers and subscribers. The URLs for the journals, www.molbiolcell.org and www.lifescied.org, will not change.

—W. Mark Leader

Application Process for Career Enhancement Programming at the 2018 ASCB|EMBO Meeting

If you are hoping to organize a career enhancement session at the upcoming meeting in San Diego, you must submit an application online by May 15. This process is intended to avoid overlapping programs and improve scheduling. All applications will be reviewed by a committee, and notifications will be sent to applicants by June 15.

ASCB members, ASCB committees, and outside organizations are invited to submit applications for sessions that focus on education, career development, international relations, and/or diversity in the scientific workforce. The committee will review applications on the basis of relevance, intended audience, and audience engagement. Applications are required for programs with external grant funding as well.

The application is now available online at https://ascb-embo2018.ascb.org.
ASCB, NCI Jointly Sponsor Imaging Workshop

Registration is open for the Subcellular to Cellular Cancer Imaging Workshop, to be held April 5–6, 2018, at the Natcher Auditorium on the National Institutes of Health Campus in Bethesda, MD. The workshop is being jointly sponsored by the ASCB and the National Cancer Institute (NCI).

This workshop will explore the interface between biophysics, biomedical engineering, and cancer cell biology by identifying the needs, opportunities, and impediments in applying new and transformational imaging technologies to address fundamental cancer cell biology questions. Nano-to-micro scale imaging modalities will be featured to develop a multiscale perspective of cancer.

The workshop will include poster presentations. The deadline for abstract submission is March 12, 2018.

Registration closes March 28, or when meeting is sold out. Steep discounts are offered to ASCB members. This meeting is open to regular and postdoctoral members and nonmembers.

Visit www.ascb.org/nciworkshop for the full schedule, registration rates, registration form, and information about abstract submission, hotel, and travel.

MBoC Solicits Papers for a Special Issue on the Cell Biology of Stem Cells

Molecular Biology of the Cell (MBoC) Editor-in-Chief David Drubin has announced plans to publish a Special Issue on an important emerging area of cell biology, the Cell Biology of Stem Cells. Yukiko Yamashita, Diane Barber, Terry Lechler, Jason Spence, and David Traver will serve as Issue Editors.

While much attention has focused on the great promise of stem cells for human health applications through tissue repair and disease modeling, stem cells are also proving to be attractive subjects for discovery of biological mechanisms. The abilities to produce many different cell types isogenetically from the same parent stem cells and to produce organoids of many tissue types make stem cells uniquely valuable for studies of cell biological mechanisms.

Among the topics to be included in the Special Issue are:

- Cellular mechanisms for reprogramming cell architecture
- Cellular mechanisms for reprogramming cell physiology
- Genomic and proteomic studies of differentiation
- Methods for studying and differentiating stem cells and producing organoids
- Disease models with an emphasis on cell biological aspects
- Organoids for analyzing cell physiology and collective cell behavior in a tissue-like setting

The Special Issue will be published in fall 2018. Authors are encouraged to submit research Articles and Brief Reports by May 15, 2018, and Perspectives (essays) by June 15, 2018, to allow them to be reviewed and revised by the deadline for the Special Issue.

Manuscripts may be submitted at www.mbcpapers.org. Questions about the issue and suggestions for Perspectives topics should be directed to David Drubin at mboc@ascb.org.
New ASCB Prizes Recognize Excellence in Trainee Research and in Inclusivity

ASCB is delighted to announce two new honorific awards for 2018: the ASCB Porter Prizes for Research Excellence and the ASCB Prize for Excellence in Inclusivity.

ASCB and The Porter Foundation have teamed up to create prizes that specifically recognize the creative scientific contributions of predoctoral and postdoctoral researchers. The first two ASCB Porter Prizes for Research Excellence will be awarded at the 2018 ASCB|EMBO Meeting in San Diego.

“Awardees will be chosen who exemplify the spirit of founding ASCB member Keith Porter, with emphasis on the researchers’ individual contributions to the advancement of science and on the novelty and creativity of their findings. We are looking for discoveries that provide new ideas and new avenues for exploration in cell biology,” said ASCB CEO Erika Shugart.

The predoctoral prize winner will receive a $2,000 cash award; the postdoctoral prize winner will receive a $4,000 cash award. Both prize winners will also receive up to $1,000 toward their travel expenses, a plaque, and an invitation to speak at the most relevant Minisymposium.

The ASCB Prize for Excellence in Inclusivity will honor a scientist who has a strong track record in research or a professional who serves a critical role in fostering cell biology research who has made an impact by encouraging a diverse workforce and creating an inclusive environment through mentoring, cultural change, outreach, or community service. The nominees do not have to be members of ASCB.

The winner will receive a cash award of $5,000 to be used at awardee discretion to further inclusion activities; be featured in a video to be shown at the 2018 ASCB|EMBO Meeting Keynote; be featured in an article in the ASCB Newsletter; and contribute an essay to Molecular Biology of the Cell. This award is made possible through a grant from Howard Hughes Medical Institute.

More information about both awards is available at www.ascb.org/ascb-awards.

Apply Now for Prestigious ASCB Awards

Self-nominations by ASCB members/applicants are permitted for all awards. Unless otherwise indicated, deadlines are May 15, 2018, and applications should be submitted via email to awards@ascb.org. More information is available at www.ascb.org/ascb-awards.

**EARLY CAREER SCIENTISTS**

**Early Career Life Scientist Award**

Who is eligible: An outstanding scientist who has served as an independent investigator for no more than seven years as of May 15. **Winner receives:** Plaque, $1,000, Minisymposium talk, meeting registration, economy airfare, up to four nights hotel, and up to four days per diem to attend the Annual Meeting. Apply online at https://my.ascb.org/initiatives/#!/apply/134.

**WICB Junior Award for Excellence in Research**

Who is eligible: A woman in an early stage of her career (within seven years of appointment to an independent position at the nomination deadline). **Winner receives:** Plaque, $1,000, Minisymposium talk, meeting registration, economy airfare, up to four nights hotel, and up to four days per diem to attend the Annual Meeting.
MID-CAREER SCIENTISTS

WICB Mid-Career Award for Excellence in Research

Who is eligible: A woman at the mid-career level (7–15 years in an independent position at the nomination deadline). Winner receives: Plaque, $1,000, Minisymposium talk, meeting registration, economy airfare, and up to three nights hotel to attend the Annual Meeting.

ESTABLISHED SCIENTISTS

ASCB Fellows

Who is eligible: All Regular and Emeritus members may nominate two of their colleagues or self-nominate. Fellows must have been an ASCB member for at least 10 of the past 15 years and a scientist whose research has had a significant and sustained impact on the field of cell biology. Winner receives: Plaque and pin and acknowledgement before the Keynote at the Annual Meeting. Deadline: May 15; nominate online at https://my.ascb.org/initiatives/#/apply/140.

E.B. Wilson Medal

Who is eligible: An individual who has demonstrated significant and far-reaching contributions to cell biology over a lifetime in science. Winner receives: Gives the E.B. Wilson Lecture at the Annual Meeting and receives the E.B. Wilson Medal, meeting registration, economy airfare, up to four nights hotel, and up to four days per diem to attend the Annual Meeting.

Sandra K. Masur Senior Leadership Award

Who is eligible: A woman or man at a later career stage (generally full professor or equivalent) whose outstanding scientific achievements are coupled with a record of active leadership in mentoring both men and women in scientific careers. Winner receives: Plaque, $1,000, meeting registration, economy airfare, and up to three nights hotel to attend the Annual Meeting.

Evelina Bindermann Prize for Excellence in Inclusivity

Who is eligible: A scientist with a strong track record in research or professional who serves a critical role in fostering cell biology research who has made an impact by encouraging a diverse workforce and creating an inclusive environment through mentoring, cultural change, outreach, or community service. The nominees do not have to be members of ASCB. Winner receives: $5,000 to further inclusion activities, video shown at Keynote, profile in Newsletter, and essay contribution to Molecular Biology of the Cell.

GRADUATE STUDENTS AND POSTDOCS

New! ASCB Porter Prizes for Research Excellence

Who is eligible: Graduate students and postdocs. Winners receive: $2000 for outstanding predoctoral research and $4,000 for outstanding postdoctoral research, plaque, dinner with the Porter lecturer, Minisymposium talk, and travel costs of up to $1,000 to attend the meeting. Deadline: July 15; apply online at https://my.ascb.org/initiatives/#/apply/135.

Merton Bernfield Memorial Award

Who is eligible: An outstanding graduate student or postdoctoral fellow (at the time of nomination) who has excelled in research. Winner receives: Plaque, $1,000, Minisymposium talk, meeting registration, economy airfare, up to four nights hotel, and up to four days per diem to attend the Annual Meeting. Deadline: July 15; apply online at https://my.ascb.org/initiatives/#/apply/135.

UNDERREPRESENTED MINORITIES

E.E. Just Lectureship

Who is eligible: An underrepresented minority scientist who has demonstrated outstanding scientific achievement. Winner receives: Gives the E.E. Just Lecture, plaque, medal, and up to $1,800 to attend the Annual Meeting.

EDUCATORS

Bruce Alberts Award for Excellence in Science Education

Who is eligible: An individual who has demonstrated innovative and sustained contributions to science education, with particular emphasis on the broad local, regional, and/or national impact of the nominee’s activities. Winner receives: Plaque, talk at the Annual Meeting, meeting registration, economy airfare, and up to three nights hotel to attend the meeting.

DISTINGUISHED INDIVIDUALS OUTSIDE ASCB

Public Service Award

Who is eligible: An individual who has demonstrated outstanding national leadership in support of biomedical research. Winner receives: Gives the Public Service Award Lecture at the Annual Meeting or remarks via video and receives a certificate. If the award is presented at the meeting, meeting registration, economy airfare, up to four nights hotel, and up to four days per diem are paid.
Cell Biology 2017

Annual Meeting, continued from p. 1

with the nematode *Caenorhabditis elegans*, which has proved to be a good animal model for studying neurons. But the portion of her talk on the future of cell biology and science in general seemed like a call to action for the more than 3,200 attendees who had filled the seats, aisle, and floor of the Terrace Ballroom at the Pennsylvania Convention Center where she spoke.

“Cell biology is going to make the most meaningful contributions to science in the next few years,” she told them. She also predicted that collaborative research efforts like the CZI would “advance human potential and promote equal opportunities with the goal of curing, managing, and preventing all diseases by the end of the century.”

**Special Interest Subgroups**
The Special Interest Subgroup sessions, which are member-organized, tend to cover hot or trending topics in cell biology and are typically among the most popular events at the Annual Meeting. The subgroups were held either Saturday or Wednesday and covered topics such as 4D nucleosome organization, quantitative cell biology, glycoproteins and glycolipids, cellular motors and switches, organoids, signaling, the cytoskeleton, and emerging approaches to disease treatment.

On Saturday, speakers during the session on advanced imaging techniques for quantitative cell biology spoke of how cell structures and processes could be more precisely measured with methods such as super-resolution and correlative electron microscopy. For example, Bin Wu of Johns Hopkins University described an innovative method for measuring gene expression with single-cell RNA imaging. Diane Lidke of the University of New Mexico explained how her lab has been able to visualize the early events of cell signal transduction, allowing her to identify disease biomarkers.

Organoids were discussed as well, at a session led by Jason C. Mills of Washington University in St. Louis and Xuebiao Yao of the University of Science and Technology of China. The talks centered around how induced pluripotent human stem cells have been coaxed to behave as certain tissues, including colorectal, gastric, and esophageal cancers. Speakers demonstrated a seemingly unlimited potential for complex cellular models to be engineered. Organelle communication, cytoskeletal dynamics, and other subcellular interactions of organoids will require further study, they said.

Subgroup sessions on Wednesday focused on neurite formation and outgrowth and on the architecture and dynamics of the neuronal cytoskeleton.

**Minisymposia and Microsymposia**
The Minisymposia and Microsymposia offer scientists who submit outstanding research abstracts by the first submission deadline a chance to give short oral presentations. Talks fell under classical cell biology themes, such as the nucleus, metabolism, cell signaling, and RNA biology, but the talks were as diverse as the speakers. While it would be impossible to capture all of them, here are summaries of a few of those outstanding presentations:

Lawrence Kazak from the Dana-Farber Cancer Institute described how mice that have had the gene for creatine biosynthesis removed were used to study the effects on diet-induced thermogenesis. This work could lead to ways to prevent diet-induced obesity.

Orly Reiner from the Weizmann Institute of Science in Israel talked about the development
of a human brain organoid on a chip to model normal development and disease. As the brain tissue grew, the organoid developed folds and wrinkles in response to two opposing forces, much like regular brain tissue grows. Differential growth in the periphery of the organoid was exhibited as opposed to contraction in the center of the organoid. The principles of soft material physics were used to describe the physical mechanisms involved.

Ralitza Staneva from the Institut Curie in Paris described the use of 2-photon microscopy 3D imaging to observe tumor core cell explants and found that these cells were mobile and dynamic, even exhibiting collective behavior during tumor cell migration.

Interesting work presented by Jessica Henty-Ridilla from the State University of New York Upstate Medical University revealed that the actin-binding protein profilin also binds microtubules and controls microtubule growth rate. Mutations in profilin that are found in patients with neurodegenerative diseases such as amyotrophic lateral sclerosis impair the ability of profilin to regulate microtubule dynamics, which may lead to the motor neuron degeneration characteristics of this disease.

Studies on cancer cell signaling, adaptive responses, and metastasis engaged attendees. Ved Sharma from the Albert Einstein College of Medicine discussed the creation of a double-reporter MDA-MB-231 cell line that was used to visualize, for the first time, the effect of hypoxia on cancer stem cells in real time in vivo.

Alexander Beatty from the Fox Chase Cancer Center discussed a project that had identified a metabolic vulnerability for promoting tumor cell death. This lab studied a subset of triple-negative breast cancer (TNBC) cells addicted to glutathione. By introducing a novel class of cancer-specific, small molecule ferroptotic inducers (conjugated polyunsaturated fatty acids) into the cell diet, cell growth and metastasis were impeded in tumor xenografts in vivo.

During the Minisymposium on visualization of compartmentalization in cancer, Ben Martin from Stony Brook University explained how a zebrafish xenograft and advanced imaging techniques were used to visualize human breast cancer cells at the single-cell and subcellular level.
ANNUAL MEETING Highlights

Workshops
Attendees were able to glean tips and tricks from experts on the hottest scientific methods and protocols through the variety of workshops offered. For example, the workshop on modern mass spectrometry covered how it can be used for proteomics in cell biology and for exploring metabolism at the organism level. In addition, mass spectrometry methods can also be employed for the analysis of drugs, tissue metabolites, and proteins.

Since its debut, cell biologists have been coming up with increasingly more interesting ways to use CRISPR. One workshop focused on how it could be used for genome tracking. Attendees learned about state-of-the-art advances in CRISPR-based gene editing technologies and how CRISPR can be used to track dynamic movements of genomic loci in live cells. Another workshop discussed how cell biologists are also using protein-based molecular sensors and probes that allow visualization of dynamic molecular changes. In addition, genetically encoded optogenetic tools can use light to manipulate and control molecular events with fine spatiotemporal resolution.

Ask a Scientist Bar Night
COMPASS, ASCB’s Committee for Postdocs and Students, invited attendees to join them on what constituted a scientific bar crawl. Sporting their “Ask Me, I’m a Scientist” t-shirts printed especially for the event, more than 100 meeting attendees and friends hit the streets of Philly on Saturday night to engage the local citizenry in some friendly scientific banter. It was a fun and exciting night out for everyone involved.

—Mary Spiro

Zebrafish xenografts were imaged with an adaptive optics light sheet microscope to capture the dynamics of circulating human breast cancer cells in an in vivo environment (zebrafish blood vessels are labeled in magenta, a single human breast cancer cell is labeled in green). Image credit: Ben Martin, David Matus, Eric Betzig, Ved Singh, Tsung-Li Liu
CZI Panelists Say Basic Science Holds Key to Cures for Neurodegenerative Diseases

A panel discussion, “The Challenge of Neurodegenerative Diseases: Will Cell Biology Hold the Answer?” hosted by the Chan Zuckerberg Initiative (CZI), yielded lively discussion about the direction of basic scientific research. The discussion was one of several satellite events held during the 2017 ASCB|EMBO meeting in Philadelphia, and panelists included 2017 ASCB President Pietro De Camilli (Yale), Frank Bradke (German Center for Neurodegenerative Diseases), Erika Holzbaur (University of Pennsylvania), Jennifer Lippincott-Schwartz (HHMI), and Steven Scherer (University of Pennsylvania).

Katja Brose, CZI’s Science Program Officer, introduced the panel and told the packed room that “there is huge potential in cell biology” to help find treatments and cures for this broad class of disorders. “Neurodegenerative disorders tend to be treated as disease subsets, but they are not,” Brose said. “There are major gaps in our understanding; we need new approaches, new ideas, new people, and new perspectives.”

Brose announced that CZI would soon be inviting scientists to apply to its Neurodegenerative Challenge Network, which will provide funding for projects that bring researchers together from across many disciplines to solve problems related to these diseases. (For information about funding opportunities through CZI visit https://chanzuckerberg.com/initiatives/rfa.)

The panelists emphasized the need for those working directly with patients to collaborate with cell biologists and to apply the principles of basic science in clinical trials. “Most clinical trials are not embedded in cell biology, and perhaps cell biologists are intimidated by neurobiologists and clinicians,” remarked De Camilli.

Lippincott-Schwartz noted that her research, conducted at HHMI’s Janelia Research Campus, “is heavy with neurobiologists but not clinicians—we need to have both.” “We also have the ability to visualize the whole brain down to the synaptic and cellular level, but you can only understand what you are looking at if you have a deep understanding of classical cell biology,” she said.

Bradke added that “basic scientific research and the clinical structures have different cultures, and we have to learn to communicate, how to ask new questions.”

Scherer, the only practicing physician on the panel, noted that clinicians are gathering myriad patient data via information technology and bioinformatics and that “cell biologists ought to jump in” and analyze it.

Holzbaur remarked that ASCB is the “absolute most exciting place to facilitate discoveries in cell biology and neurodegenerative diseases.”

The panel concluded with a Q&A session, where it became evident that not all those in attendance agreed with CZI’s ambitious goals or the practicalities of funding cross-divisional, cross-institutional research initiatives. However, many agreed that more discussion on means of breaking down research silos was needed. —Mary Spiro
ANNUAL MEETING Highlights

The speakers at ASCB’s second Doorstep Meeting, held on the Saturday prior to the official beginning of the 2017 ASCB|EMBO Meeting in Philadelphia, focused on current discoveries and potential therapies for neurodegenerative diseases. In addition to hearing about these leading-edge investigations, attendees at the sold-out meeting had the opportunity to get feedback on their research through morning and afternoon poster sessions and to chat informally with session speakers during lunchtime roundtable discussions.

The speakers demonstrated just how challenging and mysterious studying the brain and neuronal function and development can be. Researchers described new approaches to understanding the cell biology of neurodegeneration through applications of genetics, computational biology, physics, biochemistry, and biomechanics.

Paola Arlotta of Harvard University focused on influencers in early brain development in her talk about the development and reprogramming of neuronal diversity in the neocortex. Carla Shatz of Stanford Bio-X at Stanford University explained how her lab has determined that changes in the function of MHC Class I molecules could contribute to developmental disorders, such as those found in schizophrenia and Alzheimer’s disease. Anthony Hyman, managing director of the Max Planck Institute of Molecular Biology & Genetics in Germany, talked about how cells sort their biochemical reactions by creating compartments from unstructured proteins (or biochemical condensates).
However, he said, there is a link between the formation of these compartments and the protein aggregation observed in neurodegenerative diseases.

Susan Ackerman from the University of California, San Diego/HHMI spoke about how dysfunction of protein translation impacts neuronal homeostasis during aging. J. Paul Taylor of St. Jude Children’s Research Hospital/HHMI reported that RNA-binding protein mutations impact membrane-less organelles and have been linked to degenerative diseases, such as amyotrophic lateral sclerosis, frontotemporal dementia, and inclusion body myopathy. Erika Holzbaur, University of Pennsylvania Perelman School of Medicine, used live-cell imaging of neurons to enhance her talk about the cellular pathways altered by both aging and neurodegenerative diseases.

The last three talks of the day focused on proteins and their role in safeguarding against or causing neurodegeneration. F. Ulrich Hartl of the Max Planck Institute of Biochemistry talked about how the quality control function of chaperones can fail and lead to protein misfolding and disease. In the case of Parkinson’s disease, Thomas L. Schwarz of the Boston Children’s Hospital and Harvard Medical School reported that mitochondrial degradation can occur simply because the DNA responsible for the proteins it needs to function properly are physically too far away. And last, Dennis Selkoe of the Harvard Medical School/Brigham & Women’s Hospital spoke about compounds recently identified by his lab that stabilize physiological α-synuclein tetramers and offer potential disease prevention strategies.

Frank Bradke, of the German Center for Neurodegenerative Diseases, and Kelsey C. Martin, of the University of California, Los Angeles, David Geffen School of Medicine, organized the Doorstep Meeting.

—Mary Spiro
Pathogens and Drones on Your Cellular Phone: Celldance 2017
“Tell Your Own Cell Story” Videos

For over a decade, the Celldance video program, put on by the ASCB Public Information Committee (PIC) to help ASCB members hone their communication skills, has inspired the scientific community and public alike with unique stories and stunning images of cells. The 2017 Celldance videos, which premiered at the ASCB|EMBO Meeting, show us that scientists are willing to go to great lengths to communicate their science (even if that means attaching a camera to a drone to get that perfect shot, as in We Know Life by Motion).

Both videos show scientists at work in the lab, as well as the tiny cells that exist in the world beyond the microscope—continuing to bring the joy of cell biology research to your screen.

This year’s Celldance videos were produced with generous support from PLOS. Both videos are now available at ascb.org/celldance for free downloading for nonprofit and educational purposes.

Neisseria meningitidis: At Home inside Human Capillaries
Guillaume Duménil Lab, Institut Pasteur

The Duménil lab studies Neisseria meningitidis, the gram-negative bacteria called meningococci that cause meningitis and sepsis. Their video tells the story of how pathogens invade the body, proliferate, and wreak havoc.

“Our research is largely based on different imaging techniques that serve as the basis for these videos,” Duménil explained. “In the case of meningococci, bacteria access the bloodstream, adhere to the endothelium, proliferate, eventually fill the vessel lumen, and trigger vascular damage that characterizes the disease. This bacterium has developed remarkable strategies to carry out this sequence of events.”


We Know Life by Motion
Dyche Mullins and Lillian Fritz-Laylin

The Mullins and Fritz-Laylin laboratories collaborated with several other labs to create a 3D movie that showcases how single cells crawl through complex environments. Their film, which includes animation, demonstrates “how these cellular movements are linked to the creation and growth of cytoskeletal protein networks inside the cells,” the team explains.


Interested in submitting a proposal for a 2018 Celldance Video, or know someone who is? Visit www.ascb.org/celldance or email celldance@ascb.org for more information about how you can get involved.
ASCB 2017 ELEVATOR SPEECH VIDEO CONTEST

Tyler Allen Uses Analogy of Human Behavior to Describe Cancer Metastasis

“Tumor cells behave differently whether they are alone or in groups...kind of like when you were in high school or college and behaved differently when you were in a group of your friends versus when you were alone,” Tyler Allen, the winner of this year’s Elevator Speech Contest, explained in his video about cancer metastasis.

The idea of the Elevator Speech Contest is to imagine yourself with a trapped lay audience and with 90 seconds to convince your fellow passenger—a U.S. Senator, Taylor Swift, or a family member—of the importance of your scientific research. The contest, held at the ASCB|EMBO 2017 meeting in Philadelphia, is organized yearly by the ASCB’s Public Information Committee.

It was Allen’s clear articulation of cell behavior that convinced the judges to award him first prize. As the winner, he received a Bluetooth speaker, t-shirt, and certificate. The runner-up and three honorable mentions also received prizes.

Interested in submitting a video for next year’s contest? Visit ascb.org/elevator-speech-contest

This year’s winners:

First Place
Tyler Allen
youtu.be/RLE2e-NzUIE

Runner-Up
Kate Bredbenner
youtu.be/sBYhhxhC0NA

Honorable Mentions
Sarah Pollock
vimeo.com/239727135

Torey Arnold
youtu.be/8EDgVPZrn-I

Dustin Ammendolia
youtu.be/pNQByVMMHXo

—Leeann Kirchner
ANNUAL MEETING Highlights

Highlighted Tweets from the 2017 ASCB|EMBO Meeting

Jenny Schaefer @jennycschafer · 6 Dec 2017
Thank you, fellow scientists, for a fantastic #ASCBEMBO17 meeting. I’m back home with an exhausted body but an exhilarated mind!

EDA @EDelAx1 · 21 Dec 2017
Reflecting on science talks in 2017, I think the most personally impactful talk for me was the MAC mentoring keynote by Isiah Warner @ASCBiology

Subhojit Roy @Roy_Lab_Thinks · 8 Dec 2017
Just can’t help thinking how awesome #ascbemo17 was....did someone say PMD (post meeting depression)?

Alex Holehouse @alexholehouse · 7 Dec 2017
Finally home from a fantastic #ASCBEOMO17 - exhausted, but invigorated by all the exciting science and excellent people. Great to catch up with @YSPTSPS @DavidWSanders2 @dallandrummond @weber_lab and many many more!

Sarah Cohen @cohenlaboratory · 6 Dec 2017
Feeling very inspired after attending #ASCBEOMO17! Can’t wait to unpack some boxes and start doing experiments. #NewPI

B. Duygu Özpolat @biyolokum · 6 Dec 2017
Enjoyed my first #ASCBEOMO17 meeting so much! What a great conference. Was particularly meaningful for me to give talks on Platynereis because ASCB gives an E.B.Wilson medal, and has an E.E.Just Lecture every year (both worked on Platynereis 100 years ago @MBLScience).

Tobias Walther @TobiWalther · 6 Dec 2017
Thank you everyone for a fantastic #ASCBEOMO17 #embo #ascb ! Humbled and inspired by so much fantastic #science, done by so many great friends and colleagues!!!See you in San Diego....
2017 ASCB|EMBO Meeting Speaker Stats
Of all Minisymposium and Microsymposium speakers, nearly 66% were postdocs, graduate students, or undergraduates.

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<td>Associate professor or equivalent</td>
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<td>Assistant professor or equivalent</td>
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<tr>
<td>Other</td>
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<td><strong>385</strong></td>
<td><strong>100.00%</strong></td>
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Microsymposia Totals

- 73% of speakers were undergraduates, graduate students, or postdocs
- 33% Postdoc
- 37% Graduate Student
- 6% Staff Scientist/Other
- 9% Associate Professor
- 6% Faculty
- 3% Undergrad

ASCB | EMBO 2018 meeting
San Diego, CA • December 8-12

Save the date!
Mark your calendars so you don’t miss the deadlines!

- **Mid-May**- Registration and Abstract Submission Open
- **May 15**- Subgroup and Career Enhancement Programs Application Deadline
- **August 1**- First Abstract Submission Deadline (for talk consideration)
- **September 4**- Second Abstract Submission Deadline (poster only)
- **September 4**- Travel Award Deadline
- **October 4**- Early Registration Deadline (rates go up starting October 5)
- **October 10**- Final Abstract Deadline (poster only)
- **November 16**- Hotel Reservation Deadline. *Book through onPeak, our official housing partner.*

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ANNUAL MEETING Highlights

Keith R. Porter Lecturer Scott D. Emr

E.B. Wilson Lecturer Arthur Horwich

Attendees at the Advocacy Toolbox learned skills to become effective science advocates.

E.B. Wilson Lecturer F.-Ulrich Hartl

Jeff Schinske led an education workshop on assessment

EMBO Gold Medal awardee Maya Schuldiner

Karen F. Oegema, winner of the Mid-Career Award for Excellence in Research

Many trainees took advantage of one-on-one career coaching in the Career Center.
Kimberly Tanner, recipient of the Bruce Alberts Award for Excellence in Science Education, flanked by Sue Wick (left) and Erin Dolan (right).

Steve Lee gave a presentation on mentoring action plans at the Mentoring Academy.

The International Research and Training Exchange Fair was held during the Opening Night Reception.

E.E. Just Awardee JoAnn Trejo flanked by Veronica Segarra and Franklin Carrero-Martinez.

2017 ASCB Fellows were recognized at the Keynote.

Harvey F. Lodish, winner of the Sandra K. Masur Senior Leadership Award, flanked by nominators Jean E. Schaffer and Rebecca G. Wells.

Julie Canman, winner of the WICB Junior Award for Excellence in Research, with nominator Gregg G. Gundersen.

Kimberly Tanner, recipient of the Bruce Alberts Award for Excellence in Science Education, flanked by Sue Wick (left) and Erin Dolan (right).
ANNUAL MEETING Highlights

Science communication workshop using improvisation

The EMBO Lab Leadership course conducted by Samuel Krah was a huge success

MAC Mentoring Keynote Lecturer Isaiah M. Warner flanked by Franklin Carrero-Martínez and Veronica Segarra

Louis-Jeantet Prize Lecturers Caetano Reis e Sousa and Silvia Arber

Poster competition for undergrads and recipients of MAC travel awards

EMBO President Maria Leptin, ASCB President Pietro De Camilli, and ASCB CEO Erika Shugart before the Keynote
ANNUAL MEETING Highlights

The ASCB wishes to express deep appreciation to all the exhibitors who attended the 2017 ASCB | EMBO Meeting and helped ensure its success.
2017 Poster Competition Winners

EDUCATION COMMITTEE

1st Place (tied)
Jaspal Brar
Patrick Liu
Olivia Zhou

2nd Place
Ayush Parikh

3rd Place (tied)
Bethany Bundrant
Sara Graves

MINORITIES AFFAIRS COMMITTEE

Postdocs

1st Place
Lesley Weaver

2nd Place
Damon Jacobs

Special Recognition
Guillermina Ramirez-SanJuan

Graduate Students

1st Place
Elisa Frankel

2nd Place
Jorge Martinez-Marquez

Special Recognition
Armond Franklin-Murray
Miranda Stratton

Undergraduate Students

1st Place
Erika Duell

2nd Place
Khalid Elawad

Special Recognition
Ariana Acevedo-Diaz
Lisset Duran
The ASCB thanks the following organizations for supporting the 2017 ASCB | EMBO Meeting.

BioLegend
Opening Night Reception

BMC Biology
Minisymposium

Burroughs Wellcome Fund
MAC/WICB/COMPASS Programs

CBE—Life Sciences Education
Education Minisymposium

Cell Research
Notepads and Pens

Chroma Technology Corporation
Travel Awards

Essen BioScience
Aisle Sign

Getson & Schatz, P.C.
Travel Awards

Howard Hughes Medical Institute
Career Enhancement Programs and General Support

International Center for Genetic Engineering and Biotechnology (ICGEB)
Travel Awards

National Institute of General Medical Sciences of the National Institutes of Health
MAC Programs and Travel Awards

National Organization of Gay and Lesbian Scientists and Technical Professionals
LGBTQ+ Diversity Session

Nikon Instruments Inc.
Lanyards

Novartis Institutes for BioMedical Research, Inc.
General Meeting Support

PicoQuant
Subgroup

PLOS
Celldance

SimBio
Foundational Cell Biology Workshop

Springer Nature Publishing Group
Childcare Grants

The Anatomical Record and the American Association of Anatomists
Symposium

The Company of Biologists
Travel Awards

The Journal of Cell Biology
Minisymposium

The Kavli Foundation
Keynote

Thermo Fisher Scientific
Minisymposium and EMBO Lab Leadership Mini-Course

Worthington Biochemical Corporation
Travel Awards

The Kavli Foundation

Biogen

Genentech

Janssen Neuroscience

Pfizer

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Learn about the culture and infrastructure of life science companies through MBA-style case-based teaching, career networking, and a team-based project.

Apply at ascb.org/biotech-course
Biotech Has a Woman Problem

The biotechnology industry in the United States is envied and emulated around the world, and is poised to grow explosively in coming decades. It should continue to develop treatments for diseases and conditions thought incurable just a few years ago, based on advancements that continue to emerge from research in our universities and hospitals and are developed in innovative start-up companies. Biotechnology depends on a rare group of leading scientists who are highly educated, productive, creative, and motivated. But at the highest levels, namely faculty founders of biotechnology companies and partners at venture capital (VC) firms, many of these talented persons—women—are not present.

The problem is not the “pipeline.” For example, 25%–30% of the biology faculty at Boston’s leading research universities are women, and 50% of the PhD students in biology are female. But at the level where biotech companies are launched—by entrepreneurial university faculty members and partners at VC firms—very little has changed since the late 1970s when Genzyme, Genentech, Biogen, and others were formed to exploit the invention of recombinant DNA technology and the production of monoclonal antibodies and other biotherapeutic drugs such as erythropoietin. This problem was brought to the attention of one of us (NH) six years ago by a graduate of Harvard Business School who had seen a list of scientists whose start-ups had been funded by a local VC company. Of the 100 names on the list, 99 were men. She was curious how this was possible, since so many biology PhDs are female. We conducted an informal survey over several years using the Web to identify biotech startup companies founded by faculty from the Massachusetts Institute of Technology (MIT), Harvard, Harvard Medical School, and several other universities and medical centers (see table for representative data). The data were similar at all locations and appear to have changed little over time, including up to the present: Among current Harvard and MIT professors who have started biotech companies, 95% or more are male, as are 90%–95% who serve on the boards of directors and advisory boards. On the current websites of four top VC firms that fund biotech companies, we found only two female partners.

The Birth of a Company

The birth of a biotechnology company is instructive, as exemplified by Genentech, among the first. It was founded in 1976 by Herb Boyer of the University of California, San Francisco, which held patents on his recombinant DNA discoveries, and Bob Swanson, a graduate of MIT and its Sloan School of Management. Boyer described his first meeting with Swanson many years later:

I didn’t know what a venture capitalist was in those days. And he [Swanson] said he was interested in starting a company, he had some money to do so and that’s when I got interested, because laboratories...
always needed money. I remember it was late Friday afternoon and he came to my lab around five o’clock. Other than the suit and tie he looked like one of my students. He was very young, about twenty-nine at the time I believe.

Swanson and Boyer’s historic meeting remains a model of how many biotech companies are founded. A discovery is made in a university lab and patented by the university’s technology licensing office to create intellectual property (IP). The professor who runs the lab, together with faculty colleagues, are often recruited by venture capitalists. The university licenses the IP to the start-up. The faculty members and venture capitalists assemble a team of founders and members of the board of directors and the scientific advisory board. Its drivers are university faculty (who today, unlike Boyer in the 1970s, are often old hands at this) and venture capitalists.

Where Are the Women?
We were young MIT faculty when the biotech industry began. One of us (NH) was told that colleagues would like to ask her to join a start-up called Biogen, but they couldn’t because “businessmen won’t work with women.” The other (HL) became a founder of Genzyme and in the process was mentored by businessmen and by a male faculty colleague and co-founder with extensive industry experience. From there, HL became part of a group of men that went on to found multiple Boston biotechs. One of his recent companies was founded after a well-known venture capitalist “cornered me after my talk at MIT and said, ‘I think we have a company here.’”

Our experience is that women faculty with greater expertise and stature are often passed over for participating in biotech start-ups in favor of men who are part of the “biotech old-boy network.” Are women invited to join these companies but decline for lack of interest or lack of time? We asked the women faculty in Science at MIT if they had been invited to join start-up companies founded by their male colleagues; none had been. This is all the more compelling since, of the tenured faculty in the MIT Biology Department, about half of the 36 men and half of the 16 women are members of the National Academy of Sciences.

Do female faculty in Science at MIT find their own companies? We identified only one female professor in the School of Science (Departments of Biology or Chemistry) who had done so as of three years ago. Interestingly, an informal study conducted by another colleague at MIT last year found that women faculty in the School of Engineering form companies from licensed IP at the same rate as their male colleagues, in sharp contrast to biotech start-ups founded by faculty in Science at MIT (Sangeeta Bhatia and Heather Fleming, personal communication). The reasons for the difference between Science and Engineering faculties are not known, but would be interesting to uncover. This difference was also seen between biomedical science and engineering faculties at Stanford (Ann Arvin, personal communication).

Biotech as a Professional Activity for Trainees
The male-dominated culture of biotech start-ups needs to change for two reasons: First, in a highly competitive world biotech will never reach its full potential as the number of men in the pipeline shrinks at the same time that some of the most creative and innovative women scientists and entrepreneurs are systematically excluded.

Second, unlike VC firms, universities have an obligation, both moral and legal, to provide equal opportunities to the faculty they hire and the students and postdocs they train. The exclusion of women from participation in the industry now precludes this. In some fields of molecular biology, involvement in biotech is now a professional activity that provides critical access to important information, technology, and professional contacts. Not only is this relevant to faculty, if they choose to participate, it is important to our biology trainees, roughly half of whom are women.

The following anecdote exemplifies the problem. A woman postdoc in biology told...
one of us (NH) that male postdocs in her lab meet with the professor at lunch time to talk about companies and the “women are left sitting outside the door.” Though the postdoc is a confident, successful individual, upon relating this fact she became too upset to continue the conversation. Obviously such professional exclusion is unacceptable. The historical exclusion of women faculty as founders and as members of scientific advisory boards and boards of directors in biotech start-ups now impacts our trainees as well as our female faculty.

While our comments are based on our observations in the Boston area, they are similar to observations in other regions with large numbers of biotech companies.

We urge VC firms and related companies to institute programs specifically to recruit talented women, such as business school graduates, and women with experience in pharmaceutical or biotech companies, and prepare them for leadership positions in the firm. In parallel, universities should institute formal programs to educate younger faculty members of both genders to become entrepreneurs. Most important, faculty with experience in the industry should seek out women faculty with appropriate scientific expertise for inclusion as founders and as members of scientific advisory boards and boards of directors.

To ensure success, we also propose that university technology licensing offices monitor the gender composition and the current mentoring programs of VC firms with which they work as well as those of the start-ups to which they license IP. Any one start-up company might have a skewed gender ratio, but collectively they should reflect the gender composition of the faculty and trainees in the field.

Including more women in the pool of venture and biotech leaders will ensure the success of the American biopharmaceutical industry, enabling it to develop new biotherapeutics for the benefit of all.

—Harvey Lodish, Whitehead Institute for Biomedical Research, MIT; Nancy Hopkins, Koch Institute for Integrative Cancer Research, MIT

**Note**

A version of this article was published as an op-ed piece in the *Boston Globe* (November 15, 2017): http://bit.ly/2EeFO7t.

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**Table 1.** Numbers of men and women in leadership roles in 18 biotech start-ups founded by faculty from the institutions indicated. Data were collected between 2012–2015 from the websites of biotech start-ups, and all data are included (i.e., there has been no selection). Counts include founders (for 12 companies), boards of directors (for 8 companies), scientific advisory boards (for 13 companies), and management (for 1 company). Among the 223 people, 84 are full-time faculty members. Of 84 full-time faculty, 80 are men, 4 are women.

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<th>NO. OF WOMEN</th>
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We welcome your comments and suggestions at ascbinfo@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), 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
ASCB Helps Graduate Students Dodge Burdensome Tax Increase

The writing and approval of legislation, especially significant legislation, can take months and often years. During that time, the proposed bill is reviewed for errors and analyzed to make sure it achieves its intended goal, and hearings are held to collect input from supporters and opponents. Usually the only exceptions are bills passed in time of national crisis. In 2008 during the banking crisis, a bill to provide $700 billion to bail out the mortgage and banking system in the United States was written, passed, and signed into law in four days.

Unlike most major legislation, the recently passed tax bill, which will make major changes to the nation’s tax system, was introduced, passed by both houses, conferenced, and signed into law in 50 days.

One portion of the bill that received lots of attention was a provision to eliminate Section 117(d)(5) of the U.S. Code, which exempts graduate students from paying taxes on the value of tuition reductions they receive while serving as research or teaching assistants. Elimination of Section 117(d)(5) would cause huge increases in tax liability for graduate students.

The ASCB, along with other science organizations, universities, and individuals, raised its voice in opposition to the elimination of Section 117(d)(5). Opponents were unable to remove the provision in the House version of the bill but were successful in preventing it from being added to the Senate bill. Since Section 117(d)(5) was in the House bill but not the Senate bill, it became an “item in disagreement” eligible for debate during the House–Senate Conference held to iron out differences between the two bills.

At the speedy conclusion of the Conference, Section 117(d)(5) had been removed from the final bill when it was signed into law. Not only had graduate students’ tax exemption been preserved, but the effort to remove Section 117(d)(5) had ended up spotlighting what many view as the Republican Party’s current opposition to science.

—Kevin M. Wilson

Managing Your Membership

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Unqualified Nominees and Empty Offices

A recent study by the Associated Press that was published in STAT, a Web-based news service with a focus on science and health, reveals worrisome news about the qualifications of Trump administration officials. Close to 60% of those nominated to science positions in the Trump administration do not have advanced degrees in the fields they have been nominated to oversee. By comparison, more than 60% of their predecessors in the Obama administration held advanced science degrees.

Within the Department of Health and Human Services, the number of appointees with a PhD in science stood at 15, down by four from the Obama administration. Those with master’s degrees dropped by 33%.

At the Department of Energy, none of those nominated to fill the seven science-related positions in need of confirmation by the Senate have advanced degrees in the field.

Unqualified nominees are only half of the problem. As of December 2017, the Trump Administration had yet to nominate anyone for over half of the 65 science-related positions in need of confirmation by the Senate. These unfilled positions include all four leadership positions at the Office of Science and Technology Policy, whose director serves as the President’s Science Advisor.

—Kevin M. Wilson

U.S. Withdrawal from UNESCO Could Limit International Cooperation

A decision by the Trump Administration to withdraw from membership in the United Nations’ Educational, Scientific, and Cultural Organization (UNESCO) has American scientists worried. Many in the scientific community are concerned that it will lead to isolation from international scientific cooperation. In addition, absence from UNESCO will prohibit the United States from positively influencing international scientific decision making.

UNESCO is the only agency within the United Nations with a scientific mandate. Among its activities has been the establishment of the European Organization for Nuclear Research (CERN), which supports the Large Hadron Collider. Other international activities include the Centre for Theoretical Physics; the Intergovernmental Oceanographic Commission, which coordinates the international tsunami warning system and addresses coastal and ocean issues; and the international Hydrological Program, which addresses the management of freshwater resources around the world.

In announcing the decision, the Trump White House cited increasing UNESCO debt, the need for organizational reform, and what the administration sees as an anti-Israel bias in UNESCO’s decision-making.

—Kevin M. Wilson
Choosing the Right Mentor for Career Success

Mentoring is critical for the development and training of independent scientists, but all too often not enough emphasis is placed on choosing the right mentor. Mentors not only provide technical and experimental support but should aid in both career development and life guidance. Importantly, mentoring needs to be incentivized and rewarded in academia, including by providing training for mentors and teaching them how to efficiently prepare graduate students and postdocs for future careers. In academia, there is minimal emphasis placed on mentoring and a general lack of structure for trainees to seek good mentors that fit both their personal and professional needs.

In this context, Future of Research (http://futureofresearch.org) conducted several events in the fall of 2017 that addressed aspects of mentoring from the perspectives of both mentors and mentees. At these events, many ideas were circulated as to what constitutes a good mentor, focusing especially on preparing graduate students and postdocs for multiple career paths. These events also touched on the importance of mental health awareness and kindness in academia, to create a positive environment in which trainees can pursue their work.

One important idea emerging from these events is the concept of “mentoring up,” whereby mentees are empowered to play a more active role in their own mentoring. Mentees can shape their own training and career preparation by seeking mentors who best fit their needs and by asking for the advice and training resources necessary to achieve their goals. While this is largely an individual preference, we would like to offer some general guidelines in terms of how trainees can go about finding mentors who will help them succeed.

Know yourself and what you are looking for.
The same type of mentor won’t work for everyone. Assessing your own needs and goals first will make it easier to choose the best mentor. Drafting a list of your own needs and goals, as well as the qualities you want in a mentor, is a good place to start. If you are independent and like to do experiments without interference, finding a more hands-off mentor might be a good idea. If you are interested in nonacademic career development activities, look for mentors who have trained scientists who entered such positions or who allow their students to pursue extracurricular activities in addition to their research. If you’ve had past mentors you liked, think about which qualities you appreciated in them and look for those again. For example, faculty members who have previously won mentor awards at the university may be a good place to start.

Don’t be fooled by “flashy” science.
An excellent publication record does not always correlate with exceptional mentorship.
While the scientific reputation of the lab matters (especially if you are planning on an academic career), a good mentor can help you achieve your goals regardless of the type of science performed in his or her lab. Discuss expectations with the faculty member one-on-one before you consider joining a lab. Importantly, consider that sometimes a less flashy lab with more one-on-one time or a more focused mentor may be better for your training and career in the long term.

Talk to different types of people.
Ask current and former lab members about their experience in the lab. Do this while going out for coffee (i.e., outside of the lab setting) as they may not be willing to tell you everything while you are “touring” the lab itself. Be sure to talk to lots of different people in the lab—grad students, postdocs, technicians, etc. (and not just the “star” students). Ask how supportive the faculty member has been of their professional goals while in the lab and about the transitions of lab members into their own labs and independent research careers. During these meetings, don’t be afraid to ask straightforward questions such as: “How much one-on-one time do you get with your advisor?” “Do they support you if you are not interested in an academic career?” “Is the advisor approachable and available if you have a question or difficulty with an experiment?” The more direct the question, the more information you will receive to help you decide if this particular mentor is the right fit. Also talk to your current PI and other PIs about the lab you are interested in, as they might have additional useful insights.

Research the lab thoroughly.
What you look for in a lab will depend on your goals. If you are drawn to an academic career, find out more about the current positions of lab alumni. If your goal is to have a career in science communication (or another nonacademic career), look into how much time that particular faculty member allows trainees to spend outside of the lab to fulfill nonacademic goals. It is also important to get a feel for the lab environment while you are there. Sometimes your gut feeling will indicate whether this is the best environment for you.

Learn more about the lab culture.
Find out whether the faculty member expects you to work 24/7 or is receptive to you having a family (if that is one of your personal goals) or gaining experience outside of the lab that is relevant to your career goals. Is the faculty member likely to be supportive of your progress and will he or she take the time to train you (in writing grants, papers, preparing seminar talks, etc.)—or does he or she just want things done? Does the lab have any outside activities to foster the feeling of a family, or is it a setting where only publications matter?

Look for these qualities in a mentor.
In general, a mentor should be someone who considers you a colleague and who will listen and help you achieve your own career goals even if these conflict with the mentor’s own ideas for you. It should be someone you can talk to openly about your ideas, and someone who will celebrate your successes and mitigate your fears. Mentors should help you in developing skills away from the bench, such as networking and your job search, as well as particular research skills (grant writing, delivering presentations, etc.). Many good mentors are also willing to be mentored themselves and understand that there is always room for improvement in training others. Importantly, a mentor should be someone who is a champion for you and your goals.

Seek many types of mentors.
Having multiple types of mentors—both in and outside of an academic setting—can be valuable, especially as your needs may change over time. If you are looking for a nonacademic career, having a mentor in the area that you want to move into will be critical. In addition to your PI, additional faculty in your department or institution can serve as mentors to fulfill other needs or provide different perspectives. Since peers...
can also act as mentors, be sure to seek a lab environment where this practice is encouraged. It’s important to consider mentors who will bring different sets of experiences and qualifications. You may want to seek mentors who have a background similar to yours (culturally, academically, socially, etc.) in order to relate to your experience. Engaging in activities outside of the lab is also a good way to discover your interests and gain mentors in other fields. You can find mentors in your department or institution, at career development workshops, or at local or national conferences.

**Be a mentor yourself.**
Mentoring undergraduate students in the lab—or your lab peers—can be useful for discovering your own mentoring style and needs. This experience will also be useful in the future, especially if you plan on becoming a faculty member. Many trainees don’t realize that they have probably already mentored someone during their training, whether it was reading over a manuscript submission, helping someone learn a new technique, or listening to someone practice presentations and giving feedback. Furthermore, mentees are in the position to also mentor their mentors—this can be achieved by letting your mentors know your needs and career aspirations, so that mentors can shape their style of training toward the needs of the people in their lab.

**Take these steps if it doesn’t work out.**
There are different mentoring styles, and people need different styles at different times. It’s possible that a specific type of lab environment and mentoring style may not work for you. If you find that to be the case it’s OK to discuss options with your mentor at that point and find a suitable alternative. Begin these types of difficult conversations with honesty and respect, and do so early on in the process when the problem first arises. Then use those negative experiences to shape the qualities to look for in your next mentor. Sometimes, trial and error is important in the process of finding the right mentor. This is why having many types of mentors is important; you can rely on them for help and discussions when things aren’t working out with your current lab mentor. In addition, many institutions have ombudsman offices if you wish to raise issues and remain anonymous. Finally, don’t hesitate to seek therapy if your mental health is at risk.

—Adriana Bankston, Future or Research; and Pinar Gurel, Rockefeller University

**Many trainees don’t realize that they have probably already mentored someone during their training....**

**ASCB Member Benefit: Publicize Your Book**
Are you publishing a book? If so, let ASCB know! Send the title, publisher, ISBN information, and a thumbnail (300 dpi) of the cover. We’ll include it in the ASCB Newsletter. This publicity is available only to ASCB members. Please send submissions to Thea Clarke at tclarke@ascb.org.

**Volunteer to Review CVs**
Give back to your cell biology community by signing up to help younger ASCB members with online CV review. We are always looking for more volunteers, including ASCB members in academia and industry, to help review cover letters, CVs, and resumes of young ASCB scientists. We will match you, and will only ask you to review two or three times a year. If you can help, please contact Thea Clarke at tclarke@ascb.org.
Know an Assistant Professor in Need of Grant Writing Help?

The ASCB Faculty Research and Education Development (FRED) Mentoring Program aims to promote grant funding success for junior faculty or senior postdocs at minority-serving institutions and other institutions with a commitment to students that are underrepresented in STEM. By partnering early-career scientists with successful senior scientists, this program enables junior faculty to receive individualized and structured help for one year and make use of extensive feedback to develop a competitive grant proposal.

FRED is run by the ASCB Minorities Affairs Committee and is a National Science Foundation (NSF)–funded opportunity for junior faculty to work with more senior faculty with an excellent track record of grant funding with the direct goal of preparing and submitting a strong proposal to the NSF, the National Institutes of Health (NIH), or a comparable funding agency. Proposals can be research- or education-focused, and participants will learn about the array of funding mechanisms open to them, beyond NIH R01-type grants. In the four years that this program has been available within ASCB, nearly all participants have submitted grant proposals, with over half obtaining funding, which is a higher than typical success rate. Participants benefit in additional ways, with many receiving promotions or committee appointments, publishing their work, or making other significant achievements that came about in part because of their involvement in the FRED program.

This year-long program facilitates regular communication between junior faculty and their selected senior faculty mentor. In addition, the program enables collaboration, networking, and professional development between the mentor and mentee. To achieve this, the FRED program provides funding for a summer career development workshop on grant writing, a mock grant review panel at the ASCB Annual Meeting in December, and the opportunity to exchange visits between the mentor’s and mentee’s institutions.

Strong candidates are those who, as faculty, will have an impact on underrepresented minorities in cell biology and STEM and are willing to work with a mentor to achieve funding success. To apply, a mentee must find an eligible and willing mentor and provide a summary of the anticipated impact of this grant on the mentee’s career. Most mentors do not find participation to be an undue time burden, want to do it again, and benefitted from being in the program in several ways. If an applicant does not have a mentor in mind, ASCB has suggestions to help or will try to help find one.

The next deadline for applications is March 15, 2018, and eligible candidates are highly encouraged to apply. More information on the program and past participants is available at: www.ascb.org/fred-home. For questions, please email Sydella Blatch at sblatch@ascb.org.

—Pinar Gurel, FRED Grant Writing Mentoring Program Consultant

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.
Alliance of Scientific Societies for Broad Participation in STEM

The Biophysical Society and the ASCB are leading an effort with the support of the National Science Foundation to create an Alliance of Scientific Societies for Broad Participation in STEM to promote participation in STEM by the next generation of scientists. The other founding partners are the American Society for Biochemistry and Molecular Biology, the American Society for Pharmacology and Experimental Therapeutics, the Endocrine Society, and the Scientific Career Research and Development Group at Northwestern University. The ultimate goal is for other scientific societies to join the Alliance as these efforts move forward.

Building a diverse and inclusive STEM workforce is a goal shared by many institutions. However, the efforts to understand effective interventions leading to increased participation of underrepresented individuals in STEM remain isolated in their scientific disciplines. The Alliance aims to serve as a unified voice across disciplines to help community members establish effective ways to coordinate collective efforts to address the needs of minority scientists, thus improving the efficiency and dissemination of programs that serve underrepresented minorities.

The Alliance will achieve its goals by conducting a three-meeting conference series that will bring together the committees for diversity, inclusion, and minorities affairs and society leadership from many professional/scientific societies and other stakeholders that advocate the diversification of our STEM workforce.

If you would like to learn more about these efforts please contact the Alliance leadership: Marina Ramirez-Alvarado (ramirezalvarado.marina@mayo.edu) or Veronica Segarra (vsegarra@highpoint.edu).

—Veronica Segarra, Minorities Affairs Committee

Graduate Students and Postdocs

Apply for an Early Career Meeting Grant to organize a one-day local meeting

Deadline for Applications: June 14, 2018
#ascblocal

For more information go to ascb.org/earlycareermeetinggrants or email ascbinfo@ascb.org.
Triangle Cytoskeleton Meeting  
Saxapahaw, NC. September 25, 2017

The Triangle Cytoskeleton Meeting (TCM) is a local meeting that aims to highlight the quality and novelty of the cytoskeleton research being done in the Triangle area of North Carolina and beyond. The fourth annual TCM kicked off at Yesteryears Brewery on September 24 for a pub-tech night focusing on innovative technologies, featuring invited speakers Caroline Laplante (North Carolina State University) and Klaus Hahn (University of North Carolina, Chapel Hill). The full-day meeting took place on September 25, with talks from Daniel Lew (Duke), Stephanie Gupton (University of North Carolina, Chapel Hill), and our keynote speaker François Nédélec (EMBL Heidelberg), in addition to all the brilliant talks from trainees. Topics ranged from the cytoskeleton in development and disease and the mechanics and structure of the cytoskeleton, to quantitative approaches to the cytoskeleton.

UCLA Mitochondria Symposium  
Los Angeles, CA. November 2, 2017

On November 2, 2017, UCLA played host to the inaugural Mitochondria Symposium, which was generously supported in part by the ASCB. Over 135 scientists from the West Coast descended upon Los Angeles to learn and share in the latest developments in mitochondrial research. Meeting highlights included novel techniques in metabolite analysis shedding new light on the relationship between the TCA cycle and mitochondrial dynamics, and the discovery of functionally distinct subpopulations of mitochondria in brown adipocytes. The afternoon saw hotly contested junior talk and poster competitions. The first prize winners were Ting Zhang and Huan Yang, respectively. The organizers would like to thank all speakers, attendees, and sponsors for making the meeting a huge success.

Biological Soft Matter Meeting  
Boston, MA. November 17, 2017

The Biological Soft Matter Meeting for early career researchers was held on November 17, 2017. Exclusively for graduate students and postdocs, this meeting was attended by researchers from a dozen local universities and focused on topics at the interface of cell biology and physics such as assembly of membranes and vesicles, emergent behaviors in complex systems, and the physics of cytoskeletal components. Additionally, this meeting featured a career panel on transitioning from PhD to faculty and industry with panelists from local software and pharma companies and universities. The Biological Soft Matter Meeting was the first annual scientific program hosted by Boston Soft Matter Socials, a Boston area meetup group focused on community building among early career Boston area researchers.

ASCB is pleased to provide Early Career Meeting Grants to graduate students and postdocs to organize one-day meetings. Such meetings usually involve two or more institutions (within the United States or international), and topics can range from basic science to career development as long as there is clear relevance to the broadly defined field of cell biology.

The next deadline to apply for funds is June 14, 2018. Applicants must be or become members of the ASCB.

For more information visit www.ascb.org and click on “Meetings.”
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On the Cover

Fluorescence micrograph showing the cross-section of bulrush (Juncus sp.) leaf, autofluorescing red (chlorophyll on external side of leaf) and blue (vascular bundles). The diameter of the stalk is approximately 3 mm. Image by Jan Martinek, Honorable Mention, 2011 Olympus BioScapes Digital Imaging CompetitionÆ. Attribution Non-Commercial; No Derivatives License.
HIGHLIGHTS from MBoC

The Editorial Board of Molecular Biology of the Cell has highlighted the following articles from the November and December 2017 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.

To understand various nuclear functions, it is critical to know about the nuclear environment in live cells. Using orientation-independent differential interference contrast (OI-DIC) microscopy, which is capable of mapping optical path differences (OPD), Imai et al. (Mol. Biol. Cell 28, 3349-3359) investigated the density of total materials in chromatin regions in live mouse NIH3T3 and human RPE1 cells. The image shows an OPD gradient map of live NIH3T3 cells. The image brightness corresponds to the OPD gradient magnitude, and the color depicts the OPD gradient direction. The image visually highlights various cellular structures including cell membranes, nuclear envelopes, vesicles, and nucleoli, and it can be used to precisely measure their dimensions. (Image: Ryosuke Imai, Tadasu Nozaki, Tomomi Tani, Michael Shribak, and Kazuhiro Maeshima)

Genome-wide screen of gamma-secretase–mediated intramembrane cleavage of receptor tyrosine kinases
Johannes A. M. Merilahti, Veera K. Ojala, Anna M. Knittle, Arto T. Pulliainen, and Klaus Elenius
Mol. Biol. Cell 28 (22), 3123–3131

Centrosome defines the rear of cells during mesenchymal migration
Jian Zhang and Yu-li Wang
Mol. Biol. Cell 28 (23), 3240–3251

Hemodynamic forces can be accurately measured in vivo with optical tweezers
Sébastien Harlepp, Fabrice Thalmann, Gautier Follain, and Jacky G. Goetz
Mol. Biol. Cell 28 (23), 3252–3260
Multi-scale tracking reveals scale-dependent chromatin dynamics after DNA damage
Judith Miné-Hattab, Vincent Recamier, Ignacio Izeddin, Rodney Rothstein, and Xavier Darzacq
Mol. Biol. Cell 28 (23), 3323–3332

Coordinated increase of nuclear tension and lamin-A with matrix stiffness outcompetes lamin-B receptor that favors soft tissue phenotypes
Amnon Buxboim, Jerome Irianto, Joe Swifi, Avathamsa Athirasala, Jae-Won Shin, Florian Rohfeldts, and Dennis E. Discher
Mol. Biol. Cell 28 (23), 3333–3348

Density imaging of heterochromatin in live cells using orientation-independent-DIC microscopy
Ryosuke Imai, Tadasu Nozaki, Tômomi Tani, Kazunari Kaizu, Kayo Hibino, Satoru Ide, Sachiko Tamura, Koichi Takahashi, Michael Shribak, and Kazuhiro Maeshima
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Mol. Biol. Cell 28 (23), 3397–3414

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MrpL35, a mitospecific component of mitoribosomes, plays a key role in cytochrome c oxidase assembly
Jodie M. Box, Jasvinder Kaur, and Rosemary A. Stuart
Mol. Biol. Cell 28 (24), 3489–3499

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Mol. Biol. Cell 28 (24), 3517–3531

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Activation of ROCK and MLCK tunes regional stress fiber formation and mechanics via preferential myosin light chain phosphorylation
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Mol. Biol. Cell 28 (26), 3881–3895
MEETINGS Calendar

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

**February 26–28, 2018. Bangkok, Thailand**
Integrative Biology 2018.
www.integrativebiologyconference.org.

**March 15–17, 2018. Berlin, Germany**
Undoing Aging: Accelerating Rejuvenation Therapies to Repair the Damage of Aging.

**April 11–15, 2018. Banff, AB**
Membrane Proteins in Health and Disease

**May 21–22, 2018. Valencia, Spain**
2nd World Congress on Cell Science and Molecular Biology

**June 3–6, 2018. Nassau, Bahamas**
The Ubiquitin System: Function, Physiology and Its Role in Disease.
www.fusion-conferences.com/conference77.php.

**July 17–22, 2018. Washington, DC**
2018 Ciliate Molecular Biology.

**July 23–27, 2018. Lisbon, Portugal**
11th European Conference on Mathematical and Theoretical Biology

**ASCB Annual Meetings**

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**NEW! Optical Beam Combiner**

- 4 channel ultra high speed LED light source
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- Liquid light guide output

**Lambda 421**

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New ASCB Committee Members
Approved by Executive Committee

With the exception of members on the Nominating Committee, who serve one-year terms, the other committee members will serve three-year terms beginning in 2018.

Committee for Postdocs and Students
Gaia Cantelli, Duke University
Rocio Gomez, San Francisco State University
Amanda Haage, University of British Columbia
Margherita Perillo, Boston College
Sara Wong, University of Michigan-Ann Arbor
Peter Yu, Ohio State University

Education Committee
George M. Risinger, Oklahoma City Community College

Finance & Audit
Yvonne Appiah, Association for Financial Professionals
Konrad Schweitzer, RSM US LLP

International Affairs
Buzz Baum, University College London
Roberto Bruzzone, Hong Kong University
Antonella De Matteis, Telethon Institute of Genetics/Medicine
Fernanda Leite, Centro Hospitalar Do Porto
Paul Mungai, U.S. Department of State
Rytis Prekeris, University of Colorado
Ronen Zaidel-Bar, Tel Aviv University
Hong Zhang, Chinese Academy of Sciences

Membership
Malcolm Campbell, Davidson College

Minorities Affairs
Blake Riggs, San Francisco State University
James Olzmann, University of California, Berkeley
Ahna Skop, University of Wisconsin-Madison

Nominating
Arshad Desai, Ludwig Institute of Cancer Research
Amy Gladfelter, University of North Carolina, Chapel Hill
Denise Montell, University California, Santa Barbara
Max Nachury, University of California, San Francisco
Jody Rosenblatt, University of Utah
Peter Walter, University California, San Francisco
Gia Voeltz, University of Colorado, Boulder

Public Information Committee
Mar Carmena, Wellcome Trust Centre for Cell Biology
Soni Lacefield, Indiana University
Bloomington
Ryoma (Puck) Ohi, University of Michigan
Richard Sever, Cold Spring Harbor Laboratory Press
Callie Preast Wigington, Stanford University

Public Policy
Sue Jaspersen, Stowers Institute for Medical Research
Mark Peifer, University of North Carolina, Chapel Hill

Women in Cell Biology
Erin Goley, Johns Hopkins University School of Medicine
Edwin Munro, University of Chicago
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<td><strong>BRONZE ($250 to $499)</strong></td>
<td>Michael Berns, Alexander Bershadsky, Donald Brown, Eric Brown, Nirupa Chaudhari, Takeshi Fujiwara, Celia Garcia, Benjamin Glick, Gregg Gundersen, Rebecca Heald, Ralf Jacob, Geri Kreitzer, Connie Lee, Lee Ligon, Laura Lowery, Frederick Maxfield, Anne Spang, Deborah Sweet, Lydia Villa-Komaroff, Claire Walczak, MariaElena Zavala</td>
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Mary Beckerle, director of the Huntsman Cancer Institute at the University of Utah, has been awarded the Alfred G. Knudson Award in Cancer Genetics from the National Cancer Institute (NCI). The award is presented by NCI each year to a scientist who has made significant research contributions to the field of cancer genetics.

Lynne E. Maquat, J. Lowell Orbison Endowed Chair and professor in the Department of Biochemistry and Biophysics at the University of Rochester School of Medicine and Dentistry, received the 2017 Vanderbilt Prize in Biomedical Science. The prize was established by Vanderbilt University School of Medicine to honor women scientists with outstanding research accomplishments who have made significant contributions to mentoring other women in science. Maquat is the founding director of the University of Rochester’s Center for RNA Biology.

Anthony Hyman, the managing director of the Max Planck Institute of Molecular Cell Biology and Genetics in Dresden, was awarded the Schleiden Medal during the September 2017 annual meeting of The National Academy of Sciences Leopoldina in Germany. The Schleiden Medal honors scientists for their outstanding insights in the field of cell biology.

Books by Members


Multiple Sclerosis: Perspectives in Treatment and Pathogenesis, (2017), Editors Ian S. Zagon and Patricia J. McLaughlin, (Chapter on The Genetics of Multiple Sclerosis contributed by Alessandro Didonna and Jorge R. Oksenberg), Codon Publications, Brisbane, Australia. A free online version is available at http://codonpublications.com
DEAR Labby

Balancing Demands as a New Faculty Member

Dear Labby,

I am just completing my first semester as an assistant professor. After five years as an international postdoc I thought that this time would never happen. We now live in a relatively rural part of the United States, in contrast to our former city life. My lab space renovation is almost complete, and I am also negotiating the renovation of our newly purchased home. Because my lab was not move-in ready, I have been asked to take on some administrative duties and additional teaching. I am reluctant to accept either because I must finish up a manuscript that will set me up for my first proposal, I have to prepare that proposal, and I have to prepare course materials for a graduate seminar.

In addition, my family members are having some difficulties adjusting to this new place. My family has been welcomed to the department through dinners and play dates for our children, but we have not been able to invite folks to the construction zone that is currently our house (after six months we are still living out of boxes). I don’t want to seem unappreciative by not reciprocating this generosity, but I am having trouble managing my roles. Thank you for any advice you can offer.

—Newbie

Dear Newbie,

Congratulations on your position! Getting settled does take time. Right now focus on getting your laboratory set up and your first proposal submitted. An important thing to learn as a new faculty member is to say, “Thank you for this opportunity; I know that this is important work, but for now I have to launch my laboratory and prepare a proposal. I will be happy to help with these efforts in the future.” Does your department have a new faculty mentoring program? If so then take advantage of it. If not then perhaps your university has such a program. Or seek mentorship from your colleagues or your chair (unless he or she is doing the asking) to help you determine how much “extra work” you should take on.

While you are still living out of boxes, you might want to invite colleagues out for coffee on or off campus. Once your house has evolved from a construction zone to a home, you could invite your colleagues over for barbeque or dessert. Everyone who has moved with family to a new place has faced similar problems, and it takes time to get everything and everybody sorted out. You do have tough balancing act right now. Now is the time to use your organizational skills to set up a schedule with realistic timelines so that you can accomplish what you need and want to accomplish while you have all of this “free” time.

Labby is confident that you will soon be able to sort things out and begin to really enjoy your new position and your new home!

—Labby

Got Questions?

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