THE AMERICAN SOCIETY FOR CELL BIOLOGY
The science of life, the life of science

ASCB NEWSLETTER

NOVEMBER 2012

VOLUME 35, NUMBER 10

Treasurer's Report
Page 11

How to Use LinkedIn
Page 15

Microscopy Course in Istanbul
Page 24

Inside

Join the Conversation:

AmerSocCellBio

Treatment for "Untreatable" Progeria Has Roots in Untargeted Basic Cell Research

In September the news media widely reported positive results from a clinical drug trial at Boston Children's Hospital (BCH) for progeria, a previously "untreatable" rapid aging disorder in children. The good news from that trial has its scientific roots in basic biology discoveries about nuclear lamin proteins made by researchers in recent years.

In a paper published online September 24 by the *Proceedings of the National Academy of Sciences* (*PNAS*), clinical researchers at BCH reported that a farnesyl transferase inhibitor (FTI) significantly slowed the progress of progeria, a rare and until now untreatable progressive genetic disorder.[1] Also known as Hutchinson–Gilford progeria syndrome, progeria has been described as out-of-control rapid aging in children.

Progeria, continued on p. 6

The human face of HGPS: Lindsay, age 7½. Photo courtesy of the Progeria Research Foundation.

Sequestration—It's the Law

Sequestration is right around the corner and it will have devastating effects on the National Institutes of Health and the National Science Foundation.

During the summer of 2011, legislation passed by Congress and signed into law by President Obama to resolve the federal debt limit crisis included the creation of a Super Committee to identify at least $1.2 trillion in cuts to federal spending over 10 years. Because the Super Committee could not reach an agreement, a provision of the legislation kicks in that will mandate $1.2 trillion in cuts across all portions of the federal budget, except veteran's programs, on January 2, 2013. That process is called sequestration and it was intended to be a Sword of Damocles to force the committee to make targeted cuts. In reality, it became an alternative to making hard choices.

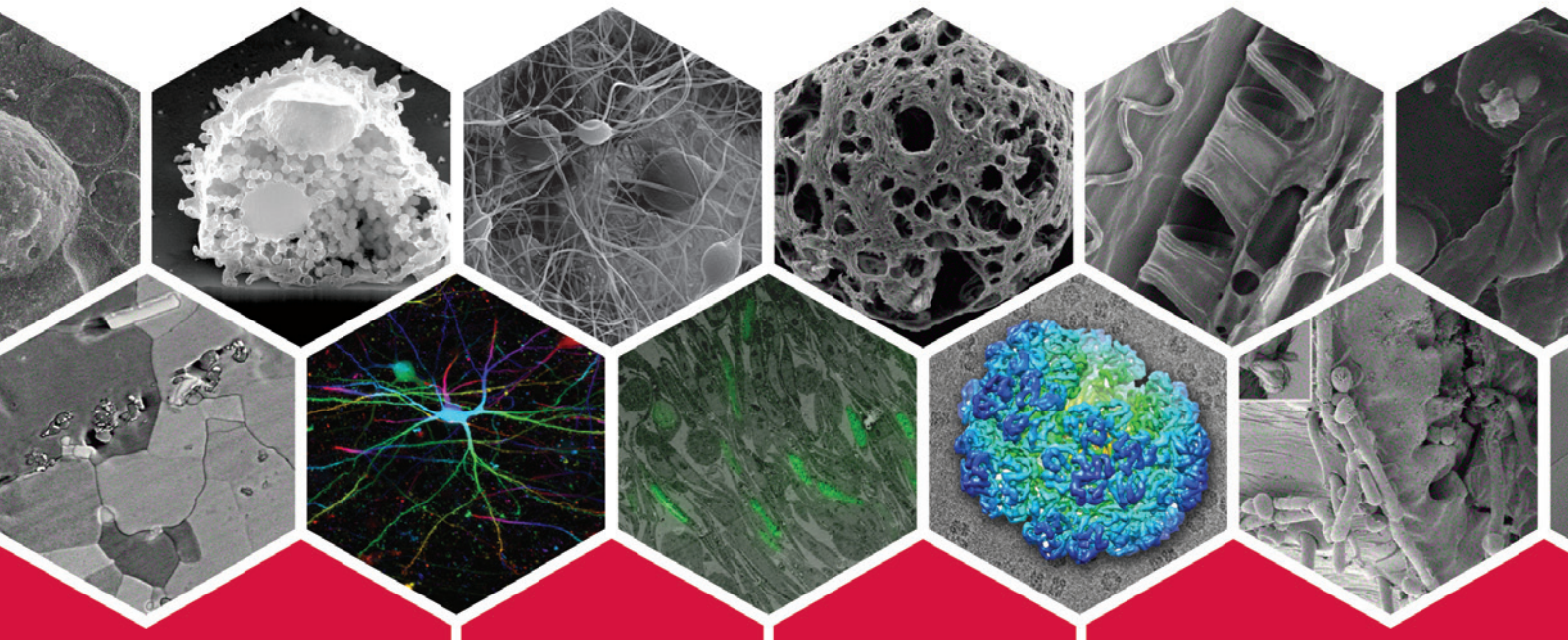
Most debate in Washington, DC, centers around what could happen if a bill were passed or a policy were implemented. This debate is different. Sequestration WILL happen, it's already law. Now, in an outrageous example of buyer's remorse, debate is focused on ways to stop it, delay it, or reduce the impact.

Congress needs to hear from you about what these cuts will do to your research. For details, go to www.ascb.org/sequestration.html. ■

—Kevin M. Wilson

For more information on the impact of sequestration, see Public Policy Briefing, p. 19.

Explore complex biological systems
Discover new context
Resolve to new breakthroughs



Live cell imaging

Correlative analysis

Structural biology research

FEI's innovative workflow solutions deliver fast, high-quality results that enable biological researchers to make breakthrough discoveries that place them at the forefront of scientific inquiry.

FEI™ Explore. Discover. Resolve.

Learn more at FEI.com/LifeSciences

Three Challenges for the ASCB: Finding New Scientific Directions, Communicating, Engaging Young Scientists

As the year draws to a close, it is time to look ahead. In the past year, the elected leaders of the ASCB and other scientists have had a lively discussion about future directions for the Society. A two-day ASCB leadership retreat held in June in Chevy Chase, MD, yielded several ideas that represent multiyear challenges for our Society. In this column, I outline three such challenges in broad terms. We are executing in some areas, but still gathering our thoughts in others. Thus it is a particularly good time to get feedback from our membership, especially as my term as President is ending and Don Cleveland (our new President) and Stefano Bertuzzi (our new Executive Director) are preparing to lead the ASCB in 2013.

Ron Vale

Taking the Lead in Defining New Scientific Directions

Science is constantly changing. When ASCB was founded 52 years ago, cell biology was a new discipline that was creating its own identity distinct from older fields such as biochemistry and genetics. The new field of cell biology, utilizing tools such as electron microscopy, was discovering the internal organelles and structures of the cell, thus creating the impetus to pursue new scientific directions. However, in 2012 cel biology is a more mature discipline. Furthermore, the demarcations between biological disciplines are becoming blurred as new technologies and deeper understanding of living systems are bringing fields closer together. Cell biology, as the study of the basic unit of life, is now intertwined with many disciplines from microbiology to immunology. While this places cell biology at a desirable intersection, it also poses challenges for how the ASCB defines its science. We want to be proactive in defining our identity and also take a leadership role in identifying new scientific opportunities for the ASCB and the field of cell biology. Our Annual Meeting provides an important opportunity to advance scientific exchange in the areas that have been historical strengths of the ASCB (e.g., cytoskeleton, organelles, polarity, extracellular matrix) as well as to explore new areas in which the mechanistic approaches of cell biology might contribute. In the upcoming Annual Meeting in San Francisco and the following meeting in New Orleans, we are trying a two-year experiment of expanding the meeting content in two areas that constitute important frontiers of cell biology: Cell Biology and Medicine and the Intersection of the Physical Sciences with Cell Biology. Talks related to these two topics will be identified in the *Program* as part of "Threads" so that they can be easily recognized. Both of these interfaces of cell biology with other disciplines hold great promise, but they are far from mature. Biotech and pharma, by and large, are not particularly strong in cell biology and also are shying away from long-term research programs that require developing new knowledge about cell mechanisms. Conversely, academic scientists who study molecular and cellular mechanisms often lack sufficient knowledge of

We want to be proactive in defining our identity and also take a leadership role in identifying new scientific opportunities for the ASCB and the field of cell biology.

The American Society for Cell Biology

8120 Woodmont Avenue, Suite 750
Bethesda, MD 20814-2762, USA
Tel: 301-347-9300
Fax: 301-347-9310
ascbinfo@ascb.org, www.ascb.org

Stefano Bertuzzi
Executive Director

Officers

Ronald Vale — *President*
Don W. Cleveland — *President-Elect*
Sandra L. Schmid — *Past President*
Thoru Pederson — *Treasurer*
Kathleen J. Green — *Secretary*

Council

Sue Biggins
David Botstein
A. Malcolm Campbell
Raymond J. Deshaies
Benjamin S. Glick
Akihiro Kusumi
Inke Näthke
Mark Peifer
James H. Sabry
David L. Spector
JoAnn Trejo
Yixian Zheng

The *ASCB Newsletter* is published 11 times per year by The American Society for Cell Biology.

W. Mark Leader — *Editor*
Johnny Chang — *Production Manager*
Kevin Wilson — *Public Policy Director*
John Fleischman — *Science Writer*
Thea Clarke — *Director, Communications and Education*

Advertising

The deadline for advertising is the first day of the month preceding the cover date. For information contact Advertising Manager Ed Newman, enewman@ascb.org.

ASCB Newsletter
ISSN 1060-8982
Volume 35, Number 10
November 2012

© 2012 The American Society for Cell Biology. Copyright to the articles is held by the author or, for staff-written articles, by the ASCB. The content of the *ASCB Newsletter* is available to the public under an Attribution-Noncommercial-Share Alike Unported Creative Commons License (http://creativecommons.org/licenses/by-nc-sa/3.0).

Postmaster: Send change of address to:
ASCB Newsletter
The American Society for Cell Biology
8120 Woodmont Avenue, Suite 750
Bethesda, MD 20814-2762, USA

ASCB could play an important role in facilitating conversations that could lead to new mechanism-based approaches in medicine.

human physiology to look far ahead to see how their work might lead to medical outcomes. ASCB could play an important role in facilitating conversations that could lead to new mechanism-based approaches in medicine.

The physics community also is now very interested in biological systems. However, there are many conceptual and departmental barriers that have separated biologists and physicists. Physicists want to learn the most interesting problems to tackle about how cells work, and ASCB is the perfect group to help them. Biologists also need to know how physicists and computational scientists might help them in their quests. This is another conversation that ASCB can facilitate both in the form of meetings and through its journal *Molecular Biology of the Cell.*

Outside of the events at the Annual Meeting, ASCB also can play a strategic role in stimulating thought about exciting scientific frontiers, identifying scientific or programmatic barriers that impede progress in those areas, and perhaps catalyzing changes to overcome those barriers to entry. We have very talented scientists in the ASCB membership who can take on these intellectual challenges. We are a distributed, international think tank, or by another analogy, a scientific National Guard that can be mobilized to address important scientific problems or opportunities. Our standing ASCB committees function to some extent in this fashion; they bring members together to address profession-related challenges throughout the year (e.g., increasing participation of minorities and women in science, public policy, education). But we do not have a standing committee tasked with identifying new scientific opportunities.

We have launched…a working group this year that is charged with investigating how the cell biology community might develop and embrace cell models that are more reflective of the physiology of cells in tissues than is the case for the cancer cell lines (e.g., HeLa) that are widely used in research today.

To complement its standing committees, ASCB can organize scientists into temporary working groups that function similarly to task-based committees at the National Academy of Sciences. We have launched such a working group this year that is charged with investigating how the cell biology community might develop and embrace cell models that are more reflective of the physiology of cells in tissues than is the case for the cancer cell lines (e.g., HeLa) that are widely used in research today. The scope of the scientific discussion will be left to the working group but will likely include new human stem cell models (e.g., induced pluripotent stem cells) as well as cells from model organisms. A critical topic of discussion will be identifying barriers that limit use of such cells in the broader cell biological community and how we might overcome those barriers. The working group also will identify critical questions about stem cell function that might benefit from study by mechanistic cell biologists who could be attracted to this research area.

The working group, which has just formed, is being chaired by Larry Goldstein, Elaine Fuchs, and Jim Spudich. David Burgess, George Daley, Arshad Desai, David Drubin, Rusty Gage, Rudy Jaenisch, Ruth Lehman, Phil Newmark, and Sally Temple will serve as members. This is a fantastic group of scientists, and ASCB's job is to facilitate their interactions and discussions. The working group will brainstorm ideas in 2013 and produce a white paper that may influence scientific thinking. Some of the ideas that emerge may also shape future grant opportunities from funding agencies. This working group is the first ship of its kind to be launched by the ASCB, but we are optimistic that it might be a good model for how ASCB can take a leadership role in analyzing and catalyzing other scientific opportunities in the future.

A Year-Round Society with New Communication Mechanisms

The Annual Meeting serves as a centerpiece of scientific communication for the ASCB. There is no substitute for face-to-face communication. However, the world is vastly different from when the first ASCB meeting was held in 1961.

Through the Web, scientific communication now takes place at work, at home, at a coffee shop, or even during a five-minute wait for a bus. The young scientists who are now graduating from college have grown up in a Web-based environment, and ASCB must adapt to this new world if we are to engage our members throughout the year. The Web offers enormous opportunities to communicate scientific news, to educate ourselves in new science and techniques, to allow members to communicate with one another, and to enable young scientists to engage with scientific leaders.

We have embarked on some important Web projects such as the The Cell: An Image Library-CCDB and iBioSeminars.org/iBioMagazine.org (to be unified early next year in a new URL called iBiology.org). However, this is only scratching the surface, and our leadership is looking to revitalize the ASCB website and its content. Fortunately, we have the human resources in place to improve and innovate. We have a great information technology director (Mike McCormack), talented individuals in charge of communication through our newsletter and journals (Thea Clarke, Mark Leader, John Fleishman, David Drubin, Erin Dolan), and a new Executive Director (Stefano Bertuzzi) who is starting his job at ASCB this month and formerly headed Science Policy and Communications at the National Institute of Mental Health. We also want to gather ideas from you on how we should structure our website and what types of content and interactions would be most useful to our members. We are at an early planning stage, so please feel free to send ideas to president@ascb.org.

Members will be hearing more about our communications initiatives, and volunteers (from graduate students to postdocs to full professors) will be needed to define and implement them. Stay tuned!

The Web offers enormous opportunities to communicate scientific news, to educate ourselves in new science and techniques, to allow members to communicate with one another, and to enable young scientists to engage with scientific leaders.

Making ASCB Relevant for Young Scientists

The ASCB leadership wants our Society to serve the needs of young scientists. We want young scientists to identify with and join ASCB, not only because of the subject matter of cell biology, but also because they view ASCB as the society that is best aligned with promoting their career interests and professional development. ASCB strongly values young scientists, and a substantial fraction of our programming at the Annual Meeting is directed specifically to young scientists. We also started new programs this year such as sponsoring local meeting that are organized by graduate students/postdocs throughout the world.

Still, the Society's leadership appreciates that we need to stretch ourselves more to develop new ways to integrate young scientists into our Society by offering them further opportunities for leadership as well as programs that facilitate their professional development. As discussed above, we need to restructure the website so that there is more relevant material for them. Young scientists are facing more difficult decisions and challenges than when I was a student. We need to listen to their concerns, and the senior ASCB leadership need to be their advocates. We need to think at a national and global level on how to ensure good outcomes for students who love the life sciences and wish to incorporate such training in their careers. In the past decade, scientific societies (with ASCB taking the lead) have learned to be effective advocates for research funding, but we have not thought as deeply as we should about our own profession. However, education, career structures, and how research funding is distributed loom as important issues to address if research funding (particularly in the United States) fails to grow significantly in the coming years. Young scientists expect their Society and its leaders to be proactive in these areas, and ASCB is committed to this task in the coming years. ■

Progeria, continued from p. 1

A "normal" baby born with progeria will stop growing by age 16–18 months and quickly develop signs of old age, including hair loss, thin skin, osteoporosis, and, most dangerously, progressive arteriosclerosis. By 10 years of age, progeria children appear to be 80. The *PNAS* paper reported a significant slowing of bone loss and blood vessel blockage.

The clinical trial grew out of the identification of the defective progeria gene, *LMNA*, in 2003 through the Human Genome Project and the laboratory of current NIH Director Francis Collins. But the link to defective proteins called lamins, which make up the envelope surrounding the cell nucleus, came about through years of untargeted basic cell biology research. Veteran lamin researchers remember having review panels dismiss their grant applications as "boring" and irrelevant. But basic work by Robert Goldman at the Northwestern University School of Medicine and many other nuclear lamin researchers around the world revealed that a greasy tag molecule called farnesyl accumulates on defective lamin A proteins, eventually warping the structure of the entire nuclear envelope and disrupting the transcription and translation of genetic instructions for orderly growth.

Identifying the defective *LMNA* gene transformed progeria into a laminopathy, a new and growing class of diseases caused by problems with the once-irrelevant nuclear lamins. Normal aging is thought to involve many of the same processes as laminopathies, giving this new clinical trial implications beyond progeria. With the discovery of the lamin link, clinical researchers began to search for a suitable FTI for progeria. They zeroed in on lonafarnib, an FTI drug developed by Merck. Lonafarnib had been extensively tested and deemed safe for use in adults and children but was ineffective against its intended head and neck tumor targets. In this 2.5-year clinical trial, physicians at BCH gave lonafarnib to 26 children with progeria.

ASCB has been reporting on the lamin–progeria link since 2006. In 2008, the *ASCB Newsletter* published a report on the proposed clinical drug trial.[2] For those interested in the scientific background of progeria, ASCB has compiled these earlier reports and made them available at www.ascb.org/progeria-background.html. ■

—John Fleischman

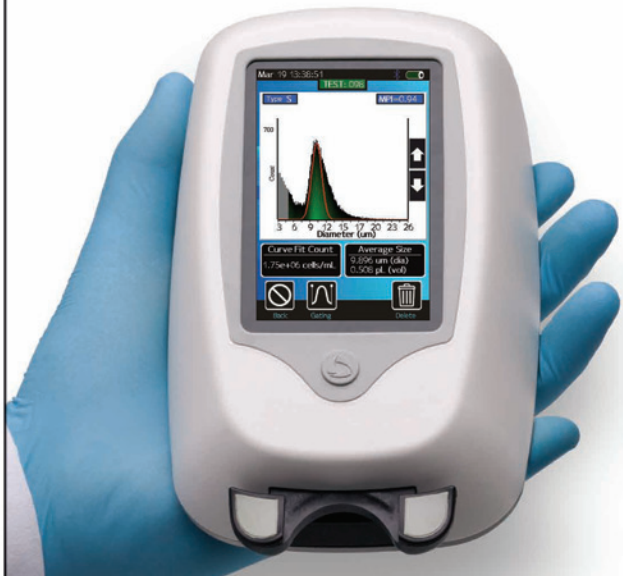
References

[1]Gordon LB et al. (2012). Clinical trial of a farnesyltransferase inhibitor in children with Hutchinson–Gilford progeria syndrome. *Proc Natl Acad Sci USA,* published online before print September 24, 2012; doi: 10.1073/pnas.1202529109.

[2]Fleischman J (2008). Racing the clock: combating accelerated aging in children. *ASCB Newsletter* 31(4):29–31.

ORFLO Transforming Cell Science

It takes Moxi to...



Perform a 3 parameter cell assay for $0.99 with...

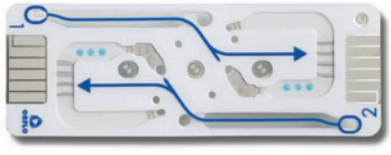
- Single cell resolution
- >96% accuracy and precision
- Cell count, volume and health indicator
- 8-15 second test time with "in-hood" capability

Product Description	Orflo PN	VWR PN	QTY	List Price
Moxi Z, 500 tests ($0.99/test)	MXZ004	89233-728	1	$3495
Moxi Z, 50 tests free	MXZ001	97065-500	1	$2995
S-Cassettes, 50 tests	MXC001	71003-046	1 pack	quote
M-Cassettes, 50 tests	MXC002	97065-502	1 pack	quote
Orflo Diluent, 100ml	MXA006	97065-512	1 bottle	quote

Contact Orflo or your VWR Rep for a live demonstration or to order today.

www.orflo.com

855-TRY-MOXI



Precision microfluidic cassette keeps your sample safely contained. No cleaning, no maintenance.

© Copyright 2012 Orflo Technologies, LLC. All rights reserved. The Orflo logo is a registered trademark of Orflo Technologies.

LOCAL Meetings

ASCB is pleased to provide funds for young scientists (graduate students and postdocs) to organize one-day local meetings. Such meetings 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. Two recently held meetings are described below.
The next deadline to apply for funds is April 1, 2013. Applicants must be or become members of the ASCB. For more information visit www.ascb.org and click on "Meetings," then "Local Meetings."

Attendees at the Oxford Fly Retreat got to know each other while constructing "arthropods."

The Oxford Fly Retreat

On September 13, 2012, more than 70 researchers from 14 different Oxford laboratories working on various research topics and using *Drosophila* as a model system gathered for the first Oxford Fly Retreat. This event was generously funded by the ASCB, and its aim was to allow this community of scientists to interact both scientifically and socially for one day. Attendees were from the University of Oxford and the Oxford Brookes University.

The first goal was achieved throughout four seminar sessions in which either a postdoc or graduate student from each lab presented an overview of the lab's research topics and described specific tools that may be of interest to other local fly researchers. A wide variety of subjects was covered, including neurobiology, evolution, aging and immunity, centrosomes, chromatin cohesion, noncoding RNA function and regulation, RNA localization and translation, and metabolism. The talks were of high quality and stimulated feedback and a substantial number of questions by the audience that were answered either by the speaker or other members of his or her lab.

A wide variety of subjects was covered, including neurobiology, evolution, aging and immunity, centrosomes, chromatin cohesion, noncoding RNA function and regulation, RNA localization and translation, and metabolism.

These sessions were followed by a competitive game (accompanied by a selection of drinks and nibbles) during which teams composed of group leaders and members from different labs tried to build the most realistic and creative "arthropod" from a kit made of various art-craft supplies. The game was extremely successful in promoting interaction among attendees from different labs, and all the teams worked hard at the animal construction!

A questionnaire that was distributed to the attendees revealed that 70% were able to identify potential collaborators during the meeting, and 78% identified tools from other labs that would be of use to their project. We are therefore confident that the main aims of the retreat were achieved and that the effects will be obvious in the following months with the development of local collaborations and exchange of knowledge and tools. ■

—Caroline Fabre and Catarina Vicente, University of Oxford

The Montréal Cell Cycle and Cytoskeleton Meeting

Less than a two-hour drive from the U.S. border, Montréal is the 15th-largest city in North America. It is a cosmopolitan city with four major universities (McGill University, Université de Montréal, Concordia University, and Université du Québec à Montréal) and numerous affiliated research institutes. In recent years Montréal has seen an influx of scientists interested in the cell cycle and cytoskeleton. Several of these meet monthly in a cell cycle club and two of them, Gilles Hickson and Alisa Piekny, proposed a one-day meeting to gather all the students, postdocs, and scientists from Montréal with an interest in the field. The goal was to initiate stronger communication and collaborations within our city among scientists interested in regulation of the cell cycle and cytoskeleton. The idea spread from lab to lab until three postdocs and a PhD student formed a committee to organize the first Montréal Cell Cycle and Cytoskeleton Meeting (MCCCM).

MCCCM's organizers and supporters: Gilles Hickson, Amel Kechad, Benjamin Lacroix, Melina Jaramillo Garcia, Chloë van Oostende, Jonas Dorn

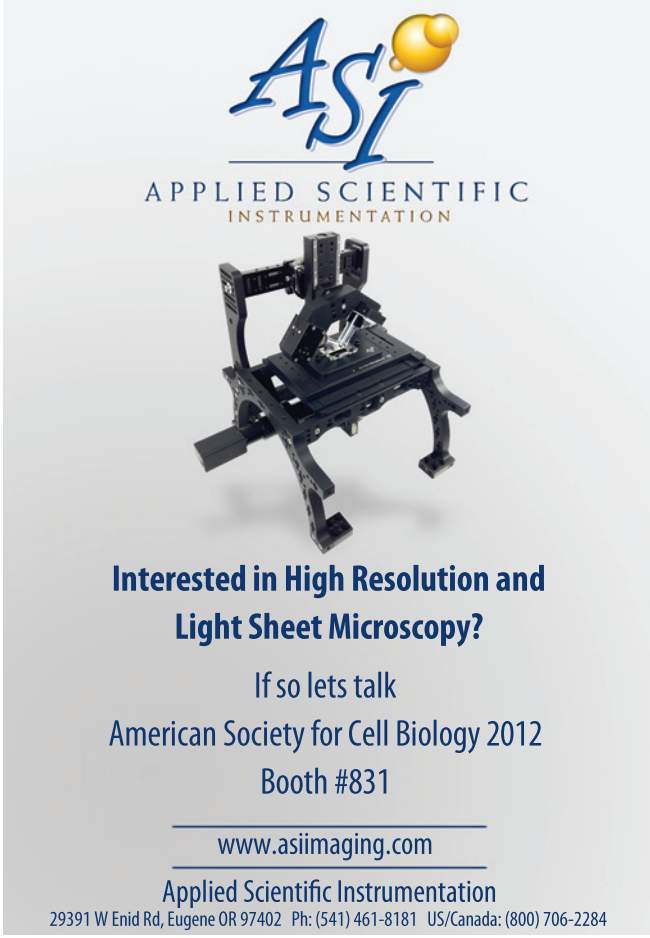
One recurring comment ... was, "This event feels like a mini–ASCB meeting."

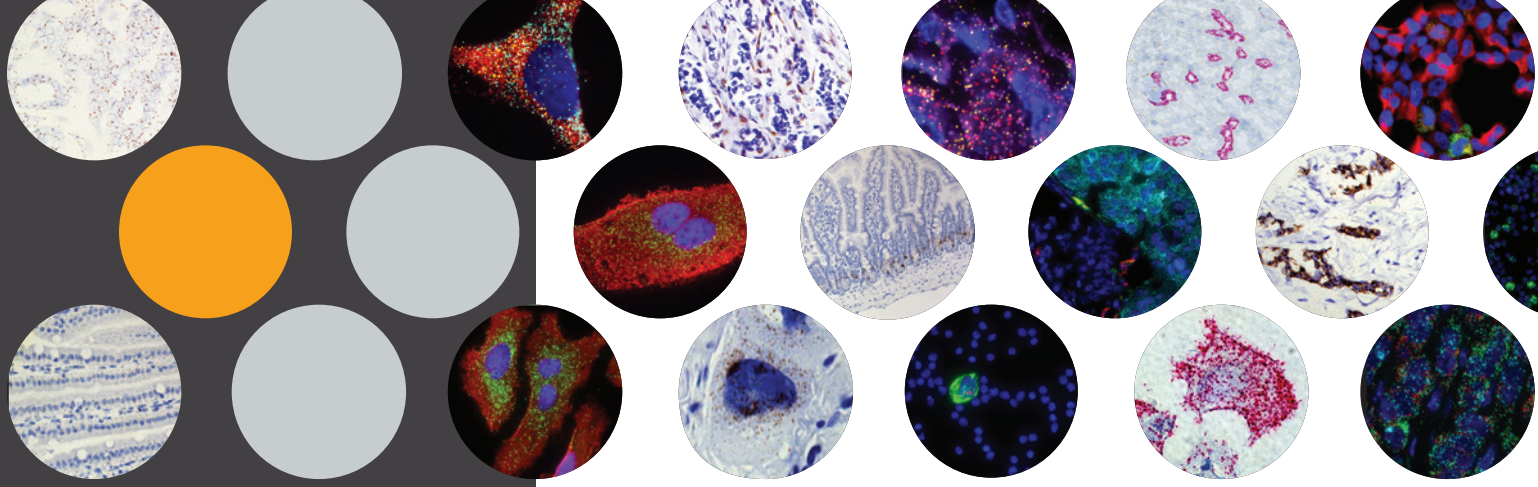
Thanks to generous support from the ASCB, MCCCM became a reality and took place on the beautiful grounds of the Concordia University, Loyola Campus, on August 24, 2012. This one-day event gathered 106 participants. Several companies were represented (Nikon, VWR, IDT, Fisher Scientific, and BioBasic). Eleven short oral communications by students and postdocs entertained us on very exciting and diverse subjects and techniques. A large diversity of model organisms was represented: *Caenorhabditis elegans*, *Drosophila melanogaster*, *Aspergillus nidulans*, yeasts, and mammalian cells. The subject areas covered a wide spectrum of cell biology questions: genome stability, chromosome condensation, kinetochore and centromere assembly, regulation of microtubule and actin cytoskeletons, cell migration, and cell cycle signaling.

The day was punctuated by poster session breaks, and we had the opportunity to have three lectures given by local PIs: Craig Mandato of McGill University and Amy Maddox and Sébastien Carréno of the Institute for Research in Immunology and Cancer (IRIC), Université de Montréal. We were impressed by the outstanding technology described in all of these talks: single molecule tracking by total internal reflection fluorescence microscopy, swept-field and confocal microscopy live imaging, and fluorescence recovery after photobleaching, to name a few.

The very friendly atmosphere of this meeting spawned many discussions and potential collaborations. One recurring comment from the many ASCB members present at MCCCM was, "This event feels like a mini–ASCB meeting." That is exactly what we had hoped for! Many people have expressed their desire to see this meeting become a yearly event, and we believe that this first initiative is the beginning of a long series of interactions among members of our local community. Thank you, ASCB. ■

— Benjamin Lacroix, IRIC; Chloë van Oostende, Concordia University; Amel Kechad, Hopital St. Justine; and Jonas Dorn, IRIC





RNAscope®

No Antibody?

No Problem!

in situ hybridization. easy. powerful.

RNAscope works for virtually any gene in any tissue!

- Exquisite sensitivity & specificity
- Optimized for archival FFPE tissue
- Easy 7-hour IHC-like workflow
- Quantifiable and automatable
- New assays in < 3 weeks
- Guaranteed assay performance

ACDbio @ASCB2012
Booth 1400

Suitable for:

- Biomarker Analysis
- Target ID & Validation
- Molecular Pathology
- Companion Dx
- Validate IHC Results
- Non-coding RNA
- Stem Cell Research
- Tumor Heterogeneity
- Rare-cell Analysis

ACD
ADVANCED CELL DIAGNOSTICS, INC

To place an order call 1-877-576-3636 | www.acdbio.com | order@acdbio.com | info@acdbio.com

CELLECTA

Simply the BEST RNAi Screening platform.

*Find out how to obtain FREE Pooled Lentiviral shRNA Libraries through the **Open Access DECIPHER Project** by visiting*

www.decipherproject.net

*or by finding us at the **ASCB Annual Meeting:***

Exhibit Booth # 536

Tutorial C: Monday, December 17th, from 6:45 - 8:15pm

Location: Room 112 (Dinner and refreshments will be served. Come early, as we may have a full room.)

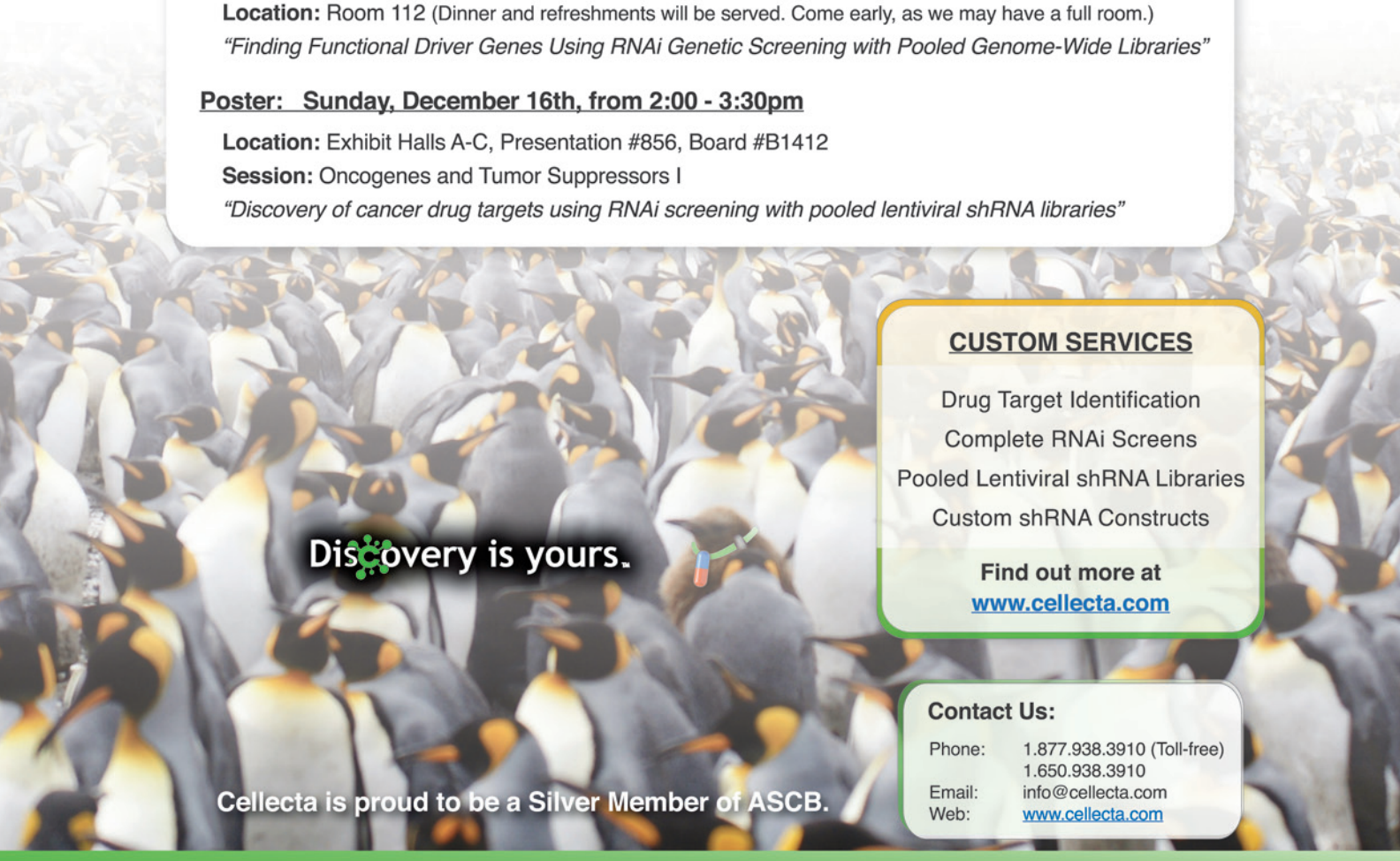
"Finding Functional Driver Genes Using RNAi Genetic Screening with Pooled Genome-Wide Libraries"

Poster: Sunday, December 16th, from 2:00 - 3:30pm

Location: Exhibit Halls A-C, Presentation #856, Board #B1412

Session: Oncogenes and Tumor Suppressors I

"Discovery of cancer drug targets using RNAi screening with pooled lentiviral shRNA libraries"



CUSTOM SERVICES

Drug Target Identification

Complete RNAi Screens

Pooled Lentiviral shRNA Libraries

Custom shRNA Constructs

Find out more at
www.cellecta.com

Contact Us:

Phone: 1.877.938.3910 (Toll-free)
1.650.938.3910
Email: info@cellecta.com
Web: www.cellecta.com

Cellecta is proud to be a Silver Member of ASCB.

TREASURER'S Report

2011: A Very Successful Year

I am pleased to report that ASCB continues to thrive financially and that 2011 was a very successful year for us.

We began 2011 with a budget anticipating net revenue of close to $293,000. At year end, ASCB's total operating revenue (not including investment gains, losses, interest, or dividends) was $6,830,355 and total expenses were $6,414,477, resulting in net operating revenue of $415,878. Investment revenue was budgeted at $125,000, whereas we ended the year with investment gains totaling $209,103, up $84,000 from budget. Unrealized losses were $122,024. (Unrealized losses are those that would be realized if equities or bonds were sold; their decreased value during the year is reflected in our financial statements.) Thus we ended 2011 with actual net revenue of close to $503,000.

Our 2011 income from three program areas—membership, the Annual Meeting, and our journal *Molecular Biology of the Cell* (*MBoC*)—once again demonstrated how critical these are to the financial health of ASCB.

Our 2011 income from three program areas—membership, the Annual Meeting, and our journal *Molecular Biology of the Cell* (*MBoC*)—once again demonstrated how critical these are to the financial health of ASCB. Net revenues for these program areas in 2011 were:

- Membership, $809,721
- Annual Meeting, $772,717
- *MBoC*, $602,654

Revenues from these three areas, along with federal and private grants, are the backbone of support for the many other programs and activities the Society provides to its members. These include initiatives in education, public policy, public information, minority affairs, international affairs, and women in cell biology, as well as support for the journal *CBE—Life Sciences Education* (*LSE*), the Coalition for the Life Sciences, and the *ASCB Newsletter*.

Membership

Membership revenue in 2011 was $1,007,806. This consisted mostly of $900,238 from individual membership dues, $35,000 from corporate dues, and other revenue including that from the job board and sale of mailing lists. Although total membership numbers in 2011 were down from 2010, we hope that the 2012 Annual Meeting in the popular venue of San Francisco will help us surpass our 2010 total of approximately 9,000 members.

Annual Meeting

Attendance at the 2011 Annual Meeting in Denver was lower than that at previous meetings. However, ASCB had anticipated the lower attendance and had budgeted conservatively. Moreover, through diligent efforts by ASCB staff, we saved more than $194,000 on food and beverage expenses and negotiated generous discounts from vendors and the Denver Convention Center. Ultimately, the 2011 meeting revenues totaled $2,324,471, just $16,000 lower than the amount we had budgeted. The membership needs to know that the ASCB staff do not wait for Annual Meeting costs to "happen"—they always work diligently to reduce them beforehand.

The 2011 Annual Meeting also benefited from approximately $103,500 of corporate support for numerous activities at the meeting and close to $16,000 of support from the National Institutes of Health, including from the National Institute of General Medical Sciences (NIGMS), Cell Biology and Biophysics Division; the Office of Research on Women's Health; the National Center for Research Resources; and the National Institute on Alcohol Abuse and Alcoholism. ASCB staff think creatively each year to raise funds to help keep membership fees and meeting registration rates as low as possible.

The membership needs to know that the ASCB staff do not wait for Annual Meeting costs to "happen"—they always work diligently to reduce them beforehand.

Grants also helped support aspects of the Annual Meeting in 2011. Grants from the Burroughs Wellcome Fund supported meeting activities organized by the Minorities Affairs and Women in Cell Biology Committees. Nature Publishing Group also awarded the Society a five-year, $60,000 grant to support childcare awards at the meeting. In 2011, these grants totaled about $32,000.

MBoC

In 2011 revenues from *MBoC* totaled $1,088,541. These revenues came from page charges, totaling just over $590,000; library subscriptions of close to $470,000; as well as reprint and advertising income. A total of 4,930 pages were published in the journal in 2011. About half of *MBoC*'s corresponding authors are ASCB members, who enjoy a 20% discount on page charges. Because there are no charges for color figures, it costs authors less

to publish in *MBoC* than in many competing journals. ASCB is committed to keeping author charges low for its members.

Other Revenue Streams

Another revenue source for the Society is advertising in the *ASCB Newsletter*, which brought in $227,000 in 2011. The Society also benefited from grants from the Carnegie Corporation of New York, which has supported the Africa training workshops for the last five years, and support from the Howard Hughes Medical Institute for *LSE*. ASCB also received approximately $1.67 million in federal grants in 2011. This included NIGMS support for The Cell: An Image Library-CCDB (www.cellimagelibrary.org) and the 23rd year of the Minorities Access to Research Careers grant for minority education. ASCB also received a new federal grant from the National Science Foundation to support iBioSeminars and iBioMagazine (www.iBioSeminars.org). Together, these grants provided indirect support to ASCB programs of over $140,000 in 2011.

The Bottom Line

The 2011 net budget surplus was $292,748, but ASCB's final year-end change in net assets was significantly higher—at $502,958. This delightful bonus was due to greater-than-budgeted revenue from our investments as well as membership operations, the Annual Meeting, *MBoC,* and *Newsletter* advertising. In addition, savings were realized through less-than-budget spending for both *MBoC* and *LSE*.

With the Treasurer's approval, Cynthia Godes, ASCB's Senior Director of Finance and Administration, recommended to the ASCB Executive Committee that approximately $250,000 of this net revenue be spent for new initiatives that the Executive Committee and Council might be contemplating.

Uses for Some of the Net Revenue

With the Treasurer's approval, Cynthia Godes, ASCB's Senior Director of Finance and Administration, recommended to the ASCB Executive Committee that approximately $250,000 of this net revenue be spent for new initiatives that the Executive Committee and Council might be contemplating. Subsequently, the ASCB Council approved $100,000 as seed money to start an endowment for *LSE*. Additional funds were also approved for local meetings, travel awards for the 2012 Annual Meeting, and two workshops with cell biology leadership and other national leaders to 1) address how ASCB might have an impact on the long-standing workforce challenges that face our members and 2) produce a white paper to articulate a needed vision on the future of stem cell biology.

Finally, I want to thank the Finance & Audit Committee members and Cynthia Godes for their commitment and work over the past year to keep the fiscal part of the ASCB ship sailing so smoothly even at a time when the waters and weather seem threatening. I also wish to thank all the ASCB staff for their commitment to the Society and its goals. They have all teamed up this past year in most impressive ways. ■

—Thoru Pederson, ASCB Treasurer and Chair, Finance & Audit Committee

ASCB PULSE Fellows Will Help Improve Undergraduate Education

Three members of the ASCB were recently selected as Vision and Change Leadership Fellows by the Partnership for Undergraduate Life Sciences Education (PULSE) program: Kathryn G. Miller, Washington University in St. Louis; Joann J. Otto, Western Washington University; and C. Gary Reiness, Lewis & Clark College.


Kathryn G. Miller


Joann J. Otto


C. Gary Reiness

A total of 40 fellows will identify and consider how to eliminate barriers to the systemic changes that are needed to improve undergraduate life sciences education. The PULSE program is a joint initiative of the National Science Foundation, Howard Hughes Medical Institute, and the National Institutes of Health. These life sciences faculty members were competitively selected by an expert panel for their experience in catalyzing reform in undergraduate biology education. They represent research universities, liberal arts colleges, comprehensive/regional universities, and two-year colleges in 24 states and the U.S. Virgin Islands.

The fellows will produce an implementation framework describing strategies for change that will be available on the PULSE website where other life scientists may review it and provide comments from November 2012 until May 2013. The biology community is encouraged to review and enrich this framework via the PULSE online colleague community.

Learn more about PULSE, engage with the PULSE online community, and view the list of all the PULSE fellows at www.pulsecommunity.org. ■

—Thea Clarke

SPOTLIGHT on ASCB Committees

Spotlight on ASCB Committees is a new feature in the ASCB Newsletter. *Each article will highlight the goals and objectives of one of the ASCB's committees and describe the programs it supports, how it interacts with other committees, the challenges it faces, and how one can become a member.*

The Minorities Affairs Committee

What are the goals and objectives of the Minorities Affairs Committee (MAC)?
The goal of the MAC, one of the standing committees of the ASCB, is to increase significantly the involvement of underrepresented minority scientists in all aspects of the Society. To achieve this goal, the MAC recognizes the need to promote the professional development and recruitment of minority scientists.

The relatively small pool of minority scientists with an interest in cell biology requires that MAC also develop programs for undergraduate and predoctoral students to assist them in entering careers in biomedical research. A long-range goal of the MAC is to contribute to efforts in the United States to increase the number of underrepresented minority scientists. The specific objectives of the Committee are to:

- Increase diversity among the members of the ASCB
- Bring issues related to minorities in science to the attention of ASCB members
- Assist in the professional development of minority scientists and in the education of minority science students
  - Mentor young minority scientists (postdocs, young faculty members, and industrial scientists) and graduate and undergraduate students
  - Establish a network of minority scientists and minority science students
  - Provide minority science students and young scientists with the opportunity to acquire state-of-the-art knowledge and research skills in cell biology
- Provide opportunities for faculty members at minority-serving institutions to advance their research and teaching effectiveness and establish long-term professional relationships with ASCB members

What programs does the MAC sponsor and support?
The MAC sponsors and supports the following programs at the ASCB. Funds for these programs are from a Minority Access to Research Careers (MARC) grant to the ASCB from the National Institute of General Medical Sciences (NIGMS), National Institutes of Health (NIH).

- Travel Awards provide support for awardees to attend the ASCB Annual Meeting.
- Visiting Professorship Awards provide research support for professors at minority-serving institutions to work in the laboratories of members of the ASCB.
- Linkage Fellows Awards provide funding for Fellows to support outreach and activities that promote cell biology at their home institutions.
- The Poster Sessions and MAC Awards Luncheon at the Annual Meeting allow further opportunities for networking and recognition.
- The Mentoring Symposium at the Annual Meeting includes keynote speakers and career development workshops.
- Funding for summer courses at Marine Biological Laboratory and Friday Harbor Laboratories helps diversify the participant population.
- The Junior Faculty and Postdoctoral Fellows Career Development Workshop provides career development training for postdocs and junior faculty.
- Support and collaborations with the Annual Biomedical Conference for Minority Students and SACNAS include funding for development of cell biology symposia and a MAC booth.
- The joint MAC/Educational Resources Booth at the Annual Meeting provides opportunities for information sharing, networking, and mini-workshops.
- The E.E. Just Lectureship, a lecture and award presentation at the Annual Meeting, acknowledges an outstanding minority life scientist.
- The production and dissemination of training videos based on events at the Annual Meeting benefits those unable to attend.
- The MAC Mentoring Program provides mentoring for young scientists to help them as they submit (or resubmit) their first major research grant.

How does the MAC work with other ASCB committees and programs?
The MAC works with all of the other ASCB committees in some capacity. However, the MAC has worked especially often with the Education and Women in Cell Biology Committees by cosponsoring programs and events at the Annual Meeting. This year the MAC and Education Committee are sponsoring the Grant Writing Seminar at the Annual Meeting. They also annually sponsor and support the Educational Resources/ MAC Booth. The MAC and the Public Policy Committee will from time to time submit a position paper on a particular diversity issue.

What are some of the challenges faced by the MAC?
A major challenge for the MAC is to ensure that all of its programs are financially supported. Most MAC programs are supported by a long-term NIH NIGMS MARC grant. However, this grant has to be renewed every five years.

How does one become a member of the MAC?
If you are interested in becoming a member of the MAC, please provide a CV that includes information about your interest in MAC activities. This material should be submitted to Deborah McCall at dmccall@ascb.org. ■

— Deborah McCall, Senior Manager, Minorities Affairs

Donate to ASCB

Please consider making a year-end contribution to the ASCB. There is a "Donate" button on the homepage at www.ascb.org. Such donations are tax-deductible in the United States. Donations can be allocated to a specific area, and can be donated in honor of someone specific if you wish. Thank you for supporting your Society! Questions? Email ascbinfo@ascb.org. ■

New! Free Career Webinars Being Offered in the Fall

Two more Career Development Webinars will be offered free to ASCB members and member applicants this fall.
■ Network Yourself to a Great Career. Thursday, November 15, 2012, 12:00 pm EST
■ Identifying and Seizing Value from Conference Participation. Tuesday, November 27, 2012, 12:00 pm EST
For more information and to register, visit ascb.org, click on "Careers & Education," then "Career Webinars." ■

—Thea Clarke

New ASCB Member Benefit

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. ■

LinkedIn: Time to Explore Its Potential

I'm going to guess that many readers of this column have signed up for LinkedIn—the Web portal for professional networking—but don't actually *use* the service much. If you are the typical academic PI, I'll bet that you are linked to a couple of dozen other people, including, perhaps, your former students and postdocs, a few scientific product sales reps, a real estate broker, and an investment counselor. I'll further wager that most of these connections came about by you accepting the invitations to link in rather than you making the request.

Beth Schachter

While academics haven't seen much need to use LinkedIn, it has become a valuable tool for many people in business. So valuable, in fact, that it may be time for academics to learn more about LinkedIn, since you may find uses for it too. In particular, virtual groups like the WICB LinkedIn site could become important resources if members understand and embrace their possibilities. LinkedIn is also a tool that you can use to expand your connections for purposes of organizing an event, finding collaborators, or locating someone with a particular expertise.

I have become familiar with LinkedIn's possibilities because I'm a businessperson, a scientist-to-scientist communicator, meaning that I am a science writer, editor, consultant, and career coach. (In a past life, I was an academic molecular and cell biologist, on the faculty at Mount Sinai Medical School for many years.) Given my current professional situation, it's no surprise that I use LinkedIn. The word I want to stress in that last sentence is the active verb use. In this article I will share a few examples of how I and others have used this social media tool.

Using LinkedIn Groups for Timely Discussion

LinkedIn facilitates the formation of virtual groups, for discussions, job listings, product-and-event promotions, and the like. Groups can be open-to-all or selective, and discussions can be moderated or unmoderated. All too often the unmoderated discussions turn into product-promotion spam. But the moderated discussions are becoming increasingly more interesting and valuable.

Here's a discussion that recently caught my attention, in the Association for Women in Science (AWIS) group on LinkedIn. A young woman graduate student asked for our collective opinion on the appropriateness of her PI's idea to have a fund-raising fashion show. (I kid you not!) She was uncomfortable with the project and wanted to know whether she was being overly sensitive. Some discussants gave a "thumbs up" to the plan, saying it sounded like fun. But most people wrote to tell the student that she was not crazy to feel uncomfortable about the project, especially since only the female members of the lab were being asked to do the modeling. Within days the student was armed with a collective (but not unanimous) support for her original discomfort with the PI's plan. Consider whether there are similar ways that you could use WICB's LinkedIn group (see below) for strategic decisions.

Society Groups and Subgroups on LinkedIn

The above fashion show discussion took place on the members-only AWIS group. AWIS, like some other professional groups, maintains two sites: an open-to-all site and a members-only site. The former can serve as a marketing tool to encourage interested parties to join the organization. Keeping a site members-only significantly minimizes the advertising spam that appears on the site. That said, if the open-to-all site is to be of any value, it too should be set up to minimize repeated posting of ads that quickly turn into spam.

ASCB and WICB on LinkedIn

ASCB and WICB have LinkedIn sites. The ASCB site is open to all and has almost 3,000 members. Not surprisingly, the ratio of product and service promotion to science and career

Women in Cell Biology

LinkedIn facilitates the formation of virtual groups, for discussions, job listings, product-and-event promotions, and the like.... [T]he moderated discussions are becoming increasingly more interesting and valuable.

As a business-person, I want LinkedIn to help potential new clients discover me, and old ones remember that they may again want my services.

…I find great value in paying a small monthly fee that entitles me to send InMails (direct messages to people) to LinkedIn members outside my network.

discussions is fairly high. WICB has a members-only site; it boasts a membership of 10. When I checked recently, the last discussion on the site was posted over six months before, by someone attending the American Society for Biochemistry and Molecular Biology meeting. She was looking for other meeting attendees with whom she might gather during the event.

Clearly the WICB LinkedIn site is underutilized and its potential value is languishing. Why not join now? Then you could, for example, arrange some meet-ups at the upcoming ASCB Annual Meeting in San Francisco in December. If enough of us join, we can use it as a resource, a sounding board, and lots more. And of course LinkedIn conversations can cover many topics beyond the propriety of lab fund-raising events. Want to discuss your favorite molecule? A technical problem? A career conundrum? Launch a discussion on LinkedIn. You may find the conversation helpful, surprising, or illuminating.

Building a LinkedIn Profile and Using the Pay-For InMail Service

Discussions are one valuable aspect of LinkedIn; making and maintaining connections is another. As a businessperson, I want LinkedIn to help potential new clients discover me, and old ones remember that they may again want my services. Therefore I have created a profile that informs people about the range of work I do. I give examples of clients past and present, and a few testimonials about the quality of my work. In addition, I use the "Skills & Expertise" section of the profile, listing everything that is relevant. These key words ensure that people searching on LinkedIn for, say, a National Institutes of Health grant editor, will discover me.

Most readers may opt just for free LinkedIn service, but I find great value in paying a small monthly fee that entitles me to send InMails (direct messages to people) to LinkedIn members outside my network.

Enriching the Quality of Your Local Meetings via LinkedIn

Here's an example of how I used the search function and InMail to enrich the quality of an open-to-the-public local professional event. As a board member of Science Writers in New York, I helped to promote events. Last year we hosted an author whose new book dealt with synesthesia, "a neurological condition in which stimulation of one sensory or cognitive pathway leads to automatic, involuntary experiences in a second sensory or cognitive pathway."[1] Shortly before the event, I searched LinkedIn (using the People category) to find people who included *synesthesia* on their profile page and who lived in the New York City area. I then used InMail to personally invite a dozen people to our meeting. About half of the invitees showed up! It turns out that many synesthetes work in the arts, often graphic arts, so the diversity of attendees at our science writers' event was unprecedented and led to a lively discussion.

Paying Attention to Your New LinkedIn Connections

The synesthesia event generated new LinkedIn connections for me, one of whom is a web developer/graphic designer at a local business. Recently this synesthetic graphic designer popped into my head and I recalled her name by searching on LinkedIn. This happened when I was counseling a biology graduate student who wants to use his scientific, visual, and quantitative skills in new ways. I InMailed the graphic designer, requesting an informational interview for my client. That interview just took place and, according to my client, was very useful.

As these examples show, it may be time for academics and other scientists to explore the potential of LinkedIn. ■

—Beth Schachter, Beth Schachter Consulting and Still Point Coaching & Consulting

Reference and Notes

[1] http://en.wikipedia.org/wiki/Synesthesia. Accessed 16 October 2012.

To sign up on LinkedIn, go to http://help.linkedin.com/app/answers/detail/a_id/2964. To learn more about using LinkedIn, go to http://learn.linkedin.com.

Information about Beth Schachter Consulting and Still Point Coaching & Consulting can be found at www.bethschachterconsulting.com, www.stillpointcoaching.com, and www.linkedin/in/drbethie.

Please watch www.ascb.org and the *ASCB Newsletter* for updates on ASCB's social media activities and how you can participate.

JHC
Journal of Histochemistry & Cytochemistry

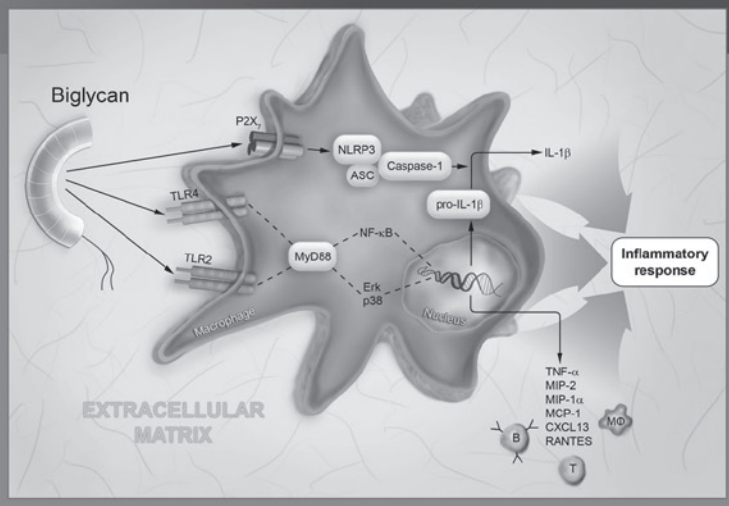
December 2012 Special Issue

Current Topics in Proteoglycan Biology: Synthesis, Localization and Roles in Differentiation, Inflammation and Disease

Edited by John R. Couchman

Ten reviews covering a wide range of topics in proteoglycan research, including synthesis, interactions, extracellular matrix assembly, stem cells, diabetes, and innate immunity.

Visit JHC's Booth #932 at ASCB's annual meeting



Available online late November http://jhc.sagepub.com/

The Histochemical Society

Immunohistochemistry and Microscopy A Hands-on Course

March 9 - 13, 2013

The Marine Biological Laboratory, Woods Hole, Massachusetts

Visit HCS's Booth #932 at ASCB's annual meeting

Course Content

Antigen Retrieval
Automated Immunohistochemistry
Chromogenic Detection
Controls
Double Labeling and Co-Localization
Fixation
Fluorescence Detection
Microscopy and Imaging
Troubleshooting

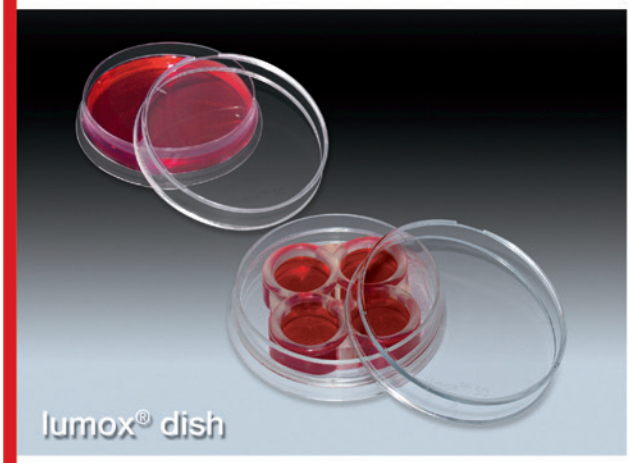
About the Course

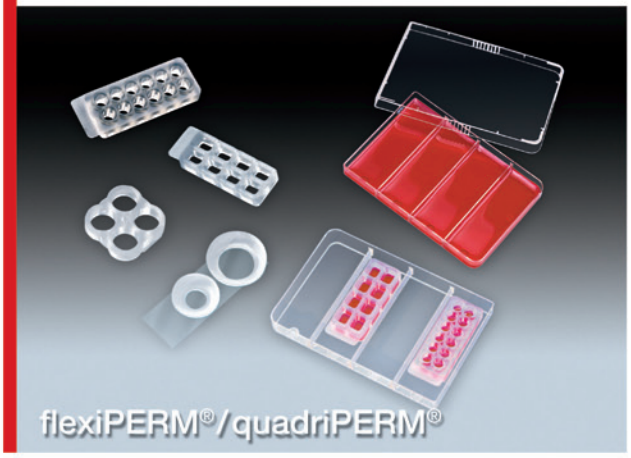
Four days of in-depth theory of and extensive hands-on experience with immunohistochemistry (IHC) techniques as well as theory and hands-on experience with a broad range of microscopic imaging techniques. Registration includes accommodations and meal package.

http://immunohistochem.com/

Come Grow With Us

Specialty products for a range of cell culture applications





GrowCoat

- PureCol® Collagen
- Gelatin
- Poly-D-Lysine

- GrowCoat flasks, dishes and plates with coated surfaces offer enhanced cell attachment and growth
- lumox® film-based dishes combine excellent optical quality with high gas premeability -ideal for microscopy and imaging
- miniPERM® benchtop bioreactors cultivate cells in high densities and allow fast and easy media exchange
- flexiPERM® reusable silicone inserts subdivide slides and dishes into smaller cultivation units

Technical modifications reserved

Visit us at ASCB Booth #923.

SARSTEDT

800-257-5101 · customerservice@sarstedt.us · www.sarstedt.com

White House Report Predicts Magnitude of Sequestration Cuts

After months of speculation by Congress and the public, the White House Office of Management and Budget (OMB) has issued a report estimating the size of budget cuts to more than 1,200 federal programs as a result of the $1.2 trillion sequestration process. At the U.S. National Institutes of Health (NIH) and the National Science Foundation (NSF), cuts could range from 8.2% to over 30%.

The OMB report begins by outlining the overall impact of sequestration to the federal budget:

- A 9.4% cut to discretionary spending in the defense portion of the federal budget
- An 8.2% cut to discretionary spending in the nondefense portion of the federal budget
- A 2% cut to the Medicare program
- A 7.6% cut to mandatory spending in the nondefense portion of the budget
- A 10% cut to mandatory programs in the defense budget

The introduction of the OMB report makes it clear that the Obama administration does not support the sequestration process. The process is called "a blunt and indiscriminate instrument" that "was never intended to be implemented."

OMB estimates that sequestration would be felt by the NIH in two ways. The first cut would be a $2.518 billion, 8.2%, cut to the discretionary portion of the NIH budget. An additional $11 million, 7.6%, cut would be made to the Special Statutory Funding Program for Type 1 Diabetes Research.

In testimony before the U.S. House of Representatives' Energy and Commerce Committee, NIH Director Francis Collins said, "You have correctly quoted the numbers as I understand them from the [Congressional Budget Office] about what the sequesters would do to NIH, and that loss of 2,300 grants which would come already three months into the fiscal year would represent about a quarter of the total grants we would give for that entire year."

During a presentation at the National Press Club in Washington, DC, National Cancer Institute (NCI) Director Harold Varmus estimated that sequestration would force the NCI to reduce awards for new grants by as much as 40%.

At the NSF, sequestration would slice $570 million from the Research, Education and Human Resources and Agency Operations and Awards Management portions of the budget. Of that, $486 million would come from the research portion of the NSF budget, an 8.2% cut.

For most of the summer, Washington, DC, has been consumed with talk about the harm sequestration would do to the Defense Department. This discussion, orchestrated in part by a defense industry advocacy group, suggests that the only solution would be to exempt defense-related cuts from sequestration. This politically attractive option would save defense industry jobs but would require that the nondefense discretionary portion of the federal budget absorb the entire $1.2 trillion in cuts. At the NIH cuts could increase to more than 20% over the next nine years, and NSF cuts could increase to as high as 30%. ■

—Kevin M. Wilson

se·ques·tra·tion
noun \se-kwes-trā-shən, se-; sē-kwes-\ (2011)
1: current U.S. federal law that takes place on January 2, 2013
2: the process of cutting federal programs to achieve predetermined savings to the U.S. federal budget; cuts are made to programs regardless of the benefit of the program to the nation or the economy
3: a budget procedure that will result in cuts to U.S. National Institutes of Health and National Science Foundation budgets ranging between 8% and 30% ■

Why You Should Care and What You Can Do

Cuts to the overall U.S. National Institutes of Health (NIH) and National Science Foundation budgets reduce the number of grants each agency is able to award. NIH Director Francis Collins has estimated that if the NIH budget is cut by 8.2% institutes at the NIH will be forced to award 2,300 fewer grants next year. National Cancer Institute (NCI) Director Harold Varmus estimates that the NCI could be forced to cut 40% of its new grants.

Congress needs to hear from you about what these cuts will do to your research. For details, go to www.ascb.org/sequestration.html. ■

—Kevin M. Wilson

ASCB Joins Hundreds in Opposing Arbitrary NIH Policy Changes by Congress

The ASCB has joined over 200 scientific organizations, patient advocacy groups, healthcare providers, and industry groups in opposing arbitrary policy "riders" that would hamper the process by which the U.S. National Institutes of Health (NIH) determines what research to support. The riders were included in the FY13 NIH appropriations bill by the House Appropriations Subcommittee on Labor, Health & Human Services, and Education. The groups joined in sending a letter to the Chair and Ranking Democrat of the Subcommittee.

The bill, which has almost no chance of becoming law, is a collection of policy instructions to the NIH that, if enacted, could seriously undermine the ability of the NIH to support the best science. These riders include, for example, a prohibition on the funding of "economic research programs, projects or activities." Such a prohibition would negatively impact almost 4,000 active NIH grants.

Additional riders include a prohibition on patient-centered outcomes research, a requirement that research not be funded until it is certified to be of "high scientific value," and a lowering of the salary cap to Executive Level III.

While passage into law is unlikely, including them in draft bills gives the riders a weight they may not otherwise receive.

To read the complete letter, go to www.ascb.org/education-appropriations.html. ■

—Kevin M. Wilson

Arlen Specter, NIH Champion, Dies

Then ASCB President Richard Hynes (left) greeted Sen. Specter (center) and Sen. Tom Harkin (D-IA) (right) before testifying before the Senate Appropriations Committee in 2000. Other witnesses at the hearing included actors Mary Tyler Moore and Michael J. Fox.

Longtime Pennsylvania Senator Arlen Specter died in October after a long battle with non-Hodgkins lymphoma. For most of his 30-year career in the Senate, Specter was an assertive and vocal champion of biomedical research, both of federal support for research at the U.S. National Institutes of Health (NIH) and of stem cell research.

In 2005, the ASCB gave its Public Service Award to Sen. Specter "for a career dedicated to public service and leadership, and for his continuing support of science and researchers."

A few weeks before his death, Specter contacted NBC reporter Andrea Mitchell hoping to arrange one more interview. In a eulogy on the NBC News website, Mitchell said that Specter wanted to talk with her about the continued importance of funding of the NIH and the harm sequestration would do to the agency. Unfortunately, his health did not allow him to meet with Mitchell before his death. ■

—Kevin M. Wilson

Science Policy Advocacy—It Really Works

When you receive a request from the ASCB to become involved in science policy advocacy, do you really think it would make a difference? The story of the Pancreatic Cancer Initiative is an excellent example of the critical role of science policy advocacy.

In July, two bills, one in the U.S. House of Representatives and one in the U.S. Senate, that would have dramatically changed the way research funds are distributed by the U.S. National Institutes of Health (NIH) were headed for overwhelming passage by both the House and the Senate. Their progress was due largely to an intense, five-year grassroots lobbying effort by the Pancreatic Cancer Action Network (PanCAN). The lobbying effort, which PanCAN itself describes as "in-your-face," included giving members of Congress toe tags with the names of constituents who died from pancreatic cancer.

Six weeks later, after a well-orchestrated effort by the Coalition for the Life Sciences (CLS), a coalition of six biomedical and research organizations founded by the ASCB, the bills have been rewritten and their passage has been blocked in the Senate.

The bills, the Pancreatic Cancer Initiative (H.R.733 and S. 362), would have directed the National Cancer Institute (NCI) to spend $887.8 million over five years specifically for pancreatic cancer research. The original versions of the bills created an Interdisciplinary Cancer Coordinating Committee that would set research priorities, define fiscal needs, and establish a peer-review committee to review and prioritize grant applications. The committee would have included only one NIH representative.

The CLS began its efforts by expressing its objections to the bill in letters to the bill's sponsors and the congressional leadership (see the October 2012 *ASCB Newsletter*). It followed up with a series of meetings by CLS chair and longtime ASCB Member Keith Yamamoto and CLS Director Lynn Marquis with key legislators in Congress. In response to the CLS arguments, PanCAN swiftly endorsed a number of changes to the bill that would address the CLS concerns. The meetings on the Hill made legislators and their staffs aware of the serious scientific implications of bills that had been viewed only emotionally before.

During remarks at the National Press Club in Washington, DC, NCI Director Harold Varmus said, "One thing I would very much object to, that was part of the original bill, is an effort to take decision making about grant making out of the hands of the NCI and putting it in the hands of advocacy groups. I would object dramatically to that not just because inherently it is wrong but because very quickly every other advocacy group would say 'I want that too' and then we would have chaos."

The new version of the bill would direct the NCI to create a framework for research on recalcitrant cancers. The term is defined as being any cancer that has less than a 20% survival rate over five years and causes at least 30,000 deaths in the United States each year. Soon after the bill was rewritten, the House bill was passed without objection by the House of Representatives.

Despite the compromise in the House, the future of the bill in the Senate is uncertain. Sen. Tom Coburn (R-OK), a frequent critic of unneeded federal spending, has placed a "hold" on the bill in the Senate. Senate "holds" are parliamentary tools Senators often use to prevent further action on bills they oppose.

In a letter to Senate Republican Leader Mitch McConnell (R-KY) opposing the bills, Sen. Coburn said, "I do not believe there is any demonstrated need for Congress to micromanage NIH how to better perform, organize and disseminate the work being done in these fields [*sic*]."

Unless Sen. Coburn releases his hold, no further action can take place in the Senate. Without the work of the CLS, Congress would be micromanaging the NIH and the process of prioritizing and funded scientific research would be entirely compromised. ■

—Kevin M. Wilson

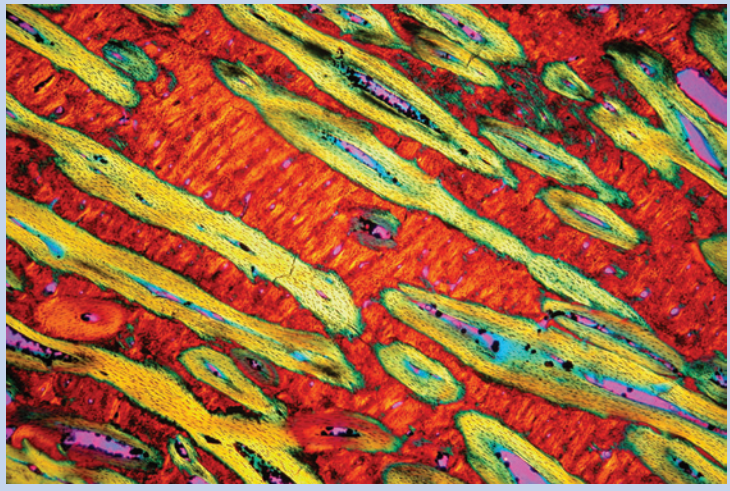
Volunteer to Review CVs

We are looking for more volunteers to help review cover letters, CVs, and resumes online for young ASCB scientists. If you can help, please contact Thea Clarke at tclarke@ascb.org. ■

Interesting Uses of The Cell: An Image Library-CCDB

The Cell: An Image Library-CCDB (www.cellimagelibrary.org) continues to evolve. Some interesting new or anticipated uses for images in The Cell include the following:

- *The Scientist* chose an image from The Cell—a light micrograph of a *Triceratops* skull bone, CIL:41919—as its Image of the Day and tweeted it to its followers on September 19, 2012.
- Recently, BitesizeBio published an article about The Cell entitled "The Cell: An Image Library— an overview of an award-winning multimedia site" in its Microscopy & Imaging channel. This article can be found at http://bitesizebio.com/articles/the-cell-an-image-library-an-overview-of-an-award-winning-multimedia-site.
- On its homepage on October 8, 2012, *Science News* selected an image from The Cell to go along with an article on the 2012 Nobel Prize for Physiology or Medicine.



Polarized light micrograph of a parietal (skull) bone of a Triceratops *dinosaur. Honorable Mention, 2009 Olympus BioScapes Digital Imaging Competition.® By Ellen-Thérèse Lamm and the 2009 Olympus BioScapes Digital Imaging Competition.® http://cellimagelibrary.org/images/41919*

- A recent article in *Quarterly Reviews of Biophysics* includes a link directly to the search results for mitosis videos in The Cell. This link performs an active search on the database so the results will always be the most up-to-date mitosis videos present in the Library. For more information, see McIntosh JR, Molodtsov MI, Ataullakhanov FI (2012). Biophysics of mitosis. *Q. Rev. Biophys*. 45, 147–207, http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8559345.

The Cell's Facebook page now has over 5,600 "likes." Want to join us? Simply go to www.facebook.com/CellImageLibrary and click "like."

Join us on LinkedIn for more conversation on everything microscopy related at www.linkedin.com/groups?about=&gid=3733425.

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

Have you used The Cell in interesting ways or in an article? Are you interested in submitting images or collaborating with The Cell-CCDB? Please let us know by sending an email to David Orloff at dorloff@ncmir.ucsd.edu. All documented usage helps support our efforts to obtain continued funding. ■

—David Orloff

The Cell was developed by the ASCB under a Grand Opportunities grant from the National Institute of General Medical Sciences. Now The Cell has moved to the National Center for Microscopy and Imaging Research Cell Centered Database (CCDB) for its day-to-day management. The ASCB maintains a role in advertising the Library, soliciting images, serving as an advocate for the resource, and creating a community committed to The Cell-CCDB.

Cold Spring Harbor Perspectives in Medicine

A New Type of Review Journal in Molecular Medicine

NEW!

CSH PERSPECTIVES MEDICINE

www.cshmedicine.org

Cold Spring Harbor Laboratory Press announces the launch of a new monthly online publication, *Cold Spring Harbor Perspectives in Medicine*. Covering everything from the molecular and cellular bases of disease to translational medicine and new therapeutic strategies, each issue offers reviews on different aspects of a variety of diseases and the tissues they affect. The contributions are written by experts in each field and commissioned as Subject Collections by a board of eminent scientists and physicians. These Subject Collections gradually accumulate articles as new issues of the journal are published and, when complete, each Subject Collection represents a comprehensive survey of the field it covers. *Cold Spring Harbor Perspectives in Medicine* is thus unmatched for its depth of coverage and represents an essential source for informed surveys and critical discussion of advances in molecular medicine.

Scope: Translational Medicine, Molecular Pathology, Cancer Therapy, Genetics, Infectious Disease, Immunology, Molecular Cell Biology

Frequency: Monthly, online

ISSN: 2157-1422

Subject coverage includes:

- Addiction
- Aging
- Alzheimer Disease
- Anemia
- Antibiotic Resistance
- Bacterial Pathogens
- Bone Disease
- Cancer
- Cystic Fibrosis
- Diabetes
- Heart Disease
- Hemoglobin
- HIV
- Influenza
- Malaria
- Multiple Sclerosis
- Muscular Dystrophy
- Parkinson's Disease
- Prion Diseases
- Skin Diseases
- Schizophrenia

Visit today

www.cshmedicine.org

CSH PRESS

ASCB Launches Its Turkey Initiative with a Microscopy Course in Istanbul

The course was unique in content and methods of delivery, emphasizing practicality and application rather than biophysics and mathematics.

The ASCB's Turkey Initiative was launched on August 12–17, 2012, with an intensive microscopy course titled "Fundamentals and Applications of Fluorescence Microscopy in Modern Cell Biology." Targeted to medical researchers in Turkey, the course took place in the state-of-the-art facilities of the Koc University School of Medicine in Istanbul. After the opening ceremony and a research poster session presented by course participants, the course began with a spectacular boat tour of the Bosphorus that included a cocktail party, dinner, and live Turkish music. This icebreaker event allowed course participants, faculty, and sponsors to meet and bond.

Course Structure and Target

Although many great fluorescence microscopy courses are available close by in Europe and Asia, this course was designed to meet the needs of medical researchers and biologists interested in applying fluorescence microscopy in research and teaching. The course was unique in content and methods of delivery, emphasizing practicality and application rather than biophysics and mathematics. Through examples it demonstrated the current knowledge, applications, limitations, and future direction of microscopy as applied to clinical and basic cell biology questions. It has created a regional niche and garnered applications from as far away as Eastern Europe, Africa, and Latin America.

The course program was a mixture of didactic lectures, hands-on practicals and demonstrations, journal club, research lectures, and exhibits. It began by covering the fundamentals of the light and fluorescence microscope and followed the scientific need–driven progression to laser scanning, total internal reflection fluorescence (TIRF), and multiphoton microscopes—all the way to the newest microscopes that use light-sheet microscopy or combine fluorescence and electron microscopy. The program also included a critical evaluation of the available technologies that led to noninvasive clinical and preclinical molecular imaging of small animals, using instruments that combine fluorescence microscopy with ultrasound, x-ray, MRI, and/or tomography.

A full day was devoted to TIRF basics and hands-on practice facilitated by Olympus. The company sent experts from Europe and sent their latest four-laser microscope. A full day was also dedicated to image analyses and included both didactic and hands-on exercises with Imaris visualization software, using images collected by students from lab sessions, which was then complemented by a lecture by ImageQ delivered by remote video conferencing from Ohio. The latest tools and probes for fluorescence visualization were presented, and current research efforts to identify or create more efficient probes for clinical and modern cell biology research were discussed. The major microscopy companies gave didactic lectures and practicals while exhibiting cutting-edge technology or cell culture tools. At the end of the course, students gave PowerPoint presentations of their images and analyses and discussed what they learned. Finally, during a gala dinner on a terrace overlooking the campus, we awarded prizes for the best images and distributed certificates of completion. More details are available on the course website (http://fafm.ku.edu.tr/).

A highlight of the course was a spectacular and colorful art exhibit of confocal images photographed and produced by course faculty member and cell biologist Alp Can from Ankara University. Images from this exhibit are available at ASCB's The Cell: An Image Library-CCDB (http://cellimagelibrary.org/). Additional images from Alp Can are on his website (www.alpcan.com)

Faculty and Organizing Committee

The course's success was due to the combined efforts of its diverse faculty and organizing personnel. Faculty came from the United States, Europe, and several institutions in

Turkey. U.S. faculty included James (Jim) Spudich (Stanford University), who also chairs the ASCB International Affairs Committee (IAC); Gerard Marriott (University of California, Berkeley); Robert Chow (University of Southern California); Amit Vasanji (ImageQ, via remote conferencing); and Mahasin Osman (Brown University), who leads the Turkey Initiative of the IAC and was the course organizer. European faculty included Yusuf Tan (Bogazici University), Fabian Anderegg (Nikon), Delisa Garcia (Bitplane), Xiaoyu Li (Olympus), Betina Greisshaber (Leica), and Andreas Nowak (Leica Microsystems).

From our experiences since 2008, we knew that identifying a dedicated local host for a course is imperative for its success. We found dedication and more in our host and local organizer Ranan Gulhan Aktas, who was assisted by co-organizing committee members Sercin Karahuseyinoglu (Suleymanie Educational and Training Hospital) and Deniz Yucel (Acibadem University). The committee also included several talented students (Begum, Anil, Merve, Olgu, and Ozlem). For the *ASCB Newsletter,* we have invited Karahuseyinoglu and Yucel to write an article describing cell biology research from the perspective of research hospitals and other private universities in Turkey. Other faculty from around Turkey included Alp Can (Ankara University), Batu Emran (Sabanci University), and Halil Bayraktar and Nathan Lack (Koc University).

Faculty from the biotechnology companies, who staffed the exhibit rooms and assisted with practicals, included Burak Buyrukbilen (Olympus), Oktay Gündogdu (Nikon), Hasan Eser (Zeiss), and Selda K. Bedir and Ümit Alikan (Leica). At the outset, Buyrukbilen was instrumental in coordinating our efforts to bring the Olympus TIRF microscope to the course site from Europe, which would not have been possible without the leadership of Clemens Schultz-Gerstein.

The Venue

One need not speak of Istanbul's beauty and glorious historic sites (http://en.wikipedia.org/wiki/istanbul). Only two years old, the state-of-the-art campus of Koc University resembles the campus of Stanford in the United States with its off-white, red-roofed buildings. The modern labs are well equipped and fitted with European-style benches, flat screens for video demonstrations, and the latest microscopes and computers. More information is available at the university website (http://medicine.ku.edu.tr). The variety and proximity of the different-sized rooms provided an ideal setting for the course, juxtaposing the main auditorium and the microscopy companies' exhibit and demonstration rooms with convenient hallways for poster displays, art exhibits, and coffee breaks, with the labs and cafeterias still nearby. This setup allowed efficient interaction and smooth operation.

The course organizing committee with IAC Chair Jim Spudich: (left to right) Deniz, Ranan, Begum, Jim, Oglu, Mahasin, Sercin (in the back), Merve, Ozlem, and Anil

Faculty, staff, and participants in the microscopy course held at Koc University in Istanbul.

Participants

Once the course was advertised, we were immediately overwhelmed by applications and inquiries from a wide region encompassing Eastern Europe, Africa, and Latin America. This level of interest continued even after the course was well under way. We selected 30 participants from a large pool of applicants representing diverse biomedical professions. Strong friendships were formed among students from Eastern Europe, Africa, and Turkey. Professional stages of participants varied, and included young medical students, graduate students, and professors at different levels.

Funding

The course had adequate funding, thanks to the generosity of the dean of the School of Medicine, whose staff also provided expert administrative

A highlight of the course was a spectacular and colorful art exhibit of confocal images photographed and produced by course faculty member and cell biologist Alp Can from Ankara University.

Strong friendships were formed among students from Eastern Europe, Africa, and Turkey.

The course met with great enthusiasm and received positive reviews.

Course participants perform immunofluorescence staining of mammalian cells and sectioned tissues. The entire staining protocol was also videorecorded and looped on screens in the lab.

assistance. Support also came from fees and from multiple other sources, including TÜBITAK (the Scientific and Technological Research Council of Turkey, the Turkish equivalent of the U.S. National Institutes of Health) and the Turkish Society for Electron Microscopy. Leica, Nikon, Olympus, Zeiss, Prizma, and Ser-Med made generous donations, and Jim Spudich donated the equivalent amount of the cost of his airfare.

Meeting with the Koc University President

The dean of the Koc School of Medicine, Sevket Ruacan, was our generous host and a mentor to the local organizing committee. His contribution touched many aspects of the course. Dean Ruacan arranged a meeting for the IAC and the U.S. faculty with Koc University President Umran S. Inan, who was a longtime professor of engineering at Stanford. Inan discussed his vision for developing a strong research university, encouraging international collaboration, and building industry partnerships in Turkey. The participation in international societies and the number of U.S.-trained faculty recruited to the medical school are hallmarks of this vision. Another mark seen near the office of the president was a prototype display of the new building, now under construction, for the health campus of the medical school. The building will encompass research labs, a teaching hospital, and dorms.

Course Evaluation

Because this was our first course in Turkey, we used several mechanisms to find ways to improve the course, including self-evaluation, structured discussions with participants, solicited individual feedback, and anonymous written surveys. The course met with great enthusiasm and received positive reviews. Particularly valuable was the positive feedback from the microscopy company personnel, who compared our course with others they have participated in around the world. Although self-evaluation has identified points for improvement, these encouraging reviews will allow the course either to remain, with modifications, at its first site at Koc University or to accept hosting invitations at rotating sites around Turkey for maximum benefit. We expect that the Turkey Initiative will expand to include activities geared toward research collaborations, workshops for proposal development and teaching methodologies, and scholar-exchange programs—some of which are already in progress. ■

Acknowledgments

I received support and useful insights from Jim Spudich and Ron Vale (ASCB president). J. Richard (Dick) McIntosh provided me with tomography slides. Buse Aktas (currently a student at Princeton) contributed to many aspects of the course, and Cheryl Lehr (ASCB) offered expert administrative assistance. Ayhan Uckun from Prizma exhibited cell culture products, and Faith Yavuz from Ser-Med demonstrated EM tools.

—Mahasin Osman, Alpert Medical School, Brown University

MBoC Celebrates Its First 20 Years, Publishes Special 2012 Annual Meeting Issue

While celebrating its first 20 years as ASCB's science journal, *Molecular Biology of the Cell* (*MBoC*) continues its tradition of publishing a special issue for the ASCB Annual Meeting. The November 1, 2012, issue includes essays by six recipients of 2012 ASCB Awards. In addition, a selection of Perspectives will address the two Thread topics that are woven through this year's Annual Meeting.

Two Perspectives pertain to the Cell Biology and Medicine Thread:

- "Why we need more basic biology research, not less" by David Botstein
- "An expanding role for cell biologists in drug discovery and pharmacology" by Peter K. Sorger and Birgit Schoeberl

Two Perspectives pertain to the Thread on The Intersection of Cell Biology and the Physical Sciences:

- "Living matter—nexus of physics and biology in the 21st century" by Margaret L. Gardel
- "Bringing the physical sciences into your cell biology research" by Douglas N. Robinson and Pablo A. Inglesias

An additional Perspective by Tom Pollard traces the history of ASCB's political advocacy.

The special issue was conceived and assembled by *MBoC* Features Editors William Bement, Doug Kellogg, and Keith Kozminski and *MBoC* Editor-in-Chief David Drubin.

The issue is available online at www.molbiolcell.org/content/23/21.toc. A printed collection of the essays from the issue will be distributed at the 2012 ASCB Annual Meeting in San Francisco. The printed issue will also include the collected *MBoC* 20th Anniversary Favorites. In those short commentaries, which have appeared in the journal throughout the year, members of the Editorial Board, members of the ASCB Council, and others discuss their favorite *MBoC* papers from the past two decades. ■

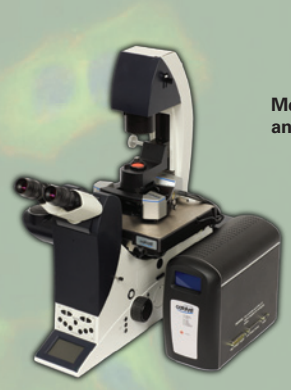
—W. Mark Leader

Got Questions?

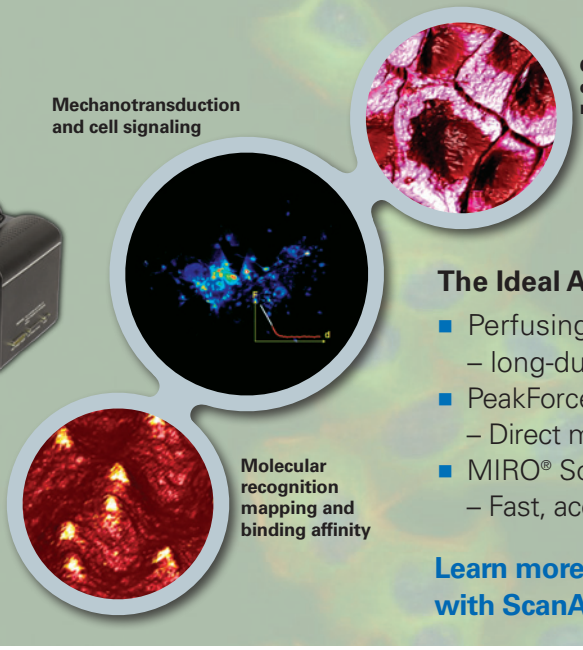
Labby has answers. ASCB's popular columnist will select career-related questions for publication and thoughtful response in the *ASCB Newsletter.* Confidentiality guaranteed if requested. Write us at labby@ascb.org. ■

Discover How AFM Advances Research in Mechanobiology and Beyond

BRUKER



BIOSCOPE catalyst with ScanAsyst



Mechanotransduction and cell signaling

Cell mechanics and cell stiffness mapping

Molecular recognition mapping and binding affinity

The Ideal AFM for live cell research:

- Perfusing Stage Incubator
  – long-duration cell studies
- PeakForce QNM® Mode
  – Direct mapping of nanomechanical properties
- MIRO® Software
  – Fast, accurate AFM & optical data correlation

Learn more about the BioScope Catalyst with ScanAsyst at www.bruker-axs.com.

Innovation with Integrity

Atomic Force Microscopy

Request for Volunteers—Membership Committee

The ASCB Membership Committee is looking for volunteers to fill three openings on the Committee roster beginning in 2013. The Membership Committee is charged with assessing membership benefits and recommending policies related to membership retention and growth. Committee members must be approved by Council.

If you're interested, please write to ascbinfo@ascb.org and note how long you've been an ASCB member and why you're interested in serving the ASCB. The ASCB seeks diversity on its committees and welcomes participation from members at all career levels, from all geographic and institutional settings, and with diverse specialties.

Thank you for considering committee service! ■

Help Students by Being a Poster Judge at the ASCB Annual Meeting

The ASCB Minorities Affairs and Education Committees are looking for judges for the ASCB Poster Session Competition that will be held at the ASCB Annual Meeting on Saturday, December 15, 2012, from 3:30 pm–5:30 pm. There will be 60–80 posters, but each judge will be responsible for evaluating only two or three. Judging should take approximately one hour, so we ask that all judges arrive between 3:30 pm and 4:30 pm.

If you are interested in judging, please sign up at https://www.ascb.org/Meetings/Forms/MAC_Poster/mac.cfm. If you have any questions, please contact Deborah McCall at dmccall@ascb.org. ■

—Deborah McCall

Recently Reduced San Francisco Hotel Rates!

Take advantage of recently reduced hotel rates through onPeak (the ASCB's official housing partner) If you already reserved at a higher rate you will automatically get the lower rate. The hotel reservation deadline is November 16. Reserve now at www.ascb.org/meetings!

Why reserve your hotel room in the ASCB official housing "block?"

- Excellent rates
- Prime locations
- Onsite assistance in the event of overbooking, construction, or problems with a room
- Filling the housing block allows the Society to secure both competitive room rates and larger blocks of rooms in future Annual Meeting cities
- Opportunities to earn prizes

Congratulations to the following winners of recent incentives offered by official ASCB hotels:
Brian Condie, University of Georgia
Hotel Nikko: Complimentary breakfast for two at ANZU restaurant

Rachelle Watson, University of California, Los Angeles
Hotel InterContinental: Two cocktails at Top of the Mark at InterContinental Mark Hopkins, then dinner for two at Luce at InterContinental San Francisco

William Scott Crawley, Vanderbilt University
San Francisco Marriott Marquis: Upgrade with access to Concierge Level

Charles L. Asbury, University of Washington
2nd winner at San Francisco Marriott: Upgrade with access to Concierge Level

websedge health

ASCBTV



ASCB TV premieres in San Francisco

Welcome to San Francisco, host to the 2012 ASCB Annual Meeting and ASCB TV – your brand new conference television channel dedicated to news and views from the conference.

Whether it is a workshop, debate or speech ASCB TV is here to cover all the important issues that emerges, raise the visibility of the field of cell biology and highlight collaborations between diverse institutions.

You will be able to watch exclusive reports, produced especially for the conference from research institutions, universities and private sector organizations.

Tune in!

We will be screening a new episode each and every day of the conference. Watch the program around the venue and in selected hotels, as well as online at **www.youtube.com/WebsEdgeHealth**

Take part in ASCB TV!

You will see our camera team touring throughout the Moscone Center. Please do say hello and share your comments on the speakers and sessions you attended.

The ASCB TV team welcomes all feedback and would like to hear what you think of your new conference TV show, as well as your views on the various issues raised at the conference.

We hope you enjoy the meeting and ASBC TV!

ASCB TV is part of WebsEdge/Health - our group of products and services for health organizations, connecting issues and audiences through the power of television.

For up to date information and news, follow us on Twitter: @websedge_health

HIGHLIGHTS from *MBoC*

The Editorial Board of *Molecular Biology of the Cell* has highlighted the following articles from the October 2012 issues. From among the many fine articles in the journal, the Board selects for these Highlights articles that are of broad interest and significantly advance knowledge or provide new concepts or approaches that extend our understanding.

Nuclear LSm8 affects number of cytoplasmic processing bodies via controlling cellular distribution of Like-Sm proteins
I. Novotný, K. Podolská, M. Blažíková, L. S. Valášek, P. Svoboda, and D. Staněk

We show that depletion of nuclear Like-Sm 8 (LSm8) dramatically increases processing body (P-body) number, provide the explanation that LSm8 acts via the alteration of the nuclear–cytoplasmic distribution of LSm2–7 proteins, and propose a model that P-bodies form via self-organization.
Mol. Biol. Cell 23 (19), 3776–3785

Translation suppression promotes stress granule formation and cell survival in response to cold shock
S. Hofmann, V. Cherkasova, P. Bankhead, B. Bukau, and G. Stoecklin

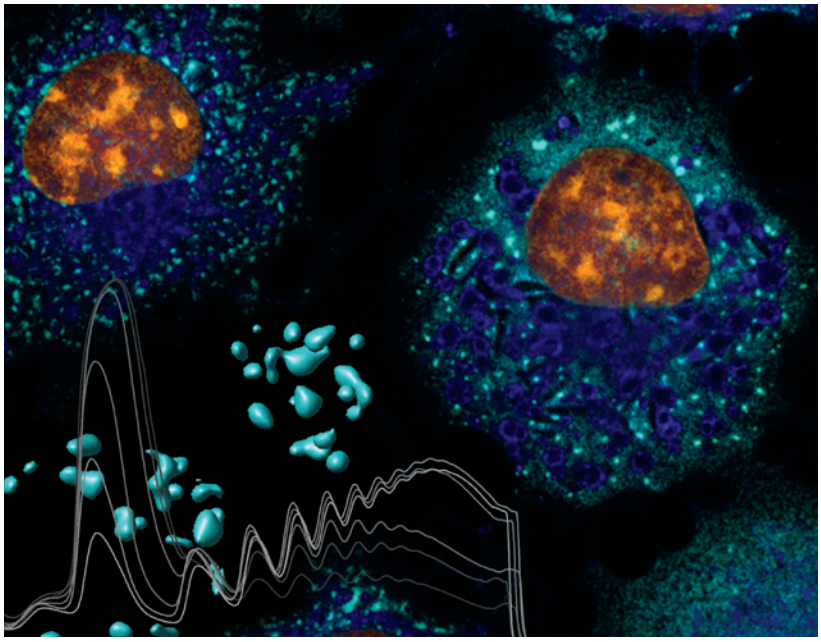
Cells respond to stress by inhibition of protein synthesis and subsequent assembly of stress granules (SGs). Cold shock is identified as a novel trigger of SG assembly in yeast and mammals. Cells actively suppress protein synthesis by parallel pathways to induce SG formation and ensure cellular survival at low temperatures.
Mol. Biol. Cell 23 (19), 3786–3800

Cdc42p regulation of the yeast formin Bni1p mediated by the effector Gic2p
Hsin Chen, Chun-Chen Kuo, Hui Kang, A. S. Howell, T. R. Zyla, M. Jin, and D. J. Lew

Regulation of the formin Bni1p by Cdc42p in yeast does not require direct interaction between Bni1p and Cdc42p. The Cdc42p effector Gic2p can bind both Bni1p and GTP-Cdc42p, providing a novel regulatory input.
Mol. Biol. Cell 23 (19), 3814–3826

Semaphorin-7a reverses the ERF-induced inhibition of EMT in Ras-dependent mouse mammary epithelial cells
M. Allegra, A. Zaragkoulias, E. Vorgia, M. Ioannou, G. Litos, H. Beug, and G. Mavrothalassitis

EMT requires cooperation of the EGF/Ras with the TGF-β signaling pathways in a multistep process. ERF, a bona fide Ras-Erk effector, inhibits TGF-β–induced EMT via Semaphorin-7a repression, and Semaphorin-7a induction is required for EMT progress. These data provide new insights into the Ras–TGF-β interconnection.
Mol. Biol. Cell 23 (19), 3873–3881



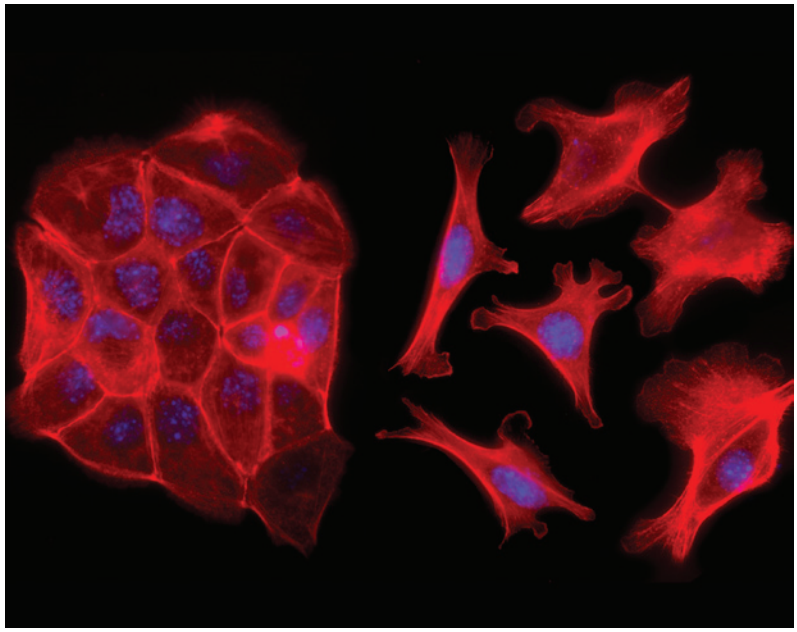
In cold-shocked African green monkey COS7 kidney cells (background image), protein synthesis is arrested and translation initiation factors including eIF3B (cyan), together with poly(A) mRNA, assemble in cytoplasmic stress granules. In addition, the mitochondrial network breaks down in the cold as seen by MitoTracker staining (blue). Nuclei visualized with Hoechst dye are depicted in orange. A three-dimensional reconstruction of stress granules in cold-shocked yeast cells is shown in the bottom left corner. The cyan granules correspond to Pab1-mCherry in two yeast cells. The curves represent polysome profiles of yeast cells during recovery from cold shock. See Mol. Biol. Cell 23, 3786–3800. (Image: Valeria Cherkasova, *University of Heidelberg, and* Sarah Hofmann, *German Cancer Research Center, Heidelberg)*

Combined computational and experimental analysis reveals mitogen-activated protein kinase–mediated feedback phosphorylation as a mechanism for signaling specificity
N. Hao, N. Yildirim, M. J. Nagiec, S. C. Parnell, B. Errede, H. G. Dohlman, and T. C. Elston

A series of mathematical models was used to quantitatively characterize pheromone-stimulated kinase activation and determine how mitogen-activated protein (MAP) kinase specificity is achieved. The findings reveal how feedback phosphorylation of a common pathway component can limit the activity of a competing MAP kinase through feedback phosphorylation of a common activator, and thereby promote signal fidelity.
Mol. Biol. Cell 23 (19), 3899–3910

Role of mitochondrial inner membrane organizing system in protein biogenesis of the mitochondrial outer membrane
M. Bohnert, L.-S. Wenz, R. M. Zerbes, S. E. Horvath, D. A. Stroud, K. von der Malsburg, J. M. Müller, S. Oeljeklaus, I. Perschil, B. Warscheid, A. Chacinska, M. Veenhuis,I. J. van der Klei, G. Daum, N. Wiedemann, T. Becker, N. Pfanner, and M. van der Laan

The mitochondrial inner membrane organizing system (MINOS) is a large protein complex required for maintaining inner membrane architecture. We report that MINOS independently interacts with both preprotein translocases of the outer mitochondrial membrane and plays a role in the biogenesis of β-barrel proteins of the outer membrane.
Mol. Biol. Cell 23 (20), 3948–3956



Immunofluorescence images of mouse mammary epithelial cells stained for filamentous actin showing epithelial–mesenchymal transition (EMT) induced by Rac1b, which results in the conversion from a colonial epithelial morphology (left) into a migratory mesenchymal morphology (right). Localization of Rac1b to the plasma membrane is critical for activation of the NADPH oxidase complex, leading to release of reactive oxygen species that induce EMT. See Mol. Biol. Cell 23, 4097–4108. (Image: Derek Radisky, *Mayo Clinic, Jacksonville, FL).*

Regulation of the formin Bnr1 by septins and a MARK/Par1-family septin-associated kinase
S. M. Buttery, K. Kono, E. Stokasimov, and D. Pellman

The septin-associated kinase Gin4 is required for the localization and activation of Bnr1, and the septin Shs1 is essential for Bnr1 activation. The loss of Gin4 or Shs1 phenocopies the loss of Bnr1; these defects are suppressed by constitutive activation of Bnr1. The data reveal novel regulatory links between the actin and septin cytoskeletons.
Mol. Biol. Cell 23 (20), 4041–4053

Matrix compliance regulates Rac1b localization, NADPH oxidase assembly, and epithelial–mesenchymal transition
K. Lee, Q. K. Chen, C. Lui, M. A. Cichon, D. C. Radisky, and C. M. Nelson

Substratum stiffness controls the subcellular localization of Rac1b, a highly activated splice variant of the small GTPase Rac1. On stiff substrata, Rac1b localizes to the plasma membrane, forming a complex with NADPH oxidase and generating ROS, thus inducing the expression of the transcription factor Snail and downstream signaling to epithelial–mesenchymal transition.
Mol. Biol. Cell 23 (20), 4097–4108

Multiple protein kinases influence the redistribution of fission yeast Clp1/Cdc14 phosphatase upon genotoxic stress
M. R. Broadus and K. L. Gould

Nucleolar release of Cdc14 phosphatases allows them access to substrates. Multiple kinases directly affect the Clp1/Cdc14 phosphostate and the nucleolar to nucleoplasmic transition of Clp1 in fission yeast upon genotoxic stress. In addition, Clp1 regulates its own nucleolar sequestration by antagonizing a subset of these networks.
Mol. Biol. Cell 23 (20), 4118–4128 ■

December 15–19, 2012 | Ron Vale, President | Tony Hyman, Program Chair

Annual Meeting Schedule By Day

M Cell Biology and Medicine

P Intersection of Cell Biology and the Physical Sciences

SATURDAY, DEC. 15

Special Interest Subgroups

12:30 pm–5:00 pm

Note: You must be registered for the ASCB Annual Meeting to attend these sessions.

M P A. A Physical and Mechanical Perspective to Understanding the Emergence and Progression of Cancer
Organizers: *Sean Hanlon*, National Cancer Institute/NIH; and *Nastaran Kuhn*, National Cancer Institute/NIH

M P B. Aneuploidy: Causes and Consequences
Organizer: *Daniela Cimini*, Virginia Tech

M C. Axonal Transport: Mechanisms of Regulating Cargo Transport in Neuronal Development, Maintenance, and Disease
Organizers: *Erika Holzbaur*, University of Pennsylvania; and *Sandya P. Koushika*, Tata Institute of Fundamental Research, Mumbai, India

D. Beyond Border Control: Nuclear Pores, the Nuclear Envelope, and the Rest of the Cell
Organizers: *Mary Dasso*, National Institute of Child Health and Human Development, NIH; and *Yuh Min Chook*, University of Texas Southwestern Medical Center at Dallas

P E. Building the Cell
Organizer: *Wallace Marshall*, University of California, San Francisco

M P F. Connexins, Innexins, and Pannexins: Roles for Gap Junctions and Intercellular Channels in Cell Signaling
Organizers: *Viviana Berthoud*, University of Chicago; and *Michael Koval*, Emory University

P G. Counting Molecules in Cells: Insights into Structures and Mechanisms
Organizers: *Vladimir Sirotkin*, SUNY Upstate Medical University; and *Jian-Qiu Wu*, The Ohio State University

P H. Cytoskeletal Dynamics and Their Role in Cellular Form and Function
Organizers: *Adriana Dawes*, The Ohio State University; and *Arpita Upadhyaya*, University of Maryland, College Park

I. Endocytosis and Signal Transduction
Organizers: *Guangpu Li*, University of Oklahoma Health Sciences Center; and *Sandra Schmid*, University of Texas Southwestern Medical Center at Dallas

M P J. Entry, Exit, and Movement of Proteins within the Cilium: The Transition Zone (TZ) and Ciliary Tip
Organizers: *Joel Rosenbaum*, Yale University; *Jeremy Reiter*, University of California, San Francisco; and *Maxence Nachury*, Stanford University

K. Evolutionary Cell Biology
Organizer: *Ursula Goodenough*, Washington University in St. Louis

M L. Exosome and Microvesicles
Organizers: *Stephen Gould*, Johns Hopkins University; and *Doug Taylor*, University of Louisville

P M. Frontiers in Cytokinesis
Organizers: *Julie Canman*, Columbia University; and *Amy Maddox*, University of Montreal

M N. Muscle Cytoskeletal Protein Assembly in Normal and Diseased Muscles
Organizers: *Carol Gregorio*, University of Arizona College of Medicine; and *Joseph Sanger*, SUNY Upstate Medical University

M P O. The Cellular and Molecular Basis of Metastatic Disease
Organizers: *Laura Machesky*, The Beatson Institute for Cancer Research, UK; and *Mark McNiven*, Mayo Clinic

P Interdisciplinary Session

12:30 pm–5:00 pm

Open Problems in Biology Requiring the Physical Sciences

Keynote Symposium

6:00 pm

Steven Chu, U.S. Secretary of Energy

How the Physical Sciences Are Changing Cell Biology and Biomedical Sciences

Arthur D. Levinson, Chairman of Genentech, Inc., and Apple, Inc.

The Science and Culture Behind Successful Cancer Therapeutic Development

Visit **www.ascb.org/meetings** to view full descriptions, speaker lists, and schedules for each subgroup session. Just click on "Program," then "Scientific Program."

THE AMERICAN SOCIETY FOR CELL BIOLOGY

The science of life, the life of science

2012 ANNUAL MEETING

THE AMERICAN SOCIETY FOR CELL BIOLOGY

San Francisco, CA, USA

www.ascb.org/meetings

December 15–19, 2012 | Ron Vale, President | Tony Hyman, Program Chair

More details at www.ascb.org/meetings

SUNDAY, DEC. 16

Symposium

8:00 am–9:30 am

(M) (P) **Cell Fate Decisions**
Hans Clevers, Hubrecht Institute, The Netherlands
Tariq Enver, UCL Cancer Institute, University College, London, UK
Shinya Yamanaka, Center for iPS Cell Research and Application (CiRA), Kyoto University, Japan

Frontier Symposium

10:30 am–12:00 Noon

(M) **Cell Biology and Medicine**
Susan Lindquist, Whitehead Institute for Biomedical Research and Massachusetts Institute of Technology/HHMI
Anne O'Garra, MRC National Institute for Medical Research, Mill Hill, London, UK
Joseph Schlessinger, Yale University School of Medicine

(M) **Panel Discussion**
4:30 pm–6:35 pm

Sense and Reproducibility: The Problem of Translating Academic Discovery to Drug Discovery

Minisymposia

4:30 pm–6:35 pm

(M) **Cancer Cell Biology**
Cristina Lo Celso, Imperial College London, UK
Jeffrey Settleman, Genentech, Inc.

(M) (P) **Cell Mechanics and Intermediate Filaments**
Harald Herrmann, German Cancer Research Center, Heidelberg, Germany
Sarah Köster, Georg-August-University Göttingen, Germany

(M) **Cell Migration and Motility**
Marianne Bronner, California Institute of Technology
John Condeelis, Albert Einstein College of Medicine

Integrated Research and Teaching and Its Benefits to Faculty and Students
David Botstein, Princeton University
Karen Kalumuck, Exploratorium

(P) **Molecular Motors**
Vladimir Gelfand, Northwestern University Feinberg School of Medicine
Kathleen Trybus, University of Vermont, Burlington

(P) **Regulation/Organization of the Genome**
Daniela Rhodes, Nanyang Technological University, Singapore, and MRC Laboratory of Molecular Biology Cambridge, UK
David Sherratt, University of Oxford, UK

(P) **Signal Transduction/Signaling Networks**
Fumiyo Ikeda, Institute of Molecular Biotechnology, Austria
Galit Lahav, Harvard Medical School

(M) **Stem Cells and Induced Pluripotency**
Margaret Fuller, Stanford University School of Medicine
Marius Wernig, Stanford University School of Medicine

MONDAY, DEC. 17

Symposium

8:00 am–9:30 am

(M) **New Model Systems for Cell Biology**
Lawrence S.B. Goldstein, University of California, San Diego, School of Medicine
Nicole King, University of California, Berkeley
Alejandro Sánchez Alvarado, Stowers Institute/HHMI

Frontier Symposium

10:30 am–12:00 Noon

(P) **Applying Physics, Engineering, Computation to Cell Biology**
William Bialek, Princeton University
Margaret Gardel, University of Chicago
Rob Phillips, California Institute of Technology

Minisymposia

4:30 pm–6:35 pm

Autophagy, Self Renewal, and Cell Death
Ana Maria Cuervo, Albert Einstein College of Medicine
Feroz Papa, University of California, San Francisco

(M) **Cell Biology of Neurodegeneration**
Don Cleveland, University of California, San Diego
Morgan Sheng, Genentech, Inc.

(P) **Cell Division**
Daniel Gerlich, Institute of Molecular Biotechnology of the Austrian Academy of Sciences, Austria
Gohta Goshima, Nagoya University, Japan

(M) (P) **Cell-Cell and Cell-Matrix Interactions**
Joan Brugge, Harvard Medical School
Viola Vogel, ETH Zurich, Switzerland

(M) Cell Biology and Medicine

(P) Intersection of Cell Biology and the Physical Sciences

2012 ANNUAL MEETING

THE AMERICAN SOCIETY FOR CELL BIOLOGY
San Francisco, CA, USA
www.ascb.org/meetings

December 15–19, 2012 | Ron Vale, President | Tony Hyman, Program Chair

Annual Meeting Schedule By Day

M Cell Biology and Medicine

P Intersection of Cell Biology and the Physical Sciences

Intracellular Sorting and Trafficking
Wanjin Hong, Institute of Molecular and Cell Biology, Singapore
Anne Spang, Biozentrum, University of Basel, Switzerland

P **Microtubule Organization and Dynamics**
Elizabeth C. Engle, Children's Hospital Boston/Harvard Medical School/HHMI
Luke Rice, University of Texas Southwestern Medical Center

M P **Physical and Computational Tools for Cell Biology**
Adam Cohen, Harvard University
Jan Liphardt, University of California, Berkeley

P **Working Group: From Histograms to Animations: Effective Visualization Makes Complex Data Clear**
Janet Iwasa, Harvard Medical School
Graham Johnson, University of California, San Francisco

Important Dates

Meeting registration, abstract submission, and hotel reservations are available at **www.ascb.org/meetings.**

November 16
Hotel Reservation Deadline
November 26
Cancel Meeting Registration (to be eligible for refund)
December 6
Cancel/ Change Hotel Reservation
Decmber 13
Room-Share, Ride-Share Application Deadline

Remember!

You don't have to present a poster to attend/register for the meeting. ■

TUESDAY, DEC. 18

Symposium
8:00 am–9:30 am

M **Prokaryotic Communities**
Bonnie Bassler, Princeton University/HHMI
Lora Hooper, University of Texas Southwestern Medical Center at Dallas/HHMI
Dianne K. Newman, California Institute of Technology/HHMI

Frontier Symposium
10:30 am–12:00 Noon

Synthetic Biology
Jay D. Keasling, University of California, Berkeley, and Lawrence Berkeley National Laboratory
Wendall Lim, University of California, San Francisco/HHMI
Laurie Zoloth, Northwestern University Feinberg School of Medicine and Weinberg College of Arts and Sciences

Minisymposia
4:30 pm–6:35 pm

M **Cell Biology of Regeneration**
Rachel Roberts-Galbraith, University of Illinois, Urbana-Champaign
Curtis Thorne, University of Texas Southwestern Medical Center at Dallas

Cell Biology of the Neuron
Wieland B. Huttner, Max Planck Institute of Molecular Cell Biology and Genetics, Germany
Fumio Matsuzaki, RIKEN Center for Developmental Biology, Kobe, Japan

P **Cell Polarity**
Yves Barral, ETH Zurich, Switzerland
Stephan Grill, Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany

M **Cellular Stress, Protein Folding, and Disease**
Nancy M. Bonini, University of Pennsylvania/HHMI
Andy Dillin, Salk Institute for Biological Studies/HHMI

P **Micro- and Coding RNA**
Cliff Brangwynne, Princeton University
Tracy Johnson, University of California, San Diego

M **Molecular Basis of Infectious Disease**
Norma Andrews, University of Maryland, College Park
Pascale Cossart, Institut Pasteur, France

P **Organelle Structure and Vesicle Formation**
Elizabeth Conibear, University of British Columbia, Canada
Richard A. Kahn, Emory University School of Medicine

M **Working Group: New Technologies in Proteomics**
Pieter Dorrestein, University of California, San Diego
Steve Gygi, Harvard Medical School

THE AMERICAN SOCIETY FOR CELL BIOLOGY

The science of life, the life of science

2012 ANNUAL MEETING

THE AMERICAN SOCIETY FOR CELL BIOLOGY

San Francisco, CA, USA

www.ascb.org/meetings

December 15–19, 2012 | Ron Vale, President | Tony Hyman, Program Chair

More details at www.ascb.org/meetings

WEDNESDAY, DEC. 19

Minisymposia

8:30 am–10:35 am

P **Actin Organization and Dynamics**
Enrique M. De La Cruz, Yale University
Ann Miller, University of Michigan, Ann Arbor

P **Cell Growth and Cell Cycle Control**
Sue Jaspersen, Stowers Institute for Medical Research
Jan Skotheim, Stanford University

P **Development and Morphogenesis**
Carl-Philipp Heisenberg, Institute of Science and Technology Austria, Austria
Ichiro Nishii, Temasek Life Sciences Laboratory, Singapore

M **P** **Membrane Organization and Lipid Dynamics**
Vytas A. Bankaitis, Texas A&M Health Science Center
Margarida Barroso, Albany Medical College

P **Nuclear Structure and Function**
Kerry Bloom, University of North Carolina, Chapel Hill
Anne Villeneuve, Stanford University School of Medicine

P **Prokaryotic Cell Biology**
Martin Thanbichler, Max Planck Institute for Terrestrial Microbiology
Ethan Garner, Harvard Medical School

P **Working Group: New Technologies in Imaging**
Catherine Galbraith, National Institute of Child Health and Human Development/NIH
Eva Nogales, University of California, Berkeley/HHMI

M **Working Group: New Technologies in Molecular Biology/Genetics**
L. Stirling Churchman, Harvard Medical School
A. Francis Stewart, BioInnovationsZentrum, TU Dresden, Germany

Symposium

11:00 am–12:00 Noon

Chromatin Dynamics
Barbara Meyer, University of California, Berkeley/HHMI
Kim Nasmyth, University of Oxford, UK

M Cell Biology and Medicine

P Intersection of Cell Biology and the Physical Sciences

New! 25% Discount for Friends

ASCB members can now offer up to three colleagues who are not ASCB members a 25% discount off the nonmember rate to attend the Annual Meeting. We will verify nonmember status and provide you with a special URL to pass to your colleagues to register at the discounted rate. All ASCB members who bring friends will be entered in a drawing to win an iPad. This is a great opportunity to invite colleagues from the biotech and physical sciences communities! Sign up at www.ascb.org/meetings. ■

New This Year! Keynote Open to the Public

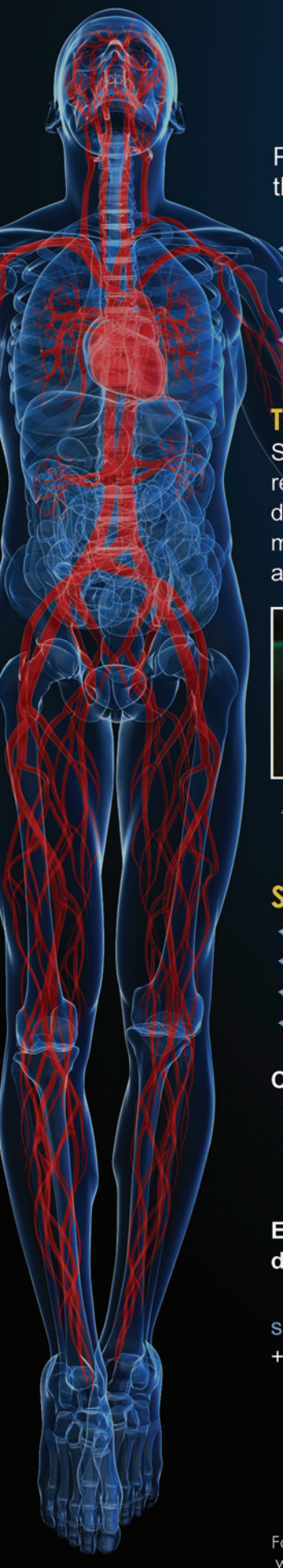
If you know people in the San Francisco Bay Area who would be interested in attending the Keynote Symposium, they can register online beginning November 1, 2012, at www.ascb.org/meetings. ■

Acknowledgement

The ASCB appreciates the creativity and hard work of the following members who put together an outstanding program for the 2012 ASCB Annual Meeting: *Tony Hyman* (Chair), *Ron Vale* (Co-Chair), *Christine Jacobs-Wagner*, *Juergen Knoblich*, *Ira Mellman*, *Samantha Reck-Peterson*, *Peter Sorger*, *Elizabeth Sztul*, *Julie Theriot*, *Fiona Watt*, and *Ginger Zakian*. ■

SynVivo

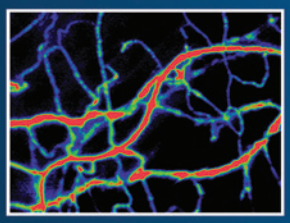
Revolutionizing Drug Development



Personalized and targeted therapies are delivering:

- ✔ the right drug,
- ✔ to the right cells,
- ✔ in the right dose,
- ✔ at the right time!

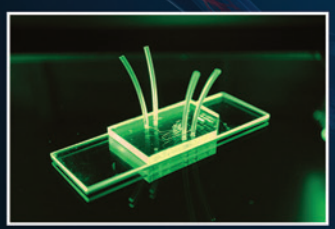
If drugs are delivered dynamically in the vasculature… how can we evaluate them statically in well plates?



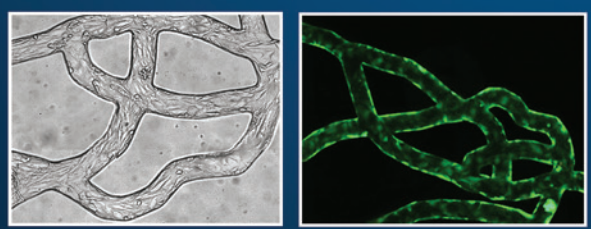
≠

The SynVivo Solution

SynVivo is a physiological, cell-based microchip platform that provides a biologically realistic microenvironment allowing real-time study of cellular behavior, drug delivery and drug discovery. SynVivo recreates the complex *in vivo* vasculature including scale, morphology, fluidics and cellular interactions in an *in vitro* environment enabling basic and applied life sciences research.



A microfluidic cell-based assay platform imprinted with real microvascular morphology…



…cultured with cells and studied under physiological flow to provide a more realistic *in vitro* assay.

SynVivo Advantages

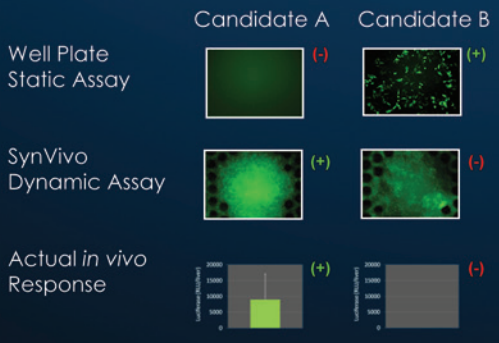
- ✔ Most realistic *in vitro* microvascular model
- ✔ More detailed understanding than *in vivo*
- ✔ Ability to co-culture tumor/tissue cells
- ✔ Scalable for high throughput/content

Contact us to order SynVivo chips for your lab:

- Microvascular Networks
- Straight and Bifurcating Channels
- Custom Designed Chips

Expert services available for assay development and support!

Case Study



SynVivo Gets it Right!

synvivo@cfdrc.com
+1 (256) 726-4801

For more information visit:
www.cfdrc.com/synvivo

CFDRC

Delivering Breakthrough Solutions

GRANTS & OPPORTUNITIES

A list of current grant and other opportunities can be found at www.ascb.org/GandO.html. The following items were added since the last issue of the Newsletter:

National Eye Institute (NEI) Audacious Goals in Vision Research Contest. NEI is offering $3,000 awards to as many as 20 contestants who submit the most compelling one-page ideas to advance vision science. Winning contestants will be invited to present, discuss, and refine their ideas at the NEI Audacious Goals Development Meeting, February 24–26, 2013, in Washington DC. Submissions due: Nov. 12, 2012. www.nei.nih.gov/challenge. ■

"ASCB," "The American Society for Cell Biology," "iBioSeminars," and "Molecular Biology of the Cell" are registered trademarks of The American Society for Cell Biology. "The Cell: An Image Library" is a common law trademark of The American Society for Cell Biology.

An *MBoC* 20th Anniversary Favorite

In celebration of the first 20 years of Molecular Biology of the Cell (MBoC)*, members of the Editorial Board, members of the ASCB Council, and others comment on their favorite* MBoC *papers from the past two decades.*

Here ***Mark P. Ashe****, University of Manchester, comments on:*

Barbet NC, Schneider U, Helliwell SB, Stansfield I, Tuite MF, Hall MN (1996). TOR controls translation initiation and early G1 progression in yeast. Mol. Biol. Cell 7:25–42

Following the identification of the Target of the immunosuppressant drug Rapamycin (TOR) in yeast and mTOR in mammals, this paper by Barbet *et al.* established clear connections between TOR and both protein synthesis and cellular proliferation. The paper set the scene for studies on the TOR pathway by proposing that this pathway managed G1 progression via the regulation of translation initiation of specific mRNAs. From a more personal perspective, this paper introduced me to the potential that polysome analysis held in terms of the level of information that could be gained from such a simple technique. I also remember reading the paper and being struck by how comprehensive the story was; the authors outlined the basic mechanism of translational regulation and detailed the downstream consequences in terms of cellular physiology. Clearly, given the number of citations this paper has gained, I was not alone!

This and other MBoC *20th Anniversary Favorites will appear in the journal throughout 2012.* ■

Did You Know…?

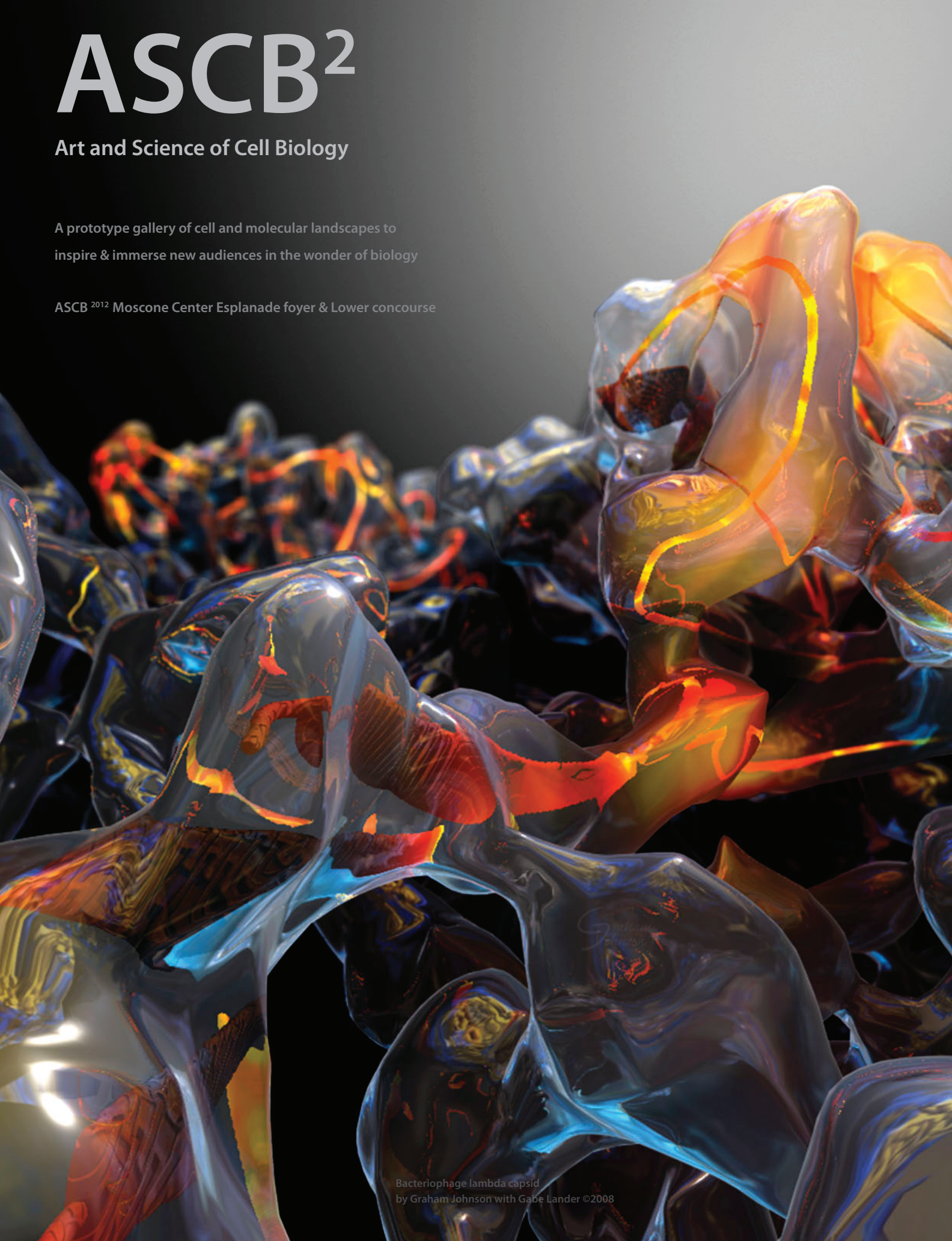
- A second 2013 ASCB membership renewal reminder was sent out this month. If you did not see the email and aren't sure if you have renewed your membership for 2013, please contact us at ascbinfo@ascb.org today.
- Renew now to ensure you don't miss an issue of the *ASCB Newsletter* or *Molecular Biology of the Cell.*
- You can also renew your subscriptions to the following journals at discounted rates when you renew your ASCB membership:
  - The latest volumes of *Annual Review of Cell & Developmental Biology*
  - *Biology of the Cell*
  - *Development*
  - *Journal of Cell Science*
  - *Journal of Experimental Biology*
- Renewal is easy—go to www.ascb.org and click on "Membership." ■

ASCB²

Art and Science of Cell Biology

A prototype gallery of cell and molecular landscapes to inspire & immerse new audiences in the wonder of biology

ASCB 2012 Moscone Center Esplanade foyer & Lower concourse



Bacteriophage lambda capsid
by Graham Johnson with Gabe Lander ©2008

Tony Hyman

Eureka moments are rare, so when scientific lightning strikes, you grab the nearest witness. For Tony Hyman, the innocent party was Stanley Prusiner. It was 1990, and Prusiner, who would win a 1997 Nobel Prize for discovering the infectious prion, was minding his own business, heading for the elevator at the University of California, San Francisco (UCSF). Suddenly a bug-eyed postdoc with a British accent burst out of the Tim Mitchison lab and dragged Prusiner inside to become the second person on Earth to watch a video playback of a labeled microtubule attaching to a kinetochore.

"I don't think Stan knew me at all," Hyman recalls. "I'd come to Tim's lab to set up a real-time assay to look at microtubules on isolated kinetochores. We had to do everything from scratch—image processing, labeling the microtubules, marking the polarity. It took a couple of years to work through all the technical aspects, but this day I was doing the experiment and finally they [the microtubules] moved! I was so excited I ran outside and everyone in the lab was off at a seminar. But there was Stan Prusiner coming down the corridor, so I said, 'Stan, come in here and look at this.' I could see that he was thinking, 'Who is this?'" Still Prusiner made the right congratulatory noises as Hyman narrated his revolutionary video. "I'm sure he's forgotten all about it," says Hyman, who hasn't. "It was absolutely a Eureka moment. The adrenaline rush I remember to this day."

Hyman's ex-PI, Tim Mitchison, is at a loss to remember the first time he met or heard of Tony Hyman. Mitchison, now at Harvard Medical School, is older than Hyman, but both are products of scientific households, London childhoods, and British higher education. So where did they meet? As an undergraduate at University College London (UCL), Hyman had been a student of Tim's father, Av Mitchison, the renowned zoologist and immunologist. Or was it through John White at the Laboratory of Molecular Biology in Cambridge, where Hyman was a graduate student in the lab that perfected the first practical confocal microscope? Surely they met during Mitchison's "disastrous" year as a Medical Research Council staff scientist in Mill Hill after coming home from UCSF with his doctorate. They'd definitely become friends by the time Mitchison accepted an assistant professorship back at UCSF and signed Hyman up as his first postdoc. Indeed, says Mitchison, Hyman got to San Francisco first while he waited for his visa. "By the time I got there, Tony had the laboratory set up," Mitchison recalls. Hyman also knew all the key technical people in the building and all the scientific supply representatives. "Tony was unbelievable about getting good prices on equipment," according to Mitchison. The lab needed centrifuges, and Mitchison still remembers one rep coming to him nearly in tears, begging, "Please don't make me talk with Dr. Hyman again."

The imaging system Hyman created for the Mitchison lab revealed microtubule dynamics in never-before-seen detail. Later in his own lab at the European Molecular Biology Laboratory (EMBL), Hyman pursued what Mitchison describes as "classic cytoskeleton problems": spindle attachment, motor protein movement, centrosome assembly, and cell cycle control. Even today Hyman works on a classic problem in developmental (and stem cell) biology: asymmetrical cell division. But from the beginning, says Mitchison, his first postdoc also showed real organizational flair. "Tony is an institution builder," says Mitchison. "Always has been. I don't know where that comes from; perhaps it's some innate ability, but he loves getting things started and building institutions."

The Days of HeLa

Hyman's organizational knack spills over from the lab. This year Hyman is the Program Chair for ASCB's 2012 Annual Meeting in San Francisco. He is also organizing the scientific program for the 2013 European Molecular Biology Organization meeting in Amsterdam. On other fronts, Hyman is campaigning to move researchers away from immortalized cancer cell lines toward embryonic stem cells derived from mice or differentiated human cells converted into their precursors. "The days of HeLa cells are over," Hyman and co-campaigner Kai Simons declared last year in *Nature*. "So although HeLa cells and other immortalized cells derived from cancer patients are good for investigating what cells have in common, they are completely inadequate for addressing the next big topic in cell biology: cellular diversity

Tony Hyman

"By the time I got there, Tony had the laboratory set up," Mitchison recalls. Hyman also knew all the key technical people in the building and all the scientific supply representatives.

in normal tissues."

Whatever the next big topic, Mitchison suggests that if you want to see Hyman giving full expression to his institution-building genes, go to Dresden. Until German reunification in 1990, Dresden, the once-glittering Baroque capital of Saxony, was known for its destruction in a controversial 1945 Allied bombing raid and for 40 grim years of Soviet-style reconstruction. In 1998, Dresden was chosen for a new Max Planck Institute for Molecular Cell Biology and Genetics (MPI-CBG).

At 35, Hyman was the youngest of the five founding MPI-CBG directors. At 29, he'd been a group leader at EMBL in Heidelberg when he returned from his UCSF postdoc (turning down attractive job offers from high-profile U.S. institutions, according to friends). EMBL was a bold move for a British scientist who'd been born in Haifa, Israel, and spoke not a word of German. But Hyman was attracted by the independence offered by Simons, the Finnish cell biologist who'd shaped EMBL from its earliest days. In 1998, Simons came to Hyman with a new offer: Build a new MPI from scratch in Dresden. The design reflected many of Hyman's ideas on everything from the institute's single entrance to a ban on individual coffee pots. Everyone would come in the same front door at MPI-CBG and congregate at a coffee bar staffed by a waitress, not a change-eating drink dispenser.

The planning is evident in more than the physical layout, says Mitchison. "If I remember correctly, they sent Tony ahead [to Dresden] to set up the day-care center. Isn't that so German? Can you imagine that here, building a new institution and even before breaking ground, you recruit the day-care director and find a building for her?"

More important, MPI-CBG gave Hyman the leverage to scale up breakthrough technologies. An early effort was a functional genome project using the new technology of RNA interference to identify every gene used in the *Caenorhabditis elegans* embryo during the first round of cell division. That project, says Mitchison, "gave Tony a taste of modern automated approaches that could be applied right across biology."

Hyman is campaigning to move researchers away from immortalized cancer cell lines toward embryonic stem cells derived from mice or differentiated human cells converted into their precursors.

The Great Migration

Arshad Desai, now at the University of California, San Diego, and his wife, Karen Oegema, also at UCSD, were present at the creation (or at least the unveiling) of MPI-CBG. Recruited out of the Mitchison lab by Hyman, they joined him at EMBL Heidelberg just in time for the great migration to Dresden. Desai, who came to work with Hyman on imaging kinetochore assembly, says the move was flawless; every contingency was covered—from the refrigerated trucks to move *C. elegans* stocks, to the backup refrigerator trucks in case of breakdown. What is more important, says Desai, is what Hyman was able to do from his new base at MPI-CBG. "Tony is very good at what I would call process engineering. He really knows how to attack problems with technology and do it on a scale that most of us just couldn't dream of doing." Hyman can gather the resources, create the pipeline, and attract the right people for large projects. Says Desai, "He's extremely good at noticing what technology might be able to do, like using the new molecular biology tools to generate large banks of cell lines. It's just natural for him."

UCSF's Jonathan Weissman, a longtime fan of Hyman's work and a recent collaborator, sees Hyman in another light. "Tony is fundamentally a cell biologist, and of course the cytoskeleton is one of the most fundamental aspects of cell biology." But the label doesn't really convey how his friend thinks, says Weissman. "I think of him as someone who thinks about shapes and structures in the cell. The cytoskeleton stuff comes as a natural aspect of that, but it's only one facet. The other side of Tony is that he's someone who is methodically innovative." Behind Hyman's big methods projects, Weissman believes, "There's an overarching theme to what he's doing, and it's thinking about structure and organization in the cell at a physical level."

To get directly at the physics of the cell, Hyman has cultivated interdisciplinary collaborations with Frank Jülicher at a second Max Planck Institute in Dresden, the Institute for the Physics of Complex Systems (MPI-PKS). That induced Cliff Brangwynne to accept a postdoc in the Hyman MPI-CBG lab

after finishing his physics doctorate in David Weitz's soft condensed matter group at Harvard. Brangwynne was eager to learn "real" biology with Hyman but enjoyed keeping an office at MPI-PKS for serious equation hammering. "Tony really appreciates this kind of hybrid science," says Brangwynne, now at Princeton. "This cross fertilization of ideas is really important to him."

The cross-town approach paid off in a 2009 *Science* paper with Brangwynne, Jülicher, and Hyman looking at germline P granules in *C. elegans* through the physics of soft condensed matter and describing them for the first time as liquid droplets. P granules appear in the germline cells of all animals and are thought to be involved in asymmetrical cell division. Describing the condensation of P granules as a product of classic phase transition, the paper suggested that an entirely new physical–chemical mechanism might be structuring the cytoplasm.

The People's Car

It was an unusual paper in many ways, says Brangwynne, but then Hyman is not your usual boss. A prime example, he says, is the Hyman lab's staff car, the "Trabi." It is a vintage but drivable Trabant, the ex–East German "people's car" with a two-stroke engine that whines like a moped. The lab has a fine cream-colored specimen of indeterminate model year. "There was this 30-year period when the factory didn't change a thing, so it's really difficult to figure out," says Brangwynne, who conspired with fellow postdoc Alex Bird to convince Hyman that the lab needed a Trabant customized with mitotic spindles painted on the doors. It premiered at a Friday afternoon "beer hour" after MPI-CBG's weekly seminar talk. The Trabi putt-putted to the front door with its jacked-up sound system blaring music hotwired from Bird's iPod and the backseat loaded with beer. It was an immense hit, Brangwynne reports. The MPI-CBG Trabi has become a photographic attraction around Dresden. Do tourists recognize the mitotic spindle? "People seem to think that it's an outer-space thing," Brangwynne sighs.

A mitotic spindle on a Cold War memento could be a fitting emblem for Dresden, where Hyman and his wife, American cell biologist Suzanne Eaton, have now lived for 12 years. They met at UCSF, discovering a mutual passion for serious cycling and serious music. Eaton and her Steinway grand piano followed Hyman to Heidelberg, where she'd been offered a fellowship in the Kai Simons lab. In 1997, she became an EMBL staff scientist. In 2000, Eaton moved to MPI-CBG as a group leader while the Steinway and the family moved to a breathtaking prewar apartment overlooking the River Elbe. Now as their two sons, Max, 14, and Luke, 13, move through the German education system, Hyman finds himself reflecting on his own troubled school years. "I think a lot about education now because of my boys. I like the quote from Albert Einstein: 'It is a miracle that curiosity survives formal education.' I was almost universally bad in school, but somehow my curiosity did survive."

"Looking back, I really respect my parents' attitude to my education. I always tried hard. I wasn't lazy. There was some feeling that my brain just didn't function in a way that would pass exams, and they were happy with that."

He credits his parents. His father, Anthony, a physicist turned historian of science, and his mother, Laura, a trained artist and painter, encouraged educational achievement for Tony and his siblings but recognized that he was not a

Are You Getting *ASCB Pathways*?

You should now be regularly receiving our monthly email update, *ASCB Pathways*—alerting you to the latest ASCB happenings and Annual Meeting updates. If you aren't seeing the e-newsletter in your inbox, please check your spam filter, and/or contact your system administrator to whitelist *ascb.org. ■

Hyman and lab members with the "Trabi."

conventional student. "Looking back, I really respect my parents' attitude to my education. I always tried hard. I wasn't lazy. There was some feeling that my brain just didn't function in a way that would pass exams, and they were happy with that."

His grammar school in London gave him a solid grounding in science, but his A-level results were not good enough for a university place. His attention was often elsewhere, he recalls, especially on bicycle building and on hair-raising rides with his mates through central London traffic. He "drifted" into a technician's job at the UCL zoology department, cranking out tissue culture medium. Arriving at work early one morning, Hyman found a researcher, Terry Preston, still at his bench after an all-nighter. Hyman had to know what kept him up all night, so Preston sketched out his experiment to get at the effect of ionic strength on movement in amoebae. Hyman soon had his own piece of the problem and a spot at the bench. Eventually the admissions committee found an undergraduate place for UCL's newest researcher.

Today Hyman pursues two of his great outside interests from school days: bicycles and flutes. In Dresden, he rides regularly with what he laughingly calls the "Max Planck *squadra*," a pack of amateurs who will click off 100 kilometers on a good day's ride. The flute dates from his days as "a typical middle-class English schoolboy who was supposed to take music lessons." Yet the flute lessons took, although Hyman's tastes evolved from classical to jazz. In San Francisco, he added the saxophone to his chops and now plays both in jazz groups. More recently, he splurged on a superior flute, which rekindled his interest in classical. "I thought, 'Why not? I'm a director now.'"

Becoming a Max Planck director was not the most probable outcome for an English schoolboy who was not good at exams. "Either my brain matured late or I finally discovered how to focus on one thing," says Hyman. "It's certainly true that I can get easily distracted, but the way my brain works is that I see things pictorially. I see my experiments visually. In my mind, I can see how they could work." As a scientist, an innovator, and a parent, Hyman thinks that schools screen for one kind of intelligence, at a great cost in human imagination. "You don't just want minds that are good at exams in high positions. You want a variety."

In the Hyman way of science, variety is what you get. ■

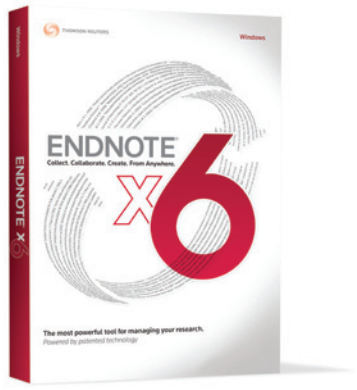
—John Fleischman

New 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 Education and Women in Cell Biology Committees and ASCB members in industry are willing to help. Just fill out a short form (www.ascb.org), and we'll put you in touch with the right reviewer. Then the two of you can decide which digital collaboration tool to use (email, Google Docs, Skype, Wikispaces, etc.). You must be an ASCB member to take advantage of this new service. ■

—Thea Clarke

MILLIONS OF STUDENTS AND RESEARCHERS USE ENDNOTE TO MANAGE THEIR REFERENCES AND CREATE BIBLIOGRAPHIES. WHY NOT YOU?



INTRODUCING

ENDNOTE® X6

Collect. Collaborate. Create. From Anywhere.

With *EndNote*, you can:

- Access your references from anywhere and manage your *EndNote* library from multiple computers with *EndNoteSync*.
- Search hundreds of online resources to collect references and PDFs
- Format references for any project with patented *Cite While You Write*® technology
- Use the new PubMed direct export format to import records in fewer steps
- Create and share custom groups, smart groups, or combined groups
- Enjoy a FREE 2-year subscription to *EndNote Web* with advanced features
- And so much more!

1-800-722-1227 • rs.sales@thomson.com

endnote.com

© Copyright 2012 Thomson Reuters. EndNote is a registered trademark of Thomson Reuters. All trademarks are the property of their respective companies.

THOMSON REUTERS™

Unlock your assay with custom aptamers.

See us at BOOTH #432 at the Annual Meeting

Anxious for antibodies?

- Our proprietary methods can generate **custom nucleic acid ligands** in as few as **three weeks**
- Our aptamers are **more stable** and more **cost effective**
- Comparable affinity and specificity
- We are **not limited** by non toxic or non immunogenic targets
- You can have **complete intellectual property** of your aptamer if desired

Base Pair BIOTECHNOLOGIES
The Aptamer Discovery Company

Base Pair Biotechnologies, Inc.
8058 El Rio St. • Houston, TX 77054
(978) 609-4199 • info@basepairbio.com

Pipette like a PRO!

The accu-jet® *pro* pipette controller – smooth, sensitive meniscus control!

- **PROtects cell pellets** – simple soft blow-out control
- **PROgressive speed control** – continuously variable, touch sensitive control
- **PROportioned perfectly** – sculpted handle for comfort – no hard edges
- **PROlonged battery life** – 8 hours per charge, with low-charge LED warning
- **PROmotional special! Buy 3, get one free!** For a limited time, we'll send you a FREE accu-jet® *pro* when you buy two from leading lab dealers. Available in Royal Blue, Dark Blue, Magenta and Green accents.

BRAND®

Lab Rats Trust BrandTech!

SEVERAL NEW & EXCITING PRODUCTS ARE BEING DEMONSTRATED AT THE ASCB 2012 ANNUAL MEETING!

PRIOR
Scientific

- **Microscope illumination spectrometer**
- **High precision XY microscope stages for a variety of optical platforms**
- **ProZ stand for multi-purpose zoom/macroview optical systems**
- **Lumen 200S fluorescence illuminators with high speed shutter**
- **ZDeck motorized physiology platforms**
- **Robotic sample loading systems for slide and well plates**
- **Nanopositioning Piezo Z stages for well plates, petri and slides**
- **Incubation systems**
- **OEM components/custom systems**
- **Filter wheels and shutters**

VISIT BOOTH #521 FOR A PRODUCT DEMONSTRATION!

Prior Scientific 80 Reservoir Park Drive Rockland, MA. 02370 Tel: 800-877-2234 Email: info@prior.com Web: www.prior.com

MEETINGS Calendar

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

November 9, 2012. London, UK
Biochemical Society Hot Topic Event: Signalling in Protist Parasites. www.biochemistry.org/meetingno/ht004/view/conference.

December 4, 2012. London, UK
A Biochemical Society Workshop: Delivering and Phenotyping Mouse Models for the Respiratory Community. www.biochemistry.org/meetingno/ws010/view/conference.

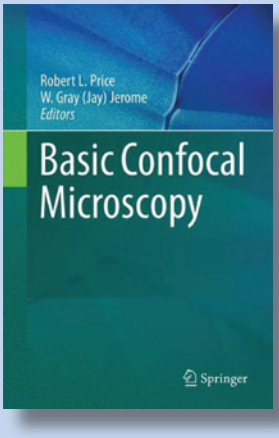
August 22–25, 2013. Vienna, Austria
ISEH 42nd Annual Scientific Meeting. www.iseh.org/?2013Vienna.

September 2–4, 2013. Windermere, UK
British Society For Cell Biology Autumn Meeting: Mechanochemical Cell Biology. www.bscb.org/?url=meetings/autumn2013/index.

ASCB Annual Meetings

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

BOOKS by Members



Basic Confocal Microscopy, eds. Robert L. Price and W. Gray (Jay) Jerome, published by Springer (2011). ISBN 978-0-387-78174-7

ASCB Member Comments

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

ASCB 2012 Member Gifts

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

Gold ($1,000 and up)

Craig Blackstone
Don Cleveland
Anne Cress
Susan Gerbi
Helen Piwnica-Worms
William Saxton and Susan Strome
Huntington Sheldon
Kenneth Yamada

Silver ($500 to $999)

Kathleen Green and Rex Chisholm
Daniel Lew
Tim Schedl

Bronze ($250 to $499)

Virginia Zakian

Sustainer ($1 to $249)

Yamac Akgun
Monica Arroyo
Robert Bacallao
Kayla Bayless
Kerry Bloom
Carmelo Carmona-Rivera
David Carroll
Douglas Cole
Nathan Collie
Dorothy Croall
Alison Crowe
Robert Douglas
Benjamin Eaton
Noriko Funato
Farzad Ghamsari
Dorothea Godt
Lawrence Goldstein
Rosine Haguenauer-Tsapis
Krisztina Hegyi
Walter Hittelman
Mary Horne
Eung-Gook Kim
Stanley Kimani
Stefan Kirchanski
Alexander Kirov
Donghoon Lee
Laura Lewis-Tuffin
Ian Macara
Mark Majesky
Oana Marcu
Veronica Morandi Da Silva
Anthony Moss
Linda Parysek
Elizabeth Raff
Evelyn Ralston
Sampathkumar Rangasamy
Emmanuel Reynaud
Norka Ruiz Bravo
Wendy Salmon
Jean Sanger
Joseph Sanger
Jonathan Scholey
Caroline Shamu
Sze Wan Shan
Samuel Silverstein
Daniel Strongin
Gerald Sufrin
Catherine Thaler
Barbara Vertel
Jim Vigoreaux
Jean Wang
Thea Wilkins
Roy Williams
Lindsey Wolfe
Michael Yaffe
Keith Yamamoto

*As of Sept 30, 2012. Please note that both Half-Century donations and other Member Gifts have been merged into one list.

DEAR Labby

What to Wear to Work

Dear Labby,

What do you advise on dress codes in the lab? I recently got an earful from a female student who was angry about another female student whom she claimed was wearing sexually provocative attire. I didn't feel comfortable weighing in. I am a male senior faculty member and found myself tongue-tied.

—Undressed

Dear Undressed,

Few academic biomedical institutions have explicit dress codes, and those that do may be loose on enforcement. But that a student felt a need to complain raises a red flag. The best means to address this is one on one, first in a meeting with the complaining student and then in another meeting with the "accused." In the former chat, seek to find out if the complaining student has an ulterior motive in coming forward (Labby has seen this) or if the complaint seems valid. The latter conversation with the allegedly mis-attired student might best start with, "We are hearing some concerns about your attire in the lab. Can we find a way to talk about this?"

The major problem in attempting to redress (pun intended) such complaints is that there is a range of subjective opinions about what is appropriate attire. One aspect is cultural; people in different cultures simply dress differently. Attire that is hardly noticed in Barcelona or San Juan may attract (mostly male) stares in New York or Palo Alto and may incite scorn in some Middle Eastern cities. But at any institution, in any city, there is a sense of what goes over the line.

And let us not focus only on female attire. Labby has two male colleagues who often come in wearing tank tops, an unpleasant sight to some. Meanwhile, a gorgeous male student at Labby's institution leaves the top two buttons of his shirt unbuttoned. Is any of these three men's dress offensive? One view would be "not until complained about." The threshold of waiting for complaints sounds like a cop-out, but it is really the only feasible approach.

Common sense here dictates not preaching from a pulpit of purist propriety but instead adopting an approach of mentorship in which an appropriate person (ideally the lab head) sits down with the allegedly mis-attired person and just presents the issue honestly and candidly. This conversation should seek a full perspective on the person being interviewed. In one case of which Labby knows, a student's attire was thought to be slightly provocative. Then it became known that she had lost her husband to cancer, was finalizing her bereavement, and was starting to seek new companionship. This changed everyone's perspective. So we need always to approach these matters empathically and bear in mind the full human story in each and every case. ■

—Labby

Planning a Meeting? Use the WICB Speaker Referral Service

Looking to diversify and expand your pool of excellent speakers and reviewers? The Women in Cell Biology (WICB) Committee's Speaker Referral Service was designed for organizers of scientific meetings, scientific review panels, and university symposia/lecture series. Why? Diversity at the podium, or in the review process, often results in a more interesting and better outcome.

The WICB service offers two processes that make it easy for organizers, early in meeting planning stages, to receive a list of outstanding women in relevant fields to consider as invitees and reviewers. For more information, visit www.ascb.org/WICBspeakerref.html. ■

Visit us at ASCB Booth 1341

Fluidigm

Defy the Law of Averages

Unveil the unique characteristics of individual cells

C1™ Single-Cell Auto Prep System

Precise
measures the difference in gene expression profiles between individual cells

Easy to use
streamlines isolation and preparation of single cells

Fast
cell input-to-data in less than a day

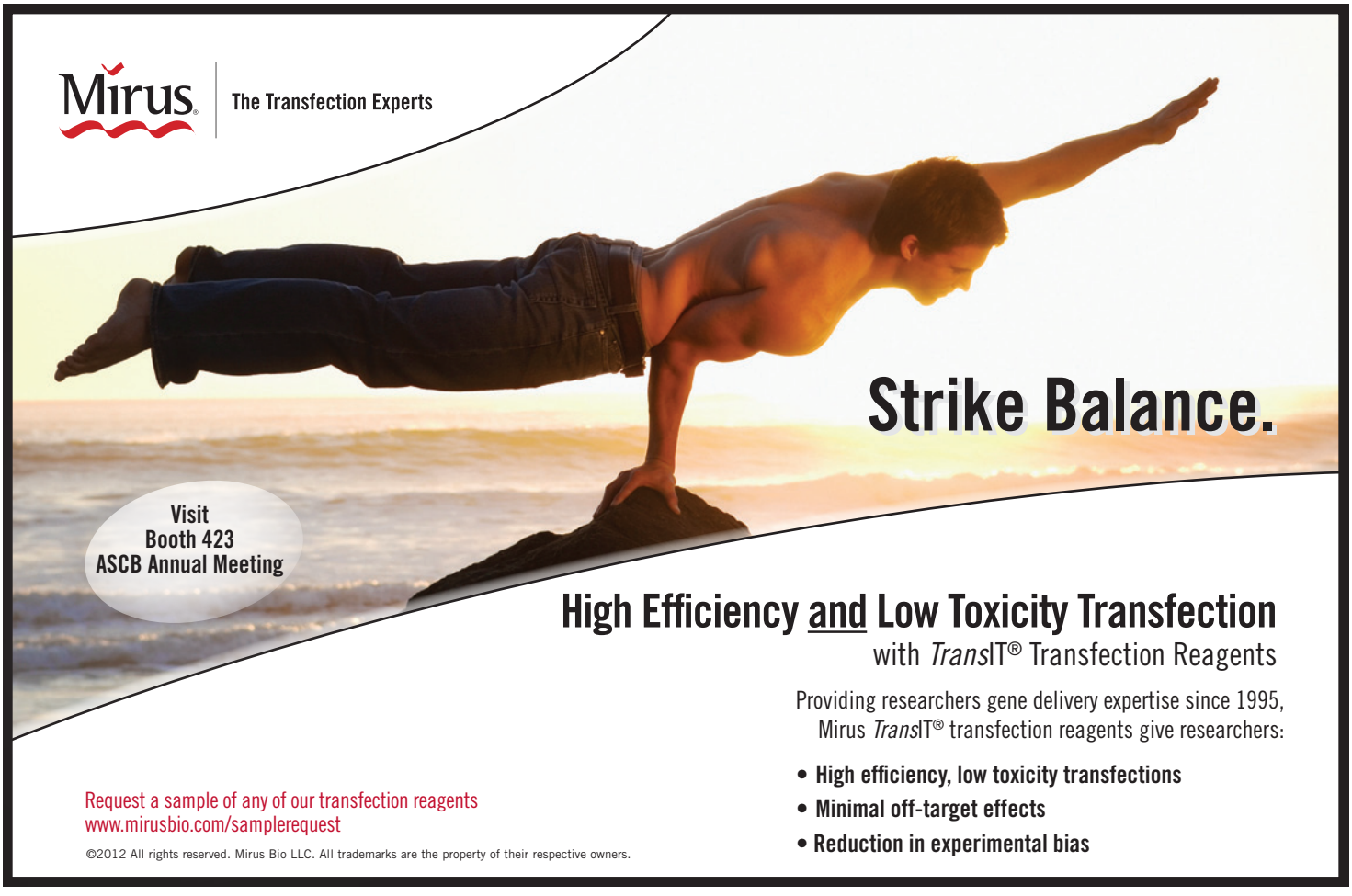
Learn more about our C1™ Single-Cell Auto Prep System
www.fluidigm.com/c1system

THE AMERICAN SOCIETY FOR CELL BIOLOGY
The science of life, the life of science

8120 Woodmont Avenue
Suite 750
Bethesda, MD 20814-2762
USA

Non-profit
Organization
US Postage
PAID
York, PA
Permit No. 356

Mirus | The Transfection Experts



High Efficiency and Low Toxicity Transfection
with *Trans*IT® Transfection Reagents

Providing researchers gene delivery expertise since 1995, Mirus *Trans*IT® transfection reagents give researchers:

- **High efficiency, low toxicity transfections**
- **Minimal off-target effects**
- **Reduction in experimental bias**

Request a sample of any of our transfection reagents
www.mirusbio.com/samplerequest

©2012 All rights reserved. Mirus Bio LLC. All trademarks are the property of their respective owners.