



ASCB 2010: More Cell Biology Than Ever!

Putting together the ASCB Annual Meeting program is always a balancing act. We strive to represent the current interests of our membership, while highlighting frontier areas and fast-breaking technologies. In the 2010 program we devoted more slots to “core” cell biology topics than at some previous meetings. You might call it a somewhat traditional program, but we think many of the hottest breakthroughs are occurring in the



Jodi Nunnari

core areas, and cutting-edge approaches like super-resolution microscopy and mathematical modeling will be represented in the context of the biology they probe, rather than in isolated technique sessions. So traditional or not, ASCB 2010 will be the place to present and hear the most exciting cell biology of the year.

We stayed with the 2009 Annual Meeting format, with Minisympos in the morning and Symposia in the afternoon. Some members preferred the old format, but we felt we needed to give the new one a two-year chance. Informally, morning Minisympos seemed to get our younger members out of bed more effectively. At the end of each day, we know that some of your most valuable “interactions” will happen after the official program ends. And Philly is a great town for nightlife. The meeting only lasts for four days, so sleep can wait! Let us know your meeting format preferences for the future by filling out the survey after the meeting.

Sizzling Topics, Critical Updates

Membrane and organelle biology are always hot. In 2010 we have a Symposium on trafficking, and Minisympos on endo- and exocytosis, trafficking, organelles, and lipid dynamics and signaling. Highlights we expect to cover include how proteins shape, fission, and fuse membranes, and new functions of lipids in signaling. These are areas where imaging,

biochemistry, and physics are finally coming together to reveal how form and function of cellular membranes arise. 2010 is a banner year for awards in membrane biology, with both our honorary lectures going to membrane biologists.



Tim Mitchison

Tom Rapoport, a preeminent expert on the endoplasmic reticulum, will present the Porter Lecture. He will likely highlight recent discoveries from his group on how the membrane is shaped into tubules or sheets. The E.B. Wilson Medal goes to the stellar trio of Stuart Kornfeld, James Rothman, and Randy Schekman, who pioneered modern understanding of vesicle trafficking. Expect a roller-coaster history of the trafficking field, as well as recent updates from three top labs.

Cytoskeleton may be the most popular topic at the ASCB Annual Meeting these days, judging by past attendance numbers; and ASCB 2010 will again be the best cytoskeleton conference of the year—consider it not to be missed if this is your field! We have a Symposium on cytoskeleton dynamics and Minisympos that cover all aspects of the field, including cell division, cilia, and several aspects of cell migration and morphogenesis. Progress in cytoskeleton biology often follows developments in microscopy, and we expect to see super-resolution methods starting to influence several fields in a major way this year. Our feeling is that the “parts list” of cytoskeleton biology may be almost complete for many systems. The focus will be on how the parts work together to promote the beautifully orchestrated movements and forces characteristic of living systems. In this context, expect significant progress in the frontier area of how signaling systems control the cytoskeleton.

Another hot area is bacterial cytoskeleton. This year we devoted a whole Minisymp to bacterial cell biology, which is quite remarkable

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Pls attend the meeting in part to meet young scientists, so encourage your students not to be shy in approaching them!

when you think that only a few years ago bacteria were thought not to need a cytoskeleton or complex membrane dynamics. We hope to see presentations that start to integrate dynamics of the cytoskeleton with cell wall and membrane systems in bacteria. Even if you work only on eukaryotes, you won't want to miss this session. Many of the systems we study in higher cells evolved in bacteria, and remain simpler there than they are in higher cells, and thus easier to understand in depth. It's likely that fundamental mechanisms of cytoskeleton dynamics will first be truly solved in bacteria. The same may be true for some of the protein machines that organize membranes and chromatin. Forward-thinking bacteriologists should consider attending ASCB 2010—bacteria have always been cells, but it's now clear that they are even more like human cells than we used to think. Well-informed bacteriologists will again be making mechanistic discoveries that pertain directly to human cells. So you will have an advantage if you hear about bacterial and higher cell systems side-by-side at ASCB 2010.

Plants are made of cells too. The meeting will showcase recent developments in plant cell biology in many sessions. The botanically inclined cell biologists on the Program Committee preferred that we mix plant and animal cell biology in multiple sessions, rather than separate plant work. We responded by recruiting several Symposium speakers and Minisymposium chairs who work on plants. ASCB 2010 will be an excellent venue for animal cell biologists to learn how some of their favorite proteins and processes are used in plant cells, which may spur new ideas.

Developmental and organ biology are also major themes in the meeting, with an exciting Symposium, and Minisymposiums devoted to morphogenesis and neuronal and immune cells. These are areas where advances in fluorescence imaging are allowing breakthroughs we expect to see reported at the meeting. These areas integrate in important ways with sessions related to medical and translational topics, discussed below.

Basic Research and Medical Relevance

Thinking over worldwide cell biology research, it's clear that a critical question for the coming decade is how basic research interfaces with more medically oriented directions. More and

more cell biologists are taking a deep interest in the human body, what can go wrong with it, and how we might fix it. One of us (Jodi), together with her committee, gave the other (Tim) the challenging task of talking broadly about this important topic in the Keynote address. I (Tim) don't have any easy answers, but I hope the example of research in my lab and elsewhere on anti-mitotic cancer chemotherapy will prove thought-provoking. I will argue from this example that our understanding of how drugs work at the tissue level requires a lot more basic research.

Given the importance of translational directions in modern cell biology, we have dedicated the concluding Symposium to this topic; we will hear the thoughts of two leading cell biologists (Randall Moon and Ira Mellman) on how cell biology research can be translated into therapeutics. Mellman recently jumped ship from academia to Genentech, and we are looking forward to hearing what he's doing there.

We expect medically relevant talks in many of the Minisymposiums as well, perhaps, in particular, the sessions on quality control. Autophagy seems particularly linked to important disease processes, and we expect announcement of breakthroughs in this fast-developing area.

One of the most important drivers of diseases is aging, and the fundamental mechanism of aging is one of the biggest unsolved problems in biology. Thus, we are having a Working Group on aging, with the goal of educating cell biologists about scientific developments. Fundamental aging research has been dominated by genetics, and the basic cell biology of aging is poorly understood. The National Institute on Aging is one funding agency that wants to remedy this, and a funding representative will be on hand.

Whether your interests trend more to the basic or the translational, you need to know what the overlap opportunities are, and ASCB 2010 will be the place to find out.

Posters, Exhibits, Other Sessions

Finally, don't forget the poster sessions, the exhibits, and the member-initiated Special Interest Subgroup sessions on Saturday (see page 13). We know these are the most valuable part of the meeting for many of you. The selection wasn't easy because ASCB members submitted a record number of applications.

Posters are probably the best place for your students to discuss their research with leaders in the field, and many new collaborations start over poster discussions at ASCB. If your student was selected for a talk—many are—make sure they track down the PIs they want to talk to after their sessions as well. PIs attend the meeting in part to meet young scientists, so encourage your students not to be shy in approaching them!

If you haven't submitted your poster yet, you still have time, as the Late Abstract Deadline is October 14th.

The Exhibit Hall is the best place to see the latest technologies, and one of the few

where you can easily compare all the relevant companies before spending your hard-earned grant dollar. In fact, no other site offers more of interest to cell biologists any place else in the world. Expect to see exhibits of several super-resolution microscopy methods this year, which will make the exhibits one of the hottest science venues of the meeting. Historic equipment and books will also be on display, continuing our 50th anniversary theme. See you there! ■

—*Jodi Nunnari (2010 Program Chair) and Tim Mitchison*

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

In fact, no other site offers more of interest to cell biologists any place else in the world.

Places to Go, Activities to See in Philadelphia!

Did You Know?

- There are a lot of FREE attractions in Philadelphia! Some of them include: Carpenter's Hall, Christ Church, Elfreth's Alley, Franklin Court, and the Liberty Bell Center.
- Just a short six-block walk from the Convention Center is America's Most Historic Square Mile where many of the attractions are free of charge.
- Philadelphia is home to the USA's first public library, the Free Library of Philadelphia, founded by Benjamin Franklin in 1731.
- Benjamin Franklin founded the first volunteer fire department, the Union Fire Company, in Philadelphia in 1736.
- The Pennsylvania Hospital—the first hospital in America—founded by Benjamin Franklin and Thomas Bond, opened its doors in 1751.

Holiday Guide

- Visit www.philadelphiausa.travel/group-tour-planners/planning-tools/neighborhood-guide. Under "Download Brochures," choose "Holiday Brochure" for information on Macy's Holiday Light Show/Dickens Christmas Village, the Blue Cross RiverRink, and lots more!

Exhibits

- Franklin Institute: *Cleopatra: The Search for the Last Queen of Egypt* / June 5, 2010–January 2, 2011
- National Constitution Center: *Art of the American Soldier* / September 24, 2010–January 10, 2011 ■